

SFMTA - TASC SUMMARY SHEET

PreStaff_Date: 1/21/2020 Requested_by: SFMTA Handled: Edgar Orozco BT for CL Section Head : Cheryl Liu	<input type="checkbox"/> Public Hearing Consent <input checked="" type="checkbox"/> Public Hearing Regular <input type="checkbox"/> Informational / Other <small>PH - Regular</small>	No objections: <u>1-30-2020</u> Item Held: _____ Other: _____
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Location: Columbus Avenue at Green Street and Stockton Street

Subject: Crosswalk, Establish NO LEFT TURN

PROPOSAL / REQUEST:

ESTABLISH – CROSSWALK
 Columbus Avenue at Green Street and Stockton Street, connecting northeast and southwest corners

ESTABLISH – NO LEFT TURN
 Columbus Avenue, northbound, at Stockton Street and at Beach Blanket Babylon Boulevard
 Columbus Avenue, southbound, at Stockton Street and at Green Street

(Supervisor District 3)

Proposal to establish a diagonal crosswalk in the middle of the intersection of Columbus, Stockton, and Green to improve pedestrian safety and enhance the walking experience by decreasing crossing and waiting times. The left turn restriction is intended to increase pedestrian safety and improve traffic flow.

Edgar Orozco, edgar.orozco@sfmta.com

BACKGROUND INFORMATION / COMMENTS

- Supervisor Peskin's office and local stakeholders have requested that SFMTA make pedestrian improvements at the intersection of Columbus Avenue, Green Street, and Stockton Street
- This proposal would provide a direct pedestrian connection between the northeast and southwest corners crossing Columbus Avenue. This becomes a one street crossing instead of three - walking distance reduced by 170 feet (~1 minute)
- Pedestrians walking along Columbus would be able to cross both Stockton and Green during a single phase, rather than in two stages
- This new crosswalk would be incorporated with a Stockton St. southbound flashing red operation and three new Leading Pedestrian Intervals (LPI's)
- No added Muni delay, no parking impacts
- Anticipated to reduce transit signal delay for NB Stockton.
- Muni lines 8 Bayshore, 30 Stockton, and 45 Union travel through this intersection

HEARING NOTIFICATION AND PROCESSING NOTES:	ENVIRONMENTAL CLEARANCE BY: <input checked="" type="checkbox"/> SFMTA <input type="checkbox"/> Attached <input type="checkbox"/> Pending
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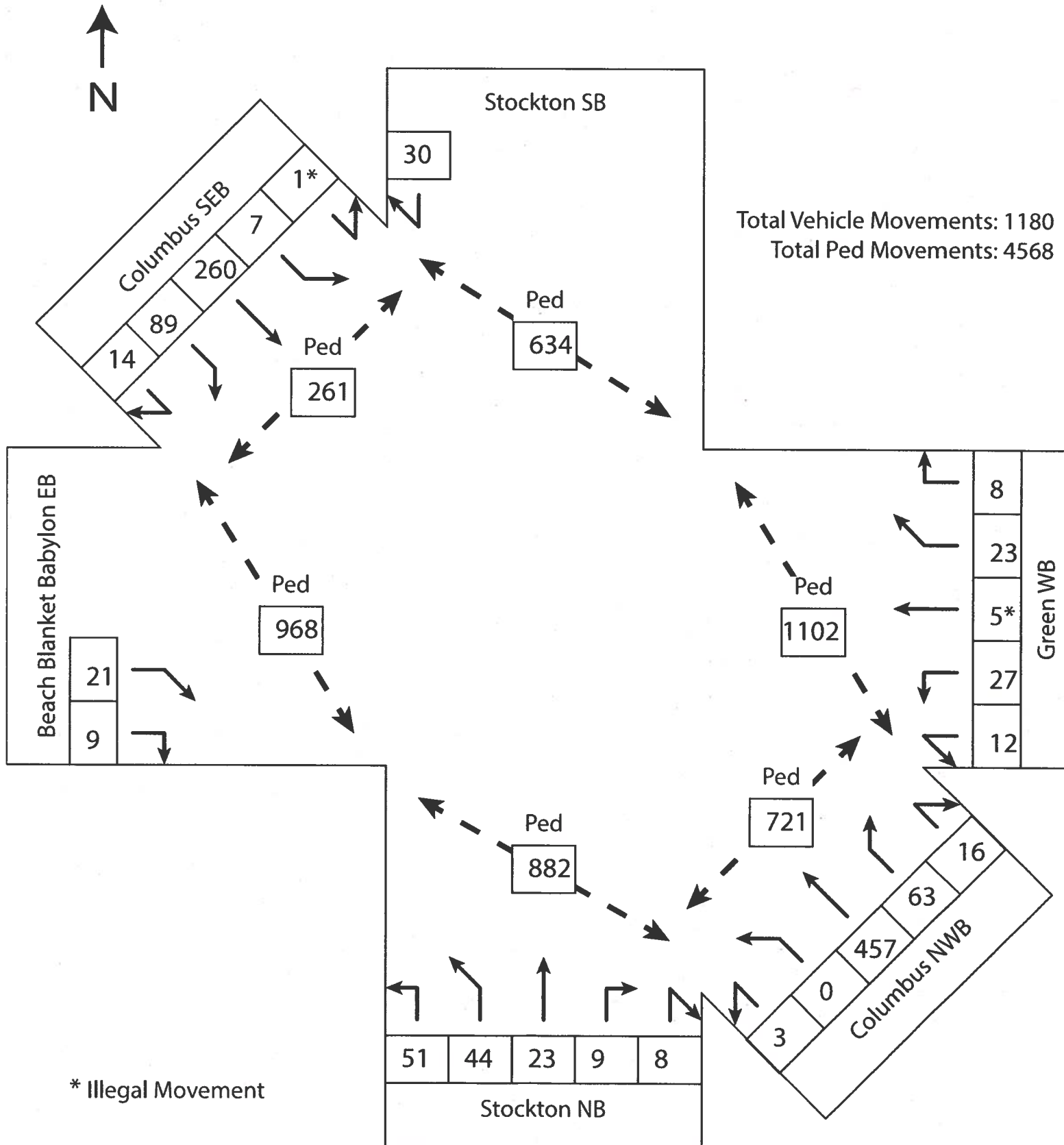
2019 Counts

Vehicle and Pedestrian Traffic PM Peak Counts

Location: Intersection of Columbus Ave, Stockton St, Green St, and Beach Blanket Babylon Boulevard

Date: Wednesday, July 10, 2019 5pm-6pm

Lead Observer: Edgar Orozco from SFMTA SSD



2011 Counts

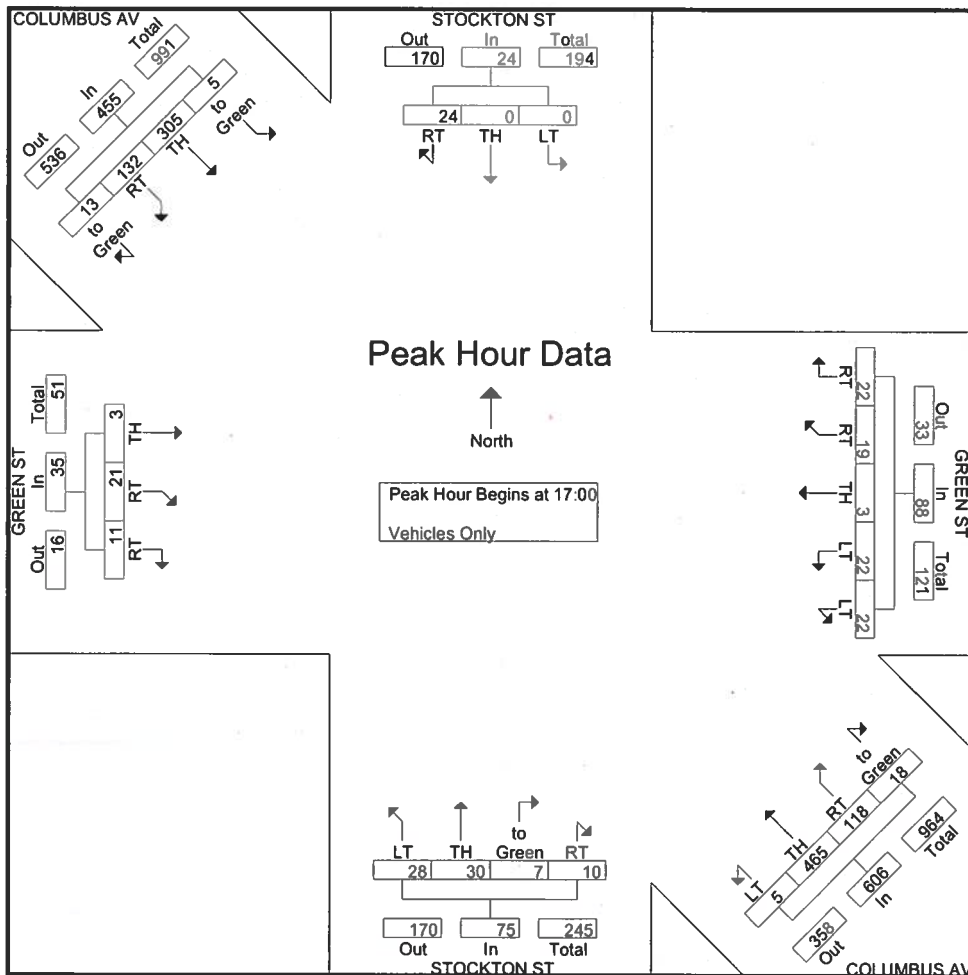
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Groups Printed- Vehicles Only

