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700 NE MULTNOMAH, SUITE 1000 | PORTLAND, OR 97232 | P 503.233.2400, 360.694.5020

MEMORANDUM

DATE:	December 21, 2021
TO:	City of Vancouver Transportation and Mobility Commission
FROM:	Ryan Farncomb and Eddie Montejo, Parametrix
SUBJECT:	TMC Requested Information: LOS and Fourth Plain Historical Traffic Trend
CC:	Jennifer Campos, City of Vancouver Rebecca Kennedy, City of Vancouver
PROJECT NAME:	Fourth Plain Safety and Mobility Project

This brief memorandum was created as a response to the TMC's request to provide additional information about the use of level of service analysis and historical traffic trends on Fourth Plain Boulevard.

LEVEL OF SERVICE

Level of service (LOS) is a way of measuring how well traffic flows on streets and highways. It is measured in a few different ways. LOS tells us how long people might be waiting at a particular intersection to turn (usually measured as seconds of delay), or how much traffic you might expect to have on your drive home. People generally don't want to wait for a long time to get through intersections (or sit through traffic on their drive home), which is why planners and engineers measure LOS to understand how changes to roads or intersections might make traffic worse or better.

LOS can be reported with letter grades that correspond to how much delay a driver might experience. Intersections are assigned one of six LOS "grades" ranging from "A" to "F", where LOS "A" represents "free flow" conditions and LOS "F" represents the worst conditions (heavy congestion). However, it's important to note that communities often accept a certain amount of traffic and travel delay because it would require a lot of money, more roadway lanes, and more land to achieve "free flow" on every city street. Additionally, LOS only focuses on one mode of transportation – driving – and it's important to consider conditions for people walking, biking, using the bus, or rolling. For these reasons, the City sets standards for roads like Fourth Plain that accept a certain amount of congestion.

The City also uses a measure of "corridor travel speed" to judge how well different City streets are working. For example, on Fourth Plain, the City has generally set a standard of 10 miles per hour (MPH) average in the corridor during the heaviest traffic times, usually in the early evening. For the Fourth Plain Safety and Mobility Project, the City will use this speed standard to understand how roadway changes – like removing a lane in one or both directions to increase safety – will affect congestion and delay for drivers.

FOURTH PLAIN TRAFFIC TRENDS

This section presents information about how traffic levels have changed in the corridor over the last few years. There is limited historic data available and we present changes between 2015 and 2019/2021 below for several

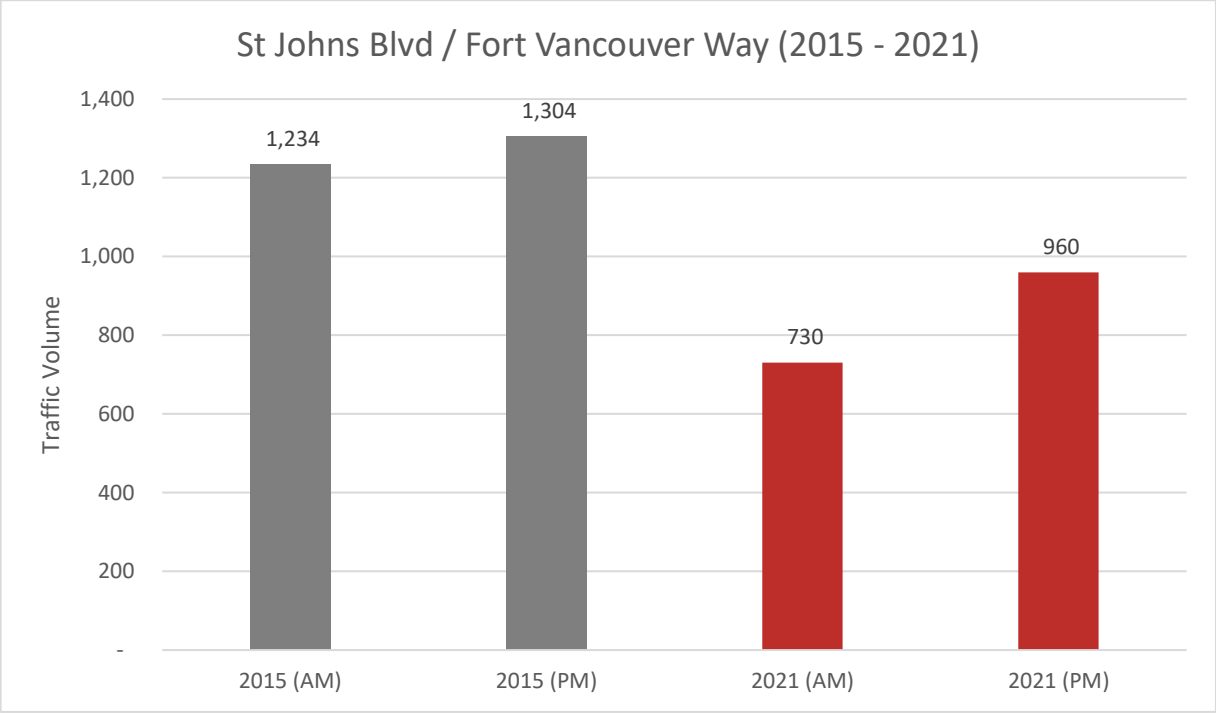
key locations in the corridor. It's important to note that the data available is not comprehensive and we present below some notes on trends based on the limited historic traffic data available.

