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Cousins Avenue Road Construction Options Analysis – 90% Options Analysis Report

November 5, 2024

Submitted to: City of Courtenay
Prepared by McElhanney

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Our file: 2211-47614-18

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Our File: 2211-47614-18

November 5, 2024

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Cousins Avenue Road Construction Options Analysis – 90% Report

McElhanney Ltd is pleased to submit this 90% Options Analysis Report for the proposed Cousins Avenue Road and Utility Upgrades to the City of Courtenay.

The 90% Options Analysis Report builds on our 50% submission and includes feedback received from the City of Courtenay over the course of multiple engagement sessions as well as feedback received during the October 2023 public engagement open house and online survey. Additional detail is provided for the design and rationale for option features and updates have been made to evaluation criteria, supporting discipline reports, and the Class D construction cost estimate.

We thank you for allowing us to support you on this important project for the City of Courtenay and trust that you will find this submission acceptable. We look forward to advancing the options analysis toward completion in the near future.

Please contact the undersigned should you have any questions or concerns.

Sincerely,

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1. Introduction

This report has been prepared to summarize the 90% options analysis submission for the Cousins Avenue Road Construction Options Analysis to the City of Courtenay ("City"). The City engaged McElhanney in June 2023 to complete an options analysis in consideration of road and utility upgrades for Cousins Avenue. The scope of the project includes approximately 700m of roadway extending between 20th Street and Willemar Avenue and encompassing a mix of residential and commercial/industrial areas.

The options analysis includes review of roadway corridor improvements, utility upgrades to meet current demands and level of service requirements, and consideration for active transportation upgrades that suit the residential and commercial/industrial uses found in this area. McElhanney has further refined and evaluated the previously prepared road options for the 90% options analysis submission.

2. Context

2.1. USE / LOCATION

Within the project area, Cousins Avenue has two vehicle travel lanes, continuous sidewalk along the north/east side of the roadway, and sidewalk for approximately 75% of the project extents along the south/west side of the roadway. The roadway provides access to residential properties generally situated between 20th Street and 22nd Street and access to commercial/industrial properties generally situated between 22nd Street and Willemar Avenue. Community assets located within close proximity to the project area include Martin Park (north of project area), Cousins Park (west of project area), and Tin Town (within and east of project area). The southern portion of the project area is situated within the Tin Town Neighbourhood Centre as identified in Map B-4 of the City of Courtenay's Official Community Plan (OCP). As noted in the OCP, uses within the Tin Town Neighbourhood Centre provide 'live-work' and light industrial options. A snapshot of Map B-4 is included in **Figure 1** below. An aerial view of the project area is included in **Figures 2 and 3** overleaf.

Figure 1: *West Courtenay Neighbourhood Centres near Project Area – Source: City of Courtenay OCP Map B-4*

Figure 2*: Aerial view of Project Area – Residential Area between 20th Street & 22nd Street – Source CVRD iMap*

Figure 3: *Aerial View of Project Area – Commercial/Industrial Area between 22nd Street and Willemar Avenue – Source: CVRD iMap*

2.2. TRAFFIC AND TRANSPORTATION

Traffic volumes within the study area have not been formally studied as part of this options analysis. Based on field observations and land uses within project area, peak hour volumes are anticipated to occur between during business hours within the Tin Town Neighbourhood Centre, generally occurring between 8:00am to 5:00pm, Monday through Friday. As part of the scope of work for the options analysis, a parking study for the project area has been completed and is further described in **Section 2.2.2**.

Cousins Avenue is classified as a Collector Road, with roadway between 20th Street and Rosewall Crescent N classified as Local Residential and roadway extending south from Rosewall Cresent N toward Willemar Avenue classified as Collector – Industrial/Commercial. Refer to **Figure 4** below for a snapshot of the Road Classification Map that covers the project area.

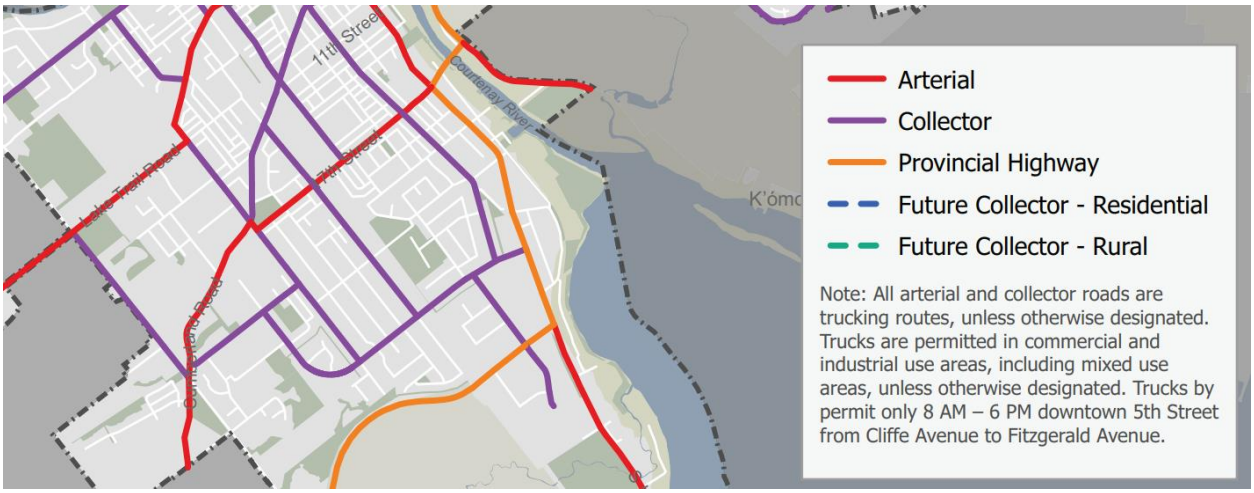

Figure 4: *Road Classification Map for Project Area – Source: City of Courtenay OCP Map APX-3*

A review of historical aerial imagery indicates that the intersection at Willemar Ave and 26th St was previously a 4-way stop, and was converted to a 2-way stop between 2002-2004.

Options to reduce congestion on Rosewall Crescent were investigated by the city in 2019. A one-way concept on Rosewall Cresent and parking restrictions were considered in this investigation. Neither option was implemented at the time. Parking restriction signs were installed on Rosewall Cres in spring 2023.

2.2.1. Active Transportation Considerations

The City has identified a proposed greenway near the project area. There is no exact alignment proposed yet, but a goal for connectivity between existing parks and greenways. Notable parks and greenways nearby are Cousins Park, south of the project and Martin Park, north of the project off of 20th St and Choquette Rd. The Piercy Creek Greenway goes through Cousins Park, and has access points near the north end of the project on Willemar Avenue and Tater Place. The project areas potential interfaces with a future greenway would be Cousins Ave from 20th St to the Cousins Park ROW, or the Rosewall Buffer Park ROW, which connects to the Cousins Park ROW. **Figure 5** below shows the proposed and existing greenways in the project area.

Figure 5: *Parks and Greenways Map in Project Area – Source: City of Courtenay OCP Map APX-9*

Per the City's 2023 Interim Cycling Network Plan, the project area is not identified as a bike route currently or in the future. The nearest bike routes are situated at either end of the project area at 20th Street and Willemar Avenue (both classified as supporting facilities including painted bike lanes with a buffer). Refer to **Figure 6** for a snapshot of the 2023 Interim Cycling Network Plan that shows the location of the project area.

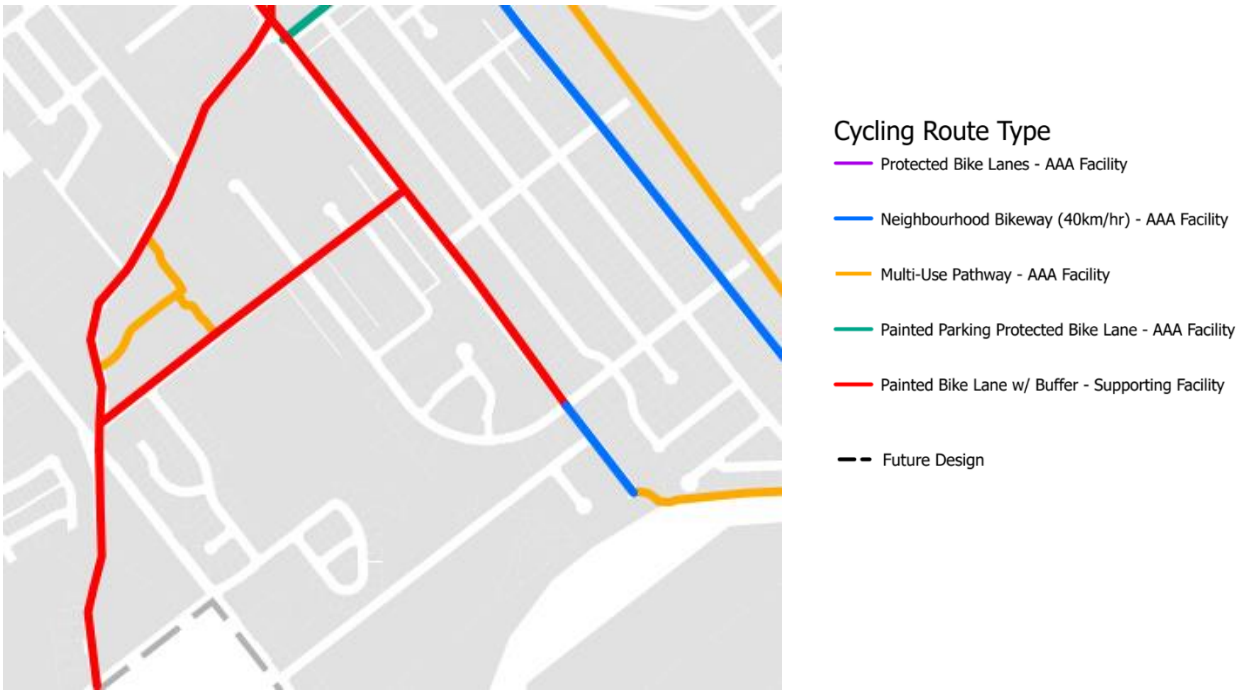

Figure 6: *2023 Interim Cycling Network Plan for the Project Area*

There are no existing bus routes that travel through the Cousins Avenue corridor. BC Transit is currently exploring options of additional services in the area. **Figure 7** below shows the conceptual routes. Route 9 travels along Cousins Avenue.

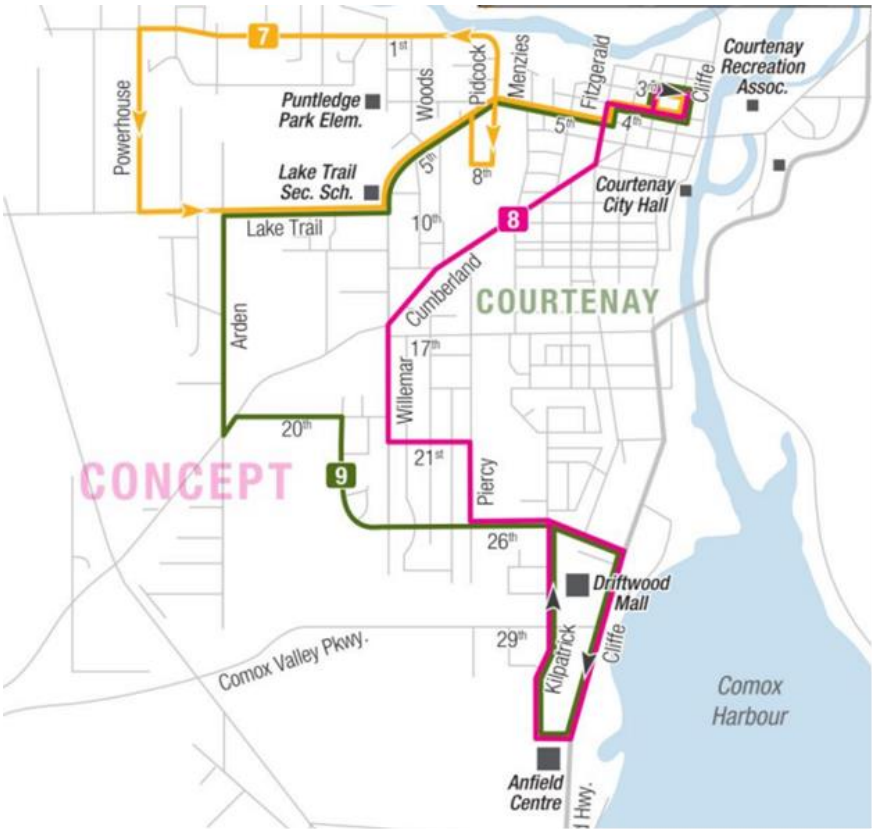

Figure 7: *Concept Bus Routes near the Project Area – Source: BC Transit*

2.2.2. Cousins Avenue Parking Study

The City engaged McElhanney to complete a parking study as part of the scope of work for this options analysis. The intent of the study was to collect objective data regarding parking, delivery, and vehicle access uses of the existing business and residential properties within the project area. McElhanney conducted the field portion of the study on July 26th (Wednesday), 2023 and broke the project area down into several zones, assessing on-street parking counts for the commercial/industrial and residential areas, as well as parking counts for on-property parking for the commercial/industrial businesses between 22nd Street and Willemar Avenue. The key conclusions derived from the parking study are summarized below:

- Hourly on-street parking demand for the commercial/industrial areas located between 22nd Street and Willemar Avenue exceeds the available capacity (i.e., all available parking spots were occupied, and instances of illegal on-street parking observed when all parking spots were full).
- Hourly on-street parking demand for the residential areas located generally between 22nd Street and 20th Street was below the available capacity.
- Hourly off-street parking capacity (i.e., parking spaces available at businesses or residencies, outside of the public right-of-way) was not exceeded in any areas during the study.

- Off-street parking within the respective businesses in the commercial/industrial areas appeared to be below capacity. It is noted that some businesses employees appear to utilize street parking rather than business parking lots.

A separate technical memo for the parking study has been included in **Appendix II.** The memo was updated on November 24, 2023 based on further field review of off-street parking space availability in late October 2023. The data collected from the parking study was used to inform the development of road options and is considered in deriving scores/ratings for evaluating the three options presented in this Options Analysis Report.

2.2.3. Cousins Avenue Existing Streetscape

The existing public right-of-way width of Cousins Avenue is 20.0m. The road and sidewalk widths vary in some areas, but the general existing Cousins Avenue streetscape consists of the following:

- Concrete sidewalks on both sides of the street, 1.5-1.8m wide. No sidewalk between 2155 Cousins Avenue and 1810 Cousins Avenue on the west side of the road.
- Two 3.3-4.3m wide unmarked asphalt travel lanes.
- Two 2.3-3.3m wide unmarked asphalt parking lanes.
- The existing road and sidewalks do not occupy the full 20.0m right-of-way, with the balance of the streetscape (cross-section) being comprised of boulevard (e.g., landscaping) or extension of impervious surfaces (i.e., concrete, gravel, asphalt) that make up parking areas or widened driveways in front of businesses.

It is noted that some of the businesses within the commercial/industrials areas utilize the full frontage of the public right-of-way for property access (i.e., no defined driveway or boulevard between outside edge of sidewalk and edge of right-of-way), on-site parking space access, and access to garages/storage bay that would otherwise be restricted in use if full frontage access was not available.

2.3. EXISTING UTILITIES AND SERVICES

McElhanney acquired existing utility information using the BC OneCall service and available GIS information from the City. A summary of the utilities present within the area of the works is provided in **Table 1** below. Sheet 401 of the Options Analysis drawings included within **Appendix VI** reflects all the available utility information. Field survey for field verification of utility sizes or locations was not included in the scope of the options analysis and is expected to be done at the time of detailed design.

Table 1: *Known Utilities in Project Area (excludes service connections to individual properties)*

Utility	Owner	Description
Storm main	City of Courtenay	20th Street – 250mm AC, 450mm CMP 22nd Street – 300mm AC Cousins Avenue – 300mm AC, 300mm CMP, 450mm CMP Rosewall Crescent – 300mm PVC, 375mm Ribbed PVC Willemar Avenue – 1350 CMP, 1500 CMP
Water main	City of Courtenay	20th Street – 150mm AC 22nd Street – 150mm AC Cousins Avenue – 150mm AC, 200mm AC Rosewall Crescent – 150mm PVC, 200mm PVC Willemar Avenue – 150mm AC
Streetlights	City of Courtenay	The streetlight system is comprised of BC Hydro lease lights.
Sanitary sewer	City of Courtenay	20th Street – 450mm PVC 22nd Street – 200mm AC Cousins Avenue – 200mm AC, 200mm PVC Rosewall Crescent – 150mm PVC, 200mm PVC Willemar Avenue – 200mm AC, 200mm PVC, 250mm PVC
Gas main	Fortis BC	20th Street – 60mm DP, 114mm IP 22nd Street – 42mm DP Cousins Avenue – 42mm DP Rosewall Crescent – 42mm DP Willemar Avenue – 168mm DP, 114mm DP
Communication conduits	Telus Communications	Overhead services exist on all roadways, attached to BC Hydro poles.
Electricity	BC Hydro	Overhead services exist on all roadways. It appears that several properties have below ground hydro connections which are shown on our drawings.

2.3.1. Streetlighting Study

Muir Engineering Ltd was engaged to prepare a Streetlighting Study Preliminary Report which was included within the option analysis scope of work. The intent of the study was to assess existing lighting levels through the project corridor, identify areas that require improvements to meet current lighting standards, and provide high-level recommendations for implementing improvements. The key conclusions derived from the streetlighting study are summarized below:

- Existing streetlighting system along Cousins Avenue does not meet City of Courtenay or IES standards for streetlighting.
- Four of the five intersections with the project corridor meet requirements. A new light is recommended at the Cousins Avenue and Willemar Avenue intersection, at minimum.
- Acceptable luminance and uniformity levels can be achieved with increased fixture spacing (to address limiting factors of high glare ratings due to wide roadway).
- A complete streetlight design for the entire roadway is recommended to address deficiencies, rather than installation multiple new fixtures (to avoid potential for adding additional issues that may require even more mitigations/improvements.)
- Consider available accident report information within the project corridor to inform decision making for streetlight upgrades. If accident reports in the area are historically low, it may not warrant partial or full streetlighting upgrades (to be evaluated in conjunction with other variables).

A separate technical memo for the streetlighting study has been included in **Appendix IV**. The data collected from the streetlighting study will help in assessing potential streetlighting improvements during detailed design. Since the initial 50% submission, the only change to the streetlighting memo is an updated reference to a corrected road classification (dated November 2, 2023). At the City's request, a high-level construction cost estimate for new streetlighting within the project area has been added to the cost estimate provided in **Appendix V**.

2.3.2. Utility Upgrades

In conjunction with the roadway upgrades, the City plans to upgrade utilities (storm, sanitary, potable water) within the project corridor. At the time of this report, prior engagement with the City noted that there are potential sanitary main upgrades near the Cousins Park access (between 22nd Street and Rosewall Crescent N) and water main upgrades at Willemar Avenue.

Sheet 401 of the Options Analysis drawings included within **Appendix VI** reflects the available utility information. The cost estimates in **Appendix V** reflect full replacement of storm, sanitary, and water infrastructure within the Cousins Avenue project limits (public right-of-way between 20th Street to Willemar Avenue). Further refinement of the full extent of utility replacements, including any necessary capacity upgrades, will be confirmed during detailed design.

3. Engagement

3.1. CITY ENGAGEMENT SESSION

The City engagement session was held on July 10, 2023. This session was held to give McElhanney and City staff an opportunity to highlight important existing streetscape elements, identify key considerations for options development, and gain an understanding of prior public engagement/interactions as well as preferences for public engagement moving forward. Zinc Strategies ("Zinc"), also in attendance at this

meeting, was engaged by McElhanney to develop the Communications and Engagement Strategy in preparation for the community engagement session planned for October 2023. The meeting minutes from the City Engagement Session are included in **Appendix III**.

3.1.1. Key Issues and Concerns

The key issues discussed at the City engagement session included:

1. Potential restriction of truck traffic between 20th St. and 22nd St to alleviate truck traffic within the residential portion of the project area.

    - Consideration for restricting truck access on 20th Street.
    - Consideration for restricting trucks north/west of Rosewall Crescent N.
    - Consideration for altering traffic flows and making a portion of Cousins Avenue (and potentially Rosewall Crescent) a one-way street. It was noted that Rosewall Crescent has limitations on pavement width and parking availability which should be considered as part of option development.

2. Cousins Avenue was not considered for bike route per the most recent cycling plan. The 2023 Interim Cycling Plan had extensive engagement and input from the cycling coalition.

3. Maintaining parking within the project corridor is one of the most important option variables to consider due to past conflicts regarding parking availability.

4. Several utilities within the area may require upsizing and should be further coordinated with the City.

5. Transitions between proposed Cousins Avenue upgrades (both internally between residential and commercial/industrial sections and at project terminus at 20th Street and Willemar Avenue) should be reviewed. A raised crosswalk at the trailhead to Cousins Park may be a good transition point between residential and commercial/industrial road sections.

6. Incorporation of rain gardens would only be pursued if a clear benefit is identified. They are less supported due to high maintenance needs. Boulevards with street trees may be more appropriate for consideration on Cousins Avenue.

7. City is interested in considering wider travel lanes within the commercial/industrial section of the project to better accommodate the vehicles that frequently use this area.

8. Challenges may exist where existing businesses use their entire frontage as parking area and/or driveway access to their respective buildings.

9. Parking restrictions could be implemented as part of the road reconstruction.

3.1.2. Public Engagement Strategy Review

Several questions were posed to the City during the City engagement session to understand any prior public engagement, confirm stakeholder groups, and confirm the City's preferred engagement tools as part of developing a public engagement strategy and work plan. **Table 2** includes the list of questions and answers from the City engagement session which helped to derive the stakeholder engagement materials referenced in **Section 3.2**.

Table 2: *Questions and Answers for Public Engagement Strategy Review*

Question	Answer
Has any engagement been completed to date? Is the community aware of potential work/improvements here?	No specific engagement on the proposed project. When questions have come in about condition of road, staff have advised that they were waiting for a full upgrades to be completed. Some questions around geotechnical work in 2015/2016, but nothing official on the full upgrade work.
What concerns have they heard from community about the area?	There are vocal residents in Zone B (between 20th St. and 22nd St.) concerned with commercial traffic. Businesses in Zone C (between 22nd St. and Willemar Ave.) have been in contact about parking issues. Complaints about road condition in the area and need for repaving.
Is the Cycling Coalition aware that this stretch isn't proposed to include a bike lane?	The Cycling Coalition has been kept very informed of the network plan and is very familiar with the mapping, and has expressed support.
Aside from the immediate residents/businesses and Cycling Coalition, are there other key stakeholder groups that need to be looped in?	Accessibility Committee. Courtenay staff to consider more and provide any further suggestions.
What engagement tools is the City currently using?	Same as in previous work with the City: website, social media, mailouts, etc. No online engagement platform for this. Staff team indicates interest in social media campaign, online survey, mailouts and in -person event.

3.2. PUBLIC ENGAGEMENT

The project team worked on engagement materials to support a public engagement online survey and in-person event. A community open house was held on October 18, 2023. The event was well attended and highlighted some of the key concerns that property owners in both residential and industrial areas had with respect to the 50% options that were presented.

Key takeaways from the public engagement initiatives were:

- Parking availability within the project area is an important issue
- Poor visibility and vehicle speeds make road users feel unsafe
- Poor road surface conditions are concerning to road users
- Designs should account for both residential and industrial users in the area, as well as intersections at the far extent of the project area (i.e., 20th Street, Willemar Avenue)
- Support for inclusion of dedicated bike lanes in the project area was low

A full summary report of public engagement is included in **Appendix VII**, as well as previously supplied engagement materials. The public engagement report concludes that public support of Option 1 was the highest, Option 3 was the second highest, and Option 2 was the lowest.

Within the industrial areas of project limits, there was strong public feedback on importance of maintaining parking as well as maintaining current frontage access (e.g., full width access along the right-of-way). Numerous property owners wrote and contacted the City to voice their concerns on adding green space boulevards in front of the property. As part of the 90% design report, McElhanney has reviewed the feedback provided by property owners and improved the design of the road options, where warranted and also meeting the City's design objectives, to limit impacts to site access and parking.

3.3. BC TRANSIT

The City of Courtenay and McElhanney met with BC Transit and CVRD on January 17, 2024 to discuss 90% conceptual design.

BC Transit indicated the following:

- The current estimated timeline for Route 9 commencement is September 2025.
- The recommended Option 1 (pending Council approval) appeared to pose no obvious impediments to Transit vehicles.
- Proposed lane widths appeared to be reasonable.
- Bus stops are ideally located every 250-300m, and in proximity to crosswalks is preferable.
- Inline bus stops would be suitable for this route, but it would be ideal if space within the parking lane was made available for a bus to fully pull in.

The City confirmed that the City / McElhanney can propose bus stop locations for BC Transit to consider and approve. Preliminary review and designation of potential bus stop locations is included on a sketch at the back of **Appendix VI** and is based on a cursory review of BC Transit design guidelines. It's anticipated that bus stop locations will be confirmed during detailed design; however, early consensus from BC Transit at the current design stage would be beneficial to confirming expectations that may impact other design variables early in the detailed design process (e.g., street lighting).

4. Design Input and Constraints

4.1. TRANSPORTATION DESIGN

As part of road options development and analysis, McElhanney has reviewed various road elements and variables to determine how these roads may warrant variation from the City's Standard Drawings for residential and urban collector roadways. These road elements have been reviewed to develop the design inputs and address site specific constraints that exist within the project area to inform the recommended options described in **Section 5** of this report and shown on the options drawings in **Appendix VI**. McElhanney worked with Drdul Community Transportation Planning to develop the design inputs and prepare three roadway design options for the City's consideration.

4.1.1. Driving Lanes

The City's collector road standards are two 3.2m wide travel lanes. 3.2m travel lane widths on a two-lane roadway can create more potential for conflicts with larger vehicles, particularly when two large vehicles are approaching each other on horizontal curves. That lane width can also lead to more frequent instances of vehicles in the travel lane encroaching into adjacent bike lanes or parking lanes.

Design Recommendation: Consider driving lanes widths of 3.3-3.5m on urban collector roads and 3.3m driving lane width of 3.3m on residential collector roads.

4.1.2. Parking

The City's collector road standards include 2.4m parking lanes. A 2.4m wide parking lane is appropriate for a majority of larger vehicles. Within residential areas, parking lane widths could be reduced to 2.25m; however, this is not advisable when travel lanes are less than or equal to 3.3m widths.

The parking study defined illegal parking as areas occupied by driveway entrances, intersections, and marked no stopping/parking zones.

Division V of the City's Traffic Regulation Bylaw No. 1926 specifies parking prohibitions. The following are areas that are applicable to the project:

> *43. Except when necessary to comply with the law or the directions of a Traffic Control, peace officer or a traffic control device, no person shall stop, stand or park a vehicle:*

b) within 6 metres of a flashing beacon, stop sign or other traffic control device located at the side of a roadway;

d) within 5 metres of any fire hydrant, measured from a point on the curb line which is closest to the fire hydrant;

e) in front of and within 2 metres of any non-commercial private or public driveway, or in front of and within 5 metres of any commercial driveway or lane;

g) upon or within 6 metres of any crosswalk, except as permitted by a traffic control device;

During the initial parking study and subsequent site visits, vehicles were observed parked within 5m of commercial driveways on Cousins Avenue. Due to the lack of on-street parking availability, and potentially inconsistent parking regulation signs it may be reasonably perceived by the public that it is allowable to park within 5m of some commercial driveways. Spaces in these areas were not deemed illegal in the parking study.

Parking spaces have been drawn in the options drawings strictly adhering to the bylaw requirements. The amount of available legal parking is marginally lower than the values derived in the parking study. The three design options do not change parking sign locations or limits, thus McElhanney has not reviewed the location of existing signs for adherence to bylaw.

Design Recommendation: Consider parking lane width of 2.4m.

4.1.3. Sidewalks

The City's collector road standards for sidewalks are 1.5m sidewalks for residential roads and 1.8m sidewalks for urban roads, with sidewalks on both sides of the road. Referencing the *BC Active Transportation Guide*, the following sidewalk design widths are summarized:

- Residential Collector Road – 1.8m width desirable, 1.8m constrained sidewalk width.
- Industrial Collector Road – 2.1m width desirable, 1.8m constrained sidewalk width.
- Minimum Sidewalk Width – 1.5m, use only in constrained conditions less than 100m length.

Design Recommendation: Consider sidewalk width of 1.8m for both residential and urban sections of Cousins Avenue.

4.1.4. Bike Lanes

The City's collector road standards for bike lanes include a 1.5m wide bike lane (residential) or a 1.5m bike lane plus a 0.5m outside buffer (urban, between bike lane and travel lane). The City's standards do not include an inside buffer adjacent to parking lanes and do not include protected bike lanes in any of the collector road standards.

Referencing the *BC Active Transportation Guide*, the following bike lane design widths are summarized:

- Bike Lane Width – 1.8m width desirable, 1.5m constrained width.
- Bike Lane Buffer – 0.6m width desirable, 0.3m constrained width.
- Recommends that "A buffer is strongly recommended between the parked motor vehicles and the bicycle lane where a bicycle lane is provided adjacent to motor vehicles" (Page D61).

Design Recommendation: If bike lanes considered, use City's standard 1.5m bike lane width plus a 0.5m outside buffer. It is noted that there are no bike lanes on Cousins Avenue in the Interim Cycling Network Plan and that providing bike lanes reduces and eliminates other potential features on Cousins Avenue (e.g., on-street parking).

4.1.5. Vehicle Design Speed Considerations

At the City of Courtenay Council Meeting on October 25, 2023, two items were passed which have potential impacts on the project.

A speed limit reduction pilot program has been in place since April 2022 in the Crown Isle neighborhood. The pilot program was successful, and council has voted to expand the program to all residential neighborhoods within the City of Courtenay's jurisdictional boundary, with the exclusion of all roads classified as arterial, industrial, or designated as a truck route. Speed limits will be reduced to 40 km/h in all applicable areas, with prioritized implementation in school and cycling network areas.

Design Recommendation: Reduce speed limit to 40 km/h in both the residential and industrial zones. With speed concerns in the area and the curve in the road, a speed limit reduction is justified in the industrial zone even though it is excluded from the program.

A speed display device program was in place within the City throughout 2023. Cousins Avenue at 22nd Street had a speed display device installed from May 9 – June 5. The average 85th percentile speed was calculated as 48 km/h. The maximum speed observed during the period was 77 km/h. Council voted to maintain the program and follow the City's recommendations. The staff report labeled Cousins Avenue at 22nd St as "monitor", and a temporary speed display device will be re-installed in June 2024.

Design Recommendation: Install a temporary speed display device as prescribed by the Council.

4.1.6. Design Vehicles – AutoTURN Assessment

During the public engagement process, the project team heard that the project area sees large truck traffic, including B-Train trucks delivering materials to businesses on Cousins Avenue. In conjunction with Option 3b design, the feasibility of Rosewall Crescent as an alternate truck route was investigated.

Cars informally park in the center of the Rosewall Crescent cul-de-sac. During a site visit, cars were observed parked both in the center of the cul-de-sac, and parallel parked along the outer edge.

AutoTURN was used to analyze the following vehicle movements:

Movement	**D**esign Vehicle	**Result**
Rosewall Cres right turn	B-Train, WB-20	Turn movement possible within existing pavement. Recommend installing no parking signs in one location (2412 Rosewall Cres) to accommodate this movement.
Rosewall Cres S-curve	B-Train, WB-20	Turn movement possible within existing pavement. Little to no clearance from parked cars. Recommend removing parking spots on east side of road in order to accommodate this movement.
Rosewall Cres right turn	Firetruck - Courtenay SPH 100	Turn movement possible.
Rosewall Cres cul-de-sac fire access	Firetruck - Courtenay SPH 100	Turn movement possible. Recommend installing no parking signs on outer edge of cul-de-sac if formalizing central parking spaces in the cul-de-sac.
Rosewall Cres automated garbage truck access	Garbage truck - Emterra Mack EV Garbage Truck	Turn movement possible.

For fire truck access and egress to all properties in the Rosewall Crescent cul-de-sac, a firetruck must be able to do a full circle of the cul-de sac. This is possible if the parking spots in the centre of the cul-de-sac are formalized, and the parking spots along the edge are removed/restricted. Up to ten spots could be added in the center of the cul-de-sac, allowing for a 1.5 m clearance from the fire truck wheel path. McElhanney recommends that the City consider painting these central parking spots to ensure adequate clearance for emergency vehicles. The edge parking spots should be removed/restricted if the central parking spots are formalized.

It is McElhanney's understanding that the new automated garbage collection trucks will not be servicing the industrial properties on Cousins Ave or within Rosewall Crescent upon implementation in 2024. This movement was analyzed for future consideration if the City were to provide waste collection services to commercial properties.

B-train movements through Rosewall Crescent are possible, but there is little clearance between the trucks travel path and existing parallel parking spots. One parking space at the Rosewall Crescent cul-de-sac intersection (2412 Rosewall Cres) must be removed to allow a B-train to make a right turn. Clearance between parked cars and the trucks travel path is very limited on the S curves on the east side of

Rosewall Crescent. It is recommended that the parking spots on the east edge of the road are removed if B-train movements are required on Rosewall Crescent.

There is currently not room for two lanes of truck traffic and parking on both sides of the road on Rosewall Crescent. It is assumed that a B-train would have the ability to take up the entire roadway between parked cars. This would result in some cases of opposing vehicles yielding to oncoming trucks when they are passing through cars parked on both sides of the road if Rosewall Crescent were maintained as two-way traffic.

Sketches showing the AutoTURN analyses are available in **Appendix VIII**.

4.2. COUSINS PARK ACCESS

An existing access point to Cousins Park exists on the west side of Cousins Avenue between 22nd Street and Rosewall Crescent N. It is recommended that a raised crosswalk be considered to enhance pedestrian safety, discourage speeding in residential section of the project area, and provide a clear boundary between the residential and commercial/industrial sections of Cousins Avenue. Raised crosswalks are an appropriate feature on collector roads and are compatible with larger vehicles. An existing leased light pole on the west side of the road has the potential to illuminate the crosswalk; however, lighting levels for this feature would need to be confirmed during detailed design.

4.3. TRAFFIC CALMING

It is recommended that a speed table on Cousins Avenue be considered, placed mid-way between the existing Cousins Park access and 20th Street and in close proximity to a leased light pole. This feature could discourage speeding within the residential area of Cousins Avenue and potentially discourage commercial/industrial traffic from using the residential section of the roadway. Lighting levels for this feature would need to be confirmed during detailed design.

4.4. 20TH STREET AND COUSINS AVENUE INTERSECTION

It is recommended that the corner radius on the southeast corner of the intersection be increased to prevent larger vehicles from overrunning onto the sidewalk when making a right turn to 20th Street. This issue may also be present on the southwest corner of the intersection and should be confirmed during detailed design. A mountable apron may also be used to maintain a smaller corner radius for automobiles and avoid increasing the risk to pedestrians resulting from automobiles performing right-turning movements at higher speeds.

4.5. DRIVEWAY ACCESS AND RIGHT-OF-WAY FRONTAGE

4.5.1. Residential

Driveway letdowns in the residential section have been drawn to match the existing driveway locations and widths. The letdowns range in width from 6-14m.

4.5.2. Commercial

In the industrial zone, many properties use the full road frontage as parking / driveway access. Businesses in the area have varying needs such as wide drop-off / loading zones, on-site employee parking, customer parking, and storage of company and customer property on site. With limited space between existing buildings and the Cousins Avenue property line, many businesses require full frontage access to facilitate access and egress to their properties.

McElhanney walked the project limits in late October 2023 and reviewed each businesses current access. Without further engagement with business owners, we recommend maintaining the existing access widths at all properties.

Full length driveway frontages do not allow for vegetated boulevard space. In these spots, the boulevard area would consist of a widened sidewalk with a rollover curb to allow vehicle access. Options to adjust the boulevard space were explored, such as shifting the sidewalk closer to the roadway, extending asphalt paving into the boulevard space, and widening lanes in these areas. McElhanney recommends maintaining the proposed boulevard space as concrete sidewalk in the locations shown in 90% design drawings. This results in an extra wide concrete sidewalk area in some locations, but allows for the City to adjust the space on a property by property basis if redevelopment happens in the future.

4.6. ANGLED PARKING CONSIDERATION

Angled parking along Cousins Avenue was explored to assess feasibility and changes in parking availability. Possible areas for angled parking are shown in **Figure 8** below. With 45° or 60° angled parking, 25-30 spots would fit within the industrial area of Cousins Avenue, depending on the traffic pattern. This is a slight increase to the existing amount of available legal parallel parking spaces.

Implementing angled parking would require painted parking spaces, as opposed to a wide shoulder lane which is used for parallel parking. Painted spaces with curb bump-outs would distinguish parking areas from driveways and other areas where parking is not permitted. This formalization of parking areas would likely reduce the amount of illegal parking in the area.

With the curve in Cousins Avenue, sight lines would be poor for backing out of angled spaces. If angled parking were to be implemented, the speed limit on this section of road should be decreased, and extra traffic calming measures should be implemented. Angled parking on the opposite side of the road is not feasible due to limited space available.

Due to poor visibility and only a marginal increase in available parking spaces, McElhanney does not recommend further pursuit of angled parking in the project area.

Figure 8: *Potential angled parking areas within Industrial areas*

4.7. ONE-WAY TRAFFIC CONSIDERATION ON COUSINS AVENUE

During the City engagement meeting on July 10, 2023, an option to convert portions of Cousins Avenue to one-way traffic was discussed. The preliminary traffic movements derived from that conversation are reflected in the meeting minutes included in **Appendix III** and reflected as part of Option 3 discussed in **Section 5.3** of this report. Initial review of this proposed modification in traffic patterns warrant the following comments:

- The one-way circulation between Rosewall Crescent and 22nd Street would discourage commercial/industrial traffic from using the residential section of Cousins Avenue to access the commercial/industrial area from 20th Street.
- It is expected that traffic would increase on Willemar Avenue between 20th Street and 26th Street, which may generate opposition from residents of Willemar Avenue.
- It is expected that some amount of commercial/industrial traffic would use Rosewall Crescent to turn around rather than continue northbound towards 20th Street, generating potential conflicts with other vehicles and narrow road constraints on Rosewall Crescent and potential opposition from business owners and residents in Tin Town.
- One-way traffic could have the potential to increase the likelihood of vehicles speeding through one-way areas due to the absence of oncoming traffic.
- There is a potential for increased conflicts and accidents (involving wrong-way vehicles) from motorists that are unfamiliar with the area.

Design Recommendation: Further evaluate road width and parking constraints on Rosewall Crescent to determine if additional traffic flows generated by Option 3 could be supported. One-way traffic pattern or restricted parking on Rosewall Crescent could be considered to support Option 3. The City will need to

consider if stakeholder engagement should be expanded to 20th Street, Willemar Avenue, and Rosewall Crescent. It's recommended that a traffic study be undertaken by the City to review all potential impacts associated with one-way traffic movements on Cousins Avenue (as proposed in Option 3) and any proposed changes to Rosewall Crescent (one-way traffic movements or parking restrictions) if pursued further.

It is noted that one-way traffic will not fully eliminate truck traffic within the residential area. Truck traffic originating from the properties between Rosewall Crescent North and the Cousins Park ROW would have to exit towards 20th Street with a one-way configuration proposed in **Section 5.3** of this report. Alternative configurations were explored but face similar challenges.

Shifting the one-way transition to Rosewall Crescent North would allow signage to route trucks from these properties towards Rosewall Crescent. This configuration would move the bump out, reducing parking in the industrial area, and would require a stop sign to control opposing traffic turning onto Rosewall Crescent. This configuration would likely increase pass-through traffic on Rosewall Crescent (from 20th Street) significantly during early implementation, and likely to see a residual increase in pass-through traffic on Rosewall Crescent traffic over time (non-truck traffic).

Terminating the northbound lane at the Cousins Park ROW would fully eliminate truck traffic from entering the residential area from the industrial area, but would allow trucks to access the industrial area from 20th Street. This option would allow pass-through traffic from 20th Street to 26th Street.

With all options that use only signage and no physical barriers, traffic pattern enforcement can be challenging as truck traffic can ignore signage and travel through the residential area.

4.8. ONE-WAY TRAFFIC CONSIDERATION ON ROSEWALL CRESCENT

If one-way traffic is implemented on Cousins Ave, Rosewall Crescent will see increased traffic flows, notably of large truck traffic. AutoTURN analyses as described in **Section 4.1.5** show that the largest design trucks will require more space than currently available on Rosewall Crescent. The increase in traffic could be partially mitigated by implementing a one-way configuration on Rosewall Crescent in addition to Cousins Avenue.

To provide adequate turn around space for large trucks on Rosewall, one way traffic would loop clockwise, with traffic entering at the west intersection and exiting at the east intersection. **Figure 9** below shows a potential one-way concept. One-way signage along Rosewall Crescent would inform drivers of the traffic flow.

Implementing one-way traffic on Rosewall Crescent would present the following benefits and drawbacks:

- Maintains current on-street parking spaces.
- Limits ease of mobility of vehicles moving between businesses/residences on Rosewall Crescent.

- Additional traffic volume is expected on Rosewall Crescent. Majority of commercial/industrial traffic entering the Tin Town Neighbourhood is required to exit the area via Willemar Avenue and 26th Street.

  Eliminates yielding to oncoming traffic when opposing directions of traffic have to go between cars parked on both sides of the roadway.

Rosewall Crescent could be left as two-way traffic but would have a higher risk of vehicle conflicts. **Figure 10** shows signage required if Rosewall Crescent remains two-way while Cousins is one-way. Leaving Rosewall Crescent as two-way traffic would present the following benefits and drawbacks:

- Maintains current on-street parking spaces.
- Maintains current two-way traffic movements to allow users to enter and exit at both intersections with Cousins Avenue.
- Maintains current mobility of vehicles moving between business/residences on Rosewall Crescent.
- Additional traffic volume is expected on Rosewall Crescent. Majority of commercial/industrial traffic entering the Tin Town Neighbourhood is required to exit the area via Willemar Avenue and 26th Street.
- It’s expected that there would be more instances of opposing traffic having to yield when approaching cars parked on both sides of the roadway.

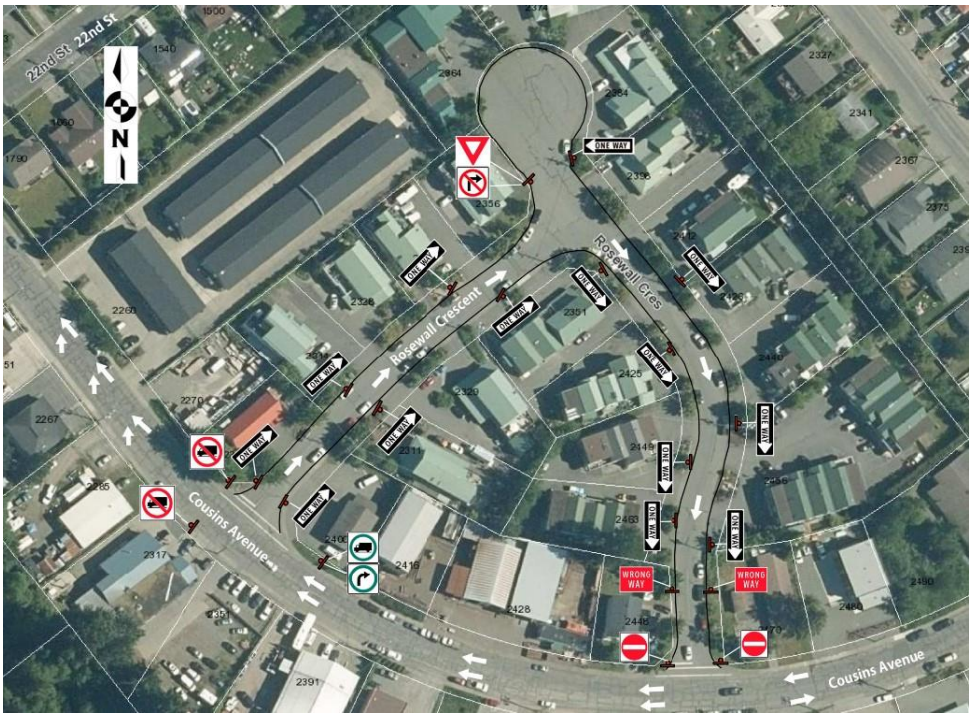

Figure 9: *One-Way Traffic on Rosewall Crescent*

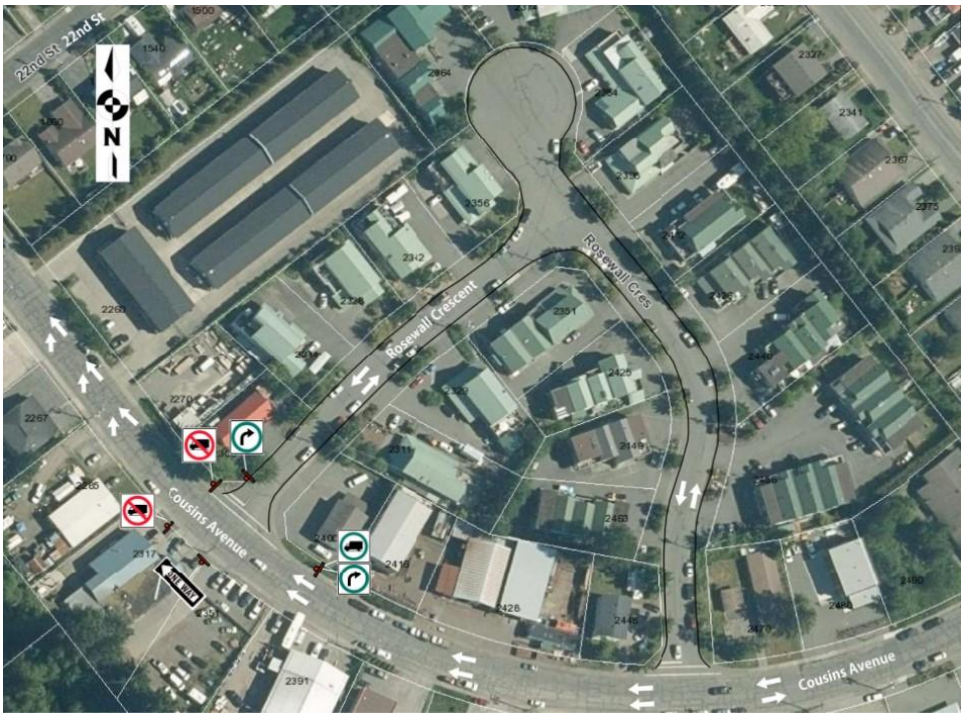

Figure 10: *Two-Way Traffic on Rosewall Crescent*

One-way traffic could be implemented on only Rosewall Crescent, regardless of the road construction option selected for Cousins Avenue. This was previously explored by the City in 2019. One-way traffic could flow either direction, and could be beneficial in traffic calming within the area. This design option is not within the scope of this report, but could be further explored in detailed design or in the future.

5. Options Analysis

5.1. OPTION 1 – STANDARD OPTION

The first option follows a modified CCSD cross-section for Urban and Residential Collector Roads, with no bike lanes and most similar to the road features found on the existing condition of Cousins Avenue within the project area.

In the residential section, variations from CCSD CRe include increased travel lane, boulevard, and sidewalk widths. In the commercial/industrial section, variations from CCSD CUP include increased travel lane widths, and decreased boulevard widths. Boulevard and parking areas can be reconfigured to allow for bus stops for routes travelling in both directions.

5.1.1. Cross-sections / Sketches

The Option 1 plan view and cross-section view is shown on Sheets 101 and 102 of the Options Drawings in **Appendix VI.**

This option provides the following key features within the residential and commercial/industrial areas of the project corridor:

- Residential Area:
    - Includes boulevard and street trees as buffer from the street to enhance the overall character and aids in stormwater reduction.
    - Includes increased width sidewalks to allow for continuity across the project corridor.
    - Provides parking lanes on both sides of the road.
    - Can include curb bump-outs for traffic calming.
    - Can include speed table for traffic calming.
- Commercial/Industrial Area:
    - Includes boulevard areas on both sides of the road as buffer from the street to enhance the overall character and aids in stormwater reduction.
    - Provides clear unobstructed path of travel.
    - Features extra wide travel lanes compatible with large vehicles accessing the area.
    - Includes standard width sidewalks on both sides of the road.
    - Provides parking lanes on both sides of the road.

- Can include curb bump-outs for traffic calming.

5.1.2. List of Streetscape Design Elements for Option 1

The following streetscape elements are included in this option:

- 20.0m public right-of-way width.
- Boulevard Space.
- Sidewalk on both sides of the road.
- Parking Lanes on both sides of the road.
- Widened travel lanes (compared to CCSD).
- Road signage to limit truck traffic within residential areas.
- Option for Speed Table in Residential Area.
- Option for Raised Crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent N.
- Option for increased corner radius at 20th Street and Willemar Avenue intersections with Cousins Avenue.

5.2. OPTION 2 – BIKE LANE OPTION

The second option follows a modified CCSD cross-section for Urban and Residential Collector Roads.

In the residential section, variations from CCSD CRC include increased travel lane and sidewalk widths, and varied boulevard widths on either side of the road. In the commercial/industrial section, variations from CCSD CUB include increased travel lane widths, decreased boulevard widths, and the addition of a parking lane on one side of the road. Boulevard and parking areas can be reconfigured to allow for bus stops for routes travelling in both directions.

It is noted that painted bike lanes are not an All Ages and Abilities (AAA) facility, and that bike lanes adjacent to parking lanes without an inside buffer increases the potential for cyclist collisions with vehicle mirrors and doors.

5.2.1. Cross-sections / Sketches

The Option 2 plan view and cross-section view is shown on Sheets 201 and 202 of the Options Drawings in **Appendix VI**.

This option provides the following key features within the residential and commercial/industrial areas of the project corridor:

- Residential Area:
    - Includes boulevard and street trees on one side of the road as buffer from the street to enhance the overall character and aids in stormwater reduction.
    - Includes bike lanes on both sides of the road to allow cyclist access to Cousins Park and 20th Street.
    - Includes increased width sidewalks to allow for continuity across the project corridor.
    - Provides a parking lane on one side of the road.
    - Can include curb bump-outs for traffic calming.
    - Can include speed table for traffic calming.

- Commercial/Industrial Area:
    - Includes boulevard areas on both sides of the road as buffer from the street to enhance the overall character and aids in stormwater reduction.
    - Provides clear unobstructed path of travel.
    - Features extra wide travel lanes compatible with large vehicles accessing the area.
    - Includes standard width sidewalks on both sides of the road.
    - Includes bike lanes on both sides of the road to allow cyclist access to businesses and Willemar Avenue.
    - Provides a parking lane on one side of the road.
    - Can include curb bump-outs for traffic calming.

5.2.2. List of Streetscape Design Elements for Option 2

The following streetscape elements are included in this option:

- 20.0m public right-of-way width.
- Boulevard Space.
- Sidewalk on both sides of the road.
- Bike Lanes with outside buffer on both sides of the road.
- Parking Lane on one side of the road.
- Widened travel lanes (compared to CCSD).
- Road signage to limit truck traffic within residential areas.
- Option for Speed Table in Residential Area.
- Option for Raised Crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent N.

- Option for increased corner radius at 20th Street and Willemar Avenue intersections with Cousins Avenue.

5.3. OPTION 3 – ACTIVE TRANSPORTATION AND ONE-WAY TRAFFIC OPTION

The third option follows a modified CCSD cross-section for Urban and Residential Collector Roads, with bike lanes removed and a multi-use path on one side of the road within the residential area. A portion of the road is converted to one-way traffic (between Rosewall Crescent S and Cousins Park Access ROW) in an effort to further limit truck traffic from entering the residential area within the project limits.

In the residential section, variations from CCSD CRe include increased travel lane widths, varied boulevard widths on either side of the road, increased sidewalk width on one side of the road, and replacement of sidewalk with a multi-use path on one side of the road. The commercial/industrial section generally follows the same cross-section featured in Option 1 (variations from CCSD CUP include increased travel lane widths, and decreased boulevard width), but includes additional and different signage, pavement markings, and traffic flows to support one-way traffic movement for a portion of the roadway.

The proposed one-way option would force all incoming traffic to access the industrial area via Willemar Avenue or 26th Street, reducing traffic flows in the residential area of Cousins Avenue. This configuration also eliminates the pass-through route for traffic travelling from 20th Street to 26th Street, which would further reduce traffic in the residential area.

Boulevard and parking areas can be reconfigured to allow for a bus stop for routes travelling from Willemar Ave to 20th St. The one-way traffic pattern will not allow for a bus route to travel from 20th St to Willemar Ave.

Option 3 was further broken down in Option 3a and 3b, with the distinction between the two sub-options being two-way traffic on Rosewall Crescent (3a) or one-way traffic on Rosewall Crescent (3b).

5.3.1. Cross-sections / Sketches

The Option 3 plan view and cross-section view is shown on Sheets 301, 302, and 303 of the Options Drawings in **Appendix VI**.

This option provides the following key features within the residential and commercial/industrial areas of the project corridor:

- Residential Area:
    - Includes boulevard and street trees as buffer from the street to enhance the overall character and aids in stormwater reduction.
    - Includes a multi-use path on one side of the road to provide cyclist and pedestrian access to between Cousins Park and 20th Street, and reduce cyclist traffic in the industrial area.

    - Includes increased width sidewalk on one side of the road to allow for continuity across the project corridor.
    - Provides parking lanes on both sides of the road.
    - Can include curb bump-outs for traffic calming.
    - Can include speed table for traffic calming.