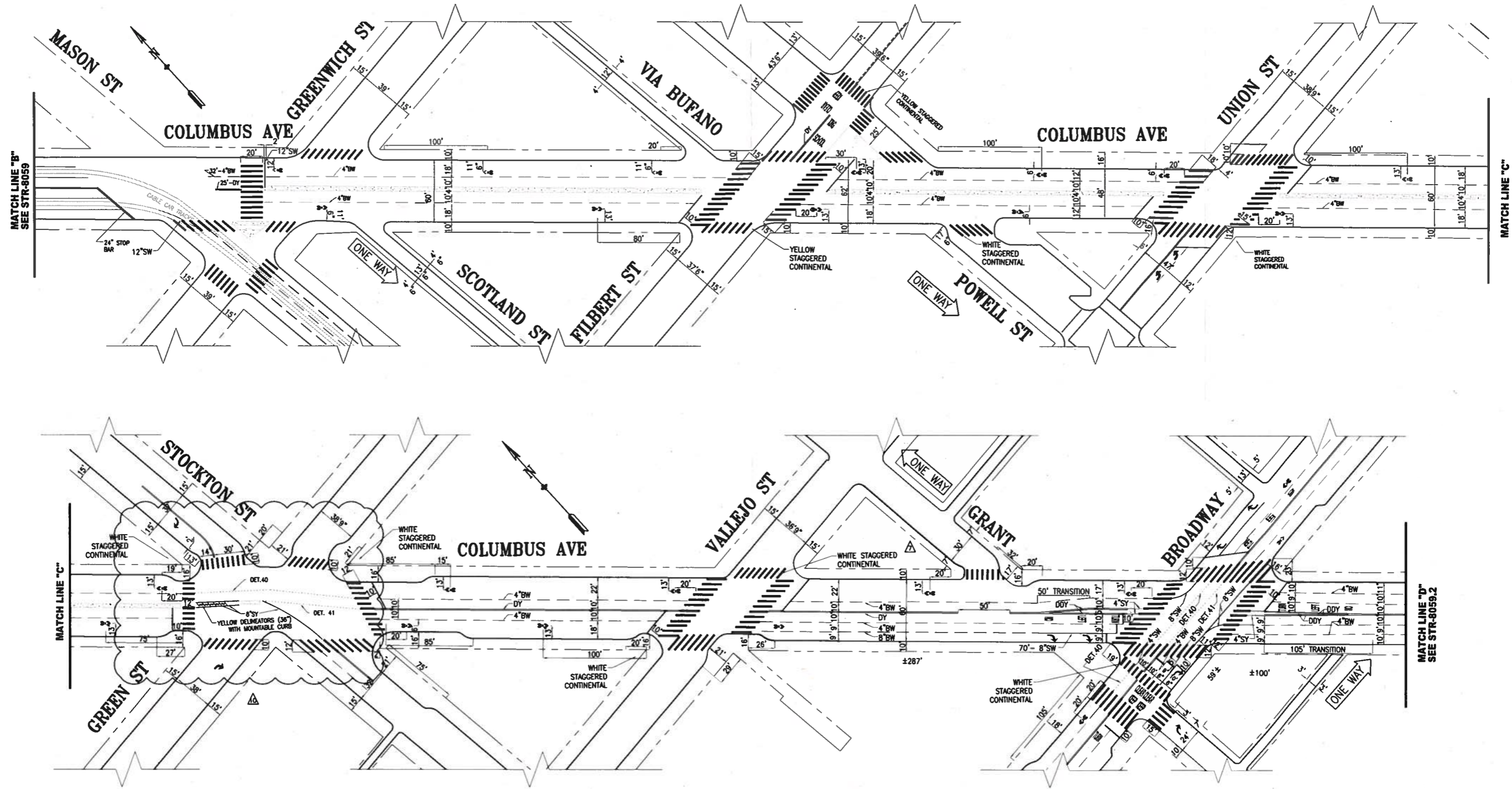
Start Time	STOCKTON ST Southbound				GREEN ST Westbound					COLUMBUS AV Northwestbound				STOCKTON ST Northbound					GREEN ST Eastbound				COLUMBUS AV Southeastbound					Int. Total		
	RT	TH	LT	App. Total	RT	RT	TH	LT	LT	App. Total	to Green	RT	TH	LT	App. Total	RT	to Green	TH	LT	App. Total	RT	RT	TH	App. Total	to Green	RT	TH		to Green	App. Total
16:00	5	0	0	5	6	2	0	7	0	15	4	19	84	0	107	2	2	8	11	23	0	4	0	4	3	23	76	5	107	261
16:15	6	0	0	6	2	5	1	3	1	12	3	25	78	1	107	4	3	4	12	23	2	4	0	6	3	28	69	2	102	256
16:30	4	0	0	4	4	5	1	3	0	13	5	23	91	0	119	3	0	3	10	16	4	5	2	11	5	19	64	2	90	253
16:45	11	0	0	11	1	4	1	6	5	17	5	17	110	0	132	3	2	6	8	19	3	3	0	6	1	12	66	2	81	266
Total	26	0	0	26	13	16	3	19	6	57	17	84	363	1	465	12	7	21	41	81	9	16	2	27	12	82	275	11	380	1036
17:00	7	0	0	7	8	2	0	3	3	16	5	29	101	2	137	3	3	9	10	25	3	9	1	13	2	26	63	1	92	290
17:15	6	0	0	6	6	6	0	5	5	22	6	32	115	1	154	3	2	5	7	17	3	5	1	9	4	35	90	1	130	338
17:30	5	0	0	5	2	4	1	10	7	24	3	31	120	0	154	3	2	7	4	16	1	3	0	4	2	35	68	1	106	309
17:45	6	0	0	6	6	7	2	4	7	26	4	26	129	2	161	1	0	9	7	17	4	4	1	9	5	36	84	2	127	346
Total	24	0	0	24	22	19	3	22	22	88	18	118	465	5	606	10	7	30	28	75	11	21	3	35	13	132	305	5	455	1283
Grand Total	50	0	0	50	35	35	6	41	28	145	35	202	828	6	1071	22	14	51	69	156	20	37	5	62	25	214	580	16	835	2319
Approach %	100	0	0		24.1	24.1	4.1	28.3	19.3		3.3	18.9	77.3	0.6		14.1	9	32.7	44.2		32.3	59.7	8.1		3	25.6	69.5	1.9		
Total %	2.2	0	0	2.2	1.5	1.5	0.3	1.8	1.2	6.3	1.5	8.7	35.7	0.3	46.2	0.9	0.6	2.2	3	6.7	0.9	1.6	0.2	2.7	1.1	9.2	25	0.7	36	

Start Time	STOCKTON ST Southbound				GREEN ST Westbound					COLUMBUS AV Northwestbound				STOCKTON ST Northbound					GREEN ST Eastbound				COLUMBUS AV Southeastbound					Int. Total		
	RT	TH	LT	App. Total	RT	RT	TH	LT	LT	App. Total	to Green	RT	TH	LT	App. Total	RT	to Green	TH	LT	App. Total	RT	RT	TH	App. Total	to Green	RT	TH		to Green	App. Total
17:00	7	0	0	7	8	2	0	3	3	16	5	29	101	2	137	3	3	9	10	25	3	9	1	13	2	26	63	1	92	290
17:15	6	0	0	6	6	6	0	5	5	22	6	32	115	1	154	3	2	5	7	17	3	5	1	9	4	35	90	1	130	338
17:30	5	0	0	5	2	4	1	10	7	24	3	31	120	0	154	3	2	7	4	16	1	3	0	4	2	35	68	1	106	309
17:45	6	0	0	6	6	7	2	4	7	26	4	26	129	2	161	1	0	9	7	17	4	4	1	9	5	36	84	2	127	346
Total	24	0	0	24	22	19	3	22	22	88	18	118	465	5	606	10	7	30	28	75	11	21	3	35	13	132	305	5	455	1283
Total Volume	24	0	0		22	19	3	22	22		18	118	465	5		10	7	30	28		11	21	3		13	132	305	5		
% App. Total	100	0	0		25	21.6	3.4	25	25		3	19.5	76.7	0.8		13.3	9.3	40	37.3		31.4	60	8.6		2.9	29	67	1.1		
PHF	.857	.000	.000	.857	.688	.679	.375	.550	.786	.846	.750	.922	.901	.625	.941	.833	.583	.833	.700	.750	.688	.583	.750	.673	.650	.917	.847	.625	.875	.927

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 17:00



Existing



NO.	DATE	DESCRIPTION	BY	APP
-/-/-		ADDED YELLOW DELINEATORS WITH MOUNTABLE CURB AT STOCKTON	K. SHUE	M. VELASCO
04/08/18		ADDED WHITE STAGE CONT. ADV LL @ STOCKTON, VALLEJO, & BROADWAY; ADV. SHARROWS FILBERT TO BROADWAY; ADDED 8" BW ON SE CORNERS @ BROADWAY	S. LAM	D. VALLE-SCHWENK
02/20/18		ADDED BULB-OUT ON SW CORNER AT POWELL	S. LAM	N. WONG
10/27/17		ADDED BULB-OUT STOCKTON, VALLEJO & BROADWAY	R. ROQUE	D. VALLE-SCHWENK
06/26/14		PEDESTRIAN PLAZA INSTALLED AT MASON STREET	N. LEVINE	N. WONG

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION



SFMTA



SUPERCEDES
STR-6075.1 & 2

DRAWN: AW/DRP/JK
DATE: 5/14
CHECKED: TC/DRP
DATE: 5/14

APPROVED
BRIAN DUSSEAULT 6/4/14
SENIOR ENGINEER
DATE: 6/4/14
RICARDO OLEA
CITY TRAFFIC ENGINEER
DATE: 6/4/14

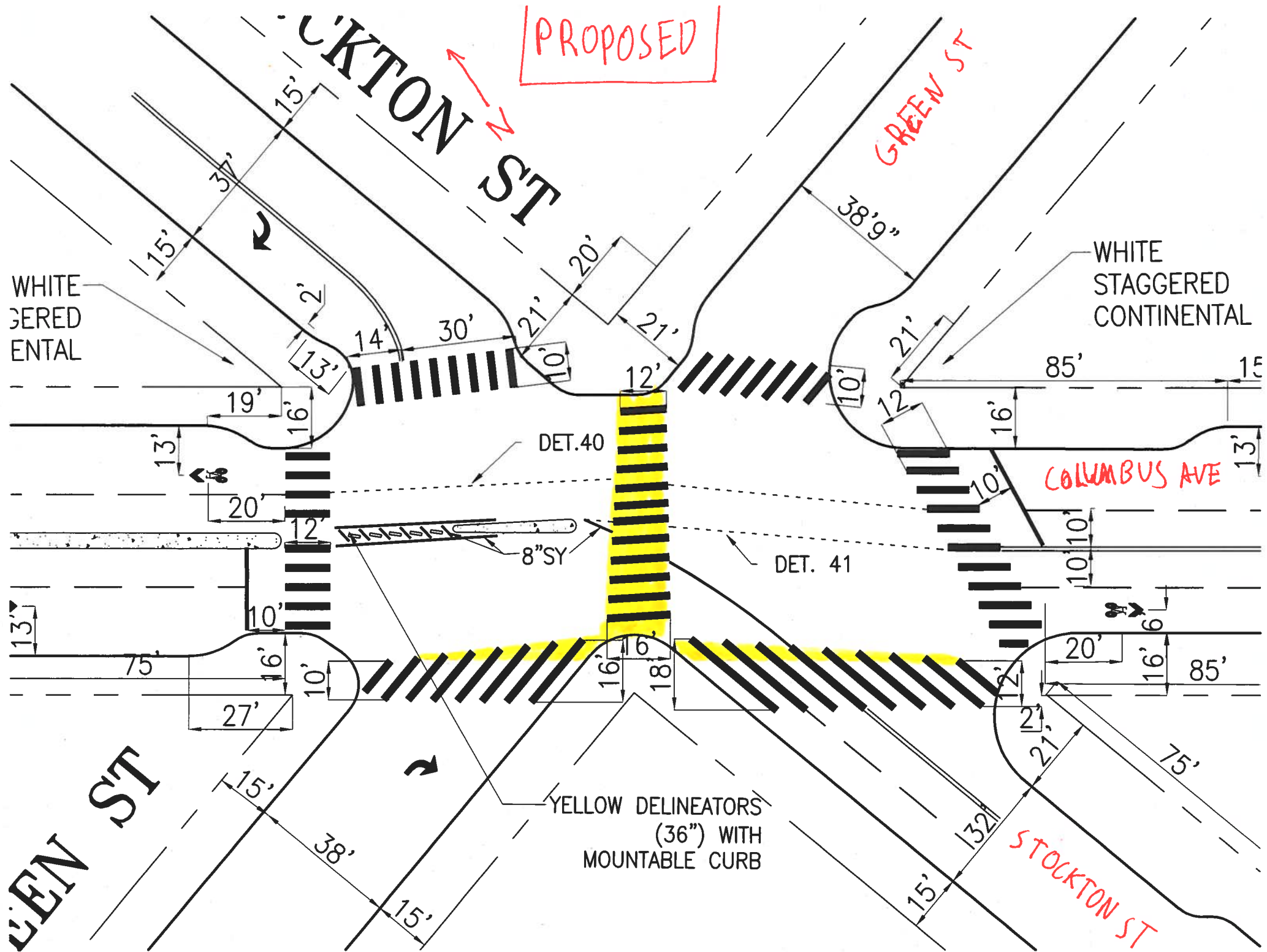
SCALE:
1" = 50'
SHEET/SHEETS:
2 OF 3

TRAFFIC STRIPING
COLUMBUS STREET
LOMBARD STREET TO BROADWAY STREET

CONTRACT NO.
DRAWING NO. STR-8059.1
FILE NO.
REV. NO. 10

EXTERNAL REFERENCES: XREFS
SCALE FACTOR: XX
ORIGIN: SECTION
FILE NAME: B05-STR02.DWG

PROPOSED



STOCKTON ST

GREEN ST

WHITE
STAGGERED
CONTINENTAL

WHITE
STAGGERED
CONTINENTAL

COLUMBUS AVE

GREEN ST

YELLOW DELINEATORS
(36") WITH
MOUNTABLE CURB

STOCKTON ST

DET. 40

DET. 41

8" SY

15'

