Memorandum

TO: Nick Brand

FROM: Michael Snavely, Rachel Copperman, David Kurth, George Mazur

DATE: March 8, 2010

RE: Grasslands South Scenario

The CS project team modeled the Grasslands South Scenario operating plan for the Full System in 2030. This operating plan modifies the May 2009 operating plan by adding 14 minutes run time between Gilroy and Merced to represent the new alignment south of the Grasslands Ecological Area. This change in run times impacts 12 trains in the peak period serving the San Francisco – Sacramento corridor, and 10 trains in the off-peak. Tables 1 and 2 show the Full System operating plan for peak and off-peak periods, respectively.

The Grasslands South Scenario resulted in a predicted annual high-speed rail ridership of 99.8 million for year 2030 (see Table 3). The results represent a decrease of 0.3 million, or 0.3 percent, compared to the May 2009 operating plan. The 14 minutes of added travel time between Gilroy and Merced decreases total ridership between the Bay Area, Sacramento and San Joaquin Valley markets. Ridership between all other markets is approximately the same as the May 2009 results. The primary ridership decreases in 2030 are:

- Between Sacramento and the Bay Area ridership decreases by 0.3 million;
- Between the Bay Area and the San Joaquin Valley ridership decreases by 0.2 million; and,
- Between Sacramento and the San Joaquin Valley ridership decreases by 0.1 million.

The change in market-to-market ridership translates to overall decreases in system revenue. System revenue in 2030 between the Bay Area, Sacramento and San Joaquin Valley markets decrease by $12 million (0.3 percent). For the entire system, the added travel time in the Gilroy to Merced corridor in 2030 results in total revenue of $3,866 million, a decrease of $16 million (0.4 percent) from the May 2009 operating plan.

Table 4 presents the average daily boardings at each high-speed rail station. Total daily boardings at San Francisco, Millbrae, Redwood City, San Jose, Sacramento, Stockton and Modesto stations decrease in total by 1,200 (1 percent). Boardings on the remainder of the corridor remain approximately the same.

Table 5 presents daily station-to-station line loadings. Compared to the May 2009 operating plan, daily line loads are 200 lower between San Francisco and Redwood City, 600 lower between Gilroy and Modesto, and 500 lower between Modesto and Sacramento. South of Fresno, line loads are essential identical between the two scenarios.

555 12th Street, Suite 1600
Oakland, CA 94607
tel 510 873 8700 www.camsys.com fax 510 873 8701

Table 1 High-Speed Rail Operating Plan for the Grasslands South Scenario, Peak-Period

Station	Run Time from Start Station (minutes)													
San Francisco	0	0	0	0	0	0	0			0	0			
Millbrae	|	|	|	|	15	15	15			15	|			
Redwood City/Palo Alto	|	20	|	20	25	25	25			25	20			
San Jose	|	35	30	35	40	40	40			40	35			
Gilroy	|	51	|	51	56	56	|			56	|			
Merced										105	|			
Modesto										122	|			
Stockton										138	118			
Sacramento										160	140	0	0	0
Stockton												22	22	22
Modesto												|	38	|
Merced												|	55	|
Fresno	|	|	|	|	97	97	93					68	78	68
Bakersfield	|	|	|	|	|	138	134					|	119	|
Palmdale	|	|	|	151	164	172	|				135	153	|
Sylmar	|	|	|	173	|	194	183					157	175	|
Burbank	|	|	|	|	|	203	|					166	184	|
Los Angeles	160	175	163	188	198	213	198	0	0			176	194	154
Norwalk	173		176				211					189	207	
Anaheim	184		187				222					200	218	
City of Industry		|		208	218	|		19	|					174
Ontario		203		220	230	241			31	|					186
Riverside		216		233	243	254			44	35					199
Murrieta		|		250	260	|		61	|					216
Escondido		|		268	278	|		79	|					234
University City		258		283	293	296			94	|					249
San Diego		270		295	305	308			106	85					261
Frequency (trains per hour)	1	2	1	1	1	1	1	1	1	1	1	1	1	1

Notes: "|" indicates no station stop for indicated pattern. The Grasslands South Scenario operating plan includes additional 14 minutes run time between Gilroy and Merced.

