APPENDIX A: 2030 FLEET AND SERVICE PROJECTION SUMMARY

[1] TEP Budget Neutral from 2009 to 2014 [2] Differential from 2005 to 2030 [3] In minutes

[4] Included with above [5] Three trips in the a.m.

[6] Operated as LRV1 [7] Operated as LRV2

Note: Shading indicates changes in 2030 proposals from TEP Budget Neutral Plan and for vehicle type, in TEP from 2005 base deployments.

	Vehicle Types Prop. 2030	Vehicle Types TEP Budget Neutral[1]	Vehicle Types Existing 2005 Base	Max. Peak Prop. 2030	Max. Peak Vehicles TEP Budget Neutral[1]	Max. Peak Vehi-cles 2005 Base	Max. Peak Vehicles Differ-ential[2]	Min. Peak Head-way Prop. 2030	Min. Peak Head-way TEP Budget Neutral[1]	Min. Peak Head-way 2005 Base
Grouping	Vehicle Types			Max. Peak (AM/PM) Vehicle Reqts.[3]				Minimum Peak Headway		
Transit Routes										
1	T Artic	T Std	T Std	16	16	33	(17)	8.0	6.0	5.5
1 Short	T Artic	T Std	T Std	10	10	0	10	8.0	6.0	5.5
1AX	M Std	M Std	M Std	7	7	5	2	10.0	10.0	10.0
1BX	M Artic	M Artic	M Artic	8	8	12	(4)	6.0	6.0	5.5
2	M Std	M Std	M Std	9	9	12	(4)	12.0	12.0	8.5
3	T Std	T Std	T Std	0	0	8	(8)			10.0
4	T Std	T Std	T Std	12	12	6	6	6.0	6.0	15.0
5, 5L	T Std	T Std	T Std	14	14	23	(9)	7.5	7.5	4.6
5 Short	M Std	M Std		11	11	0	11	7.5	7.5	0.0
6	T Std	T Std	T Std	12	12	12	0	10.0	10.0	10.0
7			T Std	0	0	5	(5)			15.0
71, 71L	M Std	M Std	M Std	14	14	13	1	10.0	10.0	10.0
16AX	M Std	M Std	M Std	9	9	18	(9)	10.0	10.0	8.5
16BX	M Std	M Std		8	8	0	8	10.0	10.0	10.0
9, 9L	M Artic	M Artic	M Artic	18	14	18	0	7.5	10.0	7.5
9 Short	T Std	T Std		10	8	4	6	7.5	10.0	0.0
9BX	M Artic	M Artic	M Artic	14	11	0	14	6.0	7.5	10.0
9X,9AX	M Artic	M Artic	M Artic	22	17	27	(5)	6.0	7.5	10.0
10			M Std	0	0	11	(11)			10.0
11	M Std	M Std		12	10	0	12	8.0	10.0	
12 Long	M Std	M Std	M Std	9	9	13	(4)	15.0	15.0	10.0
12 Short	M Std	M Std		3	3	0	3	15.0	15.0	
14	M Artic	M Artic	T Artic	20	20	25	(5)	7.5	7.5	6.0
14L	T Artic	T Artic	M Artic	20	16	0	20	6.0	7.5	
14X	M Artic	M Artic	M Artic	10	10	10	0	10.0	7.5	8.5
17	M Artic	M Artic	M Artic	7	5	3	4	15.0	20.0	20.0
18	M Std	M Std	M Std	6	6	7	(1)	15.0	15.0	15.0
19	M Std	M Std	M Std	11	11	14	(3)	10.0	10.0	10.0
20			T Std	0	0	0	0			10.0
21	T Std	T Std	T Std	14	14	15	(1)	6.0	6.0	7.0
22	T Std	T Std	T Std	18	18	19	(1)	6.0	7.5	6.0
22 Short	T Artic			12	0	0	12	6.0		
23	M Std	M Std	M Std	9	7	7	2	12.0	15.0	15.0

