TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - MAINLINE - AM PEAK

Freeway Segment	SOV						HOV						Total Volumes		
	Demand (vph)	Served (vph)	% Served	Speed (MPH)	Density (veh/ln/mi)	LOS (HCM	Demand (vph)	Served (vph)	% Served	Speed (MPH)	Density (veh/ln/mi)	LOS (HCM	Demand (vph)	Served (vph)	% Served
I-580 EB Mainline															
I-580 EB west of I-680 off-ramp (begin Network)	7,270	5,061	70%	8	131.5	F	799	505	63%	61	8.3	A	8,069	5,566	69%
I-680 off-ramp to Hopyard Rd off-ramp	5,114	3,965	78%	46	21.5	C	572	434	76%	63	6.9	A	5,685	4,399	77%
Hopyard Off to HOV Connector On	5,114	3,975	78%	57	16.6	B	572	423	74%	62	6.8	A	5,685	4,398	77%
HOV Connector to I-680 SB on-ramp	4,485	3,418	76%	60	15.8	B	514	159	31%	62	2.6	A	4,999	3,577	72%
I-680 SB on-ramp to I-680 NB on-ramp	6,366	5,065	80%	60	17.0	B	895	553	62%	62	9.0	A	7,261	5,618	77%
I-680 NB on-ramp to Hopyard Rd SB on-ramp	7,675	6,000	78%	60	16.5	B	895	966	108%	61	15.8	B	8,570	6,965	81%
Hopyard Rd SB on-ramp to Hopyard Rd NB on-ramp	8,292	6,526	79%	57	17.3	B	937	1,038	111%	62	16.8	B	9,229	7,564	82%
Hopyard Rd NB on-ramp to Hacienda Dr off-ramp	8,838	7,270	82%	60	17.3	B	988	897	91%	62	14.5	B	9,826	8,166	83%
Hacienda Dr off-ramp to Hacienda Dr SB on-ramp	7,112	5,410	76%	62	17.4	B	769	848	110%	61	13.9	B	7,881	6,257	79%
Hacienda Dr SB on-ramp to Hacienda Dr NB on-ramp	7,698	6,089	79%	60	16.8	B	817	763	93%	61	12.5	B	8,515	6,852	80%
Hacienda Dr NB on-ramp to Santa Rita Rd off-ramp	8,238	7,041	85%	57	18.1	C	867	756	87%	61	12.4	B	9,104	7,797	86%
Santa Rita Rd off-ramp to Santa Rita Rd SB on-ramp	6,776	5,229	77%	61	17.0	B	705	732	104%	61	12.0	B	7,481	5,961	80%
Santa Rita Rd SB on-ramp to Santa Rita Rd NB on-ramp	7,318	5,779	79%	58	19.2	C	780	790	101%	60	13.2	B	8,099	6,569	81%
Santa Rita Rd NB on-ramp to El Charro Rd off-ramp	7,904	6,385	81%	61	17.4	B	846	778	92%	61	12.8	B	8,749	7,163	82%
El Charro Rd off-ramp to El Charro Rd SB on-ramp	6,674	5,171	77%	61	16.8	B	687	744	108%	61	12.3	B	7,360	5,915	80%
El Charro Rd SB on-ramp to El Charro Rd NB on-ramp	7,191	5,708	79%	58	18.9	C	751	775	103%	60	13.0	B	7,942	6,483	82%
El Charro Rd NB on-ramp to Airway Blvd off-ramp	7,735	6,313	82%	61	17.1	B	819	775	95%	60	12.9	B	8,555	7,088	83%
Airway Blvd off-ramp to Airway Blvd on-ramp	6,382	5,096	80%	62	16.4	B	667	663	99%	60	11.0	A	7,049	5,759	82%
Airway Blvd on-ramp to Isabel Ave off-ramp	6,845	5,683	83%	61	15.6	B	727	596	82%	61	9.8	A	7,572	6,280	83%
Isabel Ave off-ramp to Isabel Ave SB on-ramp	5,489	4,304	78%	63	13.7	B	639	610	95%	60	10.1	A	6,128	4,913	80%
Isabel Ave SB on-ramp to Isabel Ave NB on-ramp	5,712	4,537	79%	61	14.4	B	668	633	95%	59	10.6	A	6,380	5,170	81%
Isabel Ave NB on-ramp to Livermore Ave off-ramp	6,771	5,664	84%	60	18.3	C	880	796	90%	60	13.2	B	7,651	6,459	84%
Livermore Ave off-ramp to Livermore Ave on-ramp	5,511	4,378	79%	62	14.1	B	726	693	95%	60	11.5	B	6,237	5,070	81%
Livermore Ave on-ramp to First St off-ramp	6,061	4,924	81%	62	15.9	B	794	734	92%	60	12.3	B	6,855	5,658	83%
First St off-ramp to First St SB on-ramp	4,817	3,787	79%	63	12.1	B	635	615	97%	60	10.3	A	5,452	4,402	81%
First St SB on-ramp to First St NB on-ramp	4,947	3,881	78%	62	12.2	B	651	617	95%	60	10.3	A	5,598	4,498	80%
First St NB on-ramp to Vasco Rd off-ramp	5,513	4,627	84%	62	12.5	B	708	521	74%	61	8.6	A	6,221	5,148	83%
Vasco Rd off-ramp to Vasco Rd SB on-ramp	3,882	3,020	78%	63	9.5	A	507	471	93%	60	7.8	A	4,389	3,491	80%
Vasco Rd SB on-ramp to Vasco Rd NB on-ramp	3,893	3,029	78%	63	9.2	A	507	473	93%	60	7.8	A	4,400	3,502	80%
Vasco Rd NB on-ramp to Greenville Rd off-ramp	4,391	3,663	83%	62	9.8	A	575	415	72%	61	6.8	A	4,966	4,078	82%
Greenville Rd off-ramp to Greenville Rd on-ramp	3,107	2,418	78%	63	7.6	A	403	375	93%	61	6.1	A	3,510	2,792	80%
Greenville Rd on-ramp to N. Flynn Rd	3,168	2,734	86%	60	8.5	A	408	123	30%	60	8.5	A	3,575	2,857	80%

