Appendix A. Traffic Crashes and Data, West Street, San Pablo Avenue- 52nd Street, 2012-2016

		Veh	icle	Ped/	Bike	Тс	otal
		Injury	PDO	Injury	PDO	Injury	PDO
	Crash Types	49	77	27	4	76	81
А	Head On	5	7	1	0	6	7
В	Sideswipe	6	16	2	0	8	16
С	Rear End	5	10	1	0	6	10
D	Broadside	31	33	4	0	35	33
Е	Hit Object	0	8	0	0	0	8
F	Overturned	0	0	0	0	0	0
G	Vehicle/ped	0	0	7	2	7	2
н	Other	2	3	12	2	14	5
I	Not Stated	0	0	0	0	0	0

		Veh	icle	Ped/	Bike	То	otal]		
		Injury	PDO	Injury	PDO	Injury	PDO	% Injury	% PDO	Total
	Primary Collision Factors	49	77	27	4	76	81	100%	100%	100%
1	Driving or Bicycling Under the Influence of Alcohol or Drugs	1	2	0	0	1	2	1%	2%	2%
2	Impeding Traffic	0	0	0	0	0	0	0%	0%	0%
3	Unsafe Speed	7	12	2	0	9	12	12%	15%	13%
4	Following Too Closely	0	1	0	0	0	1	0%	1%	1%
5	Wrong Side of Road	0	2	3	0	3	2	4%	2%	3%
6	Improper Passing	0	2	0	0	0	2	0%	2%	1%
7	Unsafe Lane Change	2	0	0	0	2	0	3%	0%	1%
8	Improper Turning	6	16	2	0	8	16	11%	20%	15%
9	Automobile Right of Way	14	14	8	1	22	15	29%	19%	24%
10	Pedestrian Right of Way	0	0	2	0	2	0	3%	0%	1%
11	Pedestrian Violation	0	0	3	1	3	1	4%	1%	3%
12	Traffic Signals and Signs	17	18	6	2	23	20	30%	25%	27%
13	Hazardous Parking	0	1	0	0	0	1	0%	1%	1%
14	Lights	0	0	0	0	0	0	0%	0%	0%
15	Brakes	0	0	0	0	0	0	0%	0%	0%
16	Other Equipment	0	1	0	0	0	1	0%	1%	1%
17	Other Hazardous Violation	0	1	0	0	0	1	0%	1%	1%
18	Other than Driving (or Pedestrian)	0	0	0	0	0	0	0%	0%	0%
19										
20										
21	Unsafe Starting or Backing	0	2	1	0	1	2	1%	2%	2%
22	Other Improper Driving	0	0	0	0	0	0	0%	0%	0%
23	Pedestrian or "Other" Under the Influence of Alcohol or Drug	0	0	0	0	0	0	0%	0%	0%
24	Fell Asleep	0	0	0	0	0	0	0%	0%	0%
00	Unknown	2	5	0	0	2	5	3%	6%	4%
26	Not Stated	0	0	0	0	0	0	0%	0%	0%

Appendix A. Traffic Crash Summary and Data

FID ReportNo	Date	Street	CrossSt	Distance	Direction	Injury	Nolnjured	NoKilled	Cause	CollisnTyp	InvWith
0 5483557		36TH ST	WEST ST	0		Severe Injury	1	0	Ped R/W Violation	Vehicle - Pedestrian	Pedestrian
1 5509171		WEST ST	32ND ST	35	South	Property Damage Only	0	0	Improper Passing	Sideswipe	Other Motor Vehicle
2 5557195		32ND ST	WEST ST	20	West	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
3 5542802		WEST ST	31ST ST	25	North	Property Damage Only	0	0	Hazardous Parking	Sideswipe	Other Motor Vehicle
4 5547101		31ST ST	WEST ST	6	West	Property Damage Only	0	0	Unsafe Speed	Hit Object	Fixed Object
5 5491738		SYCAMORE ST	WEST ST	50	West	Property Damage Only	0	0	Improper Turning	Head-On	Parked Motor Vehicle
		WEST ST	51ST ST	75	South	Property Damage Only	0	0	Unsafe Starting or Backing	Head-On	Other Motor Vehicle
7 5579535		MACARTHUR BLVD	WEST ST	0		Other Visible Injury	5	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
8 5614580		MACARTHUR BLVD	WEST ST	30	East	Complaint of Pain	2	0	Unsafe Lane Change	Sideswipe	Other Motor Vehicle
9 5597105		WEST ST	51ST ST	35	North	Property Damage Only	0	0		Sideswipe	Other Motor Vehicle
		WEST ST	MACARTHUR BLVD	4	South	Property Damage Only	0	0	Driving Under Influence	Hit Object	Fixed Object
		WEST ST	28TH ST	15	North	Complaint of Pain	3	0	Improper Turning	Broadside	Parked Motor Vehicle
		WEST ST	MACARTHUR BLVD	25	East	Property Damage Only	0	0	Unknown	Hit Object	Fixed Object
		35TH ST	WEST ST	0		Complaint of Pain	2	0		Broadside	Other Motor Vehicle
14 5678371	6/3/2012	WEST ST	36TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Not Stated
15 5732459		WEST ST	MACARTHUR BLVD	12	North	Property Damage Only	0	0	Unsafe Speed		Other Motor Vehicle
			WEST ST	7			3	0	Unsafe Speed	Rear-End	
		36TH ST	WEST ST		East	Complaint of Pain		-	Unsafe Speed	Broadside	Other Motor Vehicle
17 5774982				0		Other Visible Injury	5	0	Auto R/W Violation	Head-On	Other Motor Vehicle
		WEST ST	36TH ST	0		Other Visible Injury	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		WEST ST	MACARTHUR BLVD	0	Not Stated	Complaint of Pain	1	0	Wrong Side of Road	Other	Bicycle
20 5868355		WEST ST	36TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
21 5861648		SAN PABLO AV	WEST ST (N)	0	Not Stated	Complaint of Pain	1	0	Ped R/W Violation	Vehicle - Pedestrian	Pedestrian
22 5855546	10/20/2012		35TH ST	0	Not Stated	Other Visible Injury	1	0	Traffic Signals and Signs	Other	Bicycle
23 5956982	10/22/2012		WEST ST	0		Property Damage Only	0	0	Unsafe Speed	Rear-End	Other Motor Vehicle
24 5888739		WEST ST	35TH ST	0		Other Visible Injury	1	0	Traffic Signals and Signs	Other	Bicycle
25 5947880		32ND ST	WEST ST	20	West	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Bicycle
26 5995402		28TH ST	WEST ST	12	West	Property Damage Only	0	0	Improper Turning	Hit Object	Fixed Object
27 5974114		WEST ST	45TH ST	0		Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
28 5987241		WEST ST	APGAR ST	10	North	Other Visible Injury	1	0	Unsafe Starting or Backing	Vehicle - Pedestrian	Pedestrian
29 5980075		WEST ST	34TH ST	50	North	Property Damage Only	0	0	Improper Turning	Other	Fixed Object
30 6009263		SAN PABLO AV	WEST ST (N)	0		Complaint of Pain	1	0	Wrong Side of Road	Broadside	Bicycle
31 6053334	2/17/2013	27TH ST	WEST ST	0	Not Stated		4	0	Auto R/W Violation	Broadside	Other Motor Vehicle
32 5988917	3/11/2013	WEST ST	27TH ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Sideswipe	Other Motor Vehicle
33 6014804	3/19/2013	WEST ST	34TH ST	57	South	Property Damage Only	0	0	Improper Turning	Broadside	Parked Motor Vehicle
34 6080965	4/18/2013	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
35 6043990	4/30/2013	WEST ST	45TH ST	3	North	Property Damage Only	0	0	Unsafe Speed	Hit Object	Fixed Object
36 6090415	5/29/2013	WEST ST	40TH ST	6	South	Property Damage Only	0	0	Improper Passing	Sideswipe	Other Motor Vehicle
37 6123080	6/12/2013	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
38 6122131	6/13/2013	36TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Other	Bicycle
39 6146452	6/28/2013	SYCAMORE ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Other	Bicycle
40 6151111			WEST ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Other	Bicycle
41 6156743	7/8/2013	32ND ST	WEST ST	0	Not Stated		1	0	Wrong Side of Road	Other	Bicycle
42 6180941		35TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Unsafe Speed	Rear-End	Other Motor Vehicle
43 6228578		WEST ST	36TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Other	Bicycle
		WEST ST	33RD ST	0		Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
45 6242112			WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
46 6198245		WEST ST	52ND ST	0	Not Stated	Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		SAN PABLO AV	25TH ST	35	West	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		WEST ST	SYCAMORE ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		WEST ST	BROCKHURST ST	0		Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		WEST ST	34TH ST	60	North	Complaint of Pain	1	0	Improper Turning	Sideswipe	Other Motor Vehicle
		WEST ST	34TH ST	0		Property Damage Only	0	0	Unsafe Speed	Broadside	Other Motor Vehicle
		WEST ST	35TH ST	0			0	0			
52 6237001	9/13/2013	VVE3131	3011 31	U	INUL STATED	Other Visible Injury	1	U	Improper Turning	Vehicle - Pedestrian	Bicycle

Appendix A. Traffic Crash Summary and Data

FID Repor		Date	Street	CrossSt	Distance	Direction	Injury	Nolnjured	NoKillod	Cause	CollisnTyp	InvWith
53 63413		14/2013		WEST ST	15	West	Property Damage Only	0	0	Improper Turning	Head-On	Fixed Object
54 632729		20/2013		WEST ST	10	East	Complaint of Pain	1	0	Unsafe Speed	Other	Bicycle
55 634142		23/2013		WEST ST	40	West	Property Damage Only	0	0	Improper Turning	Hit Object	Fixed Object
56 630573		25/2013		36TH ST	40		Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
57 626654		/1/2013		31ST ST	0		Complaint of Pain	3	0	Auto R/W Violation	Broadside	Not Stated
58 629396		/31/2013		40TH ST	0		Complaint of Pain	1	0		Broadside	Other Motor Vehicle
59 636772		/4/2013		31ST ST	0			0	0	Unsafe Speed Auto R/W Violation	Broadside	Other Motor Vehicle
60 646356		/18/2013		WEST ST	20	West	Property Damage Only	1	0			
61 63899		/18/2013		WEST ST	0		Complaint of Pain Complaint of Pain	1	0	Improper Turning Unknown	Rear-End Other	Parked Motor Vehicle Other Motor Vehicle
62 645263		/9/2013		WEST ST WEST ST	0				0			Other Motor Vehicle
63 64309				45TH ST	0		Complaint of Pain	1	0	Auto R/W Violation	Broadside	
64 643614				MACARTHUR BLVD	0		Other Visible Injury	0	0	Traffic Signals and Signs Auto R/W Violation	Broadside Broadside	Bicycle Other Motor Vehicle
65 643386		14/2013		WEST ST	0		Property Damage Only	0	0		Broadside	Other Motor Vehicle
					12		Property Damage Only	0	0	Traffic Signals and Signs		
66 64255 67 643072		10/2014	MACARTHUR BLVD	31ST ST	12	East North	Complaint of Pain	1	0	Traffic Signals and Signs	Other	Bicycle
		25/2014		WEST ST			Complaint of Pain	0	-	Improper Turning	Sideswipe	Bicycle
68 70628 69 653298		15/2014 16/2014		WEST ST WEST ST	0		Property Damage Only Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle Other Motor Vehicle
70 65690		30/2014		WEST ST WEST ST	0			0	0	Unsafe Speed	Sideswipe	
					15	South	Property Damage Only	0	0	Traffic Signals and Signs	Sideswipe	Other Motor Vehicle
71 65753		8/2014		37TH ST	0		Complaint of Pain		-	Unsafe Speed	Rear-End	Other Motor Vehicle
72 64503		12/2014		41ST ST	-	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
73 65537		18/2014		WEST ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
74 65729		27/2014		WEST ST	0		Property Damage Only	0	0	Other	Sideswipe	Parked Motor Vehicle
75 662169		5/2014		34TH ST		North	Complaint of Pain	1	0	Improper Turning	Broadside	Other Motor Vehicle
76 650012		12/2014		WEST ST	0		Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
77 658862		25/2014		WEST ST	0	Not Stated	Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
78 66138		31/2014		WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Other	Bicycle
79 655862		28/2014		SYCAMORE ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
80 660789		30/2014		WEST ST	0		Property Damage Only	0	0	Unknown	Broadside	Other Motor Vehicle
81 66478		20/2014		MACARTHUR BLVD	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
82 658620		23/2014		APGAR ST	30	South	Property Damage Only	0	0	Unknown	Hit Object	Fixed Object
83 659972		27/2014		WEST ST	16	East	Property Damage Only	0	0	Driving Under Influence	Hit Object	Fixed Object
84 66206		4/2014		44TH ST	75	South	Other Visible Injury	1	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian
85 668304		16/2014		WEST ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Other	Other Motor Vehicle
86 66940		31/2014		WEST ST	0		Property Damage Only	0	0	Improper Turning	Rear-End	Parked Motor Vehicle
87 671292		14/2014		31ST ST	80	South	Property Damage Only	0	0	Unsafe Speed	Head-On	Parked Motor Vehicle
88 66594		/3/2014		WEST ST	0		Property Damage Only	0	0	Auto R/W Violation	Rear-End	Other Motor Vehicle
89 687672		/13/2014		BROCKHURST ST	0		Other Visible Injury	2	0	Unsafe Speed	Rear-End	Other Motor Vehicle
90 67643		/23/2014		WEST ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
91 674530		/28/2014		WEST ST	20	West	Property Damage Only	0	0	Unsafe Speed	Head-On	Parked Motor Vehicle
92 68113		/5/2014		36TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
93 679390		/9/2014		WEST ST	5	East	Property Damage Only	0	0	Unsafe Speed	Sideswipe	Other Motor Vehicle
94 684602		/9/2014		52ND ST	10	South	Property Damage Only	0	0	Unknown	Other	Other Motor Vehicle
95 682964		/14/2014		36TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
96 67770		/15/2014		WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
97 677746		/4/2014		35TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
98 68596		5/2015		BROCKHURST ST	40	South	Property Damage Only	0	0	Improper Turning	Broadside	Parked Motor Vehicle
99 683796		14/2015		WEST ST	0		Complaint of Pain	1	0	Auto R/W Violation	Sideswipe	Bicycle
100 683506		1/2015		25TH ST	50	North	Complaint of Pain	1	0	Unsafe Speed	Rear-End	Bicycle
101 683338		10/2015		32ND ST	0		Property Damage Only	0	0	Unknown	Rear-End	Parked Motor Vehicle
102 69196		16/2015		WEST ST	0	Not Stated	Complaint of Pain	3	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
103 69310		17/2015		WEST ST	30	West	Complaint of Pain	1	0	Unsafe Lane Change	Sideswipe	Other Motor Vehicle
104 701823		7/2015		52ND ST	64	North	Property Damage Only	0	0	Unsafe Speed	Sideswipe	Other Motor Vehicle
105 690870)2 3/1	18/2015	WEST ST	25TH ST	60	North	Complaint of Pain	1	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian

Appendix A. Traffic Crash Summary and Data

FID I	ReportNo	Date	Street	CrossSt	Distance	Direction	Injury	Nolnjured	NoKilled	Cause	CollisnTyp	InvWith
		3/18/2015	WEST ST	45TH ST	25	North	Property Damage Only	0	0	Improper Turning	Sideswipe	Parked Motor Vehicle
		4/11/2015	42ND ST	WEST ST	0		Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		5/11/2015	WEST ST	40TH ST	0		Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		5/13/2015		WEST ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		5/18/2015	WEST ST	34TH ST	0		Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		7/2/2015		WEST ST	0		Complaint of Pain	4	0	Auto R/W Violation	Head-On	Other Motor Vehicle
		7/26/2015	29TH ST	WEST ST	0		Property Damage Only	0	0	Improper Turning	Sideswipe	Parked Motor Vehicle
		8/5/2015	WEST ST	35TH ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		8/10/2015		31ST ST	0		Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		8/21/2015	WEST ST	29TH ST	0		Complaint of Pain	3	-	Improper Turning	Sideswipe	Parked Motor Vehicle
		9/9/2015		WEST ST	0	Not Stated	Other Visible Injury	1	-	Auto R/W Violation	Other	non-collision
		9/13/2015	33RD ST	WEST ST	0		Complaint of Pain	1		Driving Under Influence	Broadside	Other Motor Vehicle
	198406	11/10/2015		51ST ST	0		Other Visible Injury	1	0	Auto R/W Violation	Broadside	Bicycle
				WEST ST	0		Property Damage Only	0	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian
		12/11/2015		36TH ST	0	Not Stated	Complaint of Pain	1	-	Unsafe Speed	Rear-End	Other Motor Vehicle
	3007437	12/12/2015		36TH ST	0		Property Damage Only	0	0	Following Too Closely	Rear-End	Other Motor Vehicle
		12/14/2015		WEST ST	0		Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
	3026170	12/27/2015		WEST ST	0		Other Visible Injury	1	0	Auto R/W Violation	Other	Bicycle
	3033055	1/17/2016	35TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
	3003976	2/9/2016		WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		2/12/2016	WEST ST	44TH ST	0		Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		3/1/2016	APGAR ST	WEST ST	50	East	Property Damage Only	0	-	Unsafe Speed	Rear-End	Other Motor Vehicle
		3/21/2016	27TH ST	WEST ST	0		Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
	3065366	3/24/2016		WEST ST	25	North	Property Damage Only	0	0	Auto R/W Violation	Sideswipe	Other Motor Vehicle
		3/29/2016	WEST ST	33RD ST	0		Property Damage Only	0	0	Auto R/W Violation	Head-On	Other Motor Vehicle
		4/4/2016		WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
		4/4/2016	27TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		4/6/2016	52ND ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Unknown	Head-On	Other Motor Vehicle
		4/15/2016	52ND ST	WEST ST	5	West	Property Damage Only	0	0	Wrong Side of Road	Sideswipe	Other Motor Vehicle
		4/25/2016	29TH ST	WEST ST	0	Not Stated	Other Visible Injury	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
		4/27/2016	WEST ST	SAN PABLO AV (N)	20	West	Property Damage Only	0	0	Improper Turning	Rear-End	Parked Motor Vehicle
		5/14/2016		WEST ST	25	West	Property Damage Only	0	0	Improper Turning	Head-On	Parked Motor Vehicle
		5/18/2016	WEST ST	39TH ST	30	North	Property Damage Only	0	0	Improper Turning	Broadside	Parked Motor Vehicle
139 8	3130138	6/30/2016	WEST ST	29TH ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Other	Bicycle
	3081488	7/9/2016		WEST ST	0		Property Damage Only	0	0	Improper Turning	Broadside	Other Motor Vehicle
141 8	3121023	7/12/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Head-On	Other Motor Vehicle
142 8	3110265	7/19/2016	WEST ST	31ST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
143 8	3154337	8/5/2016	41ST ST	WEST ST	35	East	Complaint of Pain	1	0	Improper Turning	Broadside	Parked Motor Vehicle
144 8	3165594	8/31/2016	WEST ST	39TH ST	10	North	Property Damage Only	0	0	Wrong Side of Road	Sideswipe	Other Motor Vehicle
145 8		9/14/2016	36TH ST	WEST ST	0	Not Stated	Complaint of Pain	3	0	Auto R/W Violation	Head-On	Other Motor Vehicle
146 8	3193377	9/25/2016	WEST ST	35TH ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Vehicle - Pedestrian	Bicycle
147 8	3192027	9/27/2016	WEST ST	31ST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
148 8	3182510	9/28/2016	WEST ST	37TH ST	0	Not Stated	Property Damage Only	0	0	Unsafe Speed	Rear-End	Other Motor Vehicle
149 8	3166558	10/1/2016	WEST ST	35TH ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Sideswipe	Other Motor Vehicle
	3192000	10/15/2016	35TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
	3179805	10/20/2016		35TH ST	0		Property Damage Only	0	0	Improper Turning	Sideswipe	Other Motor Vehicle
152 8	3299489	11/8/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Other	Bicycle
	3300582	11/28/2016		WEST ST	0	Not Stated	Property Damage Only	0	0	Unsafe Starting or Backing	Sideswipe	Other Motor Vehicle
154 8	3302190	11/28/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Head-On	Bicycle
	3206838	12/1/2016		WEST ST	5	West	Property Damage Only	0	0	Improper Turning	Rear-End	Parked Motor Vehicle
156 8	3309577	12/19/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian

Pace Number in Pace Speed Start Time Total 26-35 12:00 AM 1:00 AM 26-35 2:00 AM 22-31 3:00 AM 25-34 4:00 AM 26-35 5:00 AM 31-40 6:00 AM 21-30 7:00 AM 26-35 8:00 AM 26-35 9:00 AM 26-35 10:00 AM 26-35 11:00 AM 21-30 12:00 PM 26-35 1:00 PM 26-35 2:00 PM 21-30 3:00 PM 26-35 4:00 PM 26-35 5:00 PM 26-35 6:00 PM 26-35 7:00 PM 21-30 8:00 PM 21-30 9:00 PM 21-30 10:00 PM 23-32 11:00 PM 21-30 **Day Total** 26-35 1.3% Percent 7.9% 5.2% 19.3% 35.7% 23.4% 7.0% 0.1% 0.1% 0.0% 0.0% 0.0% 0.0% 0.0% ADT AM Peak 8:00 AM 7:00 AM 8:00 AM 6:00 AM Volume PM Peak 4:00 PM 8:00 PM 5:00 PM 3:00 PM 5:00 PM 4:00 PM 7:00 PM 1:00 PM 5:00 PM 1:00 PM Volume Comments: Report generated on 9/27/2018 4:37 PM SOURCE: Quality Counts, LLC (http://www.gualitycounts.net)

LOCATION: 37. West St Btwn 30th St & 31st St

SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St

Type of report: Tube Count - Speed Data

CITY/STATE: Oakland, CA

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QC JOB #: 14773287 DIRECTION: NB/SB

DATE: Sep 11 2018

Pace Number in Pace Speed Start Time Total 21-30 12:00 AM 1:00 AM 21-30 2:00 AM 21-30 3:00 AM 21-30 4:00 AM 21-30 5:00 AM 26-35 6:00 AM 26-35 7:00 AM 26-35 8:00 AM 26-35 9:00 AM 26-35 10:00 AM 26-35 11:00 AM 26-35 12:00 PM 26-35 1:00 PM 26-35 2:00 PM 26-35 3:00 PM 26-35 4:00 PM 26-35 5:00 PM 26-35 6:00 PM 21-30 7:00 PM 26-35 8:00 PM 21-30 9:00 PM 21-30 10:00 PM 21-30 11:00 PM 21-30 **Day Total** 26-35 Percent 7.3% 5.4% 19.7% 34.7% 23.8% 7.5% 1.1% 0.3% 0.1% 0.0% 0.0% 0.0% 0.0% 0.0% ADT AM Peak 8:00 AM 11:00 AM 8:00 AM 8:00 AM 8:00 AM 8:00 AM 8:00 AM 11:00 AM 8:00 AM Volume PM Peak 4:00 PM 6:00 PM 6:00 PM 5:00 PM 5:00 PM 2:00 PM 6:00 PM 10:00 PM 1:00 PM 5:00 PM 5:00 PM Volume Comments: Report generated on 9/27/2018 4:37 PM SOURCE: Quality Counts, LLC (http://www.gualitycounts.net)

LOCATION: 37. West St Btwn 30th St & 31st St

SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St

Type of report: Tube Count - Speed Data

CITY/STATE: Oakland, CA

West Street study appendix, page 6 of 43

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QC JOB #: 14773287 DIRECTION: NB/SB

DATE: Sep 12 2018

DATE: Sep 13 2018 CITY/STATE: Oakland, CA Pace Number in Pace Speed Start Time Total 21-30 12:00 AM 1:00 AM 28-37 2:00 AM 21-30 3:00 AM 21-30 4:00 AM 26-35 5:00 AM 31-40 6:00 AM 26-35 7:00 AM 26-35 8:00 AM 26-35 9:00 AM 26-35 10:00 AM 26-35 11:00 AM 21-30 12:00 PM 26-35 1:00 PM 26-35 2:00 PM 26-35 3:00 PM 26-35 4:00 PM 26-35 5:00 PM 26-35 6:00 PM 26-35 7:00 PM 21-30 8:00 PM 21-30 9:00 PM 21-30 10:00 PM 21-30 11:00 PM 22-31 **Day Total** 26-35 1.2% Percent 7.7% 5.8% 19.3% 35.8% 23.1% 6.7% 0.3% 0.1% 0.0% 0.0% 0.0% 0.0% 0.0% ADT AM Peak 7:00 AM 10:00 AM 8:00 AM 8:00 AM 8:00 AM 7:00 AM 10:00 AM 3:00 AM 8:00 AM 8:00 AM Volume PM Peak 4:00 PM 2:00 PM 4:00 PM 5:00 PM 5:00 PM 3:00 PM 5:00 PM 5:00 PM 3:00 PM 5:00 PM Volume Comments: Report generated on 9/27/2018 4:37 PM SOURCE: Quality Counts, LLC (http://www.gualitycounts.net)

Type of report: Tube Count - Speed Data

Appendix B. Speed Survey, Average Daily Traffic Counts

LOCATION: 37. West St Btwn 30th St & 31st St

SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St

West Street study appendix, page 7 of 43

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QC JOB #: 14773287 DIRECTION: NB/SB

Type of report: T	Fube Cou	int - Spee	ed Data				SUMI	MARY -	Tube C	ount - S	peed Da	ata						Page 4 of 4
LOCATION: SPECIFIC LO CITY/STATE	OCATIO	N: 37.				31st St									DA	D	C JOB #: IRECTION: 11 2018 - Se	NB/SB
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999		Total	Pace Speed	Number in Pace
Grand Total Percent	835 7.6%	599 5.5%	2125 19.4%	3875 35.4%	2568 23.5%	777 7.1%	132 1.2%	26 0.2%	8 0.1%	2 0.0%	1 0.0%	0 0.0%	0 0.0%	0 0.0%		10948	26-35	6443
Cumulative Percent	7.6%	13.1%	32.5%	67.9%	91.4%	98.5%	99.7%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%				
ADT 3649													_				35th Percent	
Comments:																	Medi	an 27 MPH de: 28 MPH

Report generated on 9/27/2018 4:37 PM



LOCATION: SPECIFIC LC CITY/STATE:	CATION:	37. West S		St & 31st St					DATE	QC JOB #: 14773287 DIRECTION: NB/SB Sep 11 2018 - Sep 13 20
Start Time	Mon	Tue	Wed 12-Sep-18	Thu 13-Sep-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profil
12:00 AM		43	39	46		43			43	
1:00 AM		34	23	31		29			29	
2:00 AM		22	29	33		28			28	
3:00 AM		14	18	18		17			17	
4:00 AM		9	17	26		17			17	Ū.
5:00 AM		15	20	19		18			18	ā
6:00 AM		65	65	49		60			60	
7:00 AM		162	161	150		158			158	
8:00 AM		256	270	254		260			260	
9:00 AM		172	174	187		178			178	
10:00 AM		185	167	194		182			182	
11:00 AM		151	169	191		170			170	
12:00 PM		215	216	213		215			215	
1:00 PM		185	229	233		216			216	
2:00 PM		240	290	260		263			263	
3:00 PM		307	238	315		287	L y		287	
4:00 PM		296	300	300		299			299	
5:00 PM		330	350	326		335			335	
6:00 PM		247	257	230		245			245	
7:00 PM		176	187	177		180			180	
8:00 PM		153	154	162		156			156	
9:00 PM		130	139	118		129			129	
10:00 PM		97	99	100		99			99	
11:00 PM		63	61	77		67			67	
Day Total		3567	3672	3709		3651			3651	
Weekday										
Average		97.7%	100.6%	101.6%						
% Week										
Average		97.7%	100.6%	101.6%		100.0%				
AM Peak		8:00 AM	8:00 AM	8:00 AM		8:00 AM			8:00 AM	
Volume		256	270	254		260			260	
PM Peak		5:00 PM	5:00 PM	5:00 PM		5:00 PM			5:00 PM	
Volume		330	350	326		335			335	

Report generated on 9/27/2018 4:37 PM

Appendix C. Pedestrian Level of Service Analysis West Street, San Pablo Avenue to 52nd Street

Overview

Pedestrian Level of Service characterizes pedestrian conditions based on the estimated amount of delay a pedestrian is expected to experience crossing a street at an uncontrolled intersection. Delay is used as a proxy for safety because the longer a pedestrian needs to wait, the more likely they are to take risks and attempt to cross without a sufficient gap in motorized traffic.

