To: Mountain View City Council

From: Joel Dean, ⬛⬛⬛⬛⬛⬛⬛⬛., Mountain View

Subject: Google Master Plan

The agenda packet for the 12/14 meeting has two omissions, one good and one bad.

First, the good: I don't see anything in the packet about giving Google a 30-year entitlement period for expedited review of Master Plan elements. I hope never to see it again. It would be an outrage and an insult to the public and to the Council. The Zoning Adminstrator is a poor substitute for the Council in protecting the public interest. City staff are unelected, not necessarily residents of Mountain View, not hired by or directly answerable to the Council, and prone to shrugging off public input. Also, neither Google nor anyone else knows what the next thirty years will bring -- just think back to 1991.

Next, the bad: The traffic analysis for the Master Plan was not included in the packet. It is in a memorandum from Fehr & Peers to LendLease, and it uses the ever-changing Trip Cap standards to judge the effects of the Master Plan. An alternative analysis based on more tangible criteria is attached.

Thank you for your attention.

Traffic analysis of the Google Framework Master Plan is included in a memorandum from Fehr & Peers to Lendlease, which is designated as Appendix D. It was not included in the 12/14 meeting agenda packet, but it should have been. The rest of this document is an attempt to make up for that omission.

The GFMP is supposed to conform to the North Bayshore Precise Plan, which forecast major increases in peak hour traffic on Shoreline Boulevard, mostly in the countercommute directions. The Appendix D PM peak forecast exceeds that of the NBPP when the effects of Sywest development are included, and the AM forecast exceeds NBPP's with or without Sywest.

	AM inbound	AM outbound	AM Total	PM inbound	PM outbound	PM Total
Augmented Existing Trips	2425	966	3391	791	2951	3742
Existing + NBPP trips	3080	2060	5140	2520	3760	6280
% increase	+27%	+113%	+52%	+219%	+27%	+68%
Background + GFMP w/o Sywest	3212				3460	
Background + GFMP + Sywest	3412				3842	
Future Trip Cap	3340				4180	

City Council has agreed to lump Shoreline and Rengstorff gateways together for the purpose of Trip Cap compliance monitoring. Thus, under with-Sywest conditions, noncompliance in the AM at Shoreline is cancelled out by compliance at Rengstorff, while in the PM, noncompliance at Rengstorff is cancelled out by compliance at Shoreline -- almost.

Enough of these statistical gymnastics. Will the GFMP will work in the real world, regardless of whether it complies or not with an abstract standard? Appendix D thoroughly details the assumptions used to estimate trips generated by North Bayshore developments, and to distribute them between origins and destinations. It did not include a traffic assignment which would have shown predicted vehicle volumes and turning movements at gateway intersections. Since the EIR for the Precise Plan did include traffic assignments, and GFMP forecasts exceeded Precise Plan forecasts, a logical inference would be that the GFMP would predict trouble ahead if the NBPP did. Which it most definitely did.

The tables on pages 3-7 illustrate what happens when NBPP traffic counts are distributed over the Shoreline/La Avenida/101N/85N interchange. AM peak hour traffic was augmented by 200 trips on northbound Shoreline to compensate for undercounting in the NBPP's 'Existing' or base-year (2015) data compared to counts from the TIA's for 777 Middlefield and 1001 Shoreline. Totals for outbound trips are slightly lower than the above because they exclude those going from southbound Shoreline to 101N, which do not pass through the signalized intersection. Capacity was defined as 1500 vehicles per lane X % green time for each leg. This is an empirical figure derived from recordings made in 2019, which consistently showed that Shoreline and the freeway exit could clear 25 vehicles per lane per minute of green time when traffic was flowing without significant gaps or obstruction from downstream congestion at Pear Avenue. If traffic volume exceeds that capacity (V/C > 1), there would be unfulfilled demand and upstream queuing.