- Commercial/Industrial Area:
    - Incorporates one-way traffic between Rosewall Crescent S and the Cousins Park Access ROW to reduce amount of truck traffic entering residential areas between 20th Street and 22nd Street.
    - Includes boulevard areas on both sides of the road as buffer from the street to enhance the overall character and aids in stormwater reduction.
    - Provides clear unobstructed path of travel.
    - Features extra wide travel lanes compatible with large vehicles accessing the area.
    - Includes standard width sidewalks on both sides of the road.
    - Provides parking lanes on both sides of the road.
    - Can include curb bump-outs for traffic calming.

5.3.2. List of Streetscape Design Elements for Option 3

The following streetscape elements are included in this option:

- 20.0m public right-of-way width.
- Boulevard Space.
- Multi-use path on one side of the road in the Residential Area.
- Sidewalk on one side of the road in the Residential Area.
- Sidewalk on both sides of the road in the Commercial/Industrial Area.
- Parking Lanes on both sides of the road.
- Widened travel lanes (compared to CCSD).
- Road signage to limit truck traffic within residential areas.
- Raised Crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent N. Includes bump out with mountable curb for property access in the vicinity of traffic patterns changing from one-way to two-way.
- Option for Speed Table in Residential Area.
- Option for increased corner radius at 20th Street and Willemar Avenue intersections with Cousins Avenue.

6. Evaluation Criteria and Options Evaluation

The criteria used for comparative evaluation of the three options is summarized in **Table 3**. The evaluation criteria were developed by considering City and public input key themes, technical requirements, design judgement and differentiating criteria.

Table 3: *Evaluation Criteria*

Criteria	Description
Traffic Calming on Cousins Ave	Assess the designs impact on traffic speeds on Cousins Ave Considerations: • Lane width and geometry • Horizontal and vertical deflections • Speed limits
Traffic Calming on Rosewall Cres	Assess the designs impact on traffic speeds on Rosewall Cres Considerations: • Lane width and geometry • Horizontal and vertical deflections • One-way and Two-way traffic
Maintain or Improve On-Street Parking	Assess the designs impact to parking Considerations • Increase or decrease the number of available on street parking spaces
Improved Pedestrian Safety	Assess the impact to pedestrian safety and perception of safety Considerations: • Distance between pedestrians and moving vehicles • Safe locations to cross the road • Lighting
Improved Cyclist Safety	Assess the impact to cyclist safety and perception of safety Considerations: • Dedicated cycling space within the ROW • Distance between cyclists and moving vehicles • Lighting
Improved Vehicular Safety	Assess the impact to vehicular safety and perception of safety Considerations: • Speed limit • Lane widths
Reduction in Truck and/or Overall Traffic Volumes on Cousins Ave Residential Area	Assess the impact to traffic volumes in the residential area of Cousins Avenue Considerations: • Truck volumes in residential area • Overall traffic volumes in residential area

	• Pass through traffic from 20th St to 26th St
Reduction in Truck and/or Overall Traffic Volumes on Rosewall Cres	Assess the impact to traffic volumes on Rosewall Crescent Considerations: • Truck traffic volumes on Rosewall Cres • Overall traffic volumes on Rosewall Cres
Increased Green Space	Assess the environmental impact of each concept Considerations: • Reduced stormwater impacts relative to existing condition and CCSD boulevard width standards
Impacts to Businesses	Assess the impacts to businesses on Cousins Ave and Rosewall Cres Considerations: • Ease of access
Operations and Maintenance Costs	Assess the increase or decrease of operations and maintenance effort required relative to existing conditions. Considerations: • Boulevard maintenance efforts

Criteria were evaluated quantitatively where possible. Where quantitative evaluation was not practical, impacts or improvements were evaluated in a qualitative manner using indicators relative to each other.

Scoring was performed comparing each criterion to existing conditions. A negative score indicates that the design decreases the criteria value (i.e. reduces available parking spaces, encourages higher speeds, results in higher traffic volumes). A positive score indicates that the design increases the criteria value (i.e. encourages lower speeds, results in lower traffic volumes). Scoring was indicated as follows:

-3 = significantly reduces value
-2 = moderately reduces value
-1 = slightly reduces value
0 = maintains existing conditions
1 = slightly increases value
2 = moderately increases value
3 = significantly increases value

The evaluation results for each option are summarized in **Table 4**.

Table 4: *Evaluation Matrix*

Themes/Design Criteria	OPTION 1	OPTION 2	OPTION 3
Scores: -3 = lowers value 0 = maintains existing conditions 3 = improves value	**Adapted City Standard Option**	**Bike Lane Option**	**Active Transportation and One-Way Option**
Traffic Calming on Cousins Ave	**2**	**2**	**3**
Traffic Calming on Rosewall Cres	**0**	**0**	**-2**
Maintain or Improve On-Street Parking	**0**	**-3**	**0**
Improved Pedestrian Safety	**2**	**2**	**2**
Improved Cyclist Safety	**0**	**3**	**1**
Improved Vehicular Safety	**1**	**1**	**1**
Reduction in Truck and/or Overall Traffic Volumes on Cousins Ave	**0**	**0**	**3**
Reduction in Truck and/or Overall Traffic Volumes on Rosewall Cres	**0**	**0**	**-2**
Increased Green Space	**3**	**2**	**2**
Impacts to Businesses	**0**	**-1**	**-2**
Operations and Maintenance Costs	**-1**	**-1**	**-1**
TOTAL SCORES	**7**	**5**	**5**

Criteria that had significant impacts or variations in scores between the options are related to parking, traffic calming, and traffic volumes.

Option 2 sees a reduction of a parking lane on one side of the road. Option 1 and Option 3 maintain existing on-street parking availability on Cousins Avenue. Option 3 reduces truck and overall traffic volumes on Cousins Avenue, but significantly increases traffic volumes on Rosewall Crescent.

Regarding impacts to businesses, Option 2 would reduce some available parking near businesses along Cousins Avenue. Option 3 impacts businesses on Cousins Ave by requiring trucks to leave the corridor by 26th Street, and impacts businesses on Rosewall Crescent by increasing traffic volumes and likely reducing parking availability nearby.

Based on the outcomes of the scoring above, and in consideration of all information presented in this report, the recommended option for the Cousins Avenue Road reconstruction project is Option 1. This option best meets the City's functional design objectives and the public's needs within the respective residential and industrial areas. Option 1 was also the highest rated option based on the public engagement open house and online survey results.

7. Cost Estimates

A Class D cost estimate for each option accompanies this submission in **Appendix V.** Cost estimates are preliminary and should be refined in detailed design.

8. Closing and Next Steps

We trust the information contained herein is satisfactory and we look forward to discussing the 90% report at the review meeting. The project team has a working PowerPoint presentation that can be presented to Council in the near future.

Sincerely,
McElhanney Ltd.

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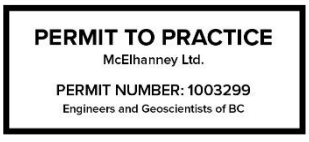

AM/njg

Enclosure

Revision History

Date		Status	Revision	Author
Sept. 1, 2023		DRAFT	50% Submission – Rev. 0	E. Rose / A. McBride
Dec. 1, 2023		DRAFT	90% Submission – Rev. 1	E. Rose / A. McBride
March 7, 2024	*Added section 3.3*	DRAFT	90% Submission – Rev. 2	E. Rose / A. McBride
November 5, 2024	*Revised section 2.3.2*	DRAFT	90% Submission – Rev. 3	E. Rose / A. McBride

Limitation

This report has been prepared for the exclusive use of the City of Courtenay. The material in it reflects the best judgement of the Consultant in light of the information available to the Consultant at the time of preparation. As such, McElhanney, its employees, sub-consultants and agents will not be liable for any losses or other consequences resulting from the use or reliance on the report by any third party.

APPENDIX I
Statement Of Limitations

Statement of Limitations

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Information from Client and Third Parties. McElhanney has relied in good faith on information provided by the Client and third parties noted in this report and has assumed such information to be accurate, complete, reliable, non-fringing, and fit for the intended purpose without independent verification. McElhanney accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of omissions or errors in information provided by third parties or for omissions, misstatements or fraudulent acts of persons interviewed.

Effect of Changes. All evaluations and conclusions stated in this report are based on facts, observations, site-specific details, legislation and regulations as they existed at the time of the site assessment and report preparation. Some conditions are subject to change over time and the Client recognizes that the passage of time, natural occurrences, and direct or indirect human intervention at or near the site may substantially alter such evaluations and conclusions. Construction activities can significantly alter soil, rock and other geologic conditions on the site. McElhanney should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein upon any of the following events: a) any changes (or possible changes) as to the site, purpose, or development plans upon which this report was based, b) any changes to applicable laws subsequent to the issuance of the report, c) new information is discovered in the future during site excavations, construction, building demolition or other activities, or d) additional subsurface assessments or testing conducted by others.

Independent Judgments. McElhanney will not be responsible for the independent conclusions, interpretations, interpolations and/or decisions of the Client, or others, who may come into possession of this report, or any part thereof. This restriction of liability includes decisions made to purchase, finance or sell land or with respect to public offerings for the sale of securities.

Construction Cost Estimates. This construction cost estimate has been prepared using the design and technical information currently available, and without the benefit of survey, geotechnical, environmental, archaeological or third-party jurisdictional information. Furthermore, McElhanney cannot predict the competitive environment, weather or other unforeseen conditions that will prevail at the time that contractors will prepare their bids. The cost estimate is therefore subject to factors over which McElhanney has no control, and McElhanney does not guarantee or warranty the accuracy of such estimate.

APPENDIX II

McElhanney Parking Study

Our File: 2211-47614-18

TECHNICAL MEMO – DRAFT

To
Graham Peterson
Procurement Specialist
City of Courtenay

Prepared by
Emily Shibata, EIT
Traffic Engineer

Reviewed by
Parm Nahal, P.Eng.
Senior Traffic Engineer

Re
Cousins Avenue Road Construction Options Analysis – Parking Study

Date
November 24, 2023

1. Introduction

On June 2, 2023, McElhanney Ltd. (McElhanney) submitted a proposal to the City of Courtenay (the City) to complete an options analysis for the Cousins Avenue corridor. The existing street uses along this corridor conflict with the desired Complete Street design methodology. To provide solutions which meet existing user needs and re-imagine how the street cross-section can be organized, the proposal recommended a parking study to obtain data regarding the parking, delivery, and vehicle access uses and needs of existing businesses and residents.

McElhanney was retained by the City to complete Options Analysis and to conduct a parking study to better understand parking availability and utilization along Cousins Avenue between 20th Street and Willemar Avenue in Courtenay, British Columbia. The purpose of this technical memorandum is to review existing on- and off-street parking conditions along the Cousins Avenue corridor for surrounding businesses and residents.

1.1. STUDY AREA

The study area spans Cousins Avenue, which has both local and collector road classifications between 20th Street and Willemar Avenue. The west end of the corridor has residential uses, and this changes to industrial uses east of 22nd Street. The study area, which includes several off-street parking lots in addition to on-street parking, is presented in *Figure 1*.

Cousins Ave Road Construction
Study Area

McElhanney
2211-47614-18

FIGURE 1

Not to Scale

2. Parking Analysis

2.1. PARKING STUDY

Parking demand surveys were conducted in one-hour intervals from 7:00 AM to 7:00 PM on Wednesday, July 26, 2023, along Cousins Avenue between 20th Street and Willemar Avenue and at 20 off-street parking lots within the study area.

The study area was further divided into the following four zones:

- **Zone A** – Cousins Avenue, between Willemar Avenue and Rosewall Crescent (E)
- **Zone B** – Cousins Avenue, between Rosewall Crescent (E) and Rosewall Crescent (W)
- **Zone C** – Cousins Avenue, between Rosewall Crescent (W) and 22nd Street
- **Zone D** – Cousins Avenue, between 22nd Street and 20th Street

Figure 2 shows the above-mentioned zone boundaries, on-street parking restrictions, and the numbered off-street parking lots.

2.2. EXISTING PARKING CAPACITY

Approximately **65 legal on-street parking spaces** are available within the study area, assuming 7.5 m of curb length per parallel parked car. Parking on the remaining on-street curb space is illegal as it is occupied by driveway entrances, intersections, and no stopping / no parking zones.

There are also 20 off-street parking lots within the study area affiliated with businesses fronting Cousins Avenue. These off-street parking lots have approximately **179 parking spaces** (not including loading bays, garage space, and yard space). The only accessible parking space is located at the shared parking lot of 2451 and 2459 Cousins Avenue.

A breakdown by zone of the on- and off-street parking capacity is shown in *Figure 2*. *Table 1* describes the off-street parking, loading, garage, or other storage capacity at each of these lots.

DRAFT

PARKING INVENTORY

FIGURE 2

McElhanney
2211-47614-18

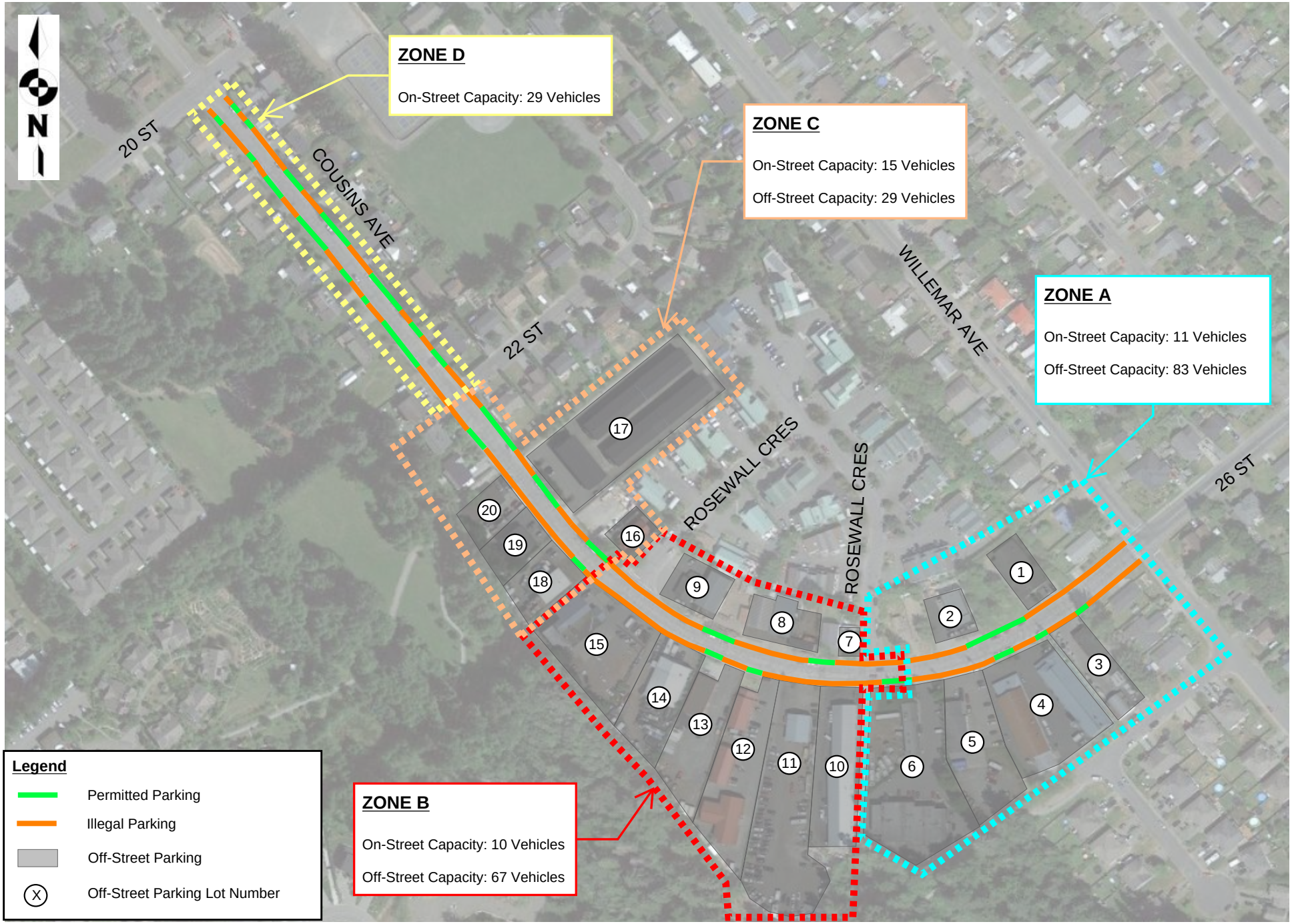


Table 1: Off-Street Parking Capacity

Parking Lot #	Location or Affiliated Business(es)	Number of Available Spaces	Notes
1	Buzzbomb Tackle	5	+1G (1)
2	Powerhouse Sheet Rock	3	+2L(2)
3	CV Marine	3	+10-12 Boat Spaces
4	Van-Isle Millwork and 2485 Cousins Avenue	11	+7L
5	Andy's Auto Center	15	+20 Spaces in Yard (if cleared)
6	2451 and 2459 Cousins Avenue	45 +1 Accessible Space	+1L, +7G
7	Rich's Mobile Detailing	5	+1G
8	Imperial Welding	(3)	+2L, +5G
9	Pristine Glass	6	+2G
10	Climatech and 2441 Cousins Avenue	10	+6G
11	GS Towing	6	+80-120 Spaces in Yard (if cleared)
12	2421 Cousins Avenue	12	+2G
13	Shoreline Cabinetry	6	+2G, +20 Spaces in Yard (if cleared)
14	BD Auto & Diesel	8	+3G, +20 Spaces in Yard (if cleared)
15	GS Collisions	8 +2 on Side	+30 Spaces in Yard (if cleared)
16	Canada Scooters	4	-
17	2260 Cousins Avenue	8 +4 in Back or on Side	+2L
18	Courtenay Heating & Sheet Metal	5	+10 Spaces in Yard (if cleared)
19	Artisan Wood to Work	8	-
20	Lacasse Construction	4	-

Notes:

1. *G = Number of garage spaces*
2. *L = Number of loading bay spaces*
3. *Entire yard used for storage and transport of materials; difficult to estimate available spaces*

2.3. PARKING DEMAND

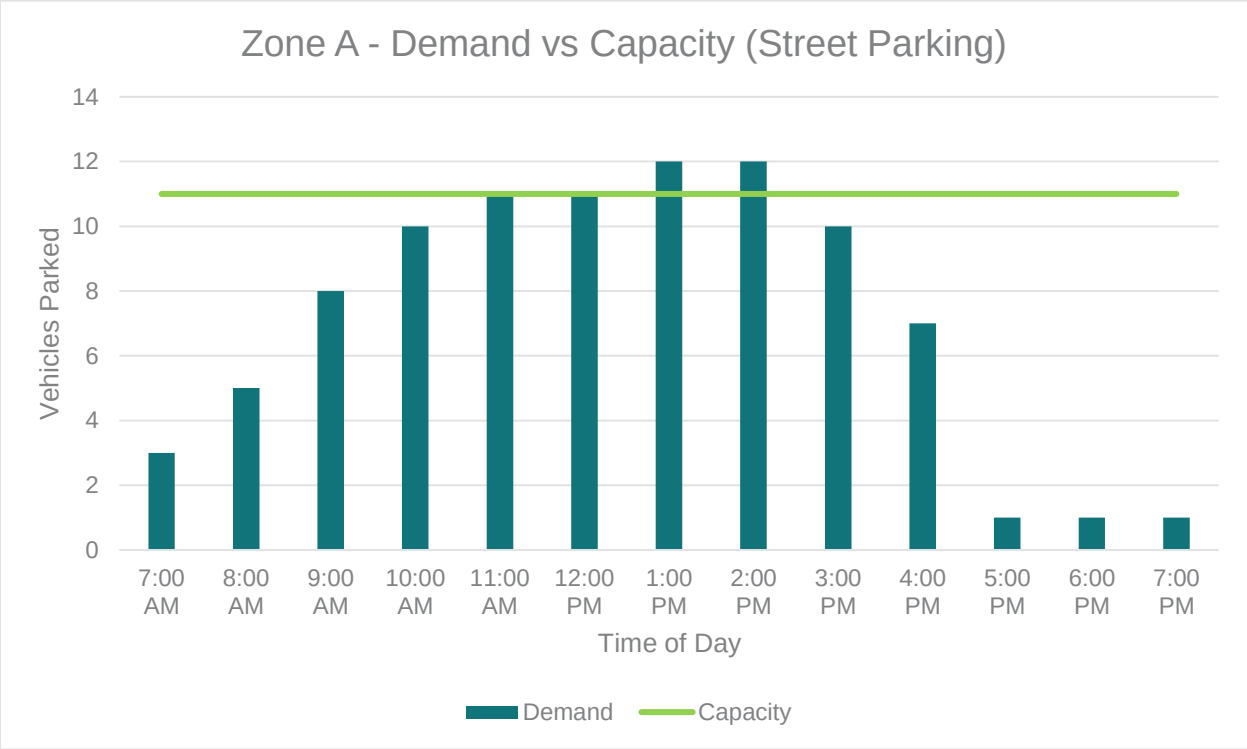
The hourly on- and off-street parking demand between 7:00 AM and 7:00 PM at each zone in the study area is summarized below.

Zone A

On-Street Parking Demand

As shown in *Figure 3*, the hourly on-street parking demand ranged between 1 and 12 vehicles. The peak demand was observed to be at 1:00 PM and 2:00 PM in this zone. The on-street parking capacity of Zone A is 11 vehicles. The demand reached capacity at 11:00 AM and 12:00 PM and exceeded capacity at 1:00 PM and 2:00 PM. The one vehicle counted over capacity was illegally parked in a no-stopping zone on the south side of Cousins Avenue fronting CV Marine (Lot #3).

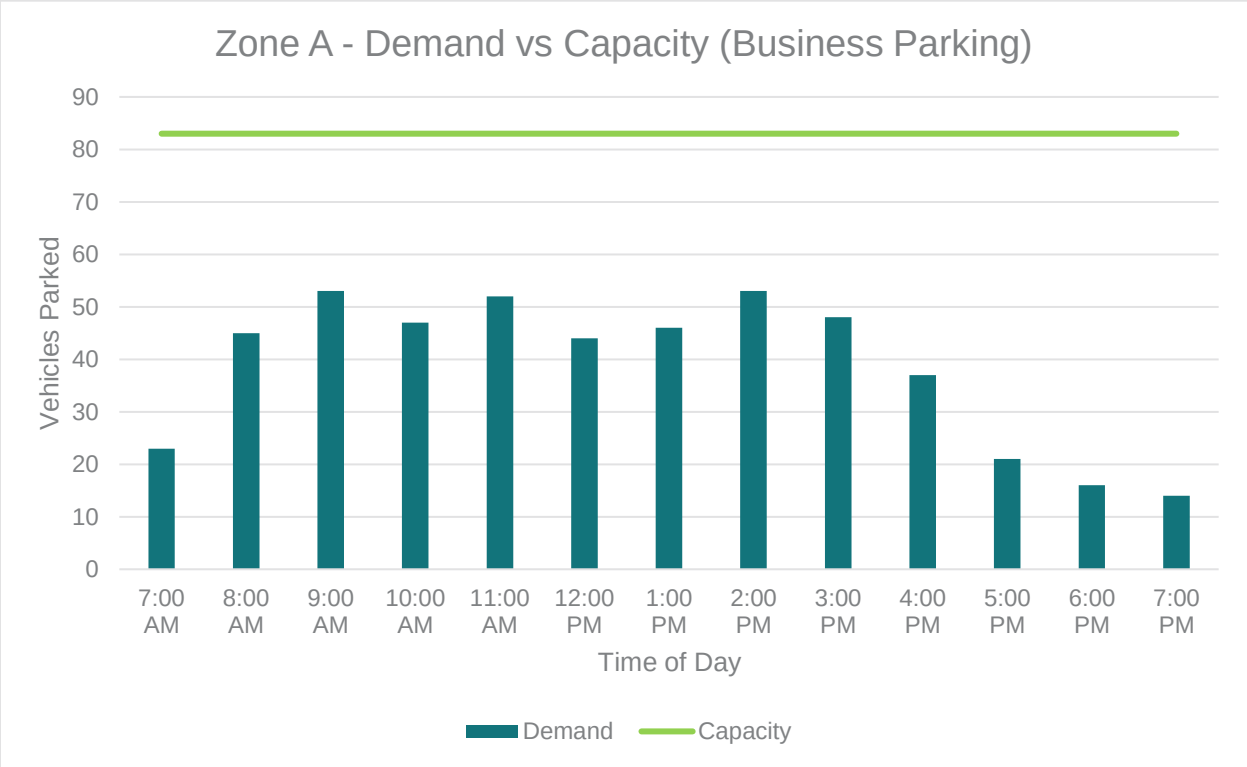
Figure 3: Zone A - On-Street Parking Demand



Off-Street Parking Demand

As shown in *Figure 4*, the hourly off-street parking demand ranged between 14 and 53 vehicles. The peak demand was observed to be at 2:00 PM in this zone. The off-street parking capacity of Zone A is 83 vehicles. The parking demand remained below capacity within the study hours.

Figure 4: Zone A - Off-Street Parking Demand

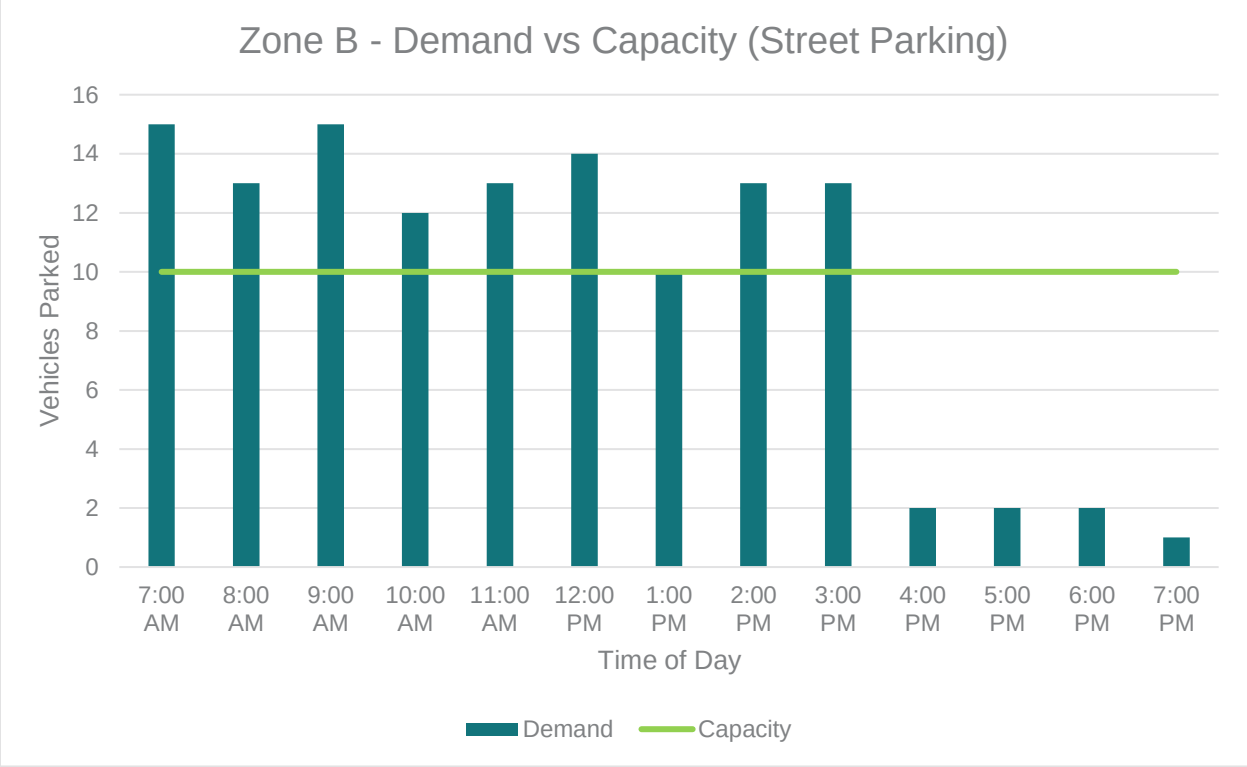


Zone B

On-Street Parking Demand

As shown in *Figure 5*, the hourly on-street parking demand ranged between 1 and 15 vehicles. The peak demand was observed to be at 7:00 AM and 9:00 AM in this zone. The on-street parking capacity of Zone B is 15 vehicles. The demand exceeded capacity between the counts at 7:00 AM and 3:00 PM. Several illegally parked vehicles were observed along Cousins Avenue fronting Rich's Mobile Detailing (Lot #7), Imperial Welding (Lot #8), and BD Auto & Diesel (Lot #14).

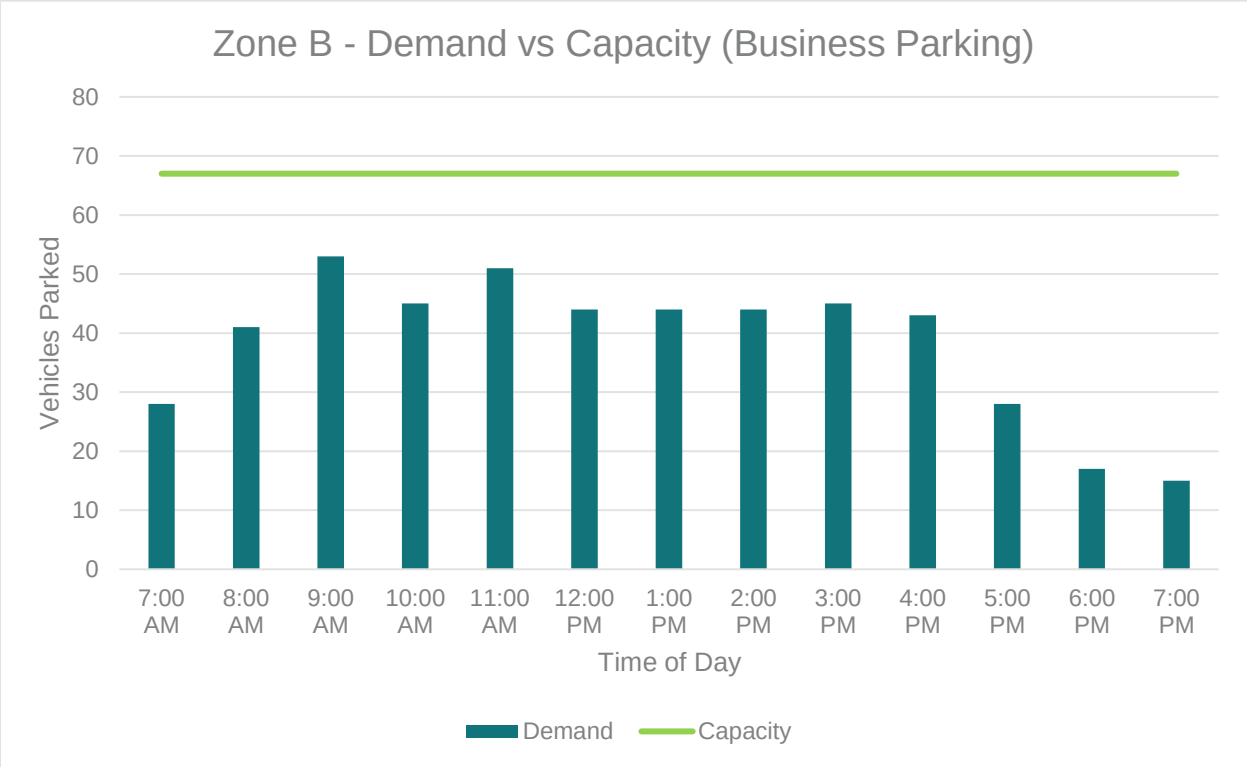
Figure 5: Zone B – On-Street Parking Demand



Off-Street Parking Demand

As shown in *Figure 6*, the hourly off-street parking demand ranged between 15 and 53 vehicles. The peak demand was observed to be at 9:00 AM in this zone. The off-street parking capacity of Zone B is 67 vehicles. The parking demand remained below capacity within the study hours.

Figure 6: Zone B – Off-Street Parking Demand

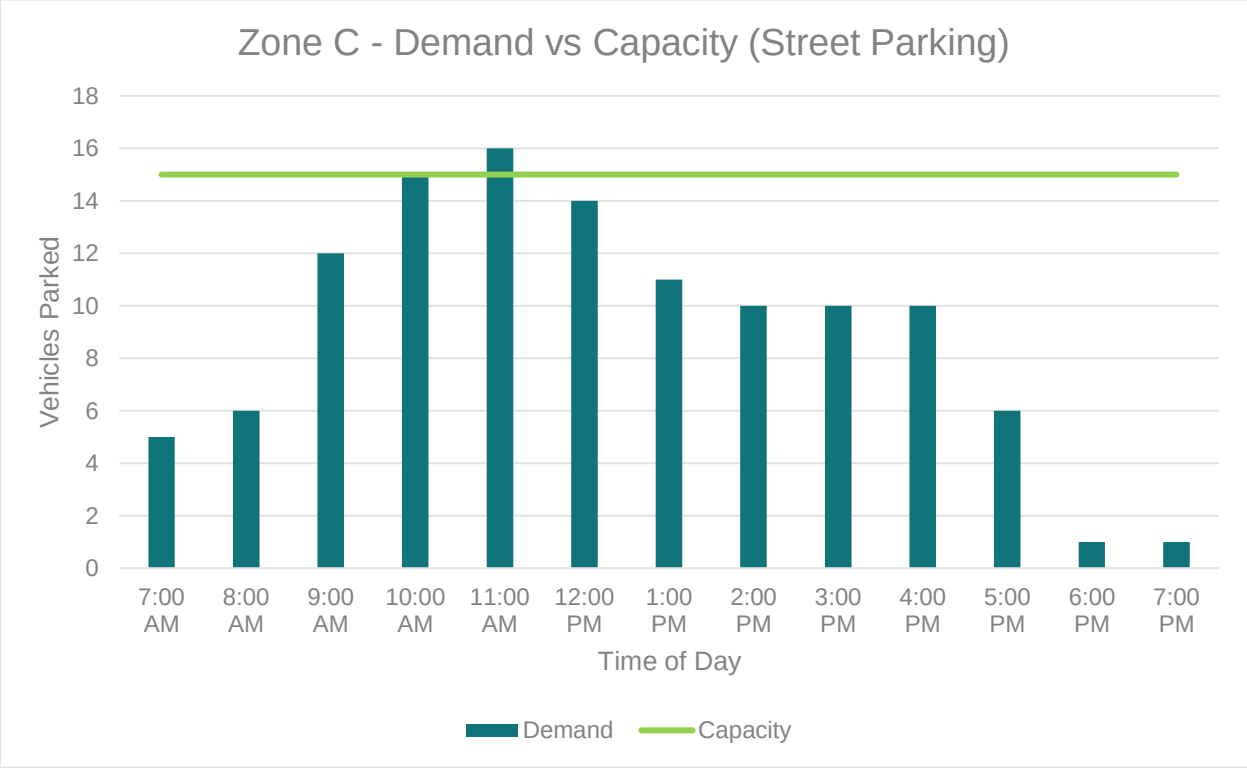


Zone C

On-Street Parking Demand

As shown in *Figure 7*, the hourly on-street parking demand ranged between 1 and 16 vehicles. The peak demand was observed to be at 11:00 AM in this zone. The on-street parking capacity of Zone C is 15 vehicles. The demand reached capacity at 10:00 AM and exceeded capacity at 11:00 AM. There was an illegally parked motorhome in front of the Canada Scooters' driveway (Lot #16).

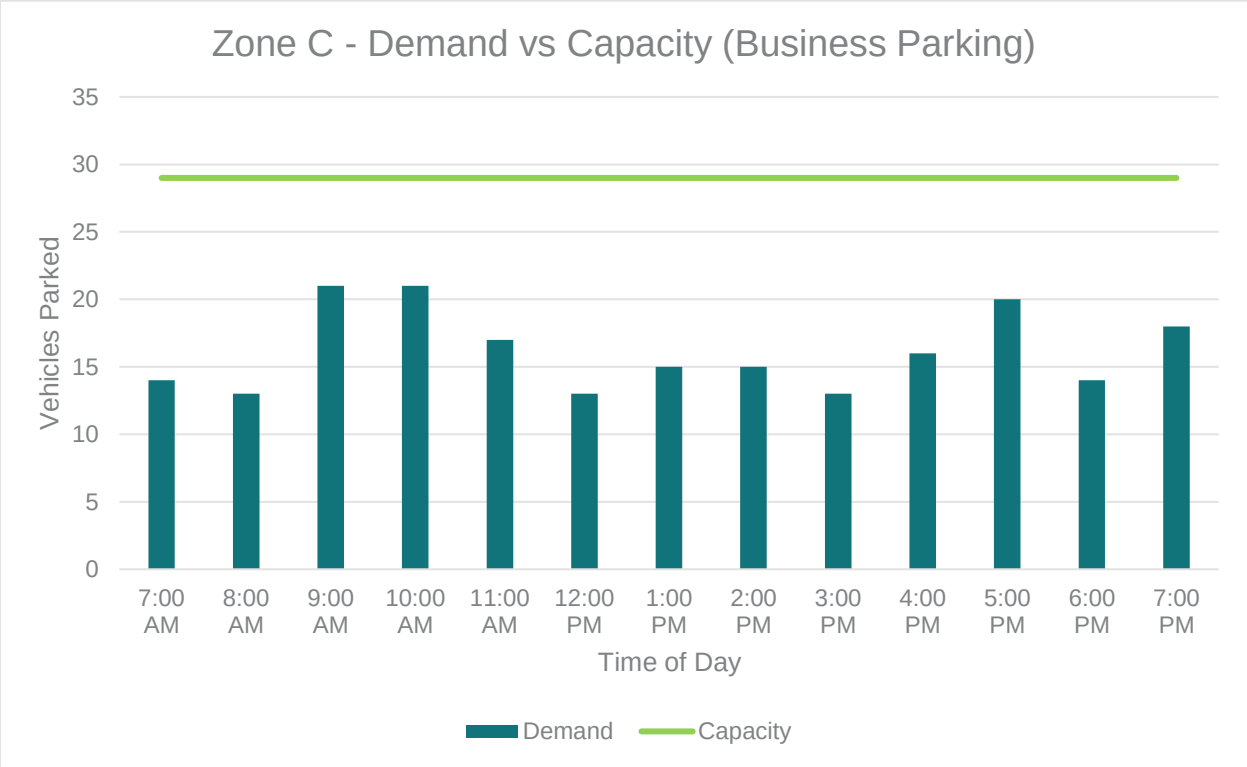
Figure 7: Zone C – On-Street Parking Demand



Off-Street Parking Demand

As shown in *Figure 8*, the hourly off-street parking demand ranged between 13 and 21 vehicles. The peak demand was observed to be at 9:00 AM and 10:00 AM in this zone. The off-street parking capacity of Zone C is 29 vehicles. The parking demand remained below capacity within the study hours.

Figure 8: Zone C – Off-Street Parking Demand

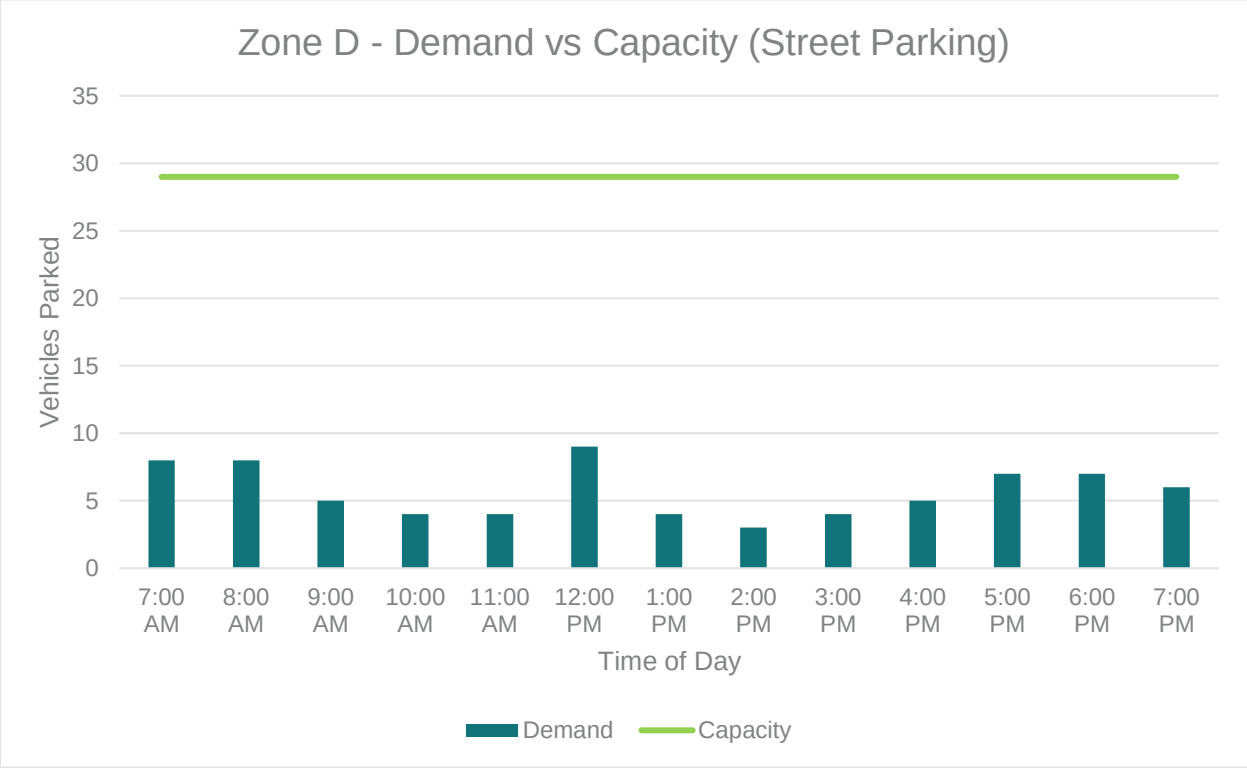


Zone D

On-Street Parking Demand

As shown in *Figure 9*, the hourly on-street parking demand ranged between 3 and 9 vehicles. The peak demand was observed to be at 12:00 PM in this zone. The on-street parking capacity of Zone D is 29 vehicles. The parking demand remained below capacity within the study hours. No illegally parked vehicles were observed in this zone during the study period.

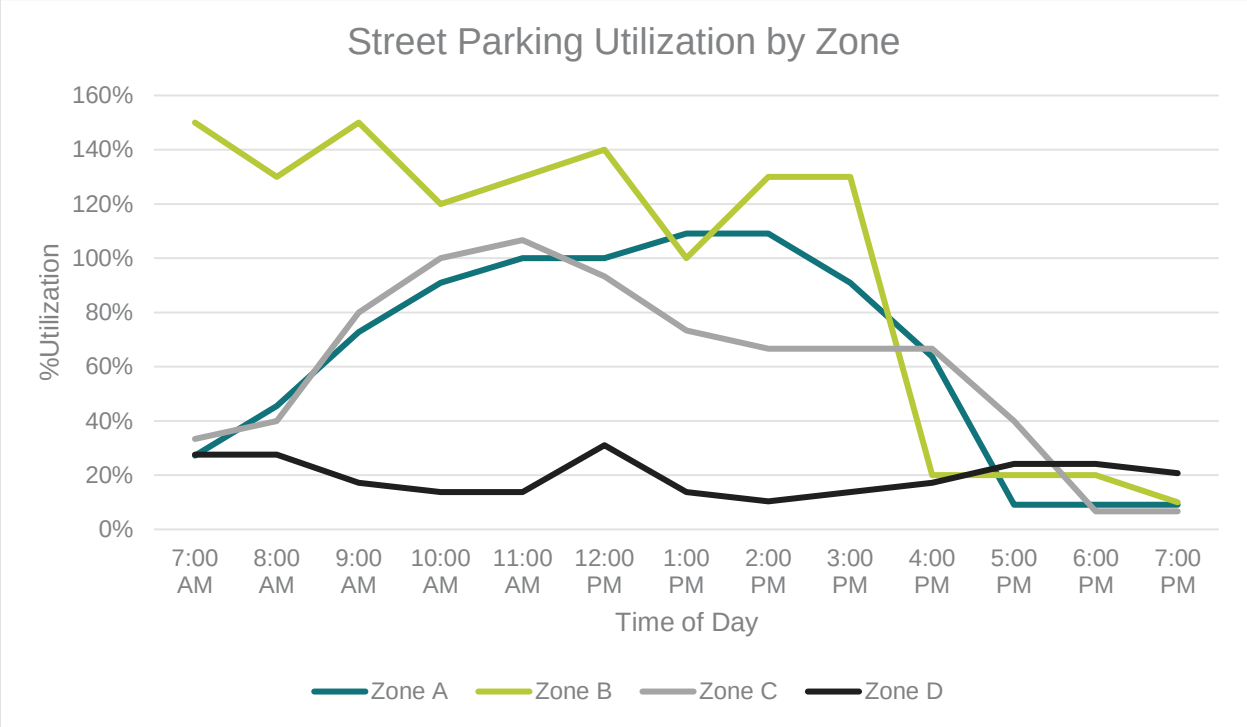
Figure 9: Zone D – On-Street Parking Demand



2.4. PARKING UTILIZATION

The hourly parking demand was compared to the available number of spaces in each zone to determine the hourly on- and off-street parking utilization rates. *Figure 10* and *Figure 11* show the utilization rates of the on-street and off-street parking, respectively.

Figure 10: On-Street Parking Utilization by Zone



As shown in *Figure 10*, the on-street parking utilization rates exceeded 100% (*demand exceeded capacity due to illegally parked vehicles*) for Zones A, B, and C. Zone B saw the highest utilization rate of 150% at 7:00 AM and 9:00 AM. The utilization rates dropped between 2:00 PM to 4:00 PM for all zones except Zone D, which had a fairly consistent utilization rate throughout the study period. Additionally, Zone B had its peak utilization in the morning (7:00 AM and 9:00 AM) while the remaining zones had their peak utilization mid-day (between 11:00 AM and 2:00 PM). The maximum on-street parking utilization rates by zone are summarized in *Table 2*.

Table 2: Maximum On-Street Parking Utilization Rates

Zone	Max Utilization (%)	Time of Occurrence
A	109%	1:00 PM, 2:00 PM
B	150%	7:00 AM, 9:00 AM
C	107%	11:00 AM
D	31%	12:00 PM

Note: Utilization rate is greater than 100% due to illegally parked vehicles.

Figure 11: Off-Street Parking Utilization by Zone

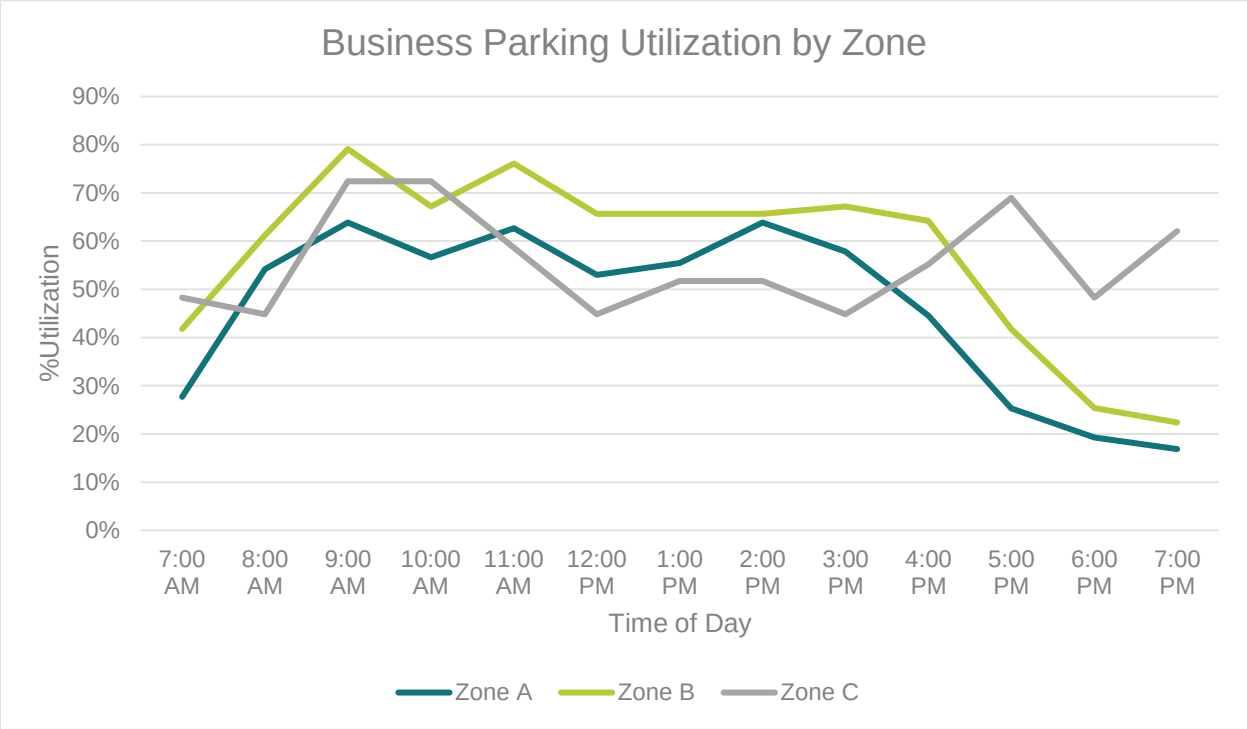


Figure 11 shows that off-street parking utilization rates for all zones are under 80% (demand is below capacity). Zone B saw the highest utilization rate of 79% at 9:00 AM. The utilization rates dropped between 2:00 PM and 4:00 PM for all zones except Zone C, which saw an increase in utilization after 3:00 PM. The maximum off-street parking utilization rates by zone are summarized in *Table 3*.

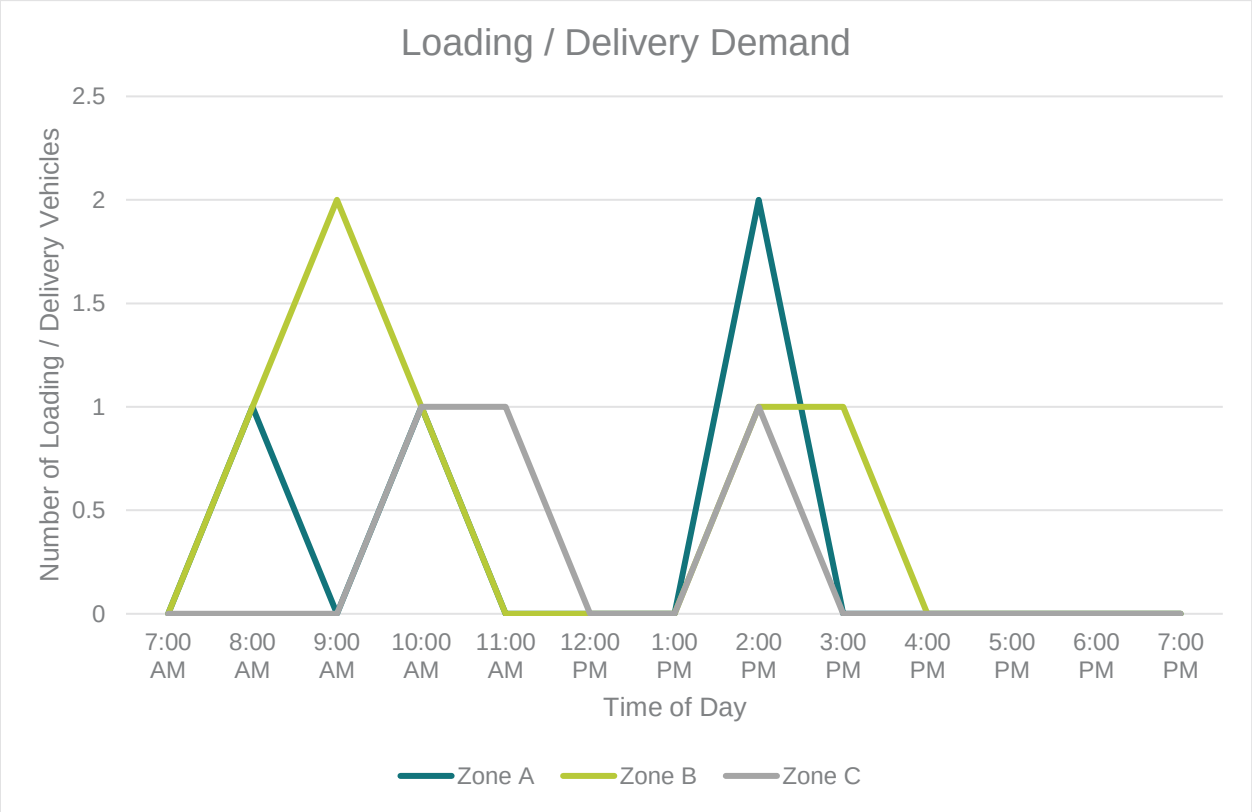
Table 3: Maximum On-Street Utilization Rates

Zone	Max Utilization (%)	Time of Occurrence
A	64%	9:00 AM, 2:00 PM
B	79%	9:00 AM
C	72%	9:00 AM, 10:00 AM

3. Loading and Delivery Demand

Some loading and delivery activities were observed during the study period from 7:00 AM to 7:00 PM on Wednesday, July 26, 2023. The following delivery vehicles were observed: FedEx and UPS trucks or vans, loading vans and semi haulers. Most loading and deliveries occurred within or in front of the off-street parking lots. *Figure 12* describes the loading and delivery vehicle demand by zone.

Figure 12: Loading / Delivery Demand by Zone



As shown in *Figure 12*, the hourly loading or delivery demand ranged between 0 and 2 vehicles. Zones A and B saw the highest demand of 2 vehicles occurring at 2:00 PM and 9:00 AM, respectively. The off-street parking lots have sufficient capacity to meet these loading and delivery demands.

4. Conclusion

The purpose of this technical memorandum is to review the existing on- and off-street parking, loading, and delivery conditions along Cousins Avenue between 20th Street and Willemar Avenue in Courtenay, British Columbia.

