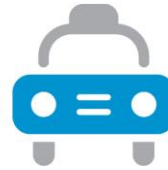




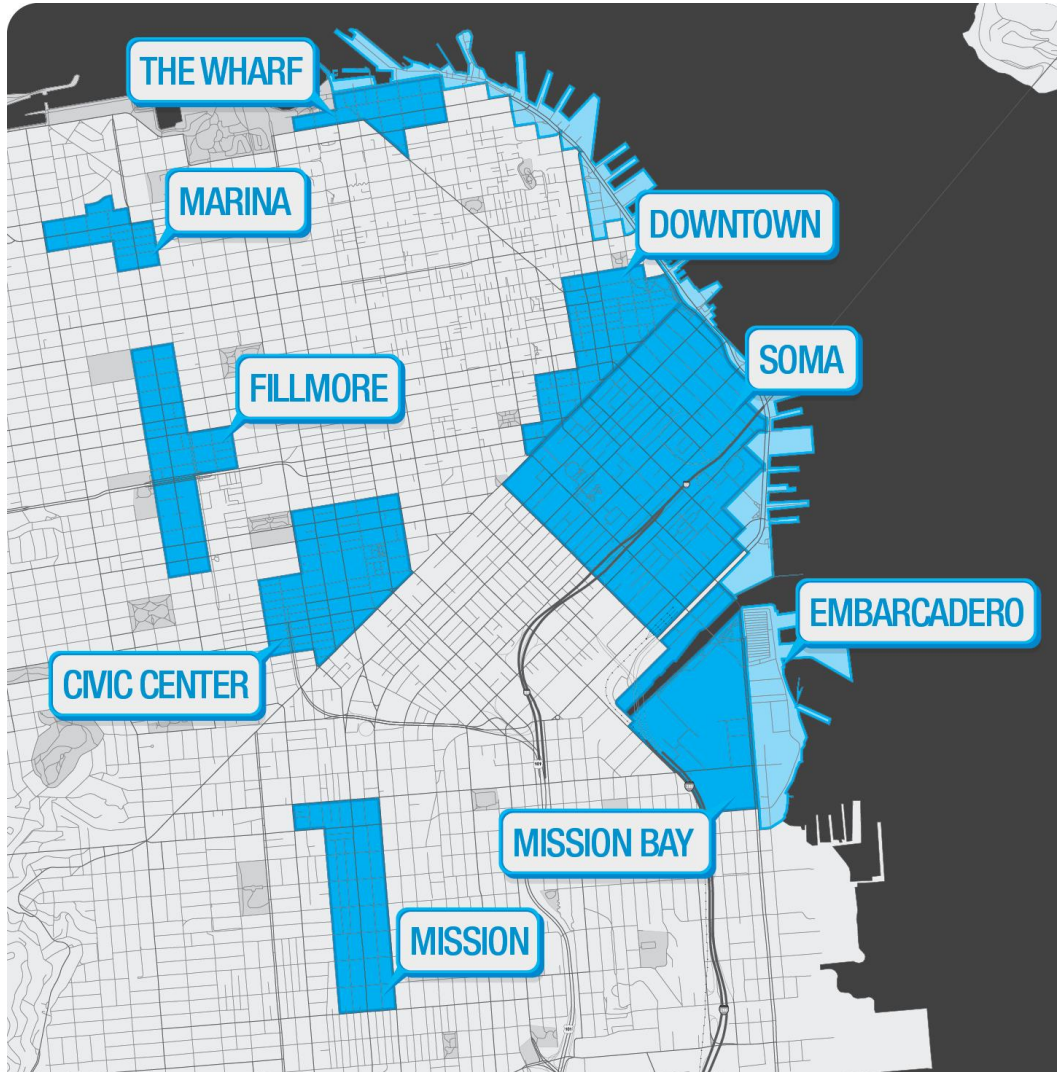
What to expect

- Business Background & Overview
- Technical Implementation
 - Physical Architecture
 - Data acquisition
 - Data warehousing
 - BI
- Future plans
 - Migrating to HA/DR
 - Adding new meters
 - Upgrading to 12c
- BI Drilldown
 - Asset management
 - Demand-responsive meter rate adjustments
 - Transportation analytics

The SFMTA



Demonstrating a new approach to parking



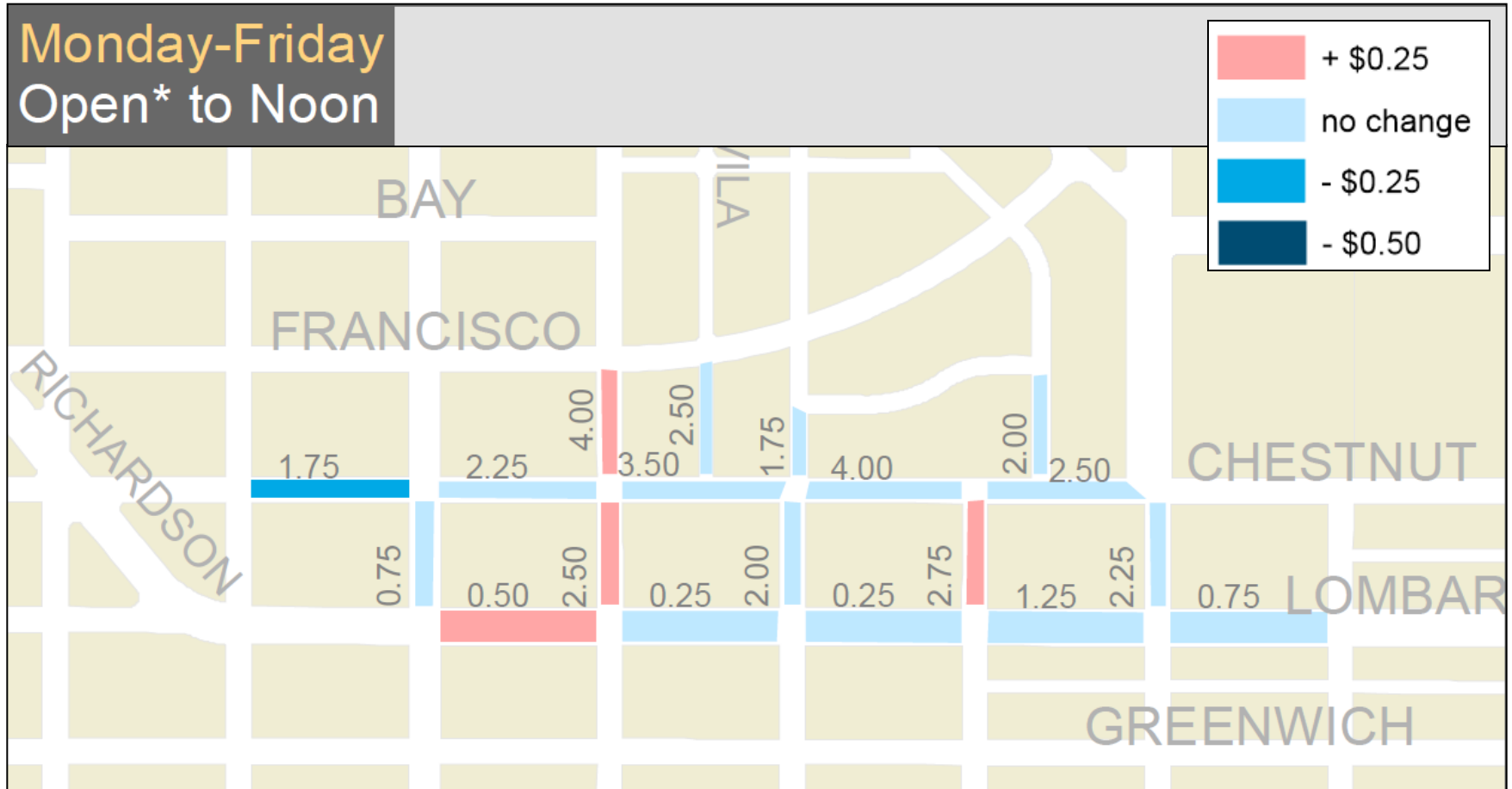
Pricing at parking meters and lots

- Demand responsive to find lowest possible prices
- Gradual and periodic changes: \$0.25 up or down every 6-8 weeks
- Time of day pricing (vary by block + weekday/end)



Duration	Price Per Hour
9AM – 12AM	\$2.50
12AM – 3PM	\$3.50
3PM – 6PM	\$2.00

Demand responsive rate adjustments



Parking sensors and meters



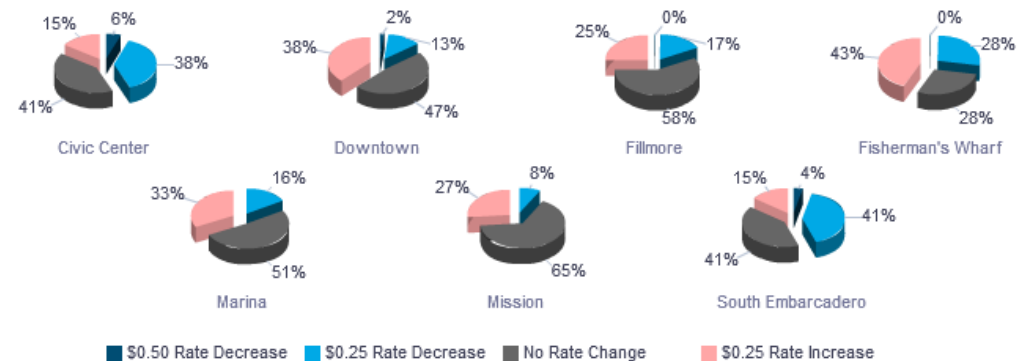
Data driven parking management

Description	Rate Change Reference	Effective Date	Status
Initial meter rates	201001	1/1/2010	Implemented
SFpark meter rate adjustment #1	201108	8/1/2011	Implemented
SFpark meter rate adjustment #2	201110	10/11/2011	Implemented
SFpark meter rate adjustment #3	201112	12/13/2011	Implemented
SFpark meter rate adjustment #4	201202	2/14/2012	Implemented
SFpark meter rate adjustment #5	201203	3/28/2012	Implemented
SFpark meter rate adjustment #6	201204	5/8/2012	Implemented
SFpark meter rate adjustment #7	201208	8/29/2012	Implemented
SFpark meter rate adjustment #8	201210	10/31/2012	Implemented
SFpark meter rate adjustment #9	201301	1/16/2013	Implemented
SFpark meter rate adjustment #10	201303	4/3/2013	Implemented
SFpark meter rate adjustment #11	201308	8/21/2013	Implemented
SFpark meter rate adjustment #12	201311	11/20/2013	Implemented