Table 1: Existing traffic, AM peak, no reconfiguration, 2019 signal timing
Shoreline northbound V/C, 1.02, accomplished by persistent red-light running; long queues of unfulfilled demand
Freeway exit V/C 0.90, green time lost due to congestion at Pear Avenue, long queues of unfulfilled demand

Table 2: Existing traffic, AM peak, interchange reconfigured, signal timing calculated to equalize V/C's for predominant movements
Shoreline Northbound and freeway exit V/C's reduced to 0.81, should reduce if not eliminate upstream queueing

Table 3: Existing traffic, PM peak, interchange reconfigured, signal timing calculated, etc.
Southbound Shoreline to 101/85S V/C long queues, may obstruct same movement from La Avenida.

Table 4: Existing + NBPP-generated 2030 AM traffic; interchange reconfigured, signal timing calculated, etc.
Soutbound Shoreline to 101/85S v/C 2.06; Shoreline northbound through and to La Avenida, 101/85 to northbound Shoreline all V/C's 0.97. Precarious.

Table 5: Existing + NBPP 2030 PM traffic, interchange reconfigured, signal timing blah blah blah
Shoreline SB to 101/85S V/C 1.84, queues extening to the East Bay; La Avenida to southbound Shoreline and 101/85 to northbound Shoreline both V/C 1.15, queues over 1000' on one, 2000' on the other. Every signal phase overcapacity, queues blocking cross traffic, gridlock.

All that Appendix D proposes to deal with this potential catastrophe is a few tweaks to the City's plans. Tweaks will not fix problems of this magnitude. Some tweaks might be a little helpful, such as signage and signals to enhance

bike and pedestrian safety at the crossing of reconfigured Avenida at Shoreline. But the word "safety" appears only once in Appendix D, where it applies to signalizing Avenida at Inigo Way. Nothing was proposed for Avenida at Shoreline. The worst tweak was proposed for southbound Shoreline at 101/85S -- see page 8. That would be a mortal threat to pedestrians and cyclists if it were implemented before the bike/ped bridge over 101 is completed.

Conclusions: Think twice before tweaking. Think more than twice before okaying the Google Framework Masrer Plan.

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Table 1

Existing O&D + 200 added to northbound Shoreline
without reconfiguration - AM peak

Enter		101/85 SB	Shoreline SB	101NB/Old Mf	Shoreline NB	Total
101/85 NB	Volume	-	332	-	1254	1586
	% green	-	46.7	-	46.7	
	Capacity	-	1400	-	1400	
	V/C	-	0.24	-	0.90	
Shoreline SB	Volume	251	176	-	-	427
	% green	38.0	38.0	-	-	
	Capacity	570	1140	-	-	
	V/C	0.44 #	0.15 #	-	-	
Shoreline NB	Volume	-	-	-	1165	1165
	% green	-	-	-	38.0	
	Capacity	-	-	-	1140	
	V/C	-	-	-	1.02	
La Avenida WB	Volume	65	46	31	6	148
	% green	*	15.3	*	15.3	
	Capacity	*	459	*	459	
	V/C	*	0.31	*	0.01	
Total volume		316	554	31	2425	3326

\# Combined V/C = 0.25

* V/C = sum (142) of volumes of movements in shared lane / shared capacity

Table 2

Existing O&D + 200 added to northbound Shoreline - AM Peak
with reconfiguration

Enter		101/85 SB	Shoreline SB	101NB/Old Mf	Shoreline NB	La Avenida EB	Total
101/85 NB	Volume	-	332	-	1019	235	1586
	% green	-	42.9	-	42.9	42.9	
	Capacity	-	1287	-	1287	644	
	V/C	-	0.26	-	0.79	0.37	
Shoreline SB	Volume	251	176	-	-	-	427
	% green	39.0	39.0	-	-	-	
	Capacity	585	1170	-	-	-	
	V/C	0.43 #	0.15 #	-	-	-	
Shoreline NB	Volume	-	-	-	946	219	1165
	% green	-	-	-	39.0	18.1	
	Capacity	-	-	-	1170	272	
	V/C	-	-	-	0.81	0.81	
La Avenida WB	Volume	65	46	31	6	-	148
	% green	*	18.1	*	18.1	-	
	Capacity	*	543	*	543	-	
	V/C	*	0.26	*	0.01	-	
Total volume		316	554	31	1971	454	3326

