

SFMTA - TASC SUMMARY SHEET

PreStaff_Date: 2/2/2021 Requested_by: SFMTA Handled: Edgar Orozco <i>Edgar Orozco</i> Section Head : Cheryl Liu <i>BT</i> for CL	<input type="checkbox"/> Public Hearing Consent <input checked="" type="checkbox"/> Public Hearing Regular <input type="checkbox"/> Informational / Other <small>PH - Regular</small>	No objections: _____ Item Held: _____ Other: _____
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Location: Kearny Street and Sutter Street

Subject: Left Lane Must Turn Left, Rescind Peak TOW AWAY Lane

PROPOSAL / REQUEST:

RESCIND - TOW AWAY NO STOPPING 7AM-9AM and 3PM-7PM
 Kearny Street, west side, from Geary Street to Sutter Street

ESTABLISH - LEFT LANE MUST TURN LEFT
 Kearny Street, northbound, at Sutter Street

ESTABLISH - RED ZONE
 Sutter Street, south side, from Kearny Street to 28 feet westerly (extends existing red zone by 10 feet)

(Supervisor District 3)

This proposal eliminates the peak TOW AWAY lane and removes the dual left turn onto Sutter Street from northbound Kearny Street. This measure addresses both pedestrian and transit safety.

BACKGROUND INFORMATION / COMMENTS

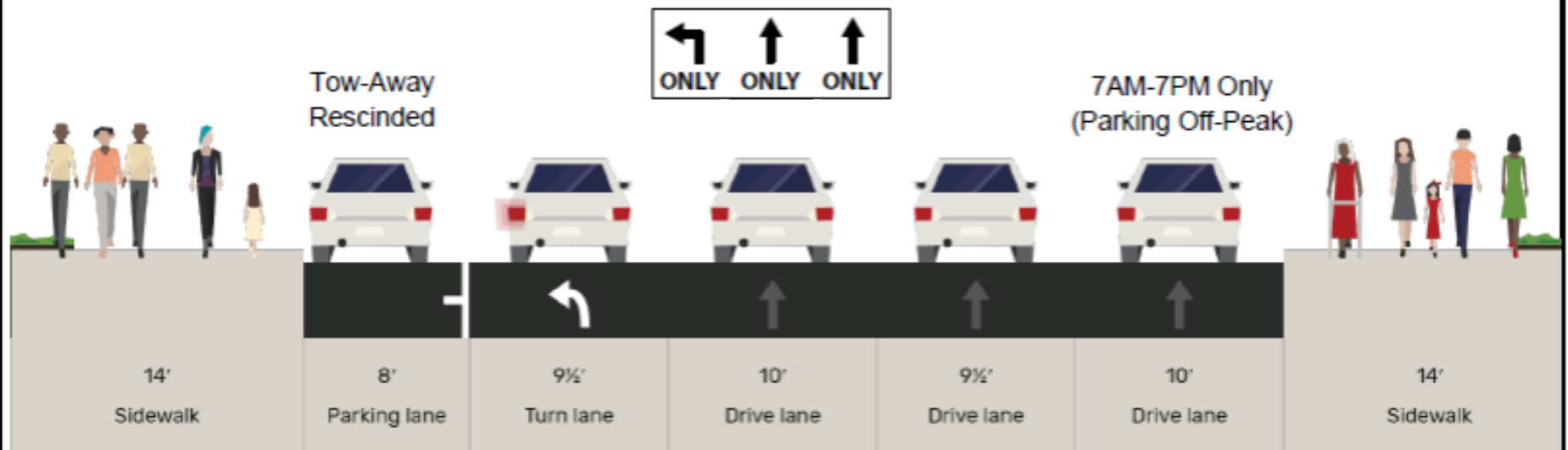
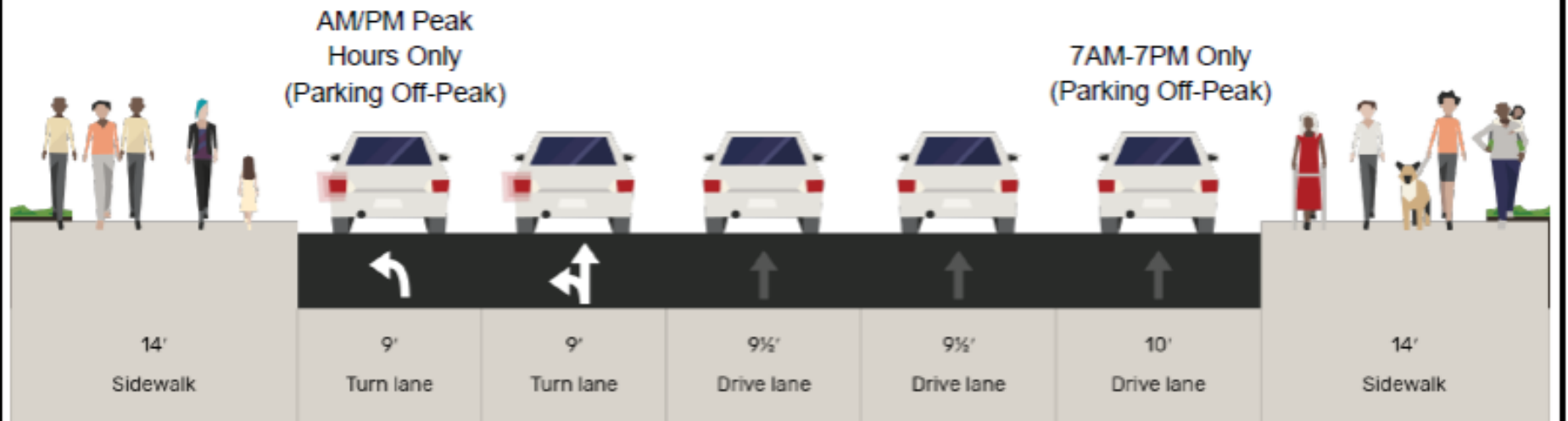
- *Muni routes 8 Bayshore (8 min. frequency), 45 Union (11 min. frequency), and 30 Stockton (11 min. frequency) make left turn from Kearny northbound onto Sutter.
- *Between 10/2014-10/2019, there were twelve collisions (seven involving transit and three involving peds) whose cause was associated with dual left turns
- *12/10/2019 traffic counts show there is an average of seven turns per signal cycle during the PM peak hour for Kearny northbound onto Sutter
- *Synchro model shows no delay for left turning vehicles and a 1.5 second delay for through vehicles
- *The signal timing will be adjusted to allow left-turners to turn more frequently without pedestrian conflict

HEARING NOTIFICATION AND PROCESSING NOTES:

