



DATE: May 14, 2019

CATEGORY: New Business

DEPT.: Community Development

TITLE: **North Bayshore Trip Cap Report**

RECOMMENDATION

1. Review and accept the North Bayshore Trip Cap Report.
2. Authorize the City Manager to enter into a contract with Fehr and Peers for an amount not to exceed \$158,500 for North Bayshore District Transportation Monitoring for Fiscal Year 2019-20.

BACKGROUND

The City started monitoring North Bayshore gateways in February 2014 as part of the North Bayshore Precise Plan. This monitoring now occurs in fall and spring of each year. Annual reports are generally submitted to the City Council in late spring. These reports are available on the City's website at:

<https://www.mountainview.gov/depts/comdev/planning/activeprojects/northbayshore/default.asp>.

North Bayshore Precise Plan

The City adopted an updated North Bayshore Precise Plan in December 2017. The Precise Plan carried over most of the vehicle trip policy language from the previously approved Precise Plan. A key change was modifying the vehicle trip monitoring period from *peak period* (7:00 a.m. to 10:00 a.m.) to *peak hour*:

- **North Bayshore Gateway Peak Hour Vehicle Trip Cap.** The District Vehicle Trip Cap is established as the maximum allowed number of trips at the three North Bayshore gateways during the a.m. and p.m. peak hour periods: 8,290 trips (a.m.) and 8,030 trips (p.m.). (Note: the vehicle trip numbers represent both inbound and outbound trips.)

The following are key Precise Plan policies regarding the vehicle trip cap:

- **Vehicle trip cap.** If monitoring shows that the trip cap is reached at any of the three gateway locations for two consecutive data reporting periods, the City will not grant any new building permits for net new square footage in the North Bayshore Precise Plan area until the number of peak-hour vehicle trips is reduced below the trip cap, except as described in the next paragraph.

An application for new development may propose strategies, including, but not limited to, physical improvements to the transportation network and additional Transportation Demand Management (TDM) measures, along with traffic analysis demonstrating the proposed strategies and/or improvements will comply with the district vehicle trip cap prior to project occupancy. Proposed strategies and/or improvements shall be implemented prior to building occupancy, unless deemed otherwise by the City Council. The City Council will consider applications proposing improvements to the transportation network and/or additional TDM measures according to the review process established by Council policy.

- **North Bayshore District Transportation Performance Monitoring.** The City shall prepare an annual North Bayshore district transportation performance monitoring report with the objective to assess gateway vehicle operations and potentially accommodate additional residential development. This report will include data from the district vehicle trip cap monitoring program, including the number of vehicle trips at each gateway and each gateway's vehicle trip capacity. The report will also document any trends or data regarding progress toward achieving the Precise Plan's mode share targets. The report may also include, but is not limited to, the following: single-vehicle occupancy percentage; implementation of commercial and residential TDM programs; the timing and implementation of area transportation improvements; analysis of the location and number of office and residential projects built or proposed in the area; and a survey of North Bayshore residents indicating their general travel behavior.
- **North Bayshore District Transportation Performance Monitoring Evaluation.** The City Council shall review the annual monitoring report and may adjust the trip cap to reflect any new capacity at the gateways. If the report shows that the vehicle trip cap is not being achieved to the satisfaction of the City, the City Council may consider, but is not limited to, any of the following:
 - Require new development to implement additional project and/or areawide TDM strategies;

- Increase the amount of City or developer contributions to fund area transportation improvements and implement a congestion pricing program for the area; and
- Implement a congestion pricing program for the area.

North Bayshore District Transportation Monitoring

There are key transportation assumptions, policies, and projects that will need to be continually monitored and refined over time to fulfill North Bayshore’s vision as a mixed-use district with reduced single-occupancy vehicle use and strong transit, bicycle, and pedestrian infrastructure.

Some of the key transportation studies and assumptions influencing the North Bayshore vehicle trip cap and annual monitoring include:

- **North Bayshore Circulation Feasibility Study 2.0.** The Public Works Department is embarking on this study this summer. The study will be an update to the North Bayshore district transportation analysis completed in 2012 which helped influence North Bayshore Precise Plan transportation policies.

The study will model vehicle trip behavior throughout North Bayshore, considering planned and approved development projects and infrastructure projects, and different TDM assumptions such as the percentage of future “internalized” residential trips in North Bayshore. The study will also consider the feasibility of adding potential new “gateways” into the area – namely a Charleston Road/Highway 101 underpass and a new transit bridge over Stevens Creek. The study will consider how these factors may affect the vehicle trip capacity at the gateways and internal vehicle movements within North Bayshore.