Combined V/C = 0.24

* V/C = sum (142) of volumes of movements in shared lane / shared capacity

Table 3

Existing O&D - PM Peak

Enter		101/85 SB	Shoreline SB	Exit 101NB/Old Mf	Shoreline NB	La Avenida EB	Total
101/85 NB	Volume	–	453	–	331	122	906
	% green	–	21.3	–	21.3	21.3	
	Capacity	–	639	–	639	320	
	V/C	–	0.71	–	0.52	0.38	
Shoreline SB	Volume	1145	772	–	–	–	1917
	% green	59.9	59.9	–	–	–	
	Capacity	899	1797	–	–	–	
	V/C	**1.27** #	0.43 #	–	–	–	
Shoreline NB	Volume	–	–	–	237	88	325
	% green	–	–	–	59.9	18.8	
	Capacity	–	–	–	1797	282	
	V/C	–	–	–	0.13	0.31	
La Avenida WB	Volume	190	129	81	13	–	413
	% green	*	18.8	*	18.8	–	
	Capacity	*	564	*	282	–	
	V/C	*	0.71	*	0.02	–	
Total		1335	1354	81	581	210	3561

\# Combined V/C = 0.71

* V/C = sum (400) of volumes of movements in shared lane / shared capacity
V = sum of volumes of all movements sharing those lanes = 400

Table 4

Existing+200 NB + North Bayshore Precise Plan O&D -- AM Peak

Enter		101/85 SB	Shoreline SB	Exit 101NB/Old Mf	Shoreline NB	La Avenida EB	Total
101/85 NB	Volume	–	340	–	1498	402	2240
	% green	–	51.4	–	51.4	51.4	
	Capacity	–	1543	–	1543	771	
	V/C	–	0.21	–	0.97	0.52	
Shoreline SB	Volume	983	157	–	–	–	1140
	% green	31.9	31.9	–	–	–	
	Capacity	478	956	–	–	–	
	V/C	**2.06** #	0.16 #	–	–	–	
Shoreline NB	Volume	–	–	–	927	243	1170
	% green	–	–	–	31.9	16.7	
	Capacity	–	–	–	956	250	
	V/C	–	–	–	0.97	0.97	
La Avenida WB	Volume	207	33	140	10	–	390
	% green	*	16.7	*	16.7	–	
	Capacity *	*	500	*	500	–	
	V/C *	*	0.76	*	0.02	–	
Total		1190	530	140	2435	645	4940

\# Combined V/C = 0.79. Data are separated due to volume
imbalance and iffiness of lane sharing

* Movements share two lanes with Shoreline SB, so capacities
and green times are the same. Sum (380) of three movements
is used to calculate V/C.