	Vehicle Types Prop. 2030	Vehicle Types TEP Budget Neutral[1]	Vehicle Types Existing 2005 Base	Max. Peak Prop. 2030	Max. Peak Vehicles TEP Budget Neutral[1]	Max. Peak Vehi-cles 2005 Base	Max. Peak Vehicles Differ-ential[2]	Min. Peak Head-way Prop. 2030	Min. Peak Head-way TEP Budget Neutral[1]	Min. Peak Head-way 2005 Base
24	T Std	T Std	T Std	28	18	14	14	6.0	7.5	8.5
33	T Std	T Std	T Std	9	9	8	1	15.0	15.0	15.0
26			M Std	0	0	6	(6)			20.0
27	M Std	M Std	M Std	11	11	9	2	10.0	10.0	12.0
28	M Std	M Std	M Std	9	8	13	(4)	7.5	7.5	8.5
28L	M Artic	M Std	M Std	17	10	7	10	7.5	10.0	10.0
28L Short	M Std	M Std		0	0	0	0			
29	M Std	M Std	M Std	18	21	20	(2)	10.0		10.0
29 Short	M Std	M Std		10	0	0	10	10.0		
Transit Routes										
30	T Artic	T Artic	T Std	10	10	12	(2)	10.0	10.0	8.5
30 Short	T Artic	T Artic	T Artic	12	12	8	4	6.0	6.0	10.0
45	T Std	T Std	T Std	9	9	11	(2)	10.0	10.0	9.0
30X	M Std	M Std	M Std	14	14	12	2	4.5	4.5	5.0
31	T Std	T Std	T Std	11	11	11	0	10.0	10.0	10.0
31AX	M Std	M Std	M Std	10	10	8	2	7.5	7.5	7.5
31BX	M Std	M Std	M Std	6	6	6	0	10.0	10.0	10.0
32	Van	Van		2	2	0	2	20.0	20.0	15.0
35	Van	Van	M Small	3	3	3	0	15.0	20.0	15.0
36	Van	Van	M Small	3	3	4	(1)	30.0	30.0	20.0
37	M Small	M Small	M Small	4	4	6	(2)	15.0	15.0	15.0
38	M Artic	M Artic	M Artic	14	11	27	(13)	10.0	12.0	12.0
38 Short	M Artic	M Artic		13	12	0	13	10.0	12.0	12.0
38AX	M Std	M Std	M Std	7	7	7	0	10.0	10.0	10.0
38BX	M Std	M Std	M Std	6	6	6	0	15.0	10.0	7.5
38L	M Artic	M Artic	M Artic	25	20	12	13	4.0	5.0	6.5
39	Van	Van	M Small	2	2	2	0	20.0	20.0	20.0
41	T Std	T Std	T Std	10	16	16	(6)	4.0	4.0	4.6
41-Artics	T Artic			6	0	0		[4]		
43	M Std	M Std	M Std	19	19	17	2	10.0	10.0	7.5
44	M Std	M Std	M Std	18	18	16	2	5.0	5.0	6.0
47	M Artic	M Std	M Std	12	12	15	(3)	7.5	7.5	7.5
48	M Std	M Std	M Std	12	11	12	0	15.0	15.0	12.0
48 Short	M Std	M Std		6	0	0	6	30.0		
58	M Std	M Std	M Std	4	4	0	4	15.0	15.0	
49, 49L	T Artic	T Artic	T Artic	15	15	21	(6)	7.5	7.5	7.5
52	M Small	M Small	M Small	6	6	5	1	15.0	15.0	10/20
53			M Small	0	0	2	(2)			30.0
54	M Std	M Std	M Std	9	7	7	2	15.0	20.0	20.0
56	Van	Van	M Small	1	1	2	(1)	20.0	20.0	30.0
66	Van	Van	M Small	2	2	3	(1)	30.0	30.0	20.0
67	M Small	M Small	M Small	2	2	4	(2)	20.0	20.0	20.0
76	M Std	M Std	M Std	0	0	0	0			
80X	M Std	M Std	M Std	0	0	0	0	2 trips	2 trips	2 trips

