

**TABLE 1
CAPITAL COSTS BY SEGMENT**
YEAR OF EXPENDITURE, MILLIONS

SAN FRANCISCO TO ANAHEIM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2025	2028	2031	2034	TOTAL
SAN FRANCISCO TO SAN JOSE			41	1,416	1,760	880	526	324	138										5,084
SAN JOSE TO MERCED				71	1,071	1,156	1,131	1,166	573	101									5,271
MERCED TO FRESNO			97	342	467	503	442	333	28										2,212
FRESNO TO BAKERSFIELD			150	588	681	652	676	629	206										3,582
BAKERSFIELD TO PALMDALE					696	835	996	864	532										3,922
PALMDALE TO LOS ANGELES				244	813	1,465	1,931	1,397	606	49									6,505
LOS ANGELES TO ANAHEIM			279	821	1,054	899	930	549	192	50									4,775
SYSTEMS AND ELECTRIFICATION					47	155	678	1,324	1,402	820	45								4,470
TESTING AND COMMISSIONING									3	32	53	27							116
VEHICLES			96	144	144	192		173	208	592	262	22	44	44	348	348	348	348	3,310
PROGRAM IMPLEMENTATION	133	228	473	396	312	370	383	355	376	172	103	47							3,347
TOTAL	133	228	1,136	4,023	7,045	7,107	7,692	7,113	4,264	1,815	463	96	44	44	348	348	348	348	42,594

**TABLE 2
CAPITAL COSTS BY ITEM**
YEAR OF EXPENDITURE, MILLIONS

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	133	228	473	396	312	370	383	355	376	172	103	47	3,347
Final Design			41	314	393	370	185	50					1,353
Right-of-Way			527	899	915	245	254	52					2,892
Environmental Mitigation						326	459	220	64				1,070
Rail and Utility Relocations				314	368	314	177						1,173
Earthwork				62	874	896	927	838	400				3,996
Structures				1,150	2,503	2,620	2,752	1,942	536				11,503
Buildings				422	825	824	792	909	565	50			4,387
Grade Separations				321	530	545	553	561	124				2,634
Track					135	250	532	690	586	150			2,342
Electrification						107	384	734	751	218			2,195
System Elements					47	49	293	590	650	601	45		2,275
Testing and Commissioning									3	32	53	27	116
Total Construction	133	228	1,040	3,879	6,901	6,915	7,692	6,940	4,056	1,223	201	74	39,284

**TABLE 3
CAPITAL COSTS BY SEGMENT BY ITEM**
YEAR OF EXPENDITURE, MILLIONS

SAN FRANCISCO TO SAN JOSE

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	22	37	77	65	51	61	63	58	62	28	17	8	548
Final Design			41	53	66	45	12						217
Right-of-Way				192	199								391
Environmental Mitigation						75	77						152
Rail and Utility Relocations				133	83	57							274
Earthwork				16	17	9	9	6					57
Structures				599	723	321	221	115	119				2,097
Buildings				422	510	226	156	162					1,477
Grade Separations					27	24	14	4					69
Track					135	122	36	37	19				351
Electrification						107	74	64					244
System Elements					47	49	50	52	54				252
Testing and Commissioning									3	7	3		13
TOTAL	22	37	118	1,481	1,858	1,096	713	497	257	35	20	8	6,142

SAN JOSE TO MERCED

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	25	42	87	73	57	68	70	65	69	32	19	9	616
Final Design				71	86	76	13						247
Right-of-Way					35	36	37	38					146
Environmental Mitigation						61	64	68					193
Rail and Utility Relocations					37	37	38						112
Earthwork					252	261	270	212	69				1,065
Structures					604	625	647	562	111				2,549
Buildings								80	82				162
Grade Separations					58	60	62	64	66				310
Track								142	244	101			487
Electrification								157	254	95			506
System Elements								126	166	188	45		525
Testing and Commissioning										6	13	7	26
TOTAL	25	42	87	144	1,129	1,224	1,201	1,514	1,063	422	77	15	6,943

MERCED TO FRESNO

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	10	18	36	30	24	28	29	27	29	13	8	4	257
Final Design				33	35	35							103
Right-of-Way			97	92	32								221
Environmental Mitigation						35	37						72
Rail and Utility Relocations				27	28	29							84
Earthwork				10	11	11	11						43
Structures				118	141	146	71						476
Buildings					156	162	167	173					658
Grade Separations				62	64	66	68	71					331
Track						19	88	89	28				225
Electrification							62	77	82	38			258
System Elements							43	78	81	64			267
Testing and Commissioning										3	7	4	14
TOTAL	10	18	133	372	491	531	576	515	220	119	15	7	3,008

FRESNO TO BAKERSFIELD

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	17	29	60	50	40	47	48	45	48	22	13	6	424
Final Design				41	42	44	45						172
Right-of-Way			150	151	156								457
Environmental Mitigation							61	63					124
Rail and Utility Relocations				55	55	57							168
Earthwork				21	21	22	23						87
Structures				196	203	210	218	225					1,053
Buildings					75	78	80	83	86				402
Grade Separations				124	128	133	137	142					664
Track						108	112	116	120				455
Electrification							125	171	188	39			523
System Elements							102	180	165	91			538
Testing and Commissioning										7	14	7	28
TOTAL	17	29	210	638	721	699	952	1,025	606	158	27	13	5,094

BAKERSFIELD TO PALMDALE

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	18	31	63	53	42	50	51	48	51	23	14	6	450
Final Design					45	46	48	50					189
Right-of-Way					12	12	13	13					50
Environmental Mitigation						47	52	29					128
Rail and Utility Relocations					24	24	25						72
Earthwork					288	298	309	319	331				1,545
Structures					264	342	396	293	106				1,402
Buildings													
Grade Separations					63	65	67	70					265
Track							86	89	95				271
Electrification							95	99	105				299
System Elements							74	76	79	82			311
Testing and Commissioning										4	8	4	16
TOTAL	18	31	63	53	738	885	1,216	1,086	767	109	22	10	4,998

PLAMDALE TO LOS ANGELES

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	25	43	88	74	58	69	71	66	70	32	19	9	624
Final Design				60	62	65	67						254
Right-of-Way				184	190	197	204						775
Environmental Mitigation							58	60	64				183
Rail and Utility Relocations					40	41	42						123
Earthwork					270	280	289	300					1,139
Structures					200	647	937	693	201				2,678
Buildings						185	191	198	205				779
Grade Separations					50	52	53	55	57				267
Track							88	91	79	49			307
Electrification								96	104	46			247
System Elements							24	37	64	132			256
Testing and Commissioning										4	6	3	14
TOTAL	25	43	88	318	871	1,534	2,026	1,596	844	263	26	12	7,645

LOS ANGELES TO ANAHEIM

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Program Implementation	17	29	61	51	40	47	49	45	48	22	13	6	429
Final Design				56	57	59							171
Right-of-Way			279	281	291								851
Environmental Mitigation						107	111						219
Rail and Utility Relocations				98	101	70	72						341
Earthwork				14	15	15	16						61
Structures				236	367	329	262	54					1,249
Buildings					84	173	197	213	192	50			909
Grade Separations				136	140	145	150	156					728
Track							121	125					246
Electrification							29	71	18				119
System Elements								40	42	44			126
Testing and Commissioning										2	2	2	6
TOTAL	17	29	340	872	1,094	946	1,008	706	300	118	15	8	5,454