15'

13'

20'

13'

10'

75'

27'

15'

38'

15'

20'

21'

12'

38'9"

21'

10'

12'

16'

10'

85'

15'

13'

10'

10'

6'

20'

16'

85'

75'

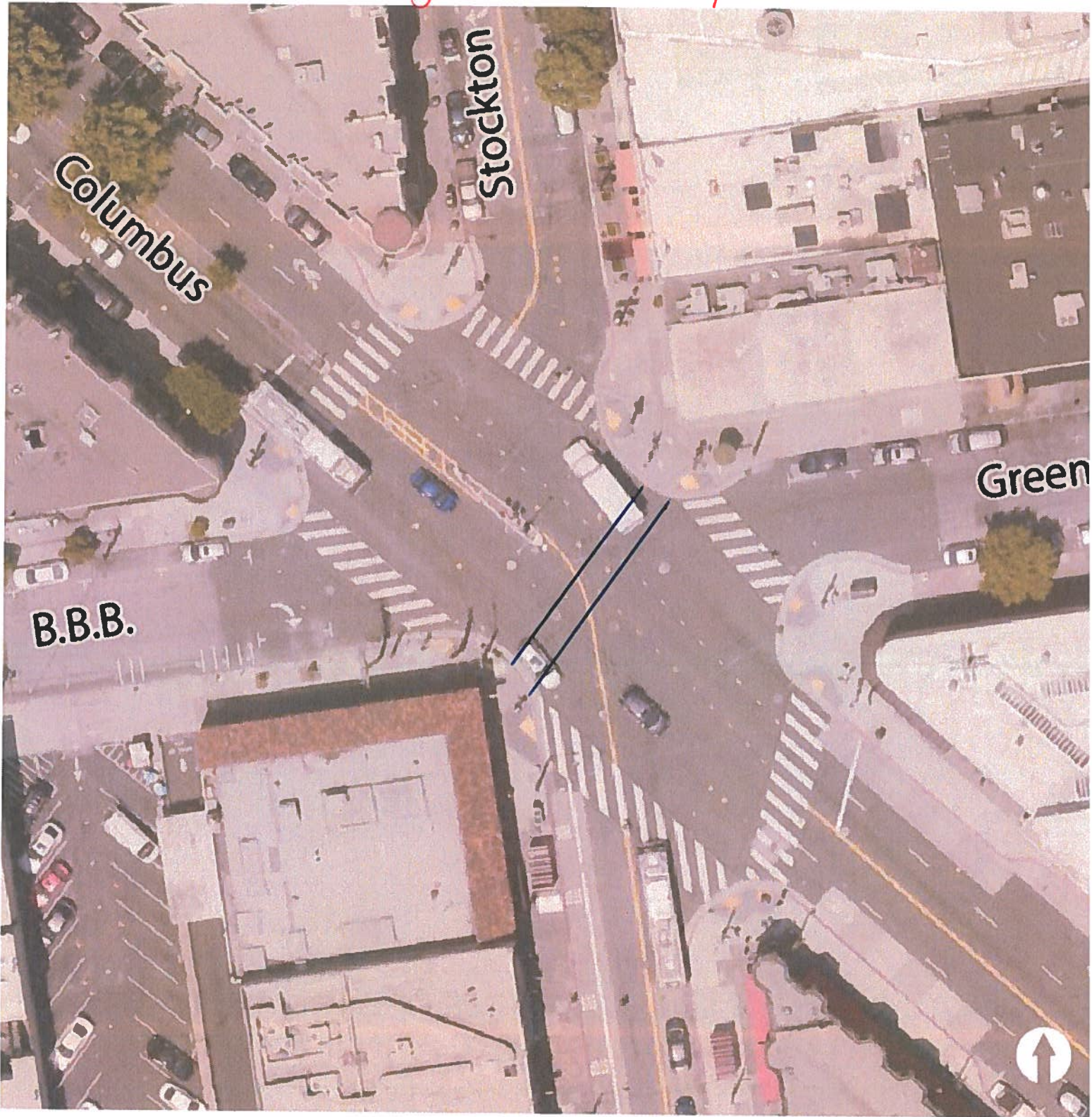
21'

21'

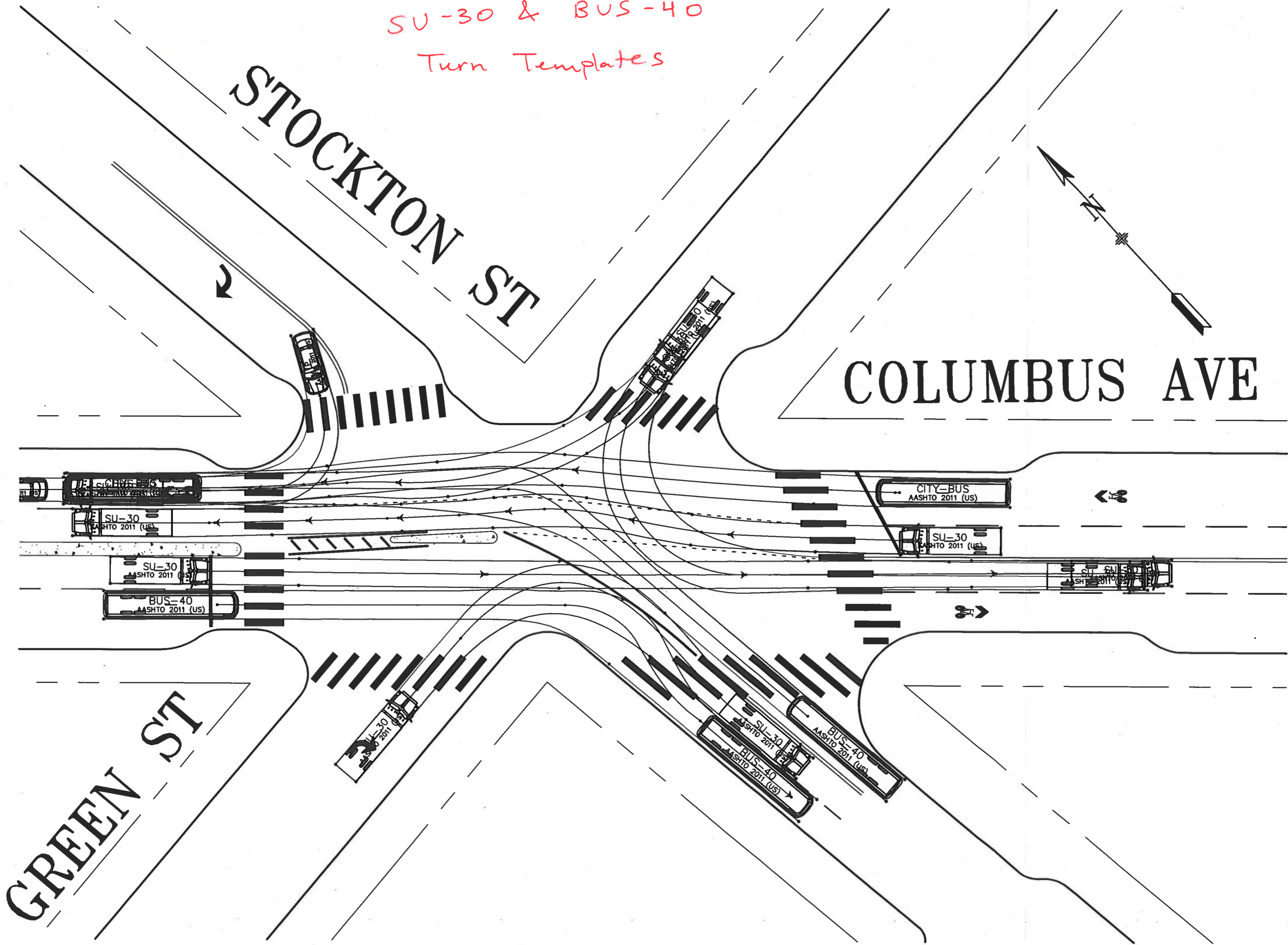
15'

132'

Existing - Satellite Image



SU-30 & BUS-40
Turn Templates



Columbus, Green, & Stockton

CHANGE 20
Intersection CNN 25352000
ENGINEER: A. Lam / K.M. Leung
Revision Date 2/21/2018

DESCRIPTION: Updated AR, W, FRH, and min & max greens. Removed phase 12P from being concurrent with phase 8.
 Removed TSP and updated preempt pages.
 Page 1 of 6

PHASE	STREET	EmerFlash	ProgFlash	Controller:	2070
2 & 6	Columbus	R	NA	Cabinet	M-SF
3 & 4	Stockton	R	NA	Oper. Date:	11/10/1953
7 & 8	Green/BBB Blvd	R	NA	System:	Columbus (7)
				Master:	TBC-GPS to Columbus/Union
				Cascade:	NA

ATTACHMENTS

<input checked="" type="checkbox"/>	Base Timing
<input type="checkbox"/>	Actuation
<input type="checkbox"/>	Transit Priority
<input checked="" type="checkbox"/>	Preemption

Programmed by: *ABR*
 Installed by: *ABR*
 Date: *3-23-18 12:00*

OPERATION TIMES (X=yes, -- = no)		S	M	T	W	T	F	S	CYCLE	SPLIT	OFFSET	FLASH
07:00 to 10:00		--	X	X	X	X	X	--	2	1	2	--
15:00 to 19:00		--	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	16	17	18	19	20			
Columbus (NWB)	2	G		Y	R																			
Stockton (SB)	3	R			FY		Y	R																
Stockton (NB)	4	R					G		Y	R														
Columbus (SEB)	6	G		Y	R																			
Beach Blanket Babylon (EB)	7	R			G		Y	R																
Green (WB)	8	R					G		Y	R														
Peds Xing Stockton (NS)	2P	FRH		RH																				
Peds Xing Stockton (SS)	6P	FRH			RH																			
Peds Xing Columbus (ES)	10P	RH					FRH		RH															
Peds Xing Columbus (WS)	12P	RH			FRH		RH																	
Peds Xing Green (ES)	13P	FRH					RH																	
Peds Xing B. B. B. (WS)	15P	FRH		RH					FRH				RH											

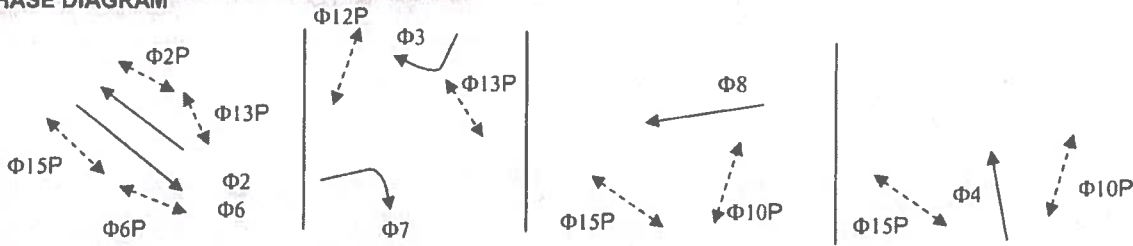
CSO	CYCLE (sec)	OFFSET	SIGNAL INTERVALS (seconds)																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
111	80.0	5	4.0	7.0	2.0	10.0	4.0	3.0	4.0	3.0	7.0	4.0	3.0	6.0	4.0	2.0	10.0	4.0	3.0			
212	80.0	42	4.0	7.0	2.0	10.0	4.0	3.0	4.0	3.0	7.0	4.0	3.0	6.0	4.0	2.0	10.0	4.0	3.0			
313	80.0	71	4.0	7.0	2.0	10.0	4.0	3.0	4.0	3.0	7.0	4.0	3.0	6.0	4.0	2.0	10.0	4.0	3.0			