To better understand the existing parking conditions, the number of available on- and off-street parking spaces at each designated zone throughout the study area was determined. The existing on-street parking capacity in the study area is approximately 65 vehicles (Zone A: 11, Zone B: 10, Zone C: 15 and Zone D: 29). The existing off-street parking capacity is 179 vehicles (Zone A: 83, Zone B: 67, and Zone C: 29).

The hourly on-street parking demand exceeded capacity for Zones A, B, and C for some hours in the study period. *This additional demand was observed in the form of illegally parked vehicles along the street*. The on-street parking demand at Zone D did not exceed capacity. Zone B had the highest on-street parking utilization rate of 150%.

The hourly off-street parking demand did not exceed capacity within any zone. Zone B had the highest off-street parking utilization rate of 79%.

The maximum hourly loading and delivery demand was 2 vehicles at Zones A and B. There is sufficient off-street capacity at the business parking lots to accommodate the loading and delivery demand.

DRAFT

5. Closing

If you have any questions or concerns regarding the information provided in this memo, please contact the undersigned.

Sincerely,
McElhanney Ltd.

Prepared by:

DRAFT

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Appendices: A – Survey Data Tables
B – Statement of Limitations

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APPENDIX A – SURVEY DATA TABLES

Cousins Avenue - Street Parking

	Zone A			Zone B			Zone C			Zone D			Notes
Time	Demand	Capacity	%Utilization	Demand	Capacity	%Utilization	Demand	Capacity	%Utilization	Demand	Capacity	%Utilization	
7:00 AM	3	11	27%	15	10	150%	5	15	33%	8	29	28%	Completed 7:10-7:20
8:00 AM	5	11	45%	13	10	130%	6	15	40%	8	29	28%	Completed 8:05-8:10
9:00 AM	8	11	73%	15	10	150%	12	15	80%	5	29	17%	Completed 9:05-9:10
10:00 AM	10	11	91%	12	10	120%	15	15	100%	4	29	14%	Completed 10:05-10:10
11:00 AM	11	11	100%	13	10	130%	16	15	107%	4	29	14%	Completed 11:00-11:05
12:00 PM	11	11	100%	14	10	140%	14	15	93%	9	29	31%	Completed 12:00-12:05
1:00 PM	12	11	109%	10	10	100%	11	15	73%	4	29	14%	Completed 1:00-1:05
2:00 PM	12	11	109%	13	10	130%	10	15	67%	3	29	10%	Completed 2:00-2:05
3:00 PM	10	11	91%	13	10	130%	10	15	67%	4	29	14%	Completed 3:00-3:05
4:00 PM	7	11	64%	2	10	20%	10	15	67%	5	29	17%	Completed 4:00-4:05
5:00 PM	1	11	9%	2	10	20%	6	15	40%	7	29	24%	Completed 5:00-5:05
6:00 PM	1	11	9%	2	10	20%	1	15	7%	7	29	24%	Completed 6:00-6:05
7:00 PM	1	11	9%	1	10	10%	1	15	7%	6	29	21%	Completed 7:00-7:05

Cousins Avenue - Business Parking

	Zone A			Zone B			Zone C			Notes
Time	Demand	Capacity	%Utilization	Demand	Capacity	%Utilization	Demand	Capacity	%Utilization	
7:00 AM	23	83	28%	28	67	42%	14	29	48%	Completed 7:30-7:45
8:00 AM	45	83	54%	41	67	61%	13	29	45%	Completed 8:20-8:45
9:00 AM	53	83	64%	53	67	79%	21	29	72%	Completed 9:15-9:35
10:00 AM	47	83	57%	45	67	67%	21	29	72%	Completed 10:10-10:30
11:00 AM	52	83	63%	51	67	76%	17	29	59%	Completed 11:10-11:25
12:00 PM	44	83	53%	44	67	66%	13	29	45%	Completed 12:10-12:25
1:00 PM	46	83	55%	44	67	66%	15	29	52%	Completed 1:15-1:30
2:00 PM	53	83	64%	44	67	66%	15	29	52%	Completed 2:05-2:20
3:00 PM	48	83	58%	45	67	67%	13	29	45%	Completed 3:05-3:20
4:00 PM	37	83	45%	43	67	64%	16	29	55%	Completed 4:05-4:15
5:00 PM	21	83	25%	28	67	42%	20	29	69%	Completed 5:05-5:15
6:00 PM	16	83	19%	17	67	25%	14	29	48%	Completed 6:05-6:15
7:00 PM	14	83	17%	15	67	22%	18	29	62%	Completed 7:05-7:15

Cousins Avenue - Loading & Delivery

	Zone A	Zone B	Zone C
Time	Demand	Demand	Demand
7:00 AM	0	0	0
8:00 AM	1	1	0
9:00 AM	0	2	0
10:00 AM	1	1	1
11:00 AM	0	0	1
12:00 PM	0	0	0
1:00 PM	0	0	0
2:00 PM	2	1	1
3:00 PM	0	1	0
4:00 PM	0	0	0
5:00 PM	0	0	0
6:00 PM	0	0	0
7:00 PM	0	0	0

APPENDIX B – STATEMENT OF LIMITATIONS

Statement of Limitations

Use of this Report. This report was prepared by McElhanney Ltd. ("**McElhanney**") for the particular site, design objective, development and purpose (the "**Project**") described in this report and for the exclusive use of the client identified in this report (the "**Client**"). The data, interpretations and recommendations pertain to the Project and are not applicable to any other project or site location and this report may not be reproduced, used or relied upon, in whole or in part, by a party other than the Client, without the prior written consent of McElhanney. The Client may provide copies of this report to its affiliates, contractors, subcontractors and regulatory authorities for use in relation to and in connection with the Project provided that any reliance, unauthorized use, and/or decisions made based on the information contained within this report are at the sole risk of such parties. McElhanney will not be responsible for the use of this report on projects other than the Project, where this report or the contents hereof have been modified without McElhanney's consent, to the extent that the content is in the nature of an opinion, and if the report is preliminary or draft. This is a technical report and is not a legal representation or interpretation of laws, rules, regulations, or policies of governmental agencies.

Standard of Care and Disclaimer of Warranties. This report was prepared with the degree of care, skill, and diligence as would reasonably be expected from a qualified member of the same profession, providing a similar report for similar projects, and under similar circumstances, and in accordance with generally accepted engineering and scientific judgments, principles and practices. McElhanney expressly disclaims any and all warranties in connection with this report.

Information from Client and Third Parties. McElhanney has relied in good faith on information provided by the Client and third parties noted in this report and has assumed such information to be accurate, complete, reliable, non-fringing, and fit for the intended purpose without independent verification. McElhanney accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of omissions or errors in information provided by third parties or for omissions, misstatements or fraudulent acts of persons interviewed.

Effect of Changes. All evaluations and conclusions stated in this report are based on facts, observations, site-specific details, legislation and regulations as they existed at the time of the report preparation. McElhanney should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein upon any of the following events: a) any changes (or possible changes) as to the site, purpose, or development plans upon which this report was based, b) any changes to applicable laws subsequent to the issuance of the report.

Independent Judgments. McElhanney will not be responsible for the independent conclusions, interpretations, interpolations and/or decisions of the Client, or others, who may come into possession of this report, or any part thereof. This restriction of liability includes decisions made to purchase, finance or sell land or with respect to public offerings for the sale of securities.

APPENDIX III
Meeting Minutes from City Engagement Session

Cousins Avenue Road Construction Analysis Options

Staff Engagement Meeting

Meeting date(s)	Meeting time	Meeting location	Meeting chair	File #
July 10, 2023	9 am	Microsoft Teams	A. McBride	2211-47614-18

Attendees

Chris Davidson, City of Courtenay
Sofia Senin, City of Courtenay
Kyle Shaw, City of Courtenay
Mike Kearns, City of Courtenay
Ann Guillo, City of Courtenay
Holly Brotherston, City of Courtenay
Rodney Armstrong, City of Courtenay
Alex McBride, McElhanney Ltd
Chantal Richard, McElhanney Ltd,
Colleen Dane, Zinc Strategies

Distribution: Attendees

Item #	Description	Action by	Due date
1.	**AM**: McElhanney has been engaged to undertake an options analysis for the reconstruction of Cousins Road, the analysis will provide 3 distinct options for review with the objective of providing a recommended option for the City to move forward into detailed design in 2024. The project area is divided by two classifications: - 20th Street to Rosewall – LOC – R - Rosewall to Willemar – COL – I/C It is noted that Commercial usage begins south/east of Rosewall Crescent.	INFO	

	The three options identified in the proposal to review was following the current SDSB cross sections, installing bike lanes within the roadway and a third, hybrid option.		
2.	**AM:** In review of the project schedule – McElhanney is going to begin by collecting data in July to provide a first submission to the City in August. A target milestone date would be the community engagement open house in October. The final deliverable will be provided early December. To date, we are on schedule.	INFO	
3.	Comments from PW on what should be considered: **KS:** - The City may want to give consideration to traffic flow in the area, i.e., restricting turning movements from 20th could alleviate truck traffic on the local portion of the road. - May consider restricting trucks north/west of Rosewall Crescent - Rosewall Crescent is a very challenging street and limitations on existing pavement width and parking availability should be considered. The influence or impact of those limitations should not be ignored when developing options. - There may be an opportunity to alter traffic flow and make Rosewall and a portion of Cousins a one-way street – which would provide additional room for the types of vehicles currently utilizing this area. - The cul-de-sac may require a sidewalk based on the block length. - Cousins is not considered for bike lanes within the current cycling plan – the latest cycling plan has had extensive engagement and input from the cycling coalition. - Maintaining parking will be one of the most important features – there have been conflict regarding parking in this area in the past. - Services to be replaced – consideration should be given to upsizing services while replacing (i.e., 200mm sanitary near access path to Cousins Park may need to be 250mm sanitary, watermain at Willemar should be upsized to 300 mm)	CITY	

	- Options analysis may want to consider how to transition from road uses at intersections – consider road uses of 20th and Willemar. - A raised crosswalk could be considered at the trailhead to Cousins Park (between 22nd and Rosewall Cres) – which may also be a good transition point between road sections that cater to residential and commercial needs. - A bus stop on 20th should be moved – there are poor sightlines. - Rain gardens are less supported by PW staff as they are high maintenance – there should be a clear benefit identified if they will be incorporated into existing streetscapes. Boulevards with trees may be a more appropriate design for this road. - Based on our understanding of the commercial use, the City may want to consider keeping wider lane widths in the design - Current businesses use the entire frontage as parking area and/or driveway access to their building(s)– this will be a challenge. - Parking restrictions could be implemented as part of the reconstruction **City** to review meeting minutes and note if any additional engagement or commentary should be added to support further development of the three options.		
4.	**CD**: Engagement Strategy Review Q: Has any engagement been completed to date? Is the community aware of potential work/improvements here? A: No specific engagement on the proposed project. When questions have come in about condition of road, staff have advised that they were waiting for a full upgrades to be completed. Some questions around geotechnical work in 2015/2016, but nothing official on the full upgrade work. Q: What concerns have they heard from community about the area?	INFO	

	A: There are vocal residents in Zone B concerned with commercial traffic. Businesses in Zone C have been in contact about parking issues. Complaints about road condition in the area and need for repaving. Q: Is the Cycling Coalition aware that this stretch isn't proposed to include a bike lane? A: The Cycling Coalition has been kept very informed of the network plan and is very familiar with the mapping, and has expressed support. Q: Aside from the immediate residents/businesses and Cycling Coalition, are there other key stakeholder groups that need to be looped in? A: Accessibility Committee. Courtenay staff to consider more and provide any further suggestions. Q: What engagement tools is the City currently using? A: Same as in previous work with the City: website, social media, mailouts, etc. No online engagement platform for this. Staff team indicates interest in social media campaign, online survey, mailouts and in -person event.		

Meeting adjourned as scheduled at 10:00am.

These Minutes are considered to be a true and accurate recording of all items discussed. If there are any errors or omissions, they shall be brought to the attention of the writer within 10 working days; otherwise, these Minutes shall be deemed correct by all present.

_____

Alex McBride, Project Manager

ZONE A

COUSINS AVENUE - RESIDENTIAL - NORTH OF 20TH ST
CLASSIFICATION: LOC-R
APPROXIMATE LENGTH: 240m

APPLICABLE SECTIONS FROM BYLAW 2919:
CCSD L1

For Clarification: Zone A was included for discussion and any continuity considerations that may influence the road section within Zone B. The Options Analysis report will be limited to providing road section options for Zone B and C.

ZONE B

COUSINS AVENUE - RESIDENTIAL - SOUTH OF 20TH ST
CLASSIFICATION: LOC-R
APPROXIMATE LENGTH: 285m

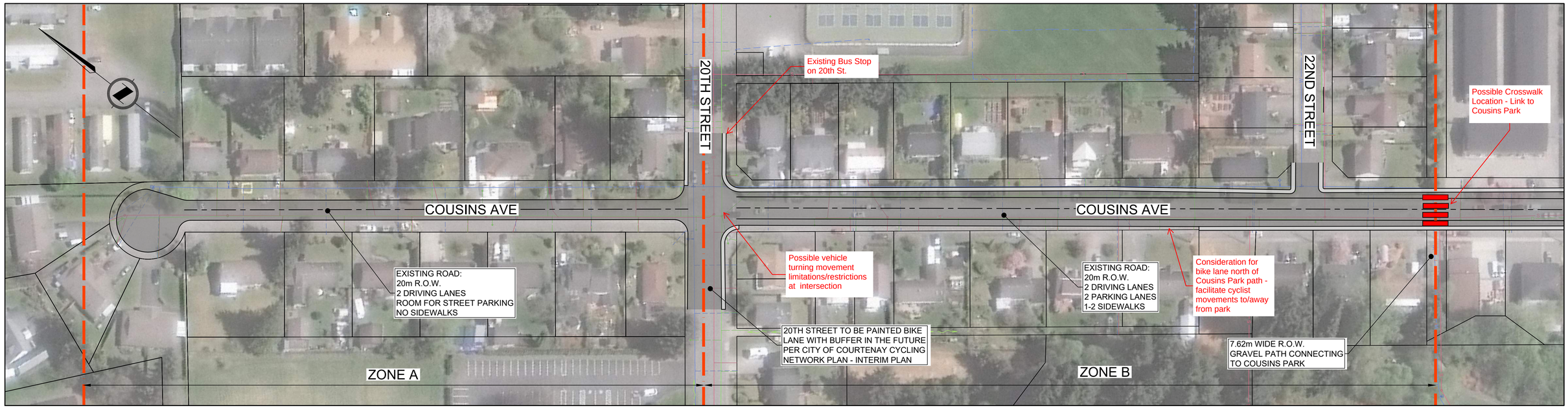
APPLICABLE SECTIONS FROM BYLAW 2919:
CCSD L1

ALTERNATIVE SECTIONS FOR CONSIDERATION:
CCSD CRe, CRB, CRC, CONTINUATION OF ZONE C SECTION (TBD)

Project Kickoff and Staff Engagement Meeting
July 10, 2023, 9:00am

Notes and important information discussed during the meeting have been added in RED text.

Please note that these drawings have been prepared for the purpose of early engagement with the City and will be refined and revised based on input from the City and information collected as McElhanney works towards a 50% Options Analysis Report.



ROAD SECTION KEY: HARDSCAPE FEATURES INCLUDED ADJACENT TO ROADWAY

CCSD L1 - 1 SIDEWALK
CCSD CRe - 2 PARKING LANES, 2 SIDEWALKS
CCSD CRB - 2 BIKE LANES, 1 PARKING LANE, 2 SIDEWALKS
CCSD CRC - 2 BIKE LANES (0.5m BUFFER), 1 PARKING LANE, 2 SIDEWALKS
CCSD CUB - 2 BIKE LANES, 2 SIDEWALKS
CCSD CUP - 2 PARKING LANES, 2 SIDEWALKS
COLLECTOR MODIFIED 1 - 2 PARKING LANES, 2 BIKE LANES (0.5m BUFFER), 2 SIDEWALKS
COLLECTOR MODIFIED 2 - 1 PARKING LANE, 2 SIDEWALKS, RAIN GARDEN
COLLECTOR MODIFIED 2a - 2 BIKE LANES, 2 SIDEWALKS, RAIN GARDEN
COLLECTOR MODIFIED 2b - 2 PARKING LANES, 2 SIDEWALKS, RAIN GARDEN

For Reference - Google Street View 2022 - Cousins Ave. Looking SE from a point just north of 22nd Street

Rev	Date	Description	Drawn	Design	App'd
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
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PA	2023-07-07	ISSUED FOR DISCUSSION	ER	ER	AM

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0 1:750 30

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney
1211 Ryan Road
Courtenay BC
Canada V9N 3R6
T 250 338 5495

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CITY OF COURTENAY
830 CLIFFE AVE, COURTENAY, BC V9N 2J7

COUSINS AVENUE OPTIONS ANALYSIS SITE PLAN ZONE A AND B

Drawing No.
SK01-A

Project Number
2211-47614-18

Rev.
PA

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

McElhanney ANSI D - 2021-12-08

DATE: 2023-07-07 14:56 FILE: \\corp\ial\CITY\2211\2- PROJECTS\47600-47699\47614-18 CoC Cousins Ave\10.0 Drawings\10.1 Engineering\10.1.2 Sketches\47614-18-C0-SK01.dwg

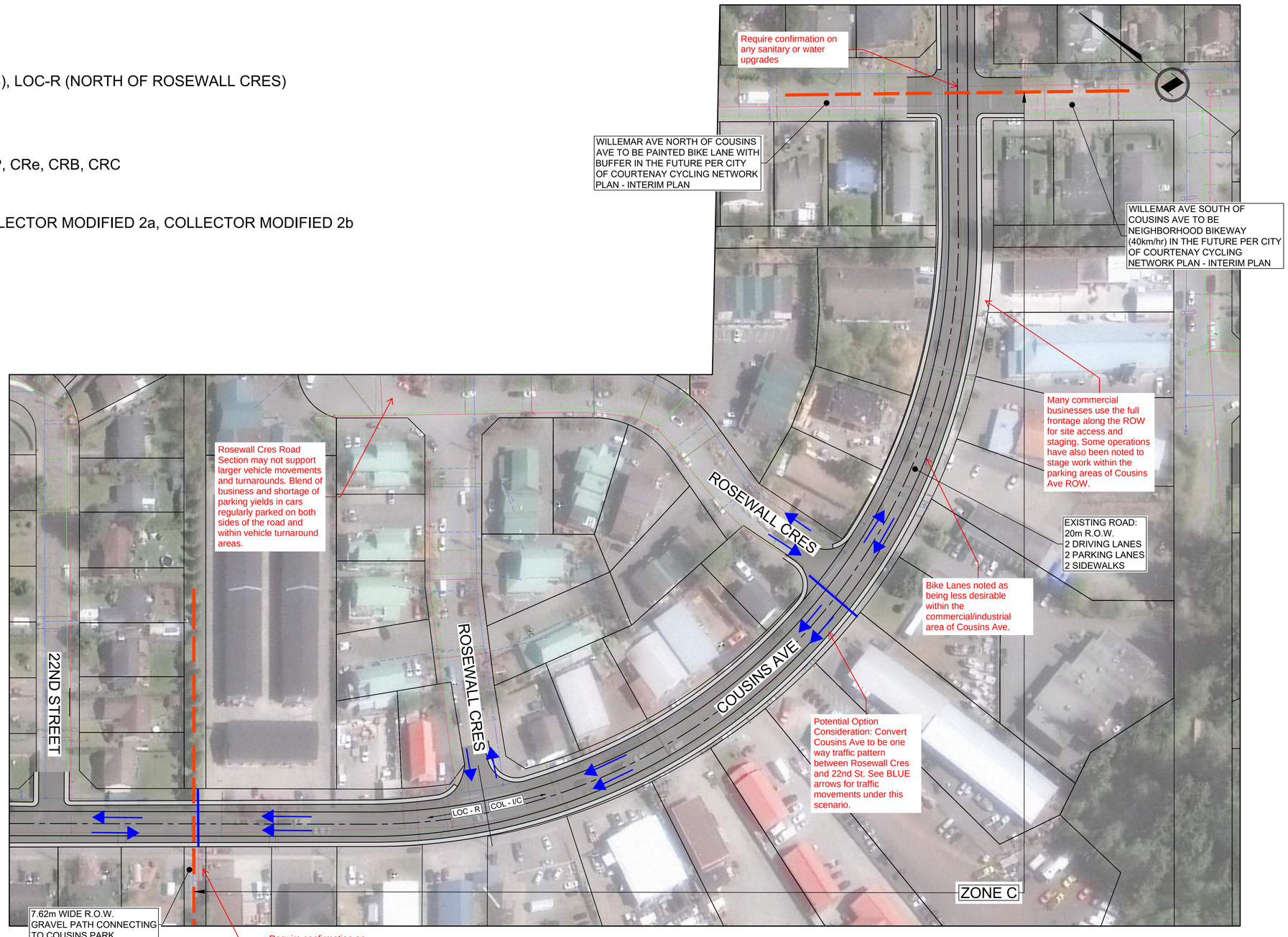
ZONE C

COUSINS AVENUE - INDUSTRIAL - SOUTH OF 22ND ST
CLASSIFICATION: COL - I/C (SOUTH OF ROSEWALL CRES), LOC-R (NORTH OF ROSEWALL CRES)
APPROXIMATE LENGTH: 435m

APPLICABLE SECTIONS FROM BYLAW 2919:
CCSD L1 (NORTH OF ROSEWALL CRES), CCSD CUB, CUP, CRe, CRB, CRC

ALTERNATIVE SECTIONS FOR CONSIDERATION:
COLLECTOR MODIFIED 1, COLLECTOR MODIFIED 2, COLLECTOR MODIFIED 2a, COLLECTOR MODIFIED 2b

For Reference - Google Street View 2015 - Cousins Ave. Looking SE near Rosewall Cres



ROAD SECTION KEY: HARDSCAPE FEATURES INCLUDED ADJACENT TO ROADWAY

CCSD L1 - 1 SIDEWALK
CCSD CRe - 2 PARKING LANES, 2 SIDEWALKS
CCSD CRB - 2 BIKE LANES, 1 PARKING LANE, 2 SIDEWALKS
CCSD CRC - 2 BIKE LANES (0.5m BUFFER), 1 PARKING LANE, 2 SIDEWALKS
CCSD CUB - 2 BIKE LANES, 2 SIDEWALKS
CCSD CUP - 2 PARKING LANES, 2 SIDEWALKS
COLLECTOR MODIFIED 1 - 2 PARKING LANES, 2 BIKE LANES (0.5m BUFFER), 2 SIDEWALKS
COLLECTOR MODIFIED 2 - 1 PARKING LANE, 2 SIDEWALKS, RAIN GARDEN
COLLECTOR MODIFIED 2a - 2 BIKE LANES, 2 SIDEWALKS, RAIN GARDEN
COLLECTOR MODIFIED 2b - 2 PARKING LANES, 2 SIDEWALKS, RAIN GARDEN

Rev	Date	Description	Drawn	Design	App'd
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PA	2023-07-07	ISSUED FOR DISCUSSION	ER	ER	AM

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0 1:750 30

ORIGINAL DWG SIZE: ANSI D (22" x 34")

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CITY OF COURTENAY
830 CLIFFE AVE, COURTENAY, BC V9N 2J7

COUSINS AVENUE OPTIONS ANALYSIS
SITE PLAN
ZONE C

Drawing No.
SK01-B

Project Number
2211-47614-18

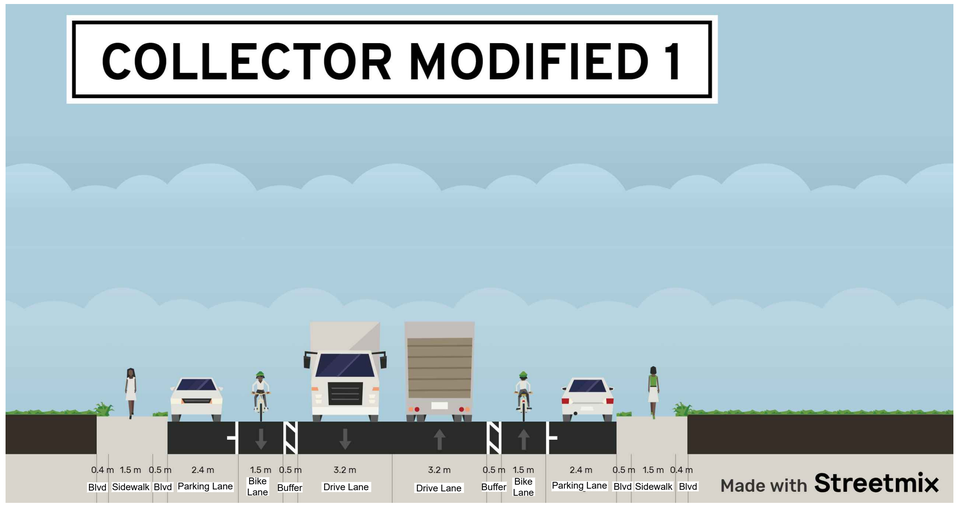
Rev.
PA

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

McElhanney ANSI D - 2021-12-08

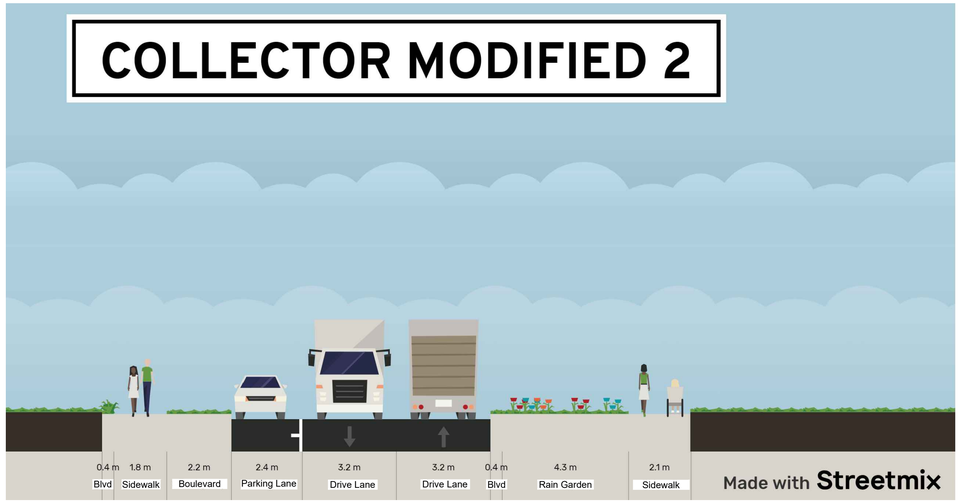
DATE: 2023-07-07 14:56 FILE: \\corp\ab\CTY\22112- PROJECTS\47600-47699\47614-18 CoC Cousins Ave\10.0 Drawings\10.1 Engineering\10.1.2 Sketches\47614-18-COI-SK01.dwg

For Clarification: These sections are provided for reference/example only and not intended to reflect or recommend pursuit of one of these road sections. Collector Modified 2, 2a, and 2b evaluate the potential impacts to space when a rain garden is introduced into the road section and based on road sections used recently at a development within the City.



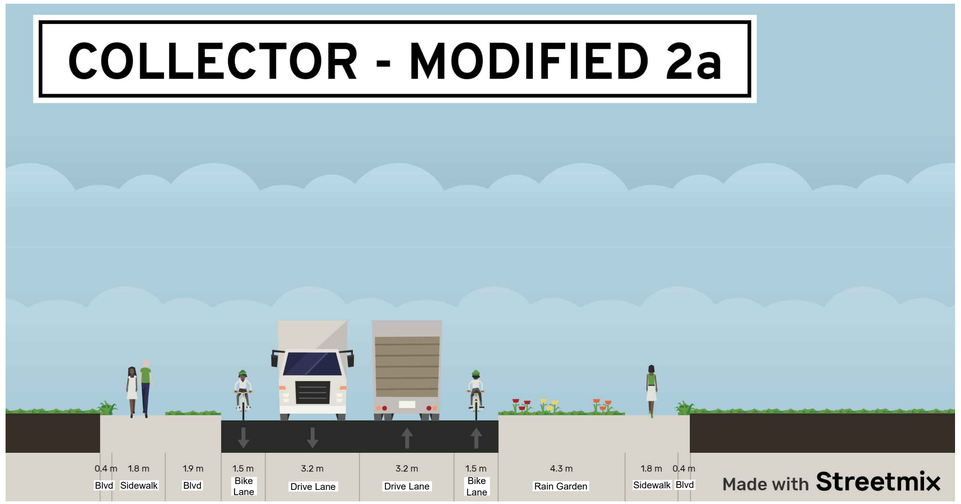
COLLECTOR MODIFIED 1

OBJECTIVE: ACHEIVE PARKING ON BOTH SIDES, TWO BIKE LANES, SIDEWALKS
TRADEOFFS: MINIMAL BOULEVARD WIDTH, MINIMAL SIDEWALK WIDTH, NO RAIN GARDEN



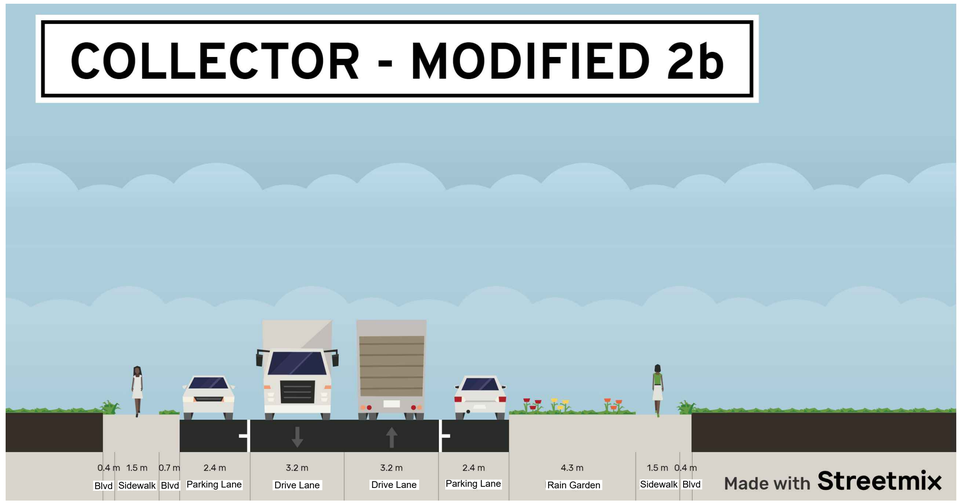
COLLECTOR MODIFIED 2 - BASED OFF RECENT ROAD SECTION AT CROWN ISLE

OBJECTIVE: ACHIEVE PARKING ON ONE SIDE OF ROADWAY, RAIN GARDEN, BOULEVARD, SIDEWALKS
TRADEOFFS: PARKING AREA IS LIMITED, NO BIKE LANES



COLLECTOR MODIFIED 2a

OBJECTIVE: ACHIEVE TWO BIKE LANES, RAIN GARDEN, BOULEVARD, SIDEWALKS
TRADEOFFS: NO PARKING AREAS, NO BUFFER WITH BIKE LANE



COLLECTOR MODIFIED 2b

OBJECTIVE: ACHIEVE PARKING ON BOTH SIDES OF ROADWAY, RAIN GARDEN, NARROW BOULEVARD, SIDEWALKS
TRADEOFFS: NO BIKE LANES, MINIMAL SIDEWALK WIDTH, MINIMAL BOULEVARD WIDTH

Rev	Date	Description	Drawn	Design	App'd
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PA	2023-07-07	ISSUED FOR DISCUSSION	ER	ER	AM

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ORIGINAL DWG SIZE: ANSI D (22" x 34")

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CITY OF COURTENAY
830 CLIFFE AVE, COURTENAY, BC V9N 2J7

COUSINS AVENUE OPTIONS ANALYSIS SITE PLAN ALTERNATIVE SECTIONS

Drawing No.
SK01-C

Project Number
2211-47614-18

Rev.
PA

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

McElhanney ANSI D - 2021-12-08
DATE: 2023-07-07, 14:56 FILE: \\corp\all\CTY\22112- PROJECTS\47600-47699\47614-18 CoC Cousins Ave\10.0 Drawings\10.1 Engineering\10.1.2 Sketches\47614-18-C0-SK01.dwg

APPENDIX IV

Muir Lighting Study

MUIR ENGINEERING LTD.
Consulting Electrical Engineers

Michael Addy, EIT
Tel (250) 890 0870
1822 Comox Ave. Unit E
Comox, B.C.
V9M 3M7
michael@muireng.ca

COUSINS AVENUE – WILLEMAR TO 20TH STREET – PRELIMINARY STREETLIGHTING ANALYSIS

COURTENAY BC

AUG. 21, 2023 (UPDATED NOV. 2, 2023)

This report prepared for: Alex McBride, P.Eng., McElhanney

This report prepared by: Michael Addy, EIT

This report is prepared in response to a request from McElhanney to prepare an analysis on the streetlighting levels along Cousins Avenue between Willemar and 20th Street. The intention of this report is to analyze the existing streetlighting conditions and confirm if it meets City of Courtenay requirements and IESNA (Illuminating Engineering Society of North America) streetlighting standards.

Existing Conditions:

Surveys of the property in combination with streetlight locations found on Google Earth and streetview were used to determine locations of existing lights. The entire lighting system is made up of BC Hydro lease lights.

Table 1: Summary of Existing Roadway and Lighting Conditions

	Cousins Avenue.
Classification: [1]	Collector
Light setback to curb	Varies. Average spacing estimated to be approximately 1.6m (equal to the crosswalk width per Civil plans).
Mounting Height	Approximately 9m
Roadway Width	13m
Arm length from pole to light	2.4m
Luminaire	110W LED and 80W LED, BC Hydro Lease Lights

City of Courtenay Lighting Requirements:

City of Courtenay lighting requirements are based on MMCD and Illuminating Engineering Society roadway lighting design guidelines. The City of Courtenay subdivision and development servicing bylaw #2919 (April 2018) states all light fixtures must conform with the city's approved product list except in the case of utility installed lease lights, where BC Hydro requirements apply.

Streetlighting Analysis:

Existing lighting conditions are verified using photometric modelling tools. A light loss factor of 0.8 is used in the calculation for all LED fixtures. The streetlighting system along Cousins Avenue consists

[1] Road classification according to the City of Courtenay Official Community Plan, Bylaw No. 3070, 2022

entirely of BC Hydro lease lights. The lights are spaced inconsistently along the roadway and fixture wattages vary; therefore, a single calculation is not adequate to accurately show the existing conditions.

AGI32, a photometric analysis software, was used to determine the maximum fixture spacing to meet the required light levels based on the conditions listed in Table 1 above.

Table 2: Optimization Criteria to Determine Maximum Light Spacing

Optimization Criteria for 115W BC Hydro Lease Lights	
	Cousins Avenue
Road Classification	Collector
Average Luminance	0.4
Avg/Min Lum Ratio	4:1
Max Lv Ratio (Veiling Luminance)	0.4
Calculated Spacing	48m

The limiting factor in the lighting system stems from high glare ratings; however, looking at just uniformity and luminance levels may increase calculated spacing.

Refer to attached drawing E-1, indicating the distance between each light standard along Cousins Avenue. Table 3 below summarizes the distances from pole to pole:

Table 3: Approximate Pole Spacing

Pole Numbers	**Required Max Spacing**	**Measured Distance between Poles**
P2 -> P3	55m	53.8m
P3 -> P4	55m	59.5m
P4 -> P5	55m	76.3m
P5 -> P6	55m	27.8m
P6 -> P7	55m	46m
P7 -> P8	55m	50.5m
P8 -> P9	48m	50m
P9 -> P10	48m	60m
P10 -> P11	48m	50.3m
P11 -> P12	48m	59m
P12 -> P13	48m	49.3m
P13 -> P14	48m	36.5m
P14 -> P15	48m	30m

A photometric analysis was also completed for each intersection along Cousins Avenue within scope. See Table 4 below for the analysis results.

Table 4: Photometric Analysis of Intersections

Photometric Modelling Results – Cousins Avenue Intersections						
	Classification	**Illuminance (Lux)**		**Max Uniformity (Avg/Min Illum)**		**Comments**
		Required	**Calculated**	**Required**	**Calculated**	
Intersection of Cousins Ave. & 20th Street	Collector-Collector	12	21.7	4:1	2.3:1	Meets City of Courtenay lighting standards.
Intersection of Cousins Ave. & 22nd Street	Collector-Local	10	14.9	4:1	2.5:1	Meets City of Courtenay lighting standards.
Intersection of Cousins Ave. and Rosewall Cres. (West)	Collector - Local	10	20	4:1	3.2:1	Meets City of Courtenay lighting standards.
Intersection of Cousins Ave. and Rosewall Cres. (East)	Collector - Local	10	13.9	4:1	2.4:1	Meets City of Courtenay lighting standards.
Intersection of Cousins Ave. and Willemar	Collector - Collector	12	5.3	4:1	8.8:1	Does not meet City of Courtenay lighting standards.

Conclusion and Recommendation:

- The streetlighting system along Cousins Avenue does not meet City of Courtenay or IES standards for streetlighting.
- Four of the five intersections meet requirements. A new light is recommended at the Cousins Avenue and Willemar intersection.
- The limiting factor in the lighting system stems from high glare ratings due to the wide roadway. Acceptable luminance and uniformity levels can be achieved with increased fixture spacing.
- At minimum, a new light is recommended to be placed at the Cousins Avenue and Willemar intersection.
- A complete streetlight design for the entire roadway is recommended to address inadequate fixture spacing.
    - Installing new individual fixtures in a patchwork solution in areas with inadequate spacing may cause more problems than it solves.
- Some consideration for accident reports in this area should be considered in the decision for upgrading the system. On a cost/benefit basis, it may prove it is better off to address high collision areas elsewhere in the city, especially if there are a historically low number of accidents in the area.

Update (Nov. 2, 2023): The main update made to the original report dated August 21, 2023 is an updated classification of Cousins Avenue. Cousins Avenue was originally classified as a local road between 20th Street and Rosewall Crescent, and a collector between Rosewall Crescent and Willemar. The entire section of Cousins Avenue is now classified as a collector, as directed by the City of Courtenay. No significant changes to the outcome or recommendations of the report result from this change.

Muir Engineering Ltd
PTP# 1001549

APPENDIX V

Cost Estimates

McElhanney

City of Courtenay
Cousins Avenue Road Construction Options - 90% Options Analysis
Construction Cost Estimate - Road Works - Option 1
September 27, 2024

2211-47614-18
Prepared by ER
Checked by AM
Approved by
REV. 1

Item	Description	Unit	Quantity	Unit Price	Sub total	Total
	REMOVALS					
	Remove & Dispose Off-Site Asphalt and Concrete	*m^2*	*14,230*	*$ 20*	*$ 284,600*	
	Clear and Grub Ex. Landscaping & Trees	*l.s.*	*1*	*$ 2,500*	*$ 2,500*	
	Subtotal (rounded)					*$287,100*
	ROAD CONSTRUCTION					
	Granular sub-base (300mm)	*m^2*	*8,965*	*$ 21*	*$ 188,265*	
	Granular base (150mm)	*m^2*	*8,965*	*$ 22*	*$ 197,230*	
	Asphalt paving roadway (100mm)	*m^2*	*8,965*	*$ 100*	*$ 896,500*	
	Curb (barrier and rollover)	*m^2*	*1,465*	*$ 165*	*$ 241,725*	
	Concrete flatwork (sidewalks and letdowns)	*m^2*	*3,655*	*$ 150*	*$ 548,250*	
	300mm topsoil & hydroseeding (boulevard)	*m^2*	*1,470*	*$ 50*	*$ 73,500*	
	Asphalt pavement speed tables	*m^2*	*140*	*$ 100*	*$ 14,000*	
	Signage & pavement markings	*l.s.*	*1*	*$ 10,000*	*$ 10,000*	
	Boulevard landscaping	*l.s.*	*1*	*$ 30,000*	*$ 30,000*	
	Subtotal (rounded)					*$2,199,470*
	UTILITIES - COUSINS AVE					
	200mm Sanitary Main	*m*	*720*	*$ 600*	*$ 432,000*	
	150mm Sanitary Main	*m*	*17*	*$ 500*	*$ 8,500*	
	Sanitary Service	*ea*	*36*	*$ 9,000*	*$ 324,000*	
	Sanitary Manhole	*ea*	*11*	*$ 8,000*	*$ 88,000*	
	300mm Storm Main	*m*	*387*	*$ 530*	*$ 205,110*	
	375mm Storm Main	*m*	*20*	*$ 550*	*$ 11,000*	
	450mm Storm Main	*m*	*480*	*$ 650*	*$ 312,000*	
	Storm Service	*ea*	*36*	*$ 9,000*	*$ 324,000*	
	Storm Manhole	*ea*	*14*	*$ 8,000*	*$ 112,000*	
	Catch Basin	*ea*	*22*	*$ 3,000*	*$ 66,000*	
	150mm Watermain	*m*	*240*	*$ 400*	*$ 96,000*	
	200mm Watermain	*m*	*485*	*$ 460*	*$ 223,100*	
	Water Service	*ea*	*47*	*$ 6,000*	*$ 282,000*	
	Fire Hydrant	*ea*	*5*	*$ 13,000*	*$ 65,000*	
	42mm Gas Main	*m*	*780*		*$ -*	
	Subtotal (rounded)					*$2,548,710*
	MISCELLANEOUS					
	Contractor Mob/Demob	*l.s.*	*1*	*$ 50,000*	*$ 50,000*	
	Traffic Control Allowance	*l.s.*	*1*	*$ 100,000*	*$ 100,000*	
	Erosion and Sediment Control Allowance	*l.s.*	*1*	*$ 50,000*	*$ 50,000*	
	Streetlighting (new system, 20 lights assumed)	*l.s.*	*1*	*$ 120,000*	*$ 120,000*	
	Relocate hydro poles	*ea*	*3*	*$ 3,000*	*$ 9,000*	
	Subtotal (rounded)					*$329,000*
	SUB TOTAL					***$5,364,280***
	Escalation to the midpoint of Construction		*5%*			*$ 549,839*
	Engineering & Construction Services		*15%*			*$ 804,642*
	40% Contingency		*40%*			*$ 2,145,712*
	TOTAL (ROUNDED)					***$8,864,470***

McElhanney

City of Courtenay
Cousins Avenue Road Construction Options - 90% Options Analysis
Construction Cost Estimate - Road Works - Option 1
September 27, 2024

2211-47614-18
Prepared by ER
Checked by AM
Approved by
REV. 1

OPTIONAL ITEMS							
UTILITIES - ROSEWALL CRES							
200mm Sanitary Main	*m*	*185*	*$*	*600*	*$*	*111,000*	
150mm Sanitary Main	*m*	*112*	*$*	*500*	*$*	*56,000*	
Sanitary Service	*ea*	*15*	*$*	*9,000*	*$*	*135,000*	
Sanitary Manhole	*ea*	*3*	*$*	*8,000*	*$*	*24,000*	
200mm Storm Main	*m*	*15*	*$*	*450*	*$*	*6,750*	
300mm Storm Main	*m*	*245*	*$*	*530*	*$*	*129,850*	
375mm Storm Main	*m*	*75*	*$*	*550*	*$*	*41,250*	
Storm Service	*ea*	*16*	*$*	*9,000*	*$*	*144,000*	
Storm Manhole	*ea*	*3*	*$*	*8,000*	*$*	*24,000*	
Catch Basin	*ea*	*5*	*$*	*3,000*	*$*	*15,000*	
150mm Watermain	*m*	*205*	*$*	*400*	*$*	*82,000*	
200mm Watermain	*m*	*155*	*$*	*460*	*$*	*71,300*	
Water Service	*ea*	*18*	*$*	*6,000*	*$*	*108,000*	
Fire Hydrant	*ea*	*1*	*$*	*13,000*	*$*	*13,000*	
42mm Gas Main	*m*	*350*			*$*	*-*	
Subtotal (rounded)							*$961,150*

Notes:

1) Class D cost estimate per CEBC guidelines.

2) Quantities are based on design shown on MCSL Dwg: 47614-18 COUSINS AVE

3) Prices are based on pricing provided by recent local tenders and/or bids.

4) Totals have been rounded.

5)This construction cost estimate has been prepared using the design and technical information currently available, and without the benefit of a completed City of Courtenay review (Approval for Construction). Furthermore, McElhanney cannot predict the competitive environment, weather or other unforeseen conditions that will prevail at the time that contractors will prepare their bids. The cost estimate is therefore subject to factors over which McElhanney has no control, and McElhanney does not guarantee or warranty the accuracy of such estimate.

6) Costs exclude permitting, environmental and archaeological mitigation works, taxes and fees, repainting, managing unforeseen utility conflicts, maintenance costs.

7) 5% escalation costs (related to inflation) added to the cost estimate which assumes a construction midpoint of August 2025

8) Cost associated with disposal or abandonment of existing utilities is not included. Trench material will be reused where possible. Costs do not include export of unsuitable or contaminated trench material.

McElhanney

City of Courtenay
Cousins Avenue Road Construction Options - 90% Options Analysis
Construction Cost Estimate - Road Works - Option 2
September 27, 2024

2211-47614-18
Prepared by ER
Checked by AM
Approved by
REV. 1

Item	Description	Unit	Quantity	Unit Price	Sub total	Total
	REMOVALS					
	Remove & Dispose Off-Site Asphalt and Concrete	*m^2*	*14,530*	*$ 20*	*$ 290,600*	
	Clear and Grub Ex. Landscaping & Trees	*l.s.*	*1*	*$ 2,500*	*$ 2,500*	
	Subtotal (rounded)					*$293,100*
	ROAD CONSTRUCTION					
	Granular sub-base (300mm)	*m^2*	*10,115*	*$ 21*	*$ 212,415*	
	Granular base (150mm)	*m^2*	*10,115*	*$ 22*	*$ 222,530*	
	Asphalt paving roadway (100mm)	*m^2*	*10,115*	*$ 100*	*$ 1,011,500*	
	Curb (barrier and rollover)	*m^2*	*1,465*	*$ 165*	*$ 241,725*	
	Concrete flatwork (sidewalks and letdowns)	*m^2*	*3,185*	*$ 150*	*$ 477,750*	
	300mm topsoil & hydroseeding (boulevard)	*m^2*	*1,055*	*$ 50*	*$ 52,750*	
	Asphalt pavement speed tables	*m^2*	*180*	*$ 100*	*$ 18,000*	
	Signage & pavement markings	*l.s.*	*1*	*$ 15,000*	*$ 15,000*	
	Boulevard landscaping	*l.s.*	*1*	*$ 20,000*	*$ 20,000*	
	Subtotal (rounded)					*$2,271,670*
	UTILITIES - COUSINS AVE					
	200mm Sanitary Main	*m*	*720*	*$ 600*	*$ 432,000*	
	150mm Sanitary Main	*m*	*17*	*$ 500*	*$ 8,500*	
	Sanitary Service	*ea*	*36*	*$ 9,000*	*$ 324,000*	
	Sanitary Manhole	*ea*	*11*	*$ 8,000*	*$ 88,000*	
	300mm Storm Main	*m*	*387*	*$ 530*	*$ 205,110*	
	375mm Storm Main	*m*	*20*	*$ 550*	*$ 11,000*	
	450mm Storm Main	*m*	*480*	*$ 650*	*$ 312,000*	
	Storm Service	*ea*	*36*	*$ 9,000*	*$ 324,000*	
	Storm Manhole	*ea*	*14*	*$ 8,000*	*$ 112,000*	
	Catch Basin	*ea*	*22*	*$ 3,000*	*$ 66,000*	
	150mm Watermain	*m*	*240*	*$ 400*	*$ 96,000*	
	200mm Watermain	*m*	*485*	*$ 460*	*$ 223,100*	
	Water Service	*ea*	*47*	*$ 6,000*	*$ 282,000*	
	Fire Hydrant	*ea*	*5*	*$ 13,000*	*$ 65,000*	
	42mm Gas Main	*m*	*780*		*$ -*	
	Subtotal (rounded)					*$2,548,710*
	MISCELLANEOUS					
	Contractor Mob/Demob	*l.s.*	*1*	*$ 50,000*	*$ 50,000*	
	Traffic Control Allowance	*l.s.*	*1*	*$ 100,000*	*$ 100,000*	
	Erosion and Sediment Control Allowance	*l.s.*	*1*	*$ 50,000*	*$ 50,000*	
	Streetlighting (new system, 20 lights assumed)	*l.s.*	*1*	*$ 120,000*	*$ 120,000*	
	Relocate hydro poles	*ea*	*4*	*$ 3,000*	*$ 12,000*	
	Subtotal (rounded)					*$332,000*
	SUB TOTAL					***$5,445,480***
	Escalation to the midpoint of Construction		*5%*			*$ 558,162*
	Engineering & Construction Services		*15%*			*$ 816,822*
	40% Contingency		*40%*			*$ 2,178,192*
	TOTAL (ROUNDED)					***$8,998,660***

McElhanney

City of Courtenay
Cousins Avenue Road Construction Options - 90% Options Analysis
Construction Cost Estimate - Road Works - Option 2
September 27, 2024

2211-47614-18
Prepared by ER
Checked by AM
Approved by
REV. 1

OPTIONAL ITEMS							
UTILITIES - ROSEWALL CRES							
200mm Sanitary Main	*m*	*185*	*$*	*600*	*$*	*111,000*	
150mm Sanitary Main	*m*	*112*	*$*	*500*	*$*	*56,000*	
Sanitary Service	*ea*	*15*	*$*	*9,000*	*$*	*135,000*	
Sanitary Manhole	*ea*	*3*	*$*	*8,000*	*$*	*24,000*	
200mm Storm Main	*m*	*15*	*$*	*450*	*$*	*6,750*	
300mm Storm Main	*m*	*245*	*$*	*530*	*$*	*129,850*	
375mm Storm Main	*m*	*75*	*$*	*550*	*$*	*41,250*	
Storm Service	*ea*	*16*	*$*	*9,000*	*$*	*144,000*	
Storm Manhole	*ea*	*3*	*$*	*8,000*	*$*	*24,000*	
Catch Basin	*ea*	*5*	*$*	*3,000*	*$*	*15,000*	
150mm Watermain	*m*	*205*	*$*	*400*	*$*	*82,000*	
200mm Watermain	*m*	*155*	*$*	*460*	*$*	*71,300*	
Water Service	*ea*	*18*	*$*	*6,000*	*$*	*108,000*	
Fire Hydrant	*ea*	*1*	*$*	*13,000*	*$*	*13,000*	
42mm Gas Main	*m*	*350*			*$*	*-*	
Subtotal (rounded)							*$961,150*

Notes:

1) Class D cost estimate per CEBC guidelines.

2) Quantities are based on design shown on MCSL Dwg: 47614-18 COUSINS AVE

3) Prices are based on pricing provided by recent local tenders and/or bids.

4) Totals have been rounded.

5)This construction cost estimate has been prepared using the design and technical information currently available, and without the benefit of a completed City of Courtenay review (Approval for Construction). Furthermore, McElhanney cannot predict the competitive environment, weather or other unforeseen conditions that will prevail at the time that contractors will prepare their bids. The cost estimate is therefore subject to factors over which McElhanney has no control, and McElhanney does not guarantee or warranty the accuracy of such estimate.

6) Costs exclude permitting, environmental and archaeological mitigation works, taxes and fees, repainting, managing unforeseen utility conflicts, maintenance costs.

7) 5% escalation costs (related to inflation) added to the cost estimate which assumes a construction midpoint of August 2025

8) Cost associated with disposal or abandonment of existing utilities is not included. Trench material will be reused where possible. Costs do not include export of unsuitable or contaminated trench material.