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - MAINLINE - AM PEAK

Freeway Segment	SOV						HOV						Total Volumes		
	Demand (vph)	Served (vph)	% Served	Speed (MPH)	Density (veh/ln/mi)	LOS (HCM	Demand (vph)	Served (vph)	% Served	Speed (MPH)	Density (veh/ln/mi)	LOS (HCM	Demand (vph)	Served (vph)	% Served
I-580 WB Mainline															
N. Flynn Rd to Greenville Rd off-ramp (begin Network)	9,400	8,707	93%	57	38.1	E	-	-	-	-	-	-	9,400	8,707	93%
Greenville Rd off-ramp to Greenville Rd on-ramp	6,142	6,298	103%	61	23.9	C	1,818	1,385	76%	53	27.7	D	7,959	7,683	97%
Greenville Rd on-ramp to Vasco Rd off-ramp	6,759	6,361	94%	60	21.2	C	1,905	1,711	90%	58	29.8	D	8,664	8,071	93%
Vasco Rd off-ramp to Vasco Rd on-ramp	6,079	5,715	94%	61	23.6	C	1,801	1,617	90%	59	27.4	D	7,880	7,332	93%
Vasco Rd on-ramp to First St off-ramp	7,413	6,826	92%	59	23.0	C	2,081	1,706	82%	58	29.6	D	9,494	8,532	90%
First St off-ramp to First St NB on-ramp	6,882	6,214	90%	60	25.7	C	2,017	1,722	85%	59	29.3	D	8,899	7,936	89%
First St NB on-ramp to First St SB on-ramp	7,515	6,778	90%	60	22.5	C	2,093	1,765	84%	57	30.7	D	9,609	8,543	89%
First St SB on-ramp to Livermore Ave off-ramp	8,081	7,257	90%	58	24.8	C	2,213	1,865	84%	57	32.9	D	10,294	9,122	89%
Livermore Ave off-ramp to Livermore Ave on-ramp	7,969	7,160	90%	59	30.3	D	2,199	1,838	84%	58	31.6	D	10,169	8,998	88%
Livermore Ave on-ramp to Isabel Ave off-ramp	8,619	7,939	92%	47	35.4	E	2,306	1,646	71%	58	28.4	D	10,925	9,585	88%
Isabel Ave off-ramp to Isabel Ave NB on-ramp	6,626	5,848	88%	58	25.2	C	1,881	1,464	78%	59	24.9	C	8,507	7,312	86%
Isabel Ave NB on-ramp to Isabel Ave SB on-ramp	7,200	6,308	88%	41	36.8	E	2,235	1,853	83%	58	24.4	C	9,435	8,161	86%
Isabel Ave SB on-ramp to Airway Blvd off-ramp	7,786	6,489	83%	34	38.6	E	2,053	1,481	72%	57	26.0	C	9,839	7,970	81%
Airway Blvd off-ramp to Airway Blvd NB on-ramp	7,237	5,801	80%	27	52.9	F	1,979	1,508	76%	59	25.7	C	9,216	7,309	79%
Airway Blvd NB on-ramp to Airway Blvd SB on-ramp	7,831	6,155	79%	24	60.8	F	2,055	1,539	75%	57	27.1	D	9,886	7,694	78%
Airway Blvd SB on-ramp to Fallon Rd off-ramp	8,437	6,314	75%	18	74.1	F	2,131	1,531	72%	56	27.2	D	10,568	7,845	74%
Fallon Rd off-ramp to Fallon Rd NB on-ramp	7,532	5,015	67%	11	118.6	F	2,019	1,464	72%	59	25.0	C	9,552	6,479	68%
Fallon Rd NB on-ramp to Fallon Rd SB on-ramp	8,106	5,186	64%	10	121.4	F	2,105	1,494	71%	57	26.3	D	10,211	6,680	65%
Fallon Rd SB on-ramp to Tassajara off-ramp	8,656	5,371	62%	9	119.5	F	2,220	1,516	68%	53	29.0	D	10,876	6,887	63%
Tassajara off-ramp to Tassajara NB on-ramp	7,471	4,271	57%	7	151.2	F	2,062	1,443	70%	56	25.8	C	9,534	5,714	60%
Tassajara NB on-ramp to Tassajara SB on-ramp	8,017	4,770	59%	7	139.0	F	2,126	1,429	67%	61	23.6	C	10,143	6,199	61%
Tassajara SB on-ramp to Hacienda Dr off-ramp	8,531	5,026	59%	6	155.9	F	2,256	1,433	64%	42	40.7	E	10,787	6,459	60%
Hacienda Dr off-ramp to Hacienda Dr NB on-ramp	7,201	4,039	56%	6	183.6	F	2,056	1,403	68%	54	26.5	D	9,257	5,442	59%
Hacienda Dr NB on-ramp to Hacienda Dr SB on-ramp	7,731	4,563	59%	6	162.1	F	2,130	1,422	67%	55	25.9	C	9,861	5,985	61%
Hacienda Dr SB on-ramp to HOV Off	8,289	4,708	57%	5	165.0	F	2,208	1,464	66%	29	56.6	F	10,498	6,171	59%
HOV Off to Connector Off	8,289	4,842	58%	6	160.8	F	741	124	17%	48	2.6	A	9,031	4,966	55%
Connector off to Hopyard off	7,265	4,381	60%	6	135.8	F							7,390	4,381	59%
Hopyard Off to Hopyard Loop On	6,275	4,038	64%	8	132.8	F							6,275	4,038	64%
Hopyard Loop on to Hopyard Diagonal On	6,824	3,432	50%	4	177.7	F							6,896	4,399	64%
Hopyard Rd SB on-ramp to HOV on	7,287	4,478	61%	5	162.0	F							7,584	4,478	59%
HOV On to 680 Off Ramp	7,287	4,432	61%	6	147.1	F	1,763	1,399	79%	47	29.7	D	9,051	5,831	64%
I-680 off-ramp to I-680 NB on-ramp	3,394	3,309	97%	53	15.7	B	608	379	62%	61	6.4	A	4,002	3,688	92%
I-680 NB on-ramp to I-680 SB on-ramp	3,784	3,223	85%	61	13.1	B	669	769	115%	62	12.4	B	4,452	3,991	90%
I-580 WB west of I-680 SB on-ramp	5,082	4,794	94%	61	15.6	B	955	786	82%	62	12.7	B	6,038	5,580	92%

