

Report to Council



Date: May 1st, 2017
File: 1850-50
To: City Manager
From: Integrated Transportation Manager
Subject: Southwest Mission Sector Transportation Update

Recommendation:

THAT Council receive, for information, the report from the Integrated Transportation Manager, dated May 1st, 2017, with respect to transportation planning in the Southwest Mission Sector.

Purpose:

To advise Council on the historical background of transportation planning in the Southwest Mission, current conditions on Lakeshore and Gordon, potential mitigation strategies for future development in the sector, and alignment with the City's forthcoming Transportation Master Plan.

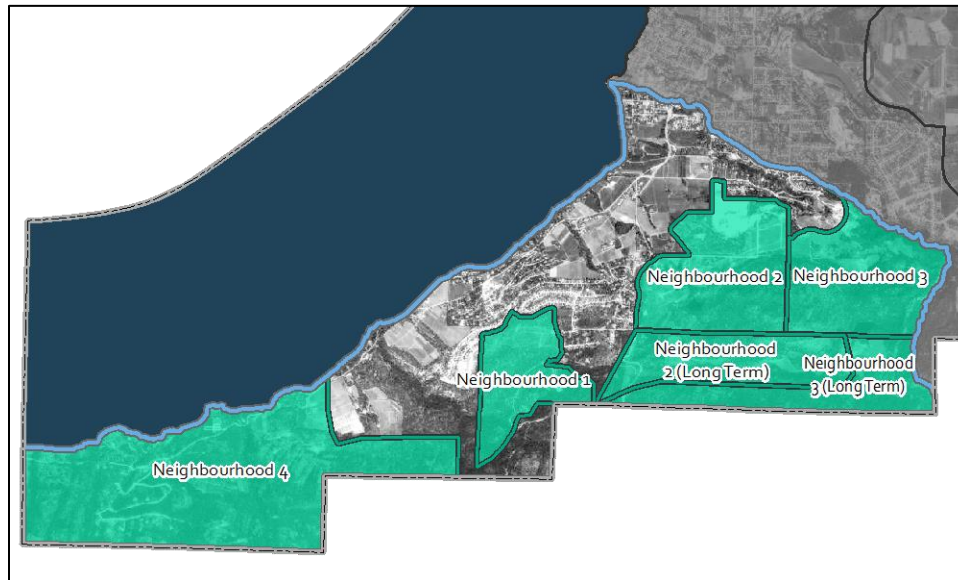
Background:

During the January 16th, 2017 meeting, Council adopted a resolution to direct staff through Service Request 391638, "to bring forward information on South Mission Transportation policies and planning including unit thresholds". Previously in November 2016, Council directed staff "to investigate ways to improve traffic flow along Lakeshore Road and Gordon Drive with consideration given to school zones and crosswalks".

Traffic congestion in the Southwest Mission Sector has been prominent concern for residents in recent years. This report was prepared by an interdisciplinary team of staff from Integrated Transportation, Community Planning, and Policy & Planning. It is intended to respond to Council's directives and provide background information for transportation planning in the area. This report is not a comprehensive transportation plan for the area, which will be delivered as part of the City's forthcoming Transportation Master Plan.

Historical Context

The Southwest Mission Sector Plan (SMSP) envisioned a long-term buildout of 6,650 units in the sector. Just under sixty percent of these (3,850 units) were anticipated to be built between 1995 and 2015. As shown in the table below, a significant portion of these units forecasted in the original twenty-year horizon remain to be realized.



	SMSP Forecast (2015)	Existing	Remaining
Neighbourhood 1	1,450	1,190	260
Neighbourhood 2	1,200	1,250	-
Neighbourhood 3	1,200	225	975
Total	3,850	2,665	1,195

The SMSP also included a high-level road network to support future development. It was suggested that eight vehicle lanes connecting to the sector would be required within the original twenty-year horizon (1995-2015). This would be achieved with Lakeshore, Gordon, and Swamp at two lanes each, and South Perimeter providing another two lanes to be built after 2,700 units. Beyond the twenty-year horizon, the SMSP recommended four-laning either Lakeshore or Gordon at 4,200 units to enable the full buildout of the sector. However, the four-laning of Lakeshore from Barnaby to Old Meadows was added to the DCC program in 1995, to be completed after 1,600 units in Neighbourhoods 1 and 2.