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Table 5

Existing + North Bayshore Precise Plan O&D -- PM Peak

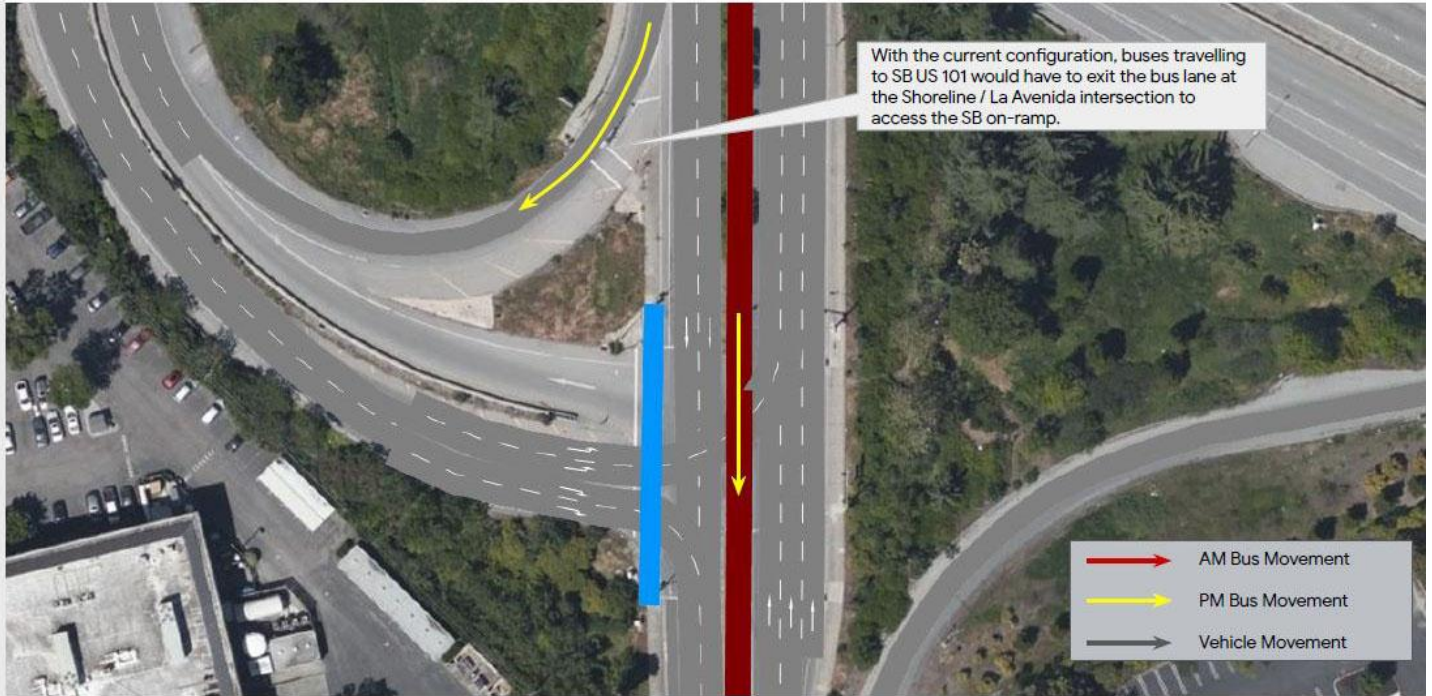| Enter		101/85 SB	Shoreline SB	101NB/Old Mf	Shoreline NB	La Avenida EB	Total
101/85 NB	Volume	–	460	–	1408	542	2410
	% green	–	40.9	–	40.9	40.9	
	Capacity	–	1227	–	1227	614	
	V/C	–	0.37	–	**1.15**	0.88	
Shoreline SB	Volume	1088	942	–	–	–	2030
	% green	39.3	39.3	–	–	–	
	Capacity	590	1179	–	–	–	
	V/C	**1.84** #	0.80 #	–	–	–	
Shoreline NB	Volume	–	–	–	397	153	550
	% green	–	–	–	39.3	19.8	
	Capacity	–	–	–	1179	297	
	V/C	–	–	–	0.34	0.52	
La Avenida WB	Volume	252	218	210	20	–	700
	% green	*	19.8	*	19.8	–	
	Capacity	*	593	*	593	–	
	V/C	*	**1.15**	*	0.03	–	
Total		1340	1620	210	1825	695	5690

\# Combined V/C = 1.15

* Volume of movements in shared lanes = 680

Life-threatening tweak

Base Model Geometry: Shoreline / US 101 SB Ramps

With the current configuration, buses travelling to SB US 101 would have to exit the bus lane at the Shoreline / La Avenida intersection to access the SB on-ramp.

