MINUTES OF THE ADVISORY TRAFFIC COMMITTEE MEETING
Wednesday, October 19, 2022 @ 10:00 AM
City Hall Council Chambers

PRESENT: Chair, Rob Dickinson, Director of Engineering & Public Works
Councillor Ron Paulson
RCMP, Manager of Community Policing, Dave Cusson
SD#70 Trustee, Larry Ransom
Engineering Technologist, Eric Bruvall

REGRETS: Ministry of Transportation, Jessica Learn
Deputy Fire Chief, Wes Patterson
RCMP, Sgt. Peter Dionne
ICBC, Peggy Gibbs
ICBC, Caroline Robinson
Diversified Transportation, Kathy Deschamps

DELEGATIONS — **Action By**

None

UNFINISHED BUSINESS

NEW BUSINESS

1. **Discuss preliminary data from traffic counters / locations.**
   Traffic counters have been placed around town to record volume and speed. Average speeds have been as expected although there have been max speeds of 162.5km/hr through the 10th Ave dip as well as 159km/hr northbound on Stamp Ave. We will continue monitoring and supplementing the data to help identify where we have issues.

2. **August 18, 2022 request from Jessie Greenland regarding installing a "Slow – Intersection" sign in the lane behind the 2600 block of 9th Ave.**
   Rob will follow up with Jessie to clarify the intersection of concern as well as ICBC. To place a sign in a lane would have to be warranted through an actual study. Will consider other traffic calming remedies such as speed bumps. See additional input provided by ICBC on page 4. — RD

3. **Discuss traffic calming circles. Conditions for appropriate use. Standard Design. Potential locations are Pierce Rd. and Chapman Rd., or Josephine St. and Mary St.**
   Considering traffic calming circles in certain locations, especially around schools to slow down vehicles. Need to check to make sure they won't negatively affect emergency services. It was noted that it would be nice to have something aesthetic that doesn't cause any sight line issues, rather than utilitarian. Dave suggested lane narrowing bollards placed on the center line as well as just in from the curbs as another traffic calming remedy. It was discussed doing a pilot project along 6th Ave as the intersection at 6th Ave and Wallace St. was noted as a concern for high speed traffic. See additional input provided by ICBC on pages 4-10.

4. **Discuss curb extensions with 4 or 8 wheelchair ramps per intersection.**
   Curb extensions improve vehicles sight lines in intersections where we have crosswalks for slowing traffic. Vehicles are more likely to cut the curb on lower extensions making the preferred option to be two letdowns per corner where there is heavy or truck traffic. Dave mentioned cars failing to yield after stopping is one of the biggest traffic issues they see. See additional input provided by ICBC on page 5.

LATE ITEMS

1. **October 18, 2022 email from Dave Cusson wanting to discuss boat and trailer parking along River Rd.**
   This summer there were a couple accidents that occurred due to boat trailers parked along the side of River Rd. by Clutesi Haven Marina including an injured cyclist. There are some areas where the paint indicating no parking is quite faded. We will look into getting these curbs repainted before the fishing season starts up again next year.

DISCUSSION

Councillor Paulson brought up the intersection at Kingsway and 2nd Ave. There are not currently any road markings there making it difficult to navigate, especially turning right onto Kingsway from 2nd Ave. He suggested adding some white markings to indicate the center of the road.

Councillor Paulson mentioned a crosswalk that he encountered while travelling that had strobe lights that he found very effective. Rob mentioned a possible pilot project in the future for crosswalks with motion sensors.

PROPOSED SCHEDULE OF NEXT MEETING DATES FOR 2023:

TBD

Meeting was adjourned at 11:00 a.m.