Table 2 High-Speed Rail Operating Plan for the Grasslands South Scenario, Off-Peak

Station	Run Time from Start Station (minutes)							
San Francisco	0	0	0		0	0	0	0
Millbrae	|	|	15		|	15	15	15
Redwood City/Palo Alto	20	20	25		20	25	25	25
San Jose	35	35	40		35	40	40	40
Gilroy	51	51	56		51	56	56	56
Merced								91
Modesto								108
Stockton								124
Sacramento				0				146
Stockton				22				
Modesto				38				
Merced				55				
Fresno	|	97	93	78	|	97	97	
Bakersfield	|	138	134	119	|	138	138	
Palmdale	|	172	|	153	151	172	|	
Sylmar	|	194	183	175	173	194	|	
Burbank	|	203	|	184	182	203	|	
Los Angeles	175	213	198	194	192	213	194	
Norwalk				207	205		207	
Anaheim				218	216		218	
City of Industry	|	212	214			|		
Ontario	203	224	226			241		
Riverside	216	237	239			254		
Murrieta	|	254	256			|		
Escondido	|	272	274			|		
University City	258	287	289			296		
San Diego	270	299	301			308		
Frequency (trains per hour)	1	1	1	1	1	1	1	1

Notes: "|" indicates no station stop for indicated pattern. The Grasslands South Scenario operating plan includes additional 14 minutes run time between Gilroy and Merced.

Table 3 2030 Full System Annual Region to Region Ridership and Revenue, Grasslands South Scenario

	May 2009 Operating Plan				Grasslands South Scenario Operating Plan			
Market	**HSR Ridership (millions)**	**HSR Mode Share**	**HSR Avg. Fare (2008$$)**	**Revenue (2008$$ in millions)**	**HSR Ridership (millions)**	**HSR Mode Share**	**HSR Avg. Fare (2008$$)**	**Revenue (2008$$ in millions)**
LA Basin – Sacramento	3.8	51%	$66	$254	3.8	51%	$66	$254
LA Basin – San Diego	21.4	15%	$31	$659	21.5	15%	$31	$659
LA Basin- Bay Area	12.3	59%	$68	$836	12.4	60%	$68	$840
Sacramento – Bay Area	3.0	4%	$45	$132	2.7	4%	$45	$118
San Diego- Sacramento	0.1	5%	$78	$7	0.1	5%	$78	$7
San Diego- Bay Area	3.5	39%	$81	$280	3.5	39%	$81	$279
Bay Area – San Joaquin Valley	8.0	11%	$45	$359	7.8	11%	$45	$355
San Joaquin Valley – LA Basin	8.4	12%	$44	$367	8.4	12%	$44	$368
Sacramento – San Joaquin Valley	2.1	9%	$42	$87	2.0	9%	$42	$87
San Diego – San Joaquin Valley	0.1	26%	$55	$4	0.1	26%	$56	$
Within Bay Area Peninsula	8.1	0.1%	$11	$87	8.1	0.1%	$11	$87
Within North LA Basin	6.0	0.1%	$12	$75	6.1	0.1%	$12	$75
Within South LA Basin	3.5	0.0%	$10	$36	3.5	0.0%	$10	$36
North LA – South LA	6.8	0.2%	$11	$76	6.8	0.2%	$11	$76
Within San Diego region	0.4	0.0%	$11	$4	0.4	0.0%	$11	$4
Within San Joaquin Valley	2.3	0.0%	$29	$65	2.3	0.0%	$29	$65
Other	10.5	0.1%	$53	$554	10.4	0.1%	$53	$552
Total	**100.1**	**0.1%**	**$39**	**$3,882**	**99.8**	**0.2%**	**$39**	**$3,866**
Within San Diego region	0.4	0.0%	$11	$4	0.4	0.0%	$11	$4
Within entire LA Basin	16.3	0.1%	$11	$187	16.3	0.1%	$11	$187
Within entire MTC[1]	8.1	0.1%	$11	$87	8.1	0.1%	$11	$87
Total between regions	**75.3**	**0.5%**	**$48**	**$3,604**	**74.9**	**0.5%**	**$48**	**$3,592**

[1] Reflects results from February 2010 revised MTC Intraregional model.