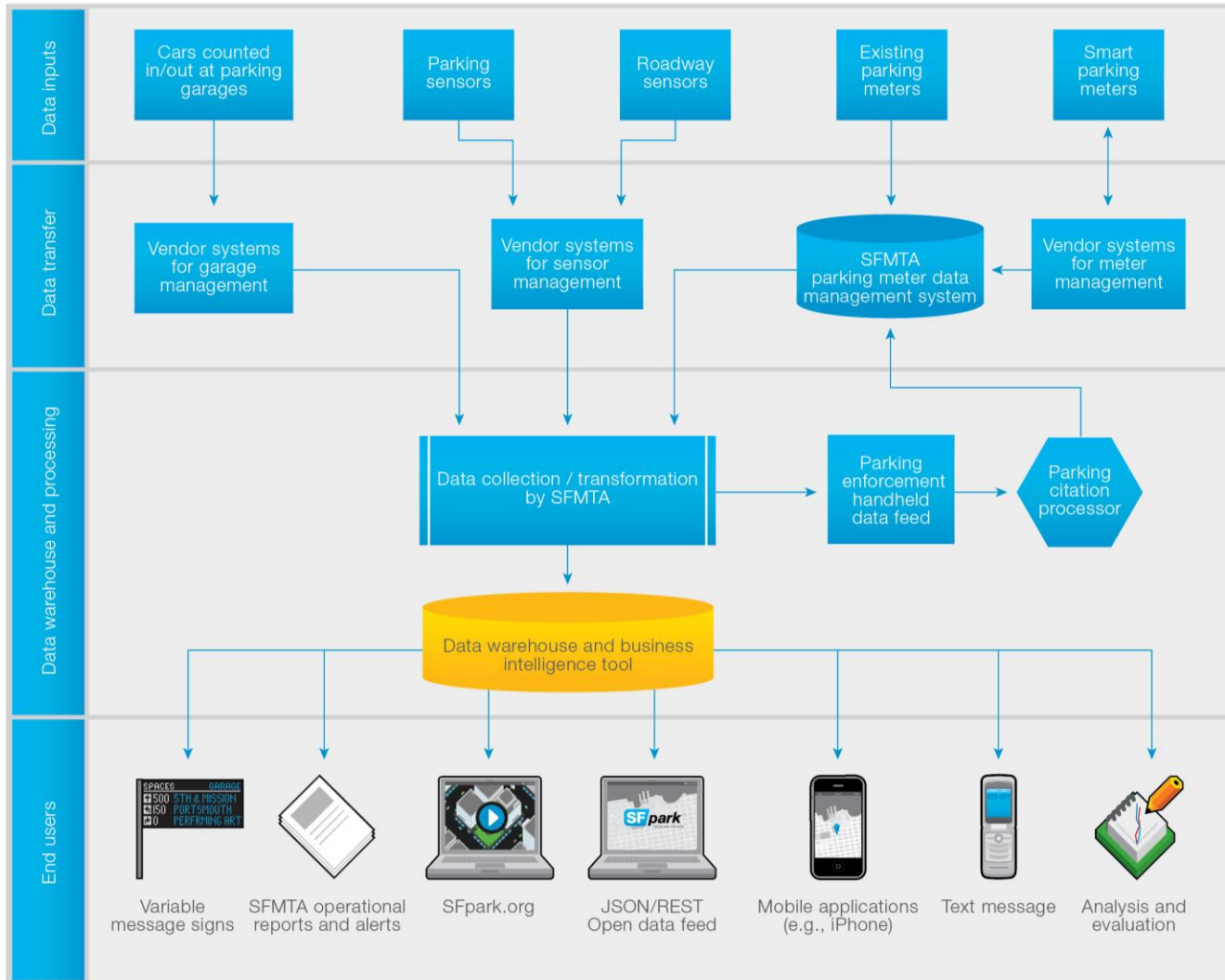


201208, SFpark meter rate adjustment #7

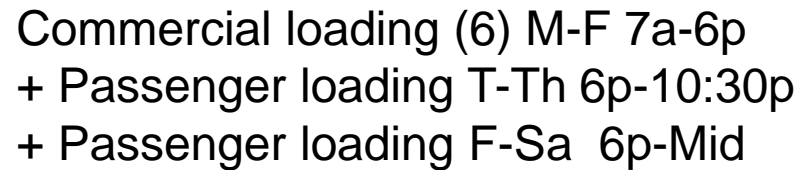
PMD Rate Change Distribution



Investment in data management/analytical tools



Commercial loading M-F 8a-5p
+ Passenger loading M-Su 5p-2a

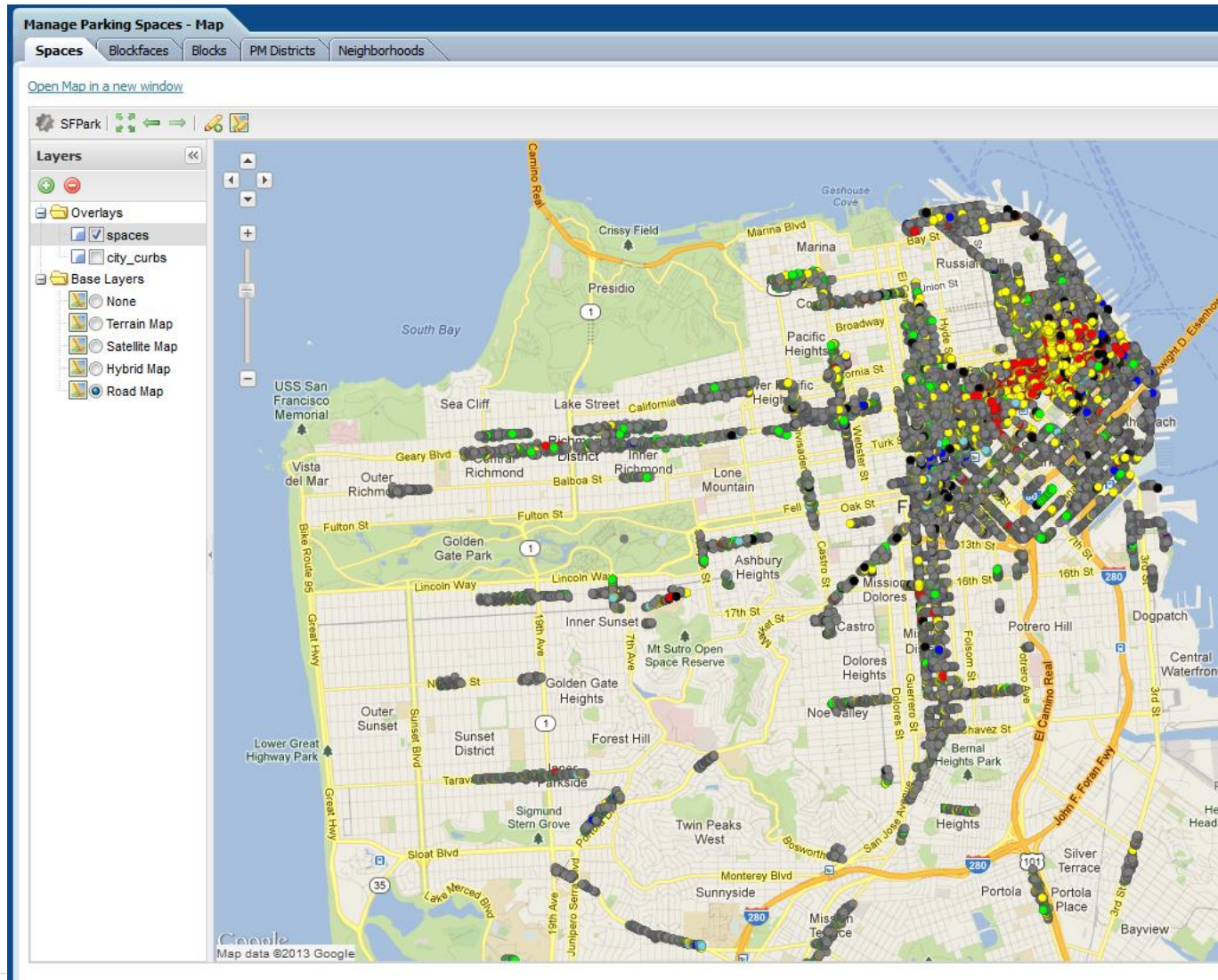


Growing complexity of meter rate schedules

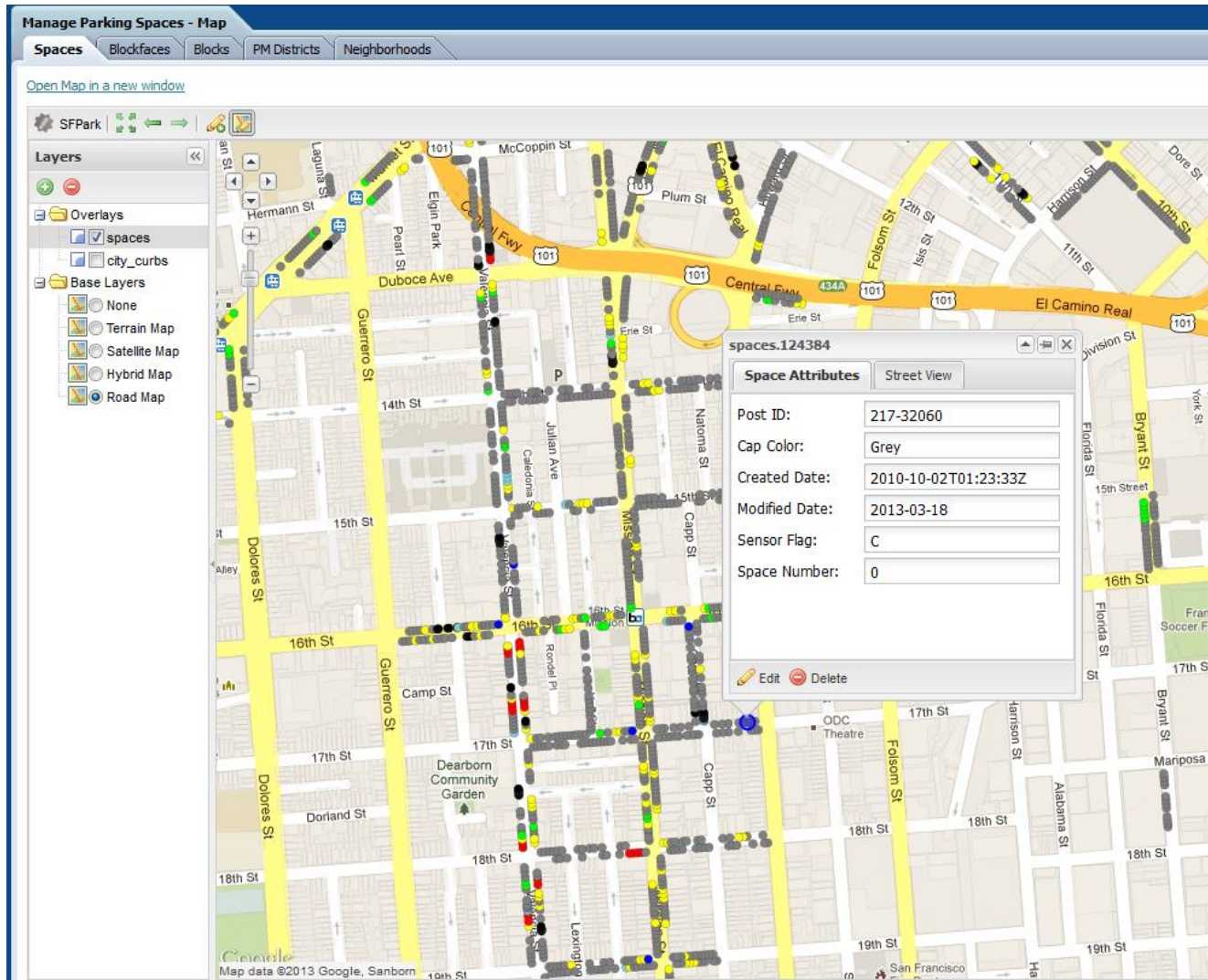
OLD	Area	Location	Days	Times	Rate	Limit
	3	Neighborhoods	Mo-Sa	9am-6pm	\$2.00/hr	1-hr

NEW	Area	Location	Days	Times	Rate	Limit
	MI	Valencia St 600	Mo-Fr	7am-12pm	\$2.00/hr	4-hr
	MI	Valencia St 600	Mo-Fr	12pm-3pm	\$3.50/hr	4-hr
	MI	Valencia St 600	Mo-Fr	3pm-6pm	\$3.75/hr	4-hr
	MI	Valencia St 600	Sa	9am-12pm	\$0.75/hr	4-hr
	MI	Valencia St 600	Sa	12pm-3pm	\$3.25/hr	4-hr
	MI	Valencia St 600	Sa	3pm-6pm	\$3.75/hr	4-hr

Inventory/asset management



Inventory/asset management



Inventory/asset management

Parking Space Management

[Validate and Save](#)[Cancel Unsaved Changes](#)

Post ID: * 700-06 310

Sensor Status: Y - Sensor installed

Cap Color: Yellow - Commercial loading zone

Meter Status: M - Active meter installed

Reason Code: - - No reason code

Legislation Reference:

Legislation Date:

Work Order:

[Change Meter Model](#)

Meter Vendor: IPS

Meter Model: 147

Smart Meter: Yes

Meter Type: Single Space

Multi Space Pay Station ID: -

Multi Space Number: 0

[Change CNN ID](#)

CNN ID: 13063000

Street Number: 631

Comments:

Blockface ID: * 70006 1

Street ID: 700

Street Name: VALENCIA ST

PM District ID: 4

Orientation: 90

Parity Digit Position: 2

Old Rate Area: Area 3

PCO Beat: 405

Longitude: -122.4215477013

Latitude: 37.7625122004

Parking Space ID: 102442

Created On: 10/1/2010 6:23 PM

Last Updated On: 9/26/2013 4:30 AM

Last Updated By: ODI