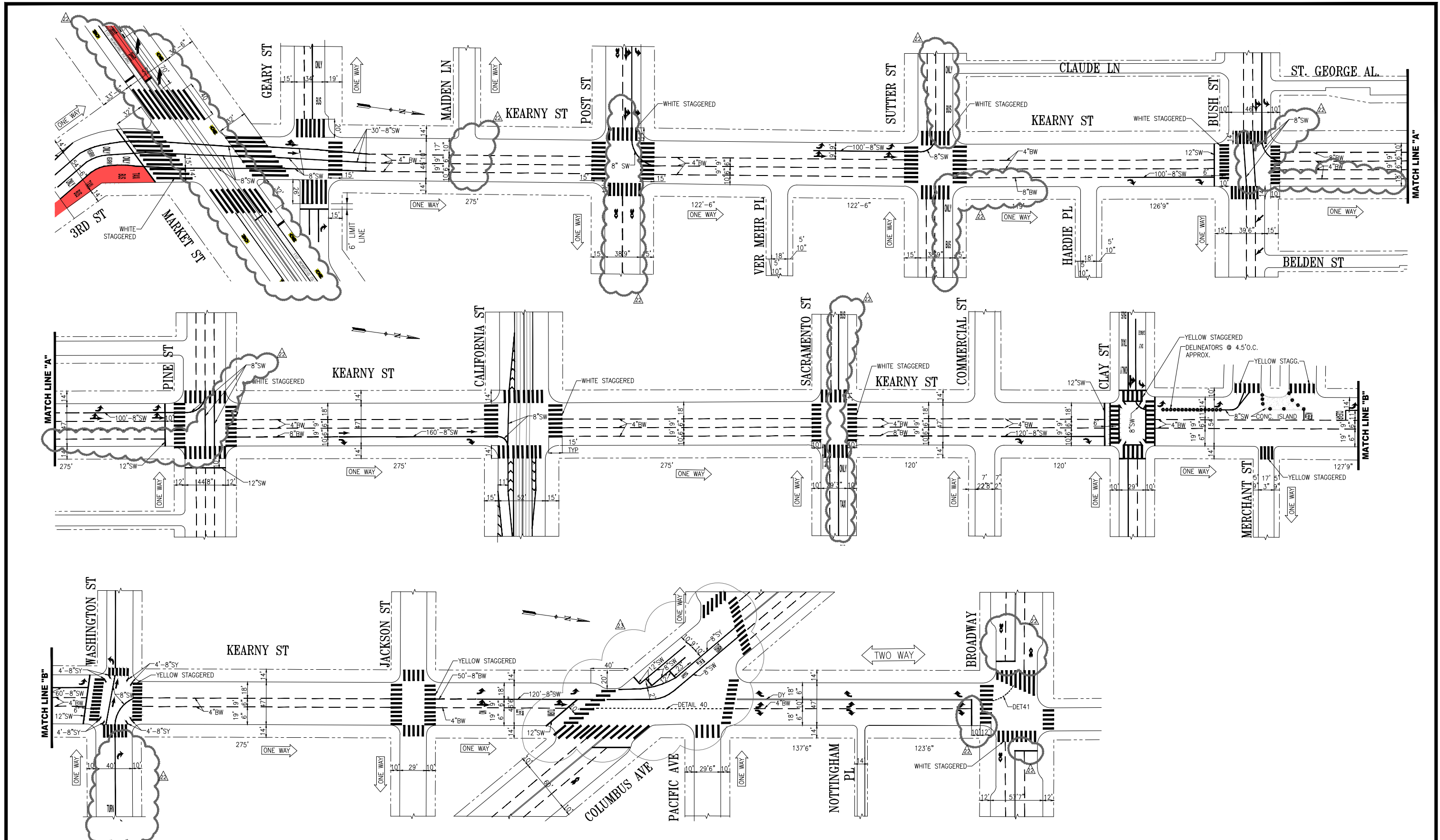
ENVIRONMENTAL CLEARANCE BY:

SFMTA Attached Pending

Kearny at Sutter Looking North – Existing (Above); Proposed (Below)



Existing Striping



NO.	DATE	DESCRIPTION	BY	APP
Δ 7/14/20		ADDED 4'-8"SY BARS FOR DIAGONAL SCRAMBLE XING @ WASHINGTON	E.OROZZO	B.TANNER
Δ MM/DD/YY		ADDED BULBOUTS, ADVANCE LIMIT LINE, AND STAGGERED CONITS AT COLUMBUS	S. LAM	D. VALLE-SCHWENK
Δ xx/xx/xx		ADD ADV. LIMIT LINES & SHARROWS @ BROADWAY. PER FIELD UPDATES; GREEN BACK SHARROWS, 24" ADV. LIMIT LINE @ MARKET; BUS-ONLY @ GEARY; 4"BW @ MAIDEN LN.; ARROW & SHARROW, 8"BW ON POST; BUS-ONLY, 8"SW & 8"BW @ SUTTER; 8"SW @ BUSH; 4"BW FROM BUSH TO PINE; 8"SW @ PINE; BUS-TAXI-ONLY ON SACRAMENTO; 8"SW & RIGHT TURN ARROWS ON WASHINGTON	N.CARR	D.CURTIS

TABLE OF REVISIONS				
NO.	DATE	DESCRIPTION	BY	APP

CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION



APPROVED	SCALE:
THOMAS P FOLKS 1/31/12	1" = 50'
SENIOR ENGINEER	SHEET/SHEETS:
DATE:	1 OF 1
DATE:	

DRAWN:	DATE:
T.ABDALLAH	01/12/12
CHECKED:	DATE:
B.WOO	01/12/12

TRAFFIC STRIPING	
KEARNY STREET MARKET STREET TO BROADWAY STREET	
CONTRACT NO.	
DRAWING NO.	STR-7928
FILE NO.	
REV. NO.	24

EXTERNAL REFERENCES: XREFS
 FONTS USED: FONTS
 SCALE FACTOR: XX
 PLOT SCALE: 1=1
 ORIGIN: SECTION
 FILE NAME: B06-STD2.DWG
 DATE: --/--/--

Kearny and Sutter

DESCRIPTION: NOMA/SOMA Retiming Project. New master, cycle length, splits, transitions, and offsets. Add LPIs xing Kearny and ws=3.0. Update operation times. Update TSP settings.