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - MAINLINE - AM PEAK

Freeway Segment	SOV						HOV						Total Volumes		
	Demand (vph)	Served (vph)	% Served	Speed (MPH)	Density (veh/ln/mi)	LOS (HCM	Demand (vph)	Served (vph)	% Served	Speed (MPH)	Density (veh/ln/mi)	LOS (HCM	Demand (vph)	Served (vph)	% Served
I-680 NB Mainline															
Andrade Road to Calaveras Rd off-ramp	5,738	5,159	90%	60	28.8	D	1,364	1,323	97%	59	22.3	C	7,102	6,483	91%
Calaveras Rd off-ramp to Calaveras Rd on-ramp	5,685	5,320	94%	55	32.3	D	1,357	1,104	81%	60	18.5	C	7,042	6,424	91%
Calaveras Rd on-ramp to Vallecitos Rd off-ramp	6,036	5,886	98%	44	33.7	D	1,416	924	65%	61	15.2	B	7,453	6,809	91%
Vallecitos Rd off-ramp to Vallecitos Rd on-ramp	4,117	3,764	91%	57	21.9	C	999	927	93%	60	15.4	B	5,116	4,691	92%
Vallecitos Rd on-ramp to Koopman Rd on-ramp	4,159	3,827	92%	60	20.5	C	1,005	939	93%	60	15.7	B	5,164	4,766	92%
Koopman Rd on-ramp to Sunol Blvd off-ramp	4,599	4,285	93%	60	23.5	C	1,081	972	90%	59	16.4	B	5,680	5,257	93%
Sunol Blvd off-ramp to Sunol Blvd on-ramp	3,957	3,655	92%	60	20.2	C	987	876	89%	59	14.8	B	4,944	4,531	92%
Sunol Blvd on-ramp to Bernal Ave off-ramp	4,473	4,233	95%	60	23.1	C	1,055	880	83%	59	14.9	B	5,528	5,112	92%
Bernal Ave off-ramp to Bernal Ave on-ramp	4,080	3,778	93%	60	20.8	C	990	867	88%	59	14.7	B	5,070	4,645	92%
Bernal Ave on-ramp to Stoneridge Dr off-ramp	4,701	4,372	93%	59	24.2	C	1,053	879	84%	59	15.0	B	5,754	5,252	91%
Stoneridge Dr off-ramp to Stoneridge Dr loop on-ramp	3,869	3,597	93%	61	14.8	B	896	722	81%	59	12.2	B	4,765	4,319	91%
Stoneridge Dr loop on-ramp to Stoneridge Dr diag on-ramp	4,427	4,393	99%	55	20.0	C							5,384	4,503	84%
Stoneridge Dr diag on-ramp to I-580 EB off-ramp	4,986	4,959	99%	56	20.9	C							6,006	5,078	85%
I-580 EB off-ramp to I-580 WB off-ramp	3,194	3,055	96%	61	16.3	B							4,149	3,141	76%
I-580 WB off-ramp to HOV Connector Off	2,805	2,614	93%	60	14.5	B							3,455	2,708	78%
Connector Off to 580 EB On	2,805	2,719	97%	59	20.3	C	651	355	55%	61	5.8	A	3,455	3,074	89%
I-580 EB on-ramp to I-580 WB on-ramp	3,438	3,038	88%	54	18.9	C	715	481	67%	60	8.0	A	4,153	3,519	85%
I-580 WB on-ramp to Dublin Blvd/Village Pkwy on-ramp	5,503	4,732	86%	60	15.7	B	1,187	566	48%	60	9.6	A	6,690	5,298	79%
I-680 NB north of Dublin Blvd/Village Pkwy on-ramp (end freev	6,102	4,857	80%	62	15.7	B	1,243	1,042	84%	61	17.0	B	7,345	5,899	80%
I-680 SB Mainline															
Alcosta Blvd to I-580 EB off-ramp	6,734	7,145	106%	22	63.9	F	1,622	1,085	67%	62	18	B	8,356	8,230	98%
I-580 EB off-ramp to I-580 WB off-ramp	4,058	4,607	114%	55	16.7	B	1,379	832	60%	62	13	B	5,436	5,439	100%
I-580 WB off-ramp to Dublin Blvd/Patrick Way on-ramp	2,759	3,180	115%	62	14.9	B	1,092	679	62%	61	11	B	3,851	3,859	100%
Dublin Blvd/Patrick Way on-ramp to I-580 on-ramp	3,283	3,710	113%	60	19.9	C	1,253	754	60%	62	12	B	4,536	4,464	98%
I-580 on-ramp to Stoneridge off-ramp	5,611	4,944	88%	58	21.3	C	1,482	984	66%	61	16	B	7,093	5,928	84%
Stoneridge off to HOV off	3,610	3,226	89%	62	14.7	B	1,300	916	70%	59	16	B	4,909	4,142	84%
HOV off to Connector on	3,610	3,045	84%	62	14.2	B							3,609	3,045	84%
Connector on to Stoneridge loop on-ramp	4,634	3,000	65%	59	12.8	B	617	320	52%	55	6	A	5,250	3,320	63%
Stoneridge Loop on Ramp to Stoneridge diagonal on-ramp	5,088	3,440	68%	56	14.5	B	776	470	61%	61	8	A	5,864	3,910	67%
Stoneridge Diagonal on to HOV On	5,548	3,796	68%	52	18.9	C	956	708	74%	62	11	B	6,504	4,504	69%
HOV on to Bernal off	5,548	4,604	83%	59	25.2	C	2,255	1,065	47%	60	18	B	7,803	5,669	73%
Bernal Ave off-ramp to Bernal Ave on-ramp	4,459	3,708	83%	61	20.3	C	2,120	935	44%	59	15.7	B	6,579	4,643	71%
Bernal Ave on-ramp to Sunol Blvd off-ramp	4,963	4,197	85%	61	22.6	C	2,271	1,044	46%	59	17.7	B	7,234	5,241	72%
Sunol Blvd off-ramp to Sunol Blvd on-ramp	4,675	3,967	85%	60	22.0	C	2,230	1,054	47%	59	17.9	B	6,905	5,021	73%
Sunol Blvd on-ramp to Koopman Rd off-ramp	5,175	4,452	86%	60	24.3	C	2,403	1,178	49%	58	20.2	C	7,579	5,630	74%
Koopman Rd off-ramp to Poloma Rd off-ramp	4,713	4,113	87%	61	22.4	C	2,329	1,113	48%	58	19.1	C	7,042	5,226	74%
Poloma Rd off-ramp to Valecitos Rd on-ramp	4,588	4,027	88%	61	21.9	C	2,308	1,108	48%	58	19.1	C	6,895	5,135	74%
Valecitos Rd on-ramp to Poloma Rd on-ramp	5,984	5,845	98%	58	20.6	C	2,748	1,139	41%	58	19.6	C	8,732	6,984	80%
Poloma Rd on-ramp to Andrade Rd off-ramp	6,258	5,816	93%	61	23.7	C	2,818	1,510	54%	57	26.3	D	9,076	7,326	81%

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - RAMPS - AM PEAK

Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 EB ON-RAMPS			
I-680 SB	2,018	1,758	87%
I-680 NB	1,309	1,309	100%
Hopyard Rd SB	658	600	91%
Hopyard Rd NB	597	595	100%
Hacienda Dr SB	634	599	95%
Hacienda Dr NB	589	587	100%
Santa Rita Rd SB	618	602	97%
Santa Rita Rd NB	651	600	92%
El Charro Rd SB	582	582	100%
El Charro Rd NB	613	613	100%
Airway Blvd	523	523	100%
Isabel Ave SB	251	251	100%
Isabel Ave NB	1,271	1,271	100%
Livermore Ave	618	601	97%
First St SB	146	146	100%
First St NB	623	603	97%
Vasco Rd SB	11	11	100%
Vasco Rd NB	566	565	100%
Greenville Rd	66	66	100%

Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 EB OFF-Ramps			
I-680	2,384	1,211	51%
Hopyard Rd	686	649	95%
Hacienda Dr	1,945	1,905	98%
Santa Rita Rd	1,623	1,490	92%
El Charro	1,389	1,261	91%
Airway Blvd	1,506	1,331	88%
Isabel Ave	1,444	1,366	95%
Livermore Ave	1,414	1,395	99%
First St	1,402	1,260	90%
Vasco Rd	1,832	1,662	91%
Greenville Rd	1,456	1,289	89%

Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 WB ON-RAMPS			
Greenville Rd	704	601	85%
Vasco Rd	1,615	1,199	74%
First St NB	710	602	85%
First St SB	686	600	88%
Livermore Ave	756	598	79%
Isabel Ave NB	661	582	88%
Isabel Ave SB	671	593	88%
Airway Blvd NB	670	585	87%
Airway Blvd SB	681	598	88%
El Charro NB	659	167	25%
El Charro SB	665	590	89%
Santa Rita NB	609	600	98%
Santa Rita SB	644	520	81%
Hacienda Dr NB	604	594	98%
Hacienda Dr SB	637	139	22%
Hopyard Rd NB	621	406	65%
Hopyard Rd SB	688	110	16%
HOV On	1,467	1,452	99%
I-680 NB	450	300	67%
I-680 SB	1,585	1,582	100%

Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 WB OFF-Ramps			
Greenville Rd	1,440	1,258	87%
Vasco Rd	784	730	93%
First St	595	596	100%
Livermore Ave	125	115	92%
Isabel Ave	2,418	2,265	94%
Airway Blvd	623	600	96%
El Charro	1,016	803	79%
Santa Rita	1,342	842	63%
Hacienda Dr	1,531	1,074	70%
HOV Off	1,467	1,457	99%
680 Connector Off	1,641	562	34%
Hopyard Off	1,115	428	38%
I-680 NB & SB Loop Ramp	5,048	2,318	46%

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - RAMPS - AM PEAK

Freeway Ramps	Demand (vph)	Served (vph)	% Served	Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-680 NB ON-RAMPS				**I-680 NB OFF-Ramps**			
Calaveras Rd	411	410	100%	Calaveres Rd	60	48	80%
Vallecitos	48	78	48%	Vallecitos	2,336	2,147	92%
Koopman Rd	516	514	100%	Sunol Blvd	737	717	97%
Sunol Blvd	584	585	100%	Bernal Ave	458	458	100%
Bernal Ave	685	599	87%	Stoneridge	989	937	95%
Stoneridge EB Loop	619	599	97%	I-580 EB	1,857	1,857	100%
Stoneridge Diagonal	623	601	97%	I-580 WB	450	434	96%
I-580 EB	698	442	63%				
I-580 WB	2,536	1,775	70%				
Dublin Blvd/Village Pkwy	655	600	92%				
I-680 SB ON-RAMPS				**I-680 SB OFF-Ramps**			
Dublin Blvd/Patrick Way	686	600	88%	I-580 EB	2,920	2,659	91%
I-580 EB & WB Loop	2,557	1,457	57%	I-580 WB	1,585	1,578	100%
Connector On	1,641	555	34%	Stoneridge	2,184	1,980	91%
Stoneridge WB Loop On	614	595	97%	HOV Off	1,300	1,180	91%
Stoneridge Diagonal	640	597	93%	Bernal Ave	1,225	1,019	83%
HOV On	1,300	1,175	90%	Sunol Blvd	330	233	71%
Bernal Ave	656	599	91%	Koopman rd	537	411	77%
Sunol Blvd	674	601	89%	Poloma Way	147	100	68%
Vallecitos	1,837	1,837	100%				
Calaveres Rd	344	345	100%				