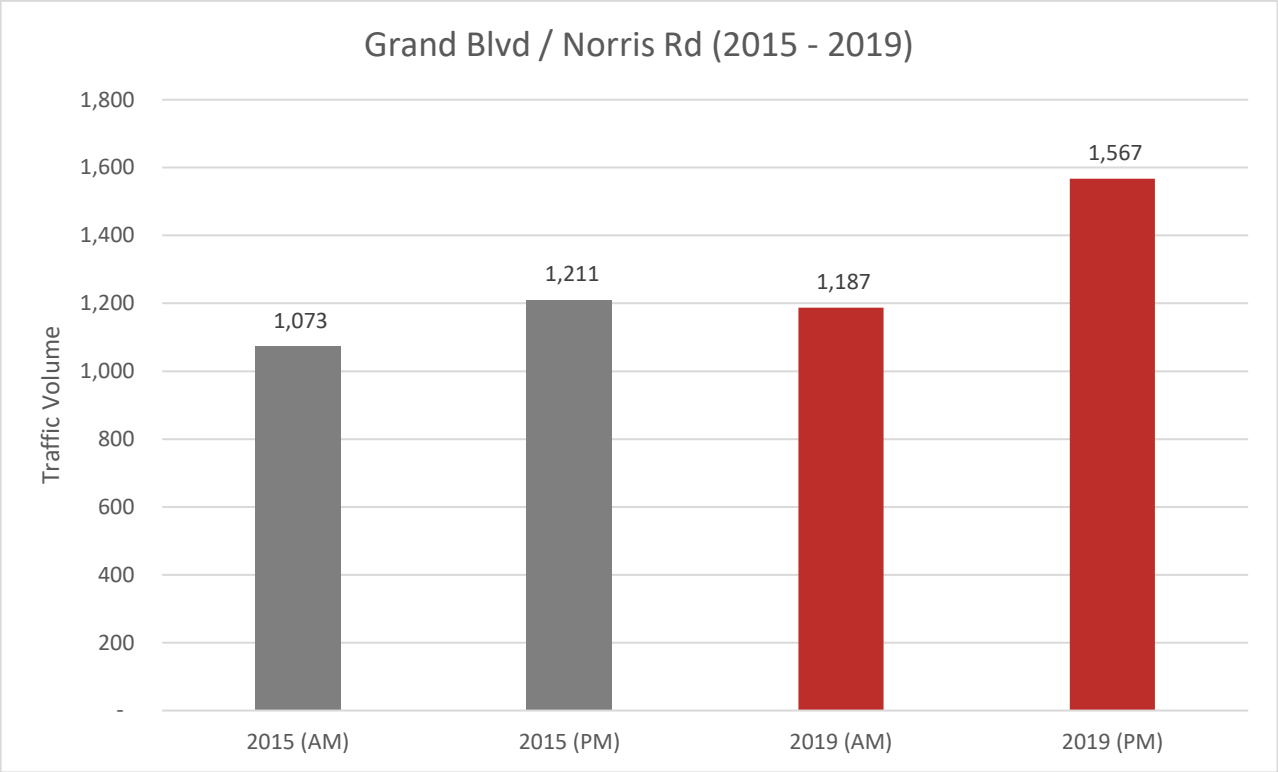
In general, the project team notes the following trends:

