CITY OF NANAIMO
THE HARBOUR CITY

Information Report

DATE OF MEETING NOVEMBER 8, 2021

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SUBJECT **SOUTH NANAIMO MOBILITY**

OVERVIEW

Purpose of Report:

During the September 21, 2021 Regular Council meeting, Council passed a motion "That a scope of work and possible funding options for a comprehensive Chase River and Cinnabar Valley mobility plan, that includes consideration of automobile, pedestrian, public transit, cycling and other accessible transportation modes, be prepared for the Governance and Priorities Committee Meeting on connectivity challenges in south Nanaimo". This report provides context to mobility in South Nanaimo and outlines a potential study to inform short, medium, and long term mobility enhancements.

BACKGROUND

As with many lowland areas, the Cinnabar valley origins are in agriculture. Over 50 years, growth and transition resulted in a low density residential community on the southern limits of Nanaimo. For the most part, these subdivisions followed a Conventional Road Network (Figure 1). This format is not resilient and has low capacity to manage growth or densification, and is not conducive to multimodal mobility. Concerns raised by the community illustrate this point.

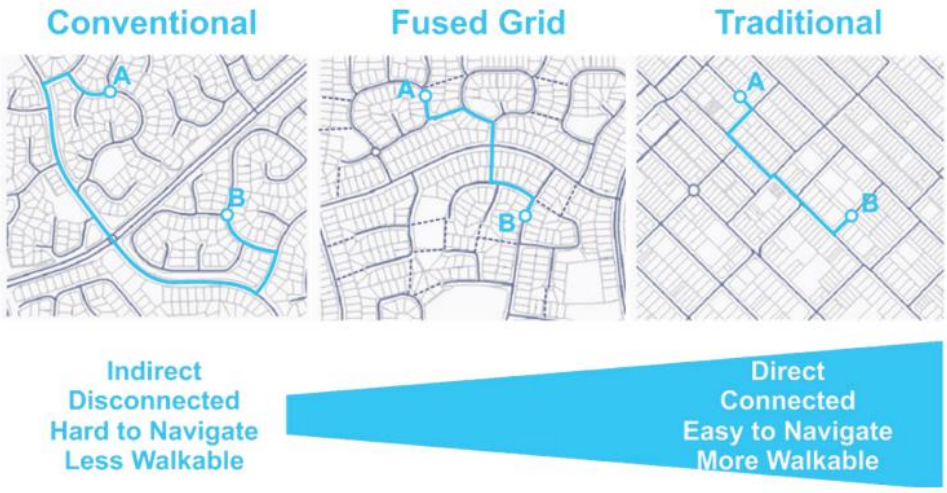

Figure 1 Road Network Types

Over this 50 year period, many steps influenced growth and development. Some of the milestones or events relating to transportation or mobility include:

- First residential subdivision in 1970
- Area amalgamated with the City of Nanaimo (the City) in 1975
- 1987 Official Community Plan (OCP) identified need for bypass connector (Cranberry Connector)
- Parkway opened in 1997, including Parkway trail
- Chase River Neighbourhood Plan adopted in 1998
- Early version of Sandstone Development – Innucan Lands began in 1998
- Cranberry Connector Alignment Study completed in 2000 – Attachment A
- Current OCP adopted in 2008
- Current Sandstone Master Plan adopted in 2009 (including connection across Trans Canada Highway (TCH))
- Environmental Covenant applied to 103 Lotus Pinnatus Way in 2013, precluding mobility connection between McKeown and Harewood Mines Road
- Nanaimo Transportation Master Plan (NTMP) adopted in 2014
- "Sandstone" OCP/Rezoning applications 2019 to present
- 2020 City Council endorsed traffic calming on Extension Road
- ReImagine (OCP Update) 2020 to 2022
- Various Small Scale Mobility Upgrades 2003 to 2020 – Attachment B
- 2021, partnership plan with MoTI for short, medium, and long term collaboration to address Chase River Resident Association concerns.

DISCUSSION

Current Conditions

Following the adoption of the NTMP in 2014, Staff focused investigations in sensitive traffic areas throughout the City. Five years ago, work began collecting data for the Chase River/Cinnabar Valley area in an effort to better understand priorities and concerns. Staff participated in Neighbourhood Association meetings with the Ministry of Transportation and Infrastructure (MoTI). Staff had anticipated undertaking an update on the Cranberry Connector Study in 2019; however, an application to amend the Sandstone Master Plan and re-zone the subject properties, complicated this and the process was put on hold until such time as land use was confirmed.