CHANGE: 21
 CNN #: 24720000
 ENGINEER: C. Skerrit / E. Tang
 Revision date: 6/20/2019
 Programmed by: *PH*
 Installed by: *PH BM*
 Date Completed: *1455 9/28/19*

NOTES: Page 1 of 7

PHASE	STREET	EmerFlash	ProgFlash	Controller:
6	Sutter WB	R	--	2070
8	Kearny NB	R	--	Cabinet: G
				Oper. Date: February 1954
				System: NoMa
				Master: TBC-GPS to Bush/Hyde
				Cascade: n/a

Actuation Transit Priority Preemption

Steady Demand Sequence

X = YES	-- = NO	S	M	T	W	T	F	S	CYCLE	SPLIT	OFFSET	FLASH
6:00	to 14:00	--	X	X	X	X	X	--	2	1	2	--
14:00	to 22:00	--	X	X	X	X	X	--	3	1	3	--
ALL OTHER TIMES		X	X	X	X	X	X	X	1	1	1	--

STREET	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sutter WB	6	R	G	Y	R											
Kearny NB	8	R						G			Y	R				
Peds Xing Kearny SS	2P		FRH	RH												
Peds Xing Sutter WS	4P	RH					FRH	RH								
Peds Xing Kearny NS	6P		FRH	RH												
Peds Xing Sutter ES	8P	RH					FRH	RH								

Proposal: shift ~7 seconds from interval seven to ten to minimize left turn delay

ws3.0

CSO	CYCLE (seconds)	OFFSET (seconds)	SIGNAL INTERVALS (seconds)														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
111	75.0	3	4.0	12.5	12.0	4.0	1.5	4.0	10.5	12.0	2.0	7.0	4.0	1.5			
212	75.0	23	4.0	7.5	12.0	4.0	1.5	4.0	15.5	12.0	2.0	7.0	4.0	1.5			
313	75.0	14	4.0	6.5	12.0	4.0	1.5	4.0	16.5	12.0	2.0	7.0	4.0	1.5			

Kearny and Sutter

CHANGE

21

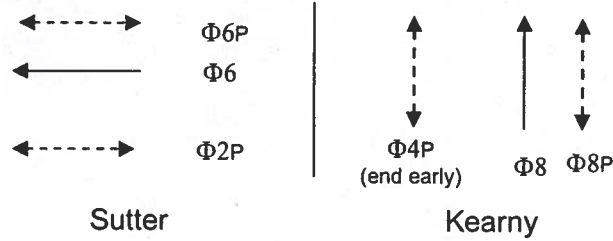
PAGE 2: BASE TIMING, ACTUATION, COORDINATION SETTINGS

Kearny and Sutter

Change

Kearny and Sutter

PHASE DIAGRAM



Are there conflicting protected left turn phases? n/a

BASE TIMINGS:

Phase	1	2P	3	4P	5	6	7	8
Movement		SSP		WSP		WB		NB
Absolute Min Green (whole #)		--		--		8		10
Early Walk		4		4		4		4
Yellow		4.0		4.0		4.0		4.0
Red Clearance		1.5		1.5		1.5		1.5
Absolute Min Walk (whole #)		7		7		7		7
FRH (whole #)		12		14		12		9

ACTUATION: ** if Actuation setting vary by plan, use special comments.

Phase	1	2P	3	4P	5	6	7	8
Vehicle Detection Type		--		--		NONE		NONE
Ped Detection Type		NONE		NONE		NONE		NONE
Vehicle Recall (Max, Min, Soft or None)		--		--		MAX		MAX
Absolute Min Green (same as above)		--		--		8		10
Vehicle Extension (seconds)		--		--		--		--
Max Green (only used for FREE)		--		--		25		32
Pedestrian Recall (Yes or No)		YES		YES		YES		YES
Ped Recycle (Yes or No)		YES		YES		YES		YES
"WALK EXPAND" (Yes or No)		YES		YES		YES		YES

COORDINATION (phase splits = Max G + Y + R Clearance)

Phase	1-4 Cycle length									Offset (from page 1)
		1	2P	3	4P	5	6	7	8	
Dial 1 Splits	75		34		41		34		41	3
Min Transition	69		31		38		31		38	
Max Transition	101		47		54		47		54	
Dial 2 Splits	75		29		46		29		46	23
Min Transition	69		26		43		26		43	
Max Transition	101		42		59		42		59	
Dial 3 Splits	75		28		47		28		47	14
Min Transition	69		25		44		25		44	
Max Transition	101		41		60		41		60	
Coordinated Phases			X				X			

Special Comments

startup all-red = 6 seconds
 Solid Don't Walk for Phase 4P = 7 seconds

Transit Collisions (1/2)

(highlighted collisions are associated with existing lane configuration)