Table 4 Full System Average Daily HSR Stations Boardings, Grasslands South Scenario

	May 2009 Operating Plan		Grasslands South Scenario Operating Plan	
Origin Station	**2030**	**2035**	**2030**	**2035***
San Francisco (Transbay)	37,500	39,300	37,300	n/a
Millbrae	7,300	7,700	7,300	n/a
Redwood City	8,400	8,900	8,300	n/a
San Jose	13,100	13,700	12,900	n/a
Gilroy	6,600	6,900	6,600	n/a
Sacramento	18,500	19,500	18,000	n/a
Stockton	6,500	6,900	6,400	n/a
Modesto/SP Downtown	4,500	4,800	4,400	n/a
Merced	2,500	2,700	2,500	n/a
Fresno	8,200	8,700	8,200	n/a
Bakersfield	8,300	9,000	8,200	n/a
Palmdale	18,300	19,200	18,300	n/a
Sylmar	13,700	14,300	13,700	n/a
Burbank	4,600	4,700	4,600	n/a
Los Angeles (Union)	32,700	33,900	32,700	n/a
Norwalk	7,600	7,800	7,600	n/a
Anaheim	23,700	24,500	23,700	n/a
City of Industry	6,900	12,000	6,900	n/a
Ontario	11,600	15,000	11,600	n/a
Riverside	14,400	7,700	14,500	n/a
Temecula / Murrieta	7,400	8,600	7,400	n/a
Escondido	8,100	6,400	8,100	n/a
University City	5,800	21,100	6,000	n/a
San Diego	20,000	7,200	19,900	n/a
Daily	**296,200**	**310,500**	**295,100**	

Note: Year 2035 forecasts were not developed.

Table 5 Full System Daily Line Loads, Grasslands South Scenario

		May 2009 Operating Plan		Grasslands South Scenario Operating Plan	
Origin Station	**Destination Station**	**2030**	**2035**	**2030**	**2035***
San Francisco (Transbay)	Millbrae	37,500	39,300	37,300	n/a
Millbrae	Redwood City	34,100	35,700	33,900	n/a
Redwood City	San Jose	35,600	37,400	35,300	n/a
San Jose	Morgan Hill	40,000	41,800	39,500	n/a
Morgan Hill	Gilroy	40,000	41,800	39,500	n/a
Gilroy	Merced	6,200	6,700	5,600	n/a
Gilroy	Fresno	34,200	35,600	34,300	n/a
Sacramento	Stockton	18,500	19,500	18,000	n/a
Stockton	Modesto/SP Downtown	24,200	25,500	23,700	n/a
Modesto/SP Downtown	Merced	27,200	28,600	26,600	n/a
Merced	Fresno	22,600	23,700	22,600	n/a
Fresno	Bakersfield	53,700	56,000	53,800	n/a
Bakersfield	Palmdale	49,800	51,600	49,900	n/a
Palmdale	Sylmar	58,400	60,500	58,400	n/a
Sylmar	Burbank	55,800	57,800	55,800	n/a
Burbank	Los Angeles (Union)	54,100	56,000	54,100	n/a
Los Angeles (Union)	Norwalk	27,100	28,100	27,200	n/a
Norwalk	Anaheim	23,700	24,500	23,700	n/a
Los Angeles (Union)	City of Industry	39,500	41,400	39,500	n/a
City of Industry	Ontario	41,900	43,900	41,900	n/a
Ontario	Riverside	41,300	43,400	41,300	n/a
Riverside	Temecula / Murrieta	37,500	39,600	37,500	n/a
Temecula / Murrieta	Escondido	33,000	35,000	33,000	n/a
Escondido	University City	25,500	27,000	25,500	n/a
University City	San Diego	19,800	21,100	19,800	n/a

Note: Year 2035 forecasts were not developed.