	Vehicle Types Prop. 2030	Vehicle Types TEP Budget Neutral[1]	Vehicle Types Existing 2005 Base	Max. Peak Prop. 2030	Max. Peak Vehicles TEP Budget Neutral[1]	Max. Peak Vehi-cles 2005 Base	Max. Peak Vehicles Differ-ential[2]	Min. Peak Head-way Prop. 2030	Min. Peak Head-way TEP Budget Neutral[1]	Min. Peak Head-way 2005 Base
81X	M Std	M Std	M Std	0	0	0	0	6 trips	6 trips	6 trips
82X	M Std	M Std	M Std	0	0	0	0	6 trips	6 trips	6 trips
88	M Std	M Std	M Std	3	3	3	0	7.5	7.5	8.0
89	Van	Van	M Small	1	1	1	0	15.0	15.0	3 trips[5]
90	M Std	M Std	M Std	0	0	0	0			
91a	M Std	M Std	M Std	0	0	0	0			
91b	M Std	M Std	M Std	0	0	0	0			
94L	M Std	M Std	M Std	0	0	0	0			
94N	M Std	M Std	M Std	0	0	0	0			
Transit Routes										
108	M Artic	M Std	M Std	5	4	4	1	7.0	10.0	10.0
109	M Std	M Std	M Std	5	0	0	5	12.0		
CPX	M Std	M Std		12	0	0	12	10.0		
HPX	M Std	M Std		12	0	0	12	10.0		
E	Streetcar	Streetcar	Streetcar	10	5	0	10	8.0	15.0	
F	Streetcar	Streetcar	Streetcar	29	21	21	8	4.0	5.0	5.5
J	LRV1	LRV1	LRV1	23	15	11	12	5.0	6.0	7.5
K	LRV1			10	0	0	10	8.5	8.5	
KT		LRV1	LRV1	0	20	23	(23)			8.5
L	LRV2	LRV2	LRV2	28	28	26	2	5.0	5.0	6.0
M	LRV2	LRV2	LRV2	20	16	24	(4)	8.0	10.0	8.5
N	LRV2	LRV2	LRV2	52	44	36	16	4.0	5.0	6.5
T	LRV2			36	0	0	36	5.0	CS 8.0[6]	
TS	LRV2			14	0	0	14	5.0	CS 4.0[6]	
Cable Car	CC	CC	CC	27	27	27	0			
ROUTE TOTAL				964	794	782	172			

	Proposed 2030	TEP Budget Neutral (2009-2014)	2005 Base	Differential (2005-2030)
Grouping	Maximum Peak (AM or PM) Vehicle Requirements			
Vehicle Type				
Total M artic	171	120	100	71
Total M Std	291	268	255	36
Total M Small	19	17	34	(15)
Total Van	14	14	0	14
Total T Artic	96	53	54	42
Total T Std	147	161	186	(39)

	Proposed 2030	TEP Budget Neutral (2009-2014)	2005 Base	Differential (2005-2030)
Total Streetcar	37	26	21	16
Total LRV	175	121	120	55
Total Cable Car	27	27	27	0
FLEET TOTAL	977	807	797	180