ARB Charge	At Street	Collision Type	Mode Updated	Collision With	IE_DESC	Time	Intersection	Line	Direction	Date	MTA Vehicle Action	MTA Vehicle Action	On Street	Safety Analysis	
1	Unavoidable	Sutter St	Left Sideswipe	Trolley Coach	Truck	While I was stopped at a red light a truck pulled on the left side and j-hit the mirror, one was injured and no police . Central was called and waiting for inspector	8:40 AM	Kearny St & Sutter St	30 Stockton	inbound	9/28/2016	Going Straight	Going Straight	Kearny St	NON-PREVENTABLE: Alfonso Beasley #4686 (K.W.)- On-board video shows the transit bus traveling N/B on Kearny Street towards Sutter. A large white delivery truck traveling N/B in lane #1 of 4 lanes attempted to drive between a large truck parked on the west curb and the bus in lane #2. The truck veered to his right to pass the parked truck, causing the right mirror of the truck to make contact with the left side bus mirror. No injuries were reported. Both drivers exchanged information at the scene and drove away on their own power. The truck driver caused this collision by MISJUDGING HIS RIGHT SIDE CLEARANCE.
2	Avoidable	Kearny St	Front	Trolley Coach	Auto/Van	I wa about to make a right turn , car infront of me suddenly stopped and I stopped but my bicycle rack was in use and just hit ot a little bit in his bumper	9:13 AM	Kearny St & Sutter St	30 Stockton	nearside	6/16/2015	Turning Left	Turning Left	Sutter St	(PREVENTABLE). On-board camera shows the coach passed unsafely while the automobile was stopped. In allowing the collision to occur, the operator violated the following sections of the California Vehicle Code:CVC 21070 (unsafe operation). Furthermore, he violated the following section of the SFMTA Rule Book: 2.9.4 (operators must be alert for hazards). Under the National Safety Council Guide, he failed to maintain a safe following distance at all times(Page 13). The fact that his behavior violated the CVC as well as SFMTA rules indicates, by definition, that this collision was preventable.
3	Avoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	Driving on Kearny Northbound on approach to Sutter St. Preparing to make a left turn . I proceeded to take part of the far left lane to block off (squeeze play) and as I encroached on the intersection checking my right side for vehicles trying to go around my coach to make the same left .That's when I heard and felt contact on my left side . Noticed a vehicle made contact with my coach.	9:40 AM	Kearny St & Sutter St	30 Stockton	outbound/nearside	9/21/2017	Turning Left	Turning Left	Kearny St	
4	Unavoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	At approximately 9:55am heading outbound on making a left turn on Kearny to Sutter both lanes number one and two ? car try to squeeze play made contact with the bus and left the scene. Hit a run. I call TMC inspector came to interview and then put me back in service.	9:55 AM	Kearny St & Sutter St	30 Stockton	outbound near side	12/8/2018	Turning Left	Turning Left	Kearny St	
5	Unavoidable	Kearny St	Right Sideswipe	Trolley Coach	Auto/Van	I was driving on lane#3 slowly on Sutter St and Kearny St outbound, in the bus lane . A construction truck with a big root rack made contact to my left side mirror . Then I informed to the truck driver at the same time . I called TMC and waited for an inspector. No one was injured	9:45 AM	Kearny St & Sutter St	45 Union-Stockton	outbound/nearside	10/4/2018	Going Straight	Going Straight	Sutter St	
6	Avoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	While preparing to turn left onto Sutter, an Uber driver got very close to the left side of my bus , after making the turn the driver pulled into the bus zone came to the door of my bus and accused me of hitting his car . He left the scene before I could get TMC . He was driving a white Honda	10:06 AM	Kearny St & Sutter St	30 Stockton	outbound/nearside	9/2/2017	Going Straight	Going Straight	Kearny St	
7	Unavoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	As I merged to make left turn onto Sutter from Kearny car on left rear side moved from behind parked car at which time contact was made between her R/F fender and L/R wheel well of coach	1:06 PM	Kearny St & Sutter St	45 Union-Stockton	outbound	4/1/2016	Turning Left	Turning Left	Kearny St	NON-PREVENTABLE: Monika Woodward #3409 (K.W.)- No video, collision diagram, or witness statements or photographs were available for review. This determination was based on the operator and Street Supervisor's report, collision damage diagram, and my accident investigation experience. It suggest that the driver of an automobile made and unsafe lane change causing the right front bumper to make contact with the left rear wheel-well of the automobile. No injuries were reported.
8	Avoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	I was stoped at an angle on Kearny and Sutter with heavy traffic I heard sirens and fell an impact with I looked it left mirror I saw a car that had made contact with my coach. Central notified. See inspector report.	4:10 PM	Kearny St & Sutter St	30 Stockton	outbound	1/9/2017	Standing/Stopped	Standing/Stopped	Kearny St	
9	Avoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	Made left hand turn from Kearny to Sutter when clear to make U-turn heard a noise there was a car that did squeeze ? to the left side and made contact with bus.	5:50 PM	Kearny St & Sutter St	30 Stockton	outbound	6/3/2016	Going Straight	Going Straight	Kearny St	FY16-07286 DETERMINATION: PREVENTABLE - Coach vs. Auto (Lane encroachment). RUN 396/30/5485, Location: OB Kearny & Sutter, Operator: Thomas Johnson, ID: 5186, TSS: Paul Lee, Date: 6/3/16, Time: 6:00 p.m., Damage: Minor to coach body left side, lower middle access panels; minor body damage to right front fender of Party 2 - automobile, Injury: None reported. PRIMARY CAUSE: Human error. Operator initiated this squeeze play, resulted in an accident. Operator Johnson traveling in Lane #2, encroached, over the solid white line, and into the lane that Party 2 - automobile was traveling in (Lane #1), making contact. Operator Johnson also failed to noticed the presence of an automobile that was already in Lane #1 prior to the start of his left turn. CONTRIBUTORY CAUSE: 1) The Line Trainer Lucia Roan, ID 2357, was in position and should have instructed the trainee to be aware of the potential hazards for that location and how trainees could have mitigated it. 2) If Party 2 - driver of automobile was paying attention, he could have stop behind the coach and allow the coach complete the turn first. My determination was based on the operator's report, the supervisor's report and the Onboard Video. In the operator's report, Operator Johnson stated that before he began to make a left turn, he noticed that it was clear to do so. After he began his left turn, he heard a noise. He looked to his left and saw an automobile "squeezed play" in to the left side of his coach and made contact. In the supervisor's report, Party 2 - driver of automobile stated to Transit Supervisor Sonny Lee that he's not sure how this happened, but he thinks the coach leaned over and hit to his automobile. Operator Johnson stated to the supervisor that this is one of those locations / turns where he had to take up both lanes, which he did not. However, Operator Johnson did say that he did not see Party 2 - automobile until he after he heard some noise towards the back of his coach. As seen in the video, Operator Johnson was traveling in Lane #2, and Party 2 - automobile was traveling in Lane #1 (left most lane). Both vehicles were already side by side next to each other. What the video first showed was the operator did not properly set up his coach for the left turn. He did not take up both lanes as stated. The operator failed to scan his mirror for hazard and / or other vehicles in the other lane. Had the operator properly taken up both lanes, other vehicles would not have had the opportunity to do any squeeze play. Had Operator Johnson looked, he would have seen Party 2 was already there next to him and hopefully, he would not have encroached over the solid white line separating the lanes. Operator Johnson should have noticed the presence of Party 2 -automobile prior to turning left. Violation of SFMTA Rules and Instructions: 2.13.1 A. INATTENTION TO DUTIES. 4.22.2 Operators must be prepared to stop short of any person, object, or obstruction, within range of their vision. 2.9.4 Operators must be alert for hazards or obstructions and must take necessary action to avoid them, regardless of mode of operation. 2.21.16 Employees must protect their own personal safety, the safety of others, and the safety of equipment and property. 2.14.1 Employees must comply with the laws, ordinances, and regulations of the state of California and the City and County of San Francisco. A Guide to Determining Motor Vehicle Accident Preventability - National Safety Council: Collisions Involving Lane Encroachment - The Professional Driver must avoid squeeze plays causing crashes with cars, pillars, and other road structures. They can prevent such crashes by dropping back when another driver forces the issue or contests a common portion or the road. A blind spot is never a valid excuse for lane-encroachment crashes.
10	Unavoidable	Sutter St	Angle	Trolley Coach	Truck	At about 3:37pm on Monday July 17, 2017, Run 55, on coach 5639, on the 45 line going outbound on Kearny in between post and Sutter I was stopped in traffic behind a 30 line coach putting his poles back up. While at a stopped position on lane #3 of a left turning lane a Sysco delivery truck came up on my right side on the other lane and snagged my retriever rope and bent my right pole and broke the rope. The truck did not stop and kept going straight via Kearny. Operator called TMC. Inspector arrived operator interviewed.	5:37 PM	Kearny St & Sutter St	45 Union-Stockton	outbound near side	7/17/2017	Standing/Stopped	Standing/Stopped	Kearny St	
11	Unavoidable	Sutter St	Right Sideswipe	Trolley Coach	Auto/Van	I was turning left at Kearnt & Sutter going OB waiting for Pedestrian to clear a car hit the rear door of my coach . Please see inspector 1C51B report	5:15 PM	Kearny St & Sutter St	30 Stockton	outbound/nearside	2/3/2016	Turning Left	Turning Left	Kearny St	NON-PREVENTABLE: Alejandro Porcuna #2385 (K.W.) On-board video shows the transit bus stopped/standing preparing to make a left turn from Lane #3 of 3 lanes on Kearny onto Sutter St. A gray automobile can be seen traveling N/B on Kearny in Lane #2 of 3 lanes trying to squeeze between lanes #2 and #3. The left front of the automobile makes contact with the rear doors of the transit bus right rear side. No injuries were reported. The automobile caused this accident to occur by making an unsafe lane change.

