CITY STAFF TRANSPORTATION ANALYSIS & CONTEXT

Sandstone Transportation Analysis and Context

Traffic Impact Assessment Scope

The Traffic Impact Assessment examined the existing and future traffic conditions of the Sandstone lands and surrounding road network based on the proposed land uses and densities with focused study on the following:

Seven existing roadways:

- Island Highway/Highway 1 (MoTI), north of Cedar Road
- Cedar Road (City)
- Extension Road / Cranberry Road (City)
- McKeown Way (City)
- Tenth Street
- Maki Road

Six existing intersections:

- Extension Road / McKeown Way
- Extension Road / Cranberry Road
- Island Highway / Cedar Road
- Island Highway / Cranberry Road
- Island Highway / Tenth Street/Maki Road
- Cedar Road / Fielding Road
- Cedar Road / Harmac Road

Existing Transportation Network

The transportation network in the subject area comprises several major highways, rail corridor, and City streets. There are a limited number of route options or alternatives and traffic is concentrated on a few corridors. City streets in the area were mostly established when the area was rural prior to amalgamation, and they lack the expected elements of a well-functioning urban street (e.g. sidewalks and active transportation routes). The Nanaimo Parkway was constructed in the 1990's and was designed with limited access intersections to safeguard regional mobility as a priority. The Parkway, Island Highway, and Duke Point Highway all bisect the lands in question and impose a significant barrier to local mobility, as well as limit the ability to modify existing intersections to accommodate more traffic. As a result, in this area of the City it is challenging to find cost-effective solutions to increase the transportation network capacity, or to provide alternative routes.

The TIA submitted in support of the rezoning application identifies potential traffic operational issues and recommends mitigation measures to accommodate the development traffic as well as future transit, pedestrian, and cycling improvements.

Traffic Impacts and Mitigation

With growth (including Sandstone) over the next 20 years, the expected traffic at key locations is as follows:

- Extension Road near Chase River Elementary could grow from 10,000 currently to 15,000 - 20,000 vehicles per day;

- Cedar Road between Hwy 1 and Fielding could grow from 10,000 currently to 25,000 - 30,000 vehicles per day; and
- Highway 1 between Cranberry and 10th/Maki could grow from 21,000 currently to 40,000 - 50,000 vehicles per day.

  For comparison with some other high traffic streets in Nanaimo: current daily vehicle trips range from 25,000 on Bowen Rd near Beban Park, 27,000 on Aulds Road near Metral Drive, to 25,000 on Terminal Avenue at Pearson Bridge south of Stewart Avenue.

The TIA presumed a 14% reduction in vehicle trips for the Sandstone generated traffic, which aligns with City Plan's mobility targets to reduce vehicle usage by 14% in the next 20 years by supporting a greater number of trips using active transportation. While it is anticipated that vehicle reliance will continue to be greater in the south Nanaimo area than other areas of the city, the TIA identifies opportunities to reduce the number of existing vehicle trips on highway corridors by providing alternatives for active transportation.

The TIA recommends a number mitigation projects to be completed by the applicant as well as recommended future projects to be explored by the City or MoTI to further support the road network function (see transportation mitigation measures and concept drawings in Attachment F). All of the improvements identified as Sandstone's responsibility in the Mitigation Summary will be secured in the MDA to ensure clarity in the triggers and timing for the mitigation measures to be completed.

In addition to the mitigation measures, there will be caps on development until certain conditions are met. For example, a covenant is proposed to limit development within DA1, DA4, and DA5 until the a connector road between Fielding Road and Maki Road (the "Fielding-Maki Connector") is constructed, an alternative has been provided, or traffic volume projections can be reassessed (as described page 14 of Attachment F). The connector could provide an alternate route to avoid the Island Highway / Cedar Road intersection and reduce congestion through this intersection; however, no commitment to construct this connector has been secured at this time. Another key connection will be required between the Sandstone lands and Duke Point Highway. MoTI has advised that additional design details will be required to determine how the connection with the highway will be made.

<u>Funding Considerations</u>

Although the applicant has proposed a significant amount of transportation upgrades to support their development at their cost, there is a gap between these improvements and what is needed to maintain typical levels of service in the road network as the south Nanaimo area continues to build-out. Additionally, there are several key mitigation measures that do not currently have a funding mechanism to collect sufficient funds from growth. Notably, works on the Provincial highways are excluded by statute from the City's Development Cost Charge (DCC) funding.

There are several ways to fund costly public infrastructure required to support growth, including:
- Developers finance directly;
- Development Cost Charge (DCC) funds; and
- Government (local or provincial) funding.

The proposed mitigation package includes projects that are ideally delivered by each of these funding mechanisms or some combination of them.

The City will need to consider the package of DCC roads projects in South Nanaimo and align those with infrastructure needed to support general growth, including Sandstone. The City's current DCC Bylaw 2017 No. 7252 identifies two projects from the proposed mitigation package which would benefit all growth: DCC 71 - the Cranberry Connector, and, DCC 75 - Cranberry Avenue from Extension Road to the Island Highway. The Cranberry Connector project is expected to provide additional redundancy and minor capacity relief; however, funding and prioritization competes with DCC projects in other areas of the City.

The Maki-Fielding Connector could become a future DCC project through the upcoming DCC Bylaw review, and would provide redundancy and some capacity relief while primarily addressing the impact of growth from Sandstone. Existing roads, such as Extension or Cedar will experience considerable additional traffic loading from Sandstone's development and upgrades are required to ensure they operate successfully. Additional projects beyond the proposed Sandstone mitigation measures may be considered through the DCC Bylaw review.

Detailed cost estimates for potential DCC projects have not been completed; however, planning level estimates suggest the costs could be as follows (in 2022 dollars):

Cranberry Connector	$20M
Maki-Fielding Connector	$30M
Extension Road	$5-15M
Cedar Road	$15-20M

Beyond the municipal controlled roads, future highway improvements will rely on eventual Ministry funding to upgrade. Given the Province's limited funding and many other priorities, the intent or timeline for MoTI to make upgrades is uncertain.