APPENDIX B: MAINTENANCE DEMAND PLAN BY VEHICLE TYPE

Sub-Fleet	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
30' Motor Coach																					
Major Overhauls/Repairs	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2
Preventive Maintenance	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Campaigns	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Maintenance Demand	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
40' Motor Coach																					
Major Overhauls/Repairs	30	30	31	25	20	20	20	21	19	22	22	22	19	20	22	23	23	25	25	25	25
Preventive Maintenance	12	12	16	20	20	20	20	21	21	21	21	21	22	22	22	22	22	22	22	22	22
Campaigns	10	10	7	7	12	12	12	12	15	12	12	12	15	15	13	12	12	11	11	11	11
Maintenance Demand	52	52	54	52	52	52	52	54	55	55	55	55	56	57	57	57	57	58	58	58	58
60' Motor Coach																					
Major Overhauls/Repairs	9	9	11	14	14	14	13	10	13	14	12	13	14	15	17	19	19	14	12	17	17
Preventive Maintenance	5	5	6	7	7	7	7	7	7	8	8	8	8	8	8	8	8	9	9	9	9
Campaigns	6	6	7	8	8	8	10	13	10	11	12	13	11	11	10	8	8	14	15	10	10
Maintenance Demand	20	20	24	29	29	29	30	30	30	33	32	34	33	34	35	35	35	37	36	36	36
40' Trolley Coach																					
Major Overhauls/Repairs	35	35	31	31	30	30	30	30	30	28	28	28	26	25	25	25	25	27	27	27	27
Preventive Maintenance	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Campaigns	5	5	4	4	4	4	4	4	4	6	6	5	7	7	7	7	7	6	6	5	5
Maintenance Demand	46	46	40	40	39	39	39	39	39	39	39	38	38	37	37	37	37	38	38	37	37

Note: All time periods are fiscal years. The changes to maintenance demand over time reflect the dynamic service requirements and peak vehicle needs detailed in Appendices A and D.

Maintenance Demand Plan by Vehicle Type

Sub-Fleet (cont.)	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
60' Trolley Coach																					
Major Overhauls/Repairs	8	8	6	7	7	7	8	8	8	10	9	11	11	12	12	13	13	13	13	13	13
Preventive Maintenance	3	3	3	3	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5
Campaigns	4	4	5	5	5	5	6	6	6	5	7	6	6	6	6	6	6	6	6	7	7
Maintenance Demand	15	15	14	15	15	15	17	17	18	19	20	21	21	22	23	24	24	24	24	25	25
Light Rail Vehicles																					
Major Overhauls/Repairs	15	11	11	12	12	10	10	11	13	15	15	16	16	20	21	20	20	20	16	16	16
Preventive Maintenance	5	5	5	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7
Campaigns	2	16	16	15	13	10	10	11	11	11	10	10	11	11	11	10	10	10	10	10	10
Maintenance Demand	22	32	32	32	30	26	26	28	30	32	31	32	34	38	39	37	37	37	33	33	33
Cable Cars																					
Major Overhauls/Repairs	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Preventive Maintenance	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Reconstruction	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Maintenance Demand	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Historic Streetcars																					
Major Overhauls/Repairs	5	5	7	7	7	7	7	8	8	8	8	8	9	9	9	9	9	9	9	9	9
Preventive Maintenance	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	6	6	6
Reconstruction	2	4	7	7	5	4	6	5	5	5	3	7	9	9	7	5	7	5	6	6	4
Maintenance Demand	10	12	18	18	16	15	17	18	18	18	16	20	23	23	21	19	21	19	21	21	19

Note: All time periods are fiscal years. The changes to maintenance demand over time reflect the dynamic service requirements and peak vehicle needs detailed in Appendices A and D.