→ AM Bus Movement
→ PM Bus Movement
→ Vehicle Movement

Modification: Add Second SBR from Shoreline to SB On-ramp and Dedicated Bus Turn Signal

Add a second SBR from Shoreline to SB US 101

Add SBR bus turn signal for buses travelling to SB US 101 in the PM Peak. This bus signal could be run as an overlap phase with the EB movements from the SB Off-ramp.

→ AM Bus Movement
→ PM Bus Movement
→ Vehicle Movement
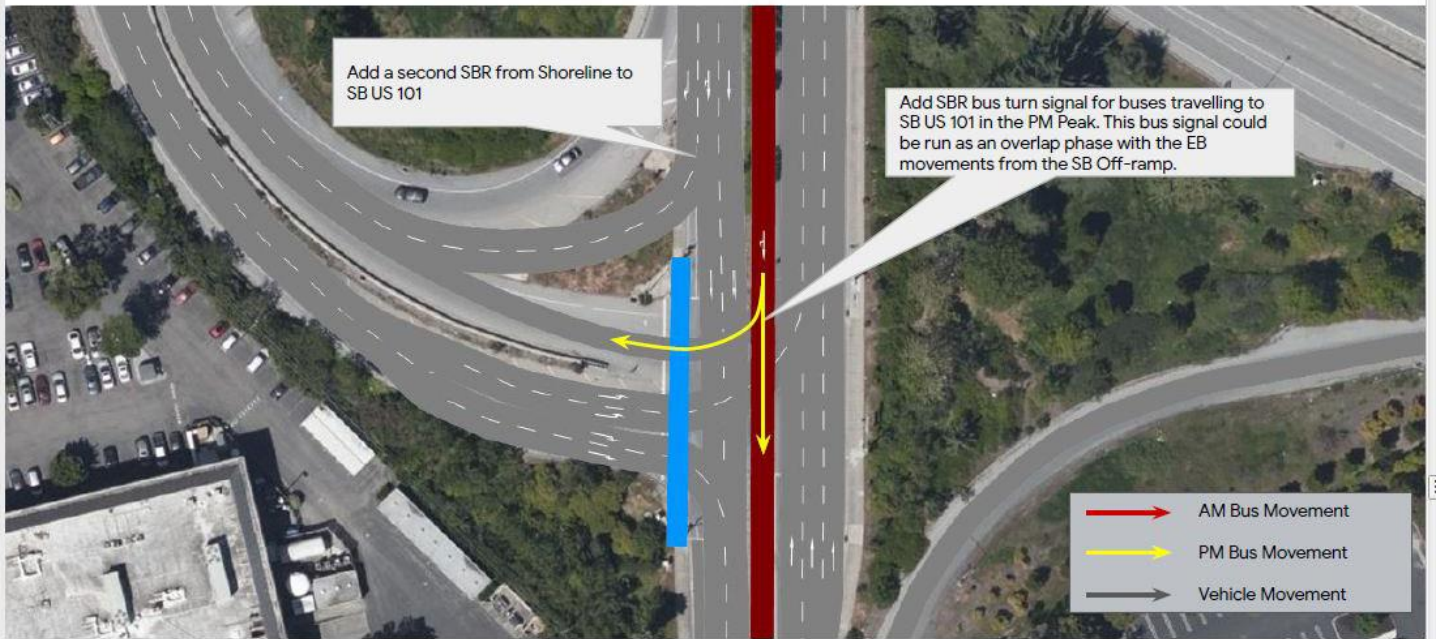
Does anybody know how to delete a

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# Google Master Plan

Public Comment
By
Albert Jeans
Dec. 14, 2021

Summary of VISSIM Simulations

Key Observations and Findings

Results of the VISSIM simulation modeling show that, even with the SOV reductions and additional infrastructure, both scenarios result in a decline in key performance indicators compared to existing conditions. For example, average AM vehicle speed declines from 16 miles per hour to 9 to 11 mph and daily vehicle hours of delay increases for 750 to over 2,000. Scenario 2 (with the Rengstorff Project) generally performs better than Scenario 1.