Through conversations at the Neighbourhood Association meetings, the community expressed concerns about the operation of the signals on the TCH at Cedar Road, Cranberry Avenue and Tenth Street. These signals are the MoTI's jurisdiction and upgrades or changes are the responsibility of that organization. It is appropriate to reflect on how these signals are operating in the context of other high demand areas within the City. This will help to inform the overall prioritization of work across the City. Signal operation characteristics for several intersections on Bowen Road have been provided for comparison and context in Table 1.

Key understandings of the information presented are that:

- Values provided for intersection level of service are an average of all movements; some movements, such as a specific left turn may actually be operating at a much lower level.
- The decline in traffic signal level of service is not linear. That is, when a signal exceeds capacity, the delay can increase very quickly, rapidly entering failure or grid lock.
- The traffic collision data is measured in ***Million Entering Vehicles*** (MEV) and is an overall rate for the intersection. Identifying which specific movements are generating the collisions require, a thorough collision analysis, which could be part of an overall mobility study.

Intersection	Intersection Level of Service (2019)	Most Sensitive Movement/LOS	Intersection Demand vs Capacity (%)	Collisions Rates 2016-2019 (MEV*)
Island Hwy Bowen Norwell	F	SB – Left / F	158	2.3
Bowen Dufferin	C	WB – Left / F	115	3.0
Bowen Northfield	F	SB – Through/Right / F	112	3.3
Bowen E. Wellington	C	NB – Left / F	98	0.9
Bowen Labieux	C	EB – Left / F	97	1.9
TCH Cranberry	C	SB – Through / C	89	1.7
TCH Tenth Maki	C	EB – Right /D	88	2.3
Comox Terminal	C	SB – Left / E	84	2.7
Bowen Meredith	C	NB/SB – Through / C	78	1.4
Bowen Wakesiah	C	SB – Through / C	78	2.2
Bowen Pine	B	EB – Through /D	75	1.7
TCH Cedar	C	NB – Through / D	68	2.7
Comox Wallace	B	EB – Though / Left / D	58	0.9
Bowen Kenworth	B	EB – Through/Left / D	56	0.7

Table 1 Traffic Data

An important aspect of undertaking a traffic planning/mobility study is understanding where people are coming from and going to. This is even more important when studying an area such as South Nanaimo because there is so little redundancy in the network. Using the City's transportation model and the data collected in early 2019, it suggests that approximately:

- 30% of the trips generated by the neighbourhood are destined for Southgate
- 70% split between Downtown and somewhere north of Fifth Street
- There is very little demand to the east of the TCH, however this will change if development occurs

With respect to walking and biking, the barriers and proximity to the majority of destinations leave walking and biking as undesirable modes of travel. Transit does currently serve the area, however service and demand are relatively low and are difficult to enhance with of the existing road network.

Planned Upcoming Work

Less than 6 months

- MoTI will review and optimise traffic signal timing at the intersections of Cedar Road, Cranberry Avenue and Maki Road. MoTI will also review the potential implications of a protected northbound to westbound left from the TCH to Cranberry Avenue. Further discussions with the Neighbourhood Association will occur once the review is complete.
- The City will carry on with public engagement for Extension Road Traffic Calming (using Chase River Neighbourhood Association (CRNA) Chair as point of contact).
    - This will also include a review and assessment of the request for crosswalk upgrades along Extension Road, similar to what has been implemented as part of the Lost Lake Traffic Calming project.

6 months – 12 months

- The City to begin an Active School Travel plan with both Chase River and Cinnabar Valley Elementary. This has been discussed in the past with School Parent Advisory Committee's and will assist with prioritizing and addressing concerns shared by the CRNA.
- The City and MoTI will collaborate to address the pedestrian connectivity barriers between Cranberry Avenue and 12th Street and the community desire to have a southbound deceleration lane on to Cranberry Avenue.
- MoTI to review feasibility of extending existing turn bays on the TCH to better accommodate existing demand.

Beyond 12 months

- Explore opportunities to address congestion concerns.
- Explore opportunities to create walking/biking connection along Extension Road as well as from Chase River north into the core of the City.
- Explore opportunities to develop redundancy in the network.
- Continue working with potential developers to manage growth and infrastructure and servicing within the Chase River area.

Potential Work

The NTMP includes a long range vision for mobility and connectivity within the Chase River and Cedar Road areas (Figure 2 - Attachment C). It is clear that current planning and development projects may alter the land use that was envisioned for this area. In light of this, a comprehensive mobility study for the area would be effective at re-assessing this vision and developing strategies to manage the demands on mobility as the area continues to grow and evolve.

