

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

		Vehicle		Ped/Bike		Total	
		Injury	PDO	Injury	PDO	Injury	PDO
Crash Types		49	77	27	4	76	81
A	Head On	5	7	1	0	6	7
B	Sideswipe	6	16	2	0	8	16
C	Rear End	5	10	1	0	6	10
D	Broadside	31	33	4	0	35	33
E	Hit Object	0	8	0	0	0	8
F	Overtaken	0	0	0	0	0	0
G	Vehicle/ped	0	0	7	2	7	2
H	Other	2	3	12	2	14	5
I	Not Stated	0	0	0	0	0	0

		Vehicle		Ped/Bike		Total		% Injury	% PDO	Total
		Injury	PDO	Injury	PDO	Injury	PDO			
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	NoInjured	NoKilled	Cause	CollisnTyp	InvWith
0	5483557	1/13/2012	36TH ST	WEST ST	0	Not Stated	Severe Injury	1	0	Ped R/W Violation	Vehicle - Pedestrian	Pedestrian
1	5509171	2/6/2012	WEST ST	32ND ST	35	South	Property Damage Only	0	0	Improper Passing	Sideswipe	Other Motor Vehicle
2	5557195	2/24/2012	32ND ST	WEST ST	20	West	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
3	5542802	2/25/2012	WEST ST	31ST ST	25	North	Property Damage Only	0	0	Hazardous Parking	Sideswipe	Other Motor Vehicle
4	5547101	2/27/2012	31ST ST	WEST ST	6	West	Property Damage Only	0	0	Unsafe Speed	Hit Object	Fixed Object
5	5491738	2/27/2012	SYCAMORE ST	WEST ST	50	West	Property Damage Only	0	0	Improper Turning	Head-On	Parked Motor Vehicle
6	5732211	2/28/2012	WEST ST	51ST ST	75	South	Property Damage Only	0	0	Unsafe Starting or Backing	Head-On	Other Motor Vehicle
7	5579535	3/22/2012	MACARTHUR BLVD	WEST ST	0	Not Stated	Other Visible Injury	5	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
8	5614580	3/30/2012	MACARTHUR BLVD	WEST ST	30	East	Complaint of Pain	2	0	Unsafe Lane Change	Sideswipe	Other Motor Vehicle
9	5597105	4/4/2012	WEST ST	51ST ST	35	North	Property Damage Only	0	0	Other Hazardous Movement	Sideswipe	Other Motor Vehicle
10	5735554	4/23/2012	WEST ST	MACARTHUR BLVD	4	South	Property Damage Only	0	0	Driving Under Influence	Hit Object	Fixed Object
11	5730000	5/6/2012	WEST ST	28TH ST	15	North	Complaint of Pain	3	0	Improper Turning	Broadside	Parked Motor Vehicle
12	5641434	5/12/2012	WEST ST	MACARTHUR BLVD	25	East	Property Damage Only	0	0	Unknown	Hit Object	Fixed Object
13	5685907	5/27/2012	35TH ST	WEST ST	0	Not Stated	Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
14	5678371	6/3/2012	WEST ST	36TH ST	0	Not Stated	Property Damage Only	0	0	Unsafe Speed	Broadside	Not Stated
15	5732459	6/20/2012	WEST ST	MACARTHUR BLVD	12	North	Property Damage Only	0	0	Unsafe Speed	Rear-End	Other Motor Vehicle
16	5676861	6/23/2012	36TH ST	WEST ST	7	East	Complaint of Pain	3	0	Unsafe Speed	Broadside	Other Motor Vehicle
17	5774982	8/25/2012	MACARTHUR BLVD	WEST ST	0	Not Stated	Other Visible Injury	5	0	Auto R/W Violation	Head-On	Other Motor Vehicle
18	5782759	8/30/2012	WEST ST	36TH ST	0	Not Stated	Other Visible Injury	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
19	5774374	8/30/2012	WEST ST	MACARTHUR BLVD	0	Not Stated	Complaint of Pain	1	0	Wrong Side of Road	Other	Bicycle
20	5868355	9/16/2012	WEST ST	36TH ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
21	5861648	10/13/2012	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	WEST ST	35TH ST	0	Not Stated	Other Visible Injury	1	0	Traffic Signals and Signs	Other	Bicycle
23	5956982	10/22/2012	35TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Unsafe Speed	Rear-End	Other Motor Vehicle
24	5888739	11/6/2012	WEST ST	35TH ST	0	Not Stated	Other Visible Injury	1	0	Traffic Signals and Signs	Other	Bicycle
25	5947880	12/29/2012	32ND ST	WEST ST	20	West	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Bicycle
26	5995402	1/15/2013	28TH ST	WEST ST	12	West	Property Damage Only	0	0	Improper Turning	Hit Object	Fixed Object