Last Updated Through: IF_PARKING_SPACE_INVENTORY_CSR

Use with Caution: [Delete Parking Space](#)

Meter Operating Schedules

[Show Historic Data](#)[Add New Schedule](#)[End Schedule](#)

Edit existing record	Schedule Type	* Effective From Date	* Effective To Date	Color Rule Applied	Additional Desc	From Time	To Time	Days Applied	Time Limit	Prepayment Time
<input type="checkbox"/>	OP	1/2/2013	12/31/2200	Yellow		08:00	18:00	Monday;Tuesday;Wednesday;T	30	04:30
<input type="checkbox"/>	OP	1/2/2013	12/31/2200	Yellow		09:00	18:00	Saturday	30	04:30
<input type="checkbox"/>	OP	1/2/2013	12/31/2200	Yellow		12:00	18:00	Sunday	240	04:30
<input type="checkbox"/>	ALT	1/1/2010	12/31/2200	White - Passenger loading zone		00:00	02:00	All	0	
<input type="checkbox"/>	ALT	1/1/2010	12/31/2200	White - Passenger loading zone		17:00	24:00	All	0	
<input type="checkbox"/>	ALT	1/1/2010	12/31/2200	Green - Short term general metered		09:00	17:00	Saturday	30	
<input type="checkbox"/>	ALT	1/2/2013	12/31/2200	Grey - General metered parking		12:00	17:00	Sunday	240	

Managing rate adjustments

Firefox | Oracle BI Interactive Dashboards - Mana... | +

sv6sfpphttp1a:9704/analytics/saw.dll?dashboard&PortalPath=%2Fshared%2FOn Street and Lot Pricing%2F_portal%2FManage Rate Adjustments

Most Visited | Oracle BIEE Home

SFMTA Business Intelligence

Search: All | Advanced | Administration | Help | Sign Out

Home | Catalog | Favorites | Dashboards | New | Open | Signed In As: ademisch2

Manage Rate Adjustments

Rate Adjustments | Adjustment Details | Blocks Not Deployed | Blocks Deployed | Sensor Coverage by Block | Blocks Exceeding Unknown Time Threshold

Click here to [Generate a New Rate Adjustment](#). To modify/delete an existing Rate Adjustment, please use the links on the reports on this page.