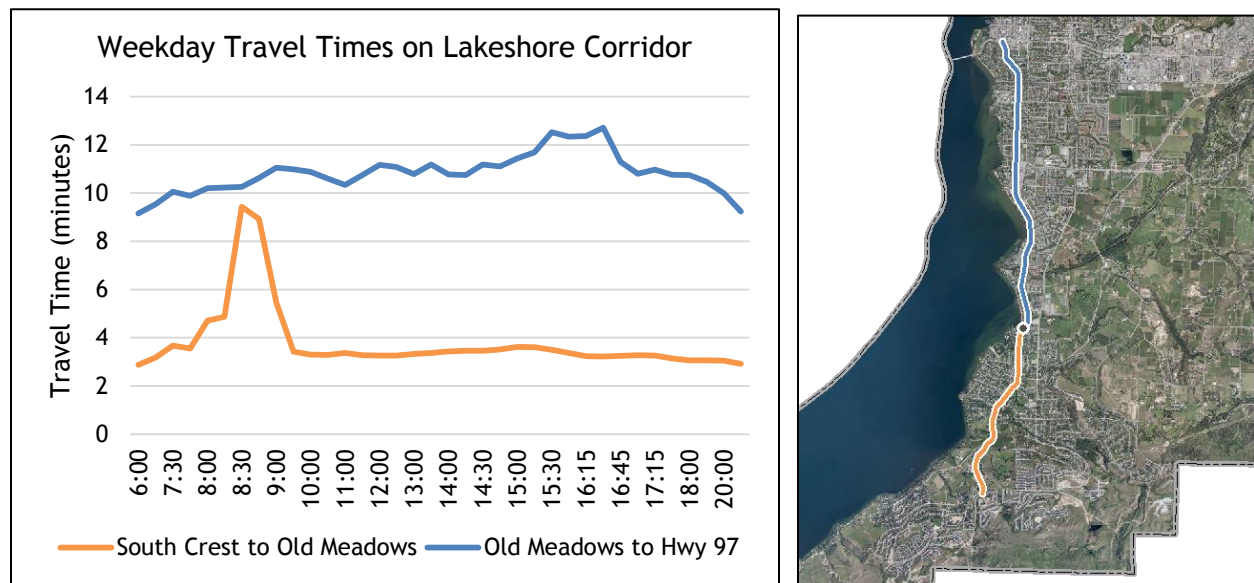
Roughly 1,500 units were built in Neighbourhoods 1 and 2 by 2009. The 2009 Servicing Plan scheduled four-laning Lakeshore from Barnaby to Dehart and the connection of South Perimeter for 2010-2015. Four-laning Lakeshore from Dehart to Old Meadows was scheduled for 2015-2020.

In the 2011 DCC Program, Lakeshore was altered to a three-lane cross section with a shared-use pathway. This decision was made to encourage a more balanced transportation network and minimize the property requirements along the corridor. It is also important to note that the incremental vehicle capacity of a fourth lane is often limited by conflicts with left-turning movements, at the expense of safety and neighbourhood livability. South Perimeter was also deferred until the fourth quarter of the 2030 program (2025-2030); however, construction was accelerated by Council in 2012. The new arterial is now anticipated to be completed in 2019. In the context of the original sector plan, South Perimeter is proceeding approximately on schedule (after 2,700 units) bringing the total capacity connecting to the sector to eight vehicle lanes.

Current Operation of Lakeshore and Gordon

To evaluate current conditions staff recorded video and measured travel times along Lakeshore and Gordon in February 2017. From 7:30am to 8:30am, travel times from the Upper Mission to Old Meadows Rd increased from roughly five minutes to around 13 and 8 minutes on Lakeshore and Gordon, respectively. These delays are significant, but persisted for only 45 minutes when observed. Both roads operate below capacity over 23 hours per day.

Analysis of Google travel time data along the length of Lakeshore and Gordon suggests that the majority of delay between the Southwest Mission and the City Centre occurs at the Lower Mission schools. This is demonstrated in the figure below, which shows travel times for Lakeshore on an average weekday through the Lower Mission (in orange) and from the Lower Mission to Highway 97 (in blue).



A hardware malfunction on the traffic signal at Eldorado has been resolved, leading to a minor improvement in traffic flow. Staff are working to optimize signal timings in the area, recognizing the need to balance vehicle movement with the safety and convenience of children crossing the road. Staff are also providing direction for school crossing guards at Dorothea Walker with regards to the interval between activating the pedestrian flashers. These measures may lead to a marginal reduction in delays on Lakeshore and Gordon; ultimately, some level of peak hour traffic congestion is unavoidable.