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - MAINLINE - PM PEAK

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - RAMPS - PM PEAK

Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 EB ON-RAMPS			
I-680 SB	2,205	1,775	81%
I-680 NB	1,008	849	84%
Hopyard Rd SB	755	601	80%
Hopyard Rd NB	690	598	87%
Hacienda Dr SB	646	600	93%
Hacienda Dr NB	840	597	71%
Santa Rita Rd SB	617	601	97%
Santa Rita Rd NB	845	602	71%
El Charro Rd SB	371	372	100%
El Charro Rd NB	592	590	100%
Airway Blvd	672	598	89%
Isabel Ave SB	269	269	100%
Isabel Ave NB	1,822	1,659	91%
Livermore Ave	600	600	100%
First St SB	670	600	89%
First St NB	678	597	88%
Vasco Rd SB	0	0	#DIV/0!
Vasco Rd NB	172	172	100%
Greenville Rd	296	297	100%

Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 EB OFF-Ramps			
I-680	1,854	1,124	61%
Hopyard Rd	164	124	76%
Hacienda Dr	1,480	1,158	78%
Santa Rita Rd	1,039	782	75%
El Charro	896	717	80%
Airway Blvd	1,114	821	74%
Isabel Ave	1,053	851	81%
Livermore Ave	1,553	1,234	79%
First St	1,495	1,218	81%
Vasco Rd	2,091	1,771	85%
Greenville Rd	1,470	1,239	84%

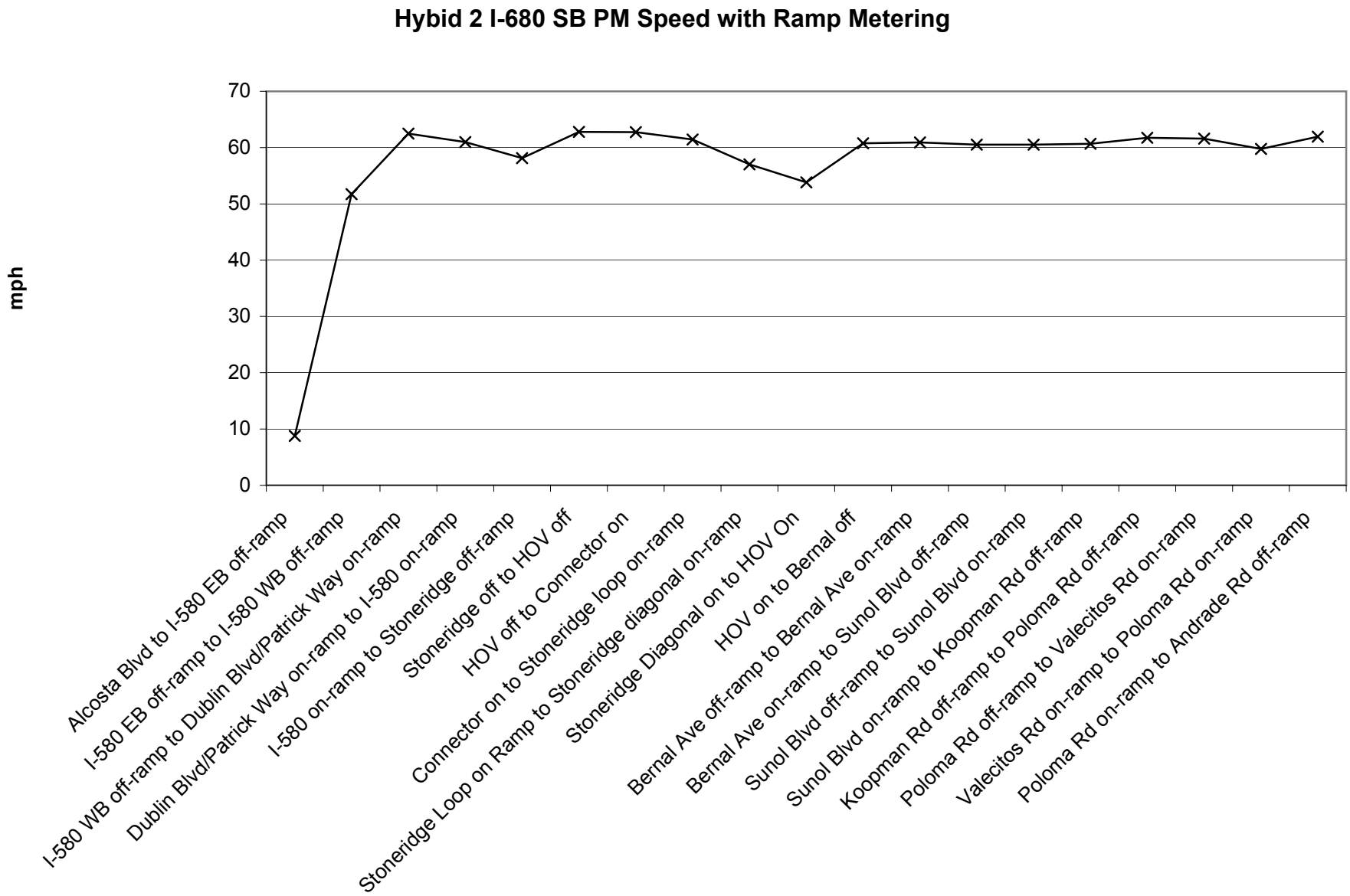
Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 WB ON-RAMPS			
Greenville Rd	685	599	88%
Vasco Rd	1,530	1,197	78%
First St NB	669	600	90%
First St SB	608	599	99%
Livermore Ave	699	601	86%
Isabel Ave NB	304	226	74%
Isabel Ave SB	644	308	48%
Airway Blvd NB	686	228	33%
Airway Blvd SB	673	518	77%
El Charro NB	647	0	0%
El Charro SB	681	400	59%
Santa Rita NB	678	257	38%
Santa Rita SB	714	166	23%
Hacienda Dr NB	693	297	43%
Hacienda Dr SB	709	98	14%
Hopyard Rd NB	706	420	59%
Hopyard Rd SB	739	69	9%
HOV On	912	717	79%
I-680 NB	1,153	857	74%
I-680 SB	1,564	1,432	92%