TABLE 4
PROGRAM IMPLEMENTATION COSTS

YEAR OF EXPENDITURE, MILLIONS

SAN FRANCISCO TO ANAHEIM

ITEM	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
PE/Environmental	102	175	290	150									717
Program Management	29	49	61	95	152	158	163	169	112	77	53	28	1,145
Construction Management			116	144	149	193	200	165	242	74	31		1,313
Agency Cost	3	4	6	8	11	19	20	21	21	20	19	20	172
TOTAL	133	228	473	396	312	370	383	355	376	172	103	47	3,347

**CHSTP - PHASE I
COST ESTIMATE UPDATE (2009)**

	PHASE I	San Francisco to San Jose	San Jose to Central Valley	Merced to Fresno	Fresno to Bakersfield	Bakersfield to Palmdale	Palmdale to Los Angeles	Los Angeles to Anaheim
Infrastructure Capital Costs								
Track	\$ 1,555,349,727	\$ 246,733,722	\$ 310,530,517	\$ 150,171,909	\$ 304,256,536	\$ 178,281,880	\$ 200,399,012	\$ 164,976,151
Earthwork	\$ 2,636,477,404	\$ 37,869,008	\$ 706,562,357	\$ 28,399,327	\$ 57,678,543	\$ 1,008,917,835	\$ 756,972,679	\$ 40,077,655
Structures	\$ 7,417,888,641	\$ 1,391,915,049	\$ 1,626,737,130	\$ 316,815,640	\$ 684,286,756	\$ 890,088,659	\$ 1,683,996,682	\$ 824,048,726
Grade Separations	\$ 1,697,137,268	\$ 45,203,872	\$ 194,771,968	\$ 215,343,104	\$ 431,603,712	\$ 169,360,384	\$ 167,881,728	\$ 472,972,500
Buildings	\$ 2,796,613,973	\$ 981,843,835	\$ 96,735,094	\$ 420,673,050	\$ 252,723,374	\$ -	\$ 481,115,872	\$ 563,522,748
Rail and Utility Relocations	\$ 782,406,873	\$ 186,086,810	\$ 72,695,464	\$ 56,353,177	\$ 113,206,174	\$ 46,766,676	\$ 80,082,500	\$ 227,216,073
System Elements	\$ 1,466,112,570	\$ 171,272,052	\$ 330,663,638	\$ 172,028,526	\$ 349,019,413	\$ 201,235,330	\$ 161,701,852	\$ 80,191,759
Electrification	\$ 1,432,129,828	\$ 167,302,170	\$ 322,999,249	\$ 168,041,110	\$ 340,929,559	\$ 196,570,935	\$ 157,953,796	\$ 78,333,010
Environmental Mitigation	\$ 672,556,109	\$ 97,054,086	\$ 121,276,171	\$ 46,042,981	\$ 76,433,540	\$ 80,980,206	\$ 110,898,831	\$ 139,870,295
Subtotal Construction	\$ 20,456,672,394	\$ 3,325,280,603	\$ 3,782,971,588	\$ 1,573,868,822	\$ 2,610,137,606	\$ 2,772,201,906	\$ 3,801,002,952	\$ 2,591,208,917
Construction Contingencies	\$ 5,568,019,862	\$ 939,053,386	\$ 1,003,144,018	\$ 423,136,492	\$ 683,620,731	\$ 723,605,865	\$ 1,050,446,786	\$ 745,012,583
Subtotal Construction & Contingencies	\$ 26,024,692,256	\$ 4,264,333,989	\$ 4,786,115,607	\$ 1,997,005,315	\$ 3,293,758,337	\$ 3,495,807,771	\$ 4,851,449,738	\$ 3,336,221,500
Final Design	\$ 1,171,111,152	\$ 191,895,030	\$ 215,375,202	\$ 89,865,239	\$ 148,219,125	\$ 157,311,350	\$ 218,315,238	\$ 150,129,967
Force Account	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Construction	\$ 27,195,803,408	\$ 4,456,229,019	\$ 5,001,490,809	\$ 2,086,870,554	\$ 3,441,977,462	\$ 3,653,119,121	\$ 5,069,764,976	\$ 3,486,351,467
Right-of-Way	\$ 2,053,058,712	\$ 278,632,133	\$ 97,285,135	\$ 162,145,000	\$ 331,007,000	\$ 33,544,621	\$ 533,582,336	\$ 616,862,488
Right-of-way Contingency	\$ 513,264,678	\$ 69,658,033	\$ 24,321,284	\$ 40,536,250	\$ 82,751,750	\$ 8,386,155	\$ 133,395,584	\$ 154,215,622
Total Right-of-Way	\$ 2,566,323,390	\$ 348,290,166	\$ 121,606,418	\$ 202,681,250	\$ 413,758,750	\$ 41,930,776	\$ 666,977,920	\$ 771,078,110
Program Implementation	\$ 2,855,559,358	\$ 467,904,047	\$ 525,156,535	\$ 219,121,408	\$ 361,407,634	\$ 383,577,508	\$ 532,325,323	\$ 366,066,904
Testing and Commissioning	\$ 82,391,235	\$ 9,624,988	\$ 18,582,329	\$ 9,667,500	\$ 19,613,869	\$ 11,308,837	\$ 9,087,171	\$ 4,506,542
Total Base Year (2009)	\$ 32,700,077,391	\$ 5,282,048,220	\$ 5,666,836,090	\$ 2,518,340,712	\$ 4,236,757,715	\$ 4,089,936,241	\$ 6,278,155,389	\$ 4,628,003,024
Rolling Stock	\$ 1,918,980,000							
TOTAL	\$ 34,619,057,391							