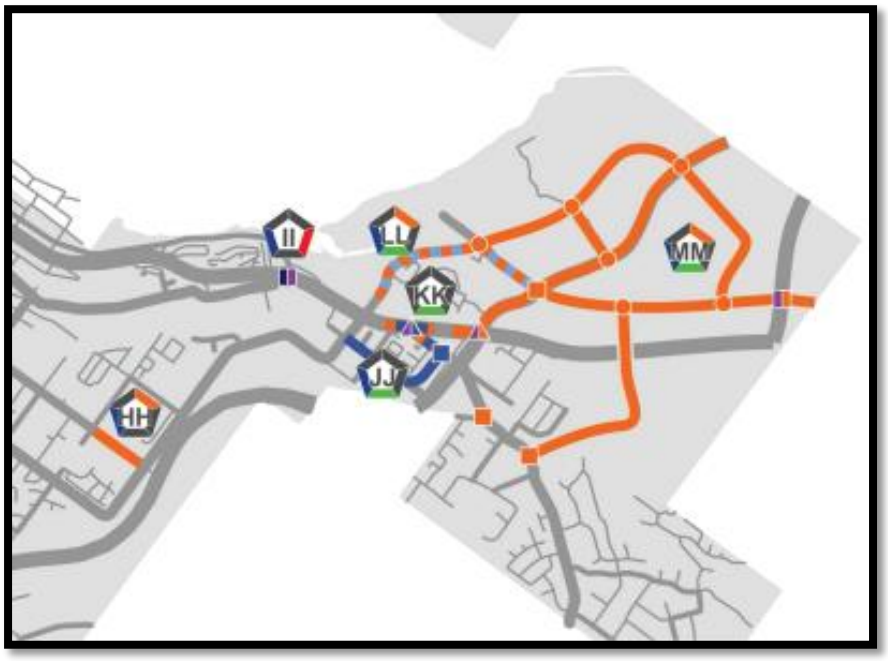

Figure 2 Future Major Road Network

Key connections envisioned through the NTMP:

- Cranberry Connector – from Extension Road to Tenth Street / Lawlor Road
- Fielding Connector – from Cedar Road to Maki Road
- Overpass linking the Cinnabar Valley to land east of the TCH

A mobility study for this area is a major undertaking and will require considerable funding and Staff resources.

The scope and process would be similar to the Downtown Mobility Hub project carried out for Downtown in 2019.

Key steps include:

- Base line data and existing plans and studies would be reviewed.
- The community and stakeholders would be engaged to clarify problem statements and priorities.
- Workshops would be held to work with the community, stakeholders, and Council to identify and balance priorities. Solutions to the known concerns are costly and trade offs may need to be made.
- Various scenarios would be prepared and shared with the community for feedback. These would include a prioritization of upgrades which would be used to inform future financial plans.
- A final report would be delivered documenting the assumptions, priorities, compromises, and funding required to execute preferred solutions.

Based on the complexity of this multi-agency study, it is expected that the work would require significant Staff time and could impact other work.

Should Council wish to proceed, Staff suggest allocating $350,000 shared between the City and MoTI. Approximately $70,000 is available through current budgets for the City portion of the study, however an additional $105,000 (to make up the $175,000 share) would need to be identified in a future financial plan or potentially drawn from the Strategic Infrastructure Reserve fund. MoTI has also indicated interest in participating in this process, however a formal cost share agreement would need to be ratified prior to proceeding.

The resource estimates for this study assume that the Land Use for the study area is known. If there is a need to consider a variety of land use schemes, the cost and time to complete the study will increase substantially as there will be a greater need for stakeholder engagement and scenario modeling.

CONCLUSION

In the 50 years since the first residential development in the Cinnabar Valley/Chase River area, growth and development has not prioritized walking, biking, or transit inside or outside of the community. The ongoing growth and development within the community and surrounding neighbourhoods is now creating frustration with delay and comfort for drivers and residents. Staff are currently working with the community to remedy these issues, however, the barriers are significant. If there is a desire to develop a holistic multimodal solution, a comprehensive study will be needed. In light of the current situation, the key question to consider is: How is the greatest benefit to the community realised balancing land development density, infrastructure and mobility capacity, and investment?

SUMMARY POINTS

- The Chase River/Cinnabar Valley has grown and evolved over the past 50 years to be a car dependent community.
- Extension Road/Cranberry Avenue is the primary connection to the rest of Nanaimo and the congestion on the Trans Canada Highway is causing frustration and concern for the community.
- Topographic, environmental, and jurisdictional barriers (rail and highway) hamper the development of an integrated multimodal mobility system.
- An area wide study would enable all parties to validate concerns, balance priorities, and identify solutions.

ATTACHMENTS

Attachment A – Cranberry Avenue to Tenth Street Alignment Study
Attachment B – Small Scale Mobility Upgrades 2003 – 2020
Attachment C – Map A2 – Future Major Road Network Improvement Projects
Attachment D – South Nanaimo Mobility Presentation

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