Transit Collisions (2/2)

12	Unavoidable	Kearny St	Left Sideswipe	Trolley Coach	Auto/Van	Merging lanes to make a left onto Sutter from Kearny a white vehicle was approaching on the left. I came to a complete stop and the vehicle continued to move forward Squeezing itself through the left lane making contact with the coach. The vehicle proceeded straight and I made the left onto Sutter. TMC notified Hit and Run.	6:30 PM	Kearny St & Sutter St	30 Stockton	outbound/midblock	6/28/2018	Going Straight	Going Straight	Sutter St
13	Avoidable	Sutter St	Left Sideswipe	Trolley Coach	Truck	As I was approaching Sutter St I was merging into my left lane when I crossed Post St, my left turn signal was on. P assed the fedex truck on my left side and covering my brakes while merging safely when the fedex truck tried to squeeze in to my lane. I slowed down and stopped when I seen he was close then the fedex truck right mirror made contact with the coach. My lane trainer Ms. Annie Washington told me not to move and secure the coach. She then called TMC and report what happened everyone on board was ok and the fedex driver was ok. The inspector came and instructed us to move the coach to a safe location.	12:07 PM	Kearny St & Sutter St	30 Stockton	outbound	11/7/2018	Going Straight	Going Straight	Kearny St
14	Avoidable	Sutter St	Left Sideswipe	Trolley Coach	Auto/Van	Making wide left turn on Sutter st OB look to my left side a black Chrysler (7UAT166) ? to pass me from the left (no room) I am in the middle my left run (his right bumper got hookt on my right rim tire he try to move back and forward. I did not move at all I called TMC. PD unit 3A15E. Inspector arrive and investigate. No damage in my coach expt som dust from his bumper.	10:59 PM	Kearny St & Sutter St	30 Stockton	outbound	6/18/2018	Going Straight	Going Straight	Kearny St

TransBASE Internal Dashboard

Geographic Extent: 24720000: SUTTER ST at KEARNY ST

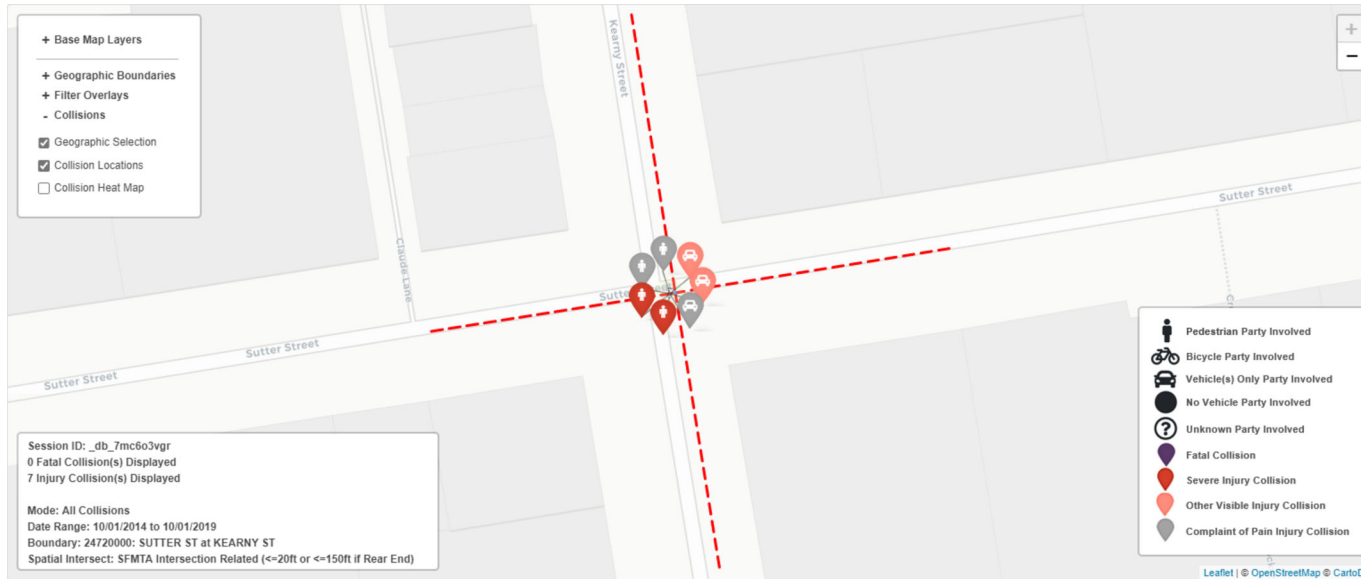
Spatial Intersect: SFMTA Intersection Related (<=20ft or <=150ft if Rear End)

Data Range: 10/01/2014 to 10/01/2019

Pull Date: 1/27/2021

Non-Transit Collisions (1/2)

Geographic Extent



TransBASE Internal Dashboard

Geographic Extent: 24720000: SUTTER ST at KEARNY ST
 Spatial Intersect: SFMTA Intersection Related (<=20ft or <=150ft if Rear End)
 Data Range: 10/01/2014 to 10/01/2019
 Pull Date: 1/27/2021

Collision/Party/Victim Table Showing 1 to 7 of 7 entries

Non-Transit Collisions (2/2)
 (highlighted collisions are associated with existing lane configuration)

Count of Fatal Collisions: 0
 Count of Non-Fatal Injury Collisions: 7
 Total Count of Fatal/Non-Fatal Injury Collisions: 7

Case ID	Collision Date	Collision Time	Day of Week	Primary Road	Secondary Road	Distance	Direction	Party 1 Type	Party 1 Direction of Travel	Party 1 Movement Preceding Crash	Party 2 Type	Party 2 Direction of Travel	Party 2 Movement Preceding Crash	Vehicle Code Violation	Highest Degree of Injury	Type of Collision	Motor Vehicle Involved With	Weather	Lighting
180194048	03/14/2018	12:19	Wednesday	KEARNY ST	SUTTER ST	0	Not Stated	Driver	North	Proceeding Straight	Driver	West	Making Left Turn	CVC 22107	Injury (Other Visible)	Sideswipe	Other Motor Vehicle	Clear	Daylight
170409982	05/18/2017	22:40	Thursday	SUTTER ST	KEARNY ST	0	Not Stated	Driver	North	Proceeding Straight	Driver	West	Proceeding Straight	CVC 21453(a)	Injury (Complaint of Pain)	Broadside	Motor Vehicle on Other Roadway	Clear	Dark - Street Lights
170108736	02/07/2017	22:30	Tuesday	KEARNY ST	SUTTER ST	0	Not Stated	Driver	Not Stated	Making Left Turn	Pedestrian	South	Proceeding Straight	CVC 21950(a)	Injury (Severe)	Vehicle/ Pedestrian	Pedestrian	Raining	Dark - Street Lights
170088332	02/01/2017	06:14	Wednesday	KEARNY ST	SUTTER ST	0	Not Stated	Driver	North	Making Right Turn	Pedestrian	East	Proceeding Straight	CVC 21950(a)	Injury (Severe)	Vehicle/ Pedestrian	Pedestrian	Clear	Dark - Street Lights
160694820	08/27/2016	14:45	Saturday	SUTTER ST	KEARNY ST	0	Not Stated	Driver	West	Making Left Turn	Pedestrian	Not Stated	Other	CVC Unknown	Injury (Complaint of Pain)	Vehicle/ Pedestrian	Pedestrian	Clear	Daylight
151088923	12/17/2015	16:56	Thursday	SUTTER ST	KEARNY ST	16	West	Pedestrian	South	Proceeding Straight	Driver	West	Making Left Turn	CVC 21456(b)	Injury (Complaint of Pain)	Vehicle/ Pedestrian	Pedestrian	Clear	Dark - Street Lights
150910335	10/18/2015	02:04	Sunday	SUTTER ST	KEARNY ST	0	Not Stated	Driver	North	Proceeding Straight	Driver	East	Proceeding Straight	CVC 22350	Injury (Other Visible)	Broadside	Other Motor Vehicle	Clear	Dark - Street Lights