McElhanney

City of Courtenay
Cousins Avenue Road Construction Options - 90% Options Analysis
Construction Cost Estimate - Road Works - Option 3
September 27, 2024

2211-47614-18
Prepared by ER
Checked by AM
Approved by
REV. 1

Item	Description	Unit	Quantity	Unit Price	Sub total	Total
	REMOVALS					
	Remove & Dispose Off-Site Asphalt and Concrete	*m^2*	*14,270*	*$ 20*	*$ 285,400*	
	Clear and Grub Ex. Landscaping & Trees	*l.s.*	*1*	*$ 2,500*	*$ 2,500*	
	Subtotal (rounded)					*$287,900*
	ROAD CONSTRUCTION					
	Granular sub-base (300mm)	*m^2*	*8,795*	*$ 21*	*$ 184,695*	
	Granular base (150mm)	*m^2*	*8,795*	*$ 22*	*$ 193,490*	
	Asphalt paving roadway (100mm)	*m^2*	*8,795*	*$ 100*	*$ 879,500*	
	Asphalt paving Multi-use Path (100mm)	*m^2*	*805*	*$ 100*	*$ 80,500*	
	Curb (barrier and rollover)	*m^2*	*1,470*	*$ 165*	*$ 242,550*	
	Concrete flatwork (sidewalks, letdowns, bulb out)	*m^2*	*3,210*	*$ 150*	*$ 481,500*	
	300mm topsoil & hydroseeding (boulevard)	*m^2*	*1,305*	*$ 50*	*$ 65,250*	
	Asphalt pavement speed tables	*m^2*	*160*	*$ 100*	*$ 16,000*	
	Signage & pavement markings	*l.s.*	*1*	*$ 60,000*	*$ 60,000*	
	Boulevard landscaping	*l.s.*	*1*	*$ 30,000*	*$ 30,000*	
	Subtotal (rounded)					*$2,233,490*
	UTILITIES - COUSINS AVE					
	200mm Sanitary Main	*m*	*720*	*$ 600*	*$ 432,000*	
	150mm Sanitary Main	*m*	*17*	*$ 500*	*$ 8,500*	
	Sanitary Service	*ea*	*36*	*$ 9,000*	*$ 324,000*	
	Sanitary Manhole	*ea*	*11*	*$ 8,000*	*$ 88,000*	
	300mm Storm Main	*m*	*387*	*$ 530*	*$ 205,110*	
	375mm Storm Main	*m*	*20*	*$ 550*	*$ 11,000*	
	450mm Storm Main	*m*	*480*	*$ 650*	*$ 312,000*	
	Storm Service	*ea*	*36*	*$ 9,000*	*$ 324,000*	
	Storm Manhole	*ea*	*14*	*$ 8,000*	*$ 112,000*	
	Catch Basin	*ea*	*22*	*$ 3,000*	*$ 66,000*	
	150mm Watermain	*m*	*240*	*$ 400*	*$ 96,000*	
	200mm Watermain	*m*	*485*	*$ 460*	*$ 223,100*	
	Water Service	*ea*	*47*	*$ 6,000*	*$ 282,000*	
	Fire Hydrant	*ea*	*5*	*$ 13,000*	*$ 65,000*	
	42mm Gas Main	*m*	*780*		*$ -*	
	Subtotal (rounded)					*$2,548,710*
	MISCELLANEOUS					
	Contractor Mob/Demob	*l.s.*	*1*	*$ 50,000*	*$ 50,000*	
	Traffic Control Allowance	*l.s.*	*1*	*$ 100,000*	*$ 100,000*	
	Erosion and Sediment Control Allowance	*l.s.*	*1*	*$ 50,000*	*$ 50,000*	
	Streetlighting (new system, 20 lights assumed)	*l.s.*	*1*	*$ 120,000*	*$ 120,000*	
	Relocate hydro poles	*ea*	*7*	*$ 3,000*	*$ 21,000*	
	Subtotal (rounded)					*$341,000*
	SUB TOTAL					***$5,411,100***
	Escalation to the midpoint of Construction		*5%*			*$ 554,638*
	Engineering & Construction Services		*15%*			*$ 811,665*
	40% Contingency		*40%*			*$ 2,164,440*
	TOTAL (ROUNDED)					***$8,941,840***

McElhanney

City of Courtenay
Cousins Avenue Road Construction Options - 90% Options Analysis
Construction Cost Estimate - Road Works - Option 3
September 27, 2024

2211-47614-18
Prepared by ER
Checked by AM
Approved by
REV. 1

OPTIONAL ITEMS							
UTILITIES - ROSEWALL CRES							
200mm Sanitary Main	*m*	*185*	*$*	*600*	*$*	*111,000*	
150mm Sanitary Main	*m*	*112*	*$*	*500*	*$*	*56,000*	
Sanitary Service	*ea*	*15*	*$*	*9,000*	*$*	*135,000*	
Sanitary Manhole	*ea*	*3*	*$*	*8,000*	*$*	*24,000*	
200mm Storm Main	*m*	*15*	*$*	*450*	*$*	*6,750*	
300mm Storm Main	*m*	*245*	*$*	*530*	*$*	*129,850*	
375mm Storm Main	*m*	*75*	*$*	*550*	*$*	*41,250*	
Storm Service	*ea*	*16*	*$*	*9,000*	*$*	*144,000*	
Storm Manhole	*ea*	*3*	*$*	*8,000*	*$*	*24,000*	
Catch Basin	*ea*	*5*	*$*	*3,000*	*$*	*15,000*	
150mm Watermain	*m*	*205*	*$*	*400*	*$*	*82,000*	
200mm Watermain	*m*	*155*	*$*	*460*	*$*	*71,300*	
Water Service	*ea*	*18*	*$*	*6,000*	*$*	*108,000*	
Fire Hydrant	*ea*	*1*	*$*	*13,000*	*$*	*13,000*	
42mm Gas Main	*m*	*350*			*$*	*-*	
Subtotal (rounded)							*$961,150*

Notes:

1) Class D cost estimate per CEBC guidelines.

2) Quantities are based on design shown on MCSL Dwg: 47614-18 COUSINS AVE

3) Prices are based on pricing provided by recent local tenders and/or bids.

4) Totals have been rounded.

5)This construction cost estimate has been prepared using the design and technical information currently available, and without the benefit of a completed City of Courtenay review (Approval for Construction). Furthermore, McElhanney cannot predict the competitive environment, weather or other unforeseen conditions that will prevail at the time that contractors will prepare their bids. The cost estimate is therefore subject to factors over which McElhanney has no control, and McElhanney does not guarantee or warranty the accuracy of such estimate.

6) Costs exclude permitting, environmental and archaeological mitigation works, taxes and fees, repainting, managing unforeseen utility conflicts, maintenance costs, traffic impact studies associated with changes in traffic movements.

7) 5% escalation costs (related to inflation) added to the cost estimate which assumes a construction midpoint of August 2025

8) Cost associated with disposal or abandonment of existing utilities is not included. Trench material will be reused where possible. Costs do not include export of unsuitable or contaminated trench material.

APPENDIX VI

Options Drawings

McElhanney Cover D - 2021-12-08

CITY OF COURTENAY

CLIENT

ADDRESS / CONTACT INFO. 830 CLIFFE AVE, COURTENAY, BC V9N 2J7

PROJECT NAME

COUSINS AVENUE ROAD CONSTRUCTION OPTIONS

DESCRIPTION

90% OPTIONS ANALYSIS

McELHANNEY PROJECT 2211-47614-18

CITY REFERENCE C23-014

STATUS ISSUED FOR 90% DESIGN REVIEW

KEY PLAN

DRAWING LIST								
SHEET #	SHEET TITLE	REVISIONS						
		PA	PB	PC	0	1	2	3
101	OPTION 1 - PLAN VIEW: STANDARD OPTION							
102	OPTION 1 - SECTIONS: STANDARD OPTION							
201	OPTION 2 - PLAN VIEW: BIKE LANE OPTION							
202	OPTION 2 - SECTIONS: BIKE LANE OPTION							
301	OPTION 3a - PLAN VIEW: ACTIVE TRANSPORTATION AND ONE WAY TRAFFIC OPTION							
302	OPTION 3 - SECTIONS: ACTIVE TRANSPORTATION AND ONE WAY TRAFFIC OPTION							
303	OPTION 3b - PLAN VIEW: ROSEWALL CRES ONE-WAY OPTION							
401	SERVICING PLAN							

McElhanney

1211 Ryan Road
Courtenay BC
Canada V9N 3R6
T 250 338 5495

DATE: 2023-12-01 15:15 FILE: X:\22111\2- PROJECTS\47600-476999\47614-18 CoC Cousins Ave\10.0 Drawings\10.1 Engineering\10.1.1 Sheets\47614-18-C0-000 Cover.dwg

McElhanney ANSI D - 2021-12-08

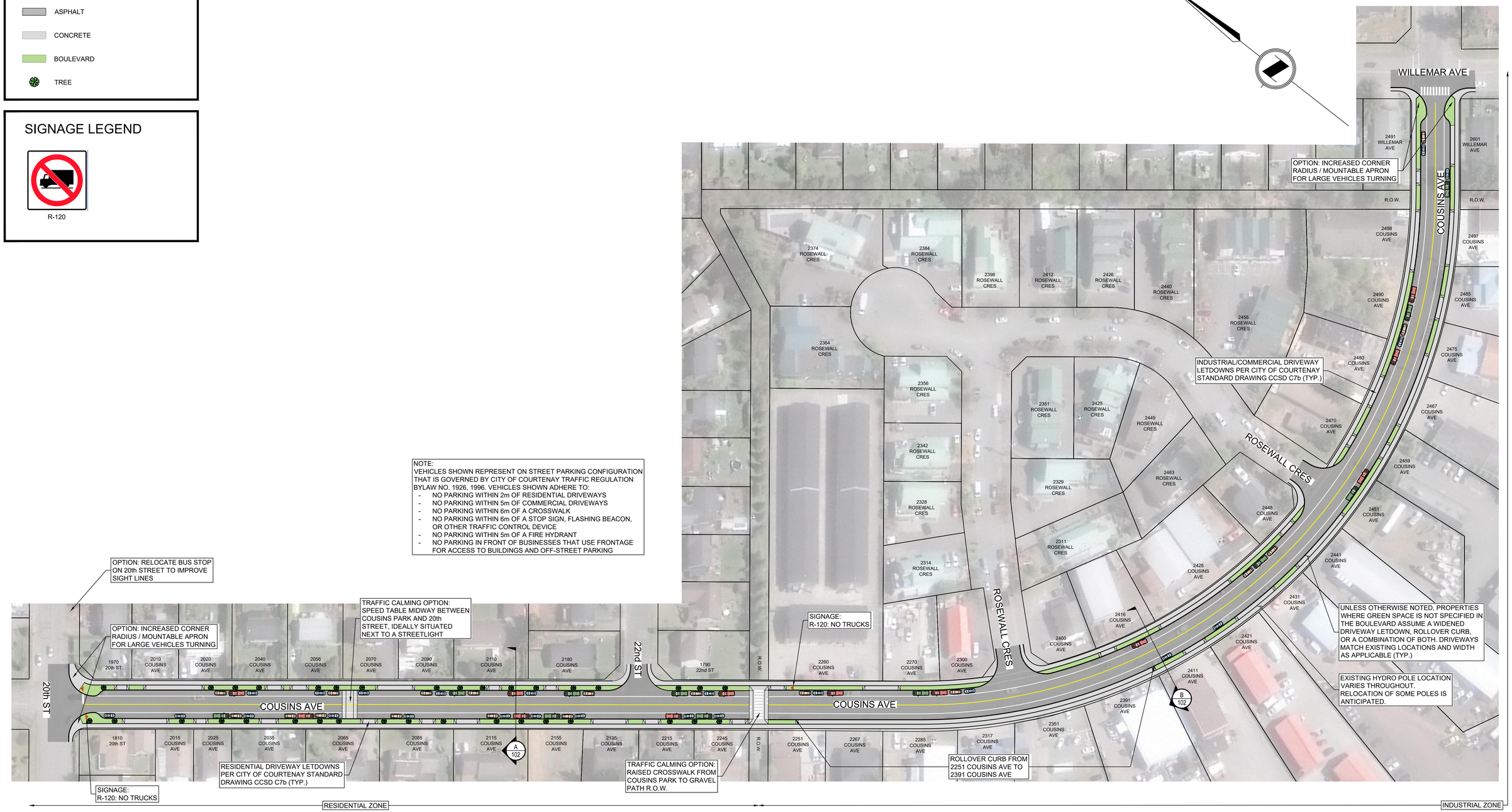
LEGEND

- ASPHALT
- CONCRETE
- BOULEVARD
- TREE

SIGNAGE LEGEND

R-120

NOTE:
VEHICLES SHOWN REPRESENT ON STREET PARKING CONFIGURATION THAT IS GOVERNED BY CITY OF COURTENAY TRAFFIC REGULATION BYLAW NO. 1926, 1996. VEHICLES SHOWN ADHERE TO:
- NO PARKING WITHIN 2m OF RESIDENTIAL DRIVEWAYS
- NO PARKING WITHIN 5m OF COMMERCIAL DRIVEWAYS
- NO PARKING WITHIN 6m OF A CROSSWALK
- NO PARKING WITHIN 6m OF A STOP SIGN, FLASHING BEACON, OR OTHER TRAFFIC CONTROL DEVICE
- NO PARKING WITHIN 5m OF A FIRE HYDRANT
- NO PARKING IN FRONT OF BUSINESSES THAT USE FRONTAGE FOR ACCESS TO BUILDINGS AND OFF-STREET PARKING



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PB	2023-12-01	ISSUED FOR 90% REPORT	ER	ER	AM
PA	2023-08-30	ISSUED FOR 50% REPORT	ER	ER	AM

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0 1:750 30

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney
1211 Ryan Road
Courtenay BC
Canada V9N 3R6
T 250 338 5495

PRELIMINARY
NOT FOR CONSTRUCTION

THIS DRAWING HAS NOT BEEN APPROVED AND MAY CONTAIN ERRORS AND OMISSIONS

CITY OF COURTENAY
830 CLIFFE AVE, COURTENAY, BC V9N 2J7

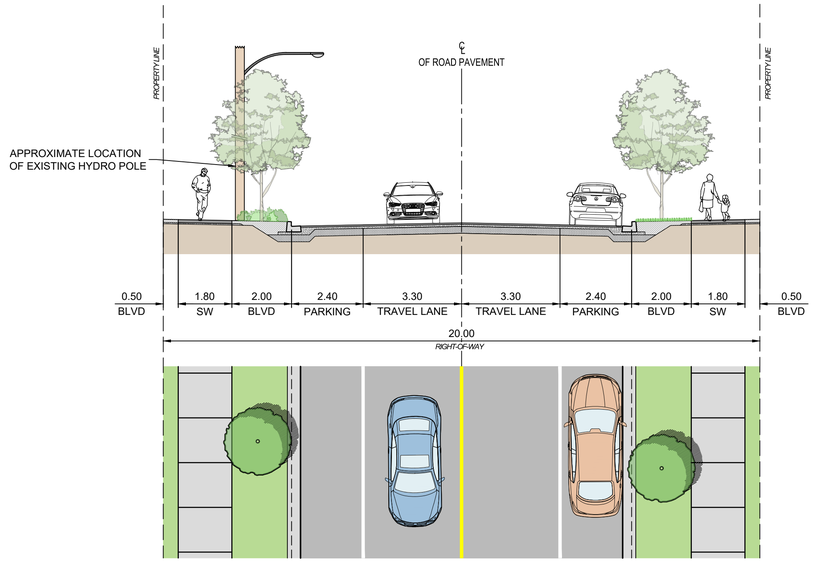
COUSINS AVENUE ROAD CONSTRUCTION OPTIONS OPTION 1 - PLAN VIEW STANDARD OPTION

Drawing No. 101

Project Number	Rev.
2211-47614-18	PB

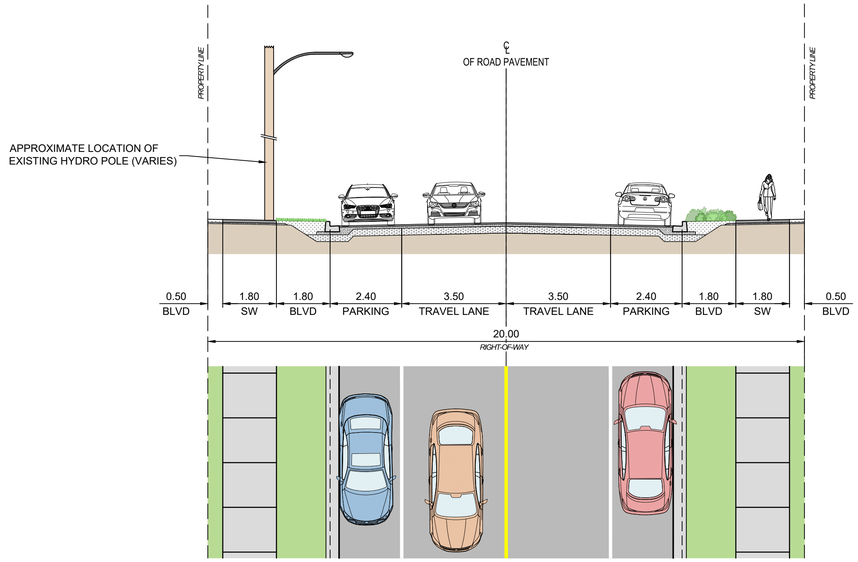
DESTROY ALL PRINTS BEARING PREVIOUS REVISION

DATE: 2023-12-01, 15:15 FILE: X:\22\112- PROJECTS\47600-47699\47614-18 CoC Cousins Ave\10.0 Drawings\10.1 Engineering\10.1.1 Sheets\47614-18-C0b-101 Option 1 Plan.dwg



A 101 RESIDENTIAL ZONE

SCALE H 1:100
V 1:100



B 101 INDUSTRIAL ZONE

SCALE H 1:100
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PC	2023-12-01	ISSUED FOR 90% REPORT	ER	ER	AM
PB	2023-09-22	ISSUED FOR INFORMATION	ER	ER	AM
PA	2023-08-30	ISSUED FOR 50% REPORT	ER	ER	AM

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0 1:100 5

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney

1211 Ryan Road
Courtenay BC
Canada V9N 3R6
T 250 338 5495

PRELIMINARY
NOT FOR CONSTRUCTION

THIS DRAWING HAS NOT BEEN APPROVED AND MAY CONTAIN ERRORS AND OMISSIONS

CITY OF COURTENAY
830 CLIFFE AVE, COURTENAY, BC V9N 2J7

COUSINS AVENUE ROAD CONSTRUCTION OPTIONS OPTION 1 - SECTIONS STANDARD OPTION

Drawing No. 102

Project Number 2211-47614-18

Rev. PC

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

McElhanney ANSI D - 2021-12-08

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LEGEND

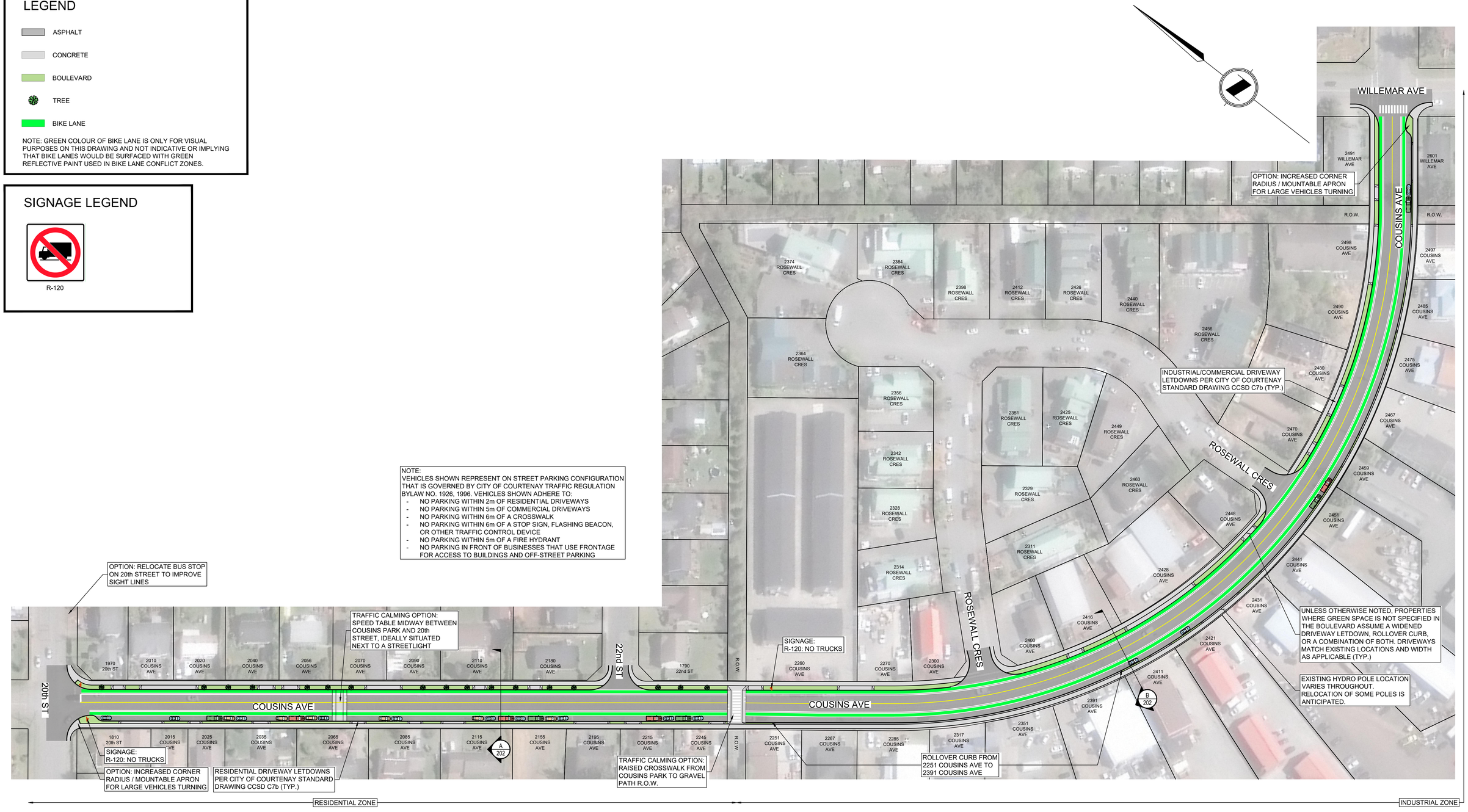
- ASPHALT
- CONCRETE
- BOULEVARD
- TREE
- BIKE LANE

NOTE: GREEN COLOUR OF BIKE LANE IS ONLY FOR VISUAL PURPOSES ON THIS DRAWING AND NOT INDICATIVE OR IMPLYING THAT BIKE LANES WOULD BE SURFACED WITH GREEN REFLECTIVE PAINT USED IN BIKE LANE CONFLICT ZONES.

SIGNAGE LEGEND

R-120

NOTE:
VEHICLES SHOWN REPRESENT ON STREET PARKING CONFIGURATION THAT IS GOVERNED BY CITY OF COURTENAY TRAFFIC REGULATION BYLAW NO. 1926, 1996. VEHICLES SHOWN ADHERE TO:
- NO PARKING WITHIN 2m OF RESIDENTIAL DRIVEWAYS
- NO PARKING WITHIN 5m OF COMMERCIAL DRIVEWAYS
- NO PARKING WITHIN 6m OF A CROSSWALK
- NO PARKING WITHIN 6m OF A STOP SIGN, FLASHING BEACON, OR OTHER TRAFFIC CONTROL DEVICE
- NO PARKING WITHIN 5m OF A FIRE HYDRANT
- NO PARKING IN FRONT OF BUSINESSES THAT USE FRONTAGE FOR ACCESS TO BUILDINGS AND OFF-STREET PARKING



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-	-	-	-	-	-
-	-	-	-	-	-
PB	2023-12-01	ISSUED FOR 90% REPORT	ER	ER	AM
PA	2023-08-30	ISSUED FOR 50% REPORT	ER	ER	AM

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COUSINS AVENUE ROAD CONSTRUCTION OPTIONS OPTION 2 - PLAN VIEW BIKE LANE OPTION

Drawing No. 201

Project Number 2211-47614-18

Rev. PB

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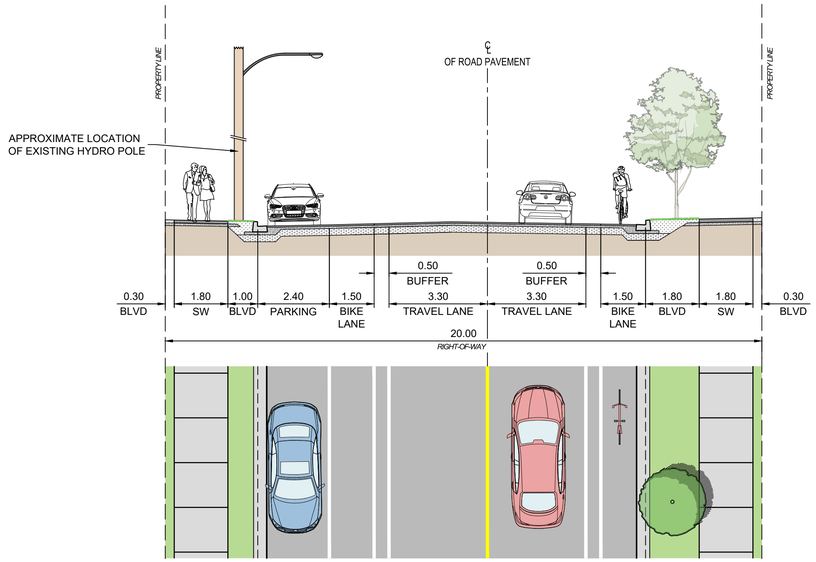

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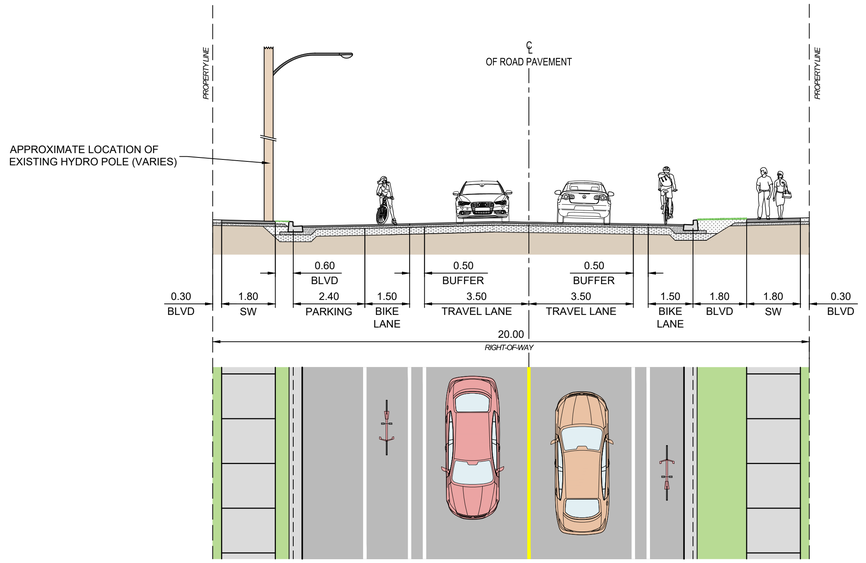

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COUSINS AVENUE ROAD CONSTRUCTION OPTIONS OPTION 2 - SECTIONS BIKE LANE OPTION

Drawing No. 202

Project Number 2211-47614-18

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LEGEND

- ASPHALT
- CONCRETE
- BOULEVARD
- TREE

SIGNAGE LEGEND

NOTE:
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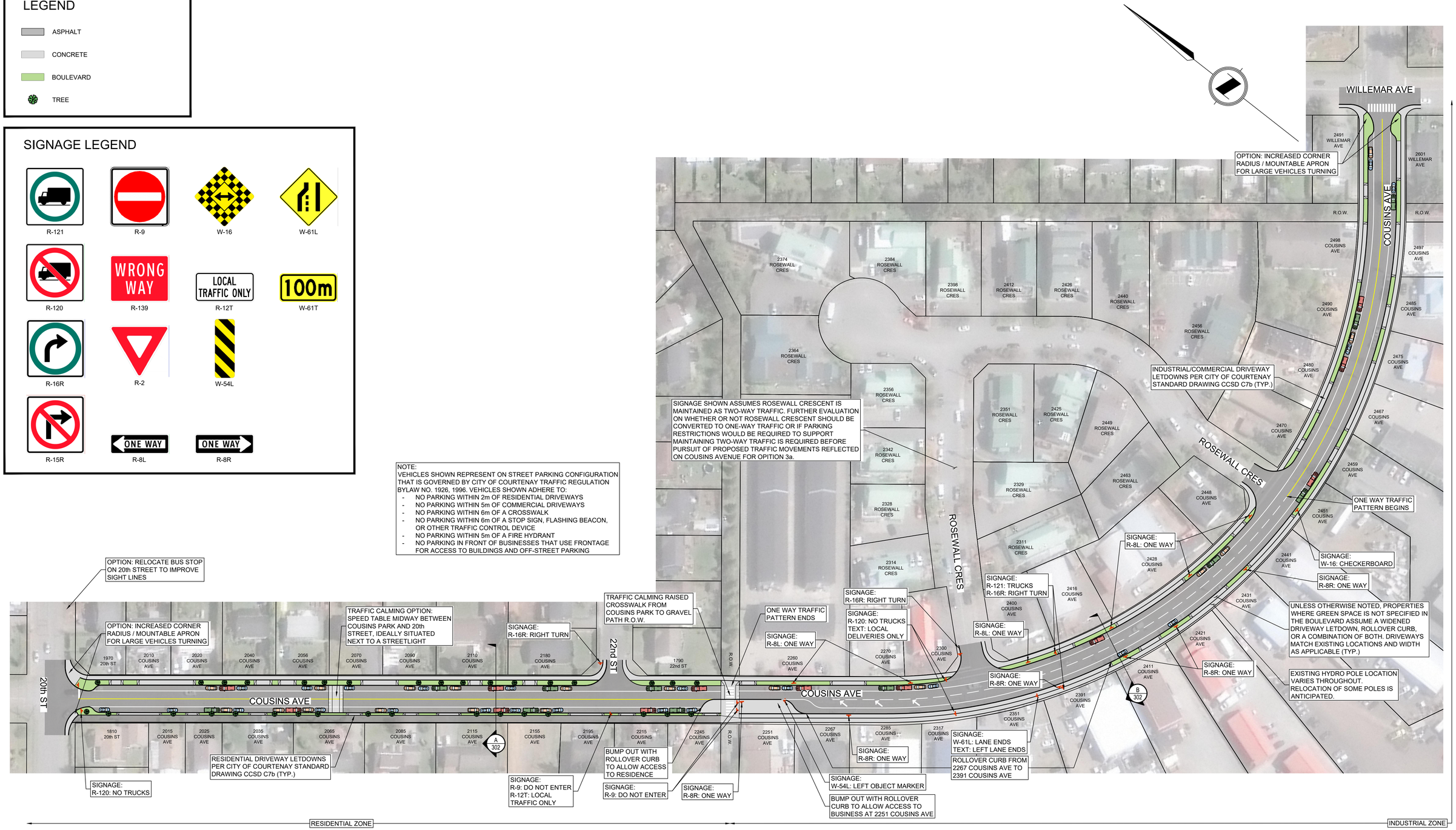

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COUSINS AVENUE OPTION 3a - PLAN VIEW ACTIVE TRANSPORTATION AND ONE WAY TRAFFIC OPTION

Drawing No. 301

Project Number 2211-47614-18 | Rev. PB

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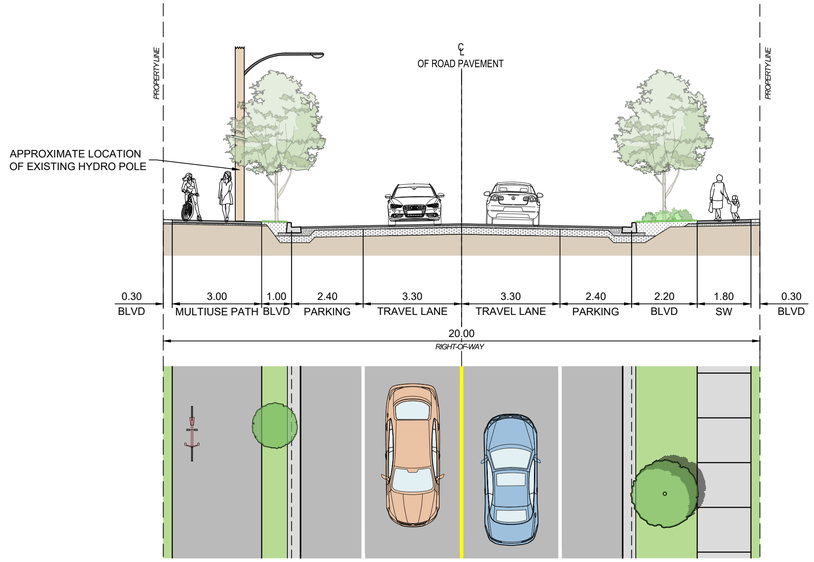

A 301 RESIDENTIAL ZONE
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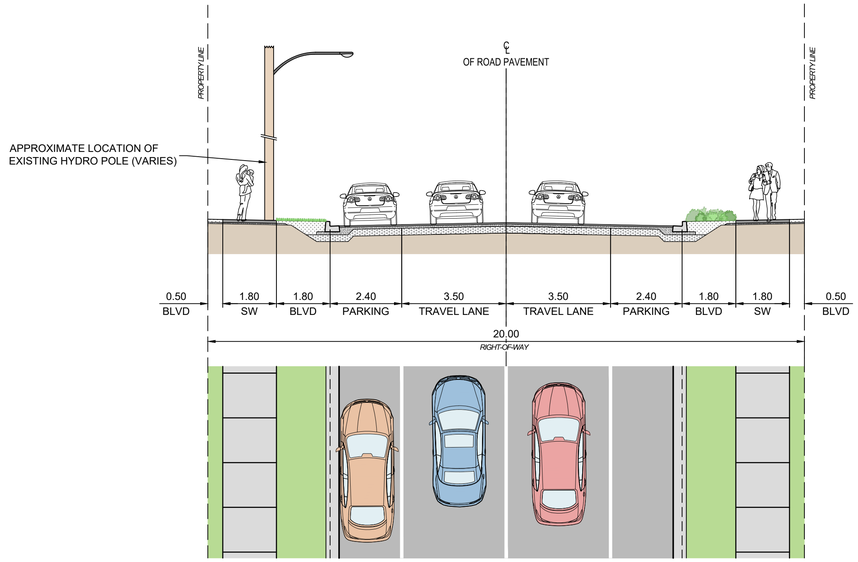

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PA	2023-12-01	ISSUED FOR 90% REPORT	ER	ER	AM
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PA	2023-08-30	ISSUED FOR 50% REPORT	ER	ER	AM

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COUSINS AVENUE OPTION 3 - SECTIONS ACTIVE TRANSPORTATION AND ONE WAY TRAFFIC OPTION

Drawing No. 302

Project Number 2211-47614-18

Rev. PC

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McElhanney ANSI D - 2021-12-08

LEGEND

- ASPHALT
- CONCRETE
- BOULEVARD
- TREE

SIGNAGE LEGEND

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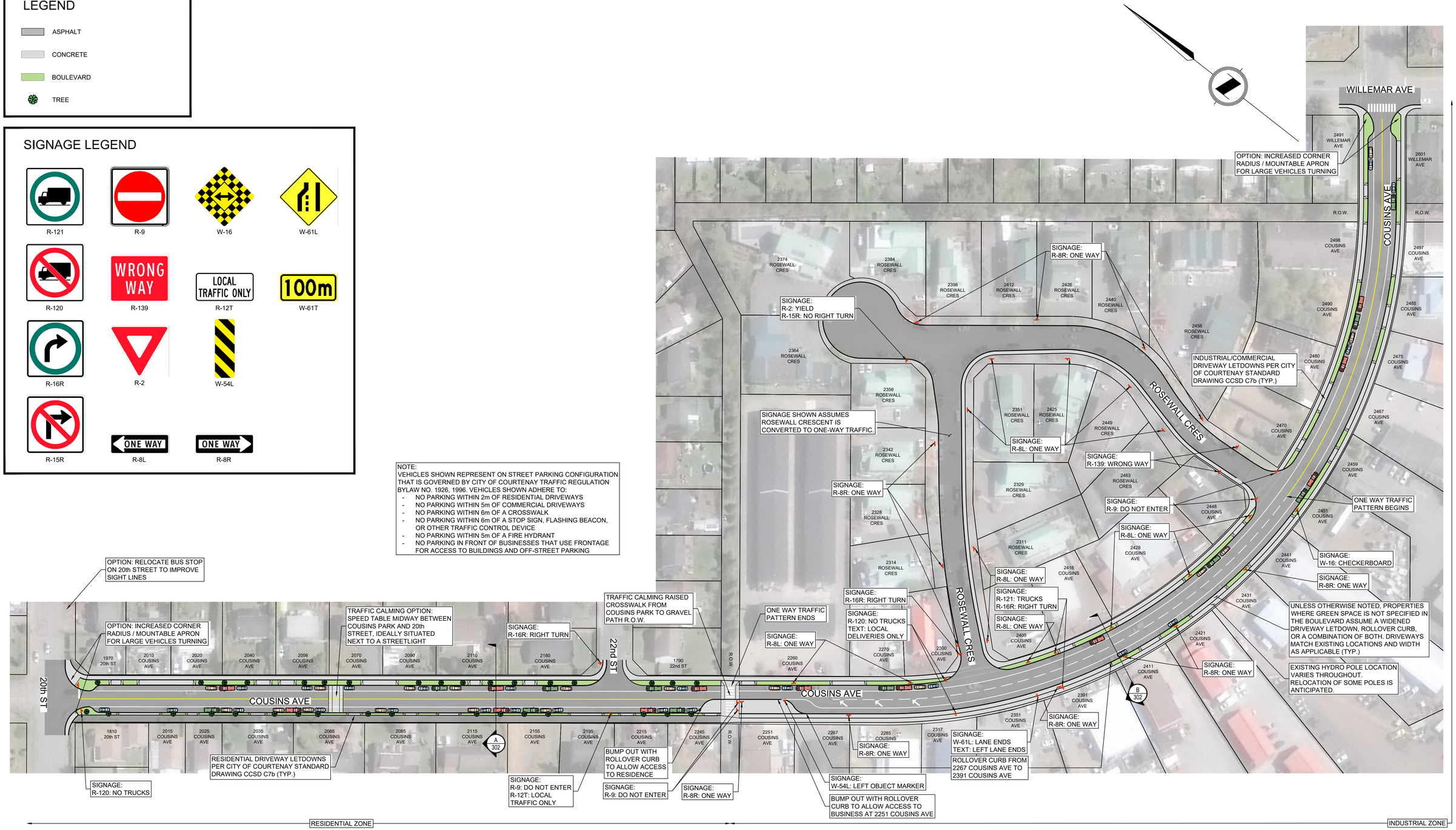

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COUSINS AVENUE OPTION 3b - PLAN VIEW ROSEWALL CRES ONE-WAY OPTION

Drawing No. 303

Project Number 2211-47614-18

Rev. PA

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LEGEND

- EXISTING SANITARY MAIN
- EXISTING SANITARY MANHOLE
- EXISTING STORM MAIN
- EXISTING STORM MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATER MAIN
- EXISTING HYDRANT
- EXISTING VALVE
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRICAL LINE
- EXISTING UNDERGROUND COMMUNICATION LINE
- EXISTING HYDRO POLE
- EXISTING HYDRO POLE WITH STREET LIGHT

NOTES:

1. SHEET INCLUDED FOR MARKUP OF UTILITY REPLACEMENTS. FULL EXTENT OF UTILITY REPLACEMENT TO BE DETERMINED DURING DETAILED DESIGN.
2. EXISTING UTILITY INFORMATION FROM CITY OF COURTENAY GIS DATA AND BC ONE CALL.
3. EXISTING ELECTRICAL LINES ARE ABOVE GROUND ON HYDRO POLES. ABOVE GROUND LINES ARE NOT SHOWN IN THIS PLAN.

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COUSINS AVENUE ROAD CONSTRUCTION OPTIONS SERVICING PLAN

Drawing No. 401

Project Number	Rev.
2211-47614-18	PB

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McElhanney ANSI D - 2021-12-08

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4.3.11 Bus Stop between Access Driveways

Bus stops should be kept away from driveways whenever possible to minimize conflicts between buses and vehicles. If it can't be avoided, see Figure 4.24 for the minimum requirements, and also consider:

- Turning movement volumes of the driveway;
- Type, spacing and distance between access driveways near the stop;
- Peak usage of the bus stop compared to peak usage of the access driveway;
- Type of buses that use the bus stop;
- Available space to accommodate passengers and amenities;
- Expected service level and customer boarding/alighting volumes at the bus stop;
- Sight line requirements between passengers, bus operators and drivers accessing the driveways; an
- Possibility that traffic queued at the driveway will affect the efficient operation of the bus stop.

Figure 4.24 Requirements for Bus Stop between Access Driveways

Source: TransLink Bus Infrastructure Design Guidelines

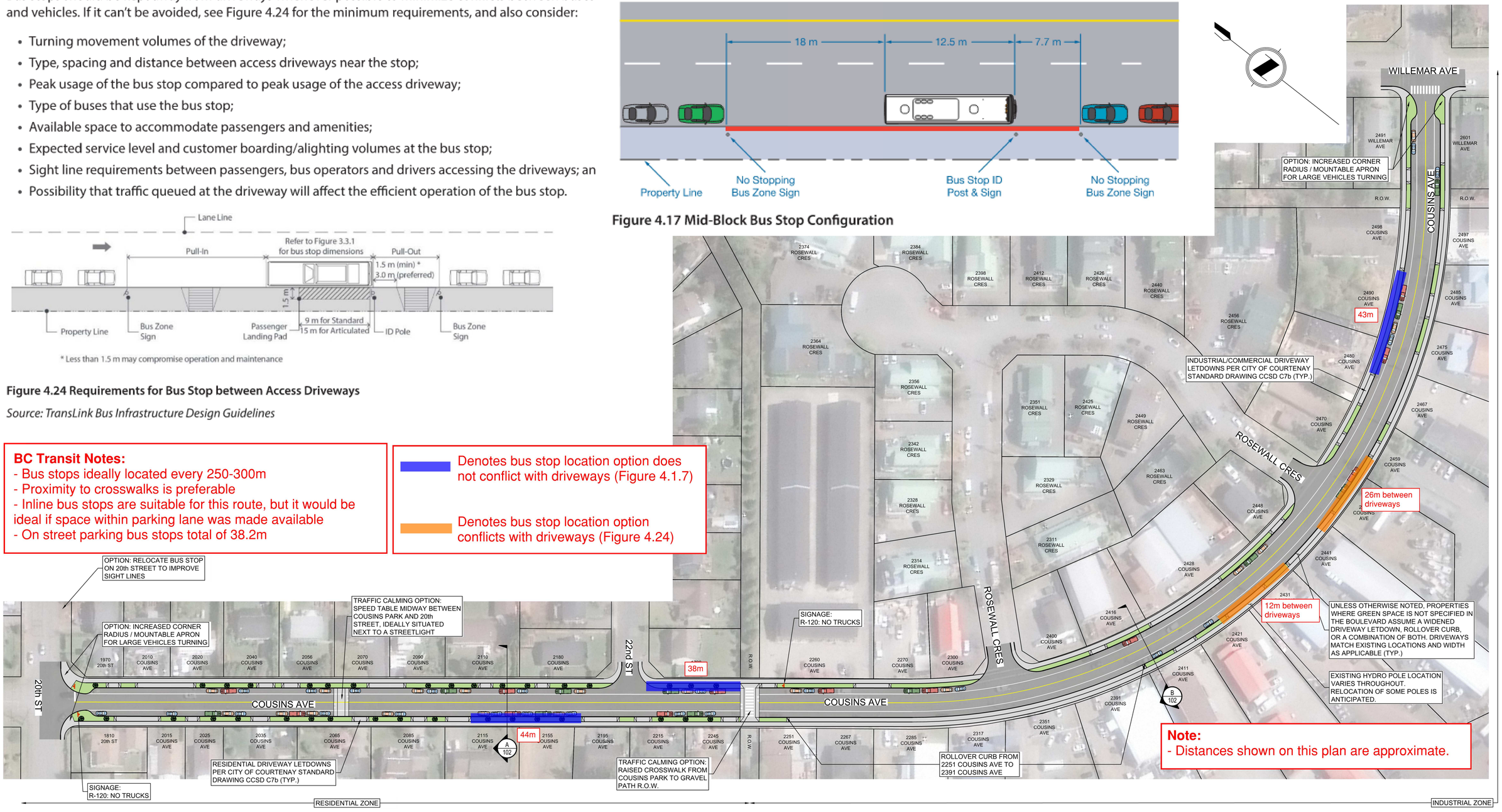
4.3.6 Bus Bay Design (On-street Parking)

Figure 4.17 Mid-Block Bus Stop Configuration

BC Transit Notes:
- Bus stops ideally located every 250-300m
- Proximity to crosswalks is preferable
- Inline bus stops are suitable for this route, but it would be ideal if space within parking lane was made available
- On street parking bus stops total of 38.2m

Denotes bus stop location option does not conflict with driveways (Figure 4.1.7)

Denotes bus stop location option conflicts with driveways (Figure 4.24)



Note:
- Distances shown on this plan are approximate.

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COUSINS AVENUE

Bus Stop Location Options

Drawing No. 101

Project Number 2211-47614-18

Rev. PB

DATE: 2023-12-01, 15:15 FILE: X:\22112- PROJECTS\47600-47699\47614-18 CoC Cousins Ave\10.0 Drawings\10.1 Engineering\10.1.1 Sheets\47614-18-C0-101 Option 1 Plan.dwg

McElhanney ANSI D - 2021-12-08

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APPENDIX VII

Stakeholder Engagement Materials

Engagement Summary Report

City of Courtenay

COUSINS AVENUE UPGRADES PROJECT

November 2023

CITY OF COURTENAY

Table of Contents

Executive Summary

The City of Courtenay is preparing to upgrade Cousins Avenue, between Willemar Avenue and 20th Street. The project will include road improvements, repaving and replacement of underground services that have reached the end of their life or require upsizing to serve the growing community.

This upgrade project also offers an opportunity to study current traffic flow and parking challenges in the area, and investigate road and pedestrian improvements such as:

- parking
- sidewalks
- trail connections
- curbing
- landscaping

The City retained McElhanney to develop the options analysis for these upgrades, and they developed three design options for consideration. These options were presented to interest holder groups and the public at the November 18 public open house. A survey was also created to collect input on the options and how they addressed concerns in the area.

Over 45 participants attended the open house and 133 completed the survey. A variety of tools were used to invite residents to the event and participate in the survey, including: direct mail letter, social media posts, news release and a print ad.

Overall, the team received a lot of constructive feedback from residents and business owners who frequently use the area. Themes of response included:

- Parking issues: number one concern is parking; parking cannot be reduced and needs to be improved or increased if possible
- Commercial traffic prioritization: the industrial community belongs in the Cousins Avenue area – the City's efforts to improve traffic flows can't be at the expense of businesses in the area; safety/movement of large trucks should be a top priority
- Speeding: vehicle speeds are a major concern in the area, especially from regular/non industrial traffic

Feedback collected by staff at the event, by email after the event and via the survey has been summarized in the engagement results section below.

Introduction

1.1 Project Background

The City of Courtenay is preparing to complete above- and below-ground upgrades to a section of Cousins Avenue, including repaving the road surface. To ensure the plan ahead considers residents and businesses in the area, the City is consulting with the community on design options for the corridor.

Cousins Avenue and the area around it includes a unique mix of light industrial, single-family residential and mixed-use buildings. To address this, the three design options present different upgrades to the roadway for the residential vs. commercial/industrial sections of the road.

Feedback was collected on design options for the area via an online survey, with an open house hosted to introduce the info and answer questions. Public feedback will help the project team refine the three design options, which will then be presented to council for consideration in early 2024.

1.2 Community Engagement Goals

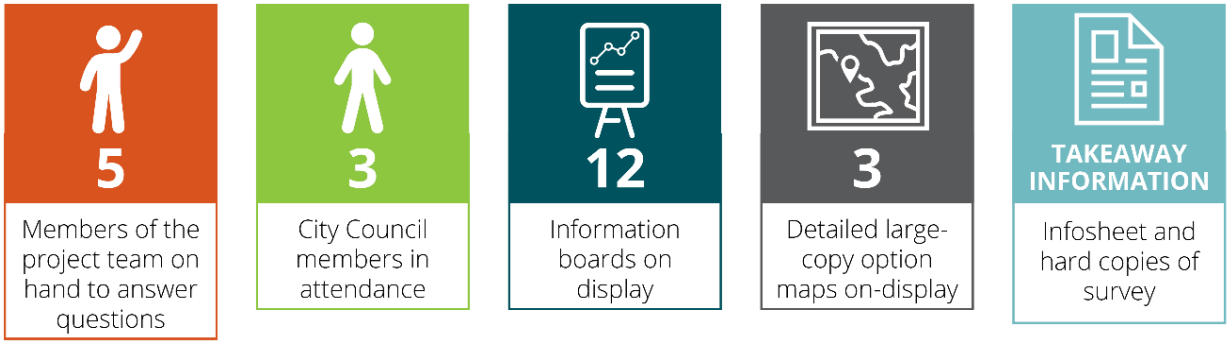
The goal of the community events was to CONSULT and collect feedback from the community about three design options, with a focus on: parking, sidewalks, trail connections, bike lanes, curbing and landscaping.

INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Provide balanced and objective information to residents.	Obtain feedback on analysis, alternatives and/ or decisions from residents.	Work directly with residents to address concerns.	Partner with residents to develop a preferred solution.	Place final decision making in the hands of residents.

Engagement Overview

2.1 Community Open House

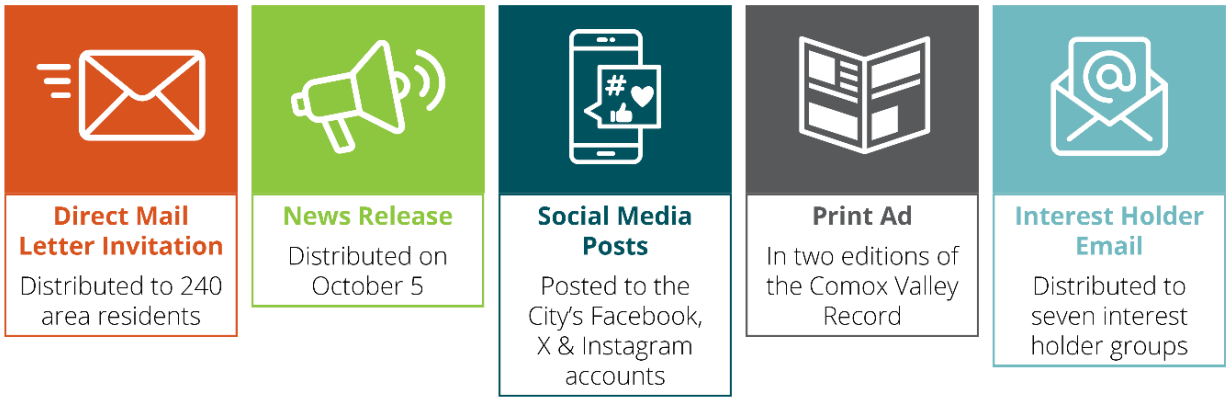
The event took place on Wednesday, October 18 from 4:00 pm to 7:00 pm in Courtenay at the Florence Filberg Centre. It involved:



Information from the events, including the information boards and the infosheet, was also posted to the project page.

2.2 Promotion

The following blend of tools was used to invite participation in the open house and survey:



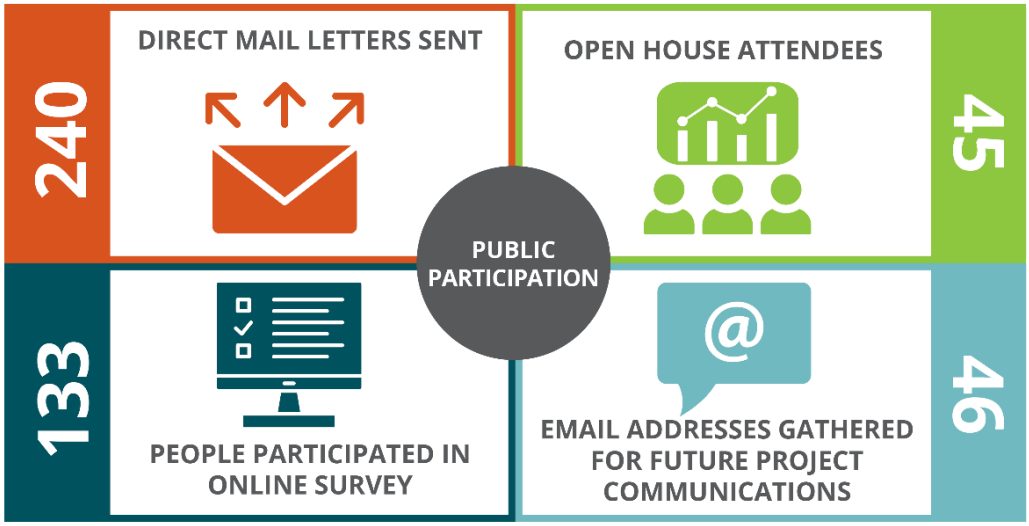
Engagement Results

The below section is intended as an overview of general feedback collected. To view all survey responses, including detailed comments, please review the 'Survey Report' in the appendix.

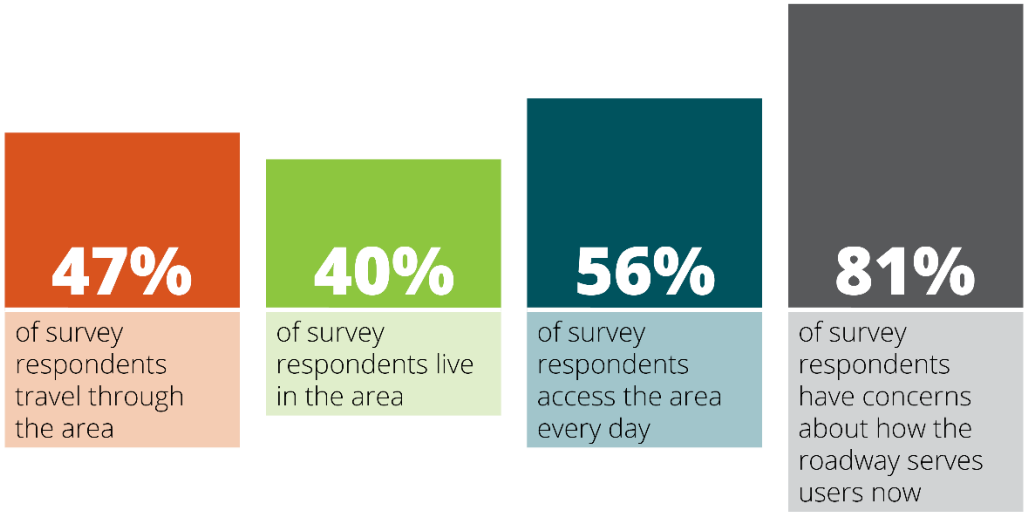
3.1 By the Numbers

The numbers below highlight key data collected through the events.