DISTRIBUTION

Council
Tim Pley – CAO
Twyla Slonski – Director of Corporate Services
Rob Dickinson –Director of Engineering & Public Works
John Stephen - Streets Superintendent
Scott Smith –Director of Development Services/Deputy CAO
Chris Baker - Manager of Community Safety
Willa Thorpe, Director of Parks, Recreation and Heritage
Sgt. Peter Dionne – RCMP, email agenda to Peter.DIONNE@rcmp-grc.gc.ca
Wes Patterson, Deputy Fire Chief - Fire Department
Larry Ransom - Trustee, SD 70, email agenda to mlransom@shaw.ca
Caroline Robinson - Road Safety Coordinator, ICBC, email agenda to caroline.robinson@icbc.com
Peggy Gibbs, ICBC, email agenda to margaret.gibbs@icbc.com
Jessica Learn, Ministry of Transportation & Infrastructure, email agenda to jessica.learn@gov.bc.ca
Kathy Deschamps - Diversified Transportation Ltd., email agenda to kathyd@patransit.pwt.ca
David Wiwchar, The Peak, email agenda to dwiwchar@islandradio.bc.ca

Here is some input to the items under "New Business":

Item 2: August 18, 2022 request from Jessie Greenland regarding installing a "Slow – Intersection" sign in the lane behind the 2600 block of 9th Ave.

- Checking the ICBC Claims database, I can find no claims in the most recent 5 reporting years (2017-2021) along the laneway or at its intersections with Melrose St or Bruce St.

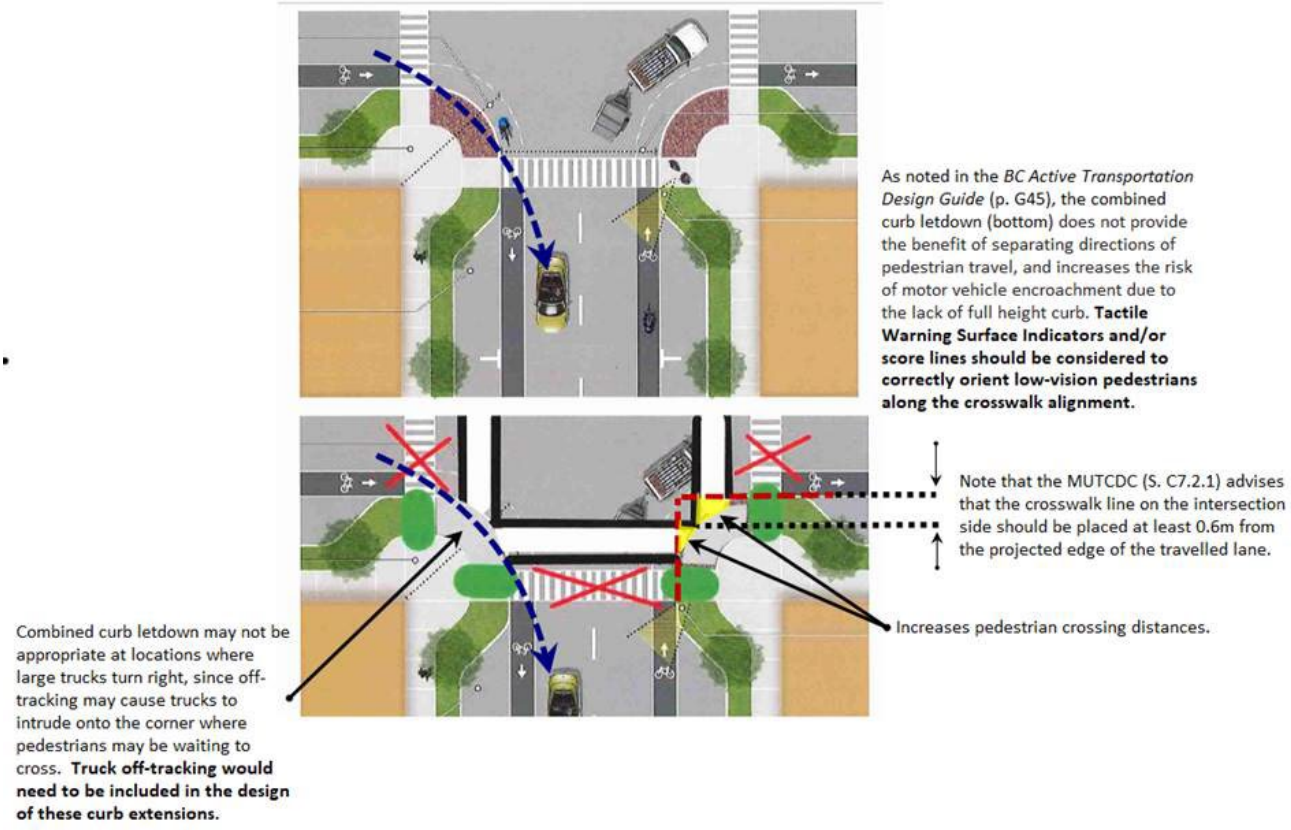
Item 3: Discuss traffic calming circles. Conditions for appropriate use. Standard design. Potential locations are Pierce Rd. and Chapman Rd., or Josephine St. and Mary St.