30 sec (+4)
21 sec (-1)
12 sec (+5)
17 sec (+2)
2860 difference

PAGE 2: BASE TIMING, ACTUATION, COORDINATION SETTINGS

Columbus, Green, & Stockton

PHASE DIAGRAM



Are there conflicting protected left turn phases? n/a

BASE TIMINGS:

Phase Movement	1	2	3	4	5	6	7	8	10P	12P	13P	15P
Absolute Min Green (whole #)		10	10	10		19	10	6				
Yellow		4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clearance		3.0	3.0	3.0		3.0	3.0	2.0	3.0	3.0	3.0	3.0
Absolute Min Walk		4				4			4	4	4	4
FRH		10				19			16	10	7	12

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

Phase	1	2	3	4	5	6	7	8	10P	12P	13P	15P
Vehicle Det Type		NONE	NONE	NONE		NONE	NONE	NONE				
Ped Detection		NONE				NONE			NONE	NONE	NONE	NONE
Vehicle Recall (Max, Min, Soft or None)		MAX	MAX	MAX		MAX	MAX	MAX				
Absolute Min Green (same as above)		10	10	10		19	10	6				
Vehicle Extension (seconds)		--		--		--		--				
Max Green (only used for FREE)		23	14	10		23	14	6				
Pedestrian Recall (Yes or No)		YES				YES			YES	YES	YES	YES
Ped Recycle (Yes or No)		YES				YES			YES	YES	YES	YES
"WALK EXPAND" (Yes or No)		YES				YES			YES	YES	YES	YES

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

Phase	2+4+7+8 Cycle length	1	2	3	4	5	6	7	8
Dial 1 Splits	80		30	21	17		30	21	12
Max Trans	107		57	21	17		57	21	12
Min Trans	78		28	21	17		28	21	12
Dial 2 Split	80		30	21	17		30	21	12
Max Trans	107		57	21	17		57	21	12
Min Trans	78		28	21	17		28	21	12
Dial 3 Splits	80		30	21	17		30	21	12
Max Trans	107		57	21	17		57	21	12
Min Trans	78		28	21	17		28	21	12
Dial 4 Splits									
Max Trans									
Min Trans									
Coordinated Phases		X					X		

Special Comments

startup all-red = 6 seconds

CHANGE
Intersection CNN
ENGINEER: Edgar Orozco
Revision Date: 1/8/2020
Programmed by:
Installed by:
Date:

DESCRIPTION: PROPOSED - Open new crosswalk connecting NE and SW corners (phase 16P), Stockton phases 3/4 run concurrent, with LPIs for 2P, 6P, 16P, increase cycle length, change phase 7 to permissive turn.

PHASE	STREET	EmerFlash	ProgFlash	Controller:	ATTACHMENTS
2 & 6	Columbus	R	NA	2070	<input checked="" type="checkbox"/> Base Timing
3 & 4	Stockton	R	NA	M-SF	<input type="checkbox"/> Actuation
7 & 8	Green/BBB Blvd	R	NA	Oper. Date: 11/10/1953	<input type="checkbox"/> Transit Priority
				System: Columbus (7)	<input checked="" type="checkbox"/> Preemption
				Master: TBC-GPS to Columbus/Union	
				Cascade: NA	

Columbus, Green, & Stockton

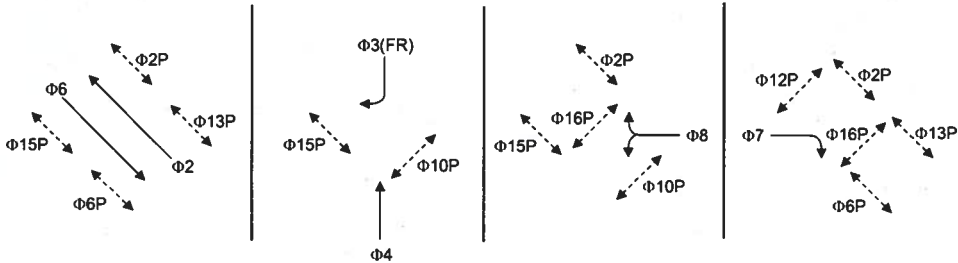
OPERATION TIMES (X=yes, -- = no)	S	M	T	W	T	F	S	CYCLE	SPLIT	OFFSET	FLASH
07:00 to 10:00	--	X	X	X	X	X	--	2	1	2	--
15:00 to 19:00	--	X	X	X	X	X	--	3	1	3	--
ALL OTHER TIMES	X	X	X	X	X	X	X	1	1	1	--

STREET	PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Columbus (NWB)	2		G			Y																	
Stockton (SB)	3				R				FR														
Stockton (NB)	4				R			G	Y														
Columbus (SEB)	6		G			Y																	
Beach Blanket Babylon (EB)	7									R									G	Y		R	
Green (WB)	8														G	Y							
Peds Xing Stockton (NS)	2P				FRH																		
Peds Xing Stockton (SS)	6P				FRH																		
Peds Xing Columbus (ES)	10P																						
Peds Xing Columbus (WS)	12P																						
Peds Xing Green (ES)	13P																						
Peds Xing B. B. B. (WS)	15P																						
Peds Xing New Xwalk	16P																						

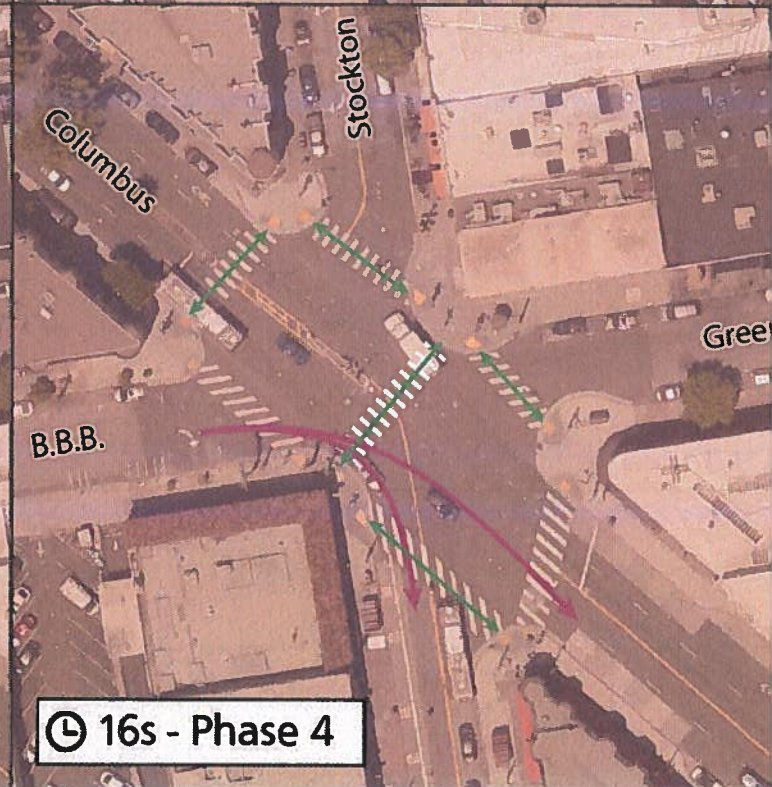
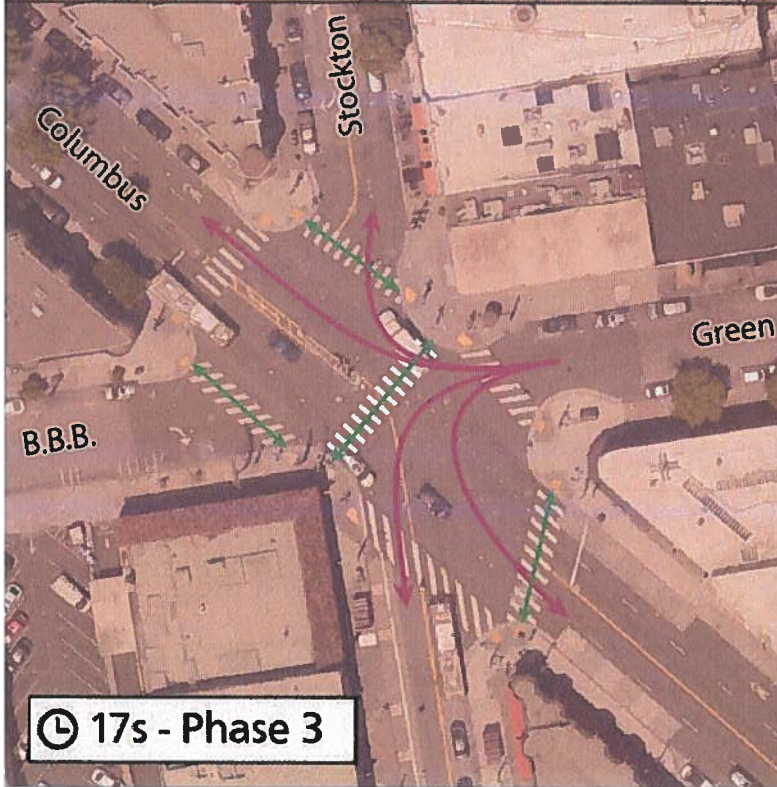
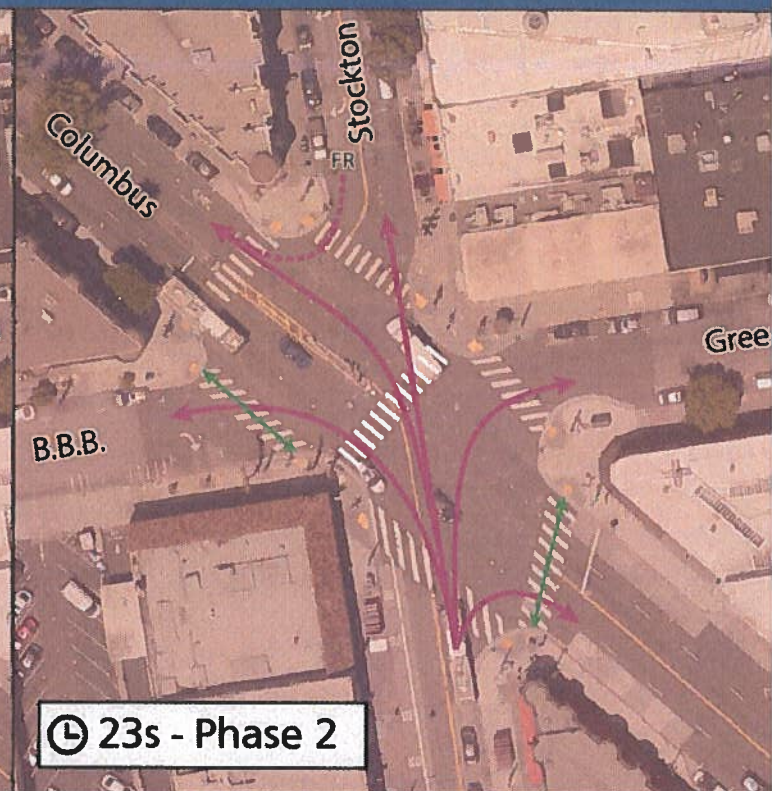
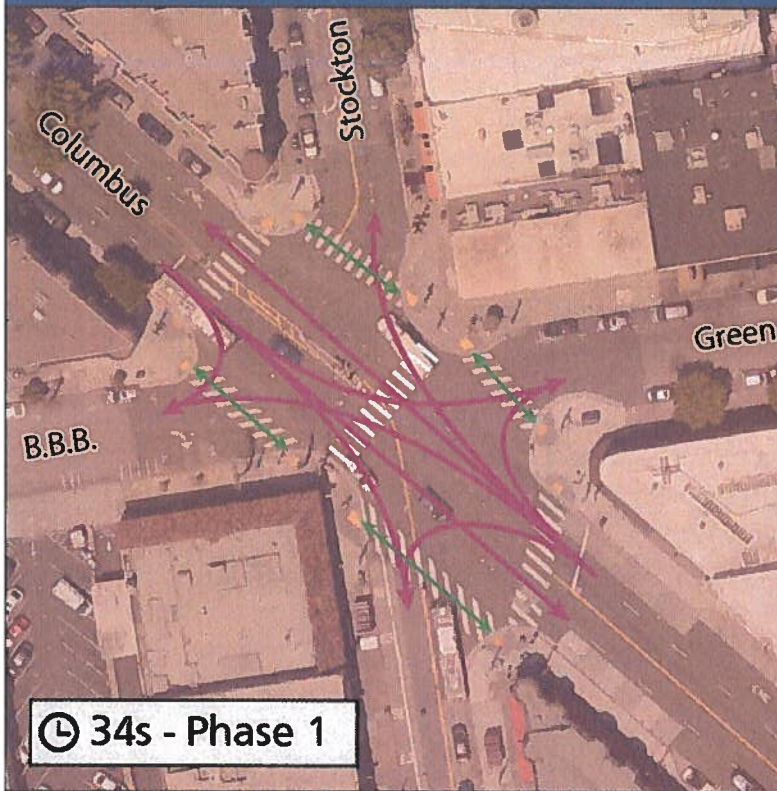
CSO	CYCLE (sec)	OFFSET	SIGNAL INTERVALS (seconds)																					
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
111	90.0		10.0	7.0	3.0	6.0	4.0	4.0	13.0	3.0	1.0	1.0	1.0	4.0	6.0	4.0	3.0	4.0	10.0	4.0	2.0			
212	90.0		10.0	7.0	3.0	6.0	4.0	4.0	13.0	3.0	1.0	1.0	1.0	4.0	6.0	4.0	3.0	4.0	10.0	4.0	2.0			
313	90.0		10.0	7.0	3.0	6.0	4.0	4.0	13.0	3.0	1.0	1.0	1.0	4.0	6.0	4.0	3.0	4.0	10.0	4.0	2.0			