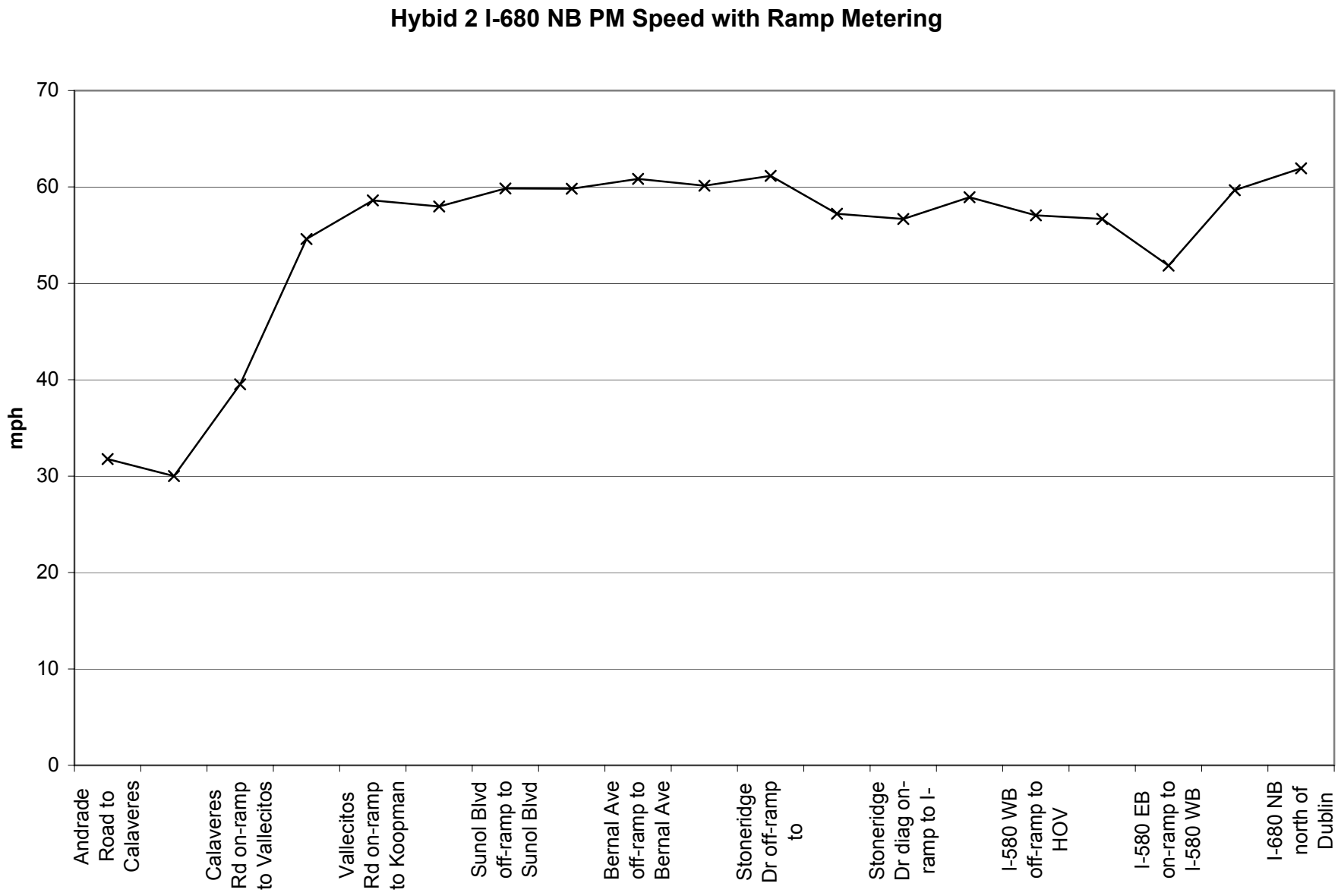
Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-580 WB OFF-Ramps			
Greenville Rd	196	165	84%
Vasco Rd	152	151	99%
First St	657	612	93%
Livermore Ave	453	404	89%
Isabel Ave	925	870	94%
Airway Blvd	107	95	89%
El Charro	255	139	54%
Santa Rita	1,341	586	44%
Hacienda Dr	521	279	54%
HOV Off	912	717	79%
680 Connector Off	444	47	11%
Hopyard Off	1,184	509	43%
I-680 NB & SB Loop Ramp	3,692	2,201	60%

TRIANGLE STUDY - TRAFFIC OPERATIONS ANALYSIS

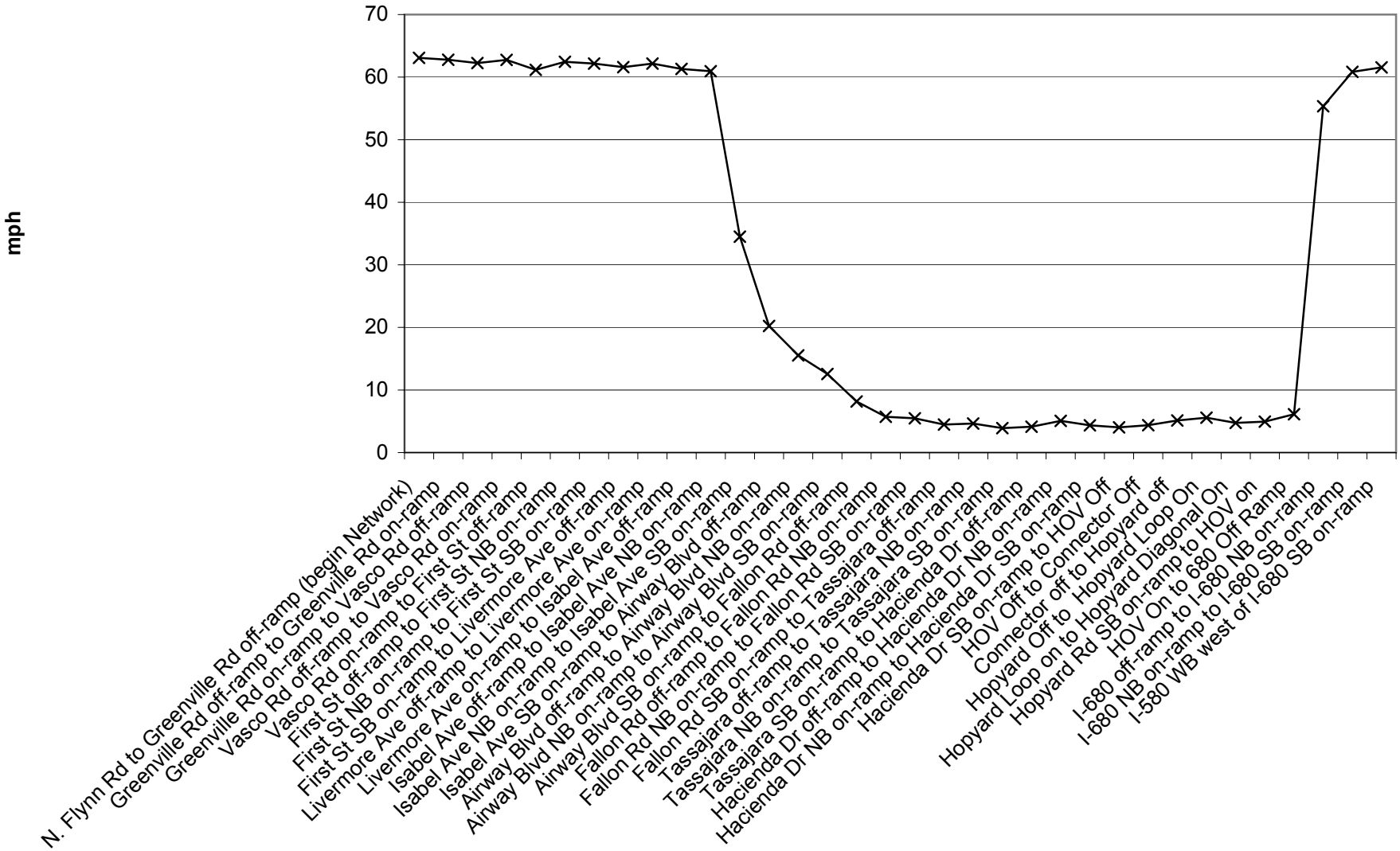
HYBRID ALTERNATIVE #2 (Ramp Meter @ I-580/I-680 I/C) - RAMPS - PM PEAK

Freeway Ramps	Demand (vph)	Served (vph)	% Served	Freeway Ramps	Demand (vph)	Served (vph)	% Served
I-680 NB ON-RAMPS				**I-680 NB OFF-Ramps**			
Calaveras Rd	295	295	100%	Calaveres Rd	99	96	97%
Vallecitos	241	230	96%	Vallecitos	3,108	2,788	90%
Koopman Rd	473	474	100%	Sunol Blvd	1,221	1,127	92%
Sunol Blvd	636	600	94%	Bernal Ave	632	627	99%
Bernal Ave	717	600	84%	Stoneridge	650	598	92%
Stoneridge EB Loop	723	601	83%	I-580 EB	1,297	1,082	83%
Stoneridge Diagonal	715	600	84%	I-580 WB	1,237	1,093	88%
I-580 EB	537	331	62%				
I-580 WB	3,248	1,770	54%				
Dublin Blvd/Village Pkwy	735	602	82%				
I-680 SB ON-RAMPS				**I-680 SB OFF-Ramps**			
Dublin Blvd/Patrick Way	680	600	88%	I-580 EB	2,983	2,358	79%
I-580 EB & WB Loop	2,166	1,447	67%	I-580 WB	1,564	1,426	91%
Connector On	444	47	11%	Stoneridge	2,079	1,499	72%
Stoneridge WB Loop On	668	599	90%	HOV Off	970	862	89%
Stoneridge Diagonal	673	600	89%	Bernal Ave	959	686	72%
HOV On	970	852	88%	Sunol Blvd	522	425	81%
Bernal Ave	655	601	92%	Koopman rd	655	516	79%
Sunol Blvd	643	601	93%	Poloma Way	78	51	65%
Vallecitos	1,421	1,409	99%				
Calaveres Rd	21	20	95%				