- Checking the ICBC Claims database, I can find no claims at either Pierce/Chapman or Josephine/Mary in the most recent 5 reporting years (2017-2021).
- I have attached a brief discussion of traffic circles from the *Canadian Guide to Traffic Calming* (TAC, 2018), which contains some guidance on conditions for appropriate use (Section 3.3.5) and design guidelines (Section 4.3.4).
- As you have noted, traffic circles are for traffic calming, which generally aims to reduce vehicle volumes and/or speeds. You will have a better handle on whether volumes or speeds are high at these intersections, and so whether either intersection would benefit from a traffic circle in terms of reductions in volume or speed.
- <u>Pierce/Chapman:</u>
    - The intersection appears to have a wide expanse of unmarked pavement, so the central island will need to be large enough so that all vehicles must follow an indirect path through the intersection. This may be difficult to achieve for the WB-to-NB movement along Chapman Rd, and the EB movement from Pierce onto Chapman. As a result, a traffic circle may not effectively reduce speeds for these movements.
    - The Pierce/Chapman intersection was the subject of a previous discussion at the ATC (see Meeting Notes of 19 April 2017), in response to a letter from resident Kathy Krznaric regarding driver confusion over who has priority. In response to that resident concern, Wilf undertook to paint a yellow centreline along Chapman Rd.
- <u>Josephine/Mary:</u>
    - Signing may have changed since the 2015 Google Street View images, but if it is the same, the City may want to consider posting a Stop sign on at least one of the approaches to assign right-of-way. In addition, the City may want to review the use of the School Zone sign. The nearest school appears to be the old AW Neill Middle School (now the Tsuma-as Elementary School?), which is quite some distance away on a different street.
    - The intersection appears to have a very wide expanse of unmarked pavement, so the central island will need to be large enough so that all vehicles must follow an indirect path through the intersection. This may be difficult to achieve for the NB-to-EB movement along Josephine St, and the SB movement from Mary Rd onto Josephine St. As a result, a traffic circle may not effectively reduce speeds for these movements.
- If the aim is to reduce potential conflicts at these intersections that have unusual configurations, other measures may be considered, such as:
    - refreshing the yellow centrelines along Chapman and Josephine, if they have faded with time or wear

- extending a dotted edgeline along Chapman and Josephine at the intersections with Pierce and Mary, to more clearly indicate to drivers on the minor (Pierce and Mary) approaches that they will be entering uncontrolled through roadways when they enter Chapman and Josephine
- provide Stop signs (Mary Rd) and stop bars (Mary Rd and Pierce Rd) on the minor approaches to the intersections.

Item 4: Discuss curb extensions with 4 or 8 wheelchair ramps per intersection.

Some thoughts are summarized below:



Margaret Gibbs, P.Eng.

Road Safety Engineer
Road Improvement Program

ICBC *building trust. driving confidence.*

[redacted]

3.3.5 TRAFFIC CIRCLE / TRAFFIC BUTTON / MINI-ROUNDABOUT

Source: Tollazzi, 2015

Design Details: Chapter 4, Section 4.3.4

Description and Purpose:

A traffic circle/traffic button/mini-roundabout is an island located at the centre of an intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island.