San Francisco to San Jose

			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
A. Track Items					\$ 246,733,722
1	Double Track Section - At Grade	mi	\$2,100,224	6.3	\$13,231,411
2	Double Track Section - On Structure	mi	\$4,700,160	2.3	\$10,810,368
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	6.0	\$28,200,960
4	Double Track Section - In Trench	mi	\$4,700,160	0.0	\$0
5	Four-Track Section - At Grade	mi	\$4,200,448	14.3	\$60,066,406
6	Four-Track Section - On Structure	mi	\$9,400,320	14.3	\$134,424,576
7	Four-Track Section - In Tunnel or Subway	mi	\$9,400,320	0.0	\$0
8	Four-Track Section - In Trench	mi	\$9,400,320	0.0	\$0
9	Single Track Section - At Grade	mi	\$1,549,312	0.0	\$0
10	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
11	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
12	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
13	Freight Double Track - At Grade	mi	\$2,839,552	0.0	\$0
14	Freight Single Track - At Grade	mi	\$1,549,312	0.0	\$0
15	Four-track construction or reconstruction	mi	\$5,961,728	0.0	\$0
B. Earthwork Items					\$ 37,869,008
1	Site Preparation - Undeveloped	acre	\$9,216	0.0	\$0
2	Total Cut	cy	\$6	1,023,744.4	\$6,604,380
3	Total Fill	cy	\$6	3,611,907.5	\$22,718,609
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	0.0	\$0
6	Landscaping/Erosion Control	acre	\$6,144	0.0	\$0
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	46.7	\$6,742,733
8	Special Drainage Facilities	%	5%		\$1,803,286
C. Structures, Tunnels, Walls					\$ 1,391,915,049
1	Standard Structure	mi	\$34,972,672	17.4	\$608,524,493
2	High Structure	mi	\$40,424,448	0.0	\$0
3	Long Span Structure	mi	\$61,919,232	0.0	\$0
4	Waterway Crossing - Primary	mi	\$85,342,208	0.0	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.5	\$47,865,692
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	2.3	\$245,265,818
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Twin Double Track TBM (<6 Miles)	mi	\$213,274,624	0.0	\$0
12	Twin Double Track TBM w/3rd Tube (>6 Miles)	mi	\$353,441,792	0.0	\$0
13	Double Track TBM (<6 Miles)	mi	\$106,637,312	2.7	\$287,920,742
14	Double Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
15	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
16	Crossovers	ea	\$442,368	0.0	\$0
17	Cut & Cover Double Track Tunnel	mi	\$131,246,080	1.0	\$131,246,080
18	Trench Short	mi	\$78,843,904	0.0	\$0
19	Trench Long	mi	\$57,524,224	0.0	\$0
20	Mechanical & Electrical for Tunnels	mi	\$11,848,704	6.0	\$71,092,224
21	Retaining Walls	mi	\$8,613,888	0.0	\$0
22	Containment Walls	mi	\$5,907,456	0.0	\$0
23	Single Track Cut and Cover Subway	mi	\$131,246,080	0.0	\$0
D. Grade Separations					\$45,203,872
1	Roadway Crossing HSR - 6 Lane Roadway Under 4 Tracks (Urban)	ea	\$26,568,704	0.0	\$0
2	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$13,284,352	0.0	\$0
3	Roadway Crossing HSR - 4 Lane Roadway Under 4 Tracks (Urban)	ea	\$19,926,528	2.0	\$39,853,056
4	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$2,759,680	0.0	\$0
5	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568	0.0	\$0
6	Roadway Crossing HSR - Pedestrian Crossing Under 2 Tracks	ea	\$2,000,000	0.0	\$0
7	Roadway Crossing HSR - Pedestrian Crossing Under 4 Tracks	ea	\$2,500,000	0.0	\$0
8	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520	0.0	\$0
9	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216	0.0	\$0
10	Roadway Crossing HSR - 3 Lane Roadway Over 4 Tracks (Urban)	ea	\$4,276,224	0.0	\$0
11	Roadway Crossing HSR - 2 Lane Roadway Over 4 Tracks (Urban)	ea	\$2,850,816	1.0	\$2,850,816
12	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328	0.0	\$0
13	Roadway Crossing HSR - Pedestrian Crossing Over 2 Tracks	ea	\$2,000,000	0.0	\$0
14	Roadway Crossing HSR - Pedestrian Crossing Over 4 Tracks	ea	\$2,500,000	1.0	\$2,500,000
15	Street Brdignin HSR Trench	ea	\$1,398,784	0.0	\$0
16	Minor Crossing Closures	ea	\$87,040	0.0	\$0
E. Building Items					\$ 981,843,835
1	Intermediate Passenger Stations	ea			\$0
	Intermediate Passenger Stations (Millbrae)	ea	\$12,562,617	1.0	\$12,562,617
	Intermediate Passenger Stations (Palo Alto/Redwood City)	ea	\$12,562,617	1.0	\$12,562,617
	Intermediate Passenger Stations (Diridon)	ea	\$119,521,386	1.0	\$119,521,386
2	Terminal Passenger Stations	ea	\$668,275,330	1.0	\$668,275,330
3	Caltrain Passenger Station	ea	\$15,000,000	3.0	\$45,000,000
4	Maintenance Facility	ea	\$123,921,884	1.0	\$123,921,884
5	Parking - Structures	space		7,800.0	\$0
6	Parking - At Grade	space		0.0	\$0
F. Rail and Utility Relocation					\$ 186,086,810

San Francisco to San Jose

1	Single Track Relocation (temporary)	mi	\$2,000,896	60.0	\$120,053,760
2	Single Track Relocation (permanent)	mi	\$2,000,896	0.0	\$0
3	Single Track Removal	mi	\$130,048	0.0	\$0
4	Double Track Removal	mi	\$260,096	49.7	\$12,926,771
5	Major Utility Relocation - Dense Urban	mi	\$1,548,288	34.3	\$53,106,278
6	Major Utility Relocation - Urban	mi	\$1,084,416	0.0	\$0
7	Major Utility Relocation - Dense Suburban	mi	\$775,168	0.0	\$0
8	Major Utility Relocation - Suburban	mi	\$464,896	0.0	\$0
9	Major Utility Relocation - Undeveloped	mi	\$30,720	0.0	\$0
G. Right-of-Way Items					\$ 278,632,133
Right-of-Way Required for Each Segment					\$0
1	Dense Urban	acre	\$2,786,321	10.0	\$27,863,213
2	Urban	acre	\$1,371,510	0.0	\$0
3	Dense Suburban	acre	\$908,134	0.0	\$0
4	Suburban	acre	\$208,418	0.0	\$0
5	Undeveloped	acre	\$3,642	0.0	\$0
Right-of-Way Required for Stations, Maintenance & Parking Facilities					\$0
6	Dense Urban	acre	\$2,786,321	90.0	\$250,768,919
7	Urban	acre	\$1,371,510	0.0	\$0
8	Dense Suburban	acre	\$908,134	0.0	\$0
9	Suburban	acre	\$208,418	0.0	\$0
10	Undeveloped	acre	\$3,642	0.0	\$0
H. Environmental Mitigation					\$ 97,054,086
Environmental Mitigation		%	3%	3.0	\$97,054,086
I. System Elements					\$ 174,767,400
1	Signaling (ATC)	mi	\$2,070,000	64.3	\$133,101,000
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	64.3	\$34,722,000
3	Wayside Protection System	mi	\$108,000	64.3	\$6,944,400
J. Electrification Items					\$ 170,716,500
1	Traction Power Supply	mi	\$1,170,000	64.3	\$75,231,000
2	Traction Power Distribution	mi	\$1,485,000	64.3	\$95,485,500
Total Construction					\$ 3,235,136,195
Total Construction and Right of Way (Includes Environmental Mitigation)					\$ 3,610,822,414