APPENDIX C: PROCUREMENT SUMMARY FOR MOTOR COACH, TROLLEY COACH, LRV

Vehicle Type	Current Manufacturer	Vehicles to be Replaced	Vehicle Expansion/ Reduction	Total Procurement	Notes
Vehicles in Service FY 2012					
60' TC	New Flyer	40		40	For BRT & Rapid Network
60' TC	Retired	20	(9)	11	9-60' TC equivalents available
Vehicles in Service FY 2013					
40' MC	NABI	44	10	54	
60' MC	Expansion		46	46	For BRT & Rapid Network
Vehicles in Service FY 2016					
40' MC	Neoplan	134	3	137	
40' MC	Retired	1		1	
60' MC	Neoplan	100	3	103	
Vehicles in Service FY 2017					
40' MC	Neoplan	71	9	80	
60' MC	Neoplan	24	6	30	
LRV	Expansion		12	12	Central Subway opens in 2018
Vehicles in Service FY 2018					
LRV	Expansion		12	12	Central Subway opens in 2018
Vehicles in Service FY 2019					
30' MC	Retired	10	(10)		10-30' MC equivalents available
60' MC	Retired	0	24	24	47-40' TC equivalents available
40' TC	ETI	105	(47)	58	
Vehicles in Service FY 2020					
40' MC	Orion Hybrid	56	9	65	
40' TC	ETI	135	(5)	130	5-40' TC equivalents available
60' TC	ETI	33	26	59	
Vehicles in Service FY 2021					
30' MC	Orion Hybrid	30	(5)	25	5-30' MC equivalents available
Vehicles in Service FY 2023					
LRV	Expansion		10	10	
Vehicles in Service FY 2024					
LRV	Breda	25	10	35	
Vehicles in Service FY 2025					
LRV	Breda	27	10	37	
Vehicles in Service FY 2026					
LRV	Breda	24	10	34	
Vehicles in Service FY 2027					
40' MC	TBD**	54	12	66	Replaces 2013 fleet
60' MC	TBD**	46	12	58	Replaces 2013 fleet
LRV	Breda	6		6	
Vehicles in Service FY 2028					
LRV	Breda	27		27	
Vehicles in Service FY 2029					
60' TC	TBD**	51	13	64	Replaces 2012 fleet
LRV	Breda	26		26	
Vehicles in Service FY 2030					
40' MC	TBD**	138	1	139	Replaces 2016 fleet
60' MC	TBD**	103	1	104	Replaces 2016 fleet
LRV	Breda	16		16	

* When the planned procurement is for fewer vehicles than the total number for which SFMTA is eligible, unused resources can be reinvested in other subfleets where expansion is planned. All planned procurements will utilize a competitive process between manufacturers.

** Motor Coach and Trolley Coach replacements beginning in 2027 are for vehicles that have not yet been procured, so the manufacturer is still to be determined (TBD).

APPENDIX D: TOTAL FLEET SIZE DEMANDED AND PROCUREMENTS NEEDED

Sub-Fleet	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
30' Motor Coach																					
Peak Vehicle Demand	20	20	17	17	17	17	18	18	18	18	18	18	18	19	19	19	19	19	19	19	19
Maintenance Demand	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Maintenance Float (%)	30	30	35	35	35	35	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32
Total Fleet Size Demanded	26	26	23	23	23	23	24	24	24	24	24	24	24	25	25	25	25	25	25	25	25
Total Fleet Size Planned	30	30	30	30	30	30	30	30	30	30*	30	25*	25	25	25	25	25	25	25	25	25
Vehicle Surplus or (Deficit)	4	4	7	7	7	7	6	6	6	6	6	1	1	0	0	0	0	0	0	0	0
40' Motor Coach																					
Peak Vehicle Demand	259	259	268	258	260	262	265	267	269	272	275	277	280	283	285	288	288	289	290	290	291
Maintenance Demand	52	52	54	52	52	52	52	54	55	55	55	55	56	57	57	57	57	58	58	58	58
Maintenance Float (%)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Total Fleet Size Demanded	311	311	322	310	312	314	317	321	324	327	330	332	336	340	342	345	345	347	348	348	349
Total Fleet Size Planned	305	305	305	315 #	315	315	318 #	327 #	327	327	336 #	336	336	336	336	336	336	348 #	348	348	349 *
Vehicle Surplus or (Deficit)	(6)	(6)	(17)	5	3	1	1	6	3	0	6	4	0	(4)	(6)	(9)	(9)	1	0	0	0
60' Motor Coach																					
Peak Vehicle Demand	101	101	120	135	138	140	143	146	148	151	154	156	159	162	165	168	168	169	170	170	171
Maintenance Demand	20	20	24	29	29	29	30	30	30	33	32	34	33	34	35	35	35	37	36	36	36
Maintenance Float (%)	20	20	20	21	21	21	21	21	20	22	21	22	21	21	21	21	21	22	21	21	21
Total Fleet Size Demanded	121	121	144	164	167	169	173	176	178	184	186	190	192	196	200	203	203	206	206	206	207
Total Fleet Size Planned	124	124	124	170 #	170	170	173 #	179 #	179	194 #	194	194	194	194	194	194	194	206 #	206	206	207 #
Vehicle Surplus or (Deficit)	3	3	(20)	6	3	1	0	3	1	10	8	4	2	(2)	(6)	(9)	(9)	0	0	0	0