Mini-roundabouts are designed in accordance with full-size roundabout design principles presenting splitter islands and deflection of vehicles on all approaches, except that they have a smaller diameter and traversable islands. A traffic circle is typically smaller than a mini-roundabout and does not have splitter islands on the approaches. A traffic button is similar to a traffic circle, however, the former is typically made of coloured asphalt while the latter is landscaped.

The turning radius for left-turning trucks, buses, or emergency vehicles may require a diameter which would be larger than the intersection space commonly available. Consequently vehicles may turn in left in front of the traffic circle or mount the centre raised island rather than travelling around it.

Yield traffic control is recommended.

Advantages:

- Vehicle Speeds: Reduction in 85th percentile speed up to 14 km/h[10,52]
- Traffic volumes: Reduction of up to 20%[52]
- Conflicts: Collision rate reductions of approximately 30% compared to signalized intersections[52]
- Environment:
  - Traffic noise reduction of 3 dBA due to lower speeds (benefits may be offset by increased noise due to braking and accelerating)[52]
  - Environmental benefit through reduced delay, fuel consumption, and vehicle emissions
  - When landscaped, can improve the appearance of a street
- Other: No effect on resident access, street sweeping, and police enforcement

Disadvantages:

- Emergency Response: Delay between 1.3 and 10.7 seconds for emergency vehicle response times[52]
- Active Transportation and Transit:
  - May force vehicles into crosswalk area increasing potential for pedestrian-vehicle conflicts
- Parking: May require removal of some on-street parking in vicinity of traffic circle
- Maintenance: "Minor" effects on winter maintenance by increasing snow plowing time

3.3.5 TRAFFIC CIRCLE / TRAFFIC BUTTON / MINI-ROUNDABOUT

- Other:
  - Restricted access for trucks and longer school buses
  - Traffic may be diverted to parallel streets without traffic calming measures

Applicability:

- Road Classification: Local and collector street intersections
- Traffic Conditions:
  - Posted speed limit ≤ 50 km/h
  - < 1500 vehicles per day; Use with caution for low-volume collectors with 1500 to 5000 vehicles per day[65]
- Roadway: Urban cross-section – curb and gutter; rural cross-section; maximum two traffic lanes (one each direction)
- Locations to Avoid:
  - Designated emergency access routes and transit routes
  - Intersections with high pedestrian volumes
  - Intersections where collector street traffic volumes are significantly higher than the intersecting street

Elements to Consider:

- Preferred with textured crosswalks and most effective when used in series
- Sight lines should be respected if there is landscaping

Cost:

- Traffic Circle / Traffic Button: Low – Medium
- Mini-Roundabout: Medium – High

4.3.4 TRAFFIC CIRCLE / TRAFFIC BUTTON / MINI-ROUNDABOUT

A traffic circle, traffic button or mini-roundabout requires all traffic flowing through an intersection to follow an indirect path. All turning traffic at such an intersection is required to turn around a central island with the possible exception of long service or emergency vehicles or buses as described in Chapter 3, Section 3.3.5. A traffic button differs from a traffic circle in that the traffic button's centre island is flush with the asphalt and made of coloured asphalt while a traffic circle is typically landscaped.

It is recommended that Yield signs be used on all approach streets to control traffic flow at a traffic circle. If local convention is to not use any signs as there is no history of operational problems at traffic circles, then this is the only acceptable alternative to Yield signs.

The central island often will include a small raised or landscaped portion with the outer portion being mountable so that medium size vehicle paths can encroach on this portion of the island.

The following sections provide information related to geometric, signing and pavement markings, pedestrian and bicycle requirements. The information presented is a summary of the NCHRP Report 672 titled *Roundabouts: An Informational Guide*. Further information can be found in the full report at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_672.pdf. In addition, practitioners can also refer to TAC's *Canadian Roundabout Design Guide* (CRDG).