San Jose to Merced

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
A. Track Items					\$ 310,530,517
1	Double Track Section - At Grade	mi	\$2,100,224	105.0	\$220,485,514
2	Double Track Section - On Structure	mi	\$4,700,160	8.9	\$41,738,831
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	10.3	\$48,306,172
4	Double Track Section - In Trench	mi	\$4,700,160	0.0	\$0
5	Single Track Section - At Grade	mi	\$1,549,312	0.0	\$0
6	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
7	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
8	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
9	Freight Double Track - At Grade	mi	\$2,839,552	0.0	\$0
10	Freight Single Track - At Grade	mi	\$1,549,312	0.0	\$0
11	Four-track construction or reconstruction	mi	\$5,961,728	0.0	\$0
B. Earthwork Items					\$706,562,357
1	Site Preparation - Undeveloped	acre	\$9,216	1,751.4	\$16,140,599
2	Total Cut	cy	\$6	60,293,205.9	\$388,963,530
3	Total Fill	cy	\$6	39,333,731.7	\$247,406,026
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	0.0	\$0
6	Landscaping/Erosion Control	acre	\$6,144	854.3	\$5,248,669
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	105.0	\$15,157,707
8	Special Drainage Facilities	%	5%		\$33,645,827
C. Structures, Tunnels, Walls					\$1,626,737,130
1	Standard Structure	mi	\$34,972,672	2.4	\$82,528,511
2	High Structure	mi	\$40,424,448	5.3	\$215,890,807
3	Long Span Structure	mi	\$61,919,232	0.7	\$42,297,027
4	Waterway Crossing - Primary	mi	\$85,342,208	0.8	\$68,273,766
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.0	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	10.3	\$1,095,971,264
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
12	Crossovers	ea	\$442,368	0.0	\$0
13	Cut & Cover Double Track Tunnel	mi	\$131,246,080	0.0	\$0
14	Trench Short	mi	\$78,843,904	0.0	\$0
15	Trench Long	mi	\$57,524,224	0.0	\$0
16	Mechanical & Electrical for Tunnels	mi	\$11,848,704	10.3	\$121,775,754
17	Retaining Walls	mi	\$8,613,888	0.0	\$0
18	Containment Walls	mi	\$5,907,456	0.0	\$0
19	Single Track Cut and Cover Subway	mi	\$131,246,080	0.0	\$0
D. Grade Separations					\$194,771,968
1	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$13,284,352	0.0	\$0
2	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$2,759,680	1.0	\$2,759,680
3	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568	13.0	\$26,384,384
4	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520	0.0	\$0
5	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216	0.0	\$0
6	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328	48.0	\$152,223,744
7	Street Bridgnin HSR Trench	ea	\$1,398,784	0.0	\$0
8	Minor Crossing Closures	ea	\$87,040	154.0	\$13,404,160
E. Building Items					\$96,735,094
1	Intermediate Passenger Stations (Gilroy)	ea	\$96,735,094	1.0	\$96,735,094
2	Terminal Passenger Stations	ea			\$0
3	Maintenance Facility	ea			\$0
4	Parking - Structures	space	\$13,000		\$0
5	Parking - At Grade	space	\$2,000		\$0
F. Rail and Utility Relocation					\$72,695,464
1	Single Track Relocation (temporary)	mi	\$2,000,896	0.0	\$0
2	Single Track Relocation (permanent)	mi	\$2,000,896	23.8	\$47,714,166
3	Single Track Removal	mi	\$130,048	0.0	\$0
4	Major Utility Relocation - Dense Urban	mi	\$1,548,288	4.8	\$7,499,597
5	Major Utility Relocation - Urban	mi	\$1,084,416	4.8	\$5,252,694
6	Major Utility Relocation - Dense Suburban	mi	\$775,168	4.2	\$3,278,193
7	Major Utility Relocation - Suburban	mi	\$464,896	13.5	\$6,296,556
8	Major Utility Relocation - Undeveloped	mi	\$30,720	86.4	\$2,654,257
9	Traffic Mitigation	mi	\$14,633,220		\$0
G. Right-of-Way Items					\$97,285,135
Right-of-Way Required for Each Segment					
1	Dense Urban	acre	\$2,786,321	3.5	\$9,752,124
2	Urban	acre	\$1,371,510	3.9	\$5,348,889
3	Dense Suburban	acre	\$908,134	49.9	\$45,315,887
4	Suburban	acre	\$208,418	99.9	\$20,820,958
5	Undeveloped	acre	\$3,642	948.0	\$3,452,616
Right-of-Way Required for Stations, Maintenance & Parking Facilities					
6	Dense Urban	acre	\$2,786,321		\$0
7	Urban	acre	\$1,371,510		\$0

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
8	Dense Suburban	acre	\$908,134	9.6	\$8,718,086
9	Suburban	acre	\$208,418	18.6	\$3,876,575
10	Undeveloped	acre	\$3,642		\$0
H. Environmental Mitigation					\$ 121,276,171
	Environmental Mitigation	%	3.30%		\$121,276,171
I. System Elements					\$337,411,876
1	Signaling (ATC)	mi	\$2,070,000	124.1	\$256,969,309
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	124.1	\$67,035,472
3	Wayside Protection System	mi	\$108,000	124.1	\$13,407,094
J. Electrification Items					\$329,591,071
1	Traction Power Supply	mi	\$1,170,000	124.1	\$145,243,523
2	Traction Power Distribution	mi	\$1,485,000	124.1	\$184,347,548
Total Construction					\$3,675,035,477
Total Construction and Right of Way (Includes Environmental Mitigation)					\$3,893,596,782