Rate Change Reference
--Select Value--

Rate Change Source
S - Sensor Based Occupancy

Process Step
10 - Apply prices to meters; 20 - Generate vendor

Status
--Select Value--

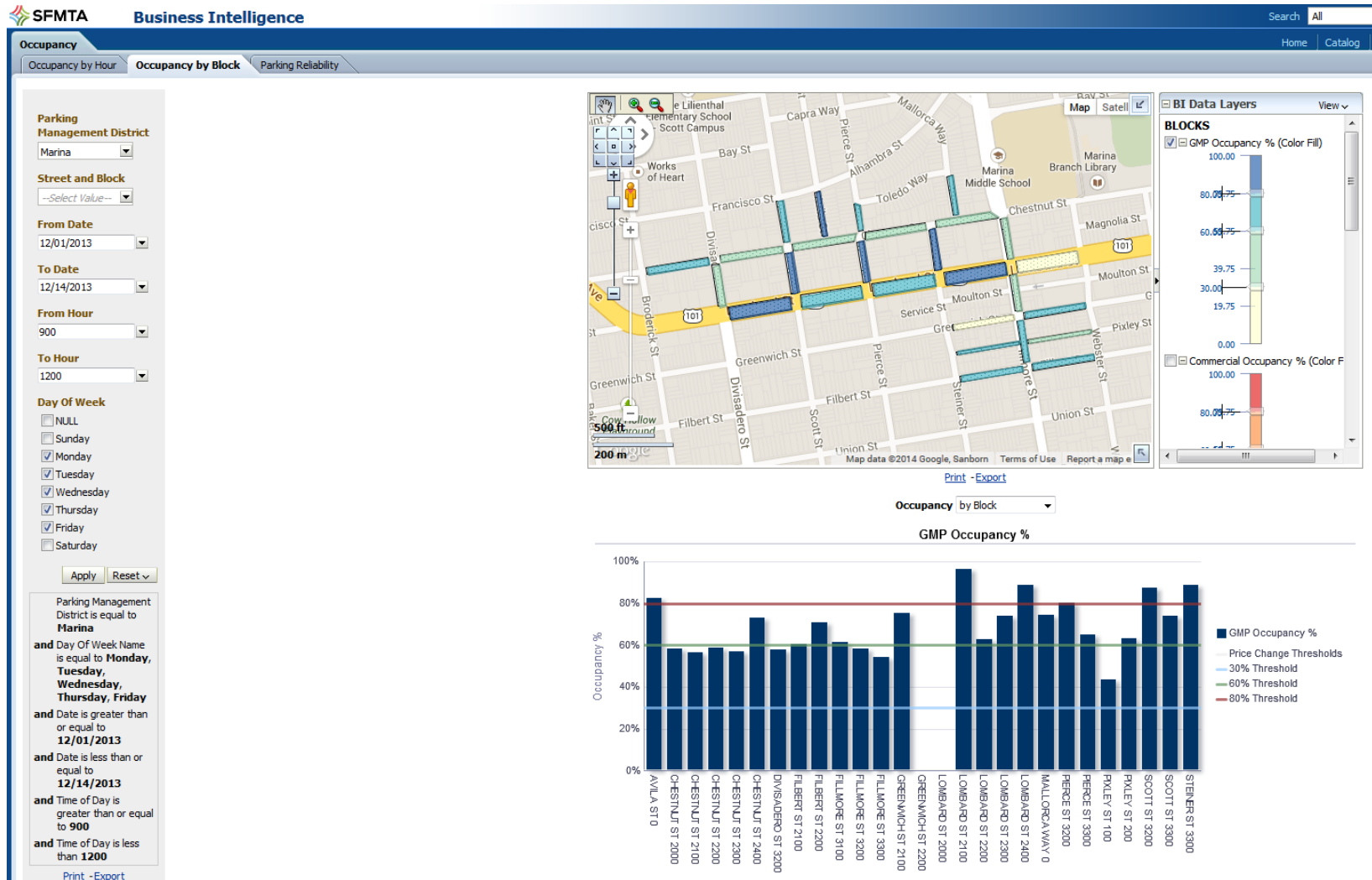
Apply | Reset

Rate Adjustments

Actions	Rate Change Reference ID	Rate Change Reference	Description	Planned Change Effective Date	Status	Calendar Name	Created Date	Submitted By	Submitted Date	Approved By	Approved Date	Additional Info	Rate Change Source	Area Type	Parking Management District	Group ID	Sensor Coverage Minimum Percentage
	1463	201311	SFpark meter rate adjustment #12	11/20/2013	Implemented	20130904-20131019	10/24/2013	L Mattern	10/24/2013	E Reiskin	10/25/2013		S - Sensor Based Occupancy	Pilot			50%
	1443	201308	SFpark meter rate adjustment #11	8/21/2013	Implemented	20130606-20130626	7/24/2013	L Mattern	7/31/2013	E Reiskin	07/31/2013		S - Sensor Based Occupancy	Pilot			50%
	1363	201303	SFpark meter rate adjustment #10	4/3/2013	Implemented	20130123-20130210	3/6/2013	B Monaghan	3/6/2013	E Reiskin	03/12/2013		S - Sensor Based Occupancy	Pilot	3,1,5,6,7,4,2		50%
	1304	201301	SFpark meter rate adjustment #9	1/16/2013	Implemented	20121107-20121129	12/12/2012	L Mattern	12/12/2012	E Reiskin	12/13/2012		S - Sensor Based Occupancy	Pilot			50%
	1283	201210	SFpark meter rate adjustment #8	10/31/2012	Implemented	20120906-20121003	10/10/2012	L Mattern	10/10/2012	E Reiskin	10/10/2012		S - Sensor Based Occupancy	Pilot			50%
	1263	201208	SFpark meter rate adjustment #7	8/29/2012	Implemented	20120710-20120804	8/7/2012	L Mattern	8/7/2012	E Reiskin	08/09/2012		S - Sensor Based Occupancy	Pilot			50%
	1226	201204	SFpark meter rate adjustment #6	5/8/2012	Implemented	20120407-20120421	4/22/2012	L Mattern	4/24/2012	E Reiskin	04/24/2012		S - Sensor Based Occupancy	Pilot			50%
	1164	201203	SFpark meter rate adjustment #5	3/28/2012	Implemented	20120228-20120311	3/14/2012	L Mattern	3/14/2012	E Reiskin	03/14/2012		S - Sensor Based Occupancy	Pilot			50%
	1143	201202	SFpark meter rate adjustment #4	2/14/2012	Implemented	20120104-20120123	1/26/2012	A Demisch	1/26/2012	E Reiskin	01/29/2012		S - Sensor Based Occupancy	Pilot			0%
	1083	201112	SFpark meter rate adjustment #3	12/13/2011	Implemented	20111028-20111114	11/16/2011	L Mattern	11/16/2011	E Reiskin	11/17/2011		S - Sensor Based Occupancy	Pilot			0%
	1002	201110	SFpark meter rate adjustment #2	10/11/2011	Implemented	20110820-20110902	9/16/2011	L Mattern	9/21/2011	E Reiskin	09/26/2011		S - Sensor Based Occupancy	Pilot			0%
	1001	201108	SFpark meter rate adjustment #1	8/1/2011	Implemented	20110508-20110521	7/1/2011	A Demisch	7/1/2011	N Ford	07/15/2011		S - Sensor Based Occupancy	Pilot			0%
	1000	201001	Initial meter rates	1/1/2010	Implemented		4/30/2012						S - Sensor Based Occupancy	Pilot			

[Print](#) - [Export](#)

Calculating parking occupancy rates



Generating rate recommendations

Rate Change Reference	Effective Date	Status	Calendar Name	Created Date	Submitted By	Submitted Date	Approved By	Approved Date	Rate Change Reference ID
201311	11/20/2013	Implemented	20130904-20131019	10/24/2013	L Mattern	10/24/2013	E Reiskin	10/25/2013	1463

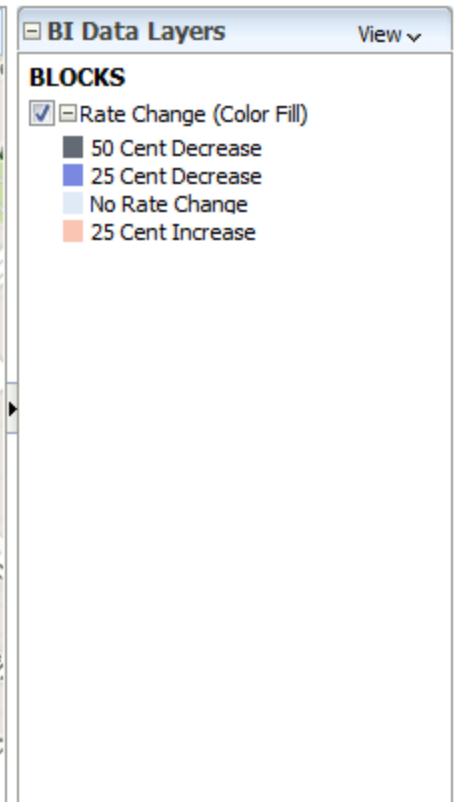
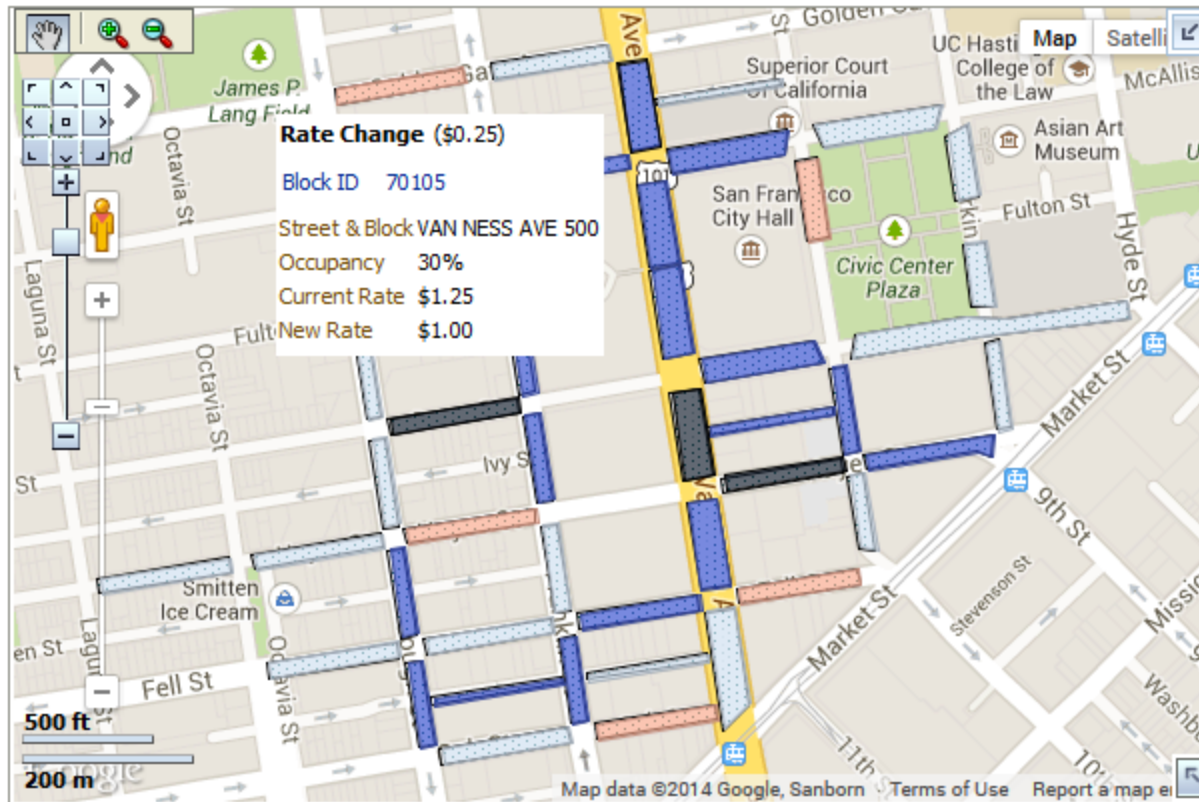
[Print](#) - [Export](#)