- **Gateway Master Plan.** This Master Plan will include a new mix and intensities of land uses at the Gateway site at Shoreline Boulevard/Highway 101. The project will use modeling work from the North Bayshore Circulation Feasibility Study 2.0 to help evaluate the number of new vehicle trips that may be expected from different Gateway land use alternatives, and the effect these alternatives may have on the North Bayshore gateways and area streets.
- **New residential uses.** The Precise Plan expects a substantial amount of new housing will be built, which will result in a significant amount of “trip internalization” in North Bayshore and, therefore, help reduce the number of inbound trips to the district. However, it is unclear how much or when this

housing will be built, or what the actual internalization rate will be. The Precise Plan analyzed a 27 percent morning peak-hour internalization rate for the residential trips, which is similar to Mountain View's current live-work percentage, but higher levels of internalization may be possible in North Bayshore given the large number of jobs nearby and the convenience of living so close to them.

- **Effectiveness of transportation improvement projects.** The Precise Plan assumes that existing capacity at all existing gateways will be fully utilized. The Precise Plan also includes priority transportation projects to improve the effectiveness of the multi-modal transportation system in the area. These projects, all of which are at some stage of planning or implementation, include: northbound Highway 101 off-ramp realignment; Plymouth Street-Space Park Way realignment; Shoreline Boulevard dedicated transit lane; Shoreline Boulevard cycle tracks; Charleston Road transit corridor improvements; bicycle/pedestrian bridge over Highway 101; Highway 101 Frontage Road; and the Inigo Way extension.

The City expects these improvements to increase travel options for transit, biking, and walking in North Bayshore, and to improve traffic flow at key "hot spots." However, it is unknown how effective these new improvements will be until they are built.

- **Project trip cap compliance.** Each new North Bayshore development is required to meet their project-level trip cap through their TDM Plan and site trip cap monitoring. New developments such as the Broadreach office, Google Charleston East, Shashi Hotel, and the Microsoft campus will have to monitor their project-level vehicle trips and demonstrate compliance with their approved TDM Plans. If not, they will be assessed financial penalties and be required to modify their TDM Plan until they are in compliance. While the City expects all projects to comply with their trip caps, this will not be known until projects are built and their vehicle trips are monitored.
- **Reduction of existing vehicle trips.** To implement the Precise Plan's ambitious transportation objectives, existing single-occupancy vehicle (SOV) vehicle trips within North Bayshore must be reduced to accommodate additional North Bayshore development. The Precise Plan expresses this shift as a mode share target of 45 percent SOVs, and 10 percent carpool, which is what the Plan's EIR studied as a combined mode-share target. The City cannot require existing businesses to reduce their SOV rates; however, when area multi-modal improvements and services are completed, the expectation is that some of the existing SOV trips will shift to other modes.

- Transportation Management Association (TMA) services.** The TMA operates the MV-GO transit shuttle in North Bayshore. The TMA can help the City achieve its district trip cap goals through their existing shuttle services, and potentially through other actions as well. For example, as new residential is built in North Bayshore, the expectation is that TMA services will expand to cater to residential uses, and perhaps offer other services that help both existing and new businesses in the area reduce their vehicle trips. However, the extent of any new services and their effectiveness will not be known until later.

ANALYSIS

Spring 2019 North Bayshore District: Transportation Monitoring Summary

The following focuses on the key findings from the *Spring 2019 North Bayshore District: Transportation Monitoring Report* regarding SOV mode-share and gateway peak-hour vehicle trip volumes.

1. SOV Mode-Share

The Precise Plan has a 45 percent SOV mode-share target for all-person trips into North Bayshore across all gateways combined. The spring 2019 monitoring shows that the inbound a.m. peak-hour SOV mode split is 56 percent. Table 1 shows the historical trend for all modes of travel since monitoring began in 2014.

TABLE 1: Historical Inbound Morning Peak Hour Mode Split Comparison

Mode	Spring 2014	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019*
SOV	51%	55%	53%	60%	56%	52%	49%	52%	52%	56%
HOV	12%	12%	14%	17%	14%	13%	15%	14%	12%	11%
Transit	33%	26%	26%	17%	23%	28%	32%	30%	32%	31%
Bike	3%	6%	6%	5%	6%	6%	3%	3%	3%	2%
Ped	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

* **TNC – Transportation Network Company (i.e., Uber, Lyft).** The City started monitoring these vehicles with this report. A one-person TNC (driver only) was included in the SOV category, while two-or-more-person TNC (driver plus passenger(s)) vehicles were categorized as high-occupancy vehicles (HOV).

Discussion

- **45 Percent SOV Mode-Share Target.** As noted, the SOV mode-share target is not being achieved. If the 45 percent target were achieved, peak-hour vehicle trips on Shoreline Boulevard could be reduced by approximately 300 to 380 trips. The City, private developers, and the TMA must continue to work toward reducing the SOV mode-share through area multi-modal projects, TDM Plans, areawide bike sharing, and TMA services.

2. **Two-Way Peak-Hour Gateway Vehicle Trips**

As shown in the table excerpt below, all of the gateway peak-hour vehicle volumes are below their vehicle trip capacity.