COST ELEMENTS		UNIT	UNIT PRICE	2009	Item Cost
			Base: 2009 (3rd Quarter)	Quantities	
A. Track Items					\$ 150,171,909
1	Double Track Section - At Grade	mi	\$2,100,224	59.0	\$123,902,715
2	Double Track Section - On Structure	mi	\$4,700,160	5.6	\$26,269,194
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	0.0	\$0
4	Double Track Section - In Trench	mi	\$4,700,160	0.0	\$0
5	Single Track Section - At Grade	mi	\$1,549,312	0.0	\$0
6	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
7	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
8	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
9	Freight Double Track - At Grade	mi	\$2,839,552	0.0	\$0
10	Freight Single Track - At Grade	mi	\$1,549,312	0.0	\$0
11	Four-track construction or reconstruction	mi	\$5,961,728	0.0	\$0
B. Earthwork Items					\$28,399,327
1	Site Preparation - Undeveloped	acre	\$9,216	640.0	\$5,898,139
2	Total Cut	cy	\$6	1,001,849.5	\$6,463,132
3	Total Fill	cy	\$6	1,001,849.5	\$6,301,553
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	0.0	\$0
6	Landscaping/Erosion Control	acre	\$6,144	7.4	\$45,545
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	57.8	\$8,338,609
8	Special Drainage Facilities	%	5%	0.0	\$1,352,349
C. Structures, Tunnels, Walls					\$316,815,640
1	Standard Structure	mi	\$34,972,672	5.6	\$195,462,264
2	High Structure	mi	\$40,424,448	0.0	\$0
3	Long Span Structure	mi	\$61,919,232	0.0	\$0
4	Waterway Crossing - Primary	mi	\$85,342,208	0.0	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.6	\$57,162,682
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	0.0	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
12	Crossovers	ea	\$442,368	0.0	\$0
13	Cut & Cover Double Track Tunnel	mi	\$131,246,080	0.0	\$0
14	Trench Short	mi	\$78,843,904	0.0	\$0
15	Trench Long	mi	\$57,524,224	0.0	\$0
16	Mechanical & Electrical for Tunnels	mi	\$11,848,704	0.0	\$0
17	Retaining Walls	mi	\$8,613,888	7.5	\$64,190,693
18	Containment Walls	mi	\$5,907,456	0.0	\$0
19	Single Track Cut and Cover Subway	mi	\$131,246,080	0.0	\$0
D. Grade Separations					\$215,343,104
1	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$13,284,352	4.0	\$53,137,408
2	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$2,759,680	21.0	\$57,953,280
3	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568	36.0	\$73,064,448
4	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520	2.0	\$7,127,040
5	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216	4.0	\$14,372,864
6	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328	3.0	\$9,513,984
7	Street Bridginn HSR Trench	ea	\$1,398,784	0.0	\$0
8	Minor Crossing Closures	ea	\$87,040	2.0	\$174,080
E. Building Items					\$420,673,050
1	Intermediate Passenger Stations	ea	\$41,483,114	1.0	\$41,483,114
2	Terminal Passenger Stations	ea		0.0	\$0
3	Maintenance Facility	ea	\$379,189,935	1.0	\$379,189,935
4	Parking - Structures	space		906.0	\$0
5	Parking - At Grade	space		20.0	\$0
F. Rail and Utility Relocation					\$56,353,177
1	Single Track Relocation (temporary)	mi	\$2,000,896	3.1	\$6,212,782
2	Single Track Relocation (permanent)	mi	\$2,000,896	14.3	\$28,578,798
3	Single Track Removal	mi	\$130,048	0.0	\$0
4	Major Utility Relocation - Dense Urban	mi	\$1,548,288	0.0	\$0
5	Major Utility Relocation - Urban	mi	\$1,084,416	7.5	\$8,081,068
6	Major Utility Relocation - Dense Suburban	mi	\$775,168	4.3	\$3,369,655
7	Major Utility Relocation - Suburban	mi	\$464,896	18.6	\$8,661,012
8	Major Utility Relocation - Undeveloped	mi	\$30,720	47.2	\$1,449,861
G. Right-of-Way Items					\$162,145,000
Right-of-Way Required for Each Segment					\$0
1	Dense Urban	acre	\$2,786,321	0.0	\$0
2	Urban	acre	\$1,371,510	76.6	\$105,059,000
3	Dense Suburban	acre	\$908,134	19.8	\$17,952,000
4	Suburban	acre	\$208,418	145.8	\$30,385,000
5	Undeveloped	acre	\$3,642	541.1	\$1,971,000
Right-of-Way Required for Stations, Maintenance & Parking Facilities					\$0
6	Dense Urban	acre	\$2,786,321	0.0	\$0
7	Urban	acre	\$1,371,510	4.9	\$6,778,000
8	Dense Suburban	acre	\$908,134	0.0	\$0
9	Suburban	acre	\$208,418	0.0	\$0
10	Undeveloped	acre	\$3,642	0.0	\$0
H. Environmental Mitigation					\$ 46,042,981
Environmental Mitigation			%	3%	46,042,981.1
I. System Elements					\$175,539,312

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
1	Signaling (ATC)	mi	\$2,070,000	64.6	\$133,688,880
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	64.6	\$34,875,360
3	Wayside Protection System	mi	\$108,000	64.6	\$6,975,072
J. Electrification Items					\$171,470,520
1	Traction Power Supply	mi	\$1,170,000	64.6	\$75,563,280
2	Traction Power Distribution	mi	\$1,485,000	64.6	\$95,907,240
Total Construction					1,534,766,038
Total Construction and Right of Way (Includes Environmental Mitigation)					1,742,954,019

Fresno to Bakersfield

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
A. Track Items					\$ 304,256,536
1	Double Track Section - At Grade	mi	\$2,100,224	119.9	\$251,718,147
2	Double Track Section - On Structure	mi	\$4,700,160	11.2	\$52,538,388
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	0.0	\$0
4	Double Track Section - In Trench	mi	\$4,700,160	0.0	\$0
5	Single Track Section - At Grade	mi	\$1,549,312	0.0	\$0
6	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
7	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
8	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
9	Freight Double Track - At Grade	mi	\$2,839,552	0.0	\$0
10	Freight Single Track - At Grade	mi	\$1,549,312	0.0	\$0
11	Four-track construction or reconstruction	mi	\$5,961,728	0.0	\$0
B. Earthwork Items					\$57,678,543
1	Site Preparation - Undeveloped	acre	\$9,216	1,299.7	\$11,978,459
2	Total Cut	cy	\$6	2,034,059.0	\$13,122,122
3	Total Fill	cy	\$6	2,034,059.0	\$12,794,069
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	0.0	\$0
6	Landscaping/Erosion Control	acre	\$6,144	14.8	\$91,091
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	117.4	\$16,946,206
8	Special Drainage Facilities	%	5%	0.0	\$2,746,597
C. Structures, Tunnels, Walls					\$684,286,756
1	Standard Structure	mi	\$34,972,672	11.8	\$412,642,557
2	High Structure	mi	\$40,424,448	0.0	\$0
3	Long Span Structure	mi	\$61,919,232	0.6	\$38,451,843
4	Waterway Crossing - Primary	mi	\$85,342,208	0.6	\$52,997,511
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.6	\$57,162,682
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	0.0	\$0
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
12	Crossovers	ea	\$442,368	0.0	\$0
13	Cut & Cover Double Track Tunnel	mi	\$131,246,080	0.0	\$0
14	Trench Short	mi	\$78,843,904	0.0	\$0
15	Trench Long	mi	\$57,524,224	0.0	\$0
16	Mechanical & Electrical for Tunnels	mi	\$11,848,704	0.0	\$0
17	Retaining Walls	mi	\$8,613,888	14.3	\$123,032,162
18	Containment Walls	mi	\$5,907,456	0.0	\$0
19	Single Track Cut and Cover Subway	mi	\$131,246,080	0.0	\$0
D. Grade Separations					\$431,603,712
1	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$13,284,352	8.0	\$106,274,816
2	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$2,759,680	42.0	\$115,906,560
3	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568	74.0	\$150,188,032
4	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520	3.0	\$10,690,560
5	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216	9.0	\$32,338,944
6	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328	5.0	\$15,856,640
7	Street Bdrignin HSR Trench	ea	\$1,398,784	0.0	\$0
8	Minor Crossing Closures	ea	\$87,040	4.0	\$348,160
E. Building Items					\$252,723,374
1	Intermediate Passenger Stations (Fresno)	ea	\$41,600,798	1.0	\$41,600,798
	Intermediate Passenger Stations (Bakersfield)	ea	\$211,122,576	1.0	\$211,122,576
	Intermediate Passenger Stations (Hanford)	ea		0.0	\$0
2	Terminal Passenger Stations	ea		0.0	\$0
3	Maintenance Facility	ea		0.0	\$0
4	Parking - Structures	space		0.0	\$0
5	Parking - At Grade	space		0.0	\$0
F. Rail and Utility Relocation					\$113,206,174
1	Single Track Relocation (temporary)	mi	\$2,000,896	5.6	\$11,183,008
2	Single Track Relocation (permanent)	mi	\$2,000,896	29.2	\$58,400,152
3	Single Track Removal	mi	\$130,048	0.0	\$0
4	Major Utility Relocation - Dense Urban	mi	\$1,548,288	0.0	\$0
5	Major Utility Relocation - Urban	mi	\$1,084,416	15.5	\$16,835,558
6	Major Utility Relocation - Dense Suburban	mi	\$775,168	8.1	\$6,257,931
7	Major Utility Relocation - Suburban	mi	\$464,896	37.9	\$17,610,725
8	Major Utility Relocation - Undeveloped	mi	\$30,720	95.0	\$2,918,799
G. Right-of-Way Items					\$331,007,000
	Right-of-Way Required for Each Segment				\$0
1	Dense Urban	acre	\$2,786,321	0.0	\$0
2	Urban	acre	\$1,371,510	155.7	\$213,507,000
3	Dense Suburban	acre	\$908,134	42.0	\$38,148,000
4	Suburban	acre	\$208,418	296.5	\$61,800,000
5	Undeveloped	acre	\$3,642	1,097.1	\$3,996,000
	Right-of-Way Required for Stations, Maintenance & Parking Facilities				\$0
6	Dense Urban	acre	\$2,786,321	0.0	\$0