Pilot Area	Street & Block	Day Type	From Time	To Time	Prior Rate Change Effective Date	Current Rate	Occupancy	Rate Adjustment	New Rate	Rate Notes	Activation Date
Civic Center	FELL ST 0	Weekday	7:00 AM	12:00 PM	8/28/2013	\$2.75	82%	\$0.25	\$3.00		11/20/2013
Civic Center	FELL ST 0	Weekday	12:00 PM	3:00 PM	8/28/2013	\$3.25	86%	\$0.25	\$3.50		11/20/2013
Civic Center	FELL ST 0	Weekday	3:00 PM	6:00 PM	4/3/2013	\$2.50	73%	\$0.00	\$2.50		11/20/2013
Civic Center	FELL ST 0	Weekend	7:00 AM	12:00 PM	8/28/2013	\$0.50	55%	-\$0.25	\$0.25		11/20/2013
Civic Center	FELL ST 0	Weekend	12:00 PM	3:00 PM	8/28/2013	\$1.00	52%	-\$0.25	\$0.75		11/20/2013
Civic Center	FELL ST 0	Weekend	3:00 PM	6:00 PM	8/28/2013	\$1.25	49%	-\$0.25	\$1.00		11/20/2013
Civic Center	FELL ST 100	Weekday	7:00 AM	12:00 PM	8/28/2013	\$2.00	48%	-\$0.25	\$1.75		11/20/2013
Civic Center	FELL ST 100	Weekday	12:00 PM	3:00 PM	1/1/2010	\$3.00	61%	\$0.00	\$3.00		11/20/2013
Civic Center	FELL ST 100	Weekday	3:00 PM	6:00 PM	1/1/2010	\$3.00	60%	\$0.00	\$3.00		11/20/2013
Civic Center	FELL ST 100	Weekend	7:00 AM	12:00 PM	8/28/2013	\$1.00	21%	-\$0.50	\$0.50		11/20/2013
Civic Center	FELL ST 100	Weekend	12:00 PM	3:00 PM	8/28/2013	\$1.75	25%	-\$0.50	\$1.25		11/20/2013
Civic Center	FELL ST 100	Weekend	3:00 PM	6:00 PM	8/28/2013	\$1.50	39%	-\$0.25	\$1.25		11/20/2013
Civic Center	FELL ST 200	Weekday	9:00 AM	12:00 PM	4/3/2013	\$1.00	79%	\$0.00	\$1.00		11/20/2013
Civic Center	FELL ST 200	Weekday	12:00 PM	3:00 PM	4/3/2013	\$1.00	87%	\$0.25	\$1.25		11/20/2013
Civic Center	FELL ST 200	Weekday	3:00 PM	6:00 PM	10/31/2012	\$1.50	89%	\$0.25	\$1.75		11/20/2013
Civic Center	FELL ST 200	Weekend	9:00 AM	12:00 PM	1/16/2013	\$1.00	71%	\$0.00	\$1.00		11/20/2013
Civic Center	FELL ST 200	Weekend	12:00 PM	3:00 PM	4/3/2013	\$1.25	80%	\$0.25	\$1.50		11/20/2013
Civic Center	FELL ST 200	Weekend	3:00 PM	6:00 PM	4/3/2013	\$1.50	86%	\$0.25	\$1.75		11/20/2013
Civic Center	FELL ST 300	Weekday	9:00 AM	12:00 PM	4/3/2013	\$1.50	70%	\$0.00	\$1.50		11/20/2013
Civic Center	FELL ST 300	Weekday	12:00 PM	3:00 PM	8/28/2013	\$2.75	83%	\$0.25	\$3.00		11/20/2013
Civic Center	FELL ST 300	Weekday	3:00 PM	6:00 PM	8/28/2013	\$2.75	84%	\$0.25	\$3.00		11/20/2013
Civic Center	FELL ST 300	Weekend	9:00 AM	12:00 PM	1/1/2010	\$2.00	71%	\$0.00	\$2.00		11/20/2013

Generating rate recommendations

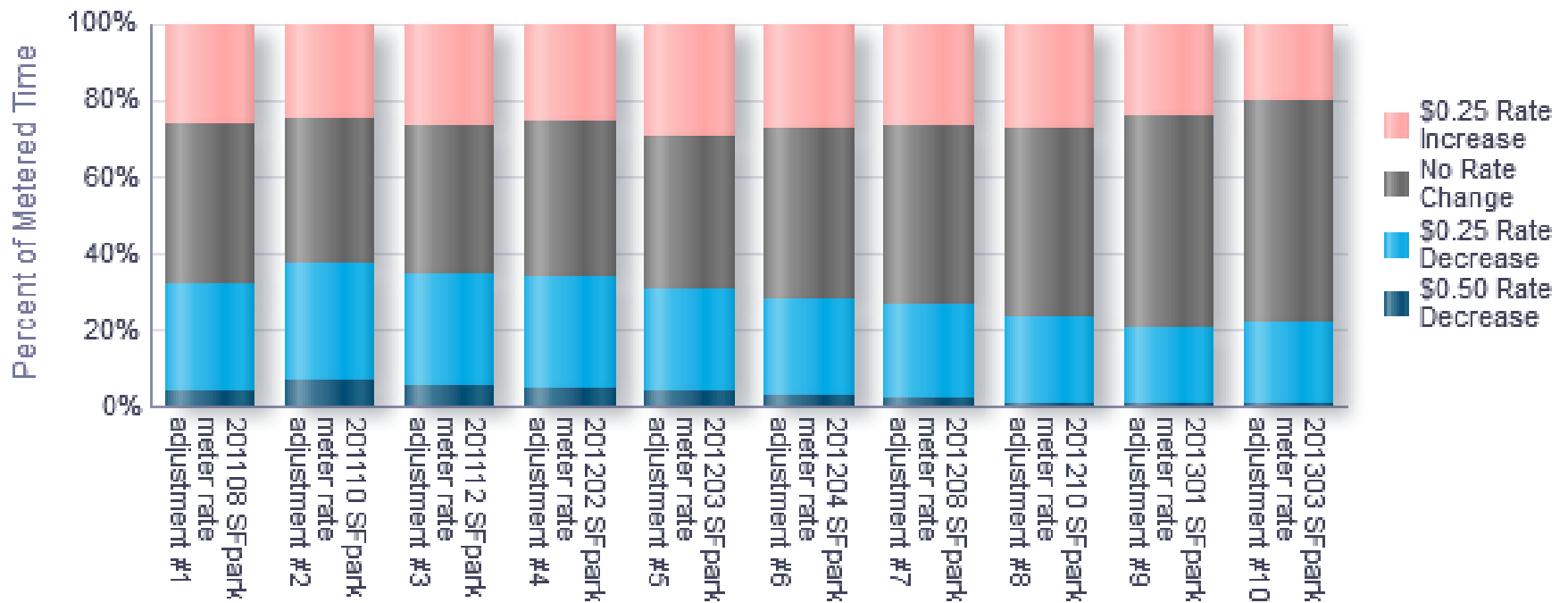
Rate Change Details Map

Rate Change Source	S - Sensor Based Occupancy
Rate Change Reference	201311
Date Type	Weekday
Time Band	Time Band 1
Parking Management District Name	Civic Center
<input type="button" value="Apply"/> <input type="button" value="Reset"/>	