The average crossing delay is calculated based on the Highway Capacity Manual (HCM) methodology for uncontrolled pedestrian crossings at two-way stop controlled intersections or at midblock locations. The methodology was applied to the project street by inputting the number of travel lanes to cross, presence of a pedestrian safety island or median, crossing distance measured in feet, number of motor vehicles during the peak period, and the rate at which motorists yield to pedestrians waiting to cross. Yield rates weren't measured during the data collection phase, Oakland-specific base yield rates, based on the City's road diet methodology, were applied to calculate average crossing delay.

Currently, 2nd, 3rd, 4th, and 9th Streets have unmarked crosswalks, and 13th, 15th, and 19th Streets have crosswalks with transverse markings. The project would install high-visibility markings at all crosswalks.

АМ	Existing			Project		
Intersections	Yield rate	Average Delay (sec.)	Ped LOS	Yield rate	Average Delay (sec.)	Ped LOS
Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg)	10%	25.3	D	40%	20.7	D
28th St, 33rd St	20%	25.3	D	40%	4.7	А
34th St (north leg), 37th St, 43rd St, 44th St, 46th St	10%	23.5	D	40%	19.3	С
Apgar St	40%	23.5	D	40%	4.5	А
47th St	20%	23.5	D	40%	19.3	С
51st St	10%	23.5	D	10%	22.6	D
РМ	Existing			Project		
Intersections	Yield rate	Average Delay (sec.)	Ped LOS	Yield rate	Average Delay (sec.)	Ped LOS
Intersections Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg)		Delay	Ped LOS E	Yield rate	Delay	Ped LOS D
Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St		Delay (sec.)			Delay (sec.)	
Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg)	10%	Delay (sec.) 37.8	E	40%	Delay (sec.) 27.8	D
Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg) 28th St, 33rd St 34th St (north leg), 37th	10%	Delay (sec.) 37.8 36.3	E	40%	Delay (sec.) 27.8 6.4	D
Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg) 28th St, 33rd St 34th St (north leg), 37th St, 43rd St, 44th St, 46th St	10% 20% 10%	Delay (sec.) 37.8 36.3 34.9	E	40% 40%	Delay (sec.) 27.8 6.4 26.1	D B D

Summary

Worksheets attached.

	Existing Unmarked, 60-ft wide crossings that will be modified: (West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St			
	tion: (south leg)) ario: Existing Conditions AM		Date: Analyst:	1/23/2020 DEP
	tify Crossing Type		Analyst	DEI
Crossing Typ		3-lane		
	ossing Calcs Apply? age crossing calculation applied at all divided roadways	No		
Step 2: Dete	rmine Critical Headway	Stage 1	Sta	ge 2
<u>'</u>	Crossing distance (ft)		60	
S _p	Average pedestrian speed (ft/s)		3.5	
s	Pedestrian start-up time and end clearance time (s)		3	
c	Critical headway for pedestrian crossing		20.1	
	ning effects ignored. $t_{c,G}$ assumed to equal t_c			
Step 3: Estin	nate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		260	
2	Number of lanes crossed		3	
/	Vehicular flow rate (veh/s)		0.07	
D _b	Probability of a blocked lane		0.38	
P _d	Probability of a delayed crossing		0.77	
Step 4: Calc				
	ulate Average Delay to Wait for an Adequate Gap			
d _g	ulate Average Delay to Wait for an Adequate Gap Average pedestrian gap delay (s)		25.3	_
			25.3 33.0	
l _g I _{gd}	Average pedestrian gap delay (s)			
f _g J _{gd} Step 5: Estir	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay			
d _g d _{gd} Step 5: Estin M _y	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate		33.0 10%	
fg fgd Step 5: Estin fy	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles		33.0	
f _g J _{gd} Step 5: Estin M _y	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available		33.0 10% 41.5	
f _g f _{gd} Step 5: Estin Λ _y h h P(Y ₁)	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane		33.0 10% 41.5	N/A
f _g f _{gd} Step 5: Estin Λ _y h h P(Y ₁)	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available		33.0 10% 41.5	N/A
f_{g} f_{gd} Step 5: Estim M_{y} $P(Y_{1})$ $P(Y_{2})$ \vdots \vdots	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	Ν/Α	33.0 10% 41.5	
$\frac{d_g}{d_{gd}}$ Step 5: Estim	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	N/A	33.0 10% 41.5	
$\frac{d_g}{d_{gd}}$ Step 5: Estim $\frac{M_y}{d_y}$ $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full iter	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	N/A	33.0 10% 41.5	
f_{g} f_{gd} Step 5: Estim	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i rations shown on "crossing event calculation" tab	N/A	33.0 10% 41.5 0	
d_{g} d_{gd} Step 5: Estim M_{y} $P(Y_{1})$ $P(Y_{2})$ \vdots $P(Y_{n})$ Note: Full iter d_{p}	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay nate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i rations shown on "crossing event calculation" tab	N/A	33.0 10% 41.5 0	N/A N/A

0				
Summary Da				
	Existing Unmarked, 60-ft wide crossings that will be modified:			
Intersect	(West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St tion: (south leg))		Date:	1/23/2020
	ario: Existing Conditions PM		Analyst:	DEP
	tify Crossing Type			
Crossing Typ	e	3-lane		
	rossing Calcs Apply? age crossing calculation applied at all divided roadways	No		
Step 2: Dete	rmine Critical Headway	Stage 1	Sta	age 2
<u>_</u>	Crossing distance (ft)		60	
	Average pedestrian speed (ft/s)		3.5	
s S	Pedestrian start-up time and end clearance time (s)		3	
			00.4	
c Note: Platoor	Critical headway for pedestrian crossing ning effects ignored. $t_{c,G}$ assumed to equal t_c		20.1	
Step 3: Estin	nate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		335	
C	Number of lanes crossed		3	
V	Vehicular flow rate (veh/s)		0.09	
P _b	Probability of a blocked lane		0.46	
P _d	Probability of a delayed crossing		0.85	
Step 4: Calc	ulate Average Delay to Wait for an Adequate Gap			
d _g	Average pedestrian gap delay (s)		39.1	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay		46.2	
Sten 5 [.] Estin	nate Delay Reduction due to Yielding Vehicles			
My	Motorist Yield Rate		10%	
h	Average headway for each through lane		32.2	
1	Average number of crossing events before an adequate gap is available		1	
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i		0.04	
P(Y ₂)		N/A		N/A
÷				
P(Y _n)		N/A		N/A
	rations shown on "crossing event calculation" tab			
	Average pedestrian delay for each stage (s)		37.8	
d _p				
d _p				
d _p Step 6: Calc	ulate Average Pedestrian Delay and Determine LOS			
	ulate Average Pedestrian Delay and Determine LOS Average pedestrian delay (s)		37.8	

Step 1: Identif Crossing Type Two-stage Cro Note: Two-stage Step 2: Deterr L S _p t _s t _c Note: Platoonir	possing Calcs Apply? ge crossing calculation applied at all divided roadways mine Critical Headway Crossing distance (ft) Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ing effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing	3-lane No Stage 1	60 3.5 3 20.1	DEP
Crossing Type Two-stage Cro Note: Two-stag Step 2: Deterr L S _p t _s t _c Note: Platoonir	possing Calcs Apply? ge crossing calculation applied at all divided roadways mine Critical Headway Crossing distance (ft) Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ing effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing	No	60 3.5 3	e 2
Two-stage Cro Note: Two-stag Step 2: Deterr L S _p t _s t _c Note: Platoonin	possing Calcs Apply? ge crossing calculation applied at all divided roadways mine Critical Headway Crossing distance (ft) Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ing effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing	No	60 3.5 3	e 2
Note: Two-stag Step 2: Deterr L S _p t _s t _c Note: Platoonir	ge crossing calculation applied at all divided roadways mine Critical Headway Crossing distance (ft) Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ing effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing		60 3.5 3	e 2
L S _p t _s t _c Note: Platoonir	Crossing distance (ft) Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s)Critical headway for pedestrian crossing ng effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing	Stage 1	60 3.5 3	e 2
S _p t _s t _c Note: Platoonir	Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ng effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing		3.5 3	
S _p t _s t _c Note: Platoonir	Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ng effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing		3.5 3	
t _s t _c Note: Platoonir	Pedestrian start-up time and end clearance time (s) Critical headway for pedestrian crossing ng effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing			
Note: Platoonii	ng effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing		20.1	
Note: Platoonii	ng effects ignored. $t_{c,G}$ assumed to equal t_c ate Probability of a Delayed Crossing			
Step 3: Estima			_0.1	
	Conflicting Vehicles/hr for each stage		260	
^	Number of lanes crossed		3	
	Vehicular flow rate (veh/s)		0.07	
> _b	Probability of a blocked lane		0.38	
P _d	Probability of a delayed crossing		0.77	
Step 4: Calcul	late Average Delay to Wait for an Adequate Gap			
d _g	Average pedestrian gap delay (s)		25.3	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay		33.0	
	ate Delay Reduction due to Yielding Vehicles			
Л _у	Motorist Yield Rate		20%	
า	Average headway for each through lane		41.5	
ו	Average number of crossing events before an adequate gap is available		0	
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i			
P(Y ₂)				N/A
:				
P(Y _n)		N/A		N/A
vote: Full itera	tions shown on "crossing event calculation" tab			
d _p	Average pedestrian delay for each stage (s)		25.3	
Step 6: Calcul	late Average Pedestrian Delay and Determine LOS			
d _p	Average pedestrian delay (s)		25.3	

	Existing transverse style marked, 60-ft wide crossings that will be modified: (West St @ 28th St, 33rd St) hario: Existing Conditions PM		Date: Analyst:	1/23/2020 DEP
Step 1: Ider	ntify Crossing Type			
Crossing Ty	pe	3-lane		
	Crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No		
Step 2: Det	ermine Critical Headway	Stage 1	Sta	ge 2
L	Crossing distance (ft)		60	
S _p	Average pedestrian speed (ft/s)		3.5	
t _s	Pedestrian start-up time and end clearance time (s)		3	
c	Critical headway for pedestrian crossing		20.1	
	ning effects ignored. $t_{c,G}$ assumed to equal t_c		20.1	
Step 3: Esti	mate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		335	
2	Number of lanes crossed		3	
/	Vehicular flow rate (veh/s)		0.09	
> _b	Probability of a blocked lane		0.46	
P _d	Probability of a delayed crossing		0.85	
Step 4: Cal	culate Average Delay to Wait for an Adequate Gap			
d	Average nodestrian gap delay (a)		20.4	
d _g	Average pedestrian gap delay (s)		39.1 46.2	
d _g d _{gd}	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay		39.1 46.2	
d _{gd}				
d _{gd} Step 5: Esti	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles		46.2	
d _{gd} Step 5: Esti	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate		46.2 20%	-
d _{gd} Step 5: Esti M _y	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles		46.2	
g _{gd} Step 5: Esti M _y n	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available		46.2 20% 32.2 1	
d_{gd} Step 5: Esting M_y d_y d_y $P(Y_1)$	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane	N/A	46.2 20%	N/A
d_{gd} Step 5: Esting M_y d_y d_y $P(Y_1)$	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	N/A	46.2 20% 32.2 1	N/A
$\frac{1}{gd}$ Step 5: Esting $\frac{M_y}{p}$ $P(Y_1)$ $P(Y_2)$ \vdots \vdots	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available		46.2 20% 32.2 1	
$\frac{d_{gd}}{d_{gd}}$ Step 5: Estimate for the second state of the	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	N/A N/A	46.2 20% 32.2 1	
g_{gd} Step 5: Esti M_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full ite	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i erations shown on "crossing event calculation" tab		46.2 20% 32.2 1 0.09	
g_{gd} Step 5: Esti M_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full ite	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i		46.2 20% 32.2 1	
f_{gd} Step 5: Esting M_{y} $P(Y_{1})$ $P(Y_{2})$ \vdots $P(Y_{n})$ Note: Full ite	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i erations shown on "crossing event calculation" tab Average pedestrian delay for each stage (s)		46.2 20% 32.2 1 0.09	
g_{gd}^{\dagger} Step 5: Esting M_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full ited d_p	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i erations shown on "crossing event calculation" tab		46.2 20% 32.2 1 0.09	N/A N/A