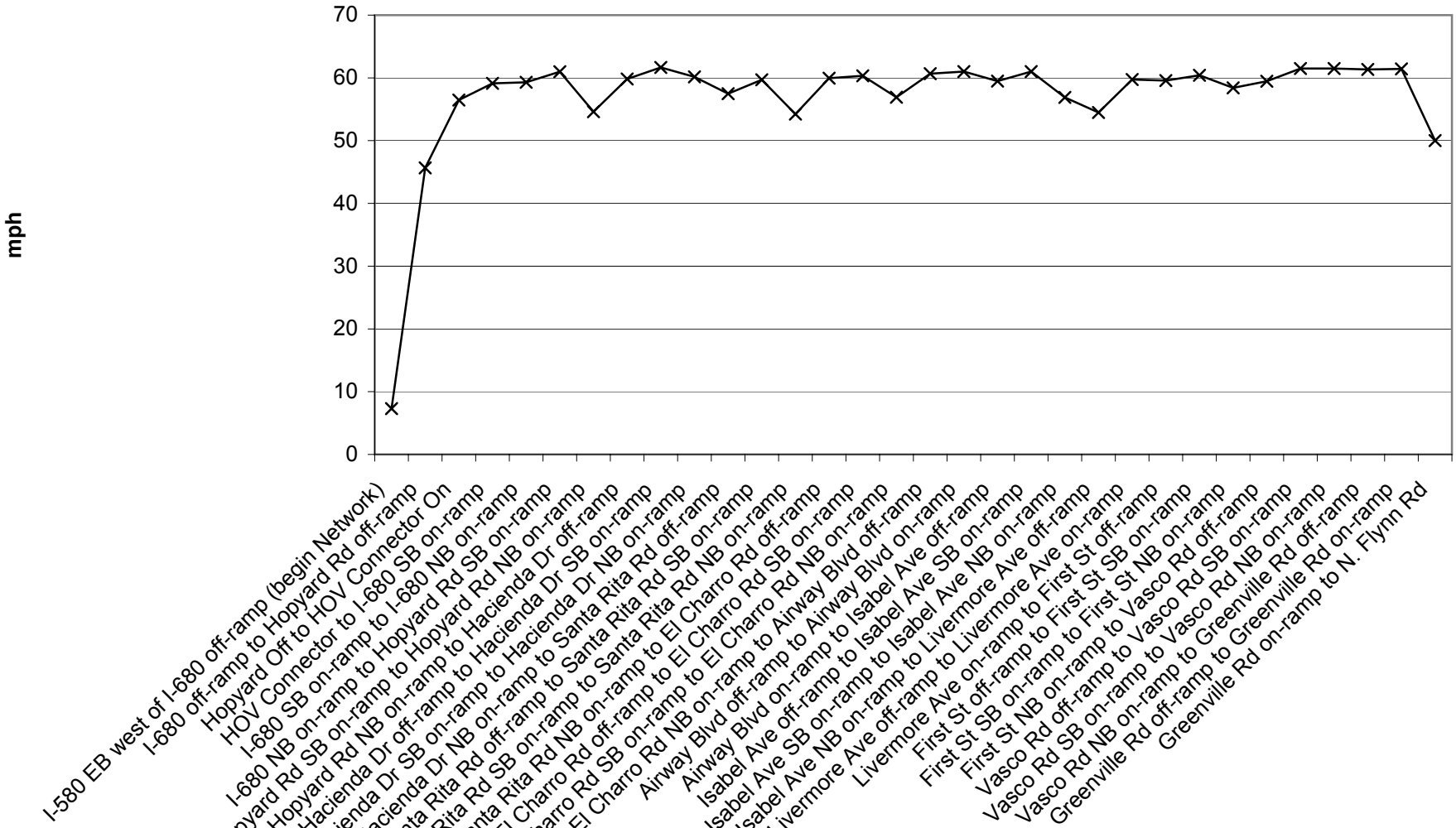

Hybid 2 I-680 SB PM Speed with Ramp Metering
mph
70
60
50
40
30
20
10
0
Alcosta Blvd to I-580 EB off-ramp
I-580 EB off-ramp to I-580 WB off-ramp
I-580 WB off-ramp to Dublin Blvd/Patrick Way on-ramp
Dublin Blvd/Patrick Way on-ramp to I-580 on-ramp
I-580 on-ramp to Stoneridge off-ramp
Stoneridge off to HOV off
HOV off to Connector on
Connector on to Stoneridge loop on-ramp
Stoneridge Loop on Ramp to Stoneridge diagonal on-ramp
Stoneridge Diagonal on to HOV On
HOV on to Bernal off
Bernal Ave off-ramp to Bernal Ave on-ramp
Bernal Ave on-ramp to Sunol Blvd off-ramp
Sunol Blvd off-ramp to Sunol Blvd on-ramp
Sunol Blvd on-ramp to Koopman Rd off-ramp
Koopman Rd off-ramp to Poloma Rd off-ramp
Poloma Rd off-ramp to Valecitos Rd on-ramp
Valecitos Rd on-ramp to Poloma Rd on-ramp
Poloma Rd on-ramp to Andrade Rd off-ramp