Kearny and Sutter LT Observations

Observer Edgar Orozco, Colin Laurence
 Date 12/10/2019
 Time 8-9a
 Weather Slight Overcast

AM

Cycle	Observer #1		Observer #2	
	# LTs from #1 lane	# LTs from #2 lane	#LTs during ped phase	#LTs queued in #1 lane
1	3	6	2	0
2	2	5	3	1
3	3	4	2	2
4	3	3	5	0
5	1	1	2	0
6	5	3	6	0
7	2	3	5	0
8	5	2	4	0
9	5	3	4	0
10	3	2	3	0
11	1	3	2	1
12	2	2	0	1
13	4	8	8	0
14	3	4	4	0
15	3	6	4	0
16	4	3	3	0
17	4	1	3	0
18	4	6	8	0
19	3	3	3	2
20	4	6	3	0
21	5	4	3	0
22	3	5	5	0
23	5	3	4	0
24	4	3	1	0
25	4	3	0	0
26	5	3	5	0
27	6	6	4	1
28	6	2	2	0
29	4	2	3	0
30	2	2	3	0
31	2	4	3	1
32	3	2	1	1
33	6	4	2	2
34	3	3	6	1
35	2	3	2	0
36	6	7	6	0
37	4	6	3	0
38	3	4	3	1
39	2	6	4	0
40	4	4	2	0
41	3	6	2	1
42	1	3	2	0
43	2	5	2	2
44	1	6	4	1
45	2	5	2	0
46	4	4	2	1
47	5	1	6	2
48	4	2	3	2
Mean	3.4	3.8	3.3	0.5
1 Hour Total	165	182	159	N/A
Grand Total	347			

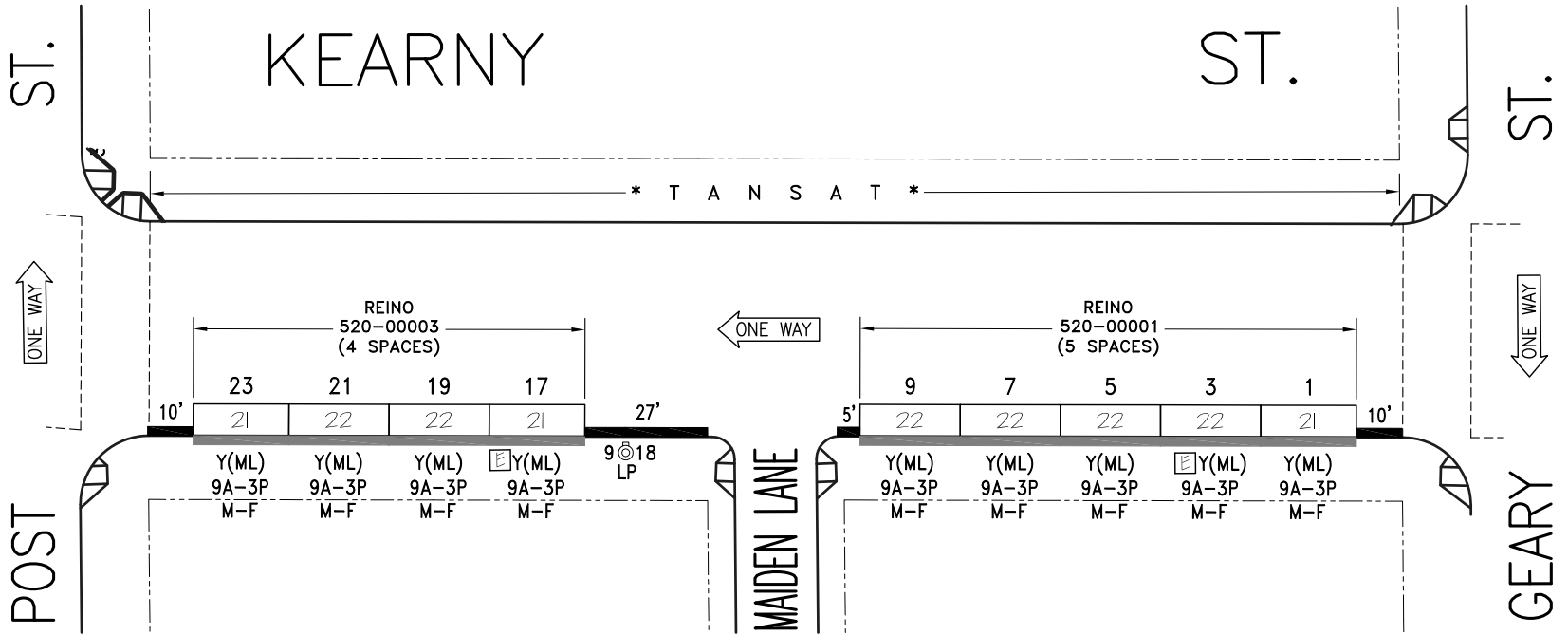
Kearny and Sutter LT Observations

Observer Edgar Orozco, Colin Laurence
 Date 12/4/2019
 Time 5-6p
 Weather Overcast, Dusk