Rate adjustment analysis

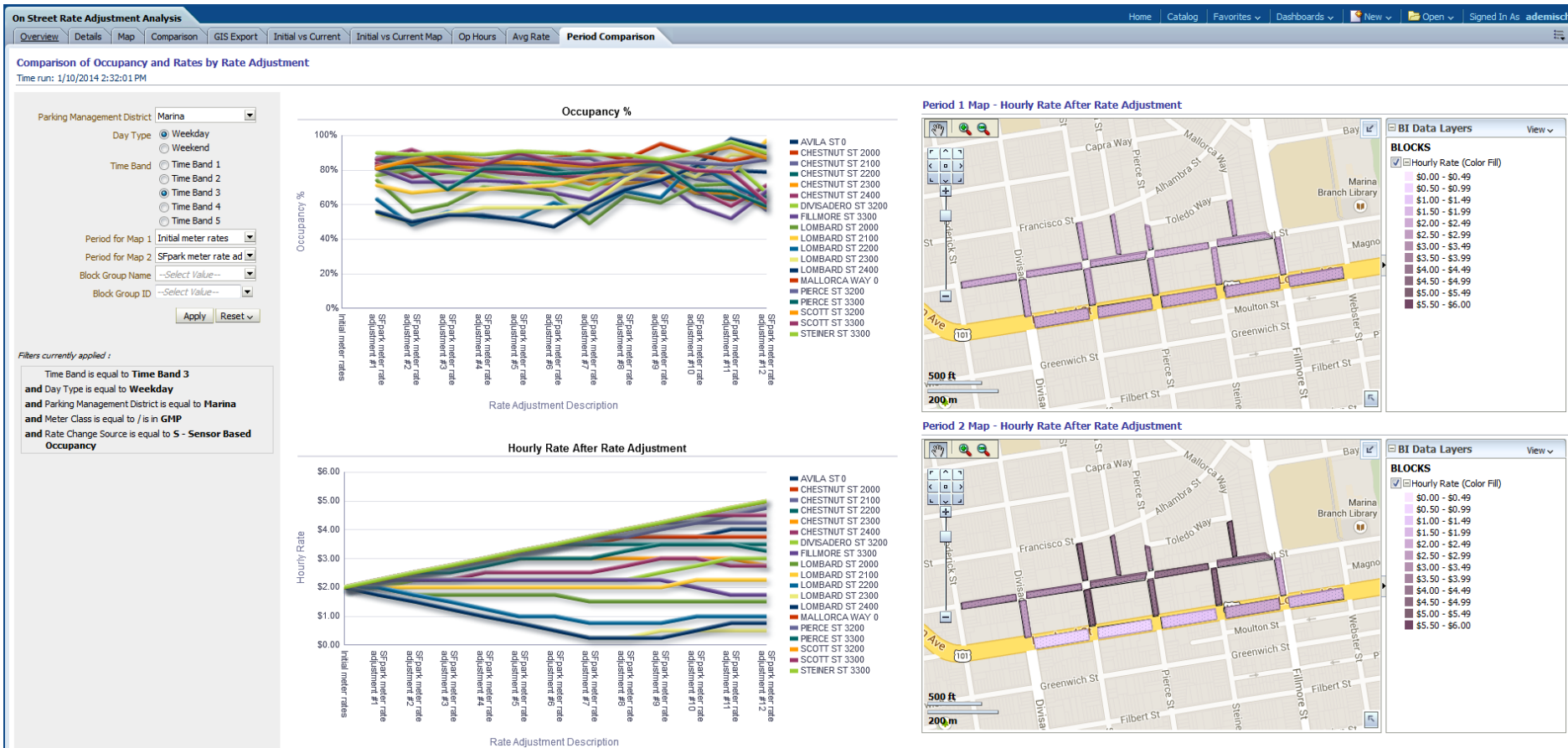
Rate Change Distribution by Metered Hours



Rate adjustment analysis

Rate Change Reference Description	201001 Initial meter rates		201108 SFpark meter rate adjustment #1		201110 SFpark meter rate adjustment #2		201112 SFpark meter rate adjustment #3		201202 SFpark meter rate adjustment #4		201203 SFpark meter rate adjustment #5		201204 SFpark meter rate adjustment #6		201208 SFpark meter rate adjustment #7		201210 SFpark meter rate adjustment #8		201301 SFpark meter rate adjustment #9		201303 SFpark meter rate adjustment #10		
	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	Meter Operating Hours per Week	% of Total Meter Operating Hours per Week	
Rate																							
\$0.25																372	0.7%	813	1.6%	1,067	2.1%	2,638	4.5%
\$0.50														120	0.2%	401	0.8%	198	0.4%	427	0.9%	874	1.5%
\$0.75														572	1.2%	196	0.4%	532	1.1%	471	0.9%	416	0.7%
\$1.00												165	0.3%	277	0.6%	549	1.1%	422	0.8%	180	0.4%	480	0.8%
\$1.25												635	1.3%	363	0.7%	447	0.9%	132	0.3%	401	0.8%	1,164	2.0%
\$1.50										165	0.3%	538	1.1%	512	1.0%	405	0.8%	594	1.2%	240	0.5%	96	0.2%
\$1.75										1,010	2.0%	591	1.2%	508	1.0%	311	0.6%	167	0.3%	249	0.5%	492	0.8%
\$2.00							469	1.2%	868	1.7%	351	0.7%	542	1.1%	1,428	2.9%	1,297	2.6%	1,120	2.2%	1,075	1.8%	
\$2.25					165	0.4%	1,184	3.0%	1,956	3.9%	614	1.2%	1,147	2.3%	60	0.1%	72	0.1%	168	0.3%	719	1.2%	
\$2.50			30	0.1%	680	1.8%	406	1.0%	509	1.0%	2,857	5.8%	1,108	2.2%	1,458	2.9%	1,488	3.0%	1,667	3.3%	1,812	3.1%	
\$2.75			311	0.8%	1,797	4.6%	987	2.5%	2,369	4.8%	1,602	3.2%	2,968	6.0%	2,276	4.6%	961	1.9%	1,060	2.1%	1,744	3.0%	
\$3.00	7,582	19.5%	3,952	10.2%	2,582	6.6%	4,299	11.1%	2,975	6.0%	2,608	5.3%	1,873	3.8%	2,783	5.6%	3,637	7.3%	1,644	3.3%	2,310	4.0%	
\$3.25			8,147	21.0%	5,417	14.0%	2,235	5.8%	2,552	5.1%	2,208	4.5%	1,640	3.3%	1,062	2.1%	1,783	3.6%	3,057	6.1%	4,147	7.1%	
\$3.50	31,248	80.5%	13,997	36.0%	13,972	36.0%	9,810	25.3%	12,204	24.6%	9,639	19.4%	9,701	19.5%	9,125	18.4%	8,576	17.1%	8,210	16.4%	7,820	13.4%	
\$3.75			12,393	31.9%	4,706	12.1%	7,408	19.1%	7,743	15.6%	4,849	9.8%	3,315	6.7%	3,713	7.5%	2,630	5.3%	2,932	5.9%	2,677	4.6%	
\$4.00					9,511	24.5%	3,320	8.6%	7,096	14.3%	7,117	14.4%	5,267	10.6%	4,080	8.2%	5,254	10.5%	5,597	11.2%	5,712	9.8%	
\$4.25							8,712	22.4%	2,599	5.2%	6,685	13.5%	5,031	10.1%	3,442	6.9%	2,933	5.9%	2,641	5.3%	2,791	4.8%	
\$4.50											7,614	15.3%	1,899	3.8%	6,325	12.7%	4,312	8.7%	2,767	5.5%	3,192	6.4%	
\$4.75													7,236	14.6%	2,104	4.2%	6,097	12.3%	4,317	8.6%	2,350	4.7%	
\$5.00															6,311	12.7%	1,554	3.1%	5,152	10.3%	4,506	9.0%	
\$5.25																	5,631	11.3%	1,654	3.3%	3,737	7.5%	
\$5.50																			4,671	9.3%	2,146	4.3%	
\$5.75																				2,988	6.0%		
\$6.00																						2,070	3.5%
Grand Total	38,830	100.0%	38,830	100.0%	38,830	100.0%	38,830	100.0%	49,660	100.0%	49,594	100.0%	49,684	100.0%	49,702	100.0%	50,050	100.0%	50,050	100.0%	58,390	100.0%	

Rate adjustment analysis



Pilot project evaluation data

- Supply data (census, asset management)
- Parking data (from sensors, meters, and citations)
- Garage data (usage by hour)
- Travel demand data (roadway sensors, highways PEMS, BART, Muni)
- Muni data (travel time data from APCs)
- Parking tax
- Sales tax
- Safety (SWITIRS collision data)
- Exogenous (fuel price, CPI, unemployment, precipitation)
- Parking search time survey
- Double parking and disabled placard survey
- Intercept surveys (professional survey firm)