Public Participation



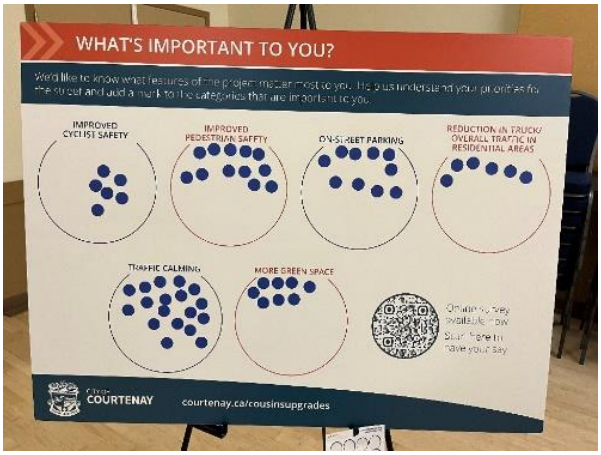
Survey Responses



In-Person Feedback

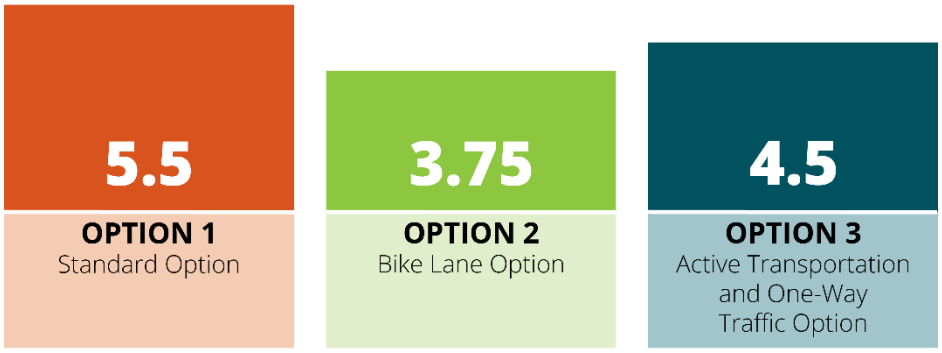
Residents were asked to place a marker on the features of the project most important to them. This showed the top three with strongest support as:

- traffic calming (18)
- improved pedestrian safety (12)
- on-street parking (10).



3.2 Survey Results: Options Ranking

Respondents were asked to rank each option on a scale of 1-10. This ranking showed the following averages:



Similarly, a question asked respondents to rank the three options in order of preference. This ranking showed Option 1 as the preferred option by respondents:

	1	2	3	Total	Score
Option 1: Standard Option	40.66% 37	37.36% 34	21.98% 20	91	2.19
Option 2: Bike Lane Option	21.98% 20	34.07% 31	43.96% 40	91	1.78
Option 3: Active Transportation and One-Way Traffic Option	37.36% 37	28.57% 37	34.07% 37	91	2.03

While the support for Option 1 is not overwhelmingly stronger than Option 3, it does rank higher in both questions. Further, the feedback relayed in short answer questions and at the in-person event, supports the data here, with strongest support for Option 1.

3.3 Themes of Feedback

This section of the report summarizes themes of feedback gathered from staff at the events, from email submissions and from short-answer survey questions.

The results of feedback illustrate the challenging nature of this upgrade, with differing input based on individuals' main use of the area. Users/owners in the commercial/industrial area have specific concerns about truck safety and movement – they want to ensure there is appropriate parking, turning space and travel lanes for large trucks.

On the other hand, residential users are generally more concerned about pedestrian safety, speed and parking. There was mixed response concerning bike lanes, with majority of respondents opposed to the option. Some commuters expressed interest in bike lanes, but more users expressed concern about reducing road width and parking spaces in the already over-subscribed area. There was also significant feedback on the intersections at both ends of the project (at Cousins/Willemar and Cousins/20th), with many residents noting that both are in need of increased safety measures (suggestions for 4-way stops, flashing crosswalk etc.). Support for reducing speed limits through the area was strong across the board.

Below is an expanded summary of this feedback.

Concerns About Current Roadway:

Parking Challenges:

- Not enough parking is a safety issue
- Issues with industrial businesses using the curbed area in front of their businesses as parking
- Issues with commercial traffic parking in Rosewall Crescent and also vehicles parking on sidewalks

Safety Issues:

- Respondents noting poor visibility through the area and blind spots, due to large trucks and parking on both sides of street
- Difficult sight lines exiting Rosewall in either direction, due to curve in road and cars parked on both sides
- Concerns about sight lines at the intersection of 20th and Cousins, largely due to hedge; and at the intersection of Willemar and Cousins
- Cars travel very fast through the area, especially around the curve in the road – makes turning from and into sideroads challenging
- Issues with commercial vehicles blocking traffic for unloading, creating congestion and safety hazards
- Challenges with snow clearing due to parked cars and limited space for snow storage

Pedestrian/Cyclist Safety:

- Issues with parked vehicles blocking access to sidewalks

- Area is missing sidewalk connections/there is no safe crossing space
- Currently not a safe road for cyclists to use

Road Conditions:

- Many respondents noted the terrible condition of the road, including potholes and poor drainage

Feedback On Options 1, 2 & 3:

Parking:

- Concerns that these options are not adding parking, when it is already lacking – the project area needs more parking spaces
- Concerns about reducing street parking with bike lanes and putting added pressure on residential parking areas
- Concern that sidewalks and boulevards will force parked cars that currently park on the curb to go into the street, which will further clog street parking
- Some suggestions for angled parking

Bike Lanes:

- Most respondents in opposition to adding bike lanes; prefer a focus on improving traffic flow and parking (due to commercial\industrial nature of area)
- Some respondents in favour of bike lanes, concerned that Option 1 would improve safety for pedestrians but not bikers
- This area is not part of the Cycling Plan and bike lanes in this area would not link up to other bike lanes
- Concerns about safety of bikers in commercial/industrial area, with large trucks and poor sight lines, even with addition of bike lanes
- Concerns about placement of bike lane in between parked cars and traffic, preference to have parked vehicles (and the lane itself) provide a buffer
- Several respondents expressed interest in cycling lanes being added to Willemar, instead of Cousins Ave

Safety:

- Suggestions to ensure the intersections at each end of the project are studied and included, both are currently dangerous
- Strong support for reducing speed limit through the area
- Support for traffic calming measures
- Full frontage access is important for commercial businesses on Cousins Ave

Pedestrian Safety:

- Lots of support for additional crosswalks, especially near trail access points, Cousins Park and in residential area

- Support for improved sidewalks

Boulevards:

- Concern about boulevards narrowing the driving lanes, commercial users would prefer more space to move safely
- Some providing support for more green space, increasing the aesthetics of the area
- Some respondents noting that losing paved areas and introducing landscaped areas is not suited for an industrial area
- Concern about trees reducing visibility, especially for commercial trucks

One-Way Traffic:

- Mixed support for one-way traffic. If one-way is implemented, most prefer one way on Rosewall as well. A few suggestions to keep two-way on Cousins but make Rosewall one-way.
- Many respondents preferring not to route additional commercial traffic through Rosewall; concern that this would confuse drivers and cause more traffic on Rosewall Cres and in other residential areas, as well as cause safety issues for residents (i.e. children)
- Support for keeping trucks in the residential section of Cousins Ave and slowing speed limits
- More support for one-way from residents who live on Cousins Ave in the residential section, less support from commercial users

Conclusion

The road upgrade will impact residential and business owners, and has the potential to greatly improve traffic flow and safety for pedestrians and vehicle traffic. Generally, the feedback showed that Option 1 best balances the commercial and residential interests of users. The open house was successful in bringing 19% of direct-mail recipients to the in-person event. Similarly, the number of survey responses (133), illustrates the high level of interest from affected community members. This degree of feedback will help provide Council with valuable information from those directly affected by the plans.

Next Steps

- Early 2024: Presentation to Council, including summary of public feedback
- 2024: Report back to the community

Appendices

Appendix 1 – Survey Report

Appendix 2 – Information Boards

Appendix 3 – Promotion Samples

Appendix 4 – Direct Mail Letter

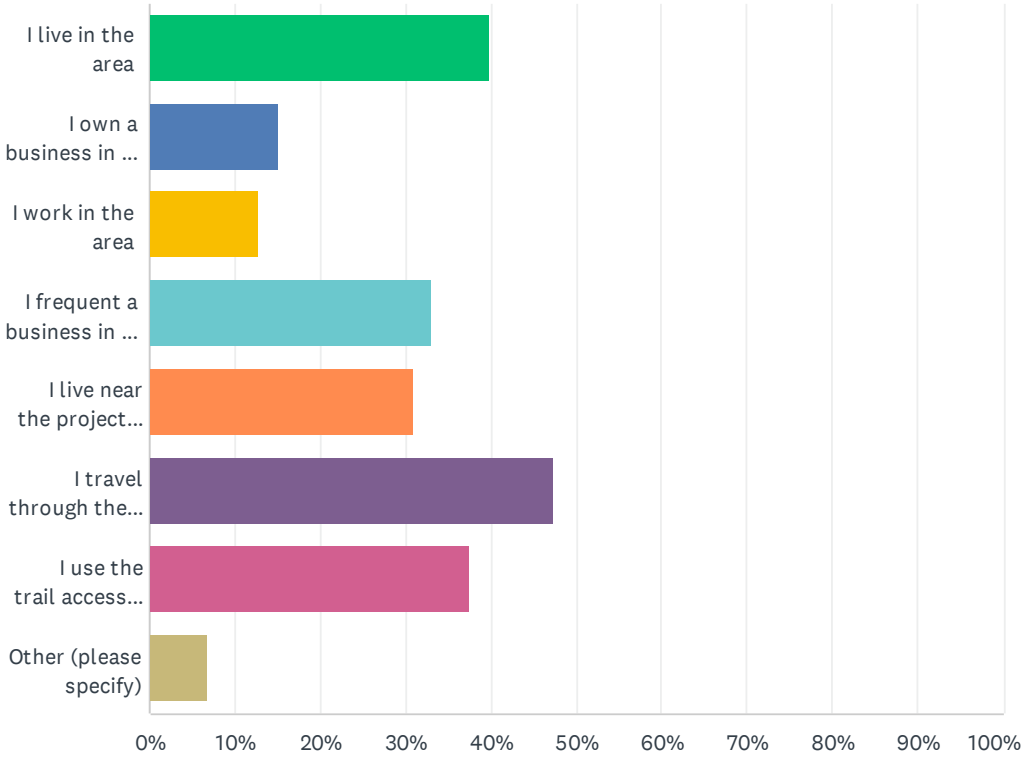
Appendix 5 – Survey

Appendix 6 – Infosheet

Appendix 1: SURVEY REPORT

Q1 What's your interest in the project area?

Answered: 133 Skipped: 2



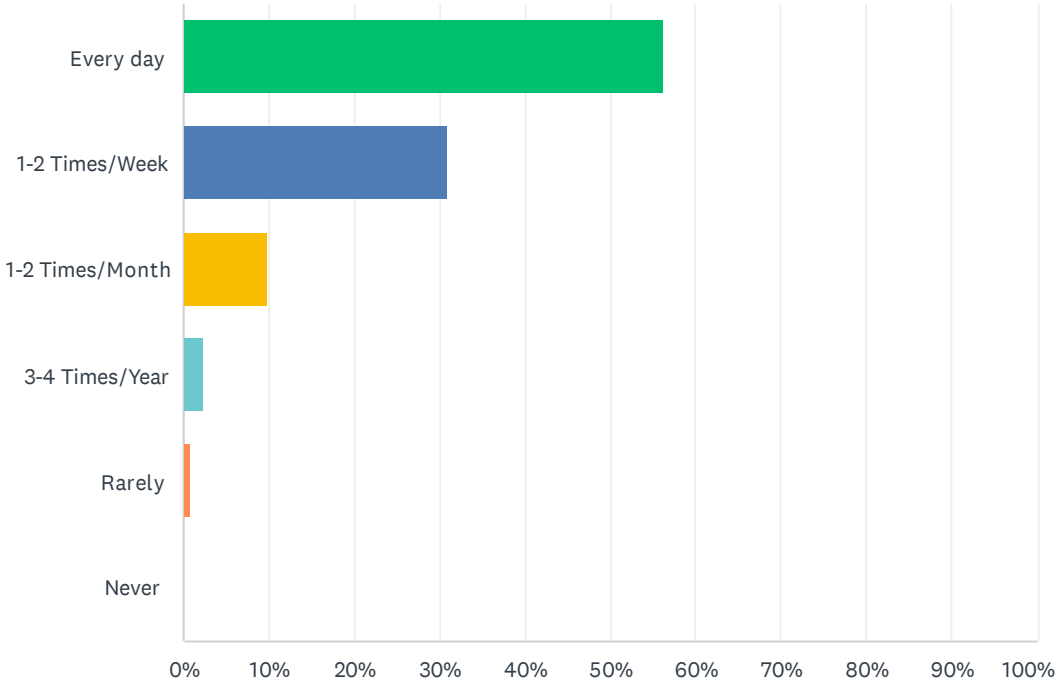
ANSWER CHOICES	RESPONSES	
I live in the area	39.85%	53
I own a business in the area	15.04%	20
I work in the area	12.78%	17
I frequent a business in the area	33.08%	44
I live near the project area	30.83%	41
I travel through the area	47.37%	63
I use the trail access in the area	37.59%	50
Other (please specify)	6.77%	9
Total Respondents: 133		

#	OTHER (PLEASE SPECIFY)	DATE
1	I frequently drive in this area	10/25/2023 8:32 PM
2	I visit a friend in the area	10/20/2023 3:57 AM
3	Have friend that lives there	10/19/2023 8:51 PM
4	Building owner	10/19/2023 9:22 AM

5	I'm involved with a non-profit that has warehouse space in Tin Town	10/18/2023 10:49 PM
6	I often walk with children in the area	10/18/2023 7:06 PM
7	I cross the busy streets that cars and trucks race through with total lack of care	10/18/2023 7:49 AM
8	I live nearby	10/18/2023 7:27 AM
9	I live in Courtenay and want to know where my money is going.	10/17/2023 10:22 PM

Q2 How often do you access the area?

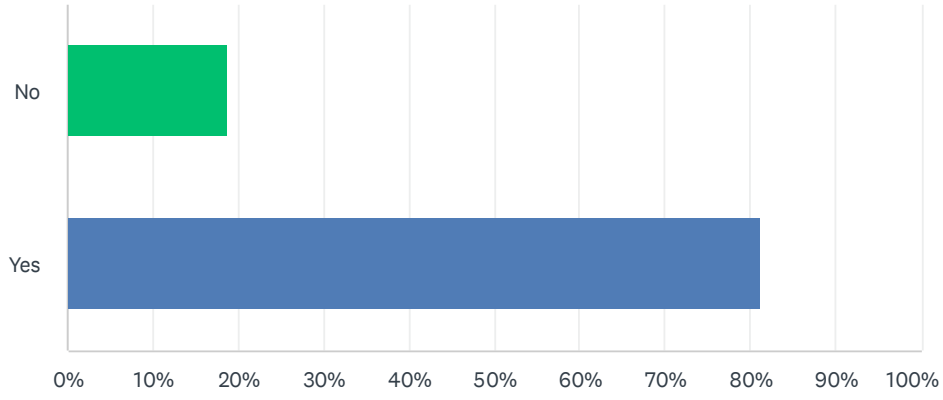
Answered: 133 Skipped: 2



ANSWER CHOICES	RESPONSES	
Every day	56.39%	75
1-2 Times/Week	30.83%	41
1-2 Times/Month	9.77%	13
3-4 Times/Year	2.26%	3
Rarely	0.75%	1
Never	0.00%	0
TOTAL		133

Q3 Do you have any concerns about how the roadway serves motorists, pedestrians and cyclists now?

Answered: 128 Skipped: 7



ANSWER CHOICES	RESPONSES	
No	18.75%	24
Yes	81.25%	104
TOTAL		128

#	YES	DATE
1	Speed is a real issue, as is general traffic rule following. The intersection of residential and industrial areas creates what I imagine to	11/1/2023 12:01 PM
2	Because Cousins road is curved, it is very dangerous with the excessive parking on both side with no safe sight lines either way exiting Rosewall Cres at either end. Many of the businesses don't have enough parking for their own employees or customers. Cousins Road should be one way entering from the northern end of Cousins ending with a 4 way stop at Willemar Road. Same for Rosewall Cres. It should be one way entering at the south west entrance entering a traffic circle in the cul-de-sac then continue to out at the south east end of Rosewall to a stop sign and left turn only sign. This would ensure a constant flow of uncongested traffic on Consins with no semi trucks parked in the middle of the road unloading their freight. Currently they block traffic both ways and have no traffic control personnel directing traffic and use unlicensed forklift on a public road. If it was one way, any commercial vehicle needing to offload their freight could simply pull over to the left or right curb area allowing traffic to flow down the middle. There should only be parking on one side of the Road on Rosewall Cres. We pay very high taxes here and we have trouble being able to get plowed during a snow event because the operators of the machinery have nowhere to push the snow, and to many cars are parked on the street over night. It is very tight trying to navigate a big piece of equipment between all the parked vehicles.	10/31/2023 8:43 PM
3	Its dangerous because of the curve in the road. Needs to have a four way stop with a hanging blinking light at the end of Rosewall Cres. In front of Georgia Straight Auto Body. Semi trucks sometimes park in the middle of the road and block traffic in both directions while unloading their freight. Lots of issues with Cousins Road.	10/31/2023 6:23 PM
4	My experience is mostly outside of business hours as I work offsite. I live in Tin Town. Road is wide, some (feels like many) vehicles go very fast cutting from 26th St to 20th to Cumberland Rd. The intersections on Rosewall (both) are very wide and I really have to look over my shoulder when crossing. I've almost been clipped a couple times walking, especially on the	10/31/2023 7:42 AM

	more south one. The curve in the road seems to lend to that. The road is also very ugly. I know it's industrial. I also know this area is identified as a growing and future neighbourhood centre. I'd like to see more landscaping to soften the street and mixed uses. The cross walk is needed at the Cousins trail access no question. The intersection at 26th and Willemar can be very active (multi users - trail along the parkway). The intersection at 20th and Cousins can be very active too. The sightline is awful (hedge). There are children in the area FYI.	
5	Motorists speed down cousins. The RCMP does not and will not be bothered with traffic stops if they're ever even in the vicinity of Tintown/cousins. the parking is a free for all. being a pedestrian and or cyclist is harrowing. rosewall crescent is a gong show where a cul de sac has become a parking lot- where businesses apply to the city with x amount of parking spots, then fence in the parking and it turns into park on the street. Cars ON the sidewalks are an accessibility nightmare.	10/30/2023 1:09 PM
6	Traffic moves too fast on the curve (pictured here) approaching from both directions. The area has a lot of residents and it's just plain ugly. The street is all beat up, there's no green, and no bike lanes. I don't see any trees.	10/30/2023 9:33 AM
7	Sight lines are bad, due to parking, the welding shop either needs to relocate or make room on-site to off load and or sometimes work on equipment in middle of the street. Measures need to be made to restrict vehicles from using Cousins as a short cut between 21st and 26th. And vice versa. Due to light to medium industrial intent of the area new design should be reduced to one sidewalk only north side with no bicycle lanes. Four way stop at Willemar and 26th / Cousins. Enforce parking regulations in area.	10/27/2023 8:50 AM
8	Could use some better access for cyclists	10/27/2023 8:23 AM
9	Cars go too fast. No safe bike lane despite residential neighbourhood adjacent.	10/26/2023 3:30 PM
10	Road is uneven, hard to see cyclists, cyclists find it dangerous some blind corners, people speed, lack of parking overflows onto crowded Tintown and makes problems worse	10/26/2023 2:50 PM
11	It’s narrow, pavement terrible and visibility is poor	10/26/2023 7:06 AM
12	Lots of traffic, and parking challenges.	10/25/2023 11:08 PM
13	Due to poor sightlines at the corner and lots of vehicles, parked and moving, hazard signs with reduced speed limits would be helpful. Also the pavement is in terrible condition.	10/25/2023 8:36 PM
14	Brutal for driving. Parking on both sides of the road makes it extremely dangerous. Large trucks blocking lanes	10/25/2023 12:10 PM
15	There are no cross-walks where people cross the road. Sitelines are poor. The pavement is in poor condition.	10/25/2023 11:39 AM
16	The area is not ideal for cyclists, and has high risk areas for pedestrians. The roadways are too narrow for two way traffic with the requirements of large trucks that service the businesses.	10/25/2023 11:00 AM
17	With all the cars parked at the sides of the road it makes it hard to see when trying to get out of theTinTown area.	10/25/2023 10:39 AM
18	It does seem a little busy outside of the welding shop and a couple other businesses in terms of on street parking. Cars can travel a little fast through the area.	10/25/2023 10:24 AM
19	Needs better parking and cycling infrastructure/accessibility.	10/24/2023 9:59 PM
20	road is very bumpy and needs to be repaved	10/24/2023 8:09 PM
21	Traffic on Cousins is too fast. I suggest speed humps to tame the speeders. Also a 4-way stop at Cousins and Willemar.	10/23/2023 5:15 PM
22	With all the vehicles that park on Cousins it becomes very congested at certain times of the day. Especially around the metal fabricators operation.	10/23/2023 11:12 AM
23	it should not be used as parking lot	10/23/2023 7:58 AM
24	The road condition is terrible.	10/22/2023 11:07 AM
25	Dangerous for Ike’s. Big trucks often inhibit traffic	10/22/2023 8:30 AM
26	I am concerned about the intersection of 20th and cousins, and the speed of vehicles on	10/21/2023 9:19 AM

	Cousins in front of my house. I would prefer it if the Cousins/20th intersection were changed to a 4 way intersection with crosswalk.	
27	road width allows for faster road travel than narrower roads, inherently making it less safe for cyclists in general and pedestrians at road crossings/intersections	10/21/2023 9:10 AM
28	Some blind spots coming out of Tintown. Limited parking	10/21/2023 9:00 AM
29	Needs to be resurfaced. Only one bike lane needed. I suggest you put on the inside of the sidewalks instead of on the road side	10/21/2023 7:56 AM
30	Roadway serves motorists- pavement is in poor shape Roadway serves pedestrians- accessing Cousins from 20th is difficult as their are no crosswalks, 50km/hr is too fast for a local road which is used as a commuter road Roadway serves cyclists- Cousins is busy with bike traffic and due to the congestion with vehicles it is dangerous	10/21/2023 6:26 AM
31	not enough safe street parking. The sidewalks and crosswalks are not in great shape or non existent. The road itself is in terrible condition	10/19/2023 8:52 PM
32	Lots of traffic from businesses and Tim town - blind spots make me nervous to bike with my kids in the area	10/19/2023 8:45 PM
33	There are a lot of bigger vehicles that park on the road - sometimes they park on the sidewalk, or across the sidewalk. This makes it unsafe to walk on the sidewalks. There are also some spots where bushes grow across the sidewalks adding to the problem. Biking does not feel safe as the big vehicles block sight lines to roads and driveways that come onto Cousins.	10/19/2023 4:27 PM
34	Road pavement in very poor condition Limited parking	10/19/2023 3:47 PM
35	WE REQUIRE TRAFFIC CALMING AND UPGRADED SIDEWALKS AND ROAD WAYS. A LIGHT INDUSTRIAL AREA IS NOT THE PLACE FOR BIKE LANES. SEVERAL BUSINESSES IN THE AREA DO NOT ALLOW THIER STAFF OR CUSTOMERS TO PARK ON THEIR PROPERTY DESPITE IT BEING REQUIRED FOR THEIR BUILDING DEVELOPMENTS (IE INDUSTRIAL WELDING), OWNERS RENTING SINGLE UNITS OUT TO MULTIPLE BUSINESSES PUTTING STRAIN ON PARKING IN AREA	10/19/2023 3:07 PM
36	It doesnt feel pedestrian friendly	10/19/2023 11:47 AM
37	There is little separation between the cars and pedestrians, there are locations without sidewalks at all. Cycling infrastructure is non-existent and expectation is that cyclists share the road with commercial traffic.	10/19/2023 10:35 AM
38	Speeding traffic &poor visibility very dangerous re exit Tin Town or South from Wilemar.	10/19/2023 10:31 AM
39	It doesn't feel safe for cycling. Crossing the street feels dangerous when walking. Trucks drive too fast.	10/19/2023 9:33 AM
40	The road system works fine when imperial welding is closed. They do not provide any parking for staff or clients, congesting the entire street. Lived on cousins for 7 years - traffic and pedestrian flow is great after they close and before they open	10/19/2023 9:25 AM
41	traffic is alot...small road for commercial vehicles. sidewalks not complete	10/19/2023 7:55 AM
42	Needs sidewalk on the one side	10/19/2023 7:33 AM
43	people drive too fast around the corner for those exiting Rosewall cres and 22nd to safely navigate their turn. Also the road is often full of potholes from truck traffic making it difficult or cyclists and those wishing to access the park trail	10/19/2023 7:10 AM
44	The condition of the road itself is deteriorating. The sidewalk ends on the northbound side and there's no crosswalk to the other side. Visibility is horrible; large trucks and overgrown shrubs narrow the sidewalk and view of the road and intersections. The corner of cousins and 20 has a humongous cedar bushes making that intersection dangerous, I've had many close calls there because people can't see properly	10/18/2023 11:01 PM
45	no crosswalks on Cousins	10/18/2023 10:50 PM
46	Walking is often difficult, cars and trucks blocking the sidewalk	10/18/2023 9:23 PM
47	Not very hospitable for pedestrians. Poor drainage. Uneven surfaces. Missing sidewalk connections	10/18/2023 8:47 PM

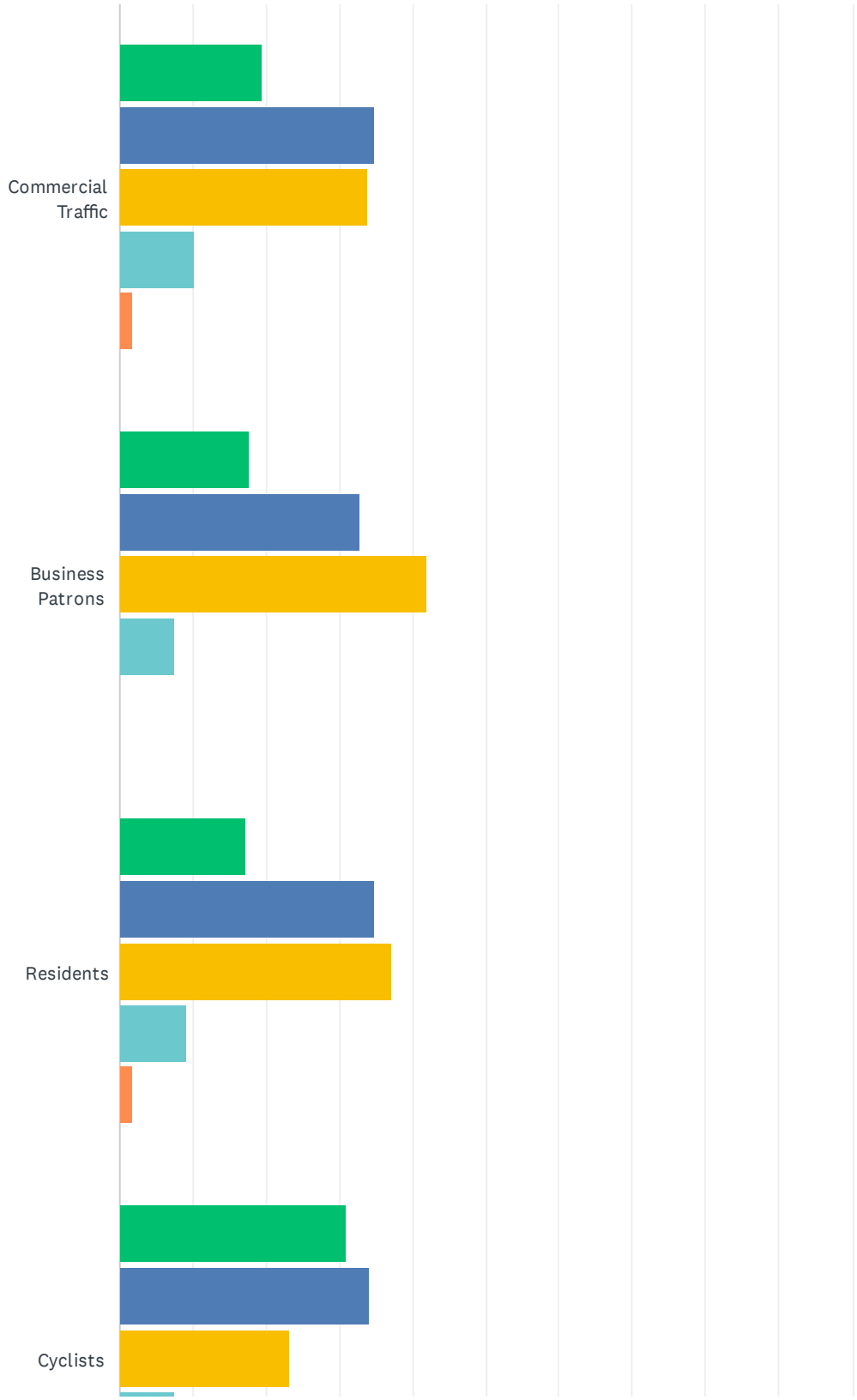
48	The area in front Imperial Welding is often quite busy with large trucks and customers on the roadway itself (rather than off-street) which makes that curve somewhat dangerous to drive by during business hours.	10/18/2023 8:43 PM
49	Need a crosswalk at cousins park and sidewalk. Way too busy and narrow industrial area. Needs a 4 way stop at 20th	10/18/2023 8:08 PM
50	Too much traffic.	10/18/2023 7:31 PM
51	I feel the road is too narrow for parked cars on both sides. This makes the current speed limit unsafe. It should be 40 kph or less.	10/18/2023 7:22 PM
52	1. Huge trucks often block the road so driving is challenging. It is difficult to see around them to drive safely. 2. The Metal fabrication business is often VERY noisy and often operates prior to 7:00 am 3. Rosewall Crescent exit (near the Willemar end) is very dangerous as vehicles drive so quickly around the curve in the road. 3b. It is VERY dangerous trying to cross Cousins Ave. at the end of Rosewall Crescent (both places where Rosewall meets Cousins) to access the trails along Piercy Creek or to access the businesses along Cousins. 4. It is difficult to see how to drive and turn in to access businesses on Cousins with retail access such as Honey Grove Bakery 5. The sidewalks along Cousins are regularly blocked with snow in the winter 6a. There is so much street parking it is difficult to find driveway access for the different businesses. 6b. Businesses on Cousins do not have enough parking for their employees. They regularly use all the street parking on Rosewall Crescent. As a property and business owner on Rosewall Crescent, I am required to provide parking. Are the Cousins Ave businesses required to provide adequate parking? 7. The Piercy Creek trail access is hidden behind a building on the Willemar Street end. I'm unsure whether this is actually a public access point as it is not marked. 8. I recommend Courtenay look towards the future and rezone this area. All the light industrial businesses could be relocated out near Slegg Lumber near the hwy access. 9. This area would be much better zoned for low rise buildings such as 3 storey apartment buildings alongside the Piercy Creek pathway system 10. The access to the pathway system near the 22 street end is often blocked by parked vehicles. This should be clearly marked as a NO parking zone. 11a. The crosswalks across Rosewall Crescent road access are often difficult to cross safely as they are very dark and parking is very close to the entrance to Cousins. 11b. There should be a crosswalk across Cousins Ave closer to Rosewall Crescent entrances. 12. The left hand turn off Cousins Ave and onto 20th Street is very difficult to make without pulling out onto 20th Street because the hedge on the corner blocks the view down 20th Street. 13. Rosewall Crescent has experienced flooding in the past. I am told it is because while the storm drain system within Rosewall is good the receiving storm drain system on Cousins is too small to handle the water flow. I hope this proposed renovation expands the storm drain capacity.	10/18/2023 7:19 PM
53	It is very busy, crowded in the day time with poor road surface and lots of parking on the roadway As a pedestrian I find it quite hazardous. As a vehicle driver I find there are lots of challenges	10/18/2023 7:09 PM
54	Parking blocks visibility and is very dangerous	10/18/2023 7:04 PM
55	We need stop signs on the 2Oth street and cousins intersection. The fence and hedge on this intersection need to be either moved or cut down so you can see if 20th street is clear to turn. 20th street has become an Indy 500 raceway! Someone is going to get killed eventually. I checked with the city Re having speed bumps put in and was told that was the RCMP jurisdiction. I then called the RCMP and they told me get a hold of the city it’s their problem! WHAT?!	10/18/2023 6:51 PM
56	Heavy trucks often block the flow of traffic. The area is often used as a loading zone for industrial trucking. Pedestrian use of the area is often difficult. Snow clearing by the businesses often blocks parking and pedestrian moving forcing pedestrians to move into traffic.	10/18/2023 6:13 PM
57	Used by drivers as a short cut to 26th. Cousins is crowded. Children are at risk.	10/18/2023 6:03 PM
58	It is not suited to the number of businesses and pedestrians that use the area now.	10/18/2023 6:02 PM
59	There is not enough parking for businesses currently. The fact that trucks aren't allowed to continue down cousins Ave into the residential part causes disruptions in the flow of traffic and makes it more dangerous	10/18/2023 6:00 PM
60	During business days the road is crowded and not everyone is slowing down and watching for	10/18/2023 5:42 PM

	pedestrians. There needs to be a crosswalk somewhere in the residential section at least.	
61	Crosswalk needed. Cars go very fast and there is no safe crossing space.	10/18/2023 5:00 PM
62	There should be no bike lanes on cousins. They should put the bike lanes on Willamar.	10/18/2023 4:41 PM
63	Parking is a big issue on Cousins. Lots of important businesses working in these areas and parking and the easy flow of vehicles, transportation of materials ETC needs to be at the forefront	10/18/2023 2:50 PM
64	Cousins Ave. and Rosewall Cres. are both very busy traffic-wise and do not have enough available parking for customers of the local businesses. Excessive speeding is an issue along the whole length of Cousins Ave., including turning from or to any of the sideroads. Due to the curvature of the road and the speed of passing vehicles, it is difficult to exit Rosewall Cres., and it poses a danger when entering or exiting a parked vehicle along these two roads.	10/18/2023 2:00 PM
65	People drive way too fast	10/18/2023 11:37 AM
66	People speed through the area, ignore stop signs or roll through them entirely ignoring pedestrians. There isn't parking on rosewall and I'm really concerned that w the construction that will absolutely go over budget and take far longer than estimated, the businesses and residents in the area, tin town and cousins will be further disrupted by lack of service, parking...everything.	10/18/2023 11:17 AM
67	There is not enough parking. The drainage in inadequate There is not enough room for commercial deliveries	10/18/2023 10:40 AM
68	no bike lanes. it's already wide enough and we need all the space for parking because some takes over Rosewall cres parking lot and its not fare for clients that has business to do in Tin Town.	10/18/2023 10:37 AM
69	Sidewalks not consistently present on side of road, roadway is dark with many pot holes so dangerous for cyclists and limited visibility. People also drive very fast within this area.	10/18/2023 8:53 AM
70	Lack of visibility due to parked trucks & commercial vehicles	10/18/2023 8:37 AM
71	Parking on both sides obstructs view for drivers, cyclists and pedestrians. No defined cycling lanes	10/18/2023 8:37 AM
72	Needs crosswalks	10/18/2023 8:23 AM
73	Willemar through to 26th is a speedway	10/18/2023 7:50 AM
74	No lane designations. Vehicles travel along the curve of the road at a high rate of speed. Upon exiting the trail network, there are no cross walks to safely cross the street to access the businesses within Tin Town.	10/18/2023 7:42 AM
75	The very limited amount of parking during business hours is a very big issue. Many of the Cousins area businesses are industrial type business with large vehicles.	10/18/2023 7:36 AM
76	Bad drainage in residential areas	10/18/2023 7:35 AM
77	Not currently safe for cycling	10/18/2023 7:28 AM
78	The road is in poor condition and I'd like a cross walk by the trail access. Angled parking would be nice since there is so little parking available	10/18/2023 7:22 AM
79	Poor parking, poor cycling. The roadway is narrow for the industrial traffic.	10/18/2023 6:59 AM
80	It’s so narrow and actually scary to walk especially with my baby I walk this everyday through the trails and cut through to the park	10/18/2023 6:41 AM
81	Road un safe for travel. Big trucks turning, cars parked along side of rd, no place to pull safely to alliw othwrs to go past	10/18/2023 4:57 AM
82	The lack of parking on Cousins and Rosewall is very concerning	10/18/2023 4:37 AM
83	Vehicles are usually circulating fast on that stress, including vehicles from businesses on cousins. Driving there feels quite dangerous and because of the curse, visibility can be tricky	10/17/2023 10:16 PM
84	Pot holes mainly	10/17/2023 10:11 PM

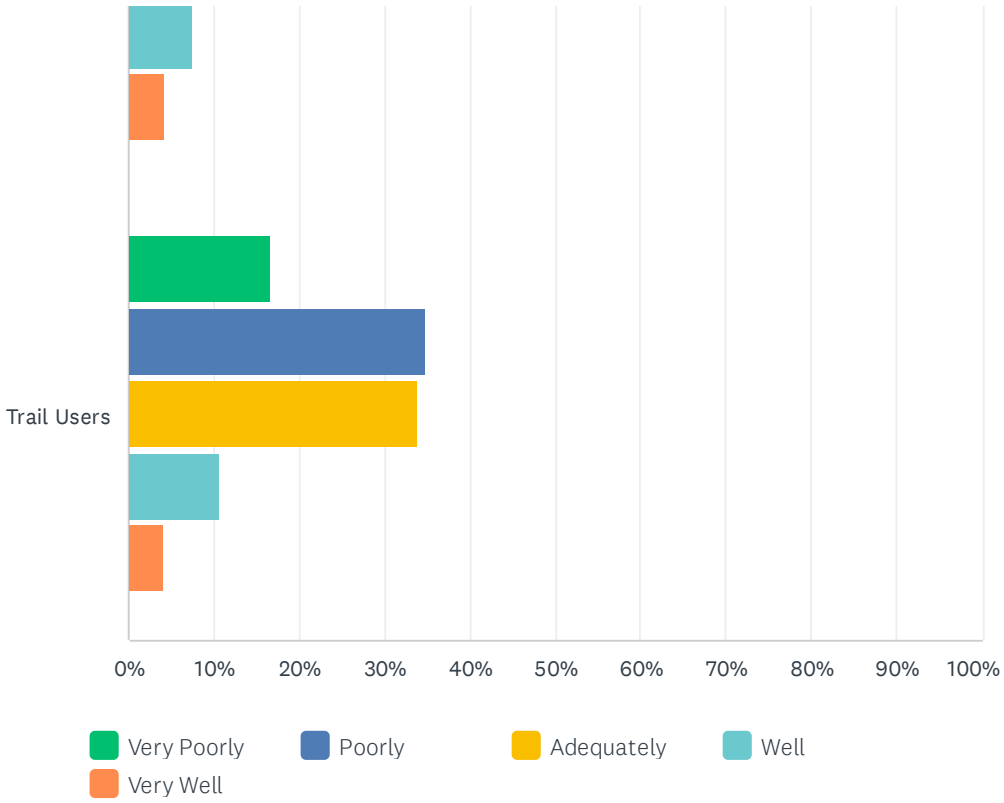
85	Needs crosswalk to attach green pathway to other side of the road. Nobody slows down or looks	10/17/2023 9:40 PM
86	No bike lanes, road is in a sad state. Pedestrian crossings with flashing lights would help.	10/17/2023 8:52 PM
87	Limited visibility, and limited parking, with poor signage. There is a need for a bike lane, as well as crosswalks for pedestrians	10/17/2023 8:45 PM
88	There's massive sink holes in the current sidewalks making it nearly impossible for those with accessibility concerns. The sidewalks are extremely narrow and you cannot walk beside someone without one of you walking on the street.	10/17/2023 8:45 PM
89	Blind corners and poor cross walks	10/17/2023 7:54 PM
90	Lack of garbage cans for the public along cousins. Dog poo bags get discarded. Poor urbanized feel for how well Cousins could do leveraging Tintown.	10/17/2023 7:52 PM
91	Poor visibility, congestion.	10/17/2023 7:32 PM
92	Parking from all the big business is dreadful and they all park on rosewall crescent which means no parking for rosewall business and residents	10/17/2023 7:07 PM
93	Super busy and noisy and unsafe for pedestrians and traffic	10/17/2023 6:52 PM
94	Sidewalks are often blocked, feels unsafe crossing the road to /from the park	10/17/2023 6:38 PM
95	Parking congestion and bad sightlines for pedestrians	10/17/2023 5:41 PM
96	Re pave it , and have parking only on one side. Terrible road,	10/17/2023 5:32 PM
97	I have small children, the sidewalk is overgrown on some areas, it’s hard to cross over from the Peircy Creek trail side to other businesses across the road. Cars travel super fast!	10/17/2023 5:08 PM
98	It’s in great need of an update	10/17/2023 4:53 PM
99	Lack of sidewalks	10/17/2023 4:29 PM
100	Main dangers of the area include: Narrow road with cars parked lining the street daily. CV Marine moving boats in and out of their lot blocking traffic in the bend of the road regularly, particularly in summer. The steel business having to park their long steel trucks across the sidewalk and into the street. Speed limit not being reduced in the industrial area means cars are coming around the bend from 20th toward Willemar at such a speed that they end up right behind cars turning at the stop sign from Willemar and honk. There is a frequently used crosswalk used by trail goers at Willemar/Cousins junction as well as a school bus stop, but the crosswalk does not have a light up cross sign. There have been frequent accidents and near misses at the Willemar/Cousins/26th stop way. I know this for a fact as I live on this corner.	10/17/2023 4:15 PM
101	The road is narrow and further dangerous with cars driving above the speed limit around the corner to Cousins/Willemar causing frequent accidents and close calls. The road is further narrowed with the CV Marine moving boats often and the steel business having long steel trucks protruding into the road and across the sidewalk.	10/17/2023 4:07 PM
102	Street parking should be forbidden on the side where Rosewall cres entrances/exits come out. When large vehicles are turning out from that side of the road, or vehicles exiting rosewall cres., it makes it difficult to see.	10/17/2023 3:55 PM
103	The road is in bad shape, dangerous for cycling. Sidewalk is often blocked by vehicles and sight lines are really bad.	10/17/2023 3:40 PM
104	Terrible sight lines, lots of speeders, and terrible parking.	10/17/2023 2:39 PM

Q4 How well does the current road and traffic flow serve the following users?

Answered: 126 Skipped: 9



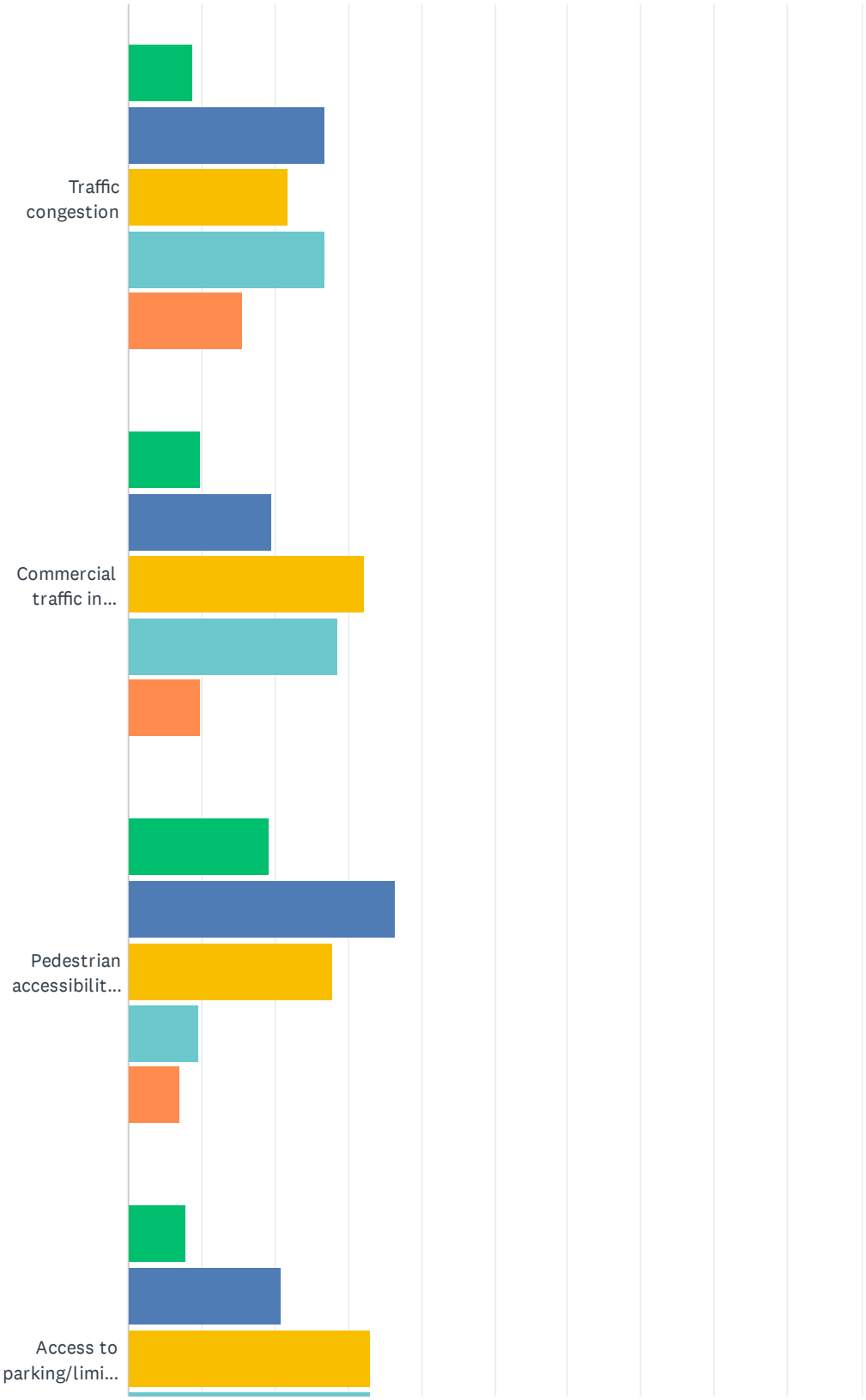
Cousins Avenue Upgrades Project

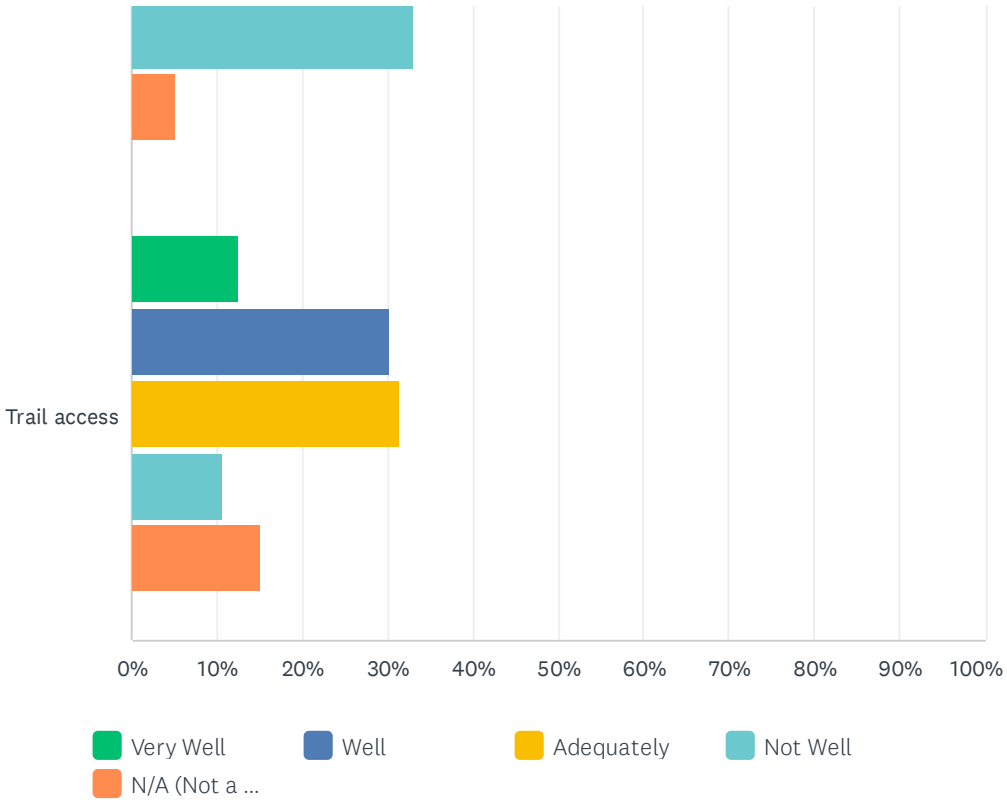


	VERY POORLY	POORLY	ADEQUATELY	WELL	VERY WELL	TOTAL	WEIGHTED AVERAGE
Commercial Traffic	19.49% 23	34.75% 41	33.90% 40	10.17% 12	1.69% 2	118	2.40
Business Patrons	17.65% 21	32.77% 39	42.02% 50	7.56% 9	0.00% 0	119	2.39
Residents	17.36% 21	34.71% 42	37.19% 45	9.09% 11	1.65% 2	121	2.43
Cyclists	30.83% 37	34.17% 41	23.33% 28	7.50% 9	4.17% 5	120	2.20
Trail Users	16.53% 20	34.71% 42	33.88% 41	10.74% 13	4.13% 5	121	2.51

Q5 How much do you think this option would address these concerns in the area?

Answered: 117 Skipped: 18





	VERY WELL	WELL	ADEQUATELY	NOT WELL	N/A (NOT A PROBLEM NOW)	TOTAL	WEIGHTED AVERAGE
Traffic congestion	8.70% 10	26.96% 31	21.74% 25	26.96% 31	15.65% 18	115	3.14
Commercial traffic in residential area	9.82% 11	19.64% 22	32.14% 36	28.57% 32	9.82% 11	112	3.09
Pedestrian accessibility (ie: sidewalks/crossings)	19.13% 22	36.52% 42	27.83% 32	9.57% 11	6.96% 8	115	2.49
Access to parking/limited parking	7.83% 9	20.87% 24	33.04% 38	33.04% 38	5.22% 6	115	3.07
Trail access	12.50% 14	30.36% 34	31.25% 35	10.71% 12	15.18% 17	112	2.86

OPTION 1

Q6 Do you have comments or concerns about this option?