PM

Cycle	Observer #1		Observer #2	
	# LTs from #1 lane	# LTs from #2 lane	#LTs during	#LTs queued in #1 lane
1	4	1	0	0
2	5	1	3	1
3	2	2	2	0
4	1	4	4	0
5	4	2	1	1
6	1	5	2	2
7	3	3	1	0
8	5	2	5	0
9	0	5	0	1
10	4	3	3	0
11	2	3	2	0
12	0	2	1	1
13	0	4	4	0
14	5	2	1	1
15	2	4	4	0
16	3	3	2	2
17	3	2	3	1
18	4	5	4	1
19	3	3	3	0
20	5	5	1	0
21	3	5	2	2
22	3	4	4	0
23	3	5	2	0
24	5	0	4	1
25	4	6	1	0
26	6	4	3	1
27	3	2	6	0
28	4	4	1	0
29	4	4	0	1
30	2	4	1	2
31	4	3	6	1
32	3	4	1	1
33	6	5	2	1
34	4	4	3	2
35	6	5	3	4
36	1	4	4	1
37	4	2	1	1
38	4	4	5	1
39	2	3	2	1
40	6	3	2	3
41	1	3	3	1
42	2	4	3	4
43	6	5	3	2
44	5	4	3	1
45	4	4	6	1
46	5	3	5	1
47	4	5	5	1
48	7	5	2	0
Mean	3.5	3.5	2.7	0.9
1 hr Total	167	169	129	N/A
Grand Total	336			

Existing Meter Drawing



NO.	REVISION DESCRIPTION	BY	DATE	DIR/RES													
1	Per field- converted to CAD.dwg	JB	11/20/12														
2	Per Field:Change (9) MS-Reino.#1,3	JB	2/21/15														

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
CITY AND COUNTY OF SAN FRANCISCO
 PARKING METER SPACES

SIDE	TOW-AWAY		METER CT.		GENERAL				LOADING			METERED SPACES						TOTAL
	AM	PM	SS	MS	GMP	MC	TIMES	DAYS	ML	MTL	6-W	15 MIN	30 MIN	1 HR	2 HR	10 HR		
ODD	7A-9A	3P-7P		2			7A-6P	M-SA	9					9			9	
EVEN	*	*																

KEARNY ST. (KEA, 520)
(UNIT) BLOCK
 Meters # 520-00XXY

GEARY ST. TO POST ST.

SCALE: 1"=40'

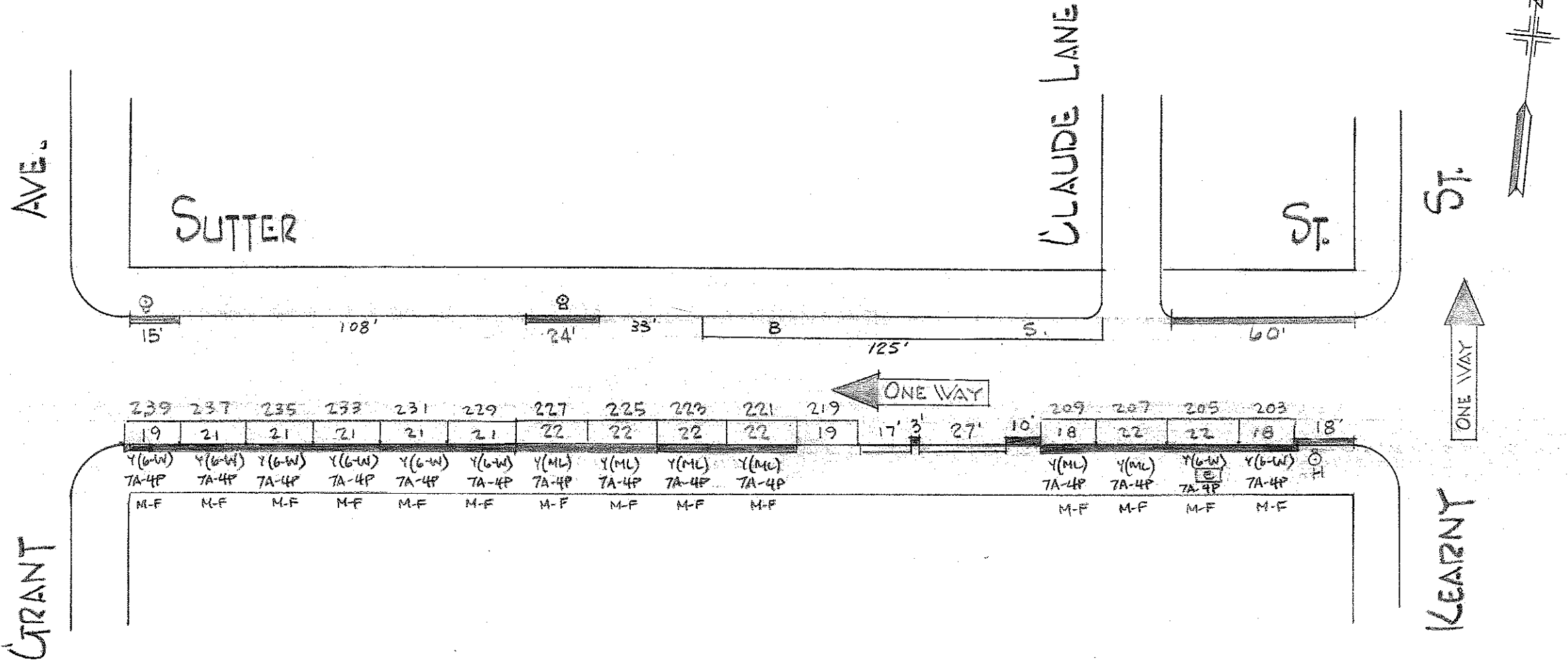
DATE: 11/20/12

BY: JB

AREA
1

Prepared: 02/21/15, 04:52:45
 Plotted: 02/21/15, 04:52:45
 User: Jbarnes
 Plot: 02/21/15, 04:52:45

Existing Meter Drawing



Areal - 1 Hour Time Limit
 Install # 223, 225
 11/3/06
 6-2-98

CITY AND COUNTY OF SAN FRANCISCO - D. P. T.
PARKING METER SPACES

TOWAWAY ZONE				REGULAR				SPECIAL TRUCK LOAD			NUMBER OF METERED SPACES					SCALE	AREA		
HOUR	7A-9A	4P-6P	7A-6P	7A-4P	7A-6P	9A-4P	9A-6P	TOTAL	1P-4P	1P-6P	TOTAL	15 Min.	30 Min.	1 Hour	2 Hour	TOTAL			
SIDE		S	N					15						15		15	40	SUTTER ST. (200)	↓
																	RDE 11.573	KEARNY ST TO GRANT AVE	

Existing Synchro Outputs

Lanes, Volumes, Timings Kearny St. & Sutter St.