27	5974114	1/16/2013	WEST ST	45TH ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
28	5987241	1/23/2013	WEST ST	APGAR ST	10	North	Other Visible Injury	1	0	Unsafe Starting or Backing	Vehicle - Pedestrian	Pedestrian
29	5980075	1/27/2013	WEST ST	34TH ST	50	North	Property Damage Only	0	0	Improper Turning	Other	Fixed Object
30	6009263	2/6/2013	SAN PABLO AV	WEST ST (N)	0	Not Stated	Complaint of Pain	1	0	Wrong Side of Road	Broadside	Bicycle
31	6053334	2/17/2013	27TH ST	WEST ST	0	Not Stated	Complaint of Pain	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	7/6/2013	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Other	Bicycle
41	6156743	7/8/2013	32ND ST	WEST ST	0	Not Stated	Severe Injury	1	0	Wrong Side of Road	Other	Bicycle
42	6180941	7/21/2013	35TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Unsafe Speed	Rear-End	Other Motor Vehicle
43	6228578	7/28/2013	WEST ST	36TH ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Other	Bicycle
44	6190792	8/1/2013	WEST ST	33RD ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
45	6242112	8/2/2013	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
46	6198245	8/9/2013	WEST ST	52ND ST	0	Not Stated	Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
47	6234250	8/12/2013	SAN PABLO AV	25TH ST	35	West	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
48	6299749	8/25/2013	WEST ST	SYCAMORE ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
49	6289022	9/4/2013	WEST ST	BROCKHURST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
50	6370654	9/5/2013	WEST ST	34TH ST	60	North	Complaint of Pain	1	0	Improper Turning	Sideswipe	Other Motor Vehicle
51	6278658	9/12/2013	WEST ST	34TH ST	0	Not Stated	Property Damage Only	0	0	Unsafe Speed	Broadside	Other Motor Vehicle
52	6237001	9/13/2013	WEST ST	35TH ST	0	Not Stated	Other Visible Injury	1	0	Improper Turning	Vehicle - Pedestrian	Bicycle

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FID	ReportNo	Date	Street	CrossSt	Distance	Direction	Injury	Nolnjured	NoKilled	Cause	CollisnTyp	InvWith
53	6341398	9/14/2013	APGAR ST	WEST ST	15	West	Property Damage Only	0	0	Improper Turning	Head-On	Fixed Object
54	6327297	9/20/2013	27TH ST	WEST ST	10	East	Complaint of Pain	1	0	Unsafe Speed	Other	Bicycle
55	6341426	9/23/2013	43RD ST	WEST ST	40	West	Property Damage Only	0	0	Improper Turning	Hit Object	Fixed Object
56	6305738	9/25/2013	WEST ST	36TH ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
57	6266545	10/1/2013	WEST ST	31ST ST	0	Not Stated	Complaint of Pain	3	0	Auto R/W Violation	Broadside	Not Stated
58	6293960	10/31/2013	WEST ST	40TH ST	0	Not Stated	Complaint of Pain	1	0	Unsafe Speed	Broadside	Other Motor Vehicle
59	6367728	11/4/2013	WEST ST	31ST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
60	6463564	11/18/2013	35TH ST	WEST ST	20	West	Complaint of Pain	1	0	Improper Turning	Rear-End	Parked Motor Vehicle
61	6389974	12/9/2013	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Unknown	Other	Other Motor Vehicle
62	6452637	12/14/2013	APGAR ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
63	6430911	12/21/2013	WEST ST	45TH ST	0	Not Stated	Other Visible Injury	1	0	Traffic Signals and Signs	Broadside	Bicycle
64	6436147	12/27/2013	WEST ST	MACARTHUR BLVD	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
65	6433867	1/14/2014	27TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
66	6425513	2/10/2014	MACARTHUR BLVD	WEST ST	12	East	Complaint of Pain	1	0	Traffic Signals and Signs	Other	Bicycle
67	6430729	2/25/2014	WEST ST	31ST ST	100	North	Complaint of Pain	1	0	Improper Turning	Sideswipe	Bicycle