Answered: 69 Skipped: 66

#	RESPONSES	DATE
1	as mentioned in the prior comment box	10/31/2023 8:48 PM
2	Cousins Road should be one way going south to a 4 way stop at Willmar Road allowing free flowing traffic with no interpretation of traffic flow while commercial vehicles etc. are pulled over to the curb to offload. It should be the same for Rosewall Cres. One way entering in front of Georgia Strait Auto body into a culdesac traffic circle then out at the south end of Rosewall Cres. Rosewall is to narrow and has poor sight lines for opposing traffic. Lots of other dangerous issues with schools, dance studios near misses for children running between parked cars in the culdesac.	10/31/2023 6:41 PM
3	In general I support complete streets. I'm aware that Willemar will be a cycling facility. As such, I'm deemphasizing my desire for cycling facilities on Cousins given that close facility (future). This is challenging for me as I also know this area will be a mixed use neighbourhood in the future so someone walking out their door will want to get right onto that cycling network. I know we can't do all things at once though. I do support on street parking as I know the businesses need it. Do the lanes need to be wider though for commercial traffic? We want it to be slow and more residences are supported in this area so this situation for slow will only intensify. Greenery to soften the edges of our neighbourhood would be a great aesthetic component and traffic calming/safety. However, some boulevards are so skinny that they can't support trees. Please support the trees. Even if one boulevard had to be wider on one side. In the long run it will be dramatic and attractive. No columnar skinny street trees please. Narrower intersections (bump outs for pedestrians) are a must for traffic calming, safety and signalling that a difference in the neighbourhood is occurring.	10/31/2023 7:51 AM
4	some of this already exists- like the signage to restrict truck traffic in the area- no one bothers following the rules now, what makes you think anyone will be arsed post expensive and useless upgrade? there isn't any enforcement. everyone knows. everyone and their dog has always said- i'll only be a few minutes as a reason for ignoring signage. or flat sees it- and doesn't care. without enforcement, whats the point of any of it?	10/30/2023 1:13 PM
5	Suggest making cousins an no through vehicle road at interface of commercial and residential. Pedestrians, flow through only.	10/27/2023 8:55 AM
6	Possible loss of parking? Businesses on Cousins are chronically parking on Rosewall Cres which blocks parking for Tin Town businesses so this option may compound that issue?	10/26/2023 3:33 PM
7	I don't like that there are no bike lanes and less canopy cover	10/26/2023 2:51 PM
8	This is a commercial area. Prioritize that and the business patrons	10/26/2023 7:08 AM
9	This is all that needs done. Why spend more of taxpayers money needlessly? Option 1 is more than adequate, please just KEEP IT SIMPLE!	10/25/2023 8:43 PM
10	This is a commercial and industrial area. Focus on traffic and parking - not on bike lanes!	10/25/2023 12:21 PM
11	Parking on both sides of street is brutal. Huge safety issue	10/25/2023 12:13 PM
12	The road really needs to be built to the commercial / industrial standard for the full length as commercial / industrial traffic access Cousins from both end.	10/25/2023 11:41 AM
13	The focus is on vehicles, rather than pedestrian safety.	10/25/2023 11:01 AM
14	From what I've seen from other street improvements - adding bike lanes only makes the street narrower. 17th Avenue is very tight with large commercial vehicles.	10/25/2023 10:25 AM
15	Not much for bicycle paths. Meh.	10/23/2023 5:18 PM
16	Everything about this option narrows the driving area. There are bigger personal trucks that drive through here. We don't need the boulevards. Once we have to put the monster garbage	10/22/2023 11:18 AM

	cans out there with this option they will pretty much be in the middle if the road, further impeding traffic	
17	I think resurfacing the road, and establishing better water drainage is the most important part of this project	10/21/2023 9:28 AM
18	it just looks like there will be a sidewalk added. it only appears to improve safety for cars	10/21/2023 9:12 AM
19	I don’t want the roads narrower. The current width works well for the mixed commercial and residential traffic	10/21/2023 7:59 AM
20	Traffic will still be able to short cut off 20th to Cousins coming from the busy Cumberland commuter road. If truck traffic is limited on Cousins residential, how will they turn around? Sidewalks in both sides if the road will accommodate pedestrians very well. I don't know what a "speed table" is?	10/21/2023 6:34 AM
21	Is it necessary?	10/20/2023 4:02 AM
22	Losing paved area, putting in area that required landscaping. Silly, just like the other upgrades around town. People are scared to open their doors because there is no room	10/19/2023 8:56 PM
23	there is already limited street parking and because it is an industrial / commercial and residential area all of the above needs to be accounted for	10/19/2023 8:56 PM
24	Bike lanes please !	10/19/2023 8:48 PM
25	It definitely helps pedestrians, but it would still have the same issues for bikes.	10/19/2023 4:30 PM
26	YES - ALL OF THE DRAWINGS THAT YOU HAVE PROVIDED DO NOT TAKE IN TO ACCOUNT THE PROPERTIES WITH LOWER ACCESS ACROSS THE ENTIRE BUILDINGS AND ONLY SHOW STANDARD DRIVEWAY ACCESS. THESE BUILDINGS WERE BUILT, DESIGNED AND APPROVED BASED ON THIS ACCESS AND IF IT WERE TO BE TAKEN AWAY IT WILL NEGATIVELY IMPACT THE PARKING ON THESE PROPERTIES (IE 2441 COUSINS) THERE IS NOT ENOUGH SPACE FOR LARGE VEHICLES TO GET BY WITH THE PREPOSED BLVDS,	10/19/2023 3:12 PM
27	I love the tree and green space boundary between people and traffic. We need more of that	10/19/2023 11:49 AM
28	The width of the travel lanes will result in increased vehicle speeds that other measures will have to mitigate, the travel lanes should be narrowed to naturally slow traffic in bother the commercial and residential sections. This road should be treated as a local road not a collector.	10/19/2023 10:41 AM
29	Speed bumps in residential will force MORE traffic back down 26th which already is too busy for pedestrian safey	10/19/2023 10:34 AM
30	Doesn't address bikeability.	10/19/2023 9:35 AM
31	Grass, and trees in large strips down the lanes seem counter intuitive for an industrially zoned area.	10/19/2023 9:29 AM
32	AS this area and streets are a combination of residential and commercial it is hard to make a plan that addresses both areas	10/19/2023 8:00 AM
33	Bike lanes will make our road cousins more dangerous with putting parked vehicles into the street. The extra greenery for curb appeal is not needed.	10/19/2023 7:37 AM
34	Even though it says wider lanes in commercial area, I'd like to acknowledge the trucks on that road are exceptionally large and are often backing up and maneuvering. Is a boulevard going to make that easier or harder for them to do so safely?	10/18/2023 11:05 PM
35	The visual aesthetic is really nice. It would be great to have sidewalks on both sides of the street. My only concern is that narrowing the roadway to make room for them will make it more dangerous for drivers. This would be a good option for the residential portion, but perhaps not so much for the business portion.	10/18/2023 8:49 PM
36	Nice option	10/18/2023 8:48 PM
37	1. The raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent should not be an option. It is necessary. 2. Businesses along Cousins Ave MUST have sufficient parking for all their employees and customers. 3. Rosewall Crescent MUST	10/18/2023 7:31 PM

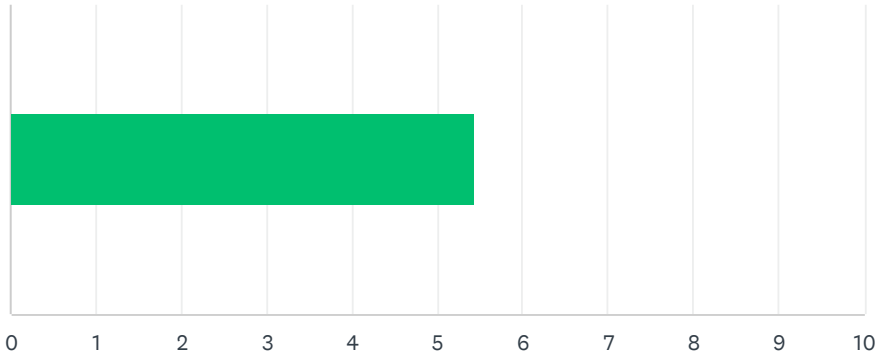
	have clearly marked signage so that cars are not parked so they block access to building onsite parking. 6. Rosewall Crescent cul de sac MUST BE PARKING FREE - I do not understand why parked vehicles are allowed to fill up the cul de sac. 7. Speed tables to slow cars MUST be installed at both ends of the commercial traffic area and at the TWO points where Rosewall Crescent intersects Cousins Ave. 8. There must be road signage to strictly prevent large trucks from using Rosewall Crescent as a turn around. 9. Sidewalks along the commercial section MUST be kept as sidewalks and not used for commercial parking. 10. There need to protected bike lanes. The GREEN belt area is not as important as bike lanes. AND the trees will become a hazard to large trucks and sight lines.	
38	Parking will be a problem with so many commercial vehicles there. My concern is visibility of emerging traffic and pedestrians	10/18/2023 7:29 PM
39	None of your plans show the large trucks that are parked in the area. It would be fine today if it were only cars, but it is mostly big trucks I think that having good pavement would be a great help as I'm always dodging potholes	10/18/2023 7:17 PM
40	No	10/18/2023 7:07 PM
41	Commercial loading and unloading will still block traffic flow. Access to sidewalks and trails is often blocked by parked vehicles and snow piles.	10/18/2023 6:17 PM
42	Given that it is not part of the bike plan, why have 2 bike lanes.	10/18/2023 6:11 PM
43	It does not fix the existing problem. It simply takes the existing problem and makes the roads a tiny bit wider	10/18/2023 6:06 PM
44	Not allowing trucks to continue on cousins leaves only rosewall for them to turn around. A forty foot truck cannot safely travel through rosewall even if it was changed to a one way street due to the width of said street. This option also does not improve the parking problem. Designated angle parking would be better	10/18/2023 6:05 PM
45	It is too much like what is already there. Need to think outside the box.	10/18/2023 5:44 PM
46	Nope	10/18/2023 4:08 PM
47	The curvature of the road and parked vehicles already reduce visibility both ways along Cousins Ave., and adding boulevard trees would reduce the visibility even more, especially for commercial vehicles.	10/18/2023 2:58 PM
48	I do not like the option to add curb bump-outs	10/18/2023 10:42 AM
49	no	10/18/2023 10:39 AM
50	cyclists not accounted for	10/18/2023 8:54 AM
51	Commercial needs more parking spaces	10/18/2023 7:54 AM
52	Currently many industrial business use the curbed area in the front of their businesses as parking. They drive OVER the street curbs to park and then are very upset when someone parks along the curb and blocks them in. With larger sidewalks and treed boulevards on both sides of the road, will these parked cars go into the street to again clog the street parking??	10/18/2023 7:43 AM
53	I don't think the road needs to be narrower in the residential section and there's no need for sidewalk/grass/parking. We can walk beside parked vehicles.	10/18/2023 7:28 AM
54	No cycling improvment.	10/18/2023 7:01 AM
55	No	10/18/2023 4:59 AM
56	Looks like an absolute waste of taxpayers money. These options did not help 5th street or 17th	10/17/2023 10:24 PM
57	This option will continue to enable vehicles to drive fast in the area.	10/17/2023 10:19 PM
58	Narrowing the road will make it more accident prone since it's a commercial area	10/17/2023 10:15 PM
59	The curent speed of traffic is adequate. There is no need to "calm" traffic.	10/17/2023 8:54 PM
60	I think the boulevard section could be narrowed in favour of a larger pedestrian sidewalk in the commercial area. If you add a speed table in the two blocks of residential, this could add to additional traffic in the residential area of 20 Street and Willemar Avenue (20-26 Street). I would personally prefer two residential blocks be affected rather than six residential blocks.	10/17/2023 8:53 PM

61	It looks good but will it actually be done as rendered?	10/17/2023 7:56 PM
62	We walk here alot, as well as drive it daily, better sidewalks needed for sure, don’t need bump outs or bike lanes, we use the trails just fine. Don’t waste money just re pave and upgrade sidewalks.	10/17/2023 5:36 PM
63	As a frequent pedestrian this looks great. I like the green buffer between the road and sidewalk.	10/17/2023 5:11 PM
64	N/a	10/17/2023 4:30 PM
65	This barely looks like a change and can't possibly widen the road enough or address the speed of the drivers in that area. As well the stop sign at either end of Cousins is a danger. The Willemar end due to speed and the cross walk. And the 20th street end due to impaired view from overgrown shrubbery. The vehicles on this road (CV Marine boats/forklift) and the Steel trucks will still cause dangers and need appropriate parking and navigation in front of their businesses in particular.	10/17/2023 4:18 PM
66	Parking width for vehicles in the commercial district are too narrow. Large vehicles frequent the area	10/17/2023 4:06 PM
67	No need for grass added to the roadway. Keep the width of the current road and perhaps add a sidewalk on the other side of the street in the residential portion.	10/17/2023 3:58 PM
68	There are plenty of ways for bikes to get around town. No need to put bike lanes in a lite industrial/ commercial area	10/17/2023 2:44 PM
69	This doesn't slow speeders, and doesn't seem to add to the lack of parking currently there.	10/17/2023 2:42 PM

OPTION 1

Q7 On a scale of 1-10, how supportive are you of this option, Option 1? (1 being not supportive at all, and 10 is fully supportive)

Answered: 112 Skipped: 23

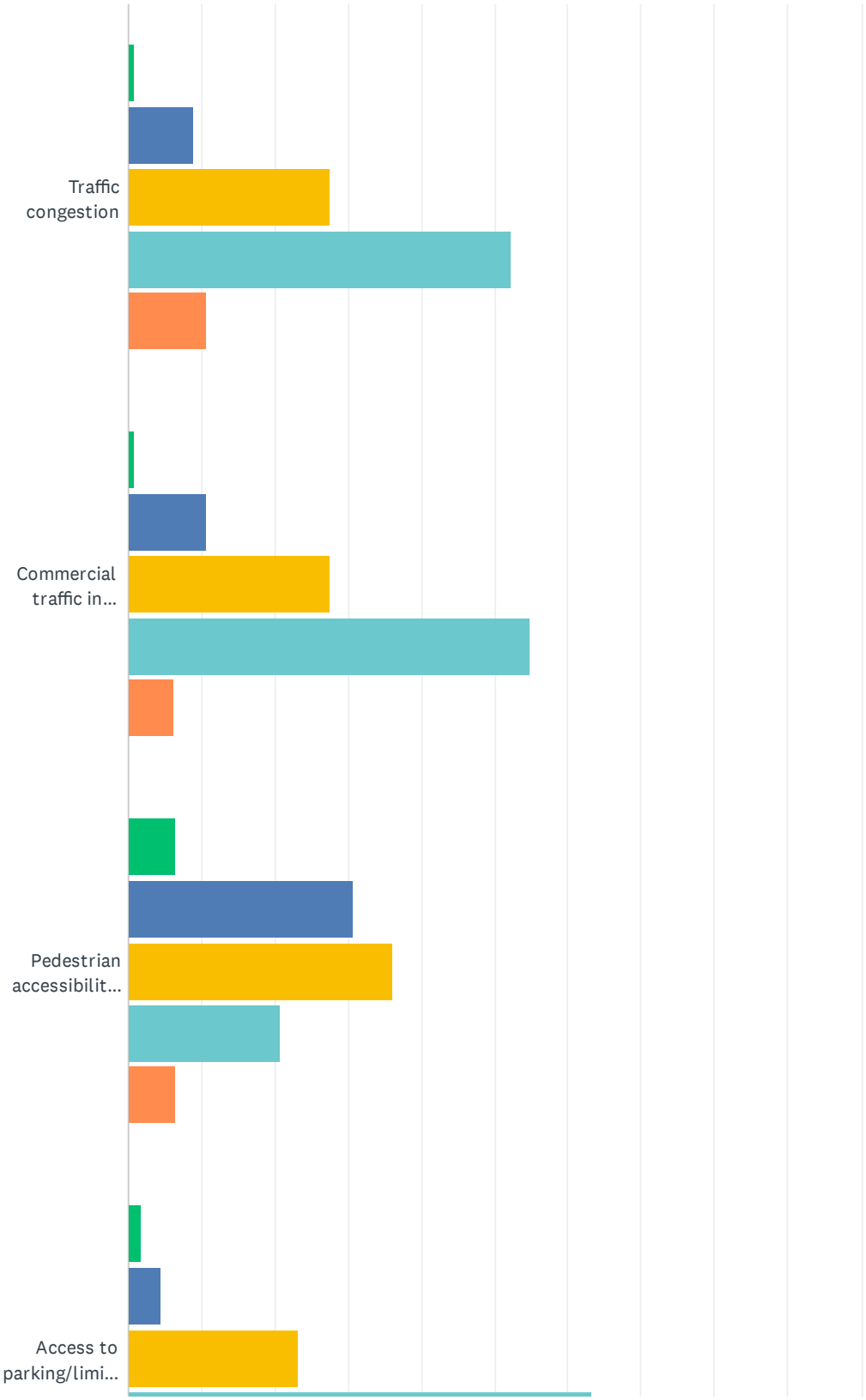


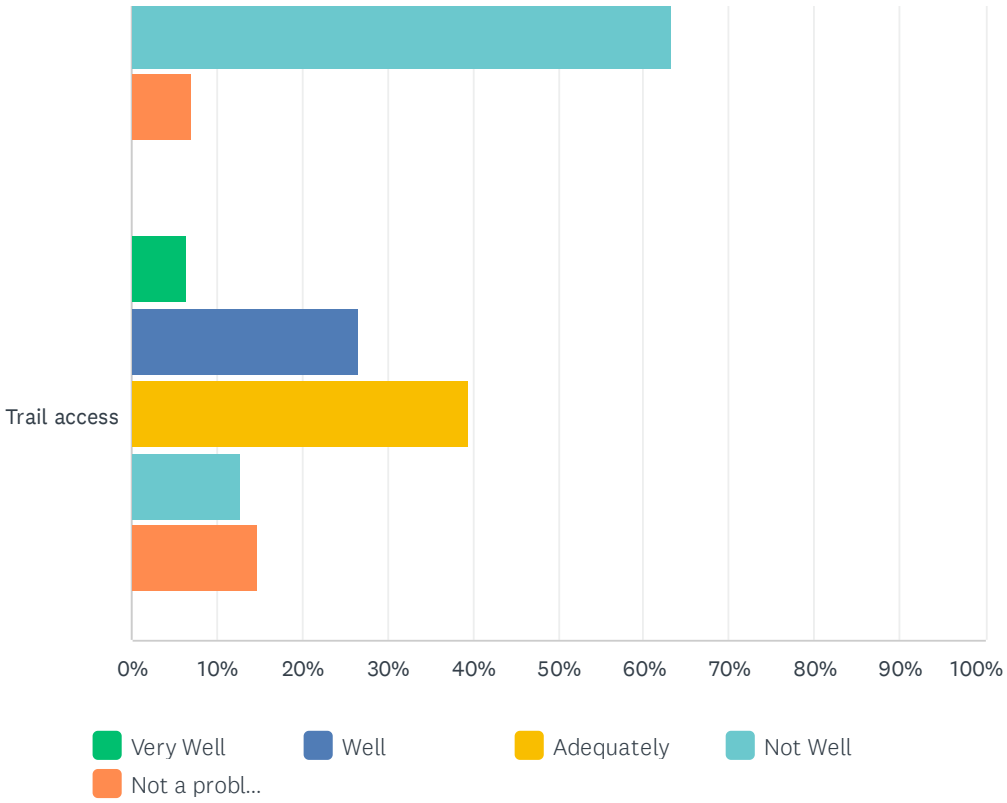
ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	5	608	112
Total Respondents: 112			

OPTION 2

Q8 How much do you think this option would address these concerns in the area?

Answered: 113 Skipped: 22





	VERY WELL	WELL	ADEQUATELY	NOT WELL	NOT A PROBLEM NOW	TOTAL	WEIGHTED AVERAGE
Traffic congestion	0.88% 1	8.85% 10	27.43% 31	52.21% 59	10.62% 12	113	3.63
Commercial traffic in residential area	0.88% 1	10.62% 12	27.43% 31	54.87% 62	6.19% 7	113	3.55
Pedestrian accessibility (ie: sidewalks/crossings)	6.31% 7	30.63% 34	36.04% 40	20.72% 23	6.31% 7	111	2.90
Access to parking/limited parking	1.79% 2	4.46% 5	23.21% 26	63.39% 71	7.14% 8	112	3.70
Trail access	6.42% 7	26.61% 29	39.45% 43	12.84% 14	14.68% 16	109	3.03

OPTION 2

Q9 Do you have comments or concerns about this option?

Answered: 71 Skipped: 64

#	RESPONSES	DATE
1	Bike lanes should go along Willemar ave where they aren't interfering with the industrial parking and turning. I support bike lanes 100% and don't think this is the safest route. The multiple businesses there, particularly the auto shops, park so many cars along the street that it interferes with the residential parking for local residents on cousins and Rosewall. Removing their parking spaces will only create more problems for residents. It seems safer to dissuade cyclists from coming along cousins, to give the industrial zones the parking they need, and to allow residents to have their parking back. Huge trucks backing out of places, mixed with fast moving cyclists is a recipe for disaster.	11/1/2023 12:37 PM
2	As above	10/31/2023 8:50 PM
3	Please define speed table next time. See my comments in No.1.	10/31/2023 7:51 AM
4	Commercial/business parking in my residential spots is a constant battle. Reducing street parking will put added pressure on residential parking.	10/30/2023 9:36 AM
5	Due to the industrial area portion bicycle should be discouraged	10/27/2023 8:57 AM
6	Yes to bike lanes even if it means lost parking - that is the green direction we need to force folks.	10/26/2023 3:35 PM
7	I think this is the way the City should be heading to increase biking which would decrease the need for parking, and hopefully lesson congestion on cousins and rosewall.	10/26/2023 2:52 PM
8	In a commercial area the businesses and delivery vehicles WILL block the bike lanes. Direct cyclists along willemar instead. IF a cyclist needs to travel through there they can use the roadway or walk on the sidewalk	10/26/2023 7:10 AM
9	Adding bike lanes cuts parking in half, parking is one of the most needed features and sacrificing any parking for bicycle lanes in this area is not needed or desirable. By the way, at the top of this page it refers to the pictures (incorrectly) as Option 1 instead of Option 2. "For questions 8, 9, and 10 below, please consider the following photos of Option 1:" I mean really, if the survey can't even be worded correctly....	10/25/2023 8:47 PM
10	Focus on traffic and parking - there are plenty of bike lanes. this is a commercial area!	10/25/2023 12:22 PM
11	The bike lane shouldn't be outside of the parked cars - this is an inherently dangerous option for cyclists that is easily avoided. Better to slow traffic and have a shared lane given the speed of traffice.	10/25/2023 11:42 AM
12	The bike lane is a great idea, but I can foresee vehicles interference and blocking the bike lane.	10/25/2023 11:03 AM
13	Cyclists should be encouraged to use a side street as this is a busier road.	10/25/2023 10:26 AM
14	Not enough parking.	10/24/2023 10:04 PM
15	As a bicyclist, the bike path sandwiched BETWEEN the parked cars and the lane of traffic is, to put a fine point in it, an absolute nightmare. I'm constantly having to manoeuvre between car doors opening and cars pulling out without randomly pulling out into the lane of vehicle traffic. I loathe riding on 17th Ave because of this and actively choose alternate routes. Please don't build the bike lane like this!	10/21/2023 4:59 PM
16	Bike lane options are not important here.	10/21/2023 9:31 AM
17	There is not enough bike traffic to justify the cost of 2 bike lanes. Sidewalks on both sides of the street and one inside lane bike path is more than adequate	10/21/2023 8:02 AM
18	Some bike lanes in the City are against the curb and then the parking lane and then driving lane. I find this very much confuses drivers. It makes more sense to have the parking lane	10/21/2023 6:46 AM

	against the curb, then bike lane, then driving lane. As a frequent cyclist (recreation and cimmutet) I have no issues riding between the parked cars and driving cars. Vehicle traffic will still be heavy from 20th street to Cousins residential for those driver's short cutting off Cumberland road to get to 26th.	
19	Bike lanes should be off the road & angle parking on one side.	10/20/2023 4:05 AM
20	Bike lanes and controlled traffic are great!	10/19/2023 4:32 PM
21	PUTTING BIKE LANES WHERE LARGE (50 FT PLUS VEHICLES) MUST BACK IN TO PROPERTIES IS DANGEROUS. BIKE LANES HAVE NO REASON TO BE IN INDUSTRIAL AREAS AND THERE ARE PLENTY OF OTHER OPTIONS FOR THESE LANES IN THE AREA (IE WILLEMAR & UP 20TH).	10/19/2023 3:15 PM
22	Bike lanes should always be separated from road traffic by a barrier. I dont like many of the shoulder bike lanes because they are unsafe and people veer into them constantly	10/19/2023 11:51 AM
23	The bike lanes lack physical separation from the vehicles, on one side the cycle lane will regularly be used in part or whole as parking, on the other side vehicles entering or leaving the parking will constantly be in conflict with cyclists in the cycle lane. Neither cycle lane is an adequate solution for an 8-80 cycle network. As with Option 1 the travel lanes are excessively wide and should be narrowed to reduce travel speed that will have to be mitigated in the future.	10/19/2023 10:45 AM
24	1/2 parking an issue.	10/19/2023 10:37 AM
25	Bike lanes are not needed. Bikers can take Willemar or the trail system	10/19/2023 9:54 AM
26	Bike lanes! I like them... ;-)	10/19/2023 9:36 AM
27	This seems like it would make the problem worse	10/19/2023 9:30 AM
28	Parking for residential on main route will not be enough....	10/19/2023 8:03 AM
29	Bikes lanes are not needed in this area it will make it worse. Parking into the street more will cause huge problems, especially in the industry area.	10/19/2023 7:40 AM
30	There should not be bike lanes in this area.	10/19/2023 7:07 AM
31	I am very supportive of bike lanes. As it stands now, I'd never consider biking down cousins in it's current condition. However, I don't think bike lanes is a priority for this section considering it doesn't like with any other bike lane. I'd rather see a proper bike lane go down willemar from cumberland rd to 26th. Parking is a priority for the business of cousins	10/18/2023 11:09 PM
32	Parking is already a problem. This would make it worse.	10/18/2023 10:57 PM
33	This is a nice option. But as a bicyclist, I'd rather have the bike and parking lanes swapped such that I'm not caught between parked cars and large trucks; I'd rather have the parked vehicles (and the lane itself) provide a buffer.	10/18/2023 8:55 PM
34	Don’t love the bike lane option. There’s no bike lane connections on either side of this project	10/18/2023 8:49 PM
35	A bike lane through the industrial area is completely unsafe	10/18/2023 8:15 PM
36	The following should not be options 1. Raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent is necessary for safety. 2. Access to the trail system near 22nd Street needs NO PARKING signs. 3. Bike lanes must be continuous along Cousins Ave (both commercial and residential lanes should be the same) and the bike lanes should extend down to Cliff Ave. There are more and more bikes accessing the trail system at great speeds. It is becoming unsafe for pedestrians. The bikes being used for commuting belong on bike lanes on the street. 4. Rosewall Crescent is a residential area first and a commercial area second. Road signage MUST limit truck traffic along Rosewall Crescent. 5. For safety reasons Bike lanes should be located inside area for parked vehicles. NOTE: I would have marked this closer to "adequate" if the crosswalks and bike lanes and truck movement were not put forward as "options." They should not be optional.	10/18/2023 7:39 PM
37	I live on Cousins and I am concerned this option does not offer enough street parking for the residential area	10/18/2023 7:34 PM
38	Parking is already a problem, so limiting it to one side only of the road is hard to imagine Doesn’t seem to be very safe as a biking route due to the large vehicles everywhere…driving and parked	10/18/2023 7:21 PM

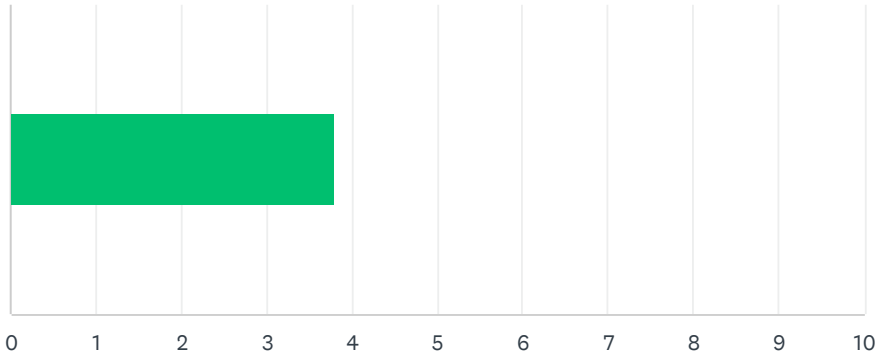
39	Bike lanes would be useful. Sidewalks in the residential areas are also a very good idea. This option reduces parking on the street which is already in limited supply.	10/18/2023 6:20 PM
40	Given that its not part of the bike lane plan, don't see the need for 2 ike lanes	10/18/2023 6:13 PM
41	This is a very very bad option. Removing half the parking to put a bike lane in makes absolutely no sense. Not to mention the greenway exists behind cousins avenue with access from cousins park, and is a great thoroughfare to access multiple areas of 26th ave. Do not do this idea. It is by far the worst.	10/18/2023 6:09 PM
42	Opening up the right of way for bike traffic would be a better alternative. This design drastically reduces the already very limited amount of parking.	10/18/2023 6:09 PM
43	I am a cyclist and I don't think it makes any sense to put bike lanes on this short piece of road as there are no bike lanes on 26th, Willemar, or 20th to connect to. It would not do anything to ease parking issues. I do support the crosswalk at 22st.	10/18/2023 5:48 PM
44	Please no bike lanes on this project. Put them on Willamar.	10/18/2023 4:45 PM
45	Bikes can’t be everywhere	10/18/2023 4:09 PM
46	The curvature of road and parked vehicles already reduce visibility both ways along Cousins Ave., and adding boulevard trees would reduce the visibility even more, especially for commercial vehicles. Cousins Ave. is frequented by many trucks up to 53’ long, and they need all the space they can get. Implementing two bike lanes and allowing parking only on one side of the road will make the parking situation even worse.	10/18/2023 3:17 PM
47	I own 2 buildings on Cousins and also run my business there. I am well versed with Cousins and the challenges that it is Overall, I have big concerns with this option. I own 2 buildings on Cousins and also run my business there. I am well versed with Cousins Cousins is a very busy area with many business that rely on good Bike lanes and pedestrian considerations are very important throughout various areas in the City. However, Cousins is one of the few areas dedicated for light industrial and the needs of this space, its businesses and employees need to be met. The flow of vehicle traffic and safe and efficient access to all businesses is key to the ongoing success of this area. This is a vital tax base area for the City of Courtenay and these business need a solution that will ensure viability into the future.	10/18/2023 2:49 PM
48	No good!	10/18/2023 12:22 PM
49	People don't generally bike in the area save for the trails. There isn't a bus route and its car heavy. Without a connecting bike path it's the same problem as the bike lane on 17th. It comes from and goes to NOWHERE. It's not remotely curb protected, it's a gentle slope up so cars can move up and down it freely. If that's the plan for this...absolutely not.	10/18/2023 11:24 AM
50	its taking away parking. WE CANNOT AFFORD TO LOSE MORE PARKING! just repave the road	10/18/2023 10:41 AM
51	bike lanes not protected and reduced parking	10/18/2023 8:55 AM
52	Paint is NOT a buffer! Parking protected bike lanes are dangerous unless there are solid buffers.	10/18/2023 8:42 AM
53	Bike lanes are not necessary in that area	10/18/2023 7:57 AM
54	Bikes lanes are a terrible idea in the industrial area of Cousins. The commercial traffic is very heavy and large vehicle are constantly parked in the area	10/18/2023 7:45 AM
55	I really like the bone lanes through this area, especially when exiting the trail network from Cousins Park	10/18/2023 7:45 AM
56	No bike lanes!!	10/18/2023 7:29 AM
57	Bike lanes not really a wise idea thru a industrial area with alot big trucks turning	10/18/2023 5:02 AM
58	I believe this option is great to enable sustainable travel	10/17/2023 10:22 PM
59	Bike lanes aren’t needed there, at all	10/17/2023 10:16 PM
60	Bike lanes should not be considered in this section of town. There are bike lanes along Cumberland Road, 17 Street and there is the Rotary Trail all as adequate options. This will	10/17/2023 8:57 PM

	negatively impact traffic congestion on 20 Street and Willemar Avenue, as vehicles will avoid Cousins Avenue.	
61	I'm not sure actually that a bike lane should be a priority if it isn't in the cycling plan	10/17/2023 8:47 PM
62	No more bike lanes!	10/17/2023 7:57 PM
63	No need for bike lanes. The new ones on 17th and 5th were a waste of money. This is not a metropolis.	10/17/2023 7:55 PM
64	A cycle lane here is just ridiculous. Reducing already limited parking. Especially in the commercial zone. Stop it with the bike lanes already	10/17/2023 7:10 PM
65	For us parking is not an issue, maybe for business , mostly just need it paved.	10/17/2023 5:38 PM
66	Let’s keep the bike lanes to the planned routes please!! Pedestrians, parking and commercial use should take priority here.	10/17/2023 5:13 PM
67	N/a	10/17/2023 4:30 PM
68	This does not address the main ACTUAL hazards. The businesses in the area need to be worked with, the speed of the zone needs to be reduced to at LEAST 40, the crosswalks need to be lit, possibly a speedbump even just between CV marine and the willemar/cousins crosswalk.	10/17/2023 4:20 PM
69	Too narrow for commercial needs, bike lanes not needed	10/17/2023 4:08 PM
70	Cousins is wide enough to accommodate people on bikes without needing bike lanes or sections of grass	10/17/2023 4:02 PM
71	The bikes should be outside the parking so that the cyclist can be seen. This is not a safe option for cyclists and vehicles alike.	10/17/2023 2:44 PM

OPTION 2

Q10 On a scale of 1-10, how supportive are you of this option, Option 2? (1 being not supportive at all, and 10 is fully supportive)

Answered: 109 Skipped: 26

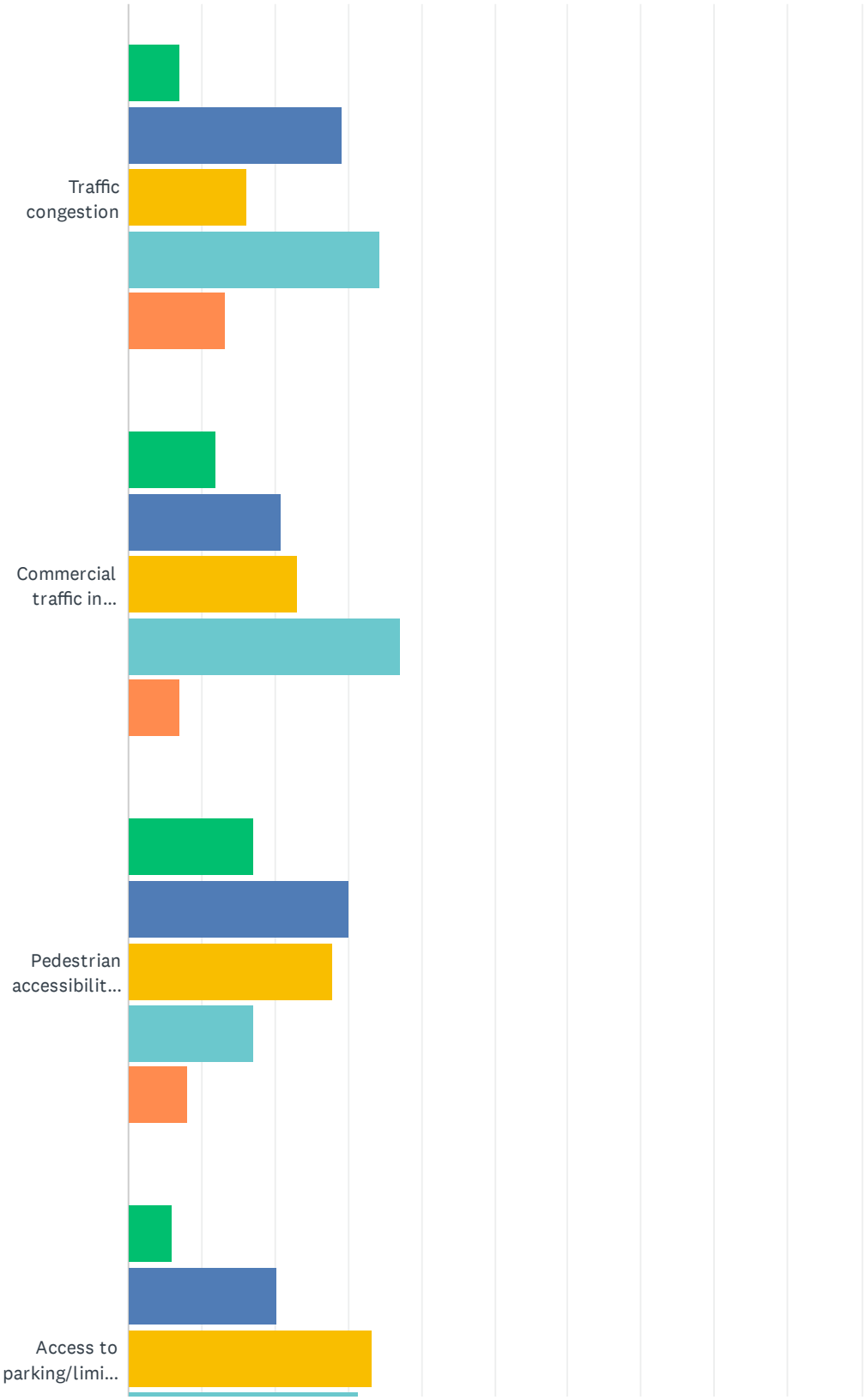


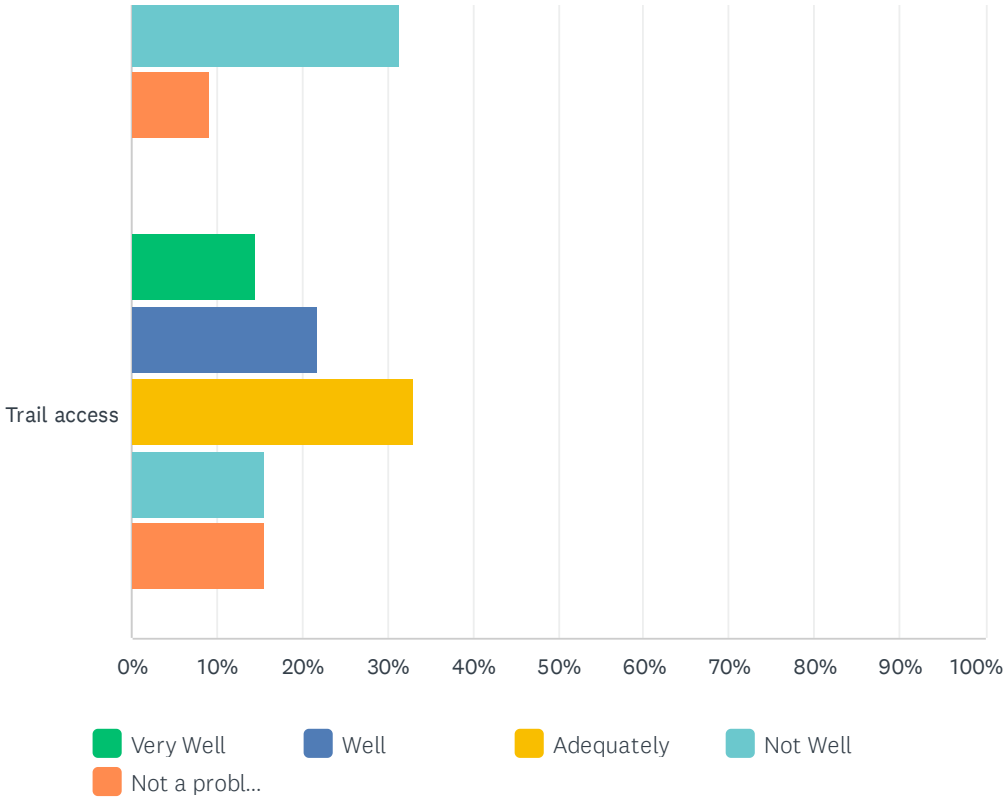
ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	4	414	109
Total Respondents: 109			

OPTION 3

Q11 How much do you think this option would address these concerns in the area?

Answered: 101 Skipped: 34



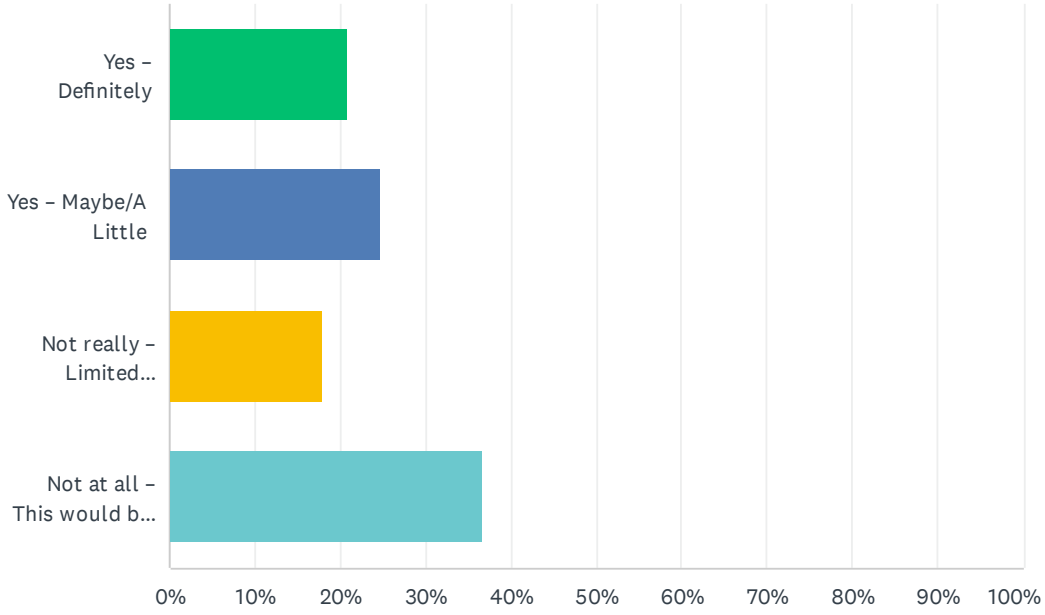


	VERY WELL	WELL	ADEQUATELY	NOT WELL	NOT A PROBLEM NOW	TOTAL	WEIGHTED AVERAGE
Traffic congestion	7.07% 7	29.29% 29	16.16% 16	34.34% 34	13.13% 13	99	3.17
Commercial traffic in residential area	12.00% 12	21.00% 21	23.00% 23	37.00% 37	7.00% 7	100	3.06
Pedestrian accessibility (ie: sidewalks/crossings)	17.00% 17	30.00% 30	28.00% 28	17.00% 17	8.00% 8	100	2.69
Access to parking/limited parking	6.06% 6	20.20% 20	33.33% 33	31.31% 31	9.09% 9	99	3.17
Trail access	14.43% 14	21.65% 21	32.99% 32	15.46% 15	15.46% 15	97	2.96

OPTION 3

Q12 Do you think one-way traffic in this area would improve traffic flows?

Answered: 101 Skipped: 34



ANSWER CHOICES	RESPONSES	
Yes – Definitely	20.79%	21
Yes – Maybe/A Little	24.75%	25
Not really – Limited improvement	17.82%	18
Not at all – This would be unhelpful	36.63%	37
TOTAL		101

OPTION 3

Q13 Do you have comments or concerns about this option?

Answered: 66 Skipped: 69

#	RESPONSES	DATE
1	IF Rosewall was one-way, the direction of travel on rosewall should be the other way. The most traffic goes to the coffee shop, and dance studios in the cul-de-sac. It makes more sense to allow the most amount of traffic to get to their destination first, to lower congestion on Rosewall. It is also more common to have traffic merging from one's right, so it is safer to drive through Rosewall expecting traffic from the cul-de-sac on the right hand side. Ultimately I think Rosewall should be two-way traffic. Lots of visitors have a hard time finding addresses, so if you miss your destination, you would have to go all the way around Willemar to come back, creating more traffic in the neighbourhood in general and likely affecting business on Rosewall.	11/1/2023 12:41 PM
2	yes the one way traffic should be in the other direction and the same one way direction into Rosewall Cres. check the first response box out for my reasons.	10/31/2023 8:58 PM
3	I think frankly we're not ready for it culturally as a community. I suspect It's going to be weird and cause users to drive around the full block more in order to get to where they want to know. The last thing I would want is industrial users driving around more than they already are. I rather see efforts made to slow the commercial traffic so that all the uses can mix together (like granville island). I do though support the one way on Rosewall which is a very cramped area (e.g. Cousins isn't as cramped). I could maybe imagine the option having some value if we could get all the other goodies like cycling and boulevards too, but two lanes of one way traffic seems like not quite the right fit for us. I also think the multi use trail part is weird and will result in odd connectivity for a user. I bike and to imagine transitioning on to that for such a small section will I suspect create confusion. E.g. what would the intersection at cousins and 20th be like to transition properly? Those intersections are really critical for safe cycling	10/31/2023 7:57 AM
4	Better option but put only one sidewalk in with proper full face curbs.	10/27/2023 9:01 AM
5	I like the balance of parking and multi-use path	10/26/2023 3:40 PM
6	The one way would confuse people and I think it would add traffic into rosewall which would be a problem.	10/26/2023 2:54 PM
7	I think this idea will get pushback. However it gives the best flow for a commercial area. I think trucks should be allowed to exit either side of cousins rather than having to loop tin town to head back down 26th	10/26/2023 7:15 AM
8	The multiuse path makes sense but put it all the way thru on one side of the road, there is plenty of room to do it. Forcing large trucks to go one way in that area will be a disaster, too many vehicles parked on the road in TinTown. The best plan would be A with the addition of a multi-use path on one side, no bike lane needed.	10/25/2023 8:56 PM
9	This is a commercial area focus on traffic and parking - not bike lanes!	10/25/2023 12:22 PM
10	NA	10/25/2023 11:43 AM
11	No, I think this is the best option	10/25/2023 11:04 AM
12	One way streets would cause an increase of traffic in other residential areas as a bypass.	10/25/2023 10:28 AM
13	If one way on Rosewall Crescent, ample parking still needs to be made available for business users in that neighborhood. Speed bumps would also be needed on Rosewall Crescent to slow traffic down as it is a residential area that has small kids living/frequenting the area.	10/24/2023 10:09 PM
14	one ways would only direct truck traffic through Rosewall Crescent. This is more than a commercial area. Families live here. Pedestrians and dogs and bicycles and children. Turn Cousins and Rosewall Crescent into a one-way then Rosewall will be busier with commercial/industrial traffic. As a resident of Rosewall Crescent, no thanks.	10/23/2023 5:23 PM
15	every business should have parking for their staff and clientele	10/23/2023 8:10 AM

16	I can get on board with this option, however it still think you should stop with the boulevards. No boulevards!! Don't turn this into the 5th street disaster. PLEASE	10/22/2023 11:31 AM
17	One way traffic on Rosewall could make sense. My hope is that it might then open up a little more parking on the street…? Parking in Tin Town is not good for business owners! But one way traffic on Cousins is not necessary in my opinion. And neither is a bike lane on Cousins. I ride my bike on Cousins all the time and have never felt crowded or in danger in any way. Often I'm able to ride in the middle of the street - due to the potholes and uneven pavement.	10/21/2023 5:05 PM
18	I like this option best of the three, but would prefer a fourth option where the road is resurfaced, and the storm drains are replaced. All the other stuff listed in options 1,2,and 3 in my mind are not really necessary.	10/21/2023 9:37 AM
19	I think this is a great option and I think I understand the reason for the Rosewall entrance shown being the latter on the drive, however, due to the culdesac entrance at the halfway interior of Tintown (requiring a crossover in the traffic direction) and whereby the majority of retail services are at the first entrance the one way should be counter clockwise. If traffic is adequately slowed with good signage it should work with only those going too fast or not paying attention being punished by having to circle the block. Lol! Also, if making the commercial section one way is not an option (due to an increase to traffic through the residential area in question which I guarantee is not going to go over well) going with plan 1 or 2 and converting Tintown to the counter clockwise one way may be the best solution.	10/21/2023 9:26 AM
20	adding a raised crosswalk to the entrance of cousins would also greatly improve pedestrian safety in the neighbour hood	10/21/2023 9:18 AM
21	There are small businesses that this would affect. Having one way on cousins would only increase traffic to Willemar and having only a small portion of cousins 2 way makes no sense	10/21/2023 8:05 AM
22	My favorite option as truck traffic will be limited in Cousins residential; multi use trail accommodates for the bike, pedestrian use, if the "speed table" is like a speed bump, I am very much in favor, I am hoping that the traffic calming measures on Cousins residential will deter drivers from shortcutting off 20th from Cumberland Road (ie heading to Canadian Tire, for example) and not cause traffic lineups to turn onto Cousins Lastly, could a speed table (if that is a speed bump) be installed at the north end of Cousins to deter drivers coming around the corner from 20th and aggressively accelerating.	10/21/2023 7:05 AM
23	Rosewall crst should be opposite way - it's on the right so traffic should travel parallel to the traffic on cousins.	10/20/2023 4:11 AM
24	No	10/19/2023 8:53 PM
25	I like this. I think it's important for cities to reduce the value they put on catering to vehicles and come up with more creative ideas like this. We need to make some areas less car-centric.	10/19/2023 4:36 PM
26	YOU EXPECT EXTRA LARGE TRUCKS TO DRIVE THROUGH ROSEWALL? IF PARKING WAS ELIMINATED FROM THESE STREETS TO ENSURE TRAFFIC CAN GET THROUGH. WHERE WOULD PEOPLE PARK???? IMPROVING PARKING IS NOT TAKING EXISTING AVAILABILITY AWAY	10/19/2023 3:19 PM
27	I think many people would be upset about one way traffic but i do think it would help controll traffic flow and keep speeds down for those who live and walk around the area	10/19/2023 11:54 AM
28	The travel lanes are wider than required and will lead to higher than desired travel speeds, the lane widths should designed for a maximum travel speed of 30 km/h.	10/19/2023 10:48 AM
29	This would cause businesses and patrons alot more driving to go around	10/19/2023 9:56 AM
30	I worry that this will ruin the "tin town" neighbourhood by making it a key traffic flow. Completely transforms that quiet area, and I think this should be taken with extreme caution.	10/19/2023 9:38 AM
31	Seems like the best option…	10/19/2023 9:32 AM
32	a main problem is Tin Town access, both residential and commercial, creating the need for both solutions.	10/19/2023 8:06 AM
33	Seriously city of Courtenay this area needs to have the roads seriously looked at for paving and repair and the sidewalks need some TLC and be extended on the one side that does not	10/19/2023 7:48 AM

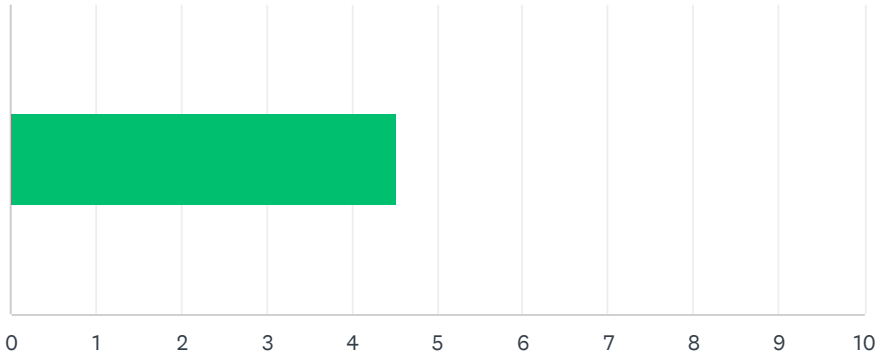
	have a sidewalk. A over the road path for people to cross is ok . But bike lanes would be the worst thing for this area. Fixing water lines that trees have hurt, take those trees down.	
34	No thanks, I just find one ways very inconvenient and unnecessary in this case. If you miss your stop, say looking for a parking stop or a new business, the turn around is huge. Going all the way to willemar, back to 26th, and back up to cousins. Would be so frustrating.	10/18/2023 11:13 PM
35	One way traffic is confusing and would probably significantly increase traffic flow through residential areas. Because I use Cousins to go to and from e.g. the Driftwood Mall/Walmart/etc., I like the simplicity of two way traffic rather than having to figure out a route around the one way section.	10/18/2023 9:03 PM
36	I like the pathway on one side and the sidewalk on the other. The pathway allows for all kinds of different modes including bikes or walkers. It also doesn't seem to impact parking. Unsure about the one way traffic. Not sure how it helps…..or hurts	10/18/2023 8:52 PM
37	My concern would be the need for a 4 way stop at 20th street. If traffic won't be slowing to turn onto cousins from 20th they will be flying down 20th to Willemar Ave past Martin park. This will also make the intersection at cousins even more dangerous than it already is!	10/18/2023 8:27 PM
38	One way traffic in this area would result in increased traffic on Rosewall Crescent. This would put more pedestrians and residents in danger. Rosewall Crescent is already dangerous with parking reducing traffic to less than one lane. Adding more truck traffic and more vehicles speeding through Rosewall would be AWFUL and DANGEROUS.	10/18/2023 7:43 PM
39	I really like this option as a way to reduce traffic in the residential area	10/18/2023 7:36 PM
40	Rosewall crescent is not at all suitable for the extra traffic that would be added	10/18/2023 7:27 PM
41	This option allows for better street parking. Sidewalks on both sides of road is a good. One way for Rosewall Cres is a good idea to improve traffic movement and allow parking options.	10/18/2023 6:24 PM
42	YES. A ONE WAY STREET IS A GREAT IDEA FOR COUSINS AVENUE, AND THIS IS THE WORST WAY YOU COULD PUT THIS PLAN TO ACTION. Stop priortizing the residential area like it needs to be wrapped in bubble wrap. This plan makes no sense. Rosewall has no way to accommodate commercial traffic. You need to send the commercial trucks straight instead of expecting the 40 foot trailers to turn around in that very very tight area. Also, what if a commercial vehicle drops off at 2267 Cousins or 2251 Cousins? They can't legally go back the one way street, so they will HAVE to go down the residential area anyway, there wouldn't be any way for them to go back.	10/18/2023 6:21 PM
43	You cannot turn a commercial vehicle around rosewall safely. I won't even drive my car though rosewall it is so tight currently. Why try and retrofit rosewall when it would be better for traffic flow to just continue down cousins? Commercial traffic turning left from rosewall back onto cousins to exit seems more dangerous. That corner is one of the worst in the area	10/18/2023 6:14 PM
44	I like the crosswalk on 22st and this should be an option no matter what else is done. The one-way traffic would take getting used to and it might also slow people down.	10/18/2023 5:50 PM
45	This is an excellent option, and should be considered the top option. I'm not a big fan of the trees in the industrial area, the greenery but you can put greenery on the residential area.	10/18/2023 4:47 PM
46	Leave as is	10/18/2023 4:10 PM
47	Forcing traffic to go only one-way, as suggested, would eliminate all the parking along the one-way path in the Rosewall Cres., as it is a narrow side street, thus again reducing the number of parking spaces for the Tin Town businesses. As it stands, people are parking in the turn-around area at the back of the Rosewall Cres.	10/18/2023 3:32 PM
48	it is a good idea. im ok if its one-way or 2 way road in rosewall crescent. it will take times fro people to get use to it but it will definitely help with traffic	10/18/2023 10:51 AM
49	I think this would increase traffic within Tin Town a residential community with school, dance studio and children.	10/18/2023 8:58 AM
50	Get rid of boulevards, your track record of calidascope design is natorious. Keep it simple and useful. Stop wasting money	10/18/2023 8:01 AM
51	I'm not sure how the one way industrial traffic will travel through the area without entering a residential area at some point	10/18/2023 7:49 AM

52	Would just make it frustrating when coming from the other direction. Both directions are utilized frequently and having one way streets would force vehicles into Tin Town which is already very congested due to severe lack of parking	10/18/2023 7:47 AM
53	.	10/18/2023 7:31 AM
54	One way traffic has proven to create spaces where cars go faster, therefore more dangerous to pedestrians.	10/17/2023 10:25 PM
55	Rose wall one way traffic would help. But not on cousins	10/17/2023 10:18 PM
56	The multi use trail on one side of the road seems like a good idea for accessibility, but one way traffic for the commercial area seems like a terrible idea and will again add to the traffic in the residential areas of 20th and Willemar Avenue (20-26 Street).	10/17/2023 9:03 PM
57	That is a terrible idea, not considering residents of the area.	10/17/2023 8:58 PM
58	We have a medical clinic on Rosewall, and I feel that one way traffic in this area could be extremely beneficial for driving as well as pedestrian safety. I'm very interested in this option	10/17/2023 8:50 PM
59	One way only for rosewall, yes. A multi use lane is a no.	10/17/2023 7:58 PM
60	Very poor idea. Cousins is a main bypass for a portion of Willemar. I can't begin to imagine why on earth a single direction traffic flow would bring about any benefit to the community. Willemar is congested enough already—why drive more people on to it. Terrible idea.	10/17/2023 7:56 PM
61	It's currently an absolute mess.	10/17/2023 6:57 PM
62	The multiuse trail may accommodate pedestrians and bikes well - it would be GREAT if there was more clarification on ebike speed (and hoverboard speed etc etc). Non-motorized is confusing these days and not everyone has common sense to slow down and share the trail. Especially commuters hell bent to get where they need to go.	10/17/2023 5:19 PM
63	i fear multiuse path will be seen as and function as a sidewalk resulting in no facility for cycling	10/17/2023 4:31 PM
64	Rosewall should be a one way, I fully support this. The corsswalk at Willemar/Cousins needs to be addressed, and the speed should be reduced altogether in the area. Sidewalk on one side and a no trees/grass buffer just sidewalk and bikelane. This is an industrial area so adding trees offers no benefit, only serves to reduce the capacity to widen the road and parking available.	10/17/2023 4:23 PM
65	Not needed and a huge overreaction	10/17/2023 4:09 PM
66	Of the 3 options this is the best, however it eill take some getting used to for a lot of impatient drivers!	10/17/2023 2:46 PM

OPTION 3

Q14 On a scale of 1-10, how supportive are you of this option, Option 3? (1 being not supportive at all, and 10 is fully supportive)

Answered: 98 Skipped: 37

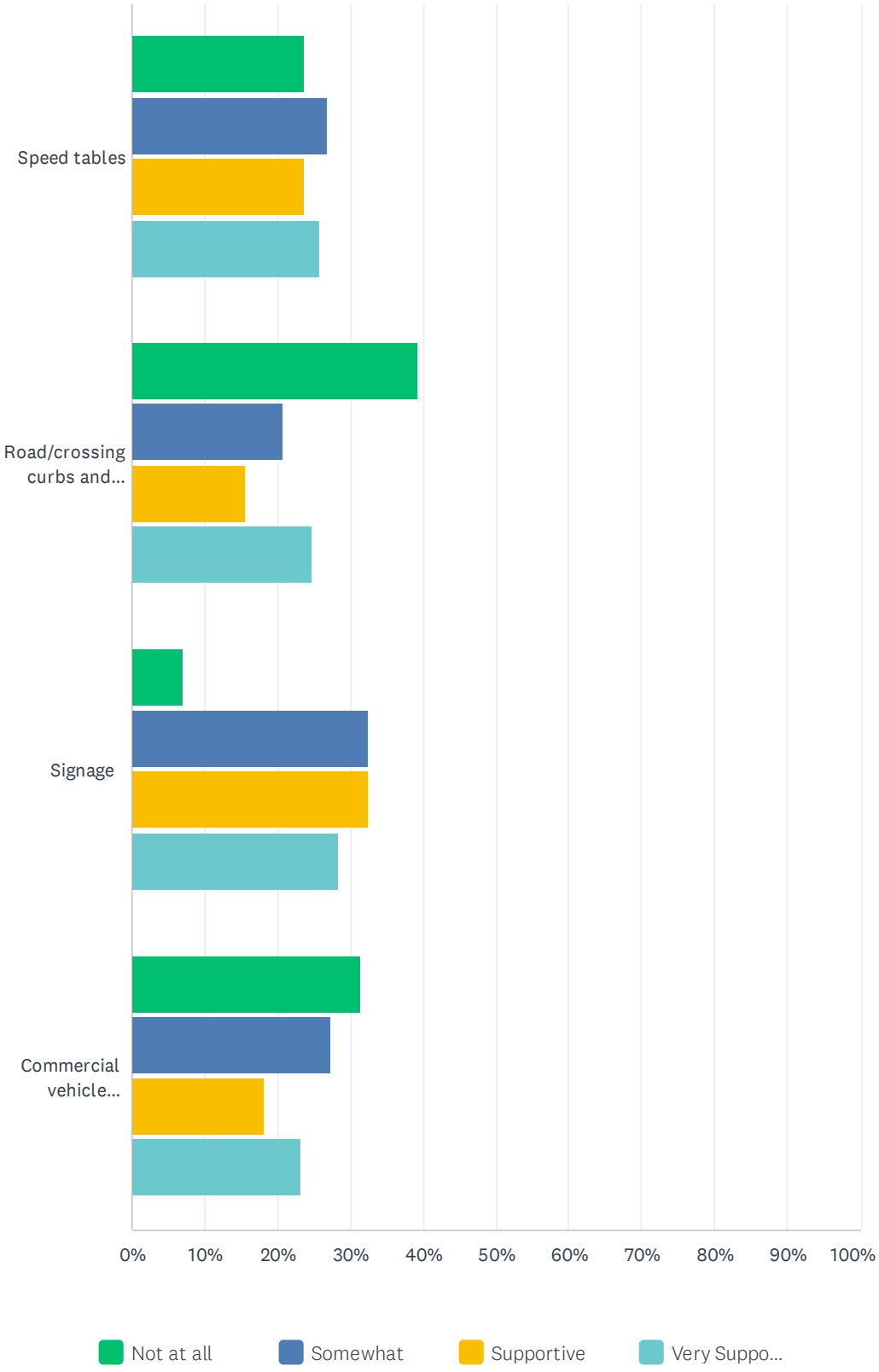


ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	5	444	98
Total Respondents: 98			

Q15 The City is considering throughout all options ways to reduce/limit commercial traffic in the residential area of Cousins Ave. How supportive are you of these potential features/tools?