Transit data

Transit Average Speed Heat Map

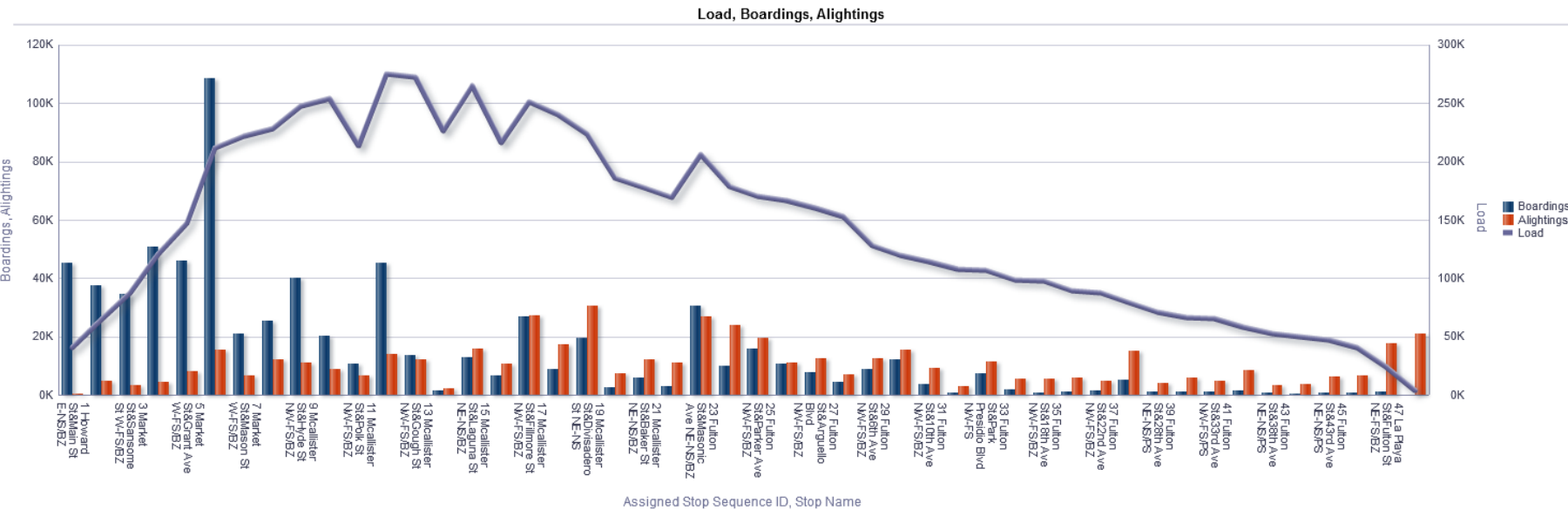
22 Fillmore - Outbound 2013

Assigned Stop Sequence ID		Speed																							
		12AM	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM
1	Fillmore St&Bay St SE-NS/BZ	12.0	13.0	12.8	11.7	11.6	12.9	8.8	9.3	8.6	6.5	5.7	16.0	2.6		8.0	6.2	1.0	10.8	6.0	0.2	8.8	10.9	9.9	11.1
2	Fillmore St&North Point St SE-NS/PS	2.7	1.7	3.1	1.4	2.2	3.0	2.2	3.1	3.2	3.5	3.3	4.8	4.0	5.4	4.2	4.4	4.2	3.7	4.2	2.9	2.5	3.5	3.6	3.1
3	Fillmore St&Beach St SE-NS/BZ	15.1	14.6	14.7	14.3	16.0	14.7	14.9	14.0	14.3	13.5	13.5	13.4	13.9	13.6	14.1	13.7	13.5	12.2	13.4	14.2	14.1	14.3	15.0	14.6
4	Fillmore St&Jefferson St SW-FS/BZ	14.3	14.7	14.4	14.8	16.0	14.2	12.6	14.5	13.1	12.6	12.5	13.0	12.2	11.8	12.7	13.0	12.2	11.1	10.3	13.0	14.4	12.9	14.2	14.5
5	Fillmore St&Beach St NW-NS/BZ	10.1	10.4	10.2	9.5	10.2	9.6	10.1	9.5	9.4	9.2	9.3	8.9	9.1	8.8	8.5	8.6	9.3	8.1	9.5	9.3	9.4	10.0	10.2	10.1
6	Fillmore St&Cervantes Blvd NW-NS	13.4	14.9	13.7	12.7	13.1	13.8	10.9	10.1	9.9	10.4	10.8	10.7	9.7	9.2	9.9	9.6	9.1	9.3	10.2	11.4	12.1	12.5	13.3	13.4
7	Fillmore St&Chestnut St NW-NS/BZ	14.0	16.0	14.1	13.9	13.5	13.0	10.6	9.5	8.6	9.7	10.6	10.5	10.1	9.9	10.7	9.6	9.0	8.7	9.6	11.2	11.8	12.9	14.0	14.9
8	Fillmore St&Lombard St SW-FS/BZ	5.7	5.9	6.3	6.1	6.5	6.6	5.9	4.7	4.2	4.0	3.9	3.5	3.4	3.4	3.4	3.1	3.7	3.6	3.2	3.5	3.7	4.4	4.3	4.6
9	Union St&Fillmore St NW-FS/BZ	6.0	5.9	6.7	8.7	9.1	8.6	7.9	6.8	6.0	5.9	5.9	5.3	5.2	5.1	5.0	4.9	4.9	4.9	5.3	5.4	5.8	6.1	5.9	5.7
10	Steiner St&Union St SW-FS/BZ	6.0	6.9	7.3	7.8	8.9	8.0	7.6	6.4	5.8	5.6	5.3	5.0	4.7	4.4	4.7	4.5	4.8	4.7	4.9	5.0	5.3	5.6	5.9	5.9
11	Steiner St&Green St W-MI/PS	6.8	7.4	7.3	7.3	7.7	7.2	6.8	5.9	5.3	5.3	5.5	5.2	5.0	5.0	5.3	4.7	5.3	5.1	5.3	5.5	5.8	5.7	6.4	6.7
12	Steiner St&Vallejo St W-MI/PS	10.0	10.4	10.6	9.9	10.8	9.7	9.8	8.8	8.9	9.0	9.1	8.8	8.9	8.9	8.8	8.8	9.3	8.5	9.2	9.2	8.7	9.7	9.8	9.7
13	Broadway&Steiner St SE-FS/PS	8.6	9.0	8.9	8.5	9.1	8.4	8.6	8.2	8.0	7.9	8.1	7.8	7.8	7.7	8.0	7.6	7.8	7.7	7.9	8.2	8.1	8.3	8.7	8.5
14	Fillmore St&Broadway SW-FS/BZ	8.7	9.0	9.0	8.9	9.3	8.3	8.6	8.3	7.7	8.2	8.3	8.1	8.0	8.0	8.0	7.5	7.7	7.9	8.0	8.2	8.3	8.3	8.7	8.9
15	Fillmore St&Jackson St SW-FS/BZ	9.3	8.6	9.3	9.4	9.8	9.0	9.1	7.2	6.1	7.3	7.2	6.9	7.2	7.0	6.7	6.2	6.7	6.7	7.0	7.5	8.1	8.1	8.7	8.8
16	Fillmore St&Sacramento St NW-NS/BZ	8.0	7.1	9.2	9.6	9.7	8.2	7.1	7.0	5.9	6.3	5.9	5.3	6.0	5.6	5.7	5.5	5.5	5.9	6.1	6.6	7.1	7.4	6.6	8.2
17	Fillmore St&Pine St SW-FS/BZ	7.5	8.2	8.1	6.4	7.7	7.0	6.9	6.1	5.7	5.4	5.0	4.5	4.3	4.3	4.4	4.3	4.4	4.6	4.6	5.3	5.7	6.1	6.5	6.5
18	Fillmore St&Sutter St SW-FS/BZ	7.5	7.9	8.1	8.7	7.3	8.5	7.5	6.7	6.3	5.8	5.5	4.9	4.7	4.5	4.6	4.4	4.6	4.6	4.5	5.1	5.5	6.0	6.2	6.0
19	Fillmore St&Geary Blvd SW-FS/BZ	6.5	7.2	7.1	7.4	7.3	7.4	6.9	6.1	5.6	5.2	5.1	4.4	4.6	4.4	4.6	4.6	4.5	4.5	4.7	4.9	5.2	5.5	5.9	6.0
20	Fillmore St&O'Farrell St SW-FS/BZ	5.5	7.0	6.1	7.9	7.8	7.7	5.5	5.0	4.4	4.2	4.1	3.7	3.6	3.8	3.7	3.6	3.6	3.6	4.1	4.3	4.3	4.6	4.6	4.8
21	Fillmore St&Eddy St NW-NS/BZ	8.5	9.4	9.9	10.9	10.7	11.2	8.6	7.6	7.1	6.3	6.2	5.5	5.5	5.4	5.5	5.0	5.0	5.3	6.0	6.4	6.5	6.5	7.4	7.6
22	Fillmore St&Turk St SW-FS/BZ	6.6	7.5	8.0	9.6	8.4	8.2	6.2	5.5	5.2	5.1	5.1	4.8	4.6	4.6	4.7	4.7	5.0	4.9	5.2	5.7	5.8	5.7	5.8	6.2
23	Fillmore St&McAllister St SW-FS/PS	7.9	8.9	8.3	9.2	8.1	8.2	7.6	6.2	5.7	5.0	5.1	4.8	4.6	4.4	4.7	4.7	4.9	5.1	5.5	6.3	6.4	7.1	7.1	7.7
24	Fillmore St&Grove St NW-NS/BZ	7.1	8.3	8.4	8.8	8.4	8.1	5.9	5.3	5.0	4.8	4.7	4.5	4.7	4.5	4.7	4.7	4.7	4.8	5.1	5.7	5.6	5.9	5.9	6.3
25	Fillmore St&Hayes St SW-FS/BZ	11.0	11.9	10.8	11.3	10.8	11.0	10.3	7.1	8.1	8.3	8.2	7.8	8.0	7.8	7.9	6.9	6.7	6.8	7.7	8.7	9.1	9.4	9.1	9.9
26	Fillmore St&Oak St SW-FS/BZ	7.2	8.0	7.4	7.8	7.8	7.6	5.9	4.7	4.5	4.5	5.3	5.2	5.1	4.8	4.8	4.3	4.1	4.2	4.5	4.9	5.6	6.0	6.2	6.5
27	Fillmore St&Haight St NW-NS/BZ	7.9	9.5	9.1	9.6	9.6	8.9	6.1	5.1	4.8	5.0	6.7	6.6	6.6	6.2	6.2	6.3	6.2	6.1	6.1	6.5	6.8	7.0	7.6	7.7
28	Hermann St&Fillmore St SE-FS/BZ	7.8	8.8	8.2	8.9	8.4	8.5	7.5	6.6	6.0	6.0	6.0	5.6	5.6	5.7	5.6	5.4	5.5	5.6	5.8	6.3	6.4	6.6	6.6	6.8
29	Church St&Duboce Ave NW-NS/BZ	7.5	7.5	7.3	7.6	7.7	7.1	7.1	6.4	6.2	6.1	6.2	6.0	5.9	5.7	6.0	5.7	5.8	5.7	5.9	6.1	6.4	6.4	6.5	6.8
30	Church St&14th St NW-NS/SB	9.4	9.2	9.6	10.3	9.8	9.9	7.9	6.8	6.1	5.9	6.1	5.5	5.7	5.5	5.7	5.6	5.0	5.6	5.3	6.5	6.8	7.6	7.9	8.7
31	Church St&16th St NW-NS/SI	6.3	6.5	6.4	6.6	6.7	6.2	6.0	5.5	5.4	5.5	5.5	5.2	5.4	5.2	5.2	5.1	5.1	5.2	5.3	5.7	5.5	5.8	5.8	5.8
32	16th St&Dolores St SW-NS/PS	7.9	8.8	8.3	9.2	8.8	8.5	8.6	6.7	6.1	6.6	6.8	6.6	6.2	6.4	6.2	4.5	6.1	6.3	6.5	6.9	7.2	7.3	7.5	7.7
33	16th St&Guerrero St SW-NS/BZ	9.5	9.5	9.6	10.0	9.9	9.4	9.5	8.0	6.3	7.5	8.3	7.8	7.9	7.4	7.4	7.5	7.3	7.6	8.3	8.9	9.0	9.4	8.9	9.2
34	16th St&Valencia St SW-NS/BZ	9.8	9.6	10.7	11.3	10.4	11.0	11.8	9.5	6.4	8.0	8.5	7.8	7.4	7.1	7.7	7.4	6.7	6.5	6.5	7.1	7.8	8.6	8.7	9.0
35	16th St&Mission St SW-NS/BZ	6.6	7.1	7.8	8.8	9.2	7.3	7.1	6.2	5.3	5.5	5.8	5.5	4.9	5.1	5.2	5.1	4.9	4.8	5.1	5.4	5.8	6.2	6.0	6.0
36	16th St&Shotwell St SE-FS/BZ	6.2	6.9	5.3	5.3	4.8	5.2	5.3	4.4	3.9	4.2	4.5	4.0	3.9	3.9	4.1	4.3	4.2	4.3	4.7	5.3	5.4	5.7	5.7	5.7
37	16th St&Harrison St SW-NS/BZ	10.0	8.8	11.0	12.6	11.5	9.7	8.2	6.7	7.5	6.9	7.1	7.1	6.5	6.7	6.2	6.1	6.8	7.0	7.8	8.5	8.8	7.3	9.6	7.6
38	16th St&Bryant St SE-FS/BZ	6.9	8.8	10.7	12.5	12.0	10.5	8.3	7.4	8.1	6.8	7.6	6.5	6.5	7.2	6.8	6.0	7.4	8.2	8.7	8.2	7.8	6.2	7.6	6.8
39	16th St&Potrero Ave SW-NS/BZ	9.6	9.9	9.7	10.6	9.3	9.0	7.3	6.3	6.5	5.7	5.0	4.7	4.1	3.9	4.1	4.5	3.6	5.9	6.5	7.4	7.9	8.5	8.3	9.5
40	16th St&San Bruno Ave SE-FS/BZ	7.4	7.9	7.2	7.4	5.5	3.9	5.2	5.8	4.8	4.7	5.6	5.5	5.2	5.0	5.3	5.1	5.1	5.2	5.7	6.4	6.7	5.5	5.3	7.2