Summary Da	ita			
	Existing unmarked, 58-ft wide crossings:			
Internet	(West St @ 34th St (north leg), 37th St, 39th St, 43rd St, 44th St, 46th St,		Detail	4/00/0000
	tion: 51st St) ario: Existing Conditions AM		Date: Analyst:	1/23/2020 DEP
			Analyst.	DLF
Step 1: Ident	tify Crossing Type			
Crossing Typ	e	3-lane		
	rossing Calcs Apply? age crossing calculation applied at all divided roadways	No		
Step 2: Dete	rmine Critical Headway	Stage 1	Sta	ge 2
L	Crossing distance (ft)		58	
S _p	Average pedestrian speed (ft/s)		3.5	
ts	Pedestrian start-up time and end clearance time (s)		3	
t _c	Critical headway for pedestrian crossing		19.6	
Note: Platoor	ning effects ignored. $t_{c,G}$ assumed to equal t_c			
Step 3: Estin	nate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		260	
С	Number of lanes crossed		3	
v	Vehicular flow rate (veh/s)		0.07	
P _b	Probability of a blocked lane		0.38	
P _d	Probability of a delayed crossing		0.76	
Step 4: Calc	ulate Average Delay to Wait for an Adequate Gap			
d	Average nodestrian gap delay (s)		23.5	
d _g d	Average pedestrian gap delay (s)		31.0	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay		31.0	
Step 5: Estin	nate Delay Reduction due to Yielding Vehicles			
My	Motorist Yield Rate		10%	
L			41.5	
h n	Average headway for each through lane Average number of crossing events before an adequate gap is available		41.5	
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i			
P(Y ₂)				N/A
:				
$P(Y_n)$		N/A		N/A
	rations shown on "crossing event calculation" tab			14/7 (
d _p	Average pedestrian delay for each stage (s)		23.5	
~ p	, wordgo podosirian doldy for odoli stage (s)		20.0	
Step 6: Ca <u>lc</u>	ulate Average Pedestrian Delay and Determine LOS			<u></u>
			00 5	
d _p	Average pedestrian delay (s) <i>Ped LOS</i>		23.5 D	
			D	

Summary Da				
	Existing unmarked, 58-ft wide crossings that will be modified: (West St @ 34th St (north leg), 37th St, 39th St, 43rd St, 44th St, 46th St,			
Intersec	tion: 51st St)		Date:	1/23/2020
	ario: Existing Conditions PM		Analyst:	DEP
Step 1: Iden	tify Crossing Type			
Crossing Typ	De la	3-lane		
	rossing Calcs Apply? age crossing calculation applied at all divided roadways	No		
Step 2: Dete	ermine Critical Headway	Stage 1	Sta	ige 2
	Crossing distance (ft)		58	
- S _p	Average pedestrian speed (ft/s)		3.5	
s s	Pedestrian start-up time and end clearance time (s)		3	
3				
с	Critical headway for pedestrian crossing		19.6	
	ning effects ignored. $t_{c,G}$ assumed to equal t_c			
tep 3: Esti	mate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		335	
;	Number of lanes crossed		3	
, ,	Vehicular flow rate (veh/s)		0.09	
b	Probability of a blocked lane		0.46	
2 d	Probability of a delayed crossing		0.84	
Step 4: Calc	ulate Average Delay to Wait for an Adequate Gap			
l _g	Average pedestrian gap delay (s)		36.1	
	Average gap delay for pedestrians who incur non-zero delay		43.1	
l _{gd}	Average gap delay for pedestinans who incur hon-zero delay		43.1	
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles			
1 y	Motorist Yield Rate		10%	
1	Average headway for each through lane		32.2	
	Average number of crossing events before an adequate gap is available		1	
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i		0.04	
P(Y ₂)		N/A		N/A
:				
: P(Y _n) lote: Full ite	rations shown on "crossing event calculation" tab	N/A		N/A
			34.9	
,	Average pedestrian delay for each stage (s)		54.9	
l _p				
	ulate Average Pedestrian Delay and Determine LOS			
	ulate Average Pedestrian Delay and Determine LOS Average pedestrian delay (s)		34.9	

Summary D	Existing high visibility style, 58-ft wide crossings:			
	ction: (West St @ Apgar St, 41st St) nario: Existing Conditions AM	Da Analy		020)EP
Step 1: Ider	ntify Crossing Type			
Crossing Ty	ре	3-lane		
	Crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No		
Step 2: Det	ermine Critical Headway	Stage 1	Stage 2	
L	Crossing distance (ft)		<mark>58</mark>	
S _p	Average pedestrian speed (ft/s)	(3.5 3	
ts	Pedestrian start-up time and end clearance time (s)		3	
t _c	Critical headway for pedestrian crossing	19	.6	
Note: Platoc	ning effects ignored. $t_{c,G}$ assumed to equal t_c			
Step 3: Esti	mate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	26	<mark>60</mark>	
С	Number of lanes crossed		3	
v	Vehicular flow rate (veh/s)		.07	
P _b P _d	Probability of a blocked lane Probability of a delayed crossing		38 76	
		0.	10	
Step 4: Cal	culate Average Delay to Wait for an Adequate Gap			
d _g	Average pedestrian gap delay (s)	23	3.5	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay	31	1.0	
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles			
My	Motorist Yield Rate	4(<mark>)%</mark>	
h	Average headway for each through lane	4	1.5	
n	Average number of crossing events before an adequate gap is available		0	
P(Y₁)	Probability that motorists yield to pedestrian on crossing event i			
P(Y ₂)			1	N/A
:				
P(Y _n)		N/A	1	N/A
Note: Full ite	erations shown on "crossing event calculation" tab			
d _p	Average pedestrian delay for each stage (s)	23	3.5	
Step 6: Cal	culate Average Pedestrian Delay and Determine LOS			
d _p	Average pedestrian delay (s)	2:	3.5	
- p	Ped LOS	2.	D	

Summary D				
	Existing high visibility style, 58-ft wide crossings: (West St @ Apgar St, 41st St)		Date:	1/23/2020
	nario: Existing Conditions PM	Alla	alyst:	DEP
Step 1: Ider	ntify Crossing Type			
Crossing Ty	pe	3-lane		
	Crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No		
Step 2: Det	ermine Critical Headway	Stage 1	Stag	e 2
L	Crossing distance (ft)		58	
S _p t _s	Average pedestrian speed (ft/s) Pedestrian start-up time and end clearance time (s)		3.5 3	
t _c	Critical headway for pedestrian crossing		19.6	
Note: Platoc	ning effects ignored. $t_{c,G}$ assumed to equal t_c			
Step 3: Esti	mate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		335	
с	Number of lanes crossed		3	
v P _b	Vehicular flow rate (veh/s) Probability of a blocked lane		0.09	
P _d	Probability of a delayed crossing		0.84	
Step 4: Calo	culate Average Delay to Wait for an Adequate Gap			
d _g	Average pedestrian gap delay (s)		36.1	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay		43.1	
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles			
M _y	Motorist Yield Rate		<mark>40%</mark>	
h n	Average headway for each through lane Average number of crossing events before an adequate gap is available		32.2 1	
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i		0.22	
P(Y ₂) :		N/A		N/A
: P(Y _n) Note: Full ite	erations shown on "crossing event calculation" tab	N/A		N/A
d _p	Average pedestrian delay for each stage (s)		30.1	
Step 6: Cal	culate Average Pedestrian Delay and Determine LOS			
d _p	Average pedestrian delay (s) <i>Ped LOS</i>		30.1 <i>E</i>	

	Existing transverse style, 58-ft wide crossings:		
	tion: (West St @ 47th St) nario: Existing Conditions AM	Dat Analys	
	tify Crossing Type		
Crossing Ty		3-lane	
		-	
	crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No	
Step 2: Dete	ermine Critical Headway	Stage 1	Stage 2
<u></u>	Crossing distance (ft)	Į	58
Sp	Average pedestrian speed (ft/s)	3	.5
s	Pedestrian start-up time and end clearance time (s)		3
t _c	Critical headway for pedestrian crossing	19.	6
Note: Platoo	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
Step 3: Esti	mate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	26	0
С	Number of lanes crossed		3
V	Vehicular flow rate (veh/s)	0.0	
P _b P _d	Probability of a blocked lane Probability of a delayed crossing	0.0 0.7	
Step 4: Calo	culate Average Delay to Wait for an Adequate Gap		
d _g	Average pedestrian gap delay (s)	23	.5
d _{gd}	Average gap delay for pedestrians who incur non-zero delay	31	.0
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles		
My	Motorist Yield Rate	20	<mark>%</mark>
h	Average headway for each through lane	41	.5
n	Average number of crossing events before an adequate gap is available		0
P(Y1)	Probability that motorists yield to pedestrian on crossing event i		
P(Y ₂) :			N/A
: P(Y _n)		N/A	N/A
	erations shown on "crossing event calculation" tab	1 V//T	IN/A
d _p	Average pedestrian delay for each stage (s)	23	.5
Step 6: Calo	culate Average Pedestrian Delay and Determine LOS		
d _p	Average pedestrian delay (s)	23	.5

	Existing transverse style, 58-ft wide crossings:			
	ction: (West St @ 47th St) nario: Existing Conditions PM		Date: Analyst:	1/23/2020 DEP
	ntify Crossing Type			
Crossing Ty	pe	3-lane		
	Crossing Calcs Apply?	No		
	tage crossing calculation applied at all divided roadways			
Step 2: Det	ermine Critical Headway	Stage 1	Sta	ge 2
<u>'</u>	Crossing distance (ft)		58	
S _p	Average pedestrian speed (ft/s)		3.5	
ts	Pedestrian start-up time and end clearance time (s)		3	
t _c	Critical headway for pedestrian crossing		19.6	
Note: Platoc	ning effects ignored. $t_{c,G}$ assumed to equal t_c			
Step 3: Esti	mate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage		335	
0	Number of lanes crossed		3	
/	Vehicular flow rate (veh/s)		0.09	
P _b P _d	Probability of a blocked lane Probability of a delayed crossing		0.46 0.84	
	culate Average Delay to Wait for an Adequate Gap			
			20.4	_
d _g d _{gd}	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay		36.1 43.1	
a ga	Average gap delay for pedesinans who mode non-zero delay		40.1	
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles			
My	Motorist Yield Rate		20%	
h n	Average headway for each through lane Average number of crossing events before an adequate gap is available		32.2 1	
P(Y ₁) P(Y ₂)	Probability that motorists yield to pedestrian on crossing event i	N/A	0.10	N/A
:		IN/A		IN/ <i>F</i>
: P(Y _n)		N/A		N/A
	erations shown on "crossing event calculation" tab			
d _p	Average pedestrian delay for each stage (s)		33.5	
	culate Average Pedestrian Delay and Determine LOS			
d _p	Average pedestrian delay (s)		33.5	

Summary Data			
	Proposed Hi-Vis style, 60-ft wide crossings:		
	(West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St		410410000
	n: (south leg) o: Project Conditions AM	Date: Analyst:	1/24/2020 DEP
		Analysi.	DEP
Step 1: Identify	r Crossing Type		
Crossing Type		2-lane undivided	
	sing Calcs Apply? e crossing calculation applied at all divided roadways	No	
Step 2: Determ	ine Critical Headway	Stage 1	Stage 2
-	Crossing distance (ft)	60	
S _p	Average pedestrian speed (ft/s)	3.5	
s s	Pedestrian start-up time and end clearance time (s)	3	
, c	Critical headway for pedestrian crossing	20.1	
Note: Platooning	g effects ignored. $t_{c,G}$ assumed to equal t_c		
Step 3: Estima	te Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	260	
`		0	
C /	Number of lanes crossed Vehicular flow rate (veh/s)	2 0.07	
, , ,	Probability of a blocked lane	0.52	
<i>b</i> Э _d	Probability of a delayed crossing	0.32	
		0.17	
Step 4: Calcula	ite Average Delay to Wait for an Adequate Gap		
d _g	Average pedestrian gap delay (a)		
f g	Average pedestrian gap delay (s)	25.3	
	Average gap delay for pedestrians who incur non-zero delay	25.3 33.0	
1 _{gd}	Average gap delay for pedestrians who incur non-zero delay		
f _{gd} Step 5: Estima	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles	33.0	
d _{gd} Step 5: Estima	Average gap delay for pedestrians who incur non-zero delay		_
f _{gd} Step 5: Estimat A _y	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane	33.0	
d _{gd} Step 5: Estima M _y	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate	33.0 40%	
d _{gd} Step 5: Estimat M _y n n	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane	33.0 40%	
f _{gd} Step 5: Estimat M _y n n P(Y ₁)	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	33.0 40% 27.7 1	N/A
f _{gd} Step 5: Estimat M _y n n P(Y ₁)	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	33.0 40% 27.7 1 0.24	N/A
g_{gd} Step 5: Estimation M_y $p_{(Y_1)}$ $P(Y_2)$ \vdots \vdots	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	33.0 40% 27.7 1 0.24 N/A	
g_{gd} Step 5: Estimation M_{y} $P(Y_{1})$ $P(Y_{2})$ \vdots $P(Y_{n})$	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	33.0 40% 27.7 1 0.24	
d_{gd} Step 5: Estimat M_y h n $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full iterati	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	33.0 40% 27.7 1 0.24 N/A	
g_{gd} Step 5: Estimation M_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full iteration	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	33.0 40% 27.7 1 0.24 N/A	
d_{gd} Step 5: Estimation M_y h $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full iteration d_p	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	33.0 40% 27.7 1 0.24 N/A N/A	
d_{gd} Step 5: Estima M_y h h $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full iterati d_p	Average gap delay for pedestrians who incur non-zero delay te Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i Cons shown on "crossing event calculation" tab Average pedestrian delay for each stage (s)	33.0 40% 27.7 1 0.24 N/A N/A	N/A N/A