*4 sec LPI recommended for phase 16P before phase 8
 *4 sec LPI recommended for phase 6P before phase 7
 *Phase 7 changed from green arrow to green ball given overlapping ped phases 6P and 16P

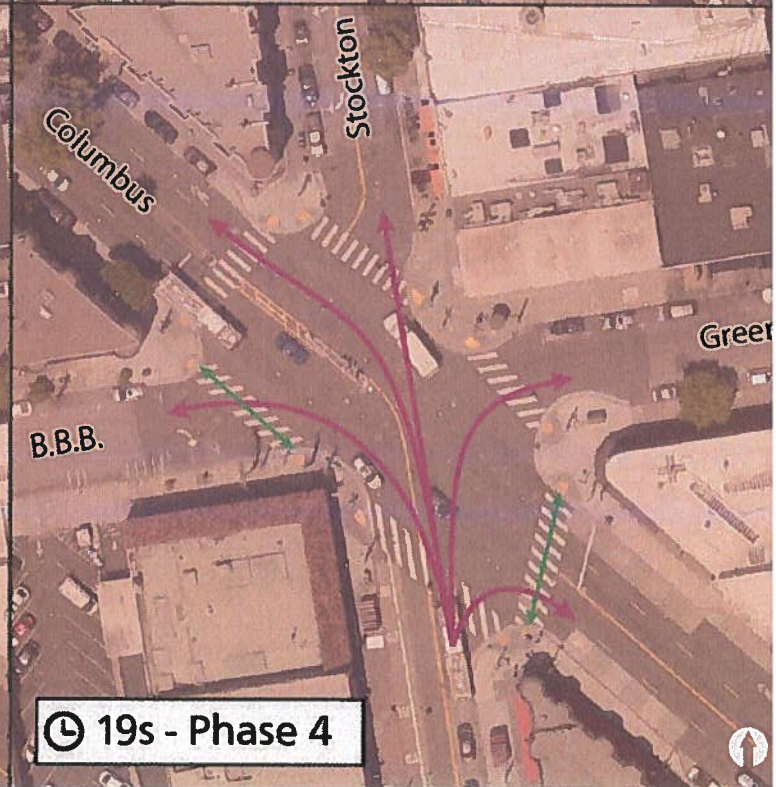
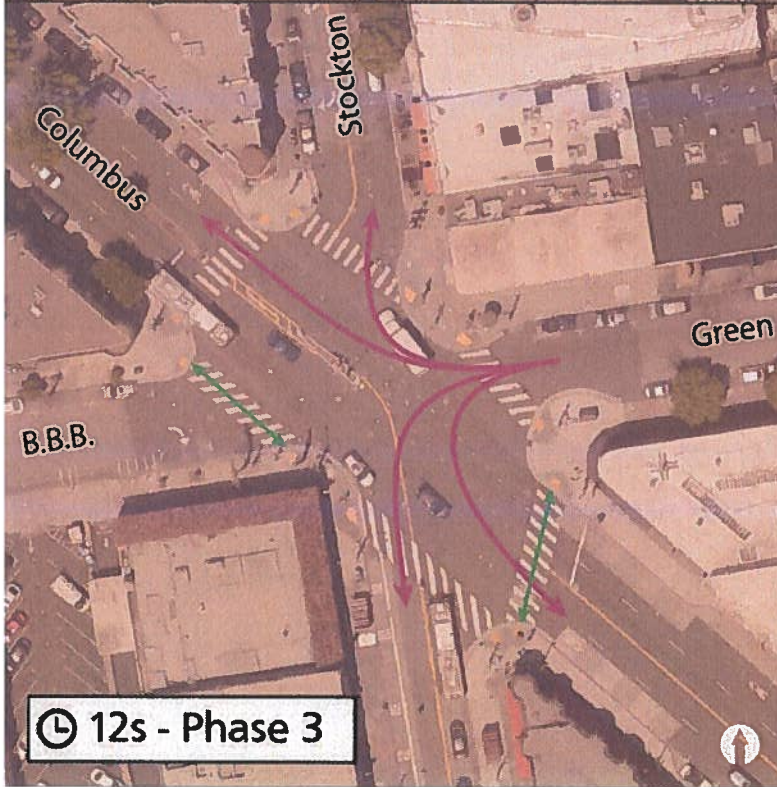
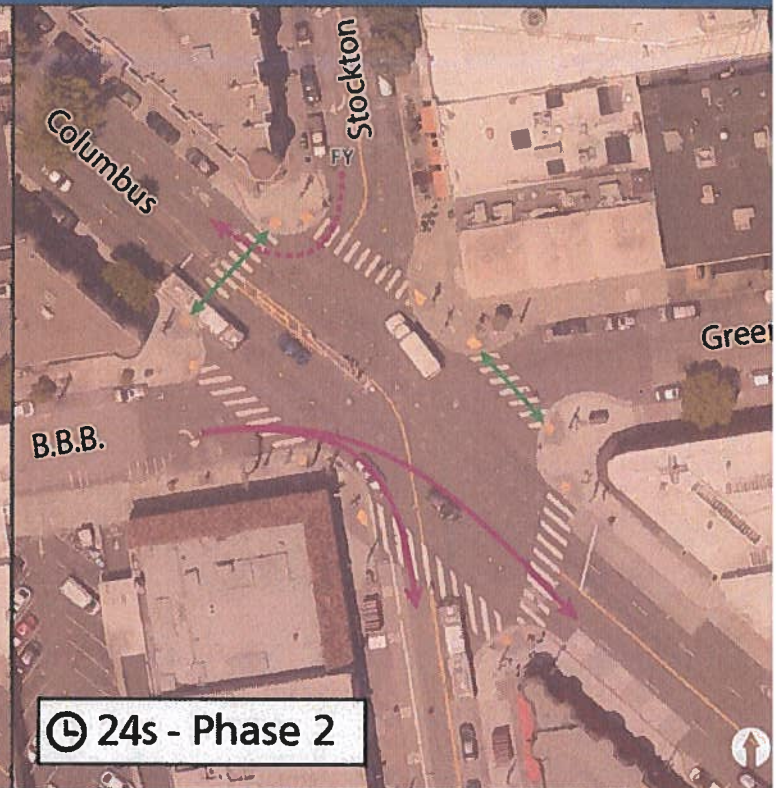
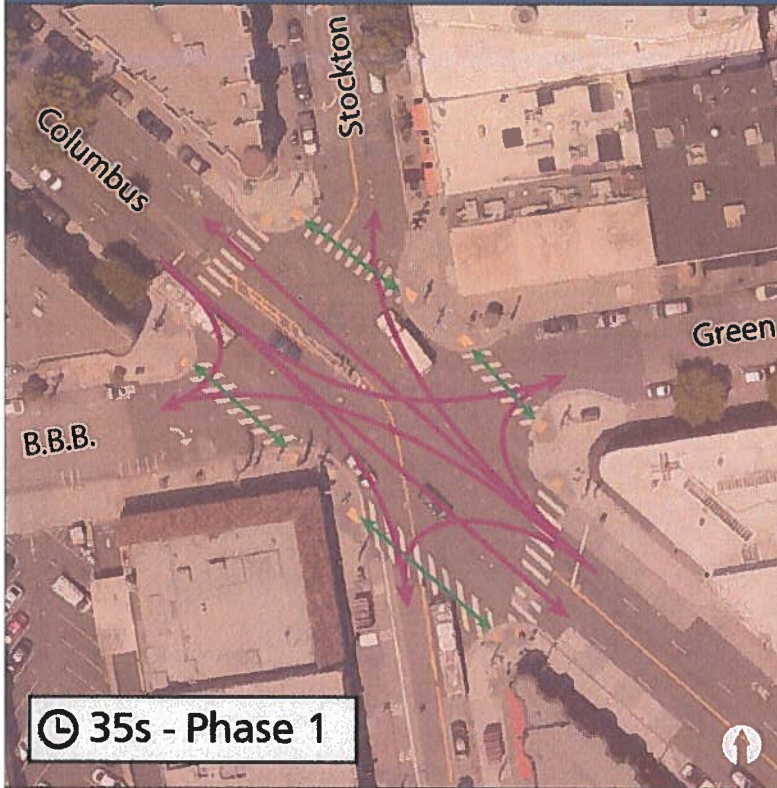
PHASE DIAGRAM



New Crosswalk Signal Phasing (90s)



Baseline Conditions (90s)