Fresno to Bakersfield

COST ELEMENTS		UNIT	UNIT PRICE	2009	Item Cost
			Base: 2009 (3rd Quarter)	Quantities	
7	Urban	acre	\$1,371,510	9.9	\$13,556,000
8	Dense Suburban	acre	\$908,134	0.0	\$0
9	Suburban	acre	\$208,418	0.0	\$0
10	Undeveloped	acre	\$3,642	0.0	\$0
H. Environmental Mitigation					\$ 76,433,540
	Environmental Mitigation	%	3%		76,433,539.7
I. System Elements					\$356,142,258
1	Signaling (ATC)	mi	\$2,070,000	131.0	\$271,234,170
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	131.0	\$70,756,740
3	Wayside Protection System	mi	\$108,000	131.0	\$14,151,348
J. Electrification Items					\$347,887,305
1	Traction Power Supply	mi	\$1,170,000	131.0	\$153,306,270
2	Traction Power Distribution	mi	\$1,485,000	131.0	\$194,581,035
Total Construction					2,547,784,657
Total Construction and Right of Way (Includes Environmental Mitigation)					2,955,225,197

Bakersfield to Palmdale

COST ELEMENTS		UNIT	UNIT PRICE	2009	Item Cost
			Base: 2009 (3rd Quarter)	Quantities	
A. Track Items					\$ 178,281,880
1	Double Track Section - At Grade	mi	\$2,100,224	68.0	\$142,827,224
2	Double Track Section - On Structure	mi	\$4,700,160	1.3	\$6,266,662
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	6.2	\$29,187,994
4	Double Track Section - In Trench	mi	\$4,700,160	0.0	\$0
5	Single Track Section - At Grade	mi	\$1,549,312	0.0	\$0
6	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
7	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
8	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
9	Freight Double Track - At Grade	mi	\$2,839,552	0.0	\$0
10	Freight Single Track - At Grade	mi	\$1,549,312	0.0	\$0
11	Four-track construction or reconstruction	mi	\$5,961,728	0.0	\$0
B. Earthwork Items					\$1,008,917,835
1	Site Preparation - Undeveloped	acre	\$9,216	1,950.7	\$17,977,686
2	Total Cut	cy	\$6	86,375,267.7	\$557,224,127
3	Total Fill	cy	\$6	58,121,862.9	\$365,581,868
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	0.0	\$0
6	Landscaping/Erosion Control	acre	\$6,144	1,672.2	\$10,273,753
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	68.0	\$9,816,695
8	Special Drainage Facilities	%	5%		\$48,043,706
C. Structures, Tunnels, Walls					\$890,088,659
1	Standard Structure	mi	\$34,972,672	1.1	\$37,941,397
2	High Structure	mi	\$40,424,448	0.0	\$0
3	Long Span Structure	mi	\$61,919,232	0.2	\$15,380,737
4	Waterway Crossing - Primary	mi	\$85,342,208	0.0	\$0
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.0	\$1,472,791
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	6.2	\$662,217,708
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
12	Crossovers	ea	\$442,368	0.0	\$0
13	Cut & Cover Double Track Tunnel	mi	\$131,246,080	0.0	\$0
14	Trench Short	mi	\$78,843,904	0.0	\$0
15	Trench Long	mi	\$57,524,224	0.0	\$0
16	Mechanical & Electrical for Tunnels	mi	\$11,848,704	6.2	\$73,580,452
17	Retaining Walls	mi	\$8,613,888	11.6	\$99,495,575
18	Containment Walls	mi	\$5,907,456	0.0	\$0
19	Single Track Cut and Cover Subway	mi	\$131,246,080	0.0	\$0
D. Grade Separations					\$169,360,384
1	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$13,284,352	0.0	\$0
2	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$2,759,680	9.0	\$24,837,120
3	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568	46.0	\$93,360,128
4	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520	0.0	\$0
5	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216	1.0	\$3,593,216
6	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328	15.0	\$47,569,920
7	Street Bdrignin HSR Trench	ea	\$1,398,784	0.0	\$0
8	Minor Crossing Closures	ea	\$87,040	0.0	\$0
E. Building Items					\$0
1	Intermediate Passenger Stations	ea		0.0	\$0
2	Terminal Passenger Stations	ea		0.0	\$0
3	Maintenance Facility	ea		0.0	\$0
4	Parking - Structures	space		0.0	\$0
5	Parking - At Grade	space		0.0	\$0
F. Rail and Utility Relocation					\$46,766,676
1	Single Track Relocation (temporary)	mi	\$2,000,896	0.0	\$0
2	Single Track Relocation (permanent)	mi	\$2,000,896	20.9	\$41,749,896
3	Single Track Removal	mi	\$130,048	0.0	\$0
4	Major Utility Relocation - Dense Urban	mi	\$1,548,288	0.0	\$0
5	Major Utility Relocation - Urban	mi	\$1,084,416	0.0	\$0
6	Major Utility Relocation - Dense Suburban	mi	\$775,168	0.0	\$0
7	Major Utility Relocation - Suburban	mi	\$464,896	6.6	\$3,089,094
8	Major Utility Relocation - Undeveloped	mi	\$30,720	62.8	\$1,927,686
G. Right-of-Way Items					\$33,544,621
Right-of-Way Required for Each Segment					
1	Dense Urban	acre	\$2,786,321	0.0	\$0
2	Urban	acre	\$1,371,510	0.0	\$0
3	Dense Suburban	acre	\$908,134	0.0	\$0
4	Suburban	acre	\$208,418	80.6	\$16,789,000
5	Undeveloped	acre	\$3,642	800.8	\$2,916,771
Right-of-Way Required for Stations, Maintenance & Parking Facilities					
6	Dense Urban	acre	\$2,786,321	5.0	\$13,838,850
7	Urban	acre	\$1,371,510	0.0	\$0
8	Dense Suburban	acre	\$908,134	0.0	\$0

Bakersfield to Palmdale

COST ELEMENTS		UNIT	UNIT PRICE	2009 Quantities	Item Cost
			Base: 2009 (3rd Quarter)		
9	Suburban	acre	\$208,418	0.0	\$0
10	Undeveloped	acre	\$3,642	0.0	\$0
H. Environmental Mitigation					\$ 80,980,206
Environmental Mitigation		%	3%		80,980,205.8
I. System Elements					\$205,342,174
1	Signaling (ATC)	mi	\$2,070,000	75.5	\$156,386,424
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	75.5	\$40,796,458
3	Wayside Protection System	mi	\$108,000	75.5	\$8,159,292
J. Electrification Items					\$200,582,587
1	Traction Power Supply	mi	\$1,170,000	75.5	\$88,392,326
2	Traction Power Distribution	mi	\$1,485,000	75.5	\$112,190,261
Total Construction					2,699,340,195
Total Construction and Right of Way (Includes Environmental Mitigation)					2,813,865,022