68	7062863	3/15/2014	44TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
69	6532984	3/16/2014	29TH ST	WEST ST	0	Not Stated	Complaint of Pain	2	0	Unsafe Speed	Sideswipe	Other Motor Vehicle
70	6569060	3/30/2014	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Sideswipe	Other Motor Vehicle
71	6575323	4/8/2014	WEST ST	37TH ST	15	South	Complaint of Pain	1	0	Unsafe Speed	Rear-End	Other Motor Vehicle
72	6450362	4/12/2014	WEST ST	41ST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
73	6553770	4/18/2014	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
74	6572978	4/27/2014	44TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Other	Sideswipe	Parked Motor Vehicle
75	6621696	5/5/2014	WEST ST	34TH ST	10	North	Complaint of Pain	1	0	Improper Turning	Broadside	Other Motor Vehicle
76	6500126	5/12/2014	35TH ST	WEST ST	0	Not Stated	Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
77	6588626	5/25/2014	36TH ST	WEST ST	0	Not Stated	Complaint of Pain	2	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
78	6613837	5/31/2014	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Other	Bicycle
79	6558621	6/28/2014	WEST ST	SYCAMORE ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
80	6607895	6/30/2014	40TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Unknown	Broadside	Other Motor Vehicle
81	6647851	7/20/2014	WEST ST	MACARTHUR BLVD	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
82	6586201	7/23/2014	WEST ST	APGAR ST	30	South	Property Damage Only	0	0	Unknown	Hit Object	Fixed Object
83	6599728	7/27/2014	45TH ST	WEST ST	16	East	Property Damage Only	0	0	Driving Under Influence	Hit Object	Fixed Object
84	6620652	8/4/2014	WEST ST	44TH ST	75	South	Other Visible Injury	1	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian
85	6683041	8/16/2014	36TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Other	Other Motor Vehicle
86	6694016	8/31/2014	27TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Improper Turning	Rear-End	Parked Motor Vehicle
87	6712926	9/14/2014	WEST ST	31ST ST	80	South	Property Damage Only	0	0	Unsafe Speed	Head-On	Parked Motor Vehicle
88	6659459	10/3/2014	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Rear-End	Other Motor Vehicle
89	6876724	10/13/2014	WEST ST	BROCKHURST ST	0	Not Stated	Other Visible Injury	2	0	Unsafe Speed	Rear-End	Other Motor Vehicle
90	6764315	10/23/2014	36TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
91	6745303	10/28/2014	SYCAMORE ST	WEST ST	20	West	Property Damage Only	0	0	Unsafe Speed	Head-On	Parked Motor Vehicle
92	6811334	11/5/2014	WEST ST	36TH ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
93	6793907	11/9/2014	40TH ST	WEST ST	5	East	Property Damage Only	0	0	Unsafe Speed	Sideswipe	Other Motor Vehicle
94	6846029	11/9/2014	WEST ST	52ND ST	10	South	Property Damage Only	0	0	Unknown	Other	Other Motor Vehicle
95	6829644	11/14/2014	WEST ST	36TH ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
96	6777072	11/15/2014	29TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
97	6777466	12/4/2014	WEST ST	35TH ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
98	6859655	1/5/2015	WEST ST	BROCKHURST ST	40	South	Property Damage Only	0	0	Improper Turning	Broadside	Parked Motor Vehicle
99	6837969	1/14/2015	27TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Sideswipe	Bicycle
100	6835069	2/1/2015	SAN PABLO AV	25TH ST	50	North	Complaint of Pain	1	0	Unsafe Speed	Rear-End	Bicycle
101	6833383	2/10/2015	WEST ST	32ND ST	0	Not Stated	Property Damage Only	0	0	Unknown	Rear-End	Parked Motor Vehicle
102	6919676	2/