	ata		
	Proposed Hi-Vis style, 60-ft wide crossings:		
Intersor	(West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St stion: (south leg)	Date:	1/24/2020
	ario: Project Conditions PM	Analyst:	
Step 1: Iden	tify Crossing Type		
Crossing Typ	De	2-lane undivided	
	rossing Calcs Apply? tage crossing calculation applied at all divided roadways	No	
04 0 - D - 4 -		Ota na 4	Ota wa O
Step 2: Dete	ermine Critical Headway	Stage 1	Stage 2
L	Crossing distance (ft)	60	
S _p	Average pedestrian speed (ft/s)	3.5	
S	Pedestrian start-up time and end clearance time (s)	3	
c	Critical headway for pedestrian crossing	20.1	
	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
Step 3: Esti	mate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	335	
`		0	
	Number of lanes crossed Vehicular flow rate (veh/s)	2 0.09	
,	Probability of a blocked lane	0.03	
	Probability of a delayed crossing	0.85	
Step 4: Calo	culate Average Delay to Wait for an Adequate Gap		
1	Average pedestrian gap delay $\langle a \rangle$	20.1	
d _g	Average pedestrian gap delay (s)	39.1	
d _g d _{gd}	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay	39.1 46.2	
d _{gd}			
f _{gd} Step 5: Estil	Average gap delay for pedestrians who incur non-zero delay		
f _{gd} Step 5: Esti M _y	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate	46.2 40%	
l _{gd} Step 5: Esti A _y	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles	46.2	
l _{gd} Step 5: Estin A _y	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane	46.2 40% 21.5	
l _{gd} Step 5: Estin Λ _y 2 P(Y ₁)	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	46.2 40% 21.5 2	
f _{gd} Step 5: Estin M _y n n P(Y ₁)	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	46.2 40% 21.5 2 0.25	
f_{gd} Step 5: Estin M_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	46.2 40% 21.5 2 0.25	N/A
$\frac{d_{gd}}{d_{gd}}$ Step 5: Estimation $\frac{M_y}{p}$ $\frac{D}{p(Y_1)}$ $\frac{D}{p(Y_2)}$ \vdots $\frac{D}{p(Y_n)}$ Note: Full ite	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	46.2 40% 21.5 2 0.25 0.18	N/A
A_{gd} Step 5: Estin A_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full ite A_p	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i wrations shown on "crossing event calculation" tab Average pedestrian delay for each stage (s)	46.2 40% 21.5 2 0.25 0.18 N/A	N/A
d_{gd} Step 5: Estim M_y $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full ite d_p	Average gap delay for pedestrians who incur non-zero delay mate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	46.2 40% 21.5 2 0.25 0.18 N/A	N/A N/A

	Proposed Hi-Vis style plus Ped Safety Island, 60-ft wide crossings: tion: (West St @ 28th St, 33rd St) ario: Project Conditions AM	Date: Analyst:	1/24/2020 DEF
	tify Crossing Type	Analyst.	DEI
Crossing Typ		2-lane divided	
		Yes	
	rossing Calcs Apply? age crossing calculation applied at all divided roadways	res	
itep 2: Dete	rmine Critical Headway	Stage 1 Sta	ge 2
	Crossing distance (ft)	27	27
^p	Average pedestrian speed (ft/s)	3.5	3.5
5	Pedestrian start-up time and end clearance time (s)	3	ć
c	Critical headway for pedestrian crossing	10.7	10.7
lote: Platoor	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
tep 3: Estin	nate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	122	138
•	Number of lanes crossed	1	1
,	Vehicular flow rate (veh/s) Probability of a blocked lane	0.03 0.30	0.04 0.34
b D	Probability of a delayed crossing	0.30	0.34
tep 4: Calc	ulate Average Delay to Wait for an Adequate Gap		
q	Average pedestrian gap delay (s)	2.2	2.5
gd	Average gap delay for pedestrians who incur non-zero delay	7.2	7.5
tep 5: Estin	nate Delay Reduction due to Yielding Vehicles		
1 _y	Motorist Yield Rate	40%	40%
	Average headway for each through lane	29.5	26.1
	Average number of crossing events before an adequate gap is available	0	(
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		
2(Υ ₂) :			0.00
:		N1/A	
P(Y _n) lote: Full iter	rations shown on "crossing event calculation" tab	N/A	N/A
p	Average pedestrian delay for each stage (s)	2.2	2.5
tep 6: Calc	ulate Average Pedestrian Delay and Determine LOS		
p	Average pedestrian delay (s)	4.7	

Summary D	Proposed Hi-Vis style plus Ped Safety Island, 60-ft wide crossings:		
	tion: (West St @ 28th St, 33rd St) nario: Project Conditions PM	Date: Analyst:	1/24/2020 DEF
Step 1: Iden	tify Crossing Type		
Crossing Typ	0e	2-lane divided	
	crossing Calcs Apply? tage crossing calculation applied at all divided roadways	Yes	
tep 2: Dete	ermine Critical Headway	Stage 1 Sta	ige 2
	Crossing distance (ft)	27	2
p	Average pedestrian speed (ft/s)	3.5	3.5
5	Pedestrian start-up time and end clearance time (s)	3	:
	Critical headway for pedestrian crossing	10.7	10.7
	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
tep 3: Esti	mate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	141	194
	Number of lanes crossed	1	1
	Vehicular flow rate (veh/s)	0.04	0.0
b d	Probability of a blocked lane Probability of a delayed crossing	0.34 0.34	0.44 0.44
tep 4: Calc	culate Average Delay to Wait for an Adequate Gap		
q	Average pedestrian gap delay (s)	2.6	3.8
gd	Average gap delay for pedestrians who incur non-zero delay	7.6	8.
tep 5: Esti	mate Delay Reduction due to Yielding Vehicles		
1 _y	Motorist Yield Rate	40%	40%
	Average headway for each through lane	25.5	18.
	Average number of crossing events before an adequate gap is available	0	l
P(Y ₁) P(Y ₂) :	Probability that motorists yield to pedestrian on crossing event i		0.0
: (Y _n) lote: Full ite	erations shown on "crossing event calculation" tab	N/A	N//
p	Average pedestrian delay for each stage (s)	2.6	3.8
ten 6: Calo	culate Average Pedestrian Delay and Determine LOS		<u></u>
p	Average pedestrian delay (s) Ped LOS	6.4 B	

Summary D	ata		
Intersec	Proposed Hi-Vis style, 58-ft wide crossings: (West St @ 34th St (north leg), 37th St, 43rd St, 44th St, 46th St, 47th St) nario: Project Conditions AM	Date Analysi	
Step 1: Iden	tify Crossing Type		
Crossing Ty	pe	2-lane undivided	
	crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No	
Step 2: Dete	ermine Critical Headway	Stage 1	Stage 2
	Crossing distance (ft)	5	8
S _p	Average pedestrian speed (ft/s)	3.	5
s	Pedestrian start-up time and end clearance time (s)		3
c Note: Platoo	Critical headway for pedestrian crossing ning effects ignored. $t_{c,G}$ assumed to equal t_c	19.6	·
	mate Probability of a Delayed Crossing	_	_
	Conflicting Vehicles/hr for each stage	260)
0	Number of lanes crossed	2	
ر ا	Vehicular flow rate (veh/s)	0.0	
> _b	Probability of a blocked lane	0.5	1
P _d	Probability of a delayed crossing	0.7	6
Step 4: Calo	culate Average Delay to Wait for an Adequate Gap		
d _g	Average pedestrian gap delay (s)	23.	5
d _{gd}	Average gap delay for pedestrians who incur non-zero delay	31.	0
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles		
Му	Motorist Yield Rate	40%	<mark>6</mark>
ו ז	Average headway for each through lane Average number of crossing events before an adequate gap is available	27.	7 1
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i	0.2	4
P(Y ₂):		N/A	0.00
: P(Y _n) Note: Full ite	erations shown on "crossing event calculation" tab	N/A	N/A
1 _p	Average pedestrian delay for each stage (s)	19.	3
	culate Average Pedestrian Delay and Determine LOS		
step 6 <u>: Cald</u>			
Step 6: Calc	Average pedestrian delay (s)	19.	3

	Data		
	Proposed Hi-Vis style, 58-ft wide crossings: ection: (West St @ 34th St (north leg), 37th St, 43rd St, 44th St, 46th St, 47th St) nario: Project Conditions PM	Date Analyst	
itep 1: Ide	ntify Crossing Type		
Crossing Ty	уре	2-lane undivided	
	Crossing Calcs Apply? stage crossing calculation applied at all divided roadways	No	I
Step 2: De	termine Critical Headway	Stage 1	Stage 2
	Crossing distance (ft)	58	3
S _p	Average pedestrian speed (ft/s)	3.5	
s	Pedestrian start-up time and end clearance time (s)	÷	3
c	Critical headway for pedestrian crossing	19.6	
	oning effects ignored. $t_{c,G}$ assumed to equal t_c		
Step 3: Est	timate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	335	
0	Number of lanes crossed	2	
V	Vehicular flow rate (veh/s)	0.09	
	Probability of a blocked lane	0.60	
P _d	Probability of a delayed crossing	0.84	1
	levelete Average Delevete Mett for an Aslemente Oan		
Step 4: Ca	Iculate Average Delay to Wait for an Adequate Gap		
	Average pedestrian gap delay (s)	36.	1
d _g		36.1 43.1	
d _g d _{gd}	Average pedestrian gap delay (s)		
g I _{gd} Step 5: Est	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay		1
d _g d _{gd} Step 5: Est M _y	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate	43. 40%	6
d _g d _{gd} Step 5: Est M _y	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles	43. 40% 21.	6
d _g d _{gd} Step 5: Est M _y h h	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane	43. 40% 21.	1 6 2
d _g d _{gd} Step 5: Est M _y n n P(Y ₁)	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	43. 40% 21.	1 5 5
$\frac{d_g}{d_{gd}}$ Step 5: Est $\frac{M_y}{d_g}$ $P(Y_1)$ $P(Y_2)$ \vdots \vdots	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	43. 40% 21. 2 0.2 0.2	1 5 5
d_{g} d_{gd} Step 5: Est M_{y} $P(Y_{1})$ $P(Y_{2})$ \vdots $P(Y_{n})$	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available	43. 40% 21. 2 0.2	1 5 3 0.00
d_{g} d_{gd} Step 5: Est M_{y} h n $P(Y_{1})$ $P(Y_{2})$ \vdots $P(Y_{n})$	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	43. 40% 21. 2 0.2 0.2	1 5 3 0.00
d_{g} d_{gd} Step 5: Est M_{y} h h $P(Y_{1})$ $P(Y_{2})$ \vdots $P(Y_{n})$ Note: Full it d_{p}	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i terrations shown on "crossing event calculation" tab Average pedestrian delay for each stage (s)	43. 40% 21. 2 0.2 0.1 8 N/A	1 5 3 0.00
d_g d_{gd} Step 5: Est M_y h h $P(Y_1)$ $P(Y_2)$ \vdots $P(Y_n)$ Note: Full it d_p	Average pedestrian gap delay (s) Average gap delay for pedestrians who incur non-zero delay timate Delay Reduction due to Yielding Vehicles Motorist Yield Rate Average headway for each through lane Average number of crossing events before an adequate gap is available Probability that motorists yield to pedestrian on crossing event i	43. 40% 21. 2 0.2 0.1 8 N/A	1 5 3 0.00 N/A

	Proposed Hi-Vis style plus ped safety island, 58-ft wide crossings: ction: (West St @ Apgar St, 41st St) nario: Project Conditions AM	Date: Analyst:	1/24/2020 DEP
	ntify Crossing Type		
Crossing Ty	ире	2-lane divided	
	Crossing Calcs Apply? stage crossing calculation applied at all divided roadways	Yes	
Step 2: Det	ermine Critical Headway	Stage 1 Sta	ge 2
	Crossing distance (ft)	26	26
5 _p	Average pedestrian speed (ft/s)	3.5	3.5
s	Pedestrian start-up time and end clearance time (s)	3	:
с	Critical headway for pedestrian crossing	10.4	10.4
	pning effects ignored. $t_{c,G}$ assumed to equal t_c		
itep 3: Est	imate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	122	138
•	Number of lanes crossed	1	1
	Vehicular flow rate (veh/s)	0.03	0.04
Ъ	Probability of a blocked lane	0.30	0.33
P d	Probability of a delayed crossing	0.30	0.33
tep 4: Cal	culate Average Delay to Wait for an Adequate Gap		
g	Average pedestrian gap delay (s)	2.1	2.4
gd	Average gap delay for pedestrians who incur non-zero delay	7.0	7.3
itep 5: Est	imate Delay Reduction due to Yielding Vehicles		
1 _y	Motorist Yield Rate	40%	40%
	Average headway for each through lane	29.5	26.1
	Average number of crossing events before an adequate gap is available	0	(
P(Y ₁)	Probability that motorists yield to pedestrian on crossing event i		
P(Y ₂) :			0.00
:			
P(Y _n) lote: Full ite	erations shown on "crossing event calculation" tab	N/A	N/A
p	Average pedestrian delay for each stage (s)	2.1	2.4
tep 6: Cal	culate Average Pedestrian Delay and Determine LOS		
p	Average pedestrian delay (s)	4.5	
	Ped LOS	A	