A. Geometric Requirements

The central island in the traffic circle must be large enough so that all vehicles are required to follow an indirect path even to proceed straight through the intersection. A mini-roundabout's inscribed circle diameter should generally not exceed 30 m. Composed of asphalt concrete, Portland cement concrete, or other paving material, the central island should be domed using 5% to 6% cross slope, with a maximum height of 125 mm.

The opening width and related dimensions indicated in Figure 4.11 are based on passenger cars not encroaching on any part of the central island.

The critical dimensions of a local street traffic circle are indicated in Figure 4.11. The illustrated central island is circular although this is not essential. Any other central island shape should accommodate the same turning provisions.

In the case of mini-roundabouts, splitter islands can be raised, traversable, or flush depending on the size of the island and whether trucks will need to track over the top of the splitter island to navigate the intersection. The following are general guidelines for the types of splitter islands under various site conditions:

Consider a raised island if:

- All design vehicles can navigate the roundabout without tracking over the splitter island area;
- Sufficient space is available to provide an island with a minimum area of 4.6 m^2; and/or
- Pedestrians are present at the intersection with regular frequency.

Consider a traversable island if:

- Some design vehicles must travel over the splitter island area and truck volumes are minor; and
- Sufficient space is available to provide an island with a minimum area of 4.6 m^2.

Consider a flush (painted) island if:

- Vehicles are expected to travel over the splitter island area with relative frequency to navigate the intersection;
- An island with a minimum area of 4.6 m^2 cannot be achieved; and
- Intersection has slow vehicle speeds.

Where entrance lines are located within the inscribed circle, raised splitter islands typically terminate at the edge of the inscribed circle rather than being carried to the entrance line location. A painted or traversable splitter island should be continued to the entrance line to guide entering motorists around the central island. A configuration for a mini-roundabout is illustrated in Figure 4.12.

B. Signing and Pavement Marking Requirements

No advance signs are required on the approaches to a traffic circle or traffic button. Yield signs (RA-2) are recommended on all approaches. Chevron alignment signs (WA-9) indicating a change in horizontal alignment are required.

For mini-roundabout signing and pavement markings, refer to the Manual of Uniform Traffic Control Devices for Canada.

C. Parking Considerations

Parking in the circulatory roadway is not conducive to efficient and safe roundabout operations and should typically be prohibited. Parking on entries and exits should also be set back far enough so as not to hinder roundabout operations or to impair the visibility of pedestrians. It is recommended that parking should end at least 6 m from the crosswalk of an intersection and curb extensions or bulb-outs be used to clearly mark the limit of permitted parking and reduce the width of the entries and exits. Section 4.4.2 provides design guidelines for on-street parking.

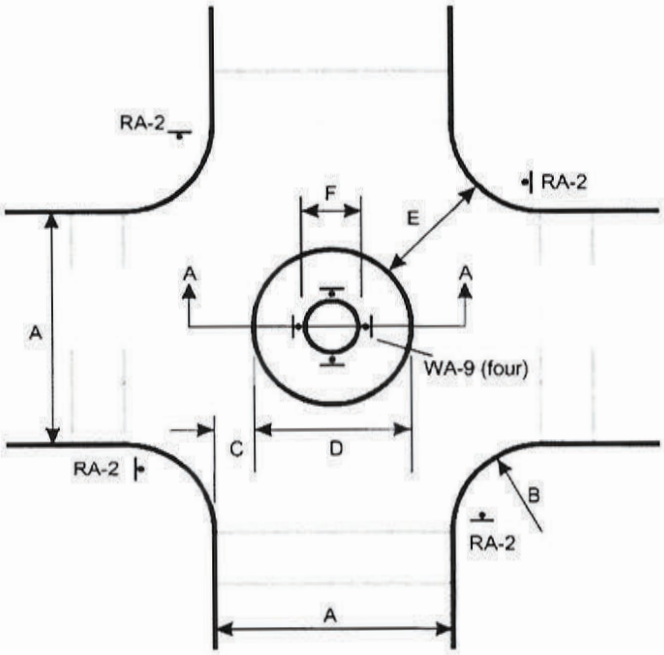
D. Pedestrian Treatment Requirements

For mini-roundabouts, pedestrian crosswalks are recommended to be located 6 m upstream of the entrance line to accommodate one vehicle stopped between the crosswalk and the entrance line.