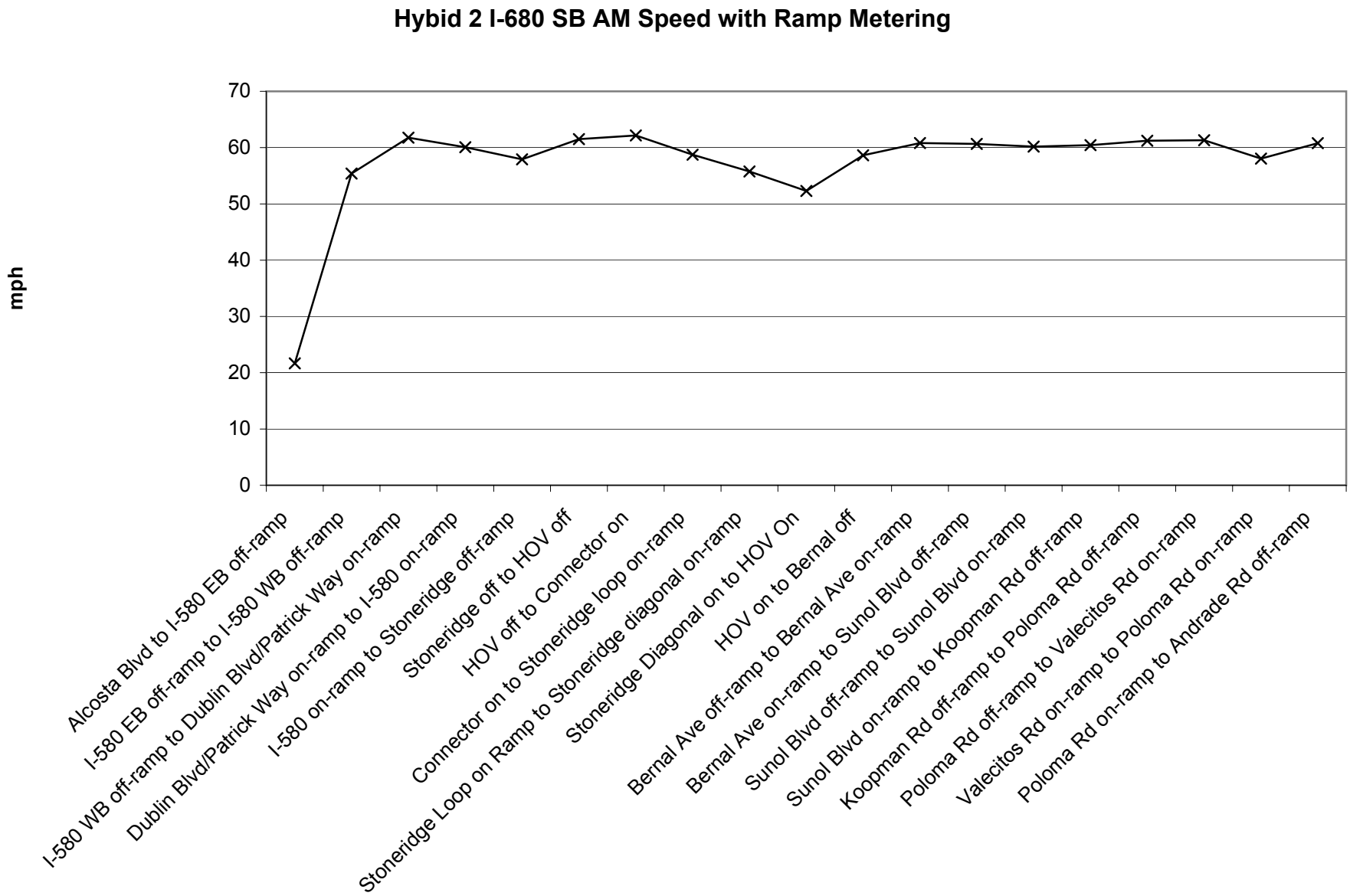

Hybid 2 I-680 NB PM Speed with Ramp Metering
mph
70
60
50
40
30
20
10
0
Andrade Road to Calaveres
Calaveres Rd on-ramp to Vallecitos
Vallecitos Rd on-ramp to Koopman
Sunol Blvd off-ramp to Sunol Blvd
Bernal Ave off-ramp to Bernal Ave
Stoneridge Dr off-ramp to
Stoneridge Dr diag on-ramp to I-
I-580 WB off-ramp to HOV
I-580 EB on-ramp to I-580 WB
I-680 NB north of Dublin

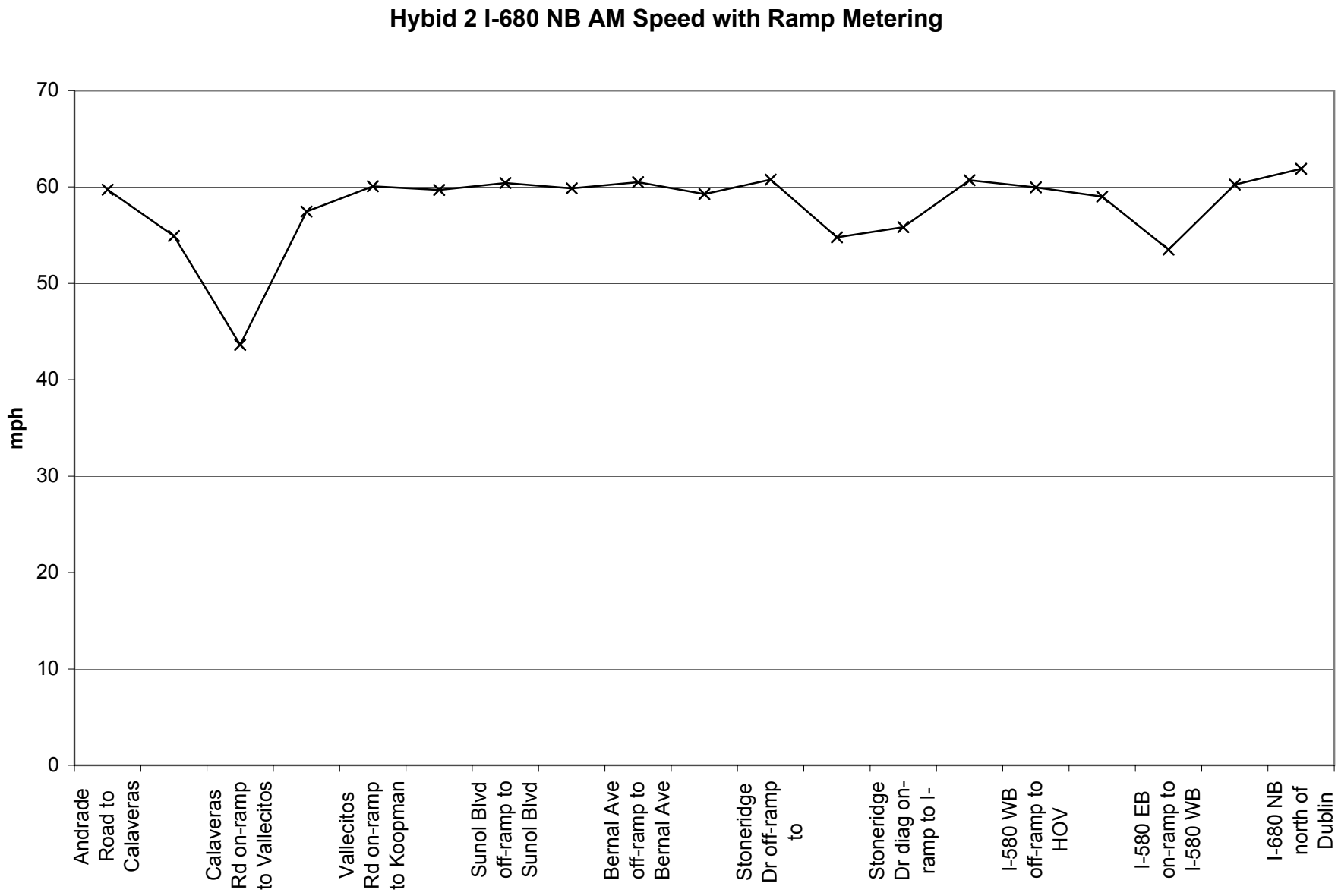
Hybid 2 I-580 WB PM Speed with Ramp Metering