Intorsoc	Proposed Hi-Vis style plus ped safety island, 58-ft wide crossings: tion: (West St @ Apgar St, 41st St)	Date:	1/24/2020
	ario: Project Conditions PM	Analyst:	1/24/2020 DEF
Step 1: Iden	tify Crossing Type		
Crossing Typ	De la	2-lane divided	
ſwo-stage C	rossing Calcs Apply?	Yes	
	tage crossing calculation applied at all divided roadways		
itep 2: Dete	ermine Critical Headway	Stage 1 Sta	age 2
	Crossing distance (ft)	26	2
^p	Average pedestrian speed (ft/s)	3.5	3.
s	Pedestrian start-up time and end clearance time (s)	3	:
c	Critical headway for pedestrian crossing	10.4	10.4
lote: Platoo	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
tep 3: Estii	mate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	141	194
:	Number of lanes crossed	1	1
b	Vehicular flow rate (veh/s) Probability of a blocked lane	0.04 0.34	0.0 0.4
^в d	Probability of a delayed crossing	0.34	0.4
tep 4: Calc	ulate Average Delay to Wait for an Adequate Gap		
g	Average pedestrian gap delay (s)	2.5	3.
gd	Average gap delay for pedestrians who incur non-zero delay	7.3	8.
tep 5: Estii	mate Delay Reduction due to Yielding Vehicles		
1 _y	Motorist Yield Rate	40%	40%
	Average headway for each through lane	25.5	18.
	Average number of crossing events before an adequate gap is available	0	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.0
P(Y ₂) :			0.0
: P(Y _n)		N/A	N//
	rations shown on "crossing event calculation" tab		11/7
p	Average pedestrian delay for each stage (s)	2.5	3.
	ulate Average Pedestrian Delay and Determine LOS		
l _p	Average pedestrian delay (s) <i>Ped LOS</i>	6.0 B	

Summary D	ata		
	Proposed unmarked, 58-ft wide crossings:		
	ction: (West St @ 39th St, 51st St) nario: Project Conditions AM	Date: Analyst:	1/24/2020 DEP
000		Analyst.	DEI
Step 1: Ider	ntify Crossing Type		
Crossing Ty	pe	2-lane undivided	
		N1-	
	Crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No	
	μης τη τη της τη τη της της της της της τ		
Step 2: Det	ermine Critical Headway	Stage 1	Stage 2
1	Consistence (ft)	50	
L S _p	Crossing distance (ft) Average pedestrian speed (ft/s)	58 3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t _c	Critical headway for pedestrian crossing	19.6	
Note: Platoc	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
Step 3: Esti	mate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	260	
	Connicting Venicles/III for each stage	200	
С	Number of lanes crossed	2 0.07	
V P _b	Vehicular flow rate (veh/s) Probability of a blocked lane	0.07	
P _d	Probability of a delayed crossing	0.76	
044-14-0-14			
Step 4: Calo	culate Average Delay to Wait for an Adequate Gap		
d _g	Average pedestrian gap delay (s)	23.5	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay	31.0	
Stop 5: Esti	mate Delay Reduction due to Yielding Vehicles		
Step 5. ESti			
My	Motorist Yield Rate	10%	
h	Average headway for each through lane	27.7	
n	Average number of crossing events before an adequate gap is available		
<i>P</i> (Y ₁)	Probability that motorists yield to pedestrian on crossing event i	0.05	
$P(Y_2)$	Probability that motorists yield to pedestrian on clossing event i	N/A	0.00
:			0.00
:			
$P(Y_n)$ Note: Full ite	erations shown on "crossing event calculation" tab	N/A	N/A
d _p	Average pedestrian delay for each stage (s)	22.6	
	culate Average Pedestrian Delay and Determine LOS		
Step 6: Calo			
Step 6: Calo d _p	Average pedestrian delay (s)	22.6	

Summary Da	ata		
Intersec	Proposed unmarked, 58-ft wide crossings: tion: (West St @ 39th St, 51st St)	Date:	1/24/2020
	ario: Project Conditions PM	Analyst:	DEP
Step 1: Iden	tify Crossing Type		
Crossing Typ		2-lane undivided	
Crossing Typ		z-lane undivided	
	crossing Calcs Apply? tage crossing calculation applied at all divided roadways	No	
1016. 100-31			
Step 2: Dete	ermine Critical Headway	Stage 1	Stage 2
L	Crossing distance (ft)	58	
S _p	Average pedestrian speed (ft/s)	3.5	
t _s	Pedestrian start-up time and end clearance time (s)	3	
t _c	Critical headway for pedestrian crossing	19.6	
	ning effects ignored. $t_{c,G}$ assumed to equal t_c		
Step 3: Esti	mate Probability of a Delayed Crossing		
	Conflicting Vehicles/hr for each stage	335	
С	Number of lanes crossed	2	
v v	Vehicular flow rate (veh/s)	0.09	
P _b	Probability of a blocked lane	0.60	
P _d	Probability of a delayed crossing	0.84	
Step 4: Calc	culate Average Delay to Wait for an Adequate Gap		
d _g	Average pedestrian gap delay (s)	36.1	
d _{gd}	Average gap delay for pedestrians who incur non-zero delay	43.1	
Step 5: Esti	mate Delay Reduction due to Yielding Vehicles		
	Motorist Yield Rate	10%	
M _y	Motorist Yield Rate	10%	
h n	Average headway for each through lane Average number of crossing events before an adequate gap is available	21.5 2	
		L	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.05	
P(Y ₂):		0.05	0.00
:			N1/A
P(Y _n) Note: Full ite	rations shown on "crossing event calculation" tab	N/A	N/A
d _p	Average pedestrian delay for each stage (s)	33.9	
P			
Step 6: Calc	culate Average Pedestrian Delay and Determine LOS		
d _p	Average pedestrian delay (s)	33.9	
P	Ped LOS	E	

Appendix D. Bicycle Level of Stress (LTS) Analysis West Street, San Pablo Avenue to 52nd Street

Overview

This Bicycle Level of Traffic Stress (LTS) analysis applies a methodology developed by the Mineta Transportation Institute (MTI) in a report titled Low Stress Bicycling and Network Connectivity[1]. Bicyclist Level of Traffic Stress characterizes bicyclist comfort from LTS 1 (ideal conditions for riders of all abilities) to LTS 4 (unfriendly conditions for the "strong and fearless" bicyclists). The methodology was applied to West St by inputting the number of travel lanes, vehicle speeds, presence/width of parking lane, presence of a right turn lane, presence/width of bike lanes, and frequency of bike lane blockage. (For more information, see the MTI report, Tables 2 through 7.) The stress of a route is determined by its most stressful link, not by the sum or average of the stress on component links.

Analysis

Existing Corridor: LTS = 3					
Factor	Condition	LTS			
Number/type of through lanes	one through lane in each direction (plus center turn lane above San Pablo Ave)	LTS <u>></u> 1			
Sum of bike lane width and parking lane width (includes bike lane buffers and paved gutters)	13 ft	LTS <u>></u> 3			
Prevailing (aka 85th%ile) vehicle speed	33 MPH	LTS <u>></u> 3			
Frequency of double parking (typically applies in commercial areas)	rare	LTS ≥ 1			
Right turn lanes at intersections	none	n/a			

Proposed Project LTS = 2/3 [2]						
Factor	Condition	LTS				
Number/type of through lanes	one through lane in each direction	LTS <u>></u> 1				
Sum of bike lane width and parking lane width (includes bike lane buffers and paved gutters)	17 ft from San Pablo Ave to 34th St 16 ft above 34th St	LTS <u>></u> 1				
Prevailing (aka 85th%ile) vehicle speed	33 MPH	LTS <u>></u> 2/3 [2]				
Frequency of double parking (typically applies in commercial areas)	rare	LTS ≥ 1				
Right turn lanes at intersections	none	n/a				

[1] https://transweb.sjsu.edu/sites/default/files/1005-low-stress-bicycling-network-connectivity.pdf

[2] Note: Road diets improve safety in part by reducing speeds. Therefore, the LTS calculation includes the prevailing speed. Since the proposed project condition is based on the highest LTS factor value and speeds cannot be measured until after the project, the LTS calculation for the proposed project is the same as the existing condition. However, since the project has fewer lanes, prevailing speeds are expected to be reduced enough to reduce the LTS by one. Thus, both values for LTS are reported in the table above.

Appendix E: Left-Turn Pocket Analysis West Street, San Pablo Avenue to 52nd Street

Overview

Analysis

The volume of left turning and conflicting through movements are used to evaluate the potential need for left turn pockets at signalized approaches with permissive left turns:

- If the peak hour left turn volume is less than 100 vehicles and peak hour left turns multiplied by oncoming/conflicting through traffic is less than 25,000 vehicles, a left turn pocket may not be needed.
- If the peak hour left turn volume is 100 vehicles or more, a left turn pocket should be considered.
- If the peak hour left turns multiplied by oncoming/conflicting through traffic is 25,000 vehicles or more, a left turn pocket should be considered.

Intersection	Peak Hour Turning Move	ement Counts		
West St @ 40th St				
Northbound	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
AM	74	59	4366	No
PM	125	71	8875	Recommended
Southbound	Southbound Lefts	Northbound Throughs	Product	Left-turn Pocket Needed?
AM	20	86	1720	No
PM	13	228	2964	No
Vest St @ W MacArthur Blv	/d			
Northbound	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
AM	94	168	15792	No
PM	67	123	8241	No
Southbound	Southbound Lefts	Northbound Throughs	Product	Left-turn Pocket Needed?
AM	32	326	10432	No
PM	22	306	6732	No
Vest St @ 36th St				
Northbound	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
AM	6	214	1284	No
PM	10	184	1840	No
Southbound	Southbound Lefts	Northbound Throughs	Product	Left-turn Pocket Needed?
AM	0	103	0	No
PM	0	128	0	No
Vest St @ 35th St	-	-		
Northbound	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
AM	0	140	0	No
PM	0	174	0	No
Southbound	Southbound Lefts	Northbound Throughs	Product	Left-turn Pocket Needed?
AM	157	91	14287	Recommended
PM	103	117	12051	Recommended
Vest St @ 27th St				
Northbound	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
AM	4	88	352	No
PM	9	116	1044	No
Southbound	Southbound Lefts	Northbound Throughs	Product	Left-turn Pocket Needed?
AM	37	63	2331	No
PM	55	99	5445	No

SB=southbound; NB=northbound [or WB=westbound; EB=eastbound] Turning movement counts attached.

pe of peak hour being reported: Interse	ection Peak	Method for	or determining peak hour: To	otal Entering Volur
-OCATION: 43. West St 27th St CITY/STATE: Oakland, CA	t			#: 14773269 ie, Sep 11 2018
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Peak 15-Min:	3:00 AM 9:00 AM 8:30 AM 8:45 AM uality Counts TRANSPORTATION DATA COLLECTION SERVICES	3.6 2	9 4 5.0 \leftarrow 2.3 2.4 0.0 \leftarrow 1.5
	₽.√ /*	₩ 4- 4-		
	→ → ₩	Ŷ┡ ┲		► NA
5-Min Count 43. West St Period (Northbound)	43. West St (Southbound)	27th St (Eastbound)	27th St (Westbound)	Total Hourly Totals
Beginning At Left Thru Right U 7:00 AM 2 5 4 0 7:15 AM 0 6 1 0 7:30 AM 1 13 9 0	Left Thru Right U 3 17 4 0 5 15 3 0 4 28 4 0	Left Thru Right U 0 9 0 0 1 19 2 1 0 22 1 0	Left Thru Right U 5 30 6 1 7 29 10 3 5 30 4 2	86 102 123
7:45 AM 2 11 8 0 8:00 AM 0 18 8 0 8:15 AM 1 14 7 0	6 23 3 0 5 26 2 0 6 15 6 0	2 26 2 0 0 34 3 0 0 27 3 1	15 42 11 0 10 48 5 1 11 67 13 3	151462160536174608
8:30 AM 1 16 3 0 8:45 AM 2 15 10 0	11 28 6 0 15 19 1 0	2 33 5 0 0 30 1 0	6 72 8 2 12 68 14 2	193 678 189 716
Peak 15-Min Northbound	Southbound Left Thru Right U	Eastbound Left Thru Right U	Westbound Left Thru Right U	Total
Peak 15-Min Northbound Flowrates Left Thru Right U All Vehicles 4 64 12 0	44 112 24 0	8 132 20 0	24 288 32 8	772