Answered: 99 Skipped: 36

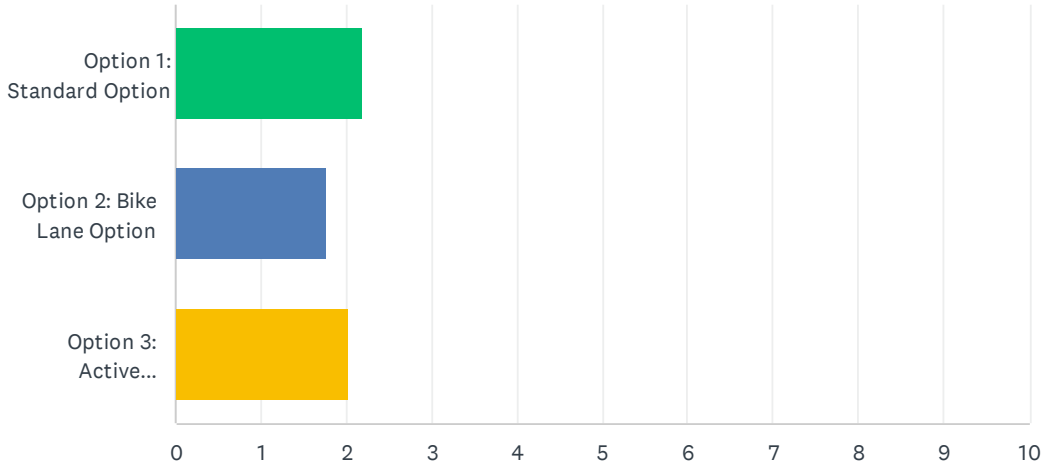
Cousins Avenue Upgrades Project



	NOT AT ALL	SOMEWHAT	SUPPORTIVE	VERY SUPPORTIVE	TOTAL	WEIGHTED AVERAGE
Speed tables	23.71% 23	26.80% 26	23.71% 23	25.77% 25	97	2.52
Road/crossing curbs and narrowing	39.18% 38	20.62% 20	15.46% 15	24.74% 24	97	2.26
Signage	7.07% 7	32.32% 32	32.32% 32	28.28% 28	99	2.82
Commercial vehicle restrictions	31.31% 31	27.27% 27	18.18% 18	23.23% 23	99	2.33

Q16 Understanding that there are many factors to consider and that these options are conceptual and can be further refined, please rank the three options in order of preference (1=first choice, 3=last choice)

Answered: 92 Skipped: 43



	1	2	3	TOTAL	SCORE
Option 1: Standard Option	41.30% 38	36.96% 34	21.74% 20	92	2.20
Option 2: Bike Lane Option	21.74% 20	33.70% 31	44.57% 41	92	1.77
Option 3: Active Transportation and One-Way Traffic Option	36.96% 34	29.35% 27	33.70% 31	92	2.03

Q17 Are there any other details about the area, or factors about how the area is used, that we should be considering?

Answered: 64 Skipped: 71

#	RESPONSES	DATE
1	option 3 - One-way on cousins only works if Rosewall is two-way. If Rosewall remains two-way, then Option 3 becomes my most favourable option. The visibility turning onto 20th from cousins is also terrible, so that would need to be addressed if all traffic was moving in that direction. The auto shops need to be restricted regarding how many vehicles they are parking on the street vs area they have on their lots. Their staff all park in the residential zones, when there is very clearly enough space for their vehicles on their lots. Speed is a huge issue along cousins but it is worst near willemar and up to the train tracks. Willemar itself also DESPERATELY needs speed tables.	11/1/2023 12:50 PM
2	how would you define commercial traffic? Taxi, Fedex, Loomis or other couriers, semi trucks, 5 ton trucks. I would prefer to try and work with most that's why I proposed what I did in the first comments box. It would accommodate most traffic and be more efficient.	10/31/2023 9:07 PM
3	Thank you for your attention to this matter. Please think of the future uses that are supported in this area (a neighbourhood centre).	10/31/2023 7:59 AM
4	Encouraging Bicycles in a industrial/Comercial zone area is a recipe for death	10/27/2023 9:05 AM
5	Visibility of bike/sidewalk paths around commercial/industrial parts of cousins!	10/26/2023 3:42 PM
6	Please focus on traffic and commercial access while maximizing parking spots	10/26/2023 7:16 AM
7	This is a commercial area. Focus on traffic flow and parking - not bike lanes.	10/25/2023 12:23 PM
8	Nope	10/25/2023 12:19 PM
9	Access for industrial / commercial traffic needs to be a top priority. Parking is really important in this area. Slowing traffic and providing cross walks is probably more feasible for protecting cyclists and pedestrians in this case.	10/25/2023 11:45 AM
10	This area has the potential to become a new cultural hub for Courtenay. Is there a plan to build a pedestrian/cycling connector to the inner area of the city? Example would be transforming 26th St as a connector from the Tin Town area all the way to the river front area.	10/25/2023 11:10 AM
11	I DO NOT agree with more Bike Lanes in this area. With all the vehicles and it already going to hard to see around vehicles having bike lane will make it more stress full. Stop with the bike lanes.	10/25/2023 10:50 AM
12	Why do anything here at all? There are so many other parts of courtenay the money should be spent on that are far busier and more important	10/25/2023 10:42 AM
13	Purchase a existing lot - turn it into parking. Try to encourage workers / customer to park in the parking lot reducing the street congestion.	10/25/2023 10:29 AM
14	Many kids live in the area and walk along Cousins during peak travel times of the day to commute to school (catch school buses, walk, etc.). Better crossings along Cousins are needed (more well-lit, better signage, crosswalk signals, etc.)	10/24/2023 10:12 PM
15	should be no parking on street	10/23/2023 8:12 AM
16	Think about when people are parked on the road and getting children out of the passenger side, are they going to open a door into a bike lane or sidewalk? When I had small children I wouldn't want to stand in a bike lane to get my kids out of the car. Also, when we have the monster garbage cans, are they going to have to go out in the road for pick up instead of at the end of our driveways? In stormy weather it will be easier for them to blow around in the narrowed roadway. I don't like insisting on boulevards, in order to put them in, you take up the green space people have in front of their property making sidewalks closer to their houses and	10/22/2023 11:44 AM

	creating less privacy, not too once again mention these boulevards take up parking and roadway space.	
17	Anything that can improve the extremely limited parking situation would be appreciated. Thanks!	10/21/2023 5:08 PM
18	I think the most important parts of the Cousins Ave project are road resurfacing and replacement of the storm drain and sewer service. I think speed humps and a 4 way intersection at the 20th/cousins intersection would be reasonably low cost modifications. Establishing a second sidewalk, bike lanes, and bump curbs are not necessary.	10/21/2023 9:47 AM
19	Please don't narrow our roads or intersections. This has proven to be troublesome for emergency vehicles and commercial vehicles on 17th. I am well aware that our roads need to be safe for pedestrians and bicyclists but it also needs to be effective for all vehicles. I know that city is trying to be more pedestrian friendly but people come in to Courtenay from all over the island for a variety of reasons. This area is for both commercial, a variety of dance, restaurants and residential. Making this one way street and narrowing the streets will make Cousins less safe. I walk with my grand kids and drive them to appointments there. Don't mess with the flow of traffic. Not everyone lives within walking and biking distance	10/21/2023 8:13 AM
20	1. No crosswalk from 20th to Cousins 2. Short cutting from Cumberland Road to 20th to access Cousins and then 26th (causes high traffic volumes)	10/21/2023 7:10 AM
21	Angle parking	10/20/2023 4:13 AM
22	Consider just repaving it and leave it alone	10/19/2023 9:01 PM
23	Consider the intersection at the start too - willemar / 26th(cousins). Many pedestrians and cyclists access trail network at the end of willrmar as well as off of tater place	10/19/2023 8:56 PM
24	THE CITY NEEDS TO ENFORCE THEIR OWN RESTRICTIONS (IE INSURANING PROPERTY OWNERS USE THEIR OWN PROPERTY FOR PARKING, THAT PROPER BUSINESS LICENCES ARE ISSUED (HOW CAN A BUSINESS HAVE A WHOLESALE BUSINESS LICENCE YET RUN A RETAIL BUSINESS OUT OF THE UNIT 6 DAYS A WEEK?) THE CITY NEEDS TO ACTUALLY BE ACCOUNTABLE FOR MANY OF THE ISSUES THAT ARE CURRENTLY CAUSING THE TRAFFIC CHAOS	10/19/2023 3:23 PM
25	The options presented are very car centric with only secondary thought to active travel modes. Recognizing that this is a commercial area and commercial traffic can't be completely excluded but also noting that the commercial section is quite short (~500m). The commercial traffic should be deprioritized and slowed through roadway width reductions, including travel lane widths of ~2.5m, removal of parking on 1 side of the street, and introduction of chicanes through moving parking lanes between sides of the roadway. Additionally it does not appear that future transit service in this area was considered within the options presented. Overall the plans presented do not appear to be aligned with the City of Courtenay strategies related to active transportation or at best provide lip service by providing second class options for active transportation.	10/19/2023 10:54 AM
26	You must consider impact out of both ends. To fix this areas issues by creating issues to the inflow outflow would be short sited planning. 4 way stop needed at Wilimar. Speed sign along 26th as well. Txs!	10/19/2023 10:44 AM
27	This is one of the few industrial areas in Courtenay and is vital that businesses that operate in this area can do so with ease. Residents of tin town choose to live in an industrial area	10/19/2023 9:58 AM
28	So glad you are doing this, and thanks for reading my input!	10/19/2023 9:39 AM
29	Make imperial welding have parking for staff and clients - also loading and unload on street very often. This would clear up the bulk of the congestion issue.	10/19/2023 9:34 AM
30	You have a hard area to deal with.	10/19/2023 8:08 AM
31	Safety in this neighborhood is important, like paving roads, extending sidewalks and taking down the trees that destroy roads and are safety issue in general.	10/19/2023 7:52 AM
32	I know that people's landscaping isn't on the table here, but I would like to call into question how large these features are so close to the road. If they are in compliance with the bylaw, the bylaw needs to change. Huge cedar shrubs right next to sidewalks are a massive danger to	10/18/2023 11:17 PM

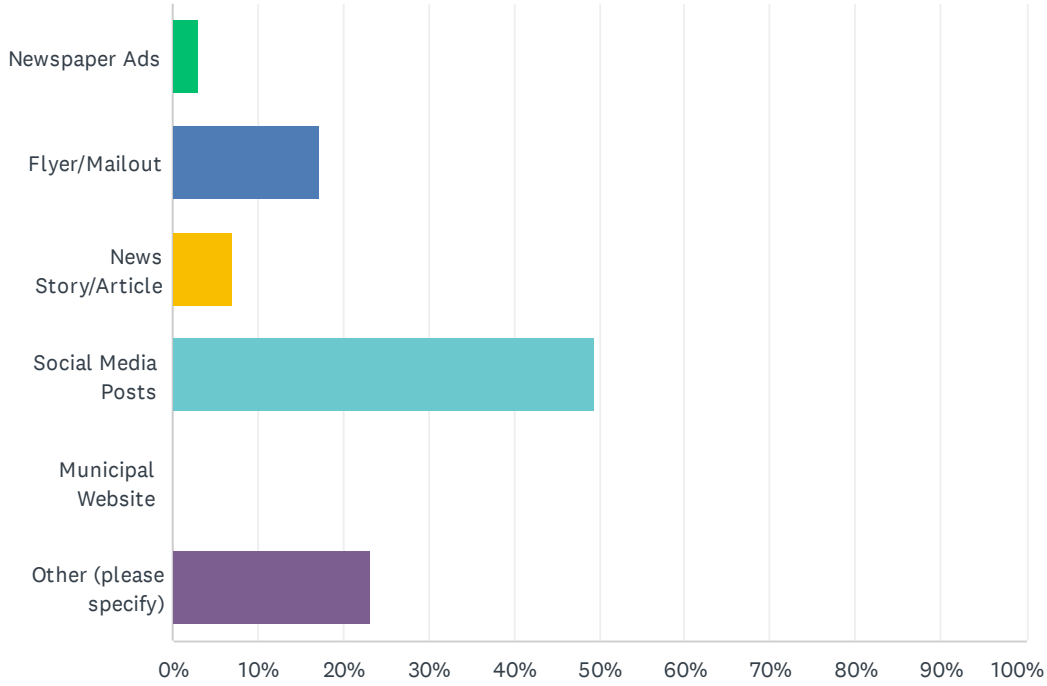
	pedestrians and drivers. Cousins and 20th is a dangerous intersection because of the hedge there. Several close calls have happened there, they need to be reviewed as part of the plan.	
33	Ultimately it's a business area. In an ideal world there would be a way for residential or pass-thru traffic to use one street and commercial traffic to use another. The street is functionally very good as is (although its not aesthetically pleasing). The core improvements required are sidewalks fully along both sides of Cousins and enabling Imperial Welding to get customers & deliveries off the street as much as possible.	10/18/2023 9:17 PM
34	Making this area more walkable and enjoyable is important but not at the expense of businesses. Whatever improvements are made shouldn't restrict access to businesses or make their lives more difficult. These improvements should enhance the entire neighborhood	10/18/2023 8:54 PM
35	I have been a business owner in Rosewall Crescent for 21 years and resident on Rosewall Crescent for five years. This area has become more residential than the City of Courtenay seems to be aware. Moving more traffic through Rosewall Crescent and 'lumping' it together with Cousins Ave traffic totally negates the community that is Rosewall Crescent. As the city of Courtenay seeks to densify neighbourhoods, it could look to Rosewall Crescent as a positive model for future development. Here people live in close quarters as good neighbours. City Staff need to spend more time here in the evenings and on the weekends when neighbours visit neighbours and engage in local community events. Do NOT ruin the community of Rosewall Crescent by treating as yet one more a commercial area. It is a residential area with businesses that mostly represent medical fields - doctors, chiropractors, RMT's, counsellors, and offices. Rosewall is NOT like Cousins Ave businesses. Please do not ruin us.	10/18/2023 7:50 PM
36	The intersection at 20th street is dangerous for pedestrians	10/18/2023 7:37 PM
37	Are there any actual crosswalks?	10/18/2023 7:28 PM
38	None of these are good ideas. The one way street is the only one that has potential to solve the actual problem at hand, but it fails to do so in every meaningful metric. You are acting like the residential area at the end of Cousins needs to be protected from any kind of harm from commercial traffic, when in fact it is the only conceivable way for commercial vehicles to transit Cousins. In its current state, Cousins Ave residential side is incredibly dangerous to allow pedestrians and commercial traffic to transit at the same time. However, if your plan is to build the infrastructure from the ground up then you need to build commercial access INTO the residential area. Not try to build around it. Create safe sidewalks with a buffer zone of the boulevard and parking, and then use that to make it safe for pedestrians and traffic to move through the area ar the same time. Turn Rosewall crescent into a one way street so people can only transit it in one direction and there isn't a concern about cars going both directions having to duck into safe zones to allow another to pass. Turn all of Cousins into a one-way street that allows vehicles to transit from 26th to 20th. Then if commercial vehicles need to get back on 26th they can turn right on 20th, right on Willmar, and then left on 26th. Willemar is a MUCH safer option for commercial traffic. Than Rosewall will ever be. Also, why do you have it set up for boulevards AND cars parked parallel to the street? Why not make it so when you reach the residential area, you can do scalloped parking, where the grass is cut out in specific areas to allow a car to park in a protected zone away from traffic. Then you have the same thing where the residential driveways have access so the residents have more protection from the traffic going by? Look at Garrison Crossing in Chilliwack for great examples of this exact parking setup.	10/18/2023 6:38 PM
39	This area is mostly commercial/industrial/multiuse. All the plans are focused on the residential area of cousins and keeping trucks off that end of the street. I don't understand why trucks aren't allowed to continue down the street. Trying to force a forty foot flat bed truck down the tight st of rosewall is scary. Then they are forced to make a left turn across traffic to get back onto cousins. This disrupts traffic more and increases the likelihood of a traffic accident versus continuing down cousins. If a boulevard and sidewalk are planned for the residetial part anyways shouldnt that provide enough safety so the trucks can continue and us residents are protected. You are tearing up the road anyways why not increase the infrastructure to allow the road to support the trucks. None of these options help the parking problem either. Angled parking with a decrease in the speed limit for the commercial area would help increase the amount of parking available to the businesses.	10/18/2023 6:31 PM
40	Snow clearing should be a priority in the winter on the road and on the sidewalks.	10/18/2023 6:26 PM
41	This area is becoming popular with trail users in the area and the Tin Town Cafe so my	10/18/2023 5:52 PM

	preference is to support those people walking through the area.	
42	In the future would be nice to have a roundabout at Wiillemar and 26. Just so the traffic flows 500% better without accidents.	10/18/2023 4:49 PM
43	The industrial and residential areas already have a large quantity of mature trees, so adding boulevard trees is not necessary. Courtenay Ave. has power lines on one side, and tall boulevard trees will eventually pose a problem.	10/18/2023 3:40 PM
44	We need room to load and unload tractor trailers as we do now ,bike lanes and one way traffic cause us major issues	10/18/2023 12:27 PM
45	Roads need better drainage for storm water.	10/18/2023 11:49 AM
46	How reducing traffic in the area will affect businesses when there isn't any public transportation in the area. Tin town and cousins is already heavily used for parking. Deliveries are nominal ...the trucks idol and get to their respective.locations and deliver in an average of 5 min in and out. The accessibility...with cars parking *ON* the sidewalks is absolutely abysmal especially in tin Town. The overgrowth from shrubs onto the sidewalks is terrible. I walk to work and it's a gauntlet. People ignoring stop signs, blowing through them, not checking for pedestrians. People ignore the signs, obviously. And the rules. What's to say anyone bothers w the new plan/rules? There's zero enforcement and everyone knows it.	10/18/2023 11:35 AM
47	i prefer the speed on cousins should be 40 and rosewall crescent to be 30	10/18/2023 10:58 AM
48	As a frequent user of this area, the commercial traffic although present are not the ones driving quickly or causing concern. Standard road drivers, with limited cross walks, pot holes and lack of sidewalks is the issue from my opinion.	10/18/2023 9:00 AM
49	Growth and density increases over time as well as climate change and greener solutions	10/18/2023 8:29 AM
50	Be considerate of your tax paying commercial businesses that don’t need beautifying but practical useful flow of traffic	10/18/2023 8:05 AM
51	Lots of pedestrians, including children, use the trails. I think priorities should be properly placed cross walks with flashing lights and bike lanes.	10/18/2023 7:49 AM
52	More parking for businesses and maybe adding a sidewalk between cousins and 21st street as there’s a park on choquette street and we use cousins to cross because we take the trails and it’s dangerous especially for little kids	10/18/2023 6:46 AM
53	Let's not forget that we are in an environmental crisis and that strong sustainable travel should be supported rather than motorized vehicles (gas, electric...)	10/17/2023 10:28 PM
54	Do not better two residential blocks at the sacrifice of six residential blocks on Willemar Avenue and 20 Street.	10/17/2023 9:06 PM
55	Speed and traffic is not an issue at all. The extremely poor state of the roadway is shameful tho.	10/17/2023 8:59 PM
56	We need significant improvement to parking support in the area, including 2 hour parking restrictions on Rosewall Cresent, some reserved street parking for businesses and residents, and some unrestricted areas on Cousins Ave	10/17/2023 8:51 PM
57	Put the one way option on rosewall into option 1 and it is the best case scenario.	10/17/2023 8:00 PM
58	Residents of cousins knew what they signed up for when they purchased or rented there. Do not attempt to traffic calm a main bypass. Poor decision.	10/17/2023 7:58 PM
59	Lots of kids and idiot parents go to the dance studio in tin town. Some traffic calming would be great	10/17/2023 7:14 PM
60	Kids. Kids. Kids.	10/17/2023 6:58 PM
61	Stop putting bike lanes on every road in our city. This is one of the most commercial areas in town and the last thing it needs is a bike lane	10/17/2023 6:50 PM
62	Mostly works for us now except for road conditions	10/17/2023 5:43 PM
63	Reduce speed altogether in the area. Consider the need for warning signage for the 2 businesses on the road with regular large vehicle use (CV Marine and the Imperial Welding)	10/17/2023 4:29 PM

	who regularly use the road area in the bend of the road which further obstructs the road and causes a hazard. Lifted and lit up crosswalks are necessary. NO grass/tree pieces added, these only serve a visual appeal in a highly residential area, but cause further narrowing of the road in such an industrial area. The sidewalks are fine widthwise, just need refurbishing as they are cracked and dangerous functionally. Updated signage to ensure parking on the street is safe and not obstructive. Speed bumps or other deterrents for people who speed to the point of squealing tires exiting the area.	
64	Make sure that existing driveways are accessible and have clear sight lines through parking lanes.	10/17/2023 2:48 PM

Q18 How did you hear about this survey? (Choose all that apply)

Answered: 99 Skipped: 36



ANSWER CHOICES	RESPONSES	
Newspaper Ads	3.03%	3
Flyer/Mailout	17.17%	17
News Story/Article	7.07%	7
Social Media Posts	49.49%	49
Municipal Website	0.00%	0
Other (please specify)	23.23%	23
TOTAL		99

#	OTHER (PLEASE SPECIFY)	DATE
1	Hand out delivered in person to our mail box	10/31/2023 9:09 PM
2	Upset neighbour	10/26/2023 3:42 PM
3	Was emailed about it.	10/26/2023 2:57 PM
4	Neighbour.	10/23/2023 5:24 PM
5	Neighbor who went to meeting	10/22/2023 11:45 AM
6	Word of mouth	10/20/2023 1:21 PM
7	Decline	10/20/2023 4:14 AM
8	friends	10/19/2023 9:39 AM

9	Friend	10/19/2023 9:35 AM
10	friend sent me the link	10/19/2023 8:09 AM
11	Neighbour	10/18/2023 9:31 PM
12	Friend mentioned it	10/18/2023 9:18 PM
13	Business owner	10/18/2023 8:44 PM
14	a neighbour	10/18/2023 7:45 PM
15	Neighbour informed me	10/18/2023 7:29 PM
16	I went to the open house on Oct 18	10/18/2023 5:53 PM
17	Heard about it and wanted my comments known	10/18/2023 5:13 PM
18	Friends	10/18/2023 11:49 AM
19	Sent to me by another local business	10/18/2023 11:35 AM
20	City Staff	10/18/2023 10:44 AM
21	Facebooks	10/17/2023 9:45 PM
22	community facebook page	10/17/2023 8:52 PM
23	na	10/17/2023 7:58 PM

Appendix 2: INFORMATION BOARDS

WELCOME

COUSINS AVE UPGRADES PROJECT OPEN HOUSE

Thank you for joining us today to learn about proposed upgrade work to Cousins Avenue. We're sharing information and asking for your feedback.

Here is what to expect at today's open house:

1 **STEP 1:**
Please review the information on display at your own pace.

2 **STEP 2:**
Ask any questions you have to staff members throughout the room.

3 **STEP 3:**
Pick up takeaway information to review at home.

4 **STEP 4:**
Complete the survey online. Find the survey at courtenay.ca/cousinsupgrades. Paper copies are available if desired.

Scan here to complete the survey

All information presented here can also be found at the project webpage: courtenay.ca/cousinsupgrades

CITY OF COURTENAY courtenay.ca/cousinsupgrades

COUSINS AVENUE UPGRADES: QUICK FACTS

Below-ground service upgrades plus above-ground road improvements are planned for a busy residential and commercial/industrial section of Cousins Avenue.

What?
The City of Courtenay is preparing to complete above- and below-ground upgrades to a section of Cousins Avenue, including repaving the road surface.

Why?
The road surface along this stretch has reached the end of its life.
This provides an opportunity to replace underground services that need upgrading, and investigate road and pedestrian improvements such as: parking, sidewalks, trail connections, curbing and landscaping.

Where?
On Cousins Avenue, between Willemar Avenue and 20th Street.

Who?
McElhanney is developing the options analysis for these upgrades. They are currently working on design options for the area, to be considered by the City, interest holder groups and the public.

When?
Fall 2023: Public open house to receive feedback on design options.
Early 2024: Design options presented to Council for consideration.
2024: Detailed design begins.
2025: Construction starts.

CITY OF COURTENAY courtenay.ca/cousinsupgrades

Appendix 2: INFORMATION BOARDS

COUSINS AVENUE UPGRADES: PROJECT MAP

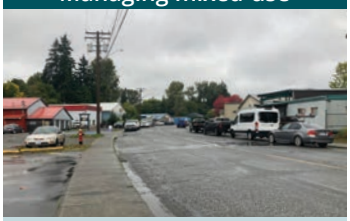
The City of Courtenay is preparing to upgrade Cousins Avenue, between Willemar and 20th Street, beginning with detailed design in 2024.

CITY OF COURTENAY courtenay.ca/cousinsupgrades

THREE DESIGN OPTIONS FOR CONSIDERATION

To ensure the plan for Cousins Avenue considers residents and businesses in the area, the City is gathering public feedback on three design options for the corridor. These options are laid out in detail over the next six boards.

Managing mixed-use



Cousins Avenue and the area around it includes a unique mix of light industrial, single-family residential and mixed-use buildings.

To address this, the three design options present different upgrades to the roadway for the residential vs. commercial/industrial sections of the road.

Parking

A parking study was completed in the area and found that hourly on-street parking demand in the commercial/industrial section exceeded the available capacity.

With this in mind, Option 1 and Option 3 offer the most on-street parking that is possible (with parking lanes on both sides of the road). Option 2 sees a reduction in on-street parking in favor of bike lanes.

Gathering input

Public feedback will be collected through a survey available now.

To complete the survey visit, courtenay.ca/cousinsupgrades

Scan here to complete the survey.

CITY OF COURTENAY courtenay.ca/cousinsupgrades

Appendix 2: INFORMATION BOARDS

OPTION 1: STANDARD OPTION

Option 1 is similar to the existing road and other standard streets in the City of Courtenay with features intended to calm traffic and improve pedestrian experience.

Option 1 includes the following elements:

- Sidewalk on both sides of the road
- Parking lanes on both sides of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
- Boulevard space and street trees on both sides of the road
- Option to add curb bump-outs to slow cars at intersections
- Option for raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent N.

VS

RESIDENTIAL VS. COMMERCIAL

There are key differences in the residential and commercial sections of the street, including:

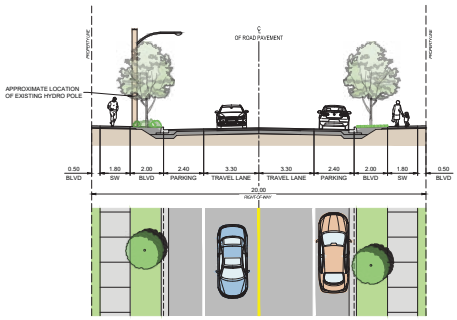
Residential (20th St. to 22nd St):
- Wider than standard sidewalks
- Option to add speed table to slow cars

Commercial/Industrial (22nd St. to Willemar Ave):
- Standard width sidewalks
- Extra wide travel lanes to accommodate large vehicles

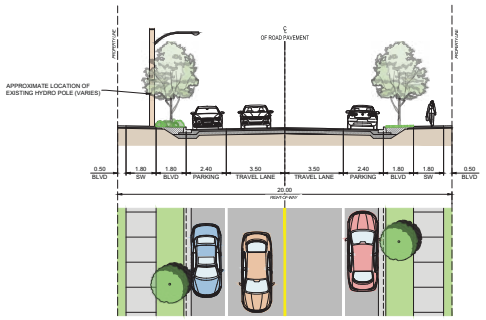
CITY OF COURTENAY courtenay.ca/cousinsupgrades

OPTION 1: WHAT IT WILL LOOK LIKE

Cousins Ave cross-section in **residential zone**



Cousins Ave cross-section in **commercial/industrial zone**



Cousins Ave **residential zone**

Cousins Ave **commercial/industrial zone**

CITY OF COURTENAY courtenay.ca/cousinsupgrades

Appendix 2: INFORMATION BOARDS

OPTION 2: BIKE LANE OPTION

Option 2 is similar to Option 1, however, it features parking on only one side of the road and includes the addition of two bike lanes.

Option 2 includes the following elements:

- Sidewalk on both sides of the road
- Bike lanes with outside buffer on both sides of the road
- Parking lane on one side of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
- Boulevard space on both sides and street trees on one side of the road
- Option to add curb bump-outs to slow cars at intersections
- Option for raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent N.

VS

RESIDENTIAL VS. COMMERCIAL

There are key differences in the residential and commercial sections of the street, including:

Residential (20th St. to 22nd St):

- Wider than standard sidewalks
- Option to add speed table to slow cars

Commercial/Industrial (22nd St. to Willemar Ave):

- Standard width sidewalks
- Extra wide travel lanes to accommodate large vehicles

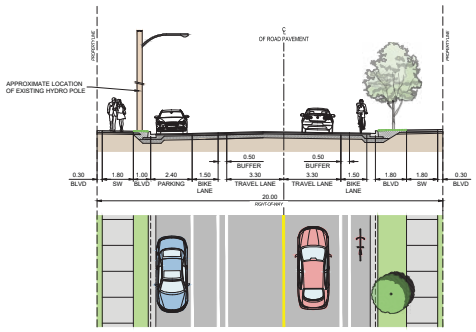
Cycling Network Plan

Please note: Courtenay's Cycling Network Plan does NOT include this area as a proposed bike route. The cycling plan was created in 2019 and updated in 2023 with the input of stakeholder groups, and is supported by the Comox Valley Cycling Coalition.

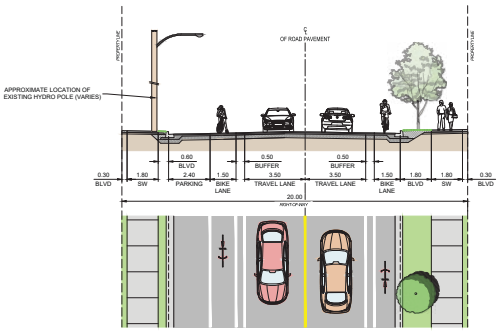
CITY OF COURTENAY courtenay.ca/cousinsupgrades

OPTION 2: WHAT IT WILL LOOK LIKE

Cousins Ave cross-section in **residential zone**



Cousins Ave cross-section in **commercial/industrial zone**



Cousins Ave **residential zone**

Cousins Ave **commercial/industrial zone**

CITY OF COURTENAY courtenay.ca/cousinsupgrades

Appendix 2: INFORMATION BOARDS

OPTION 3: ACTIVE TRANSPORTATION AND ONE-WAY TRAFFIC OPTION

Option 3 includes a multi-use path on one side of the road in the residential area. Also, a portion of Cousins Ave. in the Commercial/Industrial section is converted to one-way traffic (between Rosewall Crescent S and Cousins Park Access) in an effort to further limit truck traffic from entering the residential area. This could also include one-way traffic on Rosewall Crescent.

Option 3 includes the following elements:

- Parking lanes on both sides of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
- Boulevard space and street trees on both sides of the road
- Option to add curb bump-outs to slow cars at intersections
- Option for raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent N.

RESIDENTIAL VS. COMMERCIAL

VS

There are key differences in the residential and commercial sections of the street, including:

Residential (20th St. to 22nd St):

- Multi-use path on one side of the road, providing pedestrian and cyclist access from Cousins Park to 20th St.
- Wider than standard sidewalk on one side of the road
- Option to add speed table to slow cars

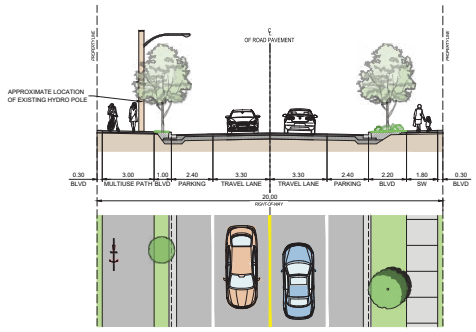
Commercial/Industrial (22nd St. to Willemar Ave):

- One-way traffic on Cousins Ave. between Rosewall Crescent S and the Cousins Park access to reduce truck traffic entering residential areas
- Standard width sidewalks on both sides of the road
- Extra wide travel lanes to accommodate large vehicles
- Option for one-way traffic on Rosewall Crescent

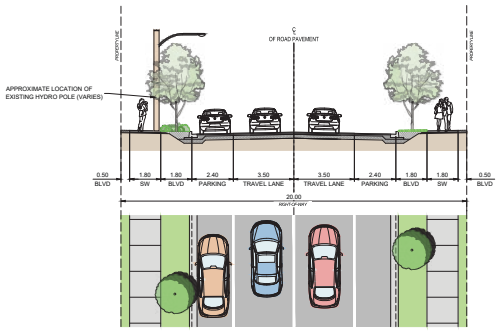
CITY OF COURTENAY courtenay.ca/cousinsupgrades

OPTION 3: WHAT IT WILL LOOK LIKE

Cousins Ave cross-section in **residential zone**



Cousins Ave cross-section in **commercial/industrial zone**



Cousins Ave **residential zone**

Cousins Ave **commercial/industrial zone**

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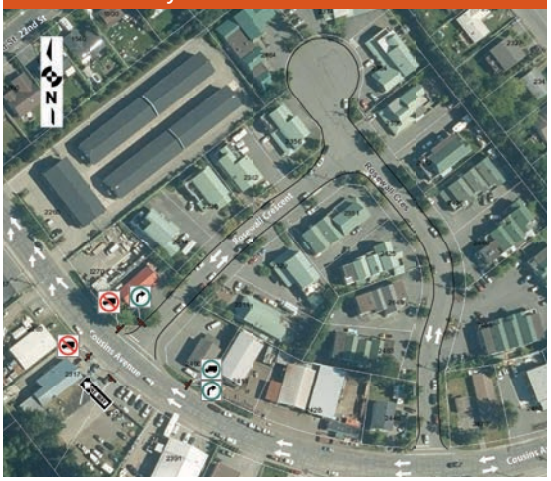
Appendix 2: INFORMATION BOARDS

OPTION 3: ONE-WAY TRAFFIC CONCEPTS

Option 3 includes one-way traffic for a section of the commercial/industrial section on Cousins Ave. The project team is also considering the possibility of including one-way traffic on Rosewall Crescent. The maps below highlight the two-way and one-way traffic options for Rosewall Crescent.

Two-Way Traffic on Rosewall Crescent



One-Way Traffic on Rosewall Crescent

Specifies Traffic Flow Direction

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WHAT'S IMPORTANT TO YOU?

We'd like to know what features of the project matter most to you. Help us understand your priorities for the street and add a mark to the categories that are important to you.

IMPROVED CYCLIST SAFETY

IMPROVED PEDESTRIAN SAFETY

ON-STREET PARKING

REDUCTION IN TRUCK/ OVERALL TRAFFIC IN RESIDENTIAL AREAS

TRAFFIC CALMING

MORE GREEN SPACE

Online survey available now

Scan here to have your say

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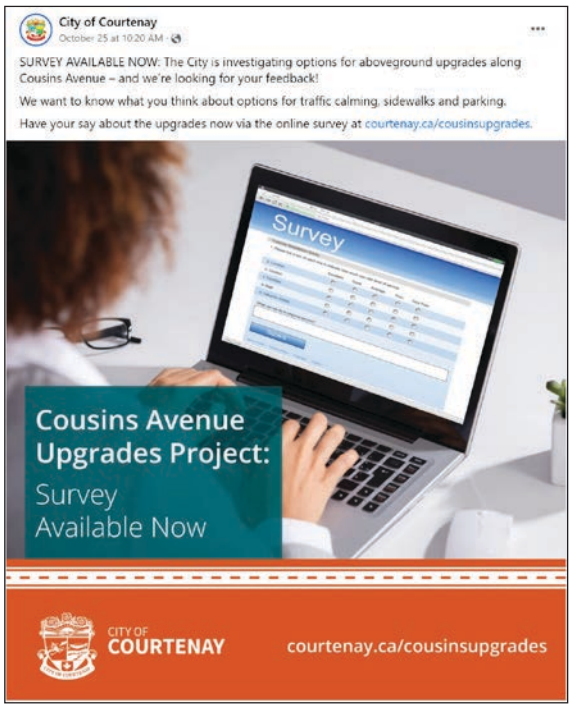
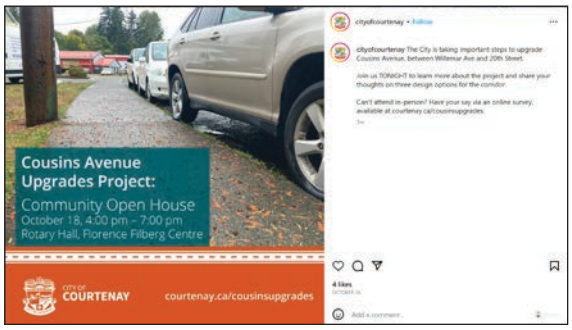
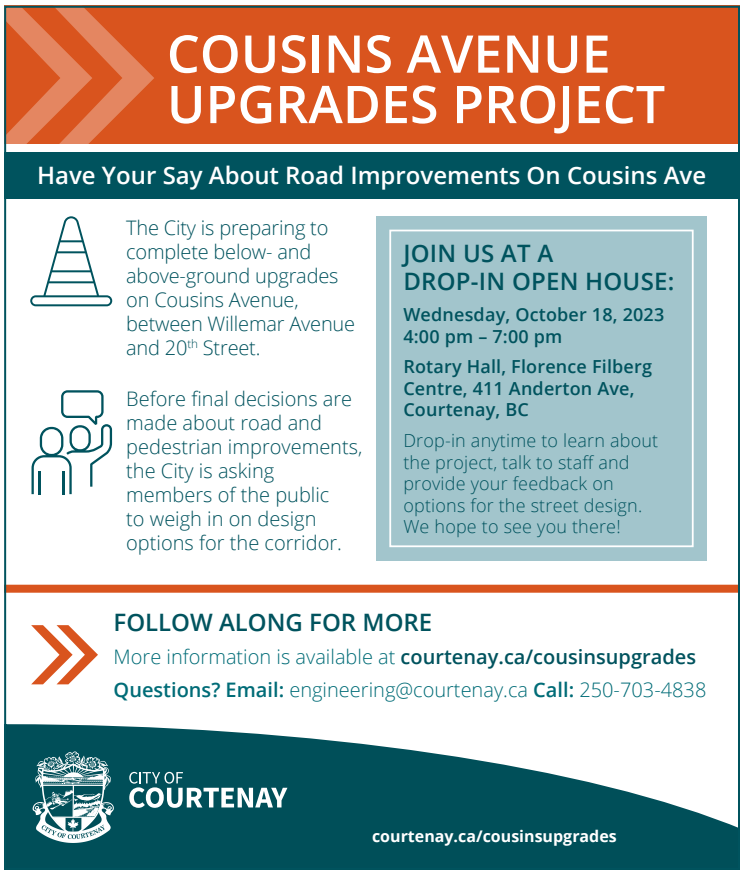
Appendix 3: PROMOTION SAMPLES

Social Media





Print Ad



Appendix 4: DIRECT MAIL LETTER

Cousins Avenue Upgrades Project

Have A Say About Road Improvements in Your Neighbourhood

Learn More at Upcoming Public Open House

October 04, 2023

The City of Courtenay is inviting you to learn about the Cousins Avenue Upgrades Project at an upcoming, drop-in informational open house. The City is preparing to upgrade Cousins Avenue, between Willemar Avenue and 20th Street. To ensure the plan ahead considers residents and businesses in the area, the City will consult with the community on design options for the corridor.

You're Invited: Drop-In Open House

- **Wednesday, October 18, 2023, 4:00 pm – 7:00 pm**
  Rotary Hall, Florence Filberg Centre
  411 Anderton Ave, Courtenay, BC

The project will include road improvements, repaving and replacement of underground services that have reached the end of their life or require upsizing to serve our growing community.

This upgrade project offers an opportunity to study current traffic flow and parking challenges in the area, and investigate road and pedestrian improvements such as:

- parking
- sidewalks
- trail connections
- curbing
- landscaping

At the event, information will be on display and staff will be on hand to answer questions, though no formal presentation will take place. Staff will gather feedback and a survey will be made available online to provide input on the information presented. Stop in at whatever time works for you to learn more.

Public feedback gathered at the event will help the project team refine the three design options, which will then be presented to Council for consideration in the coming months.

Follow Along For More

More information is available at **courtenay.ca/cousinsupgrades**.

If you have any questions, please email **engineering@courtenay.ca** or call **250-703-4838**.

CITY OF COURTENAY
Engineering Services

If you have any questions
or concerns, please contact us.

Tel. 250-334-4441 | **Email** engineering@courtenay.ca

Appendix 5: SURVEY

CITY OF COURTENAY
COUSINS AVENUE UPGRADES PROJECT SURVEY

CITY OF COURTENAY

The City of Courtenay is preparing to upgrade Cousins Avenue, between Willemar Avenue and 20th Street. The project will include road improvements, repaving and replacement of underground services that have reached the end of their life or require upsizing to serve our growing community.

This upgrade project offers an opportunity to study current traffic flow and parking challenges in the area, and investigate road and pedestrian improvements such as:

- parking
- sidewalks
- trail connections
- curbing
- landscaping

Fill out this survey by 9 a.m. Oct. 31 to provide your feedback on this proposed service change.

More information can be found at courtenay.ca/cousinsupgrades

This survey should take 5-10 minutes to complete.

Note: Your responses will remain anonymous. The personal information collected in this survey is collected in accordance with Section 26 (c, d, e) of the Freedom of Information and Protection of Privacy Act (FOIPPA) for the purposes of developing options for the reconstruction of Cousins Avenue. Questions about the collection, use and disclosure of this information can be directed to the Manager of Engineering, Capital Projects at engineering@courtenay.ca or 250-703-4838.

Project Map

Q1: What's your interest in the project area?

- ☐ I live in the area
- ☐ I own a business in the area
- ☐ I work in the area
- ☐ I frequent a business in the area
- ☐ I live near the project area
- ☐ I travel through the area
- ☐ I use the trail access in the area
- ☐ Other: _____

Q2: How often do you access the area?

- ☐ Every day
- ☐ 1-2 Times/Week
- ☐ 1-2 Times/Month
- ☐ 3-4 Times/Year
- ☐ Rarely
- ☐ Never

Thoughts on the Area Now

Tell us about how Cousins Avenue is working for users in its current condition.

Q3: Do you have any concerns about how the roadway serves motorists, pedestrians and cyclists now?

- ☐ Yes
- ☐ No

Q3a: If yes, what are they?

- ☐ Traffic congestion
- ☐ Commercial traffic in residential area
- ☐ Pedestrian accessibility (ie: sidewalks/crossings)
- ☐ Access to parking/limited parking
- ☐ Road condition
- ☐ Lack of cycling infrastructure
- ☐ Other: _____

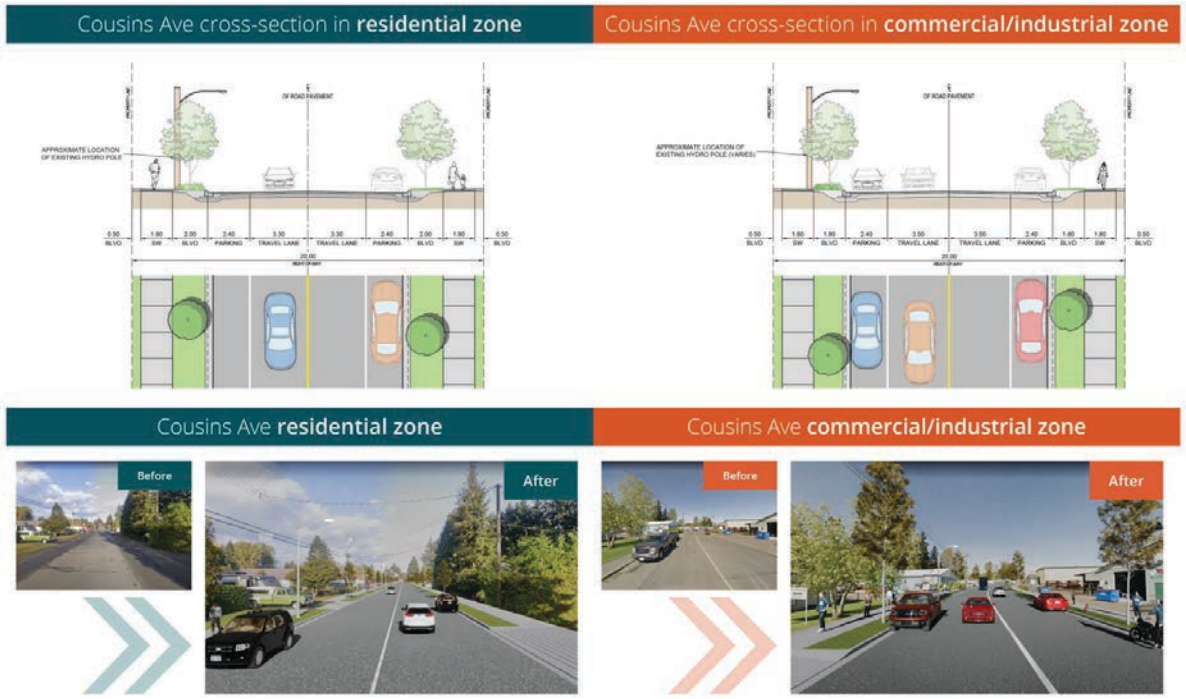
Q4: How well does the current road and traffic flow serve the following users?

	Very well	Well	Adequately	Not well	N/A (not a problem now)
Commercial Traffic	○	○	○	○	○
Business Patrons	○	○	○	○	○
Residents	○	○	○	○	○
Cyclists	○	○	○	○	○
Trail Users	○	○	○	○	○

Over the next few pages, we will present three preliminary design options for the area. We'll share images of what the area could look like and information about each proposed option. Please review, and then share your input.

OPTION 1: Standard Option

Option 1 is similar to the existing road and other standard streets in the City of Courtenay with features intended to calm traffic and improve pedestrian experience.



This option includes the following elements:

- Sidewalk on both sides of the road
- Parking lanes on both sides of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
- Boulevard and street trees on both sides of the road
- Option to add curb bump-outs to slow cars at intersections
- Option for raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent.

RESIDENTIAL VS. COMMERCIAL

There are key differences in the residential and commercial sections of the street, including:

Residential (20th St. to 22nd St):

- Wider than standard sidewalks
- Option to add speed table to slow cars

Commercial/Industrial (22nd St. to Willemar Ave):

- Standard width sidewalks
- Extra wide travel lanes to accommodate large vehicles

Q5: How much do you think this option would address these concerns in the area?

	Very well	Well	Adequately	Not well	N/A (not a problem now)
Traffic congestion	◯	◯	◯	◯	◯
Commercial traffic in residential area	◯	◯	◯	◯	◯
Pedestrian accessibility (sidewalks/crossings)	◯	◯	◯	◯	◯
Access to parking/limited parking	◯	◯	◯	◯	◯
Trail access	◯	◯	◯	◯	◯

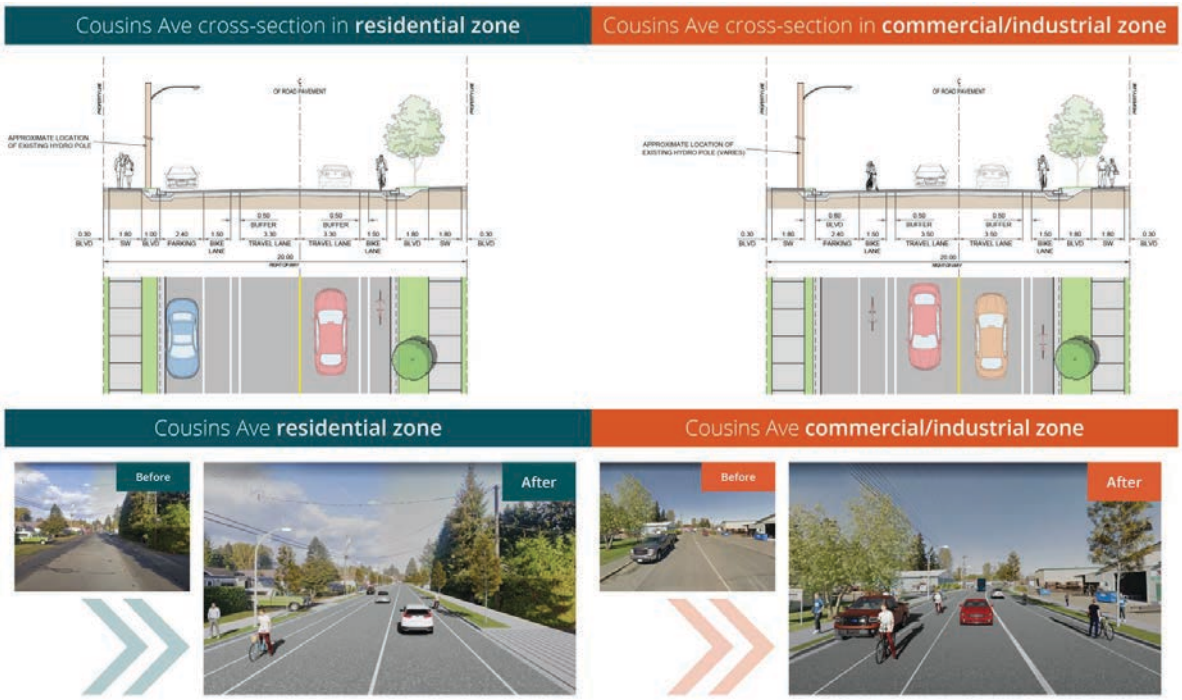
Q6: Do you have concerns about this option?