* FLEET SIZES THAT REDUCE SCHEDULED PROCUREMENT

* DENOTES REDUCED SCHEDULED PROCUREMENT & DENOTES FLEET SIZES THAT MAINTAIN SCHEDULED PROCUREMENT

# DENOTES FLEET SIZES THAT INCREASE SCHEDULED PROCUREMENT OR ADDITIONAL PROCUREMENT

Notes: a) All time periods in fiscal years. b) Previously retired vehicles that are eligible for return to the revenue fleet are considered scheduled procurements.
c) A summary of procurement cycles, including information about these previously retired vehicles, can be found in Appendix C.

Sub-Fleet	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Vans/Cutaways																					
Peak Vehicle Demand	0	0	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Maintenance Demand			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Maintenance Float (%)			29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
Total Fleet Size Demanded			18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Total Fleet Size Planned			18#	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Vehicle Surplus or (Deficit)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40' Trolley Coach																					
Peak Vehicle Demand	183	183	161	160	159	158	157	156	155	154	153	152	151	150	149	148	148	148	148	147	147
Maintenance Demand	46	46	40	40	39	39	39	39	39	39	39	38	38	37	37	37	37	38	38	37	37
Maintenance Float (%)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	26	25	25
Total Fleet Size Demanded	229	229	201	200	198	197	196	195	194	193	192	190	189	187	186	185	185	186	186	184	184
Total Fleet Size Planned	240	240	240	240	240	240	240	240	240	193 *	188 *	188	188	188	188	188	188	188	188	188	188
Vehicle Surplus or (Deficit)	11	11	39	40	42	43	44	45	46	0	(4)	(2)	(1)	1	2	3	3	2	2	4	4
60' Trolley Coach																					
Peak Vehicle Demand	58	58	53	56	59	62	64	67	70	73	76	80	83	86	89	92	93	94	94	95	96
Maintenance Demand	15	15	14	15	15	15	17	17	18	19	20	21	21	22	23	24	24	24	24	25	25
Maintenance Float (%)	26	26	26	27	25	24	27	25	26	26	26	26	25	26	26	26	26	26	26	26	26
Total Fleet Size Demanded	73	73	67	71	74	77	81	84	88	92	96	101	104	108	112	116	117	118	118	120	121
Total Fleet Size Planned	73	73	82*	82	82	82	82	82	82	82	108 #	108	108	108	108	108	108	108	108	121 #	121
Vehicle Surplus or (Deficit)	0	0	15	11	8	5	1	(2)	(6)	(10)	12	7	4	0	(4)	(8)	(9)	(10)	(10)	1	0