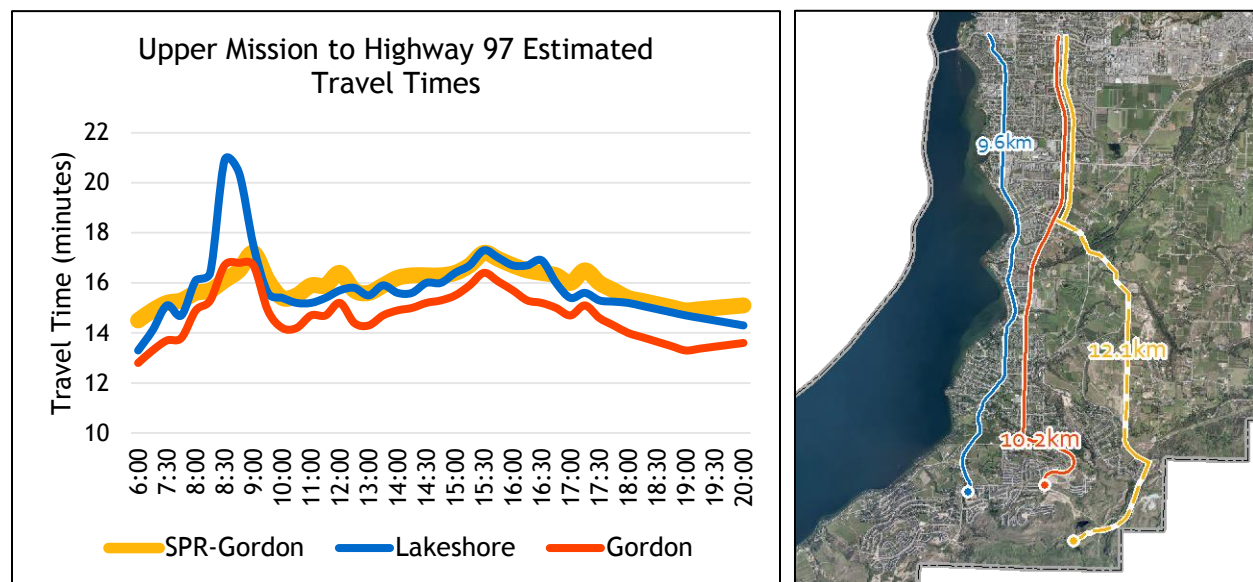
Future Development and Road Network

The roughly 1,200 units remaining within the original twenty-year horizon of the SMSP are anticipated to be built over the next five to ten years, predominantly in the Ponds area. The 2,800 units beyond the twenty-year horizon in the SMSP were split between Thomson Flats and Neighbourhood 4, west of Lebanon Creek. An area structure plan for Thomson Flats is underway, with a maximum top end yield of 1,400 units. Neighbourhood 4 has some significant barriers to development due to topography, agricultural land reserves, and servicing challenges which may preclude development from proceeding.

The current capital plan for roads in the Southwest Mission Sector is attached to this report. Two projects to note are the Frost Rd extension, which should help better distribute traffic between Lakeshore and Gordon, and South Perimeter Rd, which forms part of a new eastern corridor along Stewart and Casorso.

South Perimeter may not significantly reduce peak hour delays on Lakeshore and Gordon, as travel times on the more indirect route will only be competitive when there are significant delays on the existing corridors. The chart below compares the current travel times (based on Google users' data) from Upper Mission to Highway 97 on Lakeshore and Gordon (in blue and red) with the estimated time on South Perimeter/Gordon (in gold).

The extent to which residents divert to the new eastern route will depend on how delays change on existing corridors in the future, either becoming more severe or spreading out in time.



South Perimeter is expected to be beneficial as a 'safety valve' which prevents worsening delays on Lakeshore and Gordon. This is particularly true once the connection through Thomson Flats to Chute Lake Rd is made; this will allow more direct access to the new corridor from Kettle Valley and relieve pressure on the Lakeshore corridor. Until this link is completed, the benefits of South Perimeter will likely be limited to the Ponds area.

Next Steps

Structural planning for the Southwest Mission is underway as part of the Thomson Flats ASP and the City's Transportation Master Plan. The potential impacts of South Perimeter Road and other projects will be assessed with more detailed modelling. Staff will continue to seek operational efficiencies through coordination with the School District and refinement of signal timings. However, given the nature of development in the sector, the location of schools, and the travel patterns of residents, there

will be traffic congestion on Lakeshore and Gordon at peak times and extra capacity most of the day. Maintaining the unhindered movement of vehicles at peak times is not only unfeasible, in terms of the land and investment required, but also undermines the City's efforts to foster more vibrant urban centres and safe, livable neighbourhoods.

Internal Circulation:

Director Strategic Investments
Divisional Director, Community Planning & Strategic Investments
Divisional Director, Corporate Strategic Services
Divisional Director, Infrastructure
Community Planning Department Manager
Information Services Department Manager
Long Range Policy Planning Manager (Contributor)
Policy & Planning Department Manager
Real Estate Services Manager
Transportation Engineering Manager (Contributor)
Transportation Planner (Lead contributor)
Community Engagement Consultant

Existing Policy:

OCP Policy 7.7.3:

Recognize and accept that a greater level of congestion will result from an increase in suburban growth and a reduced road construction program. The construction of active transportation corridors will be one of the methods of providing alternatives to relieve this congestion.

OCP Policy 7.8.6:

Time traffic signals in a manner that gives people preference over cars. Signal lengths should be set to permit less mobile pedestrians to cross with ease. Wait times should be set low so as to encourage pedestrians to act within the rules. These provisions should be made even if such result in delays to motorists.

Considerations not applicable to this report:

Legal/Statutory Authority
Legal/Statutory Procedural Requirements
Financial/Budgetary Considerations
Personnel Implications
External Agency/Public Comments
Communications Comments
Alternate Recommendation

Submitted by:

R. Villarreal, Integrated Transportation Manager

Approved for inclusion:



A. Newcombe, Divisional Director, Infrastructure

Attachment 1 - 2030 Capital Plan Road Network (Figure)

Attachment 2 - Southwest Mission Sector Transportation Update (Presentation)

cc: Director Strategic Investments

Divisional Director, Community Planning & Strategic Investments

Divisional Director, Corporate Strategic Services

Divisional Director, Infrastructure

Community Engagement Consultant

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