TransBASE Internal Dashboard

Geographic Extent: 25352000: GREEN ST/STOCKTON ST at COLUMBUS AVE

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

Data Range: 07/01/2014 to 06/30/2019

Pull Date: 11/6/2019

Collision/Party/Victim Table

Showing 1 to 8 of 8 entries

Count of Fatal Collisions: 0

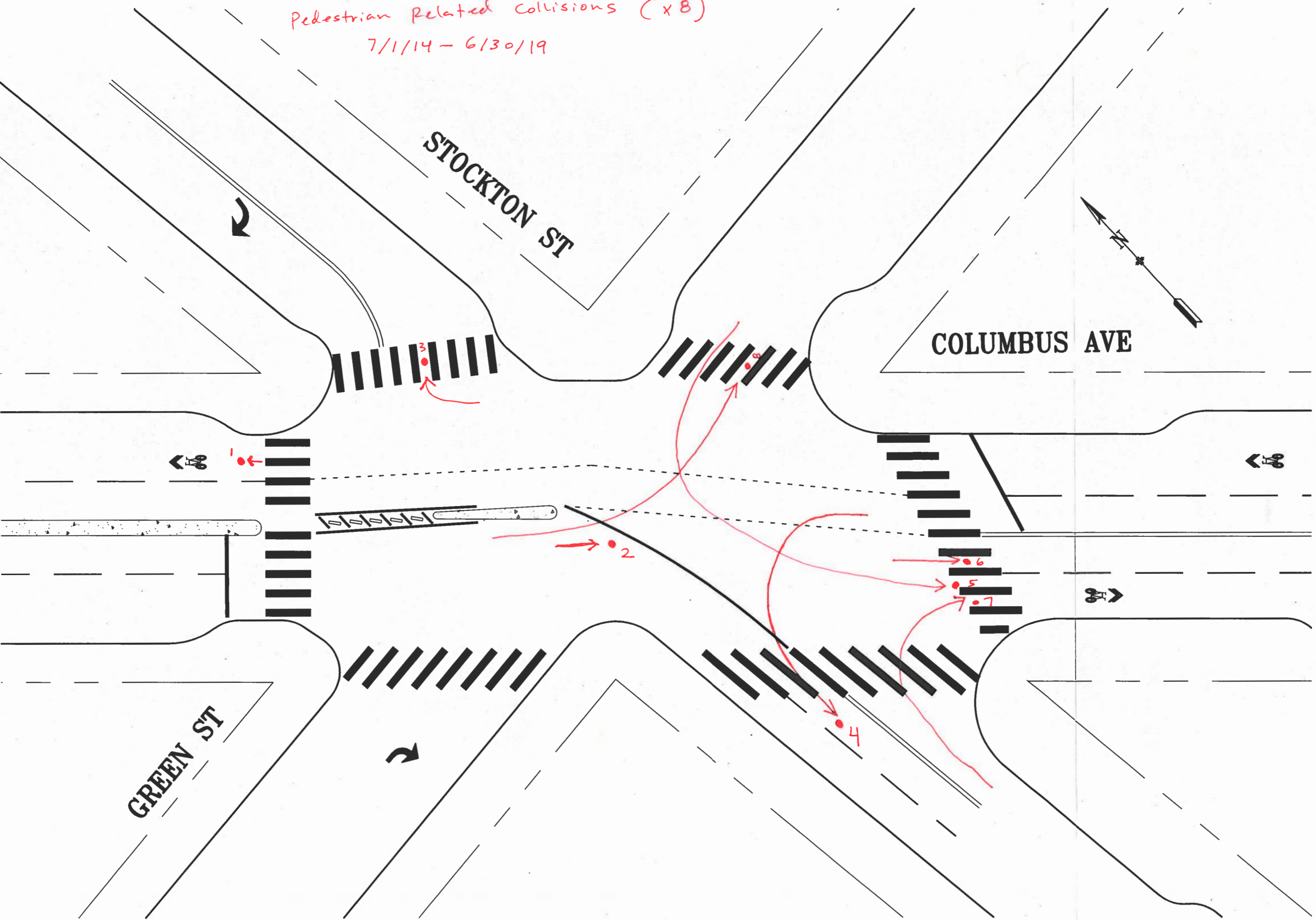
Count of Non-Fatal Injury Collisions: 8

Total Count of Fatal/Non-Fatal Injury Collisions: 8

1
2
3
4
5
6
7
8

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
170676965	08/19/2017	18:01	Saturday	COLUMBUS AVE	STOCKTON ST	0	Not Stated	Driver	North	Proceeding Straight	Pedestrian	East	Other	CVC 21950(a)	Injury (Complaint of Pain)	Other	Pedestrian	Clear	Daylight
170473216	06/10/2017	02:13	Saturday	COLUMBUS AVE	GREEN ST	0	Not Stated	Pedestrian	West	Crossed Into Opposing Lane - Unplanned	Driver	South	Proceeding Straight	CVC 21954(a)	Injury (Other Visible)	Vehicle/ Pedestrian	Pedestrian	Clear	Dark - Street Lights
170280817	04/06/2017	06:30	Thursday	STOCKTON ST	COLUMBUS AVE	0	Not Stated	Driver	North	Making Right Turn	Pedestrian	North	Proceeding Straight	CVC 21950(a)	Injury (Complaint of Pain)	Vehicle/ Pedestrian	Pedestrian	Cloudy	Daylight
170018298	01/07/2017	14:32	Saturday	STOCKTON ST	COLUMBUS AVE	20	South	Pedestrian	East	Proceeding Straight	Driver	South	Making Left Turn	CVC 21950(b)	Injury (Complaint of Pain)	Vehicle/ Pedestrian	Pedestrian	Clear	Daylight
170010272	01/04/2017	18:52	Wednesday	COLUMBUS AVE	STOCKTON ST	0	Not Stated	Driver	South	Making Left Turn	Pedestrian	East	Proceeding Straight	CVC 21950(a)	Injury (Complaint of Pain)	Sideswipe	Pedestrian	Raining	Dark - Street Lights
160736870	09/11/2016	02:10	Sunday	COLUMBUS AVE	STOCKTON ST	0	Not Stated	Driver	South	Stopped In Road	Pedestrian	Not Stated	Other	CVC 21453(d)	Injury (Severe)	Vehicle/ Pedestrian	Pedestrian	Clear	Dark - Street Lights
160588853	07/21/2016	18:22	Thursday	COLUMBUS AVE	STOCKTON ST	5	East	Driver	South	Making Right Turn	Pedestrian	East	Not Stated	CVC 21950(a)	Injury (Severe)	Vehicle/ Pedestrian	Pedestrian	Clear	Daylight
141018548	12/02/2014	20:40	Tuesday	GREEN ST	COLUMBUS AVE	0	Not Stated	Driver	East	Making Left Turn	Pedestrian	South	Proceeding Straight	CVC 21950(a)	Injury (Complaint of Pain)	Sideswipe	Pedestrian	Raining	Dark - Street Lights

Pedestrian Related Collisions (x8)
7/1/14 - 6/30/19



STOCKTON ST

COLUMBUS AVE

GREEN ST

Summary of Collisions at Columbus/Stockton/Green Intersection

Date Range: 7/1/14 - 6/30/19 (5 years)

Pull Date: 11/6/2019

1. NB vehicle at fault for not yielding to ped who was crossing legally.
2. Ped at fault. Ped crossed at uncontrolled crossing without yielding to vehicles. Ped was also intoxicated.
3. RT vehicle at fault for not yielding to Ped. Vehicle making RT onto Stockton from NB Columbus during Columbus phase.
4. Ped was named at fault. Ped crossed the street not in the crosswalk and did not 'yield' to vehicles. Ped was trying to catch bus. Vehicle was making legal NB LT.
5. WB vehicle making LT at fault for failing to yield to peds in crosswalk. Ped legally crossing. Vehicle making turn during AR.
6. Police report is wrong. Seems like ped was crossing on RH when SB vehicle hit him. Vehicle fled the scene. Vehicle was speeding.
7. RT Muni bus hits ped. Bus had green light and ped had walking man. Muni operator at fault for failing to yield to pedestrian.
8. SB vehicle making LT during yellow phase hits ped crossing Green. Vehicle at fault for failing to yield to ped.

Average Pedestrian Crossing Time Between NE/SW Corners

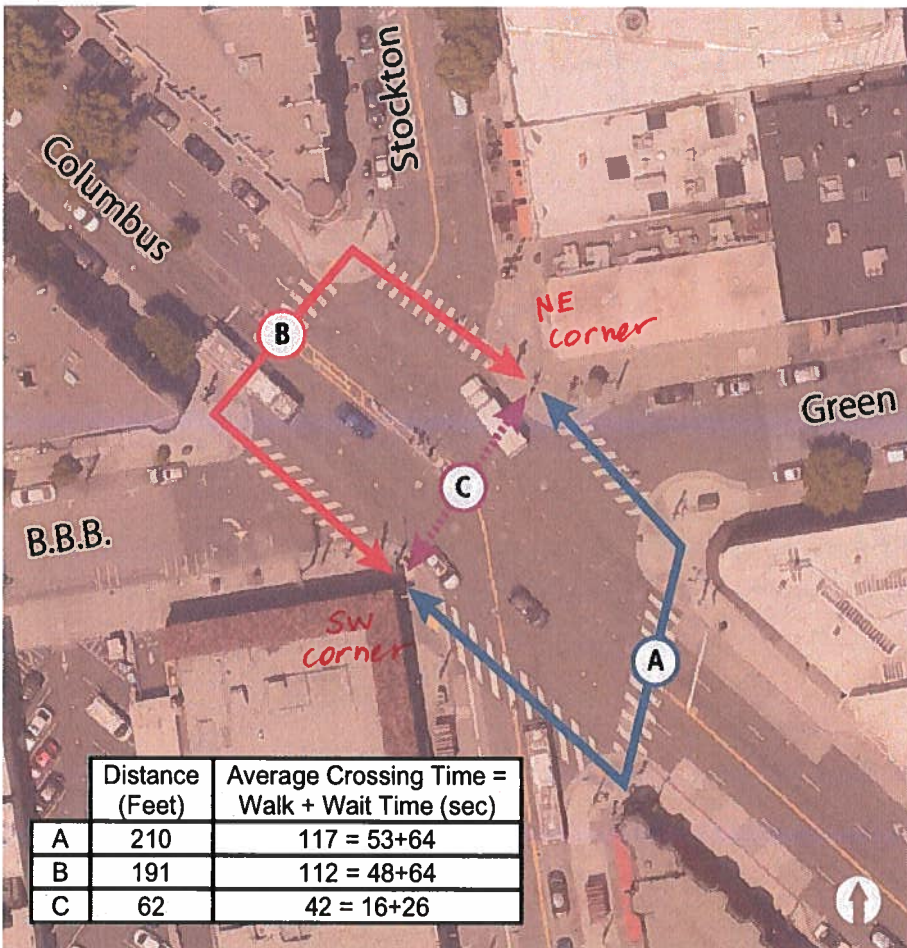
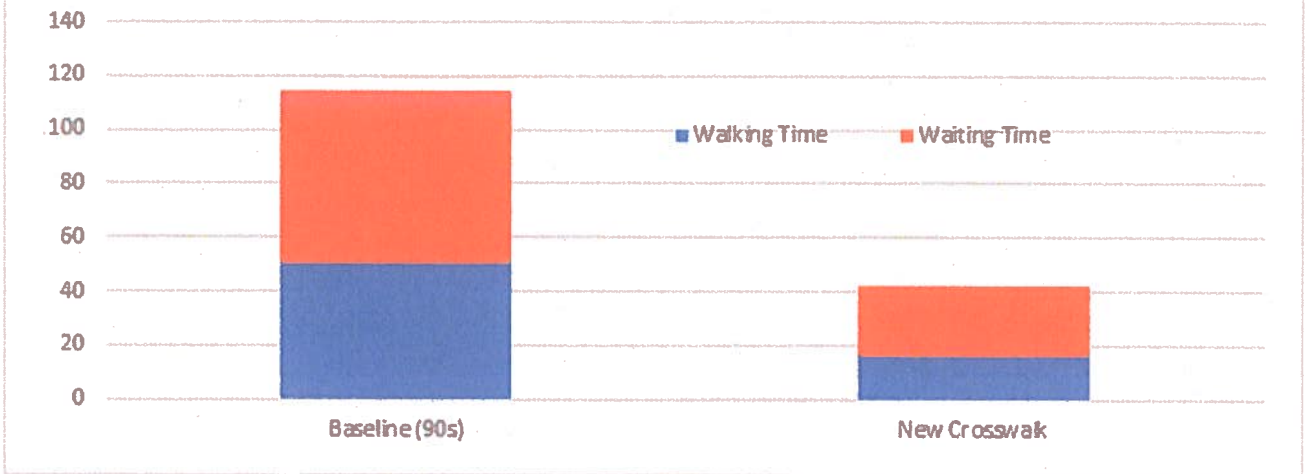
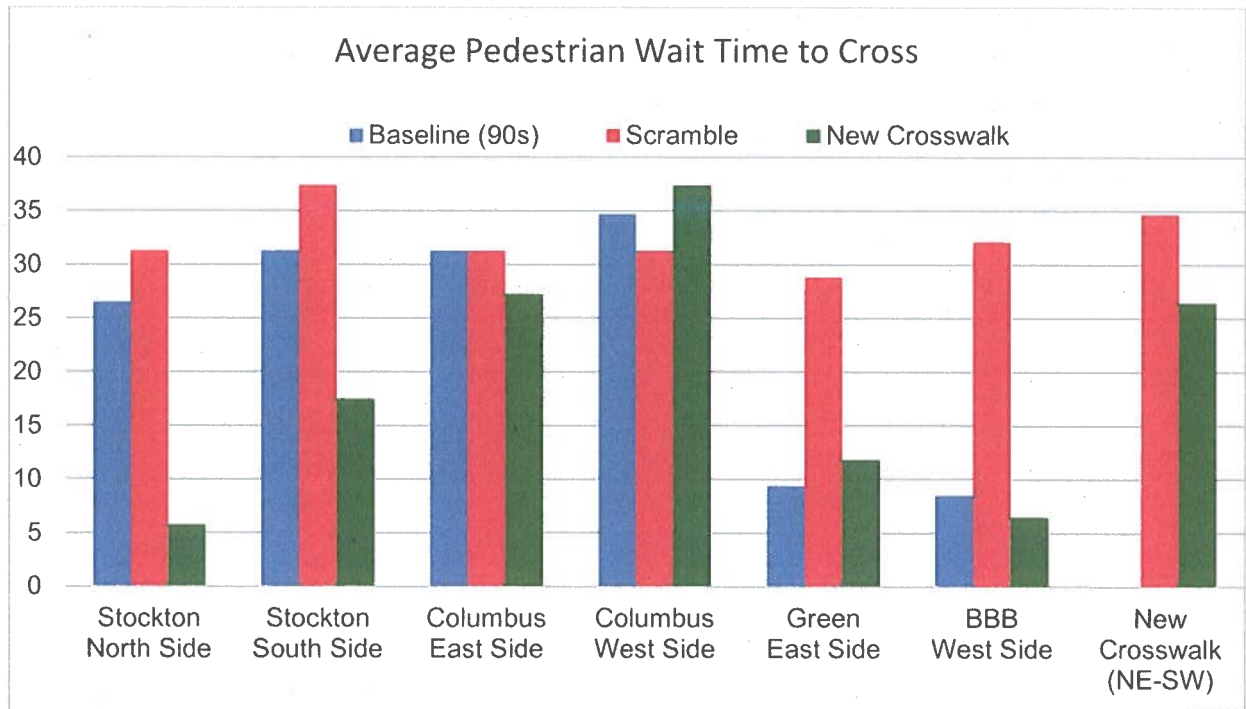