Q7: On a scale of 1-10, how supportive are you of this option?

1 5 10

OPTION 2: Bike Lane Option

Option 2 is similar to Option 1, however, it features parking on only one side of the road and includes the addition of two bike lanes. **Please note:** Courtenay's Cycling Network Plan does NOT include this area as a proposed bike route. The cycling plan was created in 2019 and updated in 2023 with the input of stakeholder groups, and is supported by the Comox Valley Cycling Coalition.



This option includes the following elements:

- Sidewalk on both sides of the road
- Bike lanes with outside buffer on both sides of the road
- Parking lane on one side of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
- Boulevard space on both sides and street trees on one side of the road
- Option to add curb bump-outs to slow cars
- Option for raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent.

RESIDENTIAL VS. COMMERCIAL

There are key differences in the residential and commercial sections of the street, including:

Residential (20th St. to 22nd St):

- Wider than standard sidewalks
- Option to add speed table to slow cars

Commercial/Industrial (22nd St. to Willemar Ave):

- Standard width sidewalks
- Extra wide travel lanes to accommodate large vehicles

Q8: How much do you think this option would address these concerns in the area?

	Very well	Well	Adequately	Not well	N/A (not a problem now)
Traffic congestion	◯	◯	◯	◯	◯
Commercial traffic in residential area	◯	◯	◯	◯	◯
Pedestrian accessibility (sidewalks/crossings)	◯	◯	◯	◯	◯
Access to parking/limited parking	◯	◯	◯	◯	◯
Trail access	◯	◯	◯	◯	◯

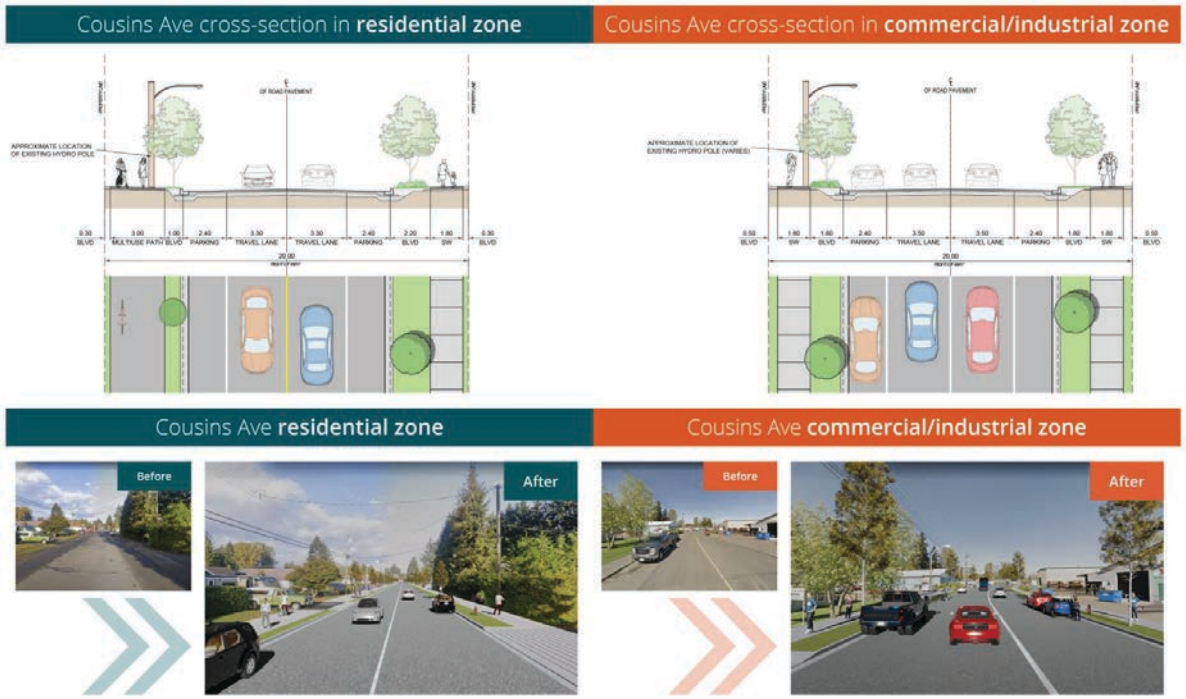
Q9: Do you have concerns about this option?

Q10: On a scale of 1-10, how supportive are you of this option?

1 **5** **10**

Option 3: Active Transportation and One-Way Traffic Option

Option 3 includes a multi-use path on one side of the road in the residential area. In this option, a portion of the road in the commercial/industrial section is converted to one-way traffic (between Rosewall Crescent S and Cousins Park Access) in an effort to further limit truck traffic from entering the residential area. This could also include one-way traffic on Rosewall Crescent.



This option includes the following elements:

- Parking lanes on both sides of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
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- Option to add curb bump-outs to slow cars
- Option for raised crosswalk at existing Cousins Park access between 22nd Street and Rosewall Crescent.

RESIDENTIAL VS. COMMERCIAL

There are key differences in the residential and commercial sections of the street, including:

Residential (20th St. to 22nd St):

- Multi-use path on one side of the road, providing pedestrian and cyclist access from Cousins Park to 20th Street
- Wider than standard sidewalk on one side of the road
- Option to add speed table to slow cars

Commercial/Industrial (22nd St. to Willemar Ave):

- One-way traffic between Rosewall Crescent S and the Cousins Park access to reduce truck traffic entering residential areas
- Option for one-way traffic on Rosewall Crescent
- Standard width sidewalks on both sides of the road
- Extra wide travel lanes to accommodate large vehicles

The project team is considering the possibility of including one-way traffic on Rosewall Crescent. The maps below highlight the two-way and one-way traffic options for Rosewall Crescent.

Q11: How much do you think this option would address these concerns in the area?

	Very well	Well	Adequately	Not well	N/A (not a problem now)
Traffic congestion	◯	◯	◯	◯	◯
Commercial traffic in residential area	◯	◯	◯	◯	◯
Pedestrian accessibility (sidewalks/crossings)	◯	◯	◯	◯	◯
Access to parking/limited parking	◯	◯	◯	◯	◯
Trail access	◯	◯	◯	◯	◯

Q12: Do you think one-way traffic in this area would improve traffic flows?

- ☐ Yes – Definitely
- ☐ Yes – Maybe/A Little
- ☐ Not really – Limited improvement
- ☐ Not at all – This would be unhelpful

Q13: Do you have concerns about this option?

Q14: On a scale of 1-10, how supportive are you of this option?

1 5 10

Cousins Avenue: Moving Forward

The City will collate the feedback from this engagement and share it with Council as they consider options for the area moving forward. Please complete these final few questions to help provide insight for future decisions.

Q15: The City is considering throughout all options ways to reduce/limit commercial traffic in the residential area of Cousins Ave.

How supportive are you of these potential features/tools?

	Not at all	Somewhat	Supportive	Very Supportive
Speed tables				
Road/crossing curbs and narrowing				
Signage				
Commercial vehicle restrictions				

Q16: Understanding that there are many factors to consider and that these options are conceptual and can be further refined, please rank the three options in order of preference (1=first choice, 3=last choice).

- ☐ Option 1: Standard Option
- ☐ Option 2: Bike Lane Option
- ☐ Option 3: Active Transportation and One-Way Traffic Option

Q17: Are there any other details about the area, or factors about how the area is used, that we should be considering?

Wrap Up

Thanks for providing your input! A few final questions below – this section is optional.

Q18: How did you hear about this survey? (Choose all that apply)

- ☐ Newspaper Ads
- ☐ Flyer/Mailout
- ☐ News Story/Article
- ☐ Social Media Posts
- ☐ Municipal Website
- ☐ Other:
  If other, please specify: _____

Q19: Please share your email address if you'd like to receive project updates on the Cousins Avenue Upgrades Project.

Appendix 6: INFOSHEET

COUSINS AVENUE UPGRADES PROJECT

The City is preparing to upgrade Cousins Avenue, between Willemar Avenue and 20th Street. The project will include road improvements, repaving and replacement of underground services that have reached the end of their life or require upsizing to serve our growing community.

This upgrade project offers an opportunity to study current traffic flow and parking challenges in the area, and investigate road and pedestrian improvements such as:

- parking
- sidewalks
- trail connections
- curbing
- landscaping

The City has retained McElhanney to develop the options analysis for these upgrades. They are currently working on design options for the area, to be considered by the City, interest holder groups and the public.

Option 1: Standard option

Option 1 is similar to the existing road and other standard streets in the City of Courtenay with features intended to calm traffic and improve pedestrian experience.

This option includes the following elements:

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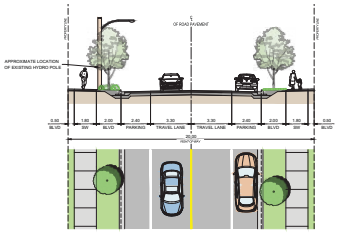
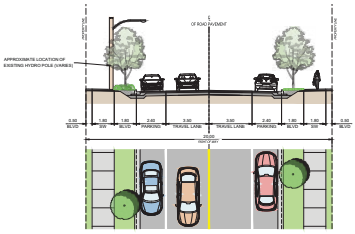
- Parking lanes on both sides of the road
- Widened driving lanes (compared to standard City streets)
- Road signage to limit truck traffic in residential areas
- Boulevard space and street trees on both sides of the road
- Option to add curb bump-outs to slow cars at intersections
- Option for a raised crosswalk at the existing Cousins Park access between 22nd Street and Rosewall Crescent N.



Residential Section



Commercial/Industrial Section

CITY OF COURTENAY courtenay.ca/cousinsupgrades

Option 2: Bike lane option

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This option includes the following elements:

- Sidewalk on both sides of the road
- Bike lanes with outside buffer on both sides of the road
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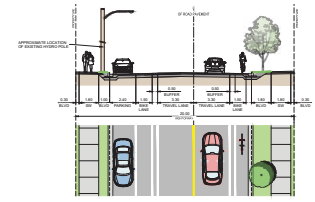
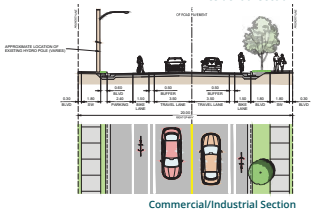


Residential Section



Commercial/Industrial Section

Option 3: Active transportation and one-way traffic option

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This option includes the following elements:

- Parking lanes on both sides of the road
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- Road signage to limit truck traffic in residential areas
- Boulevard space and street trees on both sides of the road
- Option to add curb bump-outs to slow cars at intersections
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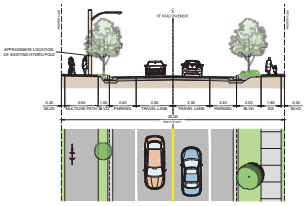
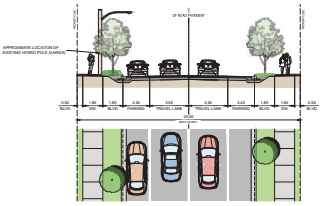


Residential Section



Commercial/Industrial Section

One-way traffic on Rosewall Crescent

The project team is considering the possibility of including **one-way traffic on Rosewall Crescent.** Both one-way and two-way traffic options are expected to see increased traffic on Rosewall Crescent. To view detailed maps visit courtenay.ca/cousinsupgrades. Here are some factors we're considering:

One-Way Traffic Considerations:

- All drivers would be travelling in same direction and wouldn't have to yield to one another when roadway is narrowed due to cars parked on both sides of the road.
- Limits movement of vehicles between businesses/residences to one-way circulation on Rosewall Crescent.

Two-Way Traffic Considerations:

- Allows users to enter and exit at both intersections with Cousins Ave.
- No limitations for vehicles moving between businesses/residences on Rosewall Crescent.
- Drivers would have to continue to yield as they pass one another when cars are parked on both sides of the road.

CITY OF COURTENAY courtenay.ca/cousinsupgrades

APPENDIX VIII

AutoTURN Analysis Drawings

NOTES:

1. DRAWINGS REFLECT THE FOLLOWING DESIGN VEHICLES:
   a) B-TRAIN
   b) WB-20
   c) and d) FIRE TRUCK - COURTENAY SPH 100
   e) GARBAGE TRUCK - EMTERRA MACK EV GARBAGE TRUCK
2. CURB LINE AND LIMITS OF PARKING/CLEARANCE FROM VEHICLES IS ASSUMED BASED ON AVAILABLE ORTHO IMAGERY AND LEGAL BOUNDARIES FROM CITY OF COURTENAY GIS.
3. LIMITATIONS ON DESIGN VEHICLE MOVEMENTS SHOULD BE CONFIRMED DURING DETAILED DESIGN. EXISTING ROAD, CURB, AND PARKING SPACE GEOMETRY SHOULD BE CONFIRMED WITH A FIELD SURVEY AT THE TIME OF DETAILED DESIGN.

APPROXIMATE PARKING LANE EXTENTS (TYP). PARKING LANES ARE 2.4m OFFSET FROM ASSUMED CURB.

POTENTIAL CONFLICT

0.5m OFFSET FROM VEHICLE PATH (TYP.)

VEHICLE WHEEL PATH. DESIGN VEHICLE: B-TRAIN

POTENTIAL CONFLICTS. LIMITED CLEARANCE AROUND BENDS.

22nd ST
1790 22nd ST
R.O.W.
2245 COUSINS AVE
2251 COUSINS AVE
2267 COUSINS AVE
2285 COUSINS AVE
2300 COUSINS AVE
2317 COUSINS AVE
2351 COUSINS AVE
2391 COUSINS AVE
2411 COUSINS AVE
2421 COUSINS AVE
2431 COUSINS AVE
2441 COUSINS AVE
2451 COUSINS AVE
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2470 COUSINS AVE
2448 COUSINS AVE
2428 COUSINS AVE
2416 COUSINS AVE
2400 COUSINS AVE
2270 COUSINS AVE
2260 COUSINS AVE
COUSINS AVE
2374 ROSEWALL CRES
2364 ROSEWALL CRES
2384 ROSEWALL CRES
2398 ROSEWALL CRES
2356 ROSEWALL CRES
2342 ROSEWALL CRES
2328 ROSEWALL CRES
2314 ROSEWALL CRES
2329 ROSEWALL CRES
2311 ROSEWALL CRES
2351 ROSEWALL CRES
2425 ROSEWALL CRES
2449 ROSEWALL CRES
2463 ROSEWALL CRES
2412 ROSEWALL CRES
2426 ROSEWALL CRES
2440 ROSEWALL CRES
2456 ROSEWALL CRES
ROSEWALL CRES
2491 WILLEMAR AVE
2601 WILLEMAR AVE
WILLEMAR AVE

Rev	Date	Description	Drawn	Design	App'd
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
0	2023-12-01	ISSUED FOR 90% REPORT	ER	ER	AM

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ORIGINAL DWG SIZE: ANSI D (22" x 34")

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CITY OF COURTENAY
830 CLIFFE AVE, COURTENAY, BC V9N 2J7

COUSINS AVENUE ROAD CONSTRUCTION OPTIONS ROSEWALL CRESCENT AUTOTURN ANALYSIS

Drawing No. SK03a

Project Number 2211-47614-18

Rev. 0

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NOTES:

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   b) WB-20
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APPROXIMATE PARKING LANE EXTENTS (TYP). PARKING LANES ARE 2.4m OFFSET FROM ASSUMED CURB.

POTENTIAL CONFLICT

0.5m OFFSET FROM VEHICLE PATH (TYP.)

VEHICLE WHEEL PATH. DESIGN VEHICLE: WB-20

POTENTIAL CONFLICTS. LIMITED CLEARANCE AROUND BENDS.

22nd ST
COUSINS AVE
ROSEWALL CRES
WILLEMAR AVE
R.O.W.

1790 22nd ST
2245 COUSINS AVE
2251 COUSINS AVE
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COUSINS AVENUE ROAD CONSTRUCTION OPTIONS ROSEWALL CRESCENT AUTOTURN ANALYSIS

Drawing No. SK03b

Project Number 2211-47614-18

Rev. 0

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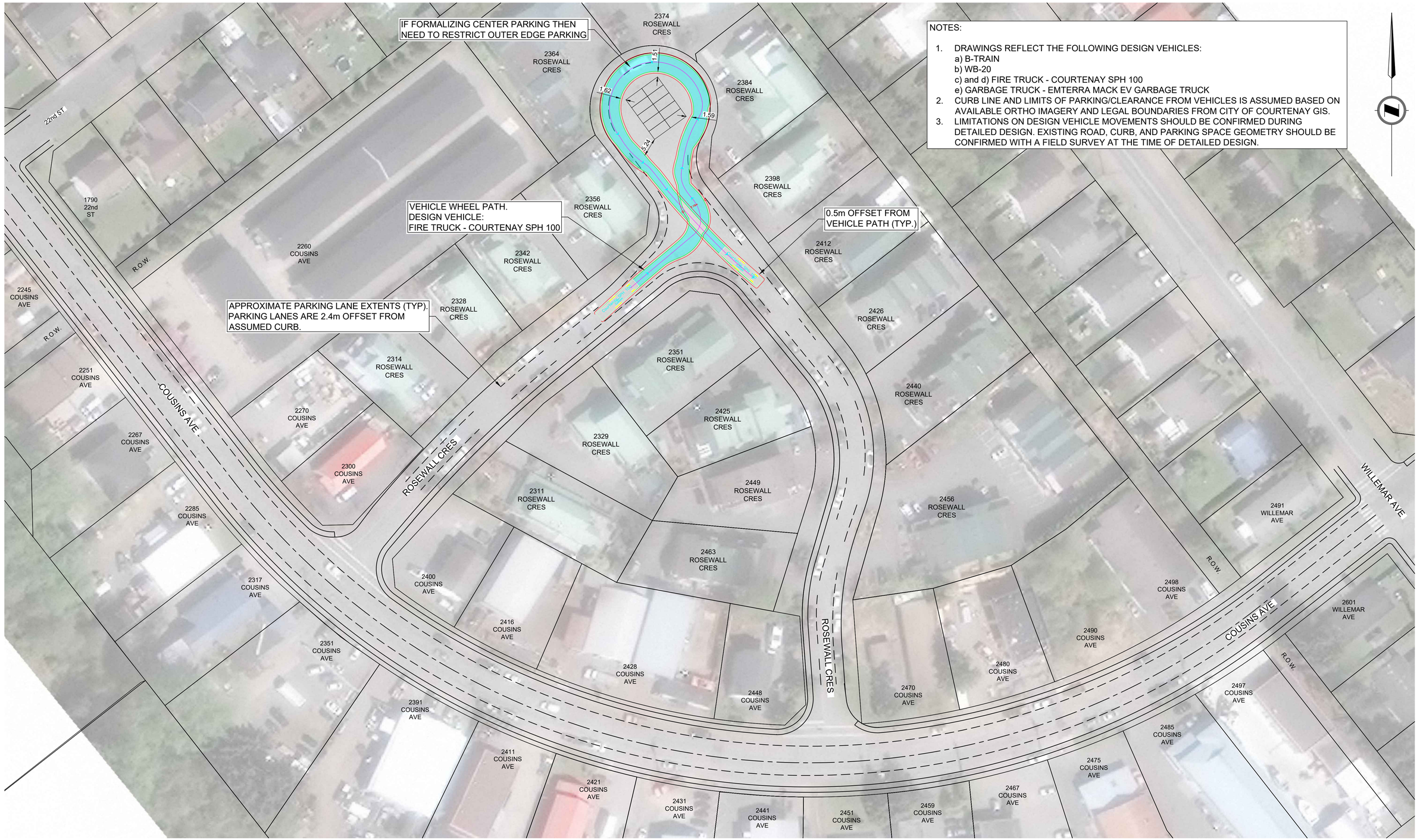

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COUSINS AVENUE ROAD CONSTRUCTION OPTIONS ROSEWALL CRESCENT AUTOTURN ANALYSIS

Drawing No. SK03c

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McElhanney ANSI D - 2021-12-08

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VEHICLE WHEEL PATH.
DESIGN VEHICLE:
FIRE TRUCK - COURTENAY SPH 100

0.5m OFFSET FROM VEHICLE PATH (TYP.)

APPROXIMATE PARKING LANE EXTENTS (TYP.). PARKING LANES ARE 2.4m OFFSET FROM ASSUMED CURB.

22nd ST
1790 22nd ST
R.O.W.
2245 COUSINS AVE
2251 COUSINS AVE
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Drawing No. SK03d

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McElhanney ANSI D - 2021-12-08

AUTOMATED GARBAGE TRUCK PICKS UP CARTS ON RIGHT HAND SIDE CURB

VEHICLE WHEEL PATH.
DESIGN VEHICLE:
EMTERRA MACK EV GARBAGE TRUCK
(FOR FUTURE CONSIDERATION ONLY)

0.5m OFFSET FROM VEHICLE PATH (TYP.)

APPROXIMATE PARKING LANE EXTENTS (TYP).
PARKING LANES ARE 2.4m OFFSET FROM ASSUMED CURB.

1.85
2.23
1.90
6.34

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APPENDIX IX
Permits Memo

Our File: 2211-47614-18

TECHNICAL MEMO

To	From
Sofia Senin **City of Courtenay**	**Alex McBride, P.Eng.** **McElhanney**
Re	**Date**
Cousins Avenue Road Construction Options - Draft Permits Memo	**March 6, 2024**

1. Introduction

The following permitting summary has been prepared at request of the City of Courtenay for the Cousins Avenue Road Construction Options project. This memo outlines the required permits for construction approval within the project and includes the requirements to obtain each permit as well as approximate timelines to secure, if known.

2. Permitting and Impacts Summary

2.1. ENVIRONMENTAL IMPACTS AND PERMITTING

The project site is located within the Millard-Piercy Creek watershed. Piercy creek flows through Cousins Park which borders the industrial properties just southwest of Cousins Ave. Although in proximity, the Cousins Ave ROW is outside of the 30m environmentally sensitive area buffer.

The site falls within the Environmental Development Permit Area, regulated by the City's Development Permit Area Guidelines; however, based on the Exemption section of the Environmental Development Permit Area Guidelines, municipal road works are exempt from the Environmental DP process:

> *EXEMPTIONS*
>
> *An Environmental Development Permit (EDP) will not be required in the following circumstances:*
>
> *...*

5. Public Infrastructure. Including the repair, maintenance of and improvements to all existing public structures, facilities, open spaces, trails, roads, utilities, and signage meant to include: sanitary sewer, storm sewer, water, natural gas, cable, hydro-electric, and telephone.

Though municipal road works are exempt from the EDP process, the relevant federal and provincial regulations regarding environmental protections must still be met. In the case of Cousins Ave between 20th Street and Willemar Ave, the City's GIS mapping shows that the site is located within two separate nest buffer zones. Refer to **Figure 1** for the nest buffer zones relative to the project area (light blue outline).

Figure 1 - Birds Nest Buffer Zones

The project could require EDP's if the exemption criteria were not met for the following areas:

1. From approximately 2270 Cousins Avenue to Willemar Avenue, the road right-of-way falls within the nest protection buffer area of an Eagle's nest located at 2201 Ronson Road.

2. From approximately 1960-2070 Cousins Avenue, the road right-of-way falls within the nest protection buffer area of a cluster of Great Blue Heron's nests located in the area of Stewart Avenue, between 19th Street and 21st Street.

Additional Protections

Raptors and other birds are protected by the Province of BC under Section 34 of the *Wildlife Act:*

> *Birds, nests and eggs*
>
> ***34*** *A person commits an offence if the person, except as provided by regulation, possesses, takes, injures, molests or destroys*
>
> *(a) a bird or its egg*
>
> *(b) the nest of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl, or*
>
> *(c) the nest of a bird not referred to in paragraph (b) when the nest is occupied by a bird or its egg.*

Habitat surrounding the nest site or other habitats required for foraging, roosting, or wintering are not protected under the act, and so protective buffers are required to reduce disturbance. These are not stipulated in the *Wildlife Act,* but buffer distance recommendations and direction are provided through Provincial Best Management Practices (BMP's), such as:

- *Environmental Best Management Practices for Urban and Rural Land Development*
- *Best Management Practices Guidebook for Raptors in British Columbia: Guidelines for Integrating Raptor Conservation with Urban and Rural Land Developments*
- *Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia*

Designated "at risk" raptor species are also protected federally under the *Species At Risk Act* (SARA), though Bald Eagles are not designated "at risk" and therefore federal protections do not apply. The Pacific Great Blue Heron is designated "Species of Special Concern", which is managed by the *Management Plan for the Great Blue Heron fannini subspecies (Ardea herodias fannini) in Canada.*

A review of these buffers, and consideration for timing of construction of proposed project works, should be coordinated with a Qualified Environmental Professional (QEP) during detailed design.

2.2. ARCHAEOLOGICAL PERMITTING

Based on a review of maps from prior projects in the area, it is McElhanney's understanding that there are archeological potential areas nearby. The K'ómoks First Nation (KFN) specifies that a Cultural Heritage Investigation Permit (CHIP) is required for ground disturbance greater than 10 m^2 in areas having high archeological potential, including with 200m of recorded archaeological sites and major waterways. It is recommended that a qualified archaeologist be engaged during detailed design to

confirm archaeological potential in the area and, if warranted, apply for a CHIP from the K'ómoks First Nation.

The project would be considered a large project CHIP. This permit may take up to 90 days to process once submitted to the KFN.

The CHIP application includes the following information:

- Project background
- Project area description and map
- Type of investigation required
- Description of impacts to KFN cultural heritage, and proposed measure to mitigate impacts
- Proposed project schedule
- Proposed repository for any KFN cultural heritage objects or artifacts

Given the nature of the project area and past construction efforts, it's less likely that archeological objects or artifacts would be found in previously disturbed areas. If there are substantial modifications to existing utility alignments (vertical or horizontal), it may be recommended that a Heritage Inspection Permit be obtained under the Heritage Conservation Act, such that in the event of archaeological finds during construction, significant delays would not be caused to obtain applicable permits. If high potential areas are identified, it is recommended that a qualified archaeological monitor be available during ground altering activities.

Regardless of permitting, recorded and unrecorded archaeological remains are protected by legislation. In the event that remains are discovered during construction, construction works must be suspended, and the find notified to the appropriate authorities.

2.3. CONTAMINATED SOILS PERMITTING

As the project is in a commercial/industrial area, there is a possible risk of contaminated soils. It is recommended that a preliminary environmental alignment review of the project alignment (similar to land use reviews conducted in Phase 1 Environmental Site Assessments or Preliminary Site Investigations) to assess the potential and types of contaminants that may be generated by roadway use and activities on properties adjacent to the project area. If the City wanted to identify potential risks to project budget and timelines related to contaminated soils, a soil testing program could be implemented and would consider testing based on the findings of the environmental alignment review. Collecting soil samples at 100m intervals along the project alignment would likely be adequate to better understand the potential for contaminated soils and estimate costs to properly dispose of any exported contaminated material.

If contaminated soils are encountered and need to be exported from the project area, disposal of that material would need to comply with the BC Ministry of Environment and Climate Change Strategy Protocol 19, attached as **Appendix B.**

If contaminated soils were found at the site, an appropriate disposal location would be determined, and the excavation and hauling of the soil would be monitored by a qualified professional. The contaminated material would be sampled (at sampling rate determined by volume of material being relocated).

2.4. CITY OF COURTENAY PERMITTING FOR CONSTRUCTION

The following permits and approvals are the responsibility of the Contractor prior to and during construction.

The Road permit application is to be submitted to the City by the Prime Contractor a minimum of 10 working days prior to construction. The road permit application includes:

- Sketch plan showing works, work zone, and location of subsurface works
- Copy of BC One Call notification dated within 5 days of road permit application
- Workers compensation clearance letter dated within 5 days of road permit application
- Insurance in the amount of $5,000,000 per occurrence that lists the City of Courtenay as an additional insured and includes a 30 day Notice of Cancellation clause
- Copy of business licence (Inter-Community of City of Courtenay)
- Traffic Control Plan

If hydrant use is needed for temporary construction purposes, the Contractor can apply for a Hydrant Use Permit. The City requires 72 hours to process and approve applications. Permits are valid for 20 business days.

If the contractor needs to discharge water into City's storm drainage system, they must obtain an approval letter from Director of Public Works Services. They must first obtain a water analysis from a qualified geotechnical engineer, then submit a request including water analysis and rate of discharge to the attention of the Director of Public Works Services. This can be done by mail to the Public Works Services Department, City of Courtenay, 1000 Piercy Avenue, Courtenay, BC, V9N 3E6, or by email to publicworks@courtenay.ca. Once the Director of Public Works Services has reviewed the proposal, a letter will be issued either confirming or denying the request.

2.5. WATER SYSTEM PERMITTING

If the City elects to upgrade the watermain in the project area, a construction permit and operating permit will be required. Permits are supplied by Vancouver Island Health Authority (VIHA). Drinking Water Officers (DWO) with VIHA work with water suppliers to monitor compliance with provincial water protection legislation. The VIHA water system approval process is attached as **Appendix C.**

The following list is a summary of responsibilities of the City as the water supplier, up to the point of system operation.

- Submit drinking water system application.
- Attend site assessment if requested by DWO to confirm source approval.
- Apply for construction permit.
- Notify DWO when construction is complete and the system is ready for DWO inspection.
- Obtain operating permit from the DWO.

VIHA indicated that the applicant should allow for an extended waiting period for Public Health Engineer review for the construction permit.

2.6. PRIVATE PROPERTY AND THIRD PARTY IMPACTS

As the project is located within the City's road right-of-way, there are no anticipated legal property implications. There may be some improvements to privately constructed infrastructure that sits on public property, such as driveways and landscaping.

Modifications to the street lighting are anticipated with detailed design. BC Hydro should be engaged to coordinate any relocation of hydro poles to accommodate project works or modification to the existing lease light poles.

3. Closure

We thank you for this opportunity to work on this project. Please do not hesitate to contact us if you have any questions.

Sincerely,
McElhanney Ltd.

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Enclosure

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Adam Pitcher, City of Courtenay

Revision History

Date		Status	Revision	Author
2024-03-06			0	Emma Rose, EIT

Limitation

This report has been prepared for the exclusive use of the City of Courtenay. The material in it reflects the best judgement of the Consultant in light of the information available to the Consultant at the time of preparation. As such, McElhanney, its employees, sub-consultants and agents will not be liable for any losses or other consequences resulting from the use or reliance on the report by any third party.

APPENDIX A

Statement of Limitations

Statement of Limitations

Use of this Report. This report was prepared by McElhanney Ltd. ("**McElhanney**") for the particular site, design objective, development and purpose (the "**Project**") described in this report and for the exclusive use of the client identified in this report (the "**Client**"). The data, interpretations and recommendations pertain to the Project and are not applicable to any other project or site location and this report may not be reproduced, used or relied upon, in whole or in part, by a party other than the Client, without the prior written consent of McElhanney. The Client may provide copies of this report to its affiliates, contractors, subcontractors and regulatory authorities for use in relation to and in connection with the Project provided that any reliance, unauthorized use, and/or decisions made based on the information contained within this report are at the sole risk of such parties. McElhanney will not be responsible for the use of this report on projects other than the Project, where this report or the contents hereof have been modified without McElhanney's consent, to the extent that the content is in the nature of an opinion, and if the report is preliminary or draft. This is a technical report and is not a legal representation or interpretation of laws, rules, regulations, or policies of governmental agencies.

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Information from Client and Third Parties. McElhanney has relied in good faith on information provided by the Client and third parties noted in this report and has assumed such information to be accurate, complete, reliable, non-fringing, and fit for the intended purpose without independent verification. McElhanney accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of omissions or errors in information provided by third parties or for omissions, misstatements or fraudulent acts of persons interviewed.

Effect of Changes. All evaluations and conclusions stated in this report are based on facts, observations, site-specific details, legislation and regulations as they existed at the time of the site assessment/report preparation. Some conditions are subject to change over time and the Client recognizes that the passage of time, natural occurrences, and direct or indirect human intervention at or near the site may substantially alter such evaluations and conclusions. Construction activities can significantly alter soil, rock and other geologic conditions on the site. McElhanney should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein upon any of the following events: a) any changes (or possible changes) as to the site, purpose, or development plans upon which this report was based, b) any changes to applicable laws subsequent to the issuance of the report, c) new information is discovered in the future during site excavations, construction, building demolition or other activities, or d) additional subsurface assessments or testing conducted by others.

Independent Judgments. McElhanney will not be responsible for the independent conclusions, interpretations, interpolations and/or decisions of the Client, or others, who may come into possession of this report, or any part thereof. This restriction of liability includes decisions made to purchase, finance or sell land or with respect to public offerings for the sale of securities.

APPENDIX B

Protocol 19

Ministry of Environment and Climate Change Strategy

PROTOCOL 19
FOR CONTAMINATED SITES

Site Investigation and Reporting

Version 1

Prepared pursuant to Section 64 of the
Environmental Management Act

Approved:	Kevin Butterworth	January 24, 2023
	Director of Waste Management	Date

Effective Date: March 1, 2023

Protocol Implementation

Section	Status
1 – Definition	Effective March 1, 2023
2 – Introduction	Effective March 1, 2023
3 – Qualified professionals	Effective March 1, 2023
4 – Sample and analysis methods	Effective March 1, 2023
5 – Sampling and analysis plans for soil relocation	Effective March 1, 2023
5 – Preliminary Site Investigations	Under development
6 – Detailed Site Investigations	Under development
7 – Confirmation of Remediation	Under development
8 – Reporting	Under development

1.0 Definitions

Terms defined in the Environmental Management Act (EMA) and the Contaminated Sites Regulation (CSR) apply to this protocol, in addition to the following:

"**acid rock drainage**" means low pH surface or ground water that results from the oxidation of sulfide minerals, elemental sulfur, or the dissolution of acid generating minerals found in rocks.

"**non-waste soil**" means soil with substance concentrations less than CSR soil and vapour standards applicable at a receiving site.

2.0 Introduction

This protocol is made under the authority of EMA section 64 1(c), 1(d), 2(a), 2(b), 2(c), 2(f), 2(g) and builds on requirements for site investigations and reporting set out in the CSR 49(2)(b), 58 and 59.

Consistent with EMA and the CSR, this protocol specifies requirements for investigation, analysis and interpretation, and assessment for soil relocation activities.

The requirements described in this protocol must be met when relocating soil suspected to be non-waste from a source site to a receiving site.

This protocol should be used in conjunction with other ministry's policies, protocols, and guidance.

3.0 Qualified professionals

All aspects of this protocol must be completed by or under the supervision of qualified professionals. It is the responsibility of the site owner or operator to retain qualified professionals with demonstratable experience, to ensure that the soil quality at the source site is properly characterized prior to relocation while adhering to applicable BC legislation, regulations, standards, protocols, procedures, and guidance.

4.0 Sample collection and analysis

Sampling methodologies and quality control/quality assurance procedures must follow the B.C. Field Sampling Manual or any applicable methods and/or procedures prescribed in protocols.

1. Subject to paragraph 2, substances must be analysed by a "qualified laboratory", as defined in the Environmental Data Quality Assurance Regulation using methods specified in:
   a. the B.C. Environmental Laboratory Manual; or
   b. if no methods are specified for the required analysis in the B.C. Environmental Laboratory Manual, a method approved in writing by the director on a case-by-case basis.

2. If a director is satisfied that either a method specified in the B.C. Environmental Laboratory Manual is not appropriate in the circumstances or that another method will provide more accurate results, the director may require an alternative method under this paragraph in writing and on a case-by-case basis.

5.0 Sampling and analysis plans for relocation of non-waste soil

This section describes requirements for the investigation and characterization of soil suspected to be non-waste that is to be relocated from a source site to a receiving site. The sampling requirements in this section are not considered appropriate for the classification of soil suspected to be waste quality soils.

5.1 Identifying potential contaminants of concern for non-waste soil

To identify potential contaminants of concern (PCOCs) for non-waste soil, the following actions must be completed:

1. Review site historical use and records, including a search of the site registry, to determine current and past activities or uses, accidents and spills, and practices and management relating to potential contamination at the site and neighbouring sites.
2. One or more site reconnaissance visits with visual inspection of buildings, property, equipment, land, surface water and biota for indicators or presence of contamination.
3. Interviews with current or former owners, occupants, neighbours, directors, employees and government officials who can, with reasonable attempts, be contacted respecting information on activities that may have caused contamination.

PCOCs must be selected based on the historical and current specified industrial and commercial uses identified at the source site.

5.2 Soil and soil vapour sampling and analysis plans

A qualified professional must prepare a sampling and analysis plan that applies to the soil to be relocated from the source site. The sampling and analysis plan must:

1. Identify each location where soil is to be excavated for relocation.

2. Include a site plan with site buildings, areas of potential environmental concern (APECs), PCOCs identified from historical reviews, and areas where soil is to be removed.
3. Ensure an appropriate level of sampling and analysis is carried out to determine the concentration of PCOCs in the excavated soil and identify the soil from the source site that meets the quality for relocation to the receiving site.
4. Determine the location, concentration, and distribution of substances in the soil to be excavated by sampling soil and vapour using sampling methods described in section 5.3.

5.3 Collection of soil and soil vapour samples

When collecting soil and soil vapour samples from non-waste soil to be relocated from the source site:

1. Determine the location, concentration, and distribution of PCOCs in the soil to be excavated by sampling undisturbed soil (in-situ sampling).
2. Identify areas to be sampled for PCOCs, using a coarse grid with 25 to 50 m spacing between sampling locations. Grid spacing must be decreased in areas with greater potential for contamination, including areas within 50 m of site APECs or within 10 m from lateral and vertical extents of known contamination.
3. Conduct targeted sampling at select depths with the potential for maximum concentrations of PCOCs.
    a. In-situ soil sample depth selection must include:
        i. Surface soil samples collected from a maximum depth of 0.5 m below the site surface.
        ii. Samples collected at a depth immediately above fine-grained soil units.
        iii. Samples from the water table elevation, if applicable.
        iv. For homogeneous soil units, soil samples collected at vertical intervals of 1 to 2 m spacing.
    b. In-situ soil vapour sampling must target locations nearest the source zone and must be collected at a depth of 1 m or greater below the site surface. While in-situ soil vapour sampling is preferred, for sites with shallow groundwater, an alternate soil vapour sampling method may be required such as soil vapour sampling of ex-situ stockpiles.

If an in-situ sampling approach is not practical or feasible, samples must be collected from stockpiles where soil is temporarily stored.

In preparing and implementing the sampling and analysis plan, the qualified professional must ensure that the following requirements are satisfied:

1. The number of samples collected and analyzed must be sufficient to give a high degree of confidence to characterize PCOCs in all soil to be relocated.

2. Where there is information regarding the location of PCOCs within an APEC that is within the excavation area, sample locations must be identified with the objective of locating the maximum concentration. Soil and vapour samples must be collected from representative depths and locations to characterize substances in the soil that is to be relocated.
3. Soil vapour samples must be collected at source sites where the soil to be relocated contains prescribed volatile chlorinated substances above detectable limits or contains a volatile substance concentration in soil greater than the generic numerical soil standard for low density residential land use (RL_{LD}) or the lowest value of the matrix numerical soil standards for RL_{LD}.
4. Field logs must be recorded and finalized for all sampling locations to document the soil and soil vapour conditions within the project area.
5. At a minimum, every soil sample, required to be collected, must be analyzed for the following parameters:
   a. Polycyclic aromatic hydrocarbons (PAH).
   b. metals (aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, lithium, manganese, molybdenum, nickel, selenium, silver, strontium, tin, uranium, vanadium, and zinc).
   c. any PCOC relevant to current and historical site use as identified during the historical review.
6. The following additional requirements apply to soil samples collected using an in-situ sampling approach (in relation to the area identified where sampling is required):
   a. For non-volatile parameters, discrete samples from the same formation may be collected from several locations, mixed together, and submitted as a composite sample as described in CSR Technical Guidance 1, “Site Characterization and Confirmation Testing (TG1). The use of composite samples does not change the minimum number of samples specified for analysis.
   b. A minimum of three soil samples must be analyzed if less than 600 cubic metres of soil will be relocated.
   c. If more than 600 cubic meters of soil will be relocated, at least three samples must be analyzed for the first 600 cubic meters, with one additional sample analyzed for each 200 cubic metres of soil up to 10,000 cubic metres of soil to be relocated.
   d. At least one additional soil sample must be analyzed for each 450 cubic metres after the first 10,000 cubic metres of soil to be relocated up to 40,000 cubic metres.
   e. At least one additional soil sample must be analyzed for each additional 2,000 cubic metres after the first 40,000 cubic metres of soil to be relocated.
7. The following additional requirements apply to soil samples collected using a stockpile sampling approach:

a. Samples must be collected at different depths within a stockpile to characterize the depth profile and the spatial variation, laterally and vertically, of the PCOCs within the stockpile.

b. Soil samples must be collected from a depth of greater than 0.3 m below the stockpile surface.

c. For non-volatile parameters, discrete samples can be collected from stockpiles and combined to provide composite samples for characterization, as described in TG1. The use of composite samples does not change the minimum number of samples specified for analysis.

d. A minimum of three soil samples must be analyzed if less than 130 cubic metres of soil will be relocated.

e. If more than 130 cubic metres of soil will be relocated, at least three samples must be analyzed for the first 130 cubic meters, with one soil sample analyzed for each additional 130 cubic metres of soil up to 2,600 cubic metres of soil to be relocated.

f. At least one additional soil sample must be analyzed for each 200 cubic metres after the first 2,600 cubic metres of soil to be relocated.

8. The following additional requirements apply to soil vapour samples collected using an in-situ sampling approach (in relation to the area identified where sampling is required):

   a. A minimum of two soil vapour samples must be analyzed if less than 600 cubic metres of soil will be relocated.

   b. If more than 600 cubic meters of soil will be relocated, at least two soil vapour samples must be analyzed for the first 600 cubic meters, with one additional sample analyzed for each additional 2,500 cubic metres of soil.

9. The following additional requirements apply to soil vapour samples collected from a stockpile:

   a. Samples must be collected, within a stockpile to characterize the PCOCs within the stockpile.

   b. The minimum depth for a soil gas probe is 1.0 m below the stockpile surface. Place a surface seal such as a plastic sheet over the portion of stockpile being sampled to minimise ambient air leakage.

   c. The vapour sample must be collected after equilibration of vapour within the stockpile. Use a photoionization detector to confirm equilibration. The minimum equilibration time is one week after placement of the stockpile.

   d. Complete leak testing at each sample probe location.

   e. A minimum of three soil vapour samples must be analyzed if less than 250 cubic metres of soil will be relocated.

   f. If more than 250 cubic metres of soil will be relocated, at least three soil vapour samples must be analyzed for the first 250 cubic meters, with one soil vapour sample

analyzed for each additional 250 cubic metres of soil up to 2,500 cubic metres of soil to be relocated.

g. At least one additional soil vapour sample must be analyzed for each 500 cubic metres after the first 2,500 cubic metres of soil to be relocated.

10. A sufficient number of soil samples must be collected and analyzed to determine the representative pH of soil at the receiving site to evaluate matrix numerical soil standards for soil to be relocated.
11. The soil analytical data must be compared to site specific factors applicable to the receiving site for matrix numerical soil standards

5.4 Quarried material sampling and analysis plans

For quarried material derived from the mining and crushing of bedrock, the original deposits are to be evaluated for potential metal leaching and acid rock drainage (ML/ARD). These procedures for evaluating the potential for ML/ARD are based upon static tests, site specific factors and the interpretation of these parameters by a qualified professional. ML/ARD evaluation must be performed in advance of materials being mined where volumes to be relocated exceed 1000 m^3, or greater than 100 m^3 where the mined rock is to be relocated adjacent to sensitive habitat.

Samples are to be collected of representative, unweathered, in-situ rock samples for testing. Composite sampling is not acceptable. The samples must be collected using professionally acceptable sample collection methods and must be taken by or under the supervision of a qualified professional.

At a minimum, a sample must be collected at a frequency of 1 sample per 2,000 m^3 and every sample analyzed for all of the following parameters:

- From Acid-Base Accounting (ABA) test: Neutralization Potential Ratio (NPR) –Neutralization Potential (NP)/Acid Potential (AP)
- Sulfide sulfur
- Four Acid Digestion Total Metals Analysis (Four Acid metals) – anomalous metal concentrations in comparison to CSR standards
- Shake Flask Extraction Test (SFE) – indication of leachable oxidation products for current condition of material: acidity, metals.

Based upon the sample results, the following applies to the potential relocation of the quarried material.

1. If the rock sample has an NPR less than 1, this result indicates that the sample has a high potential to produce ARD and is unsuitable for relocation to a receiving site. An NPR value of less than 1 suggests that the rock should not be further disturbed or exposed.

2. If the rock sample has an NPR between 1 and 2, this result indicates a level of uncertainty with the sample to produce ARD. Site-specific factors must be considered and results of the sulphide, Four Acid metals, and SFE analysis methods must be used to evaluate the potential for ARD to occur from this source prior to determining the final use of the material.

3. If the rock sample has an NPR value greater than 2, this result indicates that the sample has a low potential to produce ARD, however, it could still contribute to near-neutral pH metals drainage. The site-specific factors must be considered and results of the sulphide, Four Acid metals, and SFE analysis methods must be used to evaluate the potential for ARD to occur from this source prior to determining the final use of the material.

Revision history

Approved Date	Effective Date	Document Version	Notes
January 24, 2023	March 1, 2023	1	New protocol – includes requirements necessary for implementation of CSR Stage 14 soil relocation amendments.

APPENDIX C

VIHA Water System Approval Process

The Water System Approval Process

Under the BC Drinking Water Protection Act and Regulation, Operating Permits are required for all drinking water systems serving anything other than a single-family dwelling. Drinking Water Officers (DWO) with Island Health work with prospective and existing water suppliers and monitor for compliance with this legislation.

1. Application Requirements

The prospective water supplier initiates the approval process through submission of an application and the accompanying information. The DWO is responsible for reviewing submissions and determining whether to issue an operating permit.

Water Supplier responsibilities:

- Submit drinking water system application form (to be obtained from Health Protection)
- Provide a map showing all portions of the proposed water system, other water sources and water bodies, onsite sewage disposal and any other potential contaminant sources, etc. (Depending system size and complexity, drawings may need to be prepared by a professional engineer).
- Submit source to tap screening tool for DWO review.
- Submit other documentation, as applicable:
  - Water quality results for each source (bacteriological and chemical/physical parameters as per Island Health list and/or DWO instruction).
  - Details about source location(s)
  - Intended water uses and populations to be served
  - Well log and pump test results
  - Water license
  - Information on existing land uses and demands on water source
  - Hydrogeologist report *(may address risks, identify confining/protective layers or time of travel radius for point contaminant sources, define non-point sources, provide maximum discharge rates and area recharge data, describe historical use of groundwater, etc.)*

2. Source Approval

The DWO will review the submissions outlined above and conduct a site assessment to determine whether the proposed well site or intake location may be appropriate.

Water Supplier responsibilities:

- At the request of the DWO, attend the site assessment

3. Construction Permit Application/Construction Permit Waiver Request

Drinking water works must not be constructed, expanded or altered without a valid construction permit or a waiver granted by the Public Health Engineer prior.

The Public Health Engineer may consider construction permit waivers requests for:

1) The construction of a new, small water system serving a single parcel of land, and the system:
   - Uses a single deep-well source that meets the health parameters specified in the CGDWQ, or
   - Uses only simple treatment and/or disinfection;

Or

2) The alteration of an existing small water system serving more than a single parcel of land provided the DWO is prepared to accept the proposal, and the proposed alterations:
   - Are relatively minor, or
   - Are to add simple treatment and/or disinfection,

For proposals on larger systems or relating to the construction of more complex works, a construction permit will be required as per the legislation.

For further assistance in determining whether your proposal may be eligible for a construction permit waiver, consult with the DWO.

Water Supplier responsibilities:

- Submit permit application or waiver request, including detailed specifications for proposed equipment (pumps, tanks, conveyances, disinfection/treatment equipment)
- Ensure all information is complete and accurate to facilitate a timely public health engineering (PHE) review.
- Allow for an extended waiting period for PHE review

4. Inspection by the DWO

The DWO will conduct an **initial inspection** from source to tap after granting source approval and receiving notice from the water supplier that construction is complete. The intent will be to confirm that infrastructure is consistent with the construction permit application or waiver request, and that the building blocks for successful management of the system are in place (i.e. Emergency Response Plan, Standard Operating and Maintenance Procedures, Operator training).

The DWO will conduct subsequent routine inspections at a frequency based on his or her discretion and the results of an Inspection Priority Rating Tool, which assesses risk based on information provided by the operator, system specifics, and inspection findings.

Routine Inspections resemble initial inspections in intent and method, but there is additional focus on management and operation of the water system. The DWO may require logbooks and records for

review (i.e. disinfectant residual, UV system upkeep and maintenance such as bulb changing and sleeve cleaning). The DWO will attempt to verify that the operator's level of knowledge and ability are appropriate to safely operate the system, and may recommend or require additional training.

At his or her discretion, the DWO may schedule **follow up inspections** to monitor for compliance.

Water Supplier responsibilities:

- Notify the DWO when construction is complete.
- Ensure availability of a trained operator to accompany the DWO on all inspections.
- Be aware of ongoing requirements laid out in the Drinking Water Protection Act and Regulation (available online for your review at www.bclaws.ca), and DWO direction via inspection reports, terms and conditions to the operating permit, etc.

5. Operating Permit

Before issuing an operating permit, the DWO will review source approval and construction permit or waiver requirements, and may attach terms and conditions to outline system specific requirements or further define the legislation.

Water Supplier responsibilities:

- Ensure that no water reaches water users until an operating permit is in place.
- Review proposed terms and conditions, and request changes if necessary.
- Adhere to all terms and conditions once the permit has been issued. Failure to do so may result in the DWO taking enforcement action.

6. Water Quality Monitoring Program

Sample frequency for E coli and total coliform bacteria will be as per Schedule B of the Drinking Water Protection Regulation, or, at his or her discretion, the DWO may modify sample frequency.

In considering a deviation from the legislated bacteriological sampling frequency, the DWO will:

- Review all submissions, including any rationale for a proposed reduction in sample frequency from that specified in the legislation.
- Consider source type and integrity, system size, sample history (if any), compliance history (if any), water quality, disinfection/treatment methods, inherent system risk etc
- Assess raw water sampling requirements
- Determine whether THM/HAA sampling is to be required (where chlorine is applied)

The DWO will set the frequency for chemical/physical scans based on system characteristics such as source type and security, also considering any results from previous testing.

Water Supplier responsibilities:

- Submit evidence to support any proposed changes or reductions in sampling frequency.

- Meet all requirements of the monitoring program, retaining all results for future reference.

7. Maintenance and Operating Procedures

Written maintenance and operating procedures are required to ensure system operations are smooth and effective. These procedures should comprise a logbook with daily, weekly, and monthly tasks, and require the person responsible to initial the logbook upon completion of a task.

Water Supplier responsibilities:

- Develop written operating and maintenance procedures appropriate to the system
- Monitor source water and treatment or disinfection equipment (i.e. chlorine residuals, turbidity etc) Consult user manuals to inform this process.
- Initiate record keeping and retain all records for reference and inspection purposes

8. Source Protection

Depending system size, the plan may include signage, limits on land use, purchase of land, zoning restrictions, controls on industry/resource harvesting etc. Resources should be focused on areas under water system control. The plan should demonstrate that the water supplier knows what impacts the water source may be subject to, how to prevent or mitigate harm to water users in the event of a contamination event. The DWO may be able to provide written resources to assist in developing a source protection plan.

Water Supplier responsibilities:

- Establish and adhere to a source protection plan

9. Emergency Response Plan (ERP)

An ERP will inform system response to any threat to water user health. It will outline required actions in each type of emergency, with up to date contact information for all individuals who may be required for assistance. The DWO may be able to provide an ERP template, particularly for small systems.

Water Supplier responsibilities:

- Prepare an ERP, ensure familiarity and accessibility to staff, and conduct annual plan reviews.

10. Operator Training

For large systems, the Environmental Operators Certification Program (EOCP) will provide a rating to indicate training requirements for the water system operator. The rating considers source, complexity of disinfection/ treatment, size of system etc. Training requirements for small system operators are at the discretion of the DWO, but Water Safe (or equivalent) is generally a minimal requirement.

Where there will be a delay in securing a trained operator, the DWO may have additional requirements to ensure the operational needs of the system are met in the interim (i.e. contract with an offsite certified operator to visit the system and provide required oversight.)

Water Supplier responsibilities:

- Determine training requirements and develop and adhere to a plan to meet requirements
- Plan for succession through the provision of training to an alternate staff member

11. Annual Report

Water suppliers are required to make an annual report to water users.

The report will provide

- bacteriological results
- chemical results
- description of upgrades or major work on the system
- planned upgrades
- expected rate increases and justifications
- Additional information specific to the system

The DWO may provide instruction on expected annual report content or release date, or may attach related requirements as terms and conditions to the operating permit. Depending on system size and other characteristics, the water supplier may post the report in a common area, include a copy with the water bill, post it to the water system website and notify water users that this has been done etc.

Water Supplier responsibilities:

- Prepare annual reports to water users and provide a copy to the DWO.
- Ensure adherence to report release date and any additional report contents specified by the DWO

12. Ongoing Contact with DWO

The DWO may contact the water supplier to arrange inspections, to obtain audit samples, to discuss operator training, to inform of possible changes or additions to terms and conditions of the operating permit, or for a variety of other reasons.

The water supplier must inform the DWO of any emergency or other atypical occurrence in system operations, and may contact the DWO at any time with questions or concerns.

Water Supplier responsibilities:

- Inform the DWO in an case of known or suspected water contamination or other emergency, but do not allow any delay in taking necessary precautions as per the ERP (i.e. issuance of a Public Notice)
- Ensure the availability of a qualified operator to accompany the DWO on inspections