Palmdale to Los Angeles

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
A. Track Items					\$ 200,399,012
1	Double Track Section - At Grade	mi	\$2,100,224	34.5	\$72,417,876
2	Double Track Section - On Structure	mi	\$4,700,160	19.0	\$89,452,444
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	7.2	\$33,814,291
4	Double Track Section - In Trench	mi	\$4,700,160	0.0	\$0
5	Single Track Section - At Grade	mi	\$1,549,312	3.0	\$4,714,401
6	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
7	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
8	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
9	Freight Double Track - At Grade	mi	\$2,839,552	0.0	\$0
10	Freight Single Track - At Grade	mi	\$1,549,312	0.0	\$0
11	Four-track construction or reconstruction	mi	\$5,961,728	0.0	\$0
B. Earthwork Items					\$756,972,679
1	Site Preparation - Undeveloped	acre	\$9,216	1,235.6	\$11,387,310
2	Total Cut	cy	\$6	47,172,716.8	\$304,320,631
3	Total Fill	cy	\$6	28,926,560.0	\$181,945,748
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	16,904,410.4	\$212,654,778
6	Landscaping/Erosion Control	acre	\$6,144	918.0	\$5,640,372
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	34.5	\$4,977,522
8	Special Drainage Facilities	%	5%		\$36,046,318
C. Structures, Tunnels, Walls					\$1,683,996,682
1	Standard Structure	mi	\$34,972,672	12.5	\$437,987,497
2	High Structure	mi	\$40,424,448	5.9	\$239,488,174
3	Long Span Structure	mi	\$61,919,232	0.5	\$31,915,030
4	Waterway Crossing - Primary	mi	\$85,342,208	0.1	\$5,299,751
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.0	\$2,945,581
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	7.2	\$767,179,214
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
12	Crossovers	ea	\$442,368	0.0	\$0
13	Cut & Cover Double Track Tunnel	mi	\$131,246,080	0.0	\$0
14	Trench Short	mi	\$78,843,904	0.0	\$0
15	Trench Long	mi	\$57,524,224	0.0	\$0
16	Mechanical & Electrical for Tunnels	mi	\$11,848,704	7.2	\$85,242,953
17	Retaining Walls	mi	\$8,613,888	13.2	\$113,938,481
18	Containment Walls	mi	\$5,907,456	0.0	\$0
19	Single Track Cut and Cover Subway	mi	\$131,246,080	0.0	\$0
D. Grade Separations					\$167,881,728
1	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$13,284,352	9.0	\$119,559,168
2	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$2,759,680	2.0	\$5,519,360
3	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568	1.0	\$2,029,568
4	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520	6.0	\$21,381,120
5	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216	0.0	\$0
6	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328	3.0	\$9,513,984
7	Street Bdrignin HSR Trench	ea	\$1,398,784	7.0	\$9,791,488
8	Minor Crossing Closures	ea	\$87,040	1.0	\$87,040
E. Building Items					\$481,115,872
1	Intermediate Passenger Stations	ea			\$0
	Intermediate Passenger Stations (Palmdale)	ea	\$41,483,115	1.0	\$41,483,115
	Intermediate Passenger Stations (Sylmar)	ea	\$219,816,379	1.0	\$219,816,379
	Intermediate Passenger Stations (Burbank)	ea	\$219,816,379	1.0	\$219,816,379
2	Terminal Passenger Stations	ea		0.0	\$0
3	Maintenance Facility	ea		5,513.0	\$0
4	Parking - Structures	space		6,000.0	\$0
5	Parking - At Grade	space		0.0	\$0
F. Rail and Utility Relocation					\$80,082,500
1	Single Track Relocation (temporary)	mi	\$2,000,896	7.9	\$15,867,445
2	Single Track Relocation (permanent)	mi	\$2,000,896	16.5	\$32,989,873
3	Single Track Removal	mi	\$130,048	0.0	\$0
4	Major Utility Relocation - Dense Urban	mi	\$1,548,288	3.6	\$5,576,624
5	Major Utility Relocation - Urban	mi	\$1,084,416	22.9	\$24,815,613
6	Major Utility Relocation - Dense Suburban	mi	\$775,168	0.0	\$0
7	Major Utility Relocation - Suburban	mi	\$464,896	0.0	\$0
8	Major Utility Relocation - Undeveloped	mi	\$30,720	27.1	\$832,945
G. Right-of-Way Items					\$533,582,336
	Right-of-Way Required for Each Segment				\$0
1	Dense Urban	acre	\$2,786,321	43.7	\$121,864,500
2	Urban	acre	\$1,371,510	270.6	\$371,095,500
3	Dense Suburban	acre	\$908,134	0.0	\$0
4	Suburban	acre	\$208,418	0.0	\$0
5	Undeveloped	acre	\$3,642	416.1	\$1,515,536
	Right-of-Way Required for Stations, Maintenance & Parking Facilities				\$0

Palmdale to Los Angeles

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
6	Dense Urban	acre	\$2,786,321	14.0	\$39,106,800
7	Urban	acre	\$1,371,510	0.0	\$0
8	Dense Suburban	acre	\$908,134	0.0	\$0
9	Suburban	acre	\$208,418	0.0	\$0
10	Undeveloped	acre	\$3,642	0.0	\$0
H. Environmental Mitigation					\$ 110,898,831
Environmental Mitigation		%	3%		110,898,831.2
I. System Elements					\$165,001,890
1	Signaling (ATC)	mi	\$2,070,000	60.7	\$125,663,691
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	60.7	\$32,781,832
3	Wayside Protection System	mi	\$108,000	60.7	\$6,556,366
J. Electrification Items					\$161,177,343
1	Traction Power Supply	mi	\$1,170,000	60.7	\$71,027,303
2	Traction Power Distribution	mi	\$1,485,000	60.7	\$90,150,039
Total Construction					3,696,627,706
Total Construction and Right of Way (Includes Environmental Mitigation)					4,341,108,873