Transit ridership data

Boardings and Alightings by Stop

Derived Schedule Name 5 Fulton - Outbound Derived Schedule Year 2013



Enforcement data

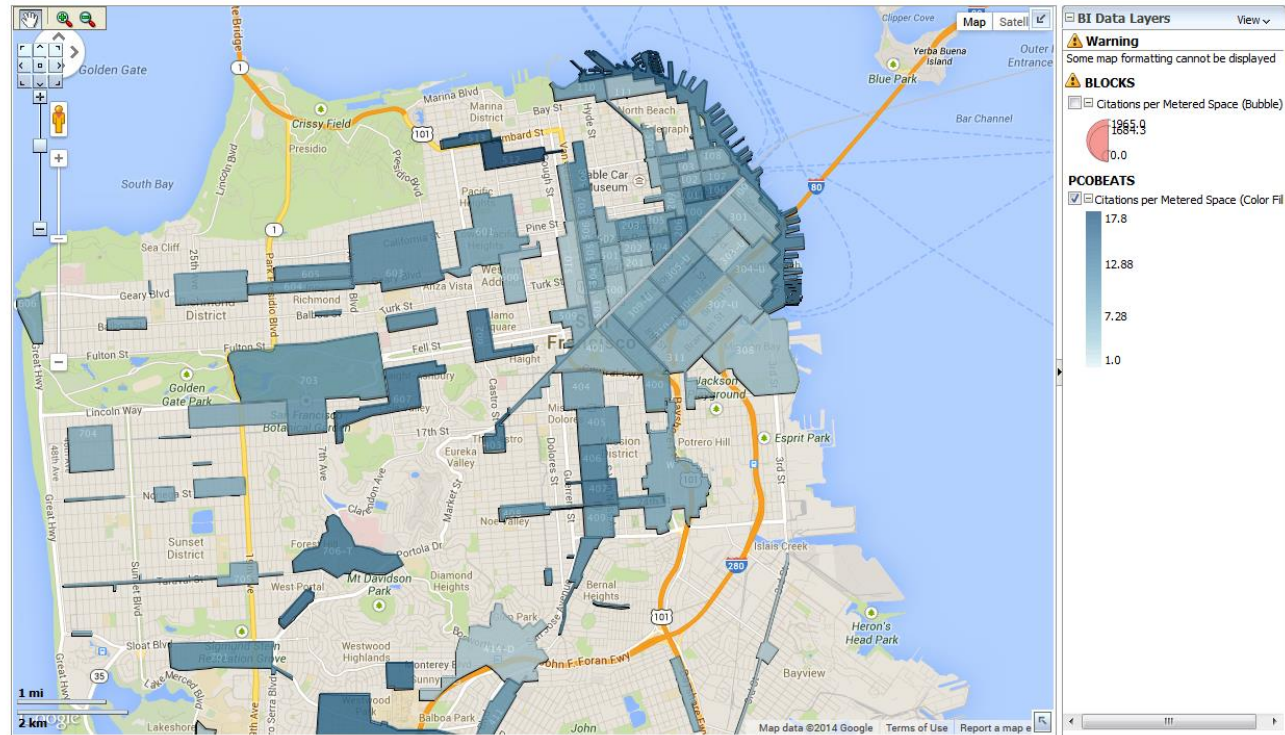
Citations per Metered Space

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Violation Code: --Select Value--
Apply Reset

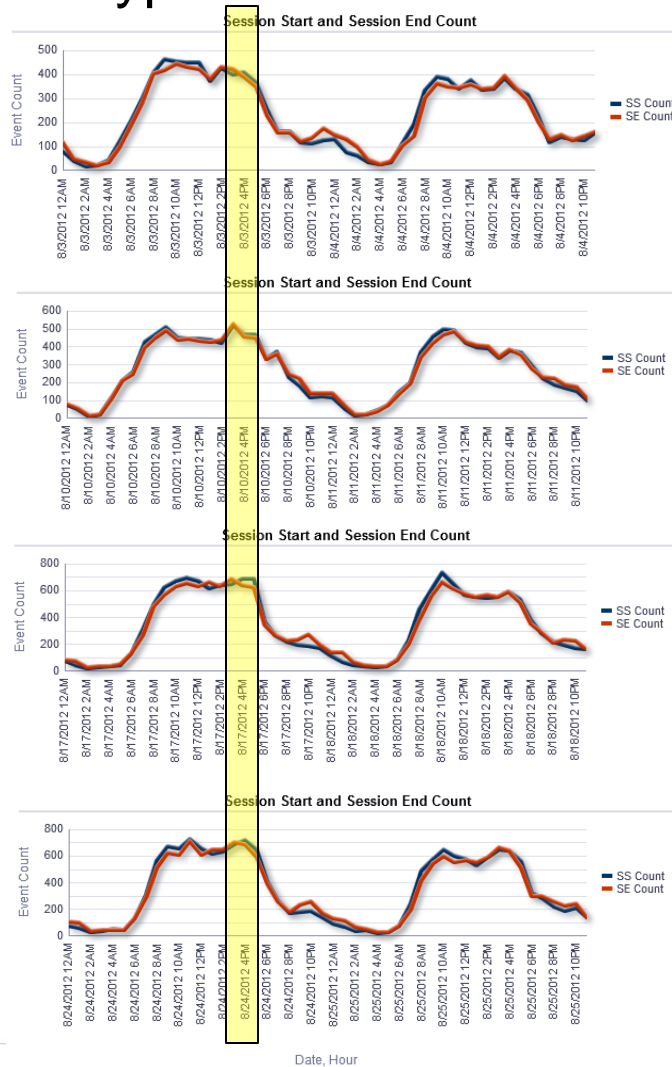
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and Calendar Year is equal to 2013
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and Month Name is equal to January, February, March, April, May, June

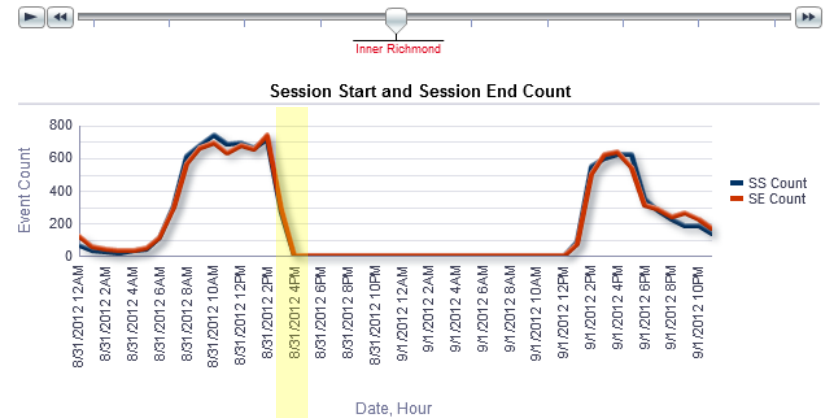


Real-time alerts

Typical behavior



Atypical



Lessons learned

- What worked well
 - Iterative development
 - Transparent, rules-based, and data-driven process
 - Clear metrics associated with policy goals
 - Large investment in map-based user experience
- What was challenging
 - IT investment larger than the agency originally estimated
 - Introducing new technology and new business rules simultaneously is challenging
 - BPE involves culture change

Thank you

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