Sub-Fleet	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Light Rail Vehicles																					
Peak Vehicle Demand	119	119	121	125	128	132	135	139	143	147	150	154	158	162	166	170	171	172	173	174	175
Maintenance Demand	22	32	32	32	30	26	26	28	30	32	31	32	34	38	39	37	37	37	33	33	33
Maintenance Float (%)	18	27	26	26	23	20	19	20	21	22	21	21	22	23	23	22	22	22	19	19	19
Total Fleet Size Demanded	141	151	153	157	158	158	161	167	173	179	181	186	192	200	205	207	208	209	206	207	208
Total Fleet Size Planned	151	151	151	151	151	151	151	163 #	175 #	175	175	175	175	185 #	195 #	205 #	215 #	215 *	215 *	215 *	215 *
Vehicle Surplus or (Deficit)	10	0	(2)	(6)	(7)	(7)	(10)	(4)	2	(4)	(6)	(11)	(17)	(15)	(10)	(2)	7	6	9	8	7
Cable Cars																					
Peak Vehicle Demand	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Maintenance Demand	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Maintenance Float (%)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Fleet Size Demanded	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Total Fleet Size Planned	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Vehicle Surplus or (Deficit)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Historic Streetcars																					
Peak Vehicle Demand	20	20	26	27	27	28	29	30	30	31	32	33	34	34	35	36	36	36	37	37	37
Maintenance Demand	10	12	18	18	16	15	17	18	18	18	16	20	23	23	21	19	21	19	21	21	19
Maintenance Float (%)	50	60	69	67	59	54	59	60	60	58	50	61	68	68	60	53	58	53	57	57	51
Total Fleet Size Demanded	30	32	44	45	43	43	46	48	48	49	48	53	57	57	56	55	57	55	58	58	56
Total Fleet Size Planned	24	33*	38*	41*	42*	42	42	42	53#	53	53	53	57#	57	57	57	58#	58	58	58	58
Vehicle Surplus or (Deficit)	(6)	1	(6)	(4)	(1)	(1)	(4)	(6)	5	4	5	0	0	0	1	2	1	3	0	0	2

Note: The peak vehicle demand values contained in these tables do not necessarily represent specific annual estimates and are not based on actual service plans proposed by the SFMTA. Rather, they are intended to give a general sense of growth over a number of years, based on SFCTA travel model estimates (e.g., stemming from the population and employment growth estimates explained in Section III).

APPENDIX E: RESERVE FLEET

In addition to the fleet of revenue vehicles, SFMTA maintains a 51-vehicle motor coach reserve fleet.

Reserve Fleet Operating and Storage Policies

The reserve fleet is an operations tool that allows SFMTA to accommodate service anomalies which may occur due to civil construction projects, civil unrest, emergency agency actions, natural disasters, sporting events, or fleet warranty retrofit campaigns. The reserve fleet has proven to be instrumental in the agency's citywide efforts to ensure that adequate service capacity is provided at all times.

These reserve fleet vehicles are not part of the active revenue fleet and are not scheduled for regular revenue service, however, a number of them are made available for deployment on an ongoing basis to substitute for fixed guideway services (trolley coach, light rail vehicle, and cable car, in the event of service disruptions and for special services. These service disruptions may be planned, such as a track or overhead rehabilitation project, or unexpected, such as a power outage or track blockage. This sort of service coverage is essential, given the fact that collectively, fixed guideway services carry more than half of the agency's daily revenue passengers. In contrast to motor coach-based systems, service disruptions to these services (e.g., fixed guideway repair, fleet retrofitting) can adversely impact the operation of the entire Muni system, often with implications for the regional network.

FTA Circular 9030.1C mandates that a grantee with more than 50 or more fixed-route buses must have a plan for its contingency (reserve) fleet. FTA defines a contingency fleet as follows:

> Buses may be placed in an inactive contingency fleet – stockpiled – in preparation for emergencies. No bus may be stockpiled before that vehicle has reached the end of its minimum normal service life. Buses held in a contingency fleet must be properly stored, maintained, and documented in a contingency plan, updated as necessary, to support the continuation of a contingency fleet. A contingency plan is not an application requirement, although FTA may request information about the contingency fleet during application review. Contingency plans are subject to review during triennial reviews required for the Urbanized Area Formula Program. Any rolling stock not supported by a contingency plan will be considered part of the active fleet. Since vehicles in the contingency fleet are not part of the active fleet, they do not count in the calculation of spare ratio.

Basically, FTA permits a grantee to use its reserve fleet for local emergencies provided:

- The grantee has a plan for using its reserve fleet;
- The grantee stores and maintains its reserve fleet; and
- All of the vehicles in the contingency fleet have reached the end of their minimum useful life.

In practice, the SFMTA deploys the reserve fleet where needed, in each case, allocating a certain number of motor coach vehicles on a parallel route to the affected line. Except under emergency conditions, these service replacements are scheduled and coordinated well in advance, in order to minimize service disruption.