Report generated on 10/2/2018 2:58 PM

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

Type of peak h	nour bei	ing rep	orted: I	nterse	ction P	eak					Me	thod fo	or detei	mining) peak h	our: To	otal Enter	ing Volume
LOCATION CITY/STAT				7th St													#: 1477: .e, Sep 1	
265 [◆] 8 0.83 24 279 [◆] 13	18 ر و 58 ♦	0.83 116 5 0.94 99 4	5 36 235 43 7	 ◆ 314 0.93 ◆ 364 			Peak-H eak 15	-Min:	5:00 F	TY C		ts			+ + + + 		0.0 2.1 2.3	1.9
7		8	7	_		_		ļĻ				_			2 2 3 4 7 7 4 0 0	570	5 7 ↑ 15 0 2	
↓ 2	+ • • • • • •	NA	€ NA	* *		_					<u>書</u>	_		, 	بر و به + مر ب	NA	NA	
15-Min Count Period		(North	est St bound)			(South	/est St nbound)				h St bound)			(West	h St bound)		Total	Hourly Totals
Beginning At 4:00 PM	Left 3	Thru 21	Right 8	U 0	Left 11	Thru 19	Right 1	U 0	Left 1	Thru 66	Right 1	U 2	Left 13	Thru 51	Right 3	U 2	202	
4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM	2 1 2 2 3 2	26 20 20 24 27 26 22	12 9 13 15 10 11 11	0 0 0 0 0 0	10 5 15 25 7 13 10	18 23 28 27 32 31 26	1 6 7 8 2 3 5	0 0 0 0 0 0	4 1 0 1 2 2	44 48 54 58 57 77 66	2 1 5 4 3 4 2	1 1 1 1 1 0	12 11 9 7 12 8 12	59 57 50 68 57 45 65	10 8 7 9 9 12 6	0 1 1 1 3 0	201 192 212 248 221 239 229	807 853 873 920 937
Deal of the												-						
Peak 15-Min Flowrates	Left	Thru	orthbou Right	U	Left	Thru	outhbou Right	U	Left	Thru	astbour Right	U	Left	Thru	lestbour Right	U		otal
All Vehicles Heavy Trucks	8 0	96 0	60 0	0	100 0	108 0	32 4	0	0	232 0	16 4	4	28 0	272 4	36 0	0		92 2
Pedestrians Bicycles	0	20 5	1		1	8 2	0		2	4 3	0		0	8 5	0		4	-0 9
Railroad Stopped Buses	0	5				2	U		2	3	U		0	3	U			3
Comments:																		

Report generated on 10/2/2018 2:58 PM

Mothod for dat nining ok ho r: Total Er

pe of peak hour being reported: Interse	ction Peak	Method for	or determining peak hour: To	otal Entering Volur
OCATION: 44. West St 35th St			QC JOB #	#: 14773271
CITY/STATE: Oakland, CA 297 0.85 108 0 140 157 0 0 17 0 0 0 0.92 486 0 0.96 0 0 506 3 0 91 90 733	Peak 15-Min:	3:00 AM 9:00 AM 8:15 AM 8:30 AM	0.7 2 0.0 1.4 0 0.0 5.9 0 3.3 0 3.6 0 3.3 0 0.0 0.7 2 0.0 1.4 0 0.0 0.1 0 0.0 00000000	0.0 0.0 0.0 0.0 2.5
$\begin{array}{c} 0 \\ 143 \\ 0.89 \\ 181 \\ \end{array}$	_ ≇ ⊥,	Uality Counts TRANSPORTATION DATA COLLECTION SERVICES		
		↑ ∱ ₩		NA
5-Min Count 44. West St Period (Northbound)	44. West St (Southbound)	35th St (Eastbound)	35th St (Westbound)	Total Hourly Totals
Beginning At Left Thru Right U 7:00 AM 0 8 7 0 7:15 AM 0 15 14 0 7:30 AM 0 17 18 0 7:45 AM 0 23 18 0 8:00 AM 0 26 25 0 8:15 AM 0 19 19 0 8:30 AM 0 21 26 0 8:45 AM 0 25 20 0	Left Thru Right U 20 29 0 0 30 23 0 0 46 21 0 0 38 25 0 0 47 40 0 0 52 39 0 0 29 36 0 0 29 25 0 0	Left Thru Right U 1 72 2 0 3 94 1 0 5 96 4 0 2 115 2 0 6 106 0 0 3 123 0 0 6 131 1 0 2 126 2 0	Left Thru Right U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	139 180 207 223 749 250 860 255 935 250 978 229 984
Peak 15-Min <u>Northbound</u> Flowrates Left Thru Right U	Southbound Left Thru Right U 208 156 0 0	Eastbound Left Thru Right U 12 492 0 0	Westbound Left Thru Right U 0 0 0 0	<u>Total</u> 1020

Report generated on 10/2/2018 2:58 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

Type of peak hour being reported: Inters	ection Peak	Method for	or determining peak hour: T	otal Entering Volume
LOCATION: 44. West St 35th S	t			#: 14773272
CITY/STATE: Oakland, CA	Peak 15-Min:	4:45 PM 5:45 PM 5:30 PM 5:45 PM		$\begin{array}{c c} & & & \\ & & & \\ \bullet & & 0.0 \\ \bullet & & 0.0 \\ \bullet & & 0.0 \\ \bullet & & 0.3 \\ 0.0 \\ \bullet & & \end{array}$
$17 \qquad \qquad$	_ ₹ ↓,	COLLECTION SERVICES		
NA NA NA NA NA NA NA NA NA H NA H NA H NA H	44. West St	[↑] ₽ 35th St	NA NA NA NA NA NA NA NA	► NA ► Total Hourly
Period (Northbound) Beginning At Left Thru Right U	(Southbound) Left Thru Right U	(Eastbound) Left Thru Right U	(Westbound) Left Thru Right U	Totals
4:00 PM 0 20 26 0 4:15 PM 0 29 15 0 4:30 PM 0 29 25 0 4:45 PM 0 21 17 0 5:00 PM 0 26 20 0 5:15 PM 0 33 17 0 5:30 PM 0 37 13 0 5:45 PM 0 24 14 0	27 32 0 0 25 39 0 0 28 41 0 0 28 51 0 0 28 51 0 0 28 51 0 0 28 33 0 0 28 33 0 0 28 38 0 0	3 142 4 0 4 154 4 0 8 138 9 0 3 133 5 0 4 137 23 0 7 141 13 0 8 145 9 0 7 119 15 0	0 0	254 270 278 258 1060 276 1082 274 1086 281 1089 240 1071
Peak 15-Min FlowratesNorthboundLeftThruRightUAll Vehicles0148520Heavy Trucks0000Pedestrians888Bicycles0110Railroad5topped Buses55Comments:555	Southbound Left Thru Right U 116 160 0 0 0 0 0 0 0 1 0 0	Eastbound Left Thru Right U 32 580 36 0 0 8 0 20 0 0 0 0	Westbound Left Thru Right U 0 0 0 0 0 0 0 0 12 0 0 0	Total 1124 8 40 12

Report generated on 10/2/2018 2:58 PM

Method for determining peak hour: Total Entering Volume

pe of peak hour being reported: Interse	ection Peak	Method for	or determining peak hour: To	otal Entering Volur
OCATION: 45. West St 36th St CITY/STATE: Oakland, CA				#: 14773273 ie, Sep 11 2018
$\begin{array}{c} 228 \\ 0.75 \\ 481 \\ 0.75 \\ 14 \\ 214 \\ 0 \\ 0.95 \\ 0.00 \\ 0 \\ 0.95 \\ 0 \\ 0.95 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $	Peak 15-Min:	B:00 AM 9:00 AM 8:15 AM 8:30 AM Uality Counts TRANSPORTATION DATA COLLECTION SERVICES	0.4 0. 7.1 0.0 0. 1.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	$\begin{array}{c} 4 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$
	\$8.4			• 1 • 0
	<u>北</u>	1↑		NA
5-Min Count 45. West St Period (Northbound) eginning At Left Thru Right U	45. West St (Southbound) Left Thru Right U	36th St (Eastbound)	36th St (Westbound) Left Thru Right U	Total Houri Total
eginning At Left Thru Right U 7:00 AM 2 9 0 0 7:15 AM 0 16 0 0 7:30 AM 3 20 0 0 7:45 AM 2 20 0 0 8:00 AM 4 29 0 0 8:15 AM 1 21 0 0 8:30 AM 0 27 0 0 8:45 AM 1 26 0 0	Left Thru Right U 0 32 2 0 0 37 0 0 0 48 1 0 0 49 3 0 0 78 5 0 0 63 3 0 0 34 3 0 0 39 3 0	Left Thru Right U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Left Thru Right U 16 145 65 0 19 171 83 0 16 160 94 0 14 171 95 0 19 176 116 0 25 219 105 0 27 214 83 0 13 254 74 0	271 326 342 354 1293 427 1449 437 1560 388 1606 410 1662
	Southbound	Eastbound	Westbound Left Thru Right U	Total

Report generated on 10/2/2018 2:58 PM

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

Type of peak hour being reported: Intersec	ction Peak	Method for	or determining peak hour: To	otal Entering Volume
LOCATION: 45. West St 36th St				: 14773274
CITY/STATE: Oakland, CA			DATE: Tu	e, Sep 11 2018
$ \begin{array}{c} 195 \\ 0.98 \\ 11 \\ 184 \\ 0 \\ 0.00 \\ 0 \\ 0.91 \\ 0.92 \\ 0 \\ 138 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	Peak 15-Min:	4:45 PM 5:45 PM 4:45 PM 5:00 PM		0.3 0.5 0.7 0.0 0.0
	₹.√			
15-Min Count 45. West St	45. West St	*) ↑ ₽	NA NA NA NA NA NA	NA Total Hourly
Period (Northbound)	45. West St (Southbound)	(Eastbound)	(Westbound)	Total Hourly Totals
Beginning At Left Thru Right U 4:00 PM 2 24 0 0	Left Thru Right U	Left Thru Right U	Left Thru Right U 16 162 58 0	306
4:15 PM 3 27 0 0	0 43 0 1 0 39 3 0	0 0 0 0 0 0 0 0	16 162 58 0 22 148 70 0	306
4:30 PM 3 32 0 0 4:45 PM 4 23 0 0	0 42 0 0 0 47 3 0	0 0 0 0	24 170 81 0	
4:45 PM 4 23 0 0 5:00 PM 1 30 0 0	0 47 3 0			352
5:15 PM 5 34 0 0 5:30 PM 0 41 0 0	0 49 1 0	0 0 0 0	30 207 93 0 24 171 72 0	352 407 1377 348 1419
5:30 PM 0 41 0 0	0 42 3 0	0 0 0 0 0 0 0 0	30 207 93 0 24 171 72 0 21 173 83 0	407137734814193611468
5:45 PM 3 29 0 0		0 0 0 0	30 207 93 0 24 171 72 0	40713773481419
5:45 PM 3 29 0 0	0 42 3 0 0 46 4 0 0 33 4 0		30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0	407 1377 348 1419 361 1468 363 1479
5:45 PM 3 29 0 0 Peak 15-Min Northbound	0 42 3 0 0 46 4 0 0 33 4 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0	407 1377 348 1419 361 1468 363 1479 361 1433
5:45 PM 3 29 0 0 Flowrates Left Thru Right U All Vehicles 16 92 0 0	0 42 3 0 0 46 4 0 0 33 4 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0	407 1377 348 1419 361 1468 363 1479 361 1433
5:45 PM 3 29 0 0 Flowrates Left Thru Right U All Vehicles 16 92 0 0 Heavy Trucks 0 4 0 0	0 42 3 0 0 46 4 0 0 33 4 0 0 33 4 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Left Thru Right U 0 <th< td=""><td>30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0 28 182 82 0 29 182 82 0 10 12 82 0</td><td>407 1377 348 1419 361 1468 363 1479 361 1433 361 1433 ↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓</td></th<>	30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0 28 182 82 0 29 182 82 0 10 12 82 0	407 1377 348 1419 361 1468 363 1479 361 1433 361 1433 ↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓
5:45 PM 3 29 0 0 Peak 15-Min Image: State of the state of th	0 42 3 0 0 46 4 0 0 33 4 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0	407 1377 348 1419 361 1468 363 1479 361 1433
5:45 PM 3 29 0 0 Peak 15-Min Image: Second state sta	0 42 3 0 0 46 4 0 0 33 4 0 0 33 4 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30 207 93 0 24 171 72 0 21 173 83 0 17 184 71 0 28 182 82 0 28 182 82 0 29 182 82 0 20 828 372 0 120 828 372 0 0 12 0 0	407 1377 348 1419 361 1468 363 1479 361 1433 361 1433 361 1433 <

Report generated on 10/2/2018 2:58 PM

0.04	408 ♠	▲ 391			Peak-H eak 15		7:30 A	M 8							t: 14773 e, Sep 1	
	* 32 * 57	• 301					7:30 A	м 8	-00 4 8							
	~ <u>30</u>			C)		uali	ty C		ts		3.8 [◆] 1 5 6.0 <u>◆ 0</u>] ↓ 7.2 ↓ .6 ↓ ↓ .0 ↓		38.6 4.9 3.3	9.7 3.8
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	* • • NA • •	• •		_			*	↑ ↑ 	<u>\$</u>	_		N	↓ ↓ ↓ ↓ ↓ ↓	NA + 4 NA	€ € • NA	
							v			ď	v			vd	Total	Hourl Total
Left Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
	14 23		3 4	15 21	5 9		3		6 10	1	4 5		7 12			
19 80	14	0	6	36	7	0	4	55	17	0	3	67	14	0	322	
																1098 1328
32 74	18	0	9	39	11	0	7	51	5	3	9	77	9	0	344	1408
33 49 32 42	18	0	8	27 26	, 11	0	1	38	52	0	6 5	113	19	0	308 314	1394 1369
		nd U 0	Left 36 0	50 Thru 196 0 20	outhbou Right 60 0	nd U 0	Left 16 0	E Thru 204 8 8	astboun Right 56 0	d U 4	Left 52 0	W Thru 348 28 20	estbour Right 52 24	nd U 0	16 6	<u>otal</u> 12 4 4
	29 23 23 23 23 23 23 23 23 23 23	29 29 23 23 23 23 23 23 23 23 10 23 23 23 23 24 25 7 16 40 16 40 16 40 14 16 65 17 101 29 32 74 18 33 49 21 32 42 18 33 49 21 32 42 18	29 27 3 23 - - 23 - - - 23 - - - 23 - - - 23 - - - 23 - - - 23 - - - 23 - - -	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{tabular}{ c c c c c c } \hline USO \\ \hline 29 \\ \hline 23 \\ \hline 24 \\ \hline 23 \\ \hline 24 \\ \hline 23 \\ \hline 25 \\ \hline 25 \\ \hline 23 \\ \hline 26 \\ \hline 26 \\ \hline 26 \\ \hline 10 \\ \hline 26 \\ \hline 10 \\ \hline 1$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	COLLECTION 29 27 27 23 27 27 23 27 27 23 27 27 23 27 27 23 27 27 23 27 27 23 27 27 23 27 27 23 27 27 30 40 14 46. West St (Southbound) WMacAi Left Thru Right U Left Thru Right U Left 16 40 14 0 3 15 5 0 3 23 16 65 23 0 4 21 9 2 44 19 80 14 0 6 36 7 0 4 55 32 74 18 9 39 11 0 7 51 32 42 18 0 7 27	COLLECTION SERVE 29 27 3 4 5 5 5 5 5 5 5 5 1 5 1 5 1 5 1 7 1 1 7 1 1 1 1 1 1 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 1 3 1 1 1 1 3 1 1 1 3 1 1 1 1 1 3 1 1 1 1 1 3 1	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	COLLECTION SERVICES 20 20 20 1	Lices COLLECTION SERVICES 03 23 27 31 1 0 1 7 0 0 1 23 23 1 1 1 1 1 7 0 0 1 23 1	UBB COLLECTION SERVICES UB 0 9 0 1 20 1 0 9 1 1 0 9 1 1 20 1 <td< td=""><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td></td<>	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