Figure showing average crossing times (walk+wait) between SE and NE corners

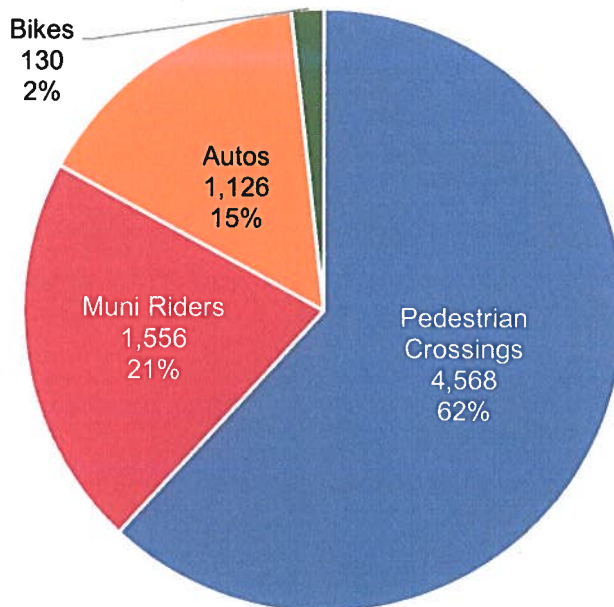
Scenario	Stockton	Columbus	LPis	New Xwalk	Columbus SE		Columbus NW		Stockton NB	
	Green Ratio	Green Ratio			Delay (sec)	V/C	Delay (sec)	V/C	Delay (sec)	V/C
Existing conditions @ 80 sec. cycle length	13%	29%	No	No	29	0.61	35	0.78	248	1.37
Existing conditions @ 90 sec. cycle length	13%	30%	No	No	31	0.59	36	0.75	216	1.29
Proposed conditions @ 90 sec. cycle length	14%	29%	Yes (2P, 6P, 16P)	Yes	32	0.62	38	0.78	179	1.20

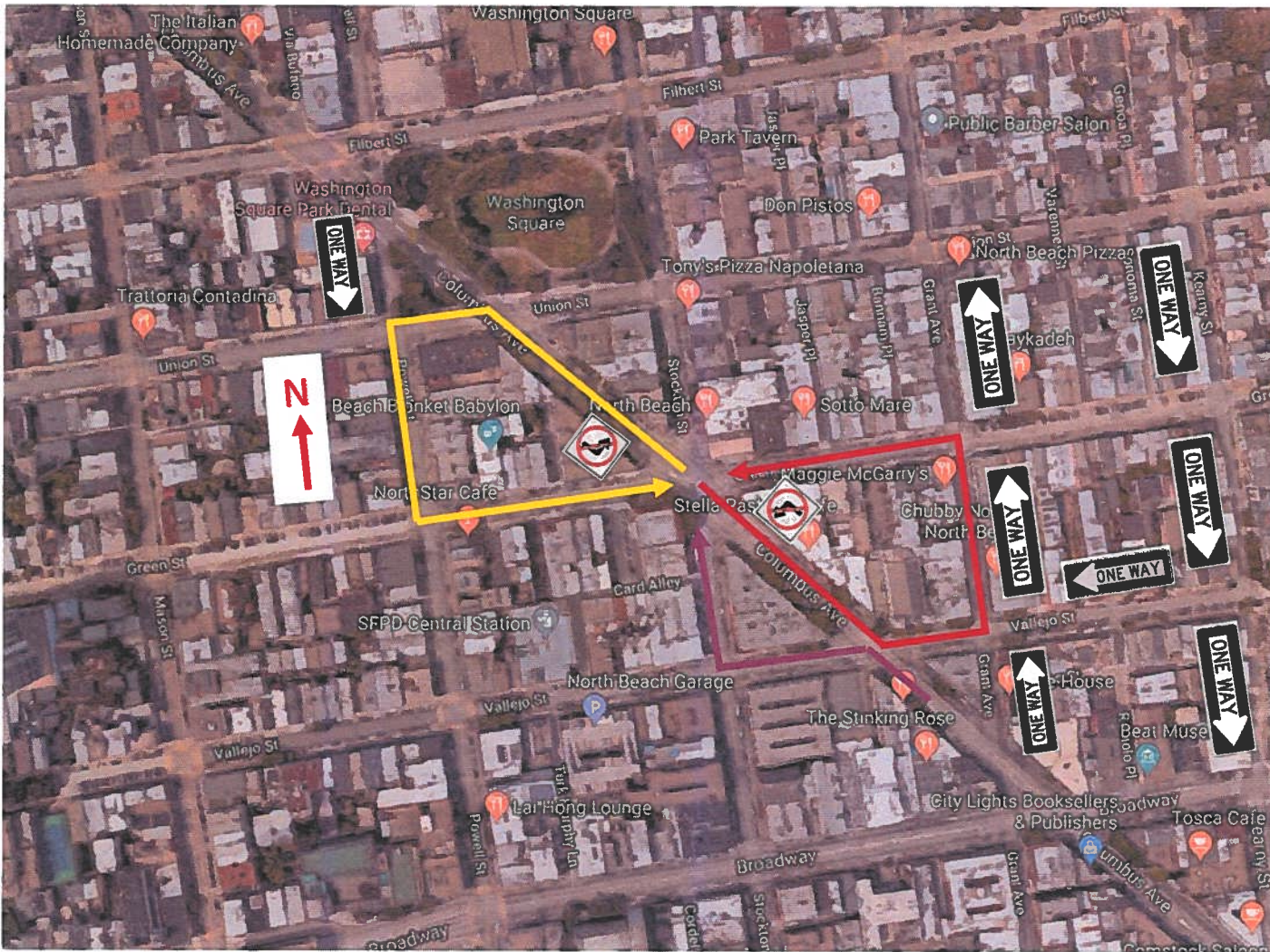
30, 45, 8 SB

30, 45 NB



Columbus, Stockton, and Green Mode Splits (PM Peak Hour)





- Columbus NW NO LT onto Stockton reroute
- Columbus NW NO LT onto BBB reroute
- Columbus SE NO LT onto Green reroute

Approach Photos

Approximate location of proposed crosswalk marked in red. All photos from Google StreetView.



Stockton NB; image taken June 2019



Columbus NWB; image taken June 2019



Green WB; image taken April 2019



Stockton SB; image taken April 2019 (This movement would not cross the proposed crosswalk due to the existing Right Turn Only restriction)



Columbus SEB; image taken Jun 2019



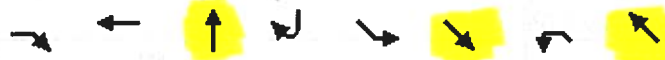
Green/Beach Blanket Babylon EB; image taken June 2019

Existing Conditions @ 80 sec.

Queues

3: Stockton & Columbus & Green

01/15/2020



Lane Group	EBR	WBT	NBT	SBR2	SEL	SET	NWL2	NWT
Lane Configurations	↔	↕	↕	↗		↕↔		↕↔
Traffic Volume (vph)	21	0	23	30	7	260	3	457
Future Volume (vph)	21	0	23	30	7	260	3	457
Lane Group Flow (vph)	33	76	147	33	0	403	0	585
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	8	4			6		2
Permitted Phases				3	6		2	
Minimum Split (s)	21.0	12.0	17.0	21.0	30.0	30.0	30.0	30.0
Total Split (s)	21.0	12.0	17.0	21.0	30.0	30.0	30.0	30.0
Total Split (%)	26.3%	15.0%	21.3%	26.3%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	6.0	7.0	7.0		7.0		7.0
Lead/Lag								
Lead-Lag Optimize?								
Act Effect Green (s)	14.0	6.0	10.0	14.0		23.0		23.0
Actuated g/C Ratio	0.18	0.08	0.12	0.18		0.29		0.29
v/c Ratio	0.13	0.29	1.37	0.08		0.61		0.78
Control Delay	29.6	2.9	247.7	0.4		29.1		34.7
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	29.6	2.9	247.7	0.4		29.1		34.7
LOS	C	A	F	A		C		C
Approach Delay		2.9	247.7			29.1		34.7
Approach LOS		A	F			C		C
Queue Length 50th (ft)	14	0	~98	0		90		140
Queue Length 95th (ft)	38	0	#213	0		138		#208
Internal Link Dist (ft)		385	384			542		493
Turn Bay Length (ft)								
Base Capacity (vph)	245	259	107	389		657		750
Starvation Cap Reductn	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0		0		0
Reduced v/c Ratio	0.13	0.29	1.37	0.08		0.61		0.78

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 45 (56%), Referenced to phase 2:NWTL and 6:SETL, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 54.5

Intersection LOS: D

Intersection Capacity Utilization 72.6%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

3: Stockton & Columbus & Green

01/15/2020

Splits and Phases: 3: Stockton & Columbus & Green

<p>Ø2 (R)</p> <p>20 s</p>	<p>Ø3</p> <p>21 s</p>	<p>Ø8</p> <p>22 s</p>	<p>Ø4</p> <p>27 s</p>
<p>Ø6 (R)</p> <p>20 s</p>	<p>Ø7</p> <p>21 s</p>		

Existing Conditions @ 90 sec.