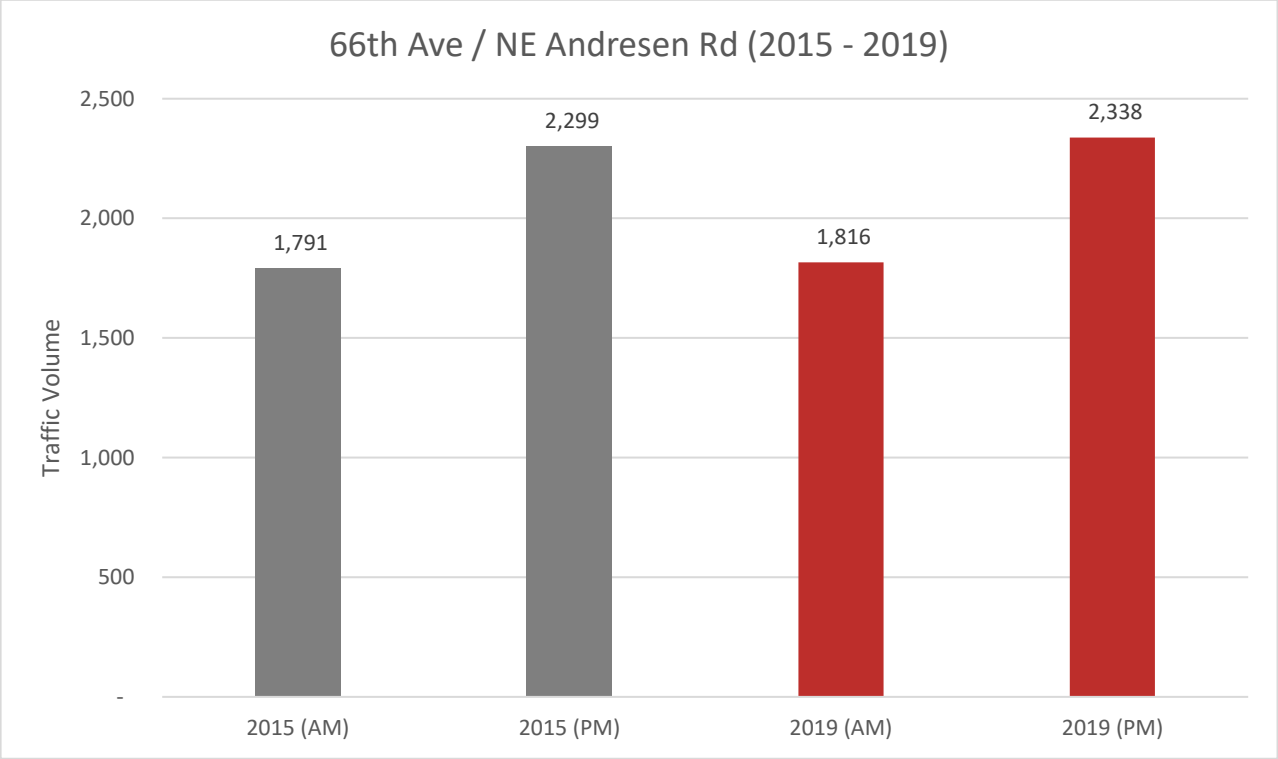
- From 2015 to 2019, traffic generally increased in the corridor by a modest amount in the morning (~5 – 10% increase) and higher in the evening (10 – 30% increase).
- From 2019 to 2021, traffic decreased, in some cases by quite a lot. For example, traffic in the west end of the corridor near the intersection with Ft. Vancouver Way decreased by 26% in the morning and 41% in the evening. The team found decreases at most locations compared to the available 2019 data. This decrease in traffic is likely due to continued shifting of traffic from Fourth Plain to the SR 500 corridor (which provides a high-speed alternative route to Fourth Plain) and also reflects pandemic-related decreases in traffic.

Based on past trends and future forecasts, the project team assumes that traffic will grow into the future by about 0.75% per year.

Please find a few example tables below that show changes in traffic at select locations. The first table shows changes between 2015 and 2021, while the other two tables show changes between 2015 and 2019 at two different locations. Again, there is not comprehensive comparison data available, so we present a few select locations in the corridor.




Grand Blvd / Norris Rd (2015 - 2019)
Traffic Volume
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1,073
1,211
1,187
1,567
2015 (AM)
2015 (PM)
2019 (AM)
2019 (PM)


66th Ave / NE Andresen Rd (2015 - 2019)
Traffic Volume
2,500
2,000
1,500
1,000
500
-
1,791
2,299
1,816
2,338
2015 (AM)
2015 (PM)
2019 (AM)
2019 (PM)