Both scenarios show that the total demand for vehicle trips cannot be fully accommodated in the three-hour peak period. A likely outcome is that approximately 10% of the maximum trip demand would shift outside of the peak periods.
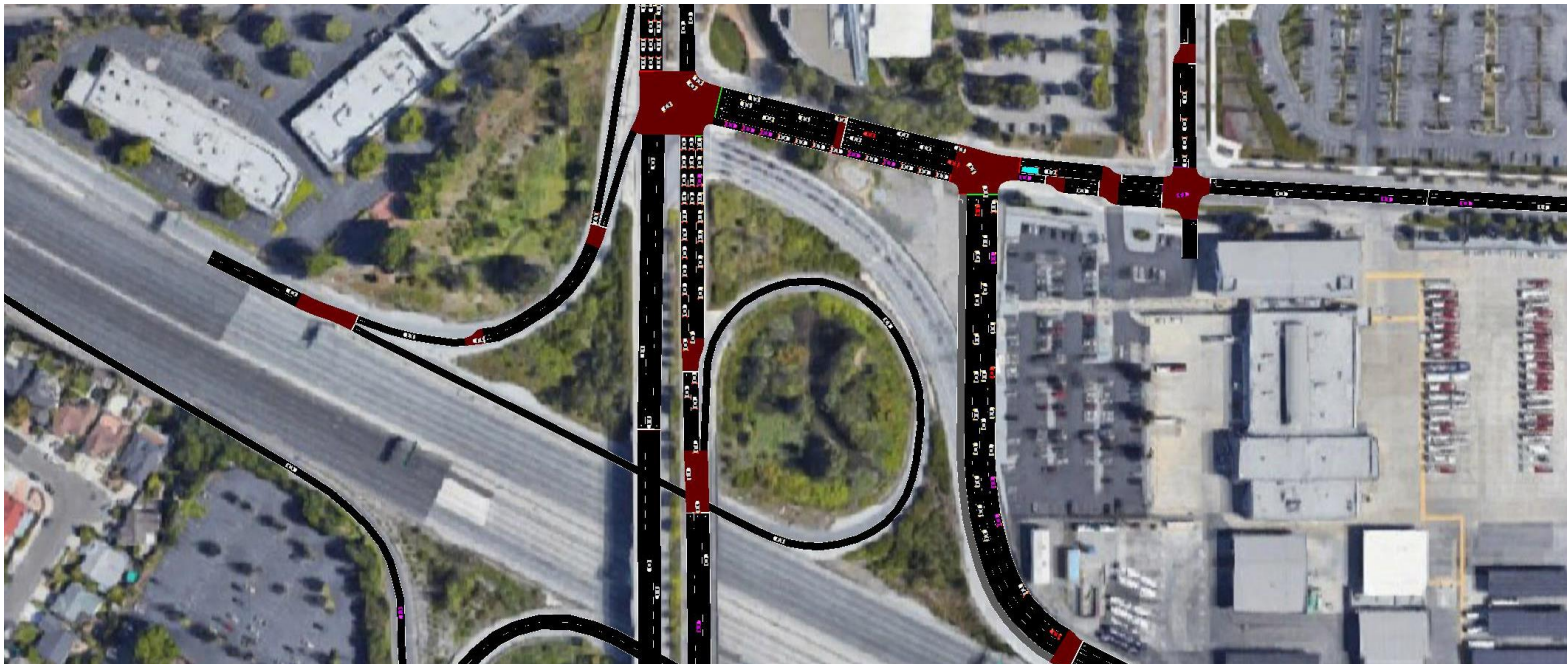
N. Shoreline Blvd
from Safeway

WB W. Middlefield Rd. trying to turn right.

Between Middlefield
and Terra Bella

Terra Bella
trying to turn right.

Going over the 101 overpass.

SB 101 Off-ramp

NB 101/85 Off-ramp

Entering N. Bayshore