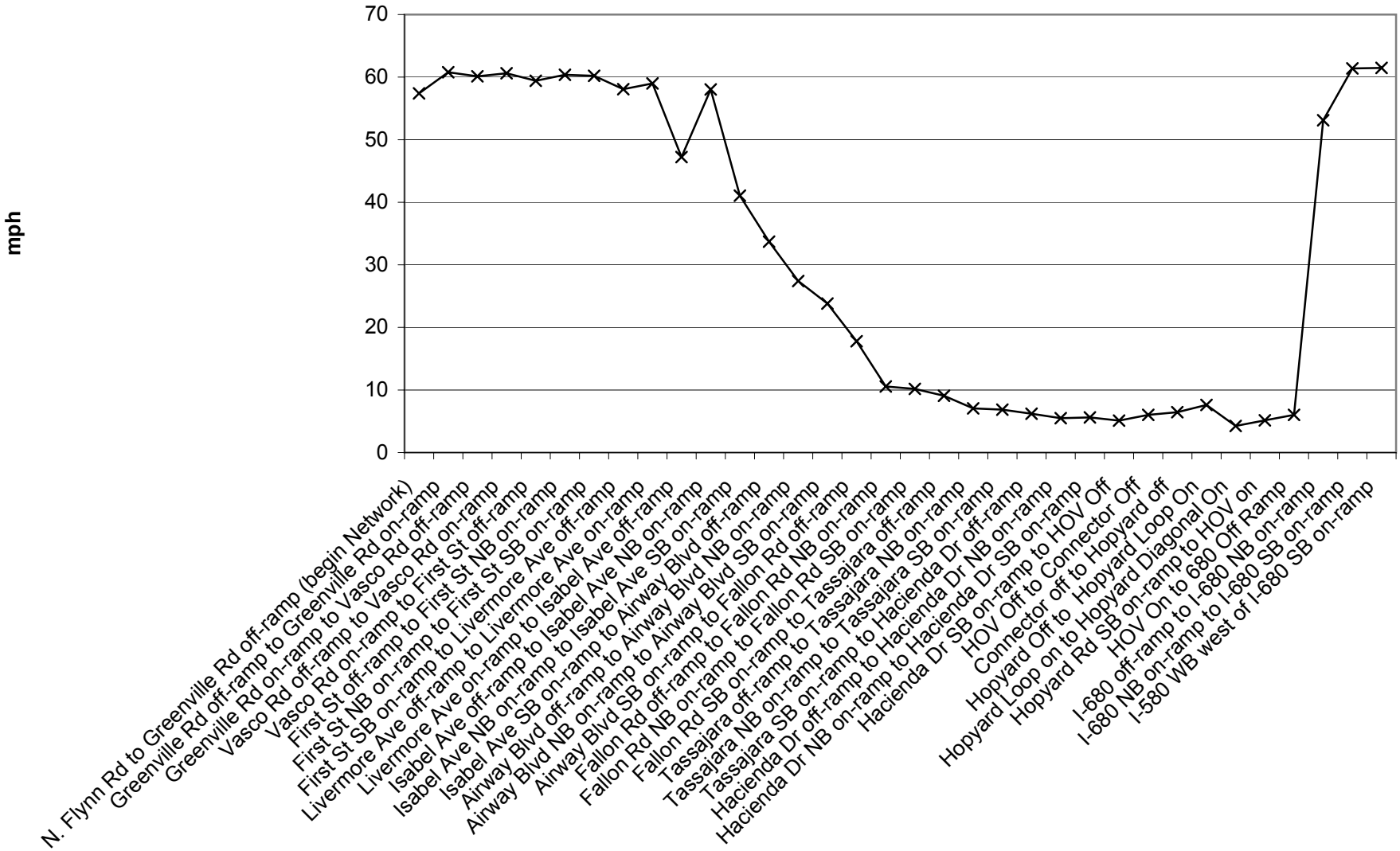
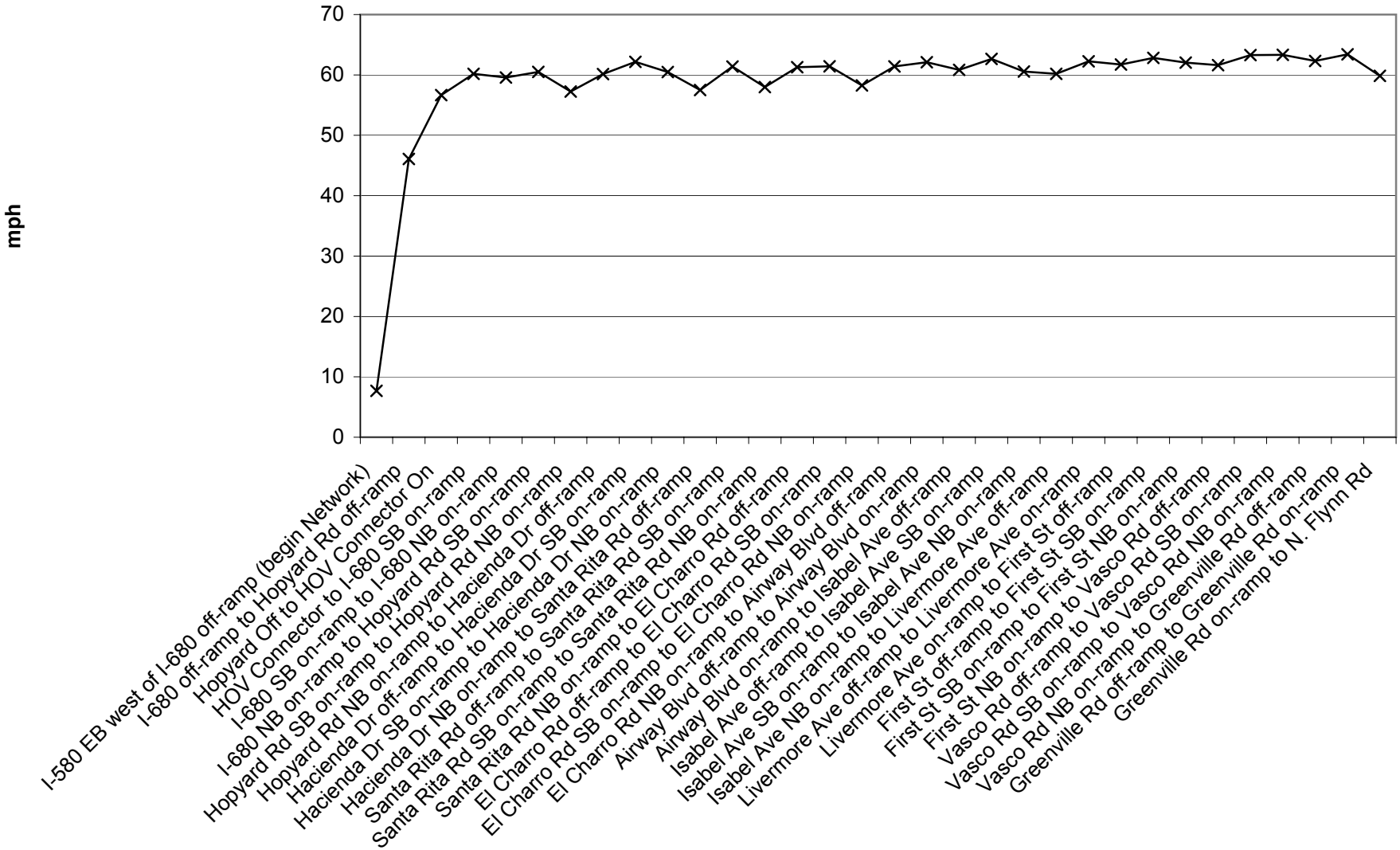
Hybid 2 I-580 EB PM Speed with Ramp Metering




Hybid 2 I-680 SB AM Speed with Ramp Metering
mph
70
60
50
40
30
20
10
0
Alcosta Blvd to I-580 EB off-ramp
I-580 EB off-ramp to I-580 WB off-ramp
I-580 WB off-ramp to Dublin Blvd/Patrick Way on-ramp
Dublin Blvd/Patrick Way on-ramp to I-580 on-ramp
I-580 on-ramp to Stoneridge off-ramp
Stoneridge off to HOV off
HOV off to Connector on
Connector on to Stoneridge loop on-ramp
Stoneridge Loop on Ramp to Stoneridge diagonal on-ramp
Stoneridge Diagonal on to HOV On
HOV on to Bernal off
Bernal Ave off-ramp to Bernal Ave on-ramp
Bernal Ave on-ramp to Sunol Blvd off-ramp
Sunol Blvd off-ramp to Sunol Blvd on-ramp
Sunol Blvd on-ramp to Koopman Rd off-ramp
Koopman Rd off-ramp to Poloma Rd off-ramp
Poloma Rd off-ramp to Valecitos Rd on-ramp
Valecitos Rd on-ramp to Poloma Rd on-ramp
Poloma Rd on-ramp to Andrade Rd off-ramp


Hybid 2 I-680 NB AM Speed with Ramp Metering
mph
70
60
50
40
30
20
10
0
Andrade Road to Calaveras
Calaveras Rd on-ramp to Vallecitos
Vallecitos Rd on-ramp to Koopman
Sunol Blvd off-ramp to Sunol Blvd
Bernal Ave off-ramp to Bernal Ave
Stoneridge Dr off-ramp to
Stoneridge Dr diag on-ramp to I-
I-580 WB off-ramp to HOV
I-580 EB on-ramp to I-580 WB
I-680 NB north of Dublin

Hybid 2 I-580 WB AM Speed with Ramp Metering



Hybid 2 I-580 EB AM Speed with Ramp Metering