Los Angeles to Anaheim

COST ELEMENTS		UNIT	UNIT PRICE		Item Cost
			Base: 2009 (3rd Quarter)	2009 Quantities	
A. Track Items					\$ 164,976,151
1	Double Track Section - At Grade	mi	\$2,100,224	21.4	\$44,996,249
2	Double Track Section - On Structure	mi	\$4,700,160	9.1	\$42,760,411
3	Double Track Section - In Tunnel or Subway	mi	\$4,700,160	2.6	\$12,054,641
4	Double Track Section - In Trench	mi	\$4,700,160	0.7	\$3,210,679
5	Single Track Section - At Grade	mi	\$1,549,312	23.9	\$37,089,832
6	Single Track Section - On Structure	mi	\$2,350,080	0.0	\$0
7	Single Track Section - In Tunnel or Subway	mi	\$2,350,080	0.0	\$0
8	Single Track Section - In Trench	mi	\$2,350,080	0.0	\$0
9	Freight Double Track - At Grade	mi	\$2,839,552	5.4	\$15,341,248
10	Freight Single Track - At Grade	mi	\$1,549,312	6.1	\$9,523,091
11	Four-track construction or reconstruction	mi	\$5,961,728		\$0
B. Earthwork Items					\$40,077,655
1	Site Preparation - Undeveloped	acre	\$9,216	192.0	\$1,769,442
	Site Preparation - Urban Demo	acre	\$240,793	134.9	\$32,487,000
2	Total Cut	cy	\$6	0.0	\$0
3	Total Fill	cy	\$6	0.0	\$0
4	Borrow	cy	\$13	0.0	\$0
5	Spoil	cy	\$13	0.0	\$0
6	Landscaping/Erosion Control	acre	\$6,144	0.0	\$0
7	Security Fencing (Both Sides of R/W)	mi	\$144,384	27.1	\$3,912,753
8	Special Drainage Facilities	%	5%		\$1,908,460
C. Structures, Tunnels, Walls					\$824,048,726
1	Standard Structure	mi	\$34,972,672	6.2	\$217,614,654
2	High Structure	mi	\$40,424,448	2.7	\$107,192,296
3	Long Span Structure	mi	\$61,919,232	0.2	\$14,227,182
4	Waterway Crossing - Primary	mi	\$85,342,208	0.3	\$22,258,955
5	Waterway Crossing - Secondary (Irrigation/Canal Crossing)	mi	\$92,049,408	0.0	\$0
6	Twin Single Track Drill & Blast (<6 Miles)	mi	\$142,731,264	0.0	\$0
7	Twin Single Track TBM (<6 Miles)	mi	\$106,637,312	1.8	\$187,407,611
8	Twin Single Track TBM w/3rd Tube (>6 Miles)	mi	\$176,720,896	0.0	\$0
9	Double Track Drill & Blast	mi	\$146,887,680	0.0	\$0
10	Double Track Mined (Soft Soil)	mi	\$79,200,000	0.0	\$0
11	Seismic Chamber (Drill & Blast/Mined)	ea	\$126,205,952	0.0	\$0
12	Crossovers	ea	\$442,368	0.0	\$0
13	Cut & Cover Double Track Tunnel	mi	\$131,246,080	0.8	\$105,954,960
14	Trench Short	mi	\$78,843,904	0.0	\$0
15	Trench Long	mi	\$57,524,224	0.7	\$39,294,797
16	Mechanical & Electrical for Tunnels	mi	\$11,848,704	2.6	\$30,388,727
17	Retaining Walls	mi	\$8,613,888	11.6	\$99,709,544
18	Containment Walls	mi	\$5,907,456		\$0
19	Single Track Cut and Cover Subway	mi	\$131,246,080		\$0
D. Grade Separations					\$472,972,500
1	Roadway Crossing HSR - 4 Lane Roadway Under 2 Tracks (Urban)	ea	\$20,947,500	16.0	\$335,160,000
2	Roadway Crossing HSR - 2 Lane Roadway Under 4 Tracks (Suburban)	ea	\$5,512,500	25.0	\$137,812,500
3	Roadway Crossing HSR - 2 Lane Roadway Under 2 Tracks (Undeveloped)	ea	\$2,029,568		\$0
4	Roadway Crossing HSR - 4 Lane Roadway Over 4 Tracks (Urban)	ea	\$3,563,520		\$0
5	Roadway Crossing HSR - 4 Lane Roadway Over 2 Tracks (Suburban)	ea	\$3,593,216		\$0
6	Roadway Crossing HSR - 2 Lane Roadway Over 2 Tracks (Undeveloped)	ea	\$3,171,328		\$0
7	Street Brdignin HSR Trench	ea	\$1,398,784		\$0
8	Minor Crossing Closures	ea	\$87,040		\$0
E. Building Items					\$563,522,748
1	Intermediate Passenger Stations (Norwalk)	ea	\$34,927,049	1.0	\$34,927,049
2	Terminal Passenger Stations (LA)	ea	\$188,583,300	1.0	\$188,583,300
	Terminal Passenger Stations (Anaheim)	ea	\$156,262,400	1.0	\$156,262,400
3	Maintenance Facility	ea	\$183,750,000	1.0	\$183,750,000
4	Parking - Structures	space			\$0
5	Parking - At Grade	space			\$0
F. Rail and Utility Relocation					\$227,216,073
1	Single Track Relocation (temporary)	mi	\$2,000,896	5.7	\$11,332,115
2	Single Track Relocation (permanent)	mi	\$2,000,896	4.2	\$8,461,809
3	Single Track Removal	mi	\$130,048	2.4	\$307,695
4	Major Utility Relocation - Dense Urban	mi	\$1,548,288	33.8	\$52,285,655
	High Tension Power Line Relocation	ea	\$8,601,600	18.0	\$154,828,800
5	Major Utility Relocation - Urban	mi	\$1,084,416		\$0
6	Major Utility Relocation - Dense Suburban	mi	\$775,168		\$0
7	Major Utility Relocation - Suburban	mi	\$464,896		\$0
8	Major Utility Relocation - Undeveloped	mi	\$30,720		\$0
G. Right-of-Way Items					\$616,862,488
Right-of-Way Required for Each Segment					
1	Dense Urban	acre	\$2,786,321		\$0
2	Urban	acre	\$1,371,510	364.8	\$500,284,180
3	Dense Suburban	acre	\$908,134		\$0
4	Suburban	acre	\$208,418		\$0
5	Undeveloped	acre	\$3,642		\$0
Right-of-Way Required for Stations, Maintenance & Parking Facilities					

Los Angeles to Anaheim

COST ELEMENTS		UNIT	UNIT PRICE		
			Base: 2009 (3rd Quarter)	2009 Quantities	Item Cost
6	Dense Urban	acre	\$2,786,321		\$0
7	Urban	acre	\$1,371,510	85.0	\$116,578,308
8	Dense Suburban	acre	\$908,134		\$0
9	Suburban	acre	\$208,418		\$0
10	Undeveloped	acre	\$3,642		\$0
H. Environmental Mitigation					\$ 139,870,295
	Environmental Mitigation	%	3%		139,870,295.0
I. System Elements					\$81,828,325
1	Signaling (ATC)	mi	\$2,070,000	30.1	\$62,319,586
2	Communications (w/Fiber Optic Backbone)	mi	\$540,000	30.1	\$16,257,283
3	Wayside Protection System	mi	\$108,000	30.1	\$3,251,457
J. Electrification Items					\$79,931,642
1	Traction Power Supply	mi	\$1,170,000	30.1	\$35,224,114
2	Traction Power Distribution	mi	\$1,485,000	30.1	\$44,707,529
Total Construction					4,662,343,166
Total Construction and Right of Way (Includes Environmental Mitigation)					5,419,075,949

Rolling Stock

Vehicle Costs

	UNIT	UNIT PRICE (2011)	QUANTITY	COST
Opening Day	Trainset	\$31,983,000	60	\$1,918,980,000
		TOTAL:	<hr/> 60	<hr/> \$1,918,980,000

	UNIT	UNIT PRICE (assumed)	QUANTITY	COST
Optional Orders	Trainset	\$34,777,631	40	\$1,391,105,250
		TOTAL:	<hr/> 40	<hr/> \$1,391,105,250