A recent example of this use of reserve fleet vehicles was the deployment of motor coaches as part of the St. Francis Circle Service Plan. This plan effectively proposed a seven-day-a-week, replacement service operation, adding 30 reserve motor coaches and 70 operators. In order to mitigate the negative impacts of infrastructure improvements at St. Francis Circle, it included a number of components, including

- bus substitution on the K and M lines, between West Portal and Balboa Park Stations;
- the re-routing of three local buses with additional buses; and
- additional supervision and customer service at the stations.

In addition, special events commonly generate additional (short-term) demand for services to or from the venue site, prompting the need to increase transit service on major access routes. While only certain events require additional transit service, these often include evening and championship football and baseball games; large, organized footraces, large parades and marches, and other special gatherings.

APPENDIX F: CABLE CAR INVENTORY

Car No.	Year Built	Manufacturer	Last Rehab.	Notes
Powell Cars				
1	1973	SF Muni	1997	"Centennial Car" rebuilt in 1997
2	1894	Carter Bros., Newark, CA	1984	Reconstructed by Muni in 1971
3	1894	Carter Bros., Newark, CA	1999	Reconstructed by Muni in 1955
4	1994	SF Muni	NA	
5	1894	Carter Bros., Newark, CA	1982	Reconstructed by Muni in 1956
6	1894	Carter Bros., Newark, CA	2000	Reconstructed by Muni in 1965
7	1894	Carter Bros., Newark, CA	1999	Reconstructed by Muni in 1957
8	1894	Carter Bros., Newark, CA	1958	Reconstructed by Muni in 1958
9	1998	SF Muni	NA	Revenue Service 2000
10	1894	Carter Bros., Newark, CA	2001	Reconstructed by Muni in 1960
11	1894	Carter Bros., Newark, CA	1983	Reconstructed by Muni in 1977
12	1894	Carter Bros., Newark, CA	1983	Reconstructed by Muni in 1959
13	1992	SF Muni	2001	Reconstructed by Muni in 1958
14	1964	SF Muni	1984	
15	1894	Carter Bros., Newark, CA	1984	Extensive rebuilding in 1954
16	1894	Carter Bros., Newark, CA	2000	Reconstructed by Muni in 1990
17	1887	Mahoney Bros., SF, CA	1998	Reconstructed by Muni in 1956
18	1962	SF Muni	1984	
19	1986	SF Muni	2000	
20	1894	Carter Bros., Newark, CA	1984	Reconstructed by Muni in 1968
21	1992	SF Muni	NA	
22	1887	Mahoney Bros., SF, CA	1982	Reconstructed by Muni in 1956
23	1890	Ferries & Cliff	1983	Reconstructed by Muni in 1970
24	1887	Mahoney Bros., SF, CA	1997	Reconstructed by Muni in 1958
25	1890	Ferries & Cliff	1990	Reconstructed by Muni in 1976
26	1890	Ferries & Cliff	NA	Reconstructed by Muni in 1975
27	1887	Mahoney Bros., SF, CA	1983	Reconstructed by Muni in 1958
28	1887	Mahoney Bros., SF, CA	1984	Reconstructed by Muni in 1951
Total: 28 Cars				
California Cars				
49	1992	SF Muni	NA	
50	1912	CA St. Cable	1999	
51	1906	W.L. Holman	1982	Candidate for Reconstruction
52	1996	SF Muni	NA	Scheduled Overhaul in 2002
53	1906	W.L. Holman	1982	
54	1906	John Hammond & Co.	1983	
55	1906	John Hammond & Co.	1983	Candidate for Reconstruction
56	1913	CA St. Cable	1984	
57	1914	CA St. Cable	1982	
58	1914	CA St. Cable	1983	
59	1998	SF Muni	NA	Scheduled Overhaul in 2002
60	1998	John Hammond & Co.	2001	Reconstructed in 2003
Total: 12 Cars				