TABLE 2: Spring 2019 Two-Way Peak-Hour Gateway Vehicle Trips

Gateway	Morning				Evening			
	Volume	Target	Remaining Gateway Capacity	Percent of Gateway Capacity Remaining	Volume	Target	Remaining Gateway Capacity	Percent of Gateway Capacity Remaining
San Antonio Road	1,470	1,890	420	22%	990	1,830	840	46%
Rengstorff Avenue	2,780	3,290	510	15%	2,280	2,440	160	7%
Shoreline Boulevard	2,880	3,110	230	7%	2,980	3,760	780	21%
Total	7,130	8,290	1,160	14%	6,250	8,030	1,780	22%

Discussion

- **Precise Plan Compliance.** As noted earlier in this report, the Precise Plan policy states that if monitoring shows that the trip cap is reached at any of the three gateway locations for two consecutive data reporting periods, the City will not grant any new building permits for net new square footage in the North Bayshore Precise Plan area until the number of vehicle trips is reduced below the trip cap. However, the policy does allow new development to propose strategies that could result in compliance with the trip cap.

In terms of comparison with recent trip cap reports, the spring 2018 report showed that Shoreline Boulevard was approximately 110 vehicle trips over capacity during the a.m. peak hour, and, therefore, was out of compliance with the trip cap. Subsequently, the fall 2018 monitoring showed that

Shoreline Boulevard was 90 trips below capacity during this same period, so it was thus considered compliant with the trip cap.

- **Looking Ahead.** The report notes that near term North Bayshore projects may exceed the vehicle trip capacity of the gateways, particularly Shoreline Boulevard. These projects will need to demonstrate how they comply with the Precise Plan's trip cap policies through their TDM Plans or other conditions. For example, the Charleston East project has an employee headcount restriction for all of Google's holdings in North Bayshore. This headcount restriction will remain in place until the planned Highway 101 off-ramp and Plymouth Street realignment projects are completed. As stated earlier, existing vehicle trips in North Bayshore must also be reduced in order to not exceed gateway vehicle capacity.

Additionally, several Shoreline Boulevard gateway improvements are in the planning stages (bus lane, ramp realignment, Shoreline Boulevard cycle track and bridge, etc.) which will add vehicle capacity and help shift SOV trips to other modes. However, these projects will not be completed for several years, and the timing may not be completely in alignment with the completion of key development projects such as Charleston East and Microsoft. Future monitoring will continue to report on the timing of North Bayshore building occupancy and the completion of infrastructure improvements, and how these two factors will impact gateway vehicle capacity.

Alternative Vehicle Trip Cap Targets

In 2018, Council asked for additional information on alternative trip cap targets. This was because the updated 2017 Precise Plan includes a substantial amount of new residential units while the 2014 Precise Plan did not. The resulting new "outbound" vehicle trips from these future residential units would eventually delay inbound vehicle trips and movements, and, therefore, reduce the "inbound" vehicle trip capacity. Table 3 notes the differences between the gateway vehicle trip capacities of the 2014 and 2017 Precise Plans.

TABLE 3: 2014 and 2017 Gateway Capacity Comparison

	Morning Peak Hour			Evening Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
2014 Precise Plan						
San Antonio	1,530	170	1,700	400	1,340	1,740
Rengstorff	2,960	330	3,290	350	2,090	2,440
Shoreline	2,490	620	3,110	1,030	2,730	3,760
Total	6,980	1,120	8,100	1,780	6,160	7,940
2017 Precise Plan						
San Antonio	1,460	430	1,890	490	1,340	1,830
Rengstorff	2,620	670	3,290	650	1,790	2,440
Shoreline	2,220	890	3,110	1,170	2,590	3,760
Total	6,300	1,990	8,290	2,310	5,720	8,030

Since it will take some time before new residential units are built in North Bayshore, staff recommends that future gateway trip cap monitoring use the higher 2014 inbound trip cap instead of the 2017 trip cap number. Then, as new residential units are built and more outbound trips occur, the City can adjust the trip cap periodically based on the number of inbound and outbound trips and its effect on gateway capacity.

FISCAL IMPACT

The request for a new contract for Fiscal Year 2019-20 North Bayshore Transportation Monitoring is a CIP that is already included in the City’s budget.

CONCLUSION

The trip cap report notes that all of the North Bayshore gateways are in compliance with the North Bayshore Precise Plan trip cap, and authorization for Fiscal Year 2019-20 monitoring is requested.

NEXT STEPS

The next trip counts will take place in fall 2019. This data will be shared with the City Council in a memo in early 2020.

ALTERNATIVES

The City Council may wish to provide staff with additional direction regarding issues in this report.

PUBLIC NOTICING

Agenda posting, and e-mail notifications were sent to interested North Bayshore stakeholders.

Prepared by:

Martin Alkire
Advanced Planning Manager

Aarti Shrivastava
Assistant City Manager/
Community Development Director

Approved by:

Daniel H. Rich
City Manager

MA-AS/3/CAM
891-05-14-19CR
190350

- Attachments:
1. Spring 2019 North Bayshore District Transportation Monitoring Report
 2. Fiscal Year 2019-20 North Bayshore Trip Cap Monitoring Proposal