Report generated on 10/2/2018 2:58 PM

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

pe of peak h											Me	thod fo	or deter	rmining	-		otal Enteri	-
OCATION				Mac	Arthur	Blvd											#: 14773 ie, Sep 1	
522 ← 5 0.93 5 686 <u>→ 3</u>		0.93 1 123 2 • • • 0.93 306 6	2 77 435 44 5	 556 0.91 € 692 			Peak-H eak 15	-Min:	5:30 I uali	TY C		M ts		1	بر ال رو رج + (رو رو رو رو رو رو رو رو رو رو رو رو رو		27.3 + 3.4	6.5
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5-Min Count Period			est St bound)				/est St nbound)		v		rthur Bly bound)	vd	V		rthur Bl bound)	vd	Total	Hourl
Beginning At	Left	Thru	Right	U 0	Left	Thru	Right	U	Left	Thru	Right	U 5	Left	Thru	Right	U 1	379	. 5101
4:00 PM 4:15 PM	16 15	54 68	15 13	0	12 7	31 29	4	0 0	6 9	92 112	7 7	0	8	113 83	15 23	1	374	
4:30 PM 4:45 PM	13 22	78 73 70	20 18	0	10 5	<u>30</u> 34	4	0	7 17	134 138	1 7 7	0	9	97 102	9 15	0	412 446	1611
5:00 PM 5:15 PM	17 14	73 80	13 18	0 0	3 5	28 30	4 5	0 0	16 10	127 168	7 7	0 2	10 8	104 113	18 19	1 3	421 482	1653 1761
5:30 PM 5:45 PM	<u>14</u> 6	<u>80</u> 78	<u>16</u> 20	0	9 16	<u>31</u> 25	<u>4</u> 6	<u>0</u>	<u>12</u> 6	<u>166</u> 163	<u>9</u> 5	0 0	<u>12</u> 8	<u>116</u> 86	<u>25</u> 18	<u>0</u>	494 437	<u>1843</u> 1834
eak 15-Min			orthbou				outhbou				astbour				/estbou			I
Flowrates	Left 56	Thru 320	Right 64	U 0	Left 36	<u>Thru</u> 124	Right 16	U 0	Left 48	Thru 664	Right 36	U 0	Left 48	Thru 464	100	U 0		76
eavy Trucks edestrians	0	0 20 13	0		0	0 32 0	0		4	0 20 3	0		0	12 12 4	28		4 8	4 4 9

Comments:

Report generated on 10/2/2018 2:58 PM

oe of peak hour being reported: Interse OCATION: 2. West St 40th St	ection Peak	Method fo		#: 14773203
ITY/STATE: Alameda, CA		4:45 PM 5:45 PM 4:45 PM 5:00 PM	1.6 1	.1 .1 .0
$\begin{array}{c} 632 & 20 \\ \hline 0.97 \\ 743 \\ \end{array} \begin{array}{c} 21 \\ \hline 0.95 \\ \end{array} \begin{array}{c} 21 \\ 469 \\ 0.92 \\ \end{array}$		uality Counts	4.1 5 .0 5 .0 4 .7 0 .0 1 14.4 0.4 6	4.8 ★ 1.6 ★ 1.5 ★ 0.0 ★ 5.0 7
137 0.88 413		TRANSPORTATION DATA COLLECTION SERVICES		
	\$_↓ ↓			18 28 1
		€		NA
-Min Count 2. West St Period (Northbound)	2. West St (Southbound)	40th St (Eastbound)	40th St (Westbound)	Total Houri
eginning At Left Thru Right U 4:00 PM 19 30 8 0 4:15 PM 32 47 16 0	Left Thru Right U 6 13 10 0 4 14 11 0	Left Thru Right U 9 195 14 0 6 188 13 0	Left Thru Right U 3 130 8 0 5 92 5 1	445 434
4:15 PM 32 47 16 0 4:30 PM 27 45 18 0 4:45 PM 33 63 12 0 5:00 PM 23 44 13 0 5:15 PM 42 61 14 0	4 14 11 0 7 14 14 0 3 19 9 0 1 17 9 0 3 15 11 0	10 183 12 0 5 199 13 0 2 173 14 0 6 180 14 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	434 457 486 1822 436 1813 463 1842
5:30 PM 27 60 21 0 5:45 PM 32 57 17 0	6 20 9 0 8 17 8 0	7 191 8 0 8 196 16 0	4 114 2 2 4 104 4 3	471 1856 474 1844
eak 15-Min Northbound Flowrates Left Thru Right U	Southbound Left Thru Right U	Eastbound Left Thru Right U	Westbound Left Thru Right U	Total
Il Vehicles 132 252 48 0	12 76 36 0	20 796 52 0	16 468 36 0 0 4 0	1944 84

Report generated on 10/2/2018 2:57 PM

ALL TRAFFIC DATA

(916) 771-8700 orders@atdtraffic.com

City of Oakland All Vehicles & Uturns On Unshifted Bikes & Peds On Bank 1 Nothing On Bank 2

Date

File Name : 15-7839-002 West Street & 40th Street Date : 11/4/2015

Nothing Or	n Bank	2							Unchifted C	ount = All Vel	nicles & I	lturne										
			West					40th S	treet	ount = An ver	licies a	oturns	West					40th \$				
START TIME	LEET	THRU	Southb RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	Westbo RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	Northb RIGHT	ound UTURNS	APP.TOTAL	LEFT	THRU	Eastbo RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:30	1	12	8	0	21	5	79	4	1	89	11	16	10	0	37	8	83	13	0	104	251	1
7:45 8:00	4	14 13	8 13	0	26 30	9 16	98 77	3 12	0	110 109	18 23	16 25	6 20	0	40 68	8 6	99 107	17 13	0	124 126	300 333	0 4
8:15	4 9	21	5	0	30	7	99	3	4	109	23 14	25 24	20 14	0	52	6	112	10	0	126	325	4
Total	18	60	34	0	112	37	353	22	6	418	66	81	50	Ő	197	28	401	53	0	482	1209	6
8:30	3	11	7	0	21	9	97	3	1	110	19	21	7	0	47	1	98	12	0	111	289	1
8:45	1	23	10	0	34	4	114	1	1	120	23	23	5	0	51	0	85	6	0	91	296	1
9:00 9:15	3 0	11 9	6 10	0	20 19	5 3	102 99	3 4	2	112 108	11 13	17 13	13 9	0	41 35	3 1	87 98	9 7	0	99 107	272 269	2
Total	7	54	33	0	94	21	412	11	6	450	66	74	34	0	174	5	368	34	1	408	1126	7
11:30	2	16	9	0	27	7	81	3	3	94	7	20	8	0	35	3	112	11	0	126	282	3
11:45 12:00	3 3	19 15	4 12	0	26 30	5	78 98	1 7	2	86 114	15 24	20 21	7	0	42 52	6 2	123 103	13 11	0	142 116	296 312	2
12:00	1	12	7	ō	20	7	104	6	0	117	13	21	8	0	42	4	109	6	0	119	298	0
Total	9	62	32	0	103	27	361	17	6	411	59	82	30	0	171	15	447	41	0	503	1188	6
12:30	2	13	8	0	23	4	88	4	3	99	22	16	5	0	43	4	98	10	0	112	277	3
12:45	3	16	16	0	35	6	84	5	0	95	21	22	7	0	50	4	109	17	0	130	310	0
13:00 13:15	3	11 14	7	0	21 24	5	93 100	7	1	106 108	6 14	18 23	7	0	31 40	3	106 100	10 11	0	119 115	277 287	1
Total	9	54	40	0	103	17	365	20	6	408	63	79	22	0	164	15	413	48	0	476	1151	6
,																					•	
16:00 16:15	5 5	21 19	12 11	0	38 35	4 5	111 114	8	1 1	124 126	15 24	34 56	11 9	0	60 89	2 3	138 158	17 20	0	157 181	379 431	1 1
16:15	5	19	11	0	36	5	107	6 7	1	120	24	50 49	9 15	0	69 85	1	156	20 19	1	174	431	2
16:45	7	23	17	ō	47	4	110	8	2	124	20	70	11	ō	101	7	165	12	1	185	457	3
Total	24	81	51	0	156	18	442	29	5	494	80	209	46	0	335	13	614	68	2	697	1682	7
17:00	2	18	9	0	29	4	126	2	0	132	27	66	16	0	109	10	177	18	1	206	476	1
17:15	10	25	14	0	49	8	117	8	1	134	25	77	17	0	119	4	155	25	0	184	486	1
17:30 17:45	3 6	17 18	8 12	0	28 36	9 5	95 107	4 10	0	108 122	31 38	71 61	11 11	0	113 110	7 9	172 166	6 16	0	185 191	434 459	0
Total	21	78	43	0	142	26	445	24	1	496	121	275	55	0	451	30	670	65	1	766	1855	2
Grand Total	88	389	233	0	710	146	2378	123	30	2677	455	800	237	0	1492	106	2913	309	4	3332	8211	34
Apprch %	12.4%	54.8%	32.8%	0.0%	710	5.5%	88.8%	4.6%	1.1%	2011	30.5%	53.6%	15.9%	0.0%	1452	3.2%	87.4%	9.3%	0.1%	3332	0211	34
Total %	1.1%	4.7%	2.8%	0.0%	8.6%	1.8%	29.0%	1.5%	0.4%	32.6%	5.5%	9.7%	2.9%	0.0%	18.2%	1.3%	35.5%		0.0%	40.6%	100.0%	
AM PEAK			West	Street		1		40th S	treet				West	Street		1		40th \$	Street			
HOUR	LEET	TUDU	Southb	ound		LEET	TUDU	Westbo	und		1.557	TUDU	Northb	ound		LEET	TUDU	Eastbo	ound			
START TIME Peak Hour A				UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFI	THRU	RIGHT	UTURNS	APP.TOTAL	Total	
Peak Hour F		Intersection	on Begins a																			
7:45 8:00	4	14 13	8 13	0	26 30	9 16	98 77	3	0	110 109	18 23	16 25	6 20	0	40 68	8	99 107	17 13	0	124 126	300 333	
8:00	4 9	13	13	0	30	16	99	12 3	4	109	23	25 24	20 14	0	68 52	6	107	13	0	126	333	
8:30	3	11	7	0	21	9	97	3	1	110	19	21	7	0	47	1	98	12	0	111	289	
Total Volume	20	59	33	0	112	41 9.3%	371	21	6	439	74	86	47	0	207	21	416	52	0	489	1247	
% App Total PHF	17.9% .556	52.7% .702	29.5% .635	0.0%	.800	9.3%	84.5% .937	4.8%	1.4%	.998	35.7% .804	41.5% .860	22.7% .588	0.0%	.761	4.3% .656	85.1% .929	10.6% .765	0.0%	.955	.936	
NOON			West			1		40th S					West			1		40th \$				
PEAK		TUDU	Southb		APP.TOTAL	1.557	TUDU	Westbo			LEFT	TUDU	Northb			LEET	TUDU	Eastbo				
START TIME Peak Hour A				UTURNS	APP.TOTAL	LEFI	THRU	RIGHT	UTURNS	APP.TOTAL		THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	
Peak Hour F	or Éntire	Intersection	on Begins a			i .		_					_			i .						
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PHF			West Southb	Street				40th S Westbo					West					40th S Eastbo				
PM PEAK							TUDII		UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU		UTURNS	APP.TOTAL	Total	
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ALL TRAFFIC DATA

City of Oakland All Vehicles & Uturns On Unshifted Bikes & Peds On Bank 1 Nothing On Bank 2 (916) 771-8700 orders@atdtraffic.com

File Name : 15-7839-002 West Street & 40th Street Date : 11/4/2015

HOW Southbound Southbound West Street West Street West Street West Street West Street More Street Street More	Nothing On E	Bank 2	2																				
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HOW Southbound Southbound Westbound Iter T Northbound PEDS APP.TOTAL LEFT THRU RIGHT PEDS	PM PEAK			West St	reet				40th Str	eet				West	treet		-		40th St	reet		1	
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