Queues

3: Columbus & Green & Stockton

01/15/2020



Lane Group	EBR	WBT	NBT	SBR2	SEL	SET	NWL2	NWT
Lane Configurations	↔	↕	↕	↔		↕		↕
Traffic Volume (vph)	21	0	23	30	7	260	3	457
Future Volume (vph)	21	0	23	30	7	260	3	457
Lane Group Flow (vph)	33	76	147	33	0	403	0	585
Turn Type	Perm	NA	NA	Perm	Perm	NA	Perm	NA
Protected Phases		8	4			6		2
Permitted Phases	7			3	6		2	
Minimum Split (s)	24.0	12.0	19.0	24.0	35.0	35.0	35.0	35.0
Total Split (s)	24.0	12.0	19.0	24.0	35.0	35.0	35.0	35.0
Total Split (%)	26.7%	13.3%	21.1%	26.7%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	3.0	3.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	6.0	7.0	7.0		8.0		8.0
Lead/Lag								
Lead-Lag Optimize?								
Act Effct Green (s)	17.0	6.0	12.0	17.0		27.0		27.0
Actuated g/C Ratio	0.19	0.07	0.13	0.19		0.30		0.30
v/c Ratio	0.75	0.31	1.29	0.08		0.59		0.75
Control Delay	115.5	3.3	215.6	0.4		30.9		35.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	115.5	3.3	215.6	0.4		30.9		35.6
LOS	F	A	F	A		C		D
Approach Delay		3.3	215.6			30.9		35.6
Approach LOS		A	F			C		D
Queue Length 50th (ft)	18	0	~107	0		101		156
Queue Length 95th (ft)	#74	0	#228	0		151		220
Internal Link Dist (ft)		985	732			1185		1079
Turn Bay Length (ft)								
Base Capacity (vph)	44	244	114	389		679		777
Starvation Cap Reductn	0	0	0	0		0		0
Spillback Cap Reductn	0	0	0	0		0		0
Storage Cap Reductn	0	0	0	0		0		0
Reduced v/c Ratio	0.75	0.31	1.29	0.08		0.59		0.75

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 45 (50%), Referenced to phase 2:NWTL and 6:SETL, Start of Green

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 54.0

Intersection LOS: D

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.






Queue shown is maximum after two cycles.

Queues

3: Columbus & Green & Stockton

01/15/2020

Splits and Phases: 3: Columbus & Green & Stockton

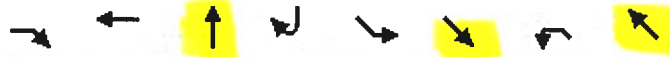
 Ø2 (R)	Ø3	 Ø8	 Ø4
35 s	22 s	22 s	35 s
 Ø6 (R)	 Ø7		
35 s	22 s		

Proposed Conditions @ 90 sec.

Queues

3: Columbus & Green & Stockton

01/15/2020



Lane Group	EBR	WBT	NBT	SBR2	SEL	SET	NWL2	NWT	Ø1	Ø5
Lane Configurations	↔	↔	↕	↔	↔	↔		↔		
Traffic Volume (vph)	21	0	23	30	7	260	3	457		
Future Volume (vph)	21	0	23	30	7	260	3	457		
Lane Group Flow (vph)	33	76	147	33	0	403	0	585		
Turn Type	Perm	NA	NA	Perm	Perm	NA	Perm	NA		
Protected Phases		8	4			6		2	1	5
Permitted Phases	7			3	6		2			
Minimum Split (s)	16.0	17.0	19.0	19.0	34.0	34.0	34.0	34.0	4.0	4.0
Total Split (s)	16.0	13.0	19.0	19.0	34.0	34.0	34.0	34.0	4.0	4.0
Total Split (%)	17.8%	14.4%	21.1%	21.1%	37.8%	37.8%	37.8%	37.8%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0
All-Red Time (s)	2.0	3.0	2.0	2.0	4.0	4.0	4.0	4.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0		
Total Lost Time (s)	6.0	7.0	6.0	6.0		8.0		8.0		
Lead/Lag	Lag	Lag							Lead	Lead
Lead-Lag Optimize?	Yes	Yes							Yes	Yes
Act Effct Green (s)	10.0	6.0	13.0	13.0		26.0		26.0		
Actuated g/C Ratio	0.11	0.07	0.14	0.14		0.29		0.29		
v/c Ratio	2.20	0.26	1.20	0.07		0.62		0.78		
Control Delay	732.1	2.2	179.3	0.3		32.3		37.9		
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		
Total Delay	732.1	2.2	179.3	0.3		32.3		37.9		
LOS	F	A	F	A		C		D		
Approach Delay		2.2	179.3			32.3		37.9		
Approach LOS		A	F			C		D		
Queue Length 50th (ft)	~30	0	~101	0		103		159		
Queue Length 95th (ft)	#91	0	#222	0		153		#226		
Internal Link Dist (ft)		985	732			1185		1079		
Turn Bay Length (ft)										
Base Capacity (vph)	15	290	123	447		653		748		
Starvation Cap Reductn	0	0	0	0		0		0		
Spillback Cap Reductn	0	0	0	0		0		0		
Storage Cap Reductn	0	0	0	0		0		0		
Reduced v/c Ratio	2.20	0.26	1.20	0.07		0.62		0.78		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 45 (50%), Referenced to phase 2:NWTL and 6:SETL, Start of Green

Natural Cycle: 105

Control Type: Pretimed

Maximum v/c Ratio: 2.20

Intersection Signal Delay: 67.3

Intersection LOS: E

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

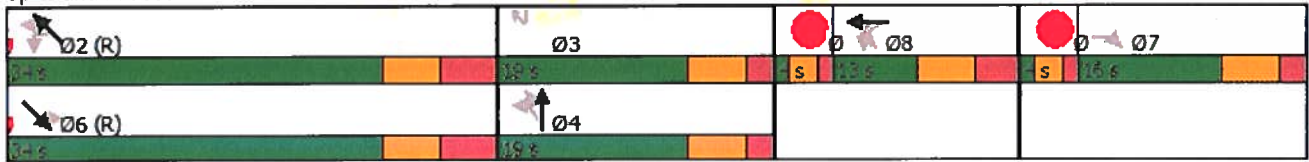
Queue shown is maximum after two cycles.

Queues

3: Columbus & Green & Stockton

01/15/2020

Splits and Phases: 3: Columbus & Green & Stockton





April 23, 2019

Aaron Peskin, Supervisor
City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, Ca 94102-4689
Via email: Aaron.Peskin@sfgov.org

Re: Reimagining Intersection of Columbus/Stockton/Green with “The Columbus Teardrop”

Dear Supervisor Peskin,

We are writing to join our fellow neighborhood group, Telegraph Hill Dwellers, in support of the placement of a pedestrian scramble scenario at the intersection of Columbus Avenue, Stockton, and Green Streets. We would also like to ask that pedestrian safety and transit efficiency be taken a step further by considering reimagining the intersection as a combination pedestrian scramble and teardrop-shaped rotary intersection with a small sculpture plaza/pedestrian refuge at center.

This idea is not new. Similar conceptual designs for an oval-shaped rotary intersection were drawn up by the neighborhood group RENEW SF, in the years leading up to the recent Columbus Avenue Project. Those designs were revolutionary then, but seem like common sense now in light of our Vision Zero commitments.

We request that NTIP funds be allocated for the expedited design and implementation of this project. After recent pedestrian and bicycle fatalities were deemed preventable, elected officials, SFMTA, and other city departments all worked together to ensure such improvements were installed in a matter of weeks, not years. North Beach Neighbors believes such responsiveness by those same parties could result in the rapid realization of this very important and much overdue street improvement.

Please see the image below for a schematic visualization of the proposed “Columbus Teardrop.”

Sincerely yours,

A handwritten signature in black ink that reads "Daniel J. Sauter".

Daniel J. Sauter, President



A w e s s i

Tony Wessling, Chair, Complete Streets Committee

cc: Director of Transportation, Edward D. Reiskin ed.reiskin@sfmta.com
Local Government Affairs Manager, Joél T. Ramos Joel.Ramos@sfmta.com
District 3 Supervisor, Aaron Peskin aaron.peskin@sfgov.org
PSAC, Gabrielle Haug gabriellehaug@gmail.com



- Red arrow over curb lane on Columbus indicates MUNI and RIGHT TURN ONLY.
- Yellow triangles could start as paint and posts, and move to permanent pedestrian islands if concept proves viable.



- Current DO NOT ENTER restriction from Stockton across to Green would be removed to allow full flow of vehicular traffic around the Teardrop.
- Vehicular traffic could be on a completely separate cycle from pedestrians, pedestrians could have permanent right-of-way with signs requiring vehicular traffic to yield, or there could be a hybrid of the two: Every couple of minutes, traffic would be given a red light in all directions to allow a pedestrian scramble, and then revert to amber flashing lights with pedestrian-priority right of way.

March 4, 2019

Aaron Peskin, Supervisor
City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, Ca 94102-4689
Via email: <Aaron.Peskin@sfgov.org>



Re: **Scramble – Columbus/Stockton/Green**

Dear Supervisor Aaron Peskin,

The Telegraph Hill Dwellers are writing to you in support of placing a pedestrian scramble signal in North Beach at the intersection of Columbus, Stockton, and Green St.

For pedestrians, crosswalks are the most dangerous portion of the street. The current intersection requires a pedestrian to traverse 3 crosswalks in order to cross the street. This greatly increases exposure to traffic and the probability of a potential accident. It is also unnecessarily taxing for seniors and the disabled in our community.

Many residents give up on the current design and choose to take their chances and jaywalk across the street from points A to B on the illustration below. This intersection is extremely dangerous to jaywalk because there are 6 potential sources of traffic.

We request the immediate review and reassessment of the current street design and a timely implementation of a scramble signal in this intersection.

We would like a follow up on the SFCTA Neighborhood Transportation Improvement Project dollars that were allocated to SFMTA to study pedestrian safety design on Kearny and scramble at Columbus, Stockton, and Green St.

In addition, although bulbouts have been placed on each of the 6 corners at this intersection, we recommend that consideration be given to the expansion of the small island in the center of Columbus Ave at point C on the illustration below into a pedestrian safety zone for those who require more time to cross.

March 4, 2019

Page 2

Lastly, we want to encourage the placement of "No Right Turn On Red" signs in this intersection to prevent cars from turning into crosswalks while pedestrians are crossing.

Sincerely,



Judy Irving
President
Telegraph Hill Dwellers



cc: Director of Transportation, Edward D. Reiskin ed.reiskin@sfmta.com
Local Government Affairs Manager, Joél T. Ramos Joel.Ramos@sfmta.com
PSAC, Gabrielle Haug gabriellehaug@gmail.com