04/09/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑		↑	↑↑↑				
Traffic Volume (vph)	0	0	0	0	332	116	292	996	0	0	0	0
Future Volume (vph)	0	0	0	0	332	116	292	996	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	0.81	0.81	1.00	1.00	1.00	1.00
Ped Bike Factor					0.86		0.46	0.97				
Frt					0.961							
Fit Protected							0.950	0.997				
Satd. Flow (prot)	0	0	0	0	3653	0	1247	5120	0	0	0	0
Fit Permitted							0.950	0.997				
Satd. Flow (perm)	0	0	0	0	3653	0	574	4953	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					105		194	95				
Link Speed (mph)		25			25		25				25	
Link Distance (ft)		468			447		362				330	
Travel Time (s)		12.8			12.2		9.9				9.0	
Confl. Peds. (#/hr)				848		867	1391		1383			
Confl. Bikes (#/hr)						30			10			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bus Blockages (#/hr)	0	0	0	0	0	0	0	22	0	0	0	0
Parking (#/hr)	0	0	0							0	0	0
Adj. Flow (vph)	0	0	0	0	332	116	292	996	0	0	0	0
Shared Lane Traffic (%)							22%					
Lane Group Flow (vph)	0	0	0	0	448	0	228	1060	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					6		8					
Permitted Phases							8					
Minimum Split (s)					18.0		15.0	15.0				
Total Split (s)					24.0		43.0	43.0				
Total Split (%)					32.0%		57.3%	57.3%				
Yellow Time (s)					4.0		4.0	4.0				
All-Red Time (s)					1.5		1.5	1.5				
Lost Time Adjust (s)					0.0		0.0	0.0				
Total Lost Time (s)					5.5		5.5	5.5				
Lead/Lag					Lag		Lag	Lag				
Lead-Lag Optimize?												
Act Effect Green (s)					18.5		37.5	37.5				
Actuated g/C Ratio					0.25		0.50	0.50				
v/c Ratio					0.46		0.59	0.42				
Control Delay					9.5		8.8	1.5				
Queue Delay					0.0		0.0	0.0				
Total Delay					9.5		8.8	1.5				
LOS					A		A	A				
Approach Delay					9.5		2.8					
Approach LOS					A		A					
Queue Length 50th (ft)					41		14	6				
Queue Length 95th (ft)					69		m101	9				
Internal Link Dist (ft)		388			367		282			250		
Turn Bay Length (ft)												

Existing - PM peak

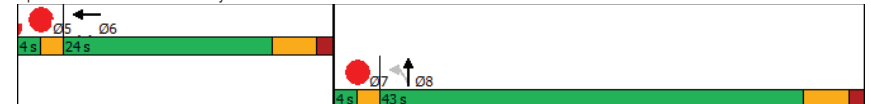
Synchro 10 Report
Page 1

Lanes, Volumes, Timings Kearny St. & Sutter St.

04/09/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)					980		384	2524				
Starvation Cap Reductn					0		0	0				
Spillback Cap Reductn					0		0	0				
Storage Cap Reductn					0		0	0				
Reduced v/c Ratio					0.46		0.59	0.42				
Intersection Summary												
Area Type:	CBD											
Cycle Length:	75											
Actuated Cycle Length:	75											
Offset:	14 (19%), Referenced to phase 5:Hold, Start of Green											
Natural Cycle:	60											
Control Type:	Pretimed											
Maximum v/c Ratio:	0.59											
Intersection Signal Delay:	4.5						Intersection LOS: A					
Intersection Capacity Utilization:	69.5%						ICU Level of Service C					
Analysis Period (min):	15											
Description:	Change 20											
m Volume for 95th percentile queue is metered by upstream signal.												

Splits and Phases: 567: Kearny St. & Sutter St.



Existing - PM peak

Synchro 10 Report
Page 3

Proposed Synchro Outputs

Lanes, Volumes, Timings Kearny St. & Sutter St.

04/09/2020

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕↕↕		↖	↕↕↕				
Traffic Volume (vph)	0	0	0	0	332	116	292	996	0	0	0	0
Future Volume (vph)	0	0	0	0	332	116	292	996	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor					0.86		0.46					
Frt					0.961							
Fit Protected							0.950					
Satd. Flow (prot)	0	0	0	0	3653	0	1540	4294	0	0	0	0
Fit Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	3653	0	708	4294	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					105		194					
Link Speed (mph)		25			25		25				25	
Link Distance (ft)		468			447		362				330	
Travel Time (s)		12.8			12.2		9.9				9.0	
Confl. Peds. (#/hr)				848		867	1391		1383			
Confl. Bikes (#/hr)						30			10			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bus Blockages (#/hr)	0	0	0	0	0	0	0	22	0	0	0	0
Parking (#/hr)	0	0	0							0	0	0
Adj. Flow (vph)	0	0	0	0	332	116	292	996	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	448	0	292	996	0	0	0	0
Turn Type					NA		Perm	NA				
Protected Phases					6		8					
Permitted Phases							8					
Minimum Split (s)					18.0		15.0	15.0				
Total Split (s)					24.0		43.0	43.0				
Total Split (%)					32.0%		57.3%	57.3%				
Yellow Time (s)					4.0		4.0	4.0				
All-Red Time (s)					1.5		1.5	1.5				
Lost Time Adjust (s)					0.0		0.0	0.0				
Total Lost Time (s)					5.5		5.5	5.5				
Lead/Lag					Lag		Lag	Lag				
Lead-Lag Optimize?												
Act Effect Green (s)					18.5		37.5	37.5				
Actuated g/C Ratio					0.25		0.50	0.50				
v/c Ratio					0.46		0.65	0.46				
Control Delay					9.5		8.9	2.9				
Queue Delay					0.0		0.0	0.0				
Total Delay					9.5		8.9	2.9				
LOS					A		A	A				
Approach Delay					9.5		4.3					
Approach LOS					A		A					
Queue Length 50th (ft)					41		18	18				
Queue Length 95th (ft)					69		m86	m22				
Internal Link Dist (ft)		388			367		282				250	
Turn Bay Length (ft)												

Proposed - PM peak

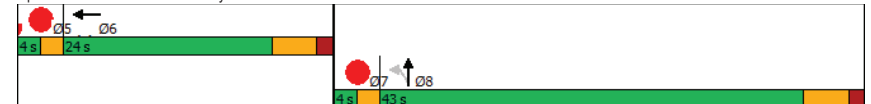
Synchro 10 Report
Page 1

Lanes, Volumes, Timings Kearny St. & Sutter St.

04/09/2020

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)					980		451	2147				
Starvation Cap Reductn					0		0	0				
Spillback Cap Reductn					0		0	0				
Storage Cap Reductn					0		0	0				
Reduced v/c Ratio					0.46		0.65	0.46				
Intersection Summary												
Area Type:	CBD											
Cycle Length:	75											
Actuated Cycle Length:	75											
Offset:	14 (19%), Referenced to phase 5:Hold, Start of Green											
Natural Cycle:	60											
Control Type:	Pretimed											
Maximum v/c Ratio:	0.65											
Intersection Signal Delay:	5.6						Intersection LOS: A					
Intersection Capacity Utilization:	78.0%						ICU Level of Service D					
Analysis Period (min):	15											
Description:	Change 20											
m Volume for 95th percentile queue is metered by upstream signal.												

Splits and Phases: 567: Kearny St. & Sutter St.



Proposed - PM peak

Synchro 10 Report
Page 3