Where a traversable or raised splitter island is used, a walkway, ideally minimum width of 3 m, should be cut through the splitter island instead of ramped. Sidewalk ramps should be provided to connect to the sidewalks at each end of the crosswalk and should be equipped with a detectable warning surface such as raised truncated domes applied to meet accessibility requirements. Where a minimum splitter island width of 1.8 m is available on the approach, a pedestrian refuge should be provided within the splitter island. In cases where the available roadway width may not be sufficient to provide an adequate refuge area, no detectable warnings should be used within the splitter island.

E. Bicycle Requirements

For mini-roundabouts, where bicycle lanes are provided on the approach, the full-width bicycle lane should be terminated at least 30 m upstream of the entrance line to alert motorists and bicyclists of the need for bicyclists to merge. An appropriate taper (recommended rate of 7:1) should be provided to narrow the sum of the travel lane and bike lane widths down to the appropriate width necessary to achieve desired motor vehicle speeds on the roundabout approach.



Dimension Chart for Varying Roadway Widths

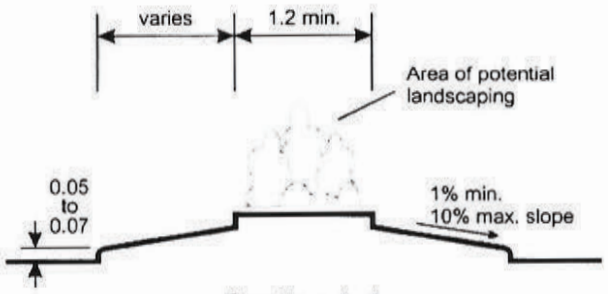
A Roadway Width	B Curb Return Radius	C Off-Set Distance	D Circle Diameter	E Minimum Opening Width
6.0	4.7	1.7	2.6	4.9
	5.3	1.6	2.8	5.0
	6.9	1.4	3.2	5.5
	8.1	1.2	3.6	5.8
7.0	4.2	1.7	3.6	4.9
	4.8	1.6	3.8	5.0
	6.4	1.4	4.2	5.5
	7.8	1.2	4.6	5.9
8.0	3.7	1.7	4.6	4.9
	4.3	1.6	4.8	5.0
	5.9	1.4	5.2	5.5
	7.3	1.2	5.6	5.9
9.0	3.2	1.7	5.6	4.9
	3.8	1.6	5.8	5.0
	5.4	1.4	6.2	5.5
	6.6	1.2	6.6	5.8
	7.6	1.0	7.0	6.0
10.0	3.0	1.7	6.6	5.0
	3.3	1.6	6.8	5.0
	4.9	1.4	7.2	5.5
	6.1	1.2	7.6	5.8
	6.9	1.0	8.0	5.9
11.0	3.4	1.5	8.0	5.2
	3.6	1.4	8.2	5.2
	5.6	1.2	8.6	5.8
	6.8	1.0	9.0	6.1
12.0	3.0	1.5	9.0	5.2
	3.9	1.4	9.2	5.5
	5.1	1.2	9.6	5.8
	6.3	1.0	10.0	6.1

Sign Descriptions:

RA-2	Yield
WA-9	Chevron Alignment

Legend:

A	Roadway Width
B	Curb Return Radius (3.0 m min)
C	Off-Set Distance (1.7 m max.)
D	Circle Diameter
E	Opening Width (See table above)
F	Raised Island Diameter (1.2 m min.)



Section A-A

- Minimum opening width to be provided to all crosswalks.
- A deflection triangle painted on the pavement on each approach to the traffic circle may be appropriate.

All dimensions are in metres unless otherwise noted.

NOT TO SCALE

FIGURE 4.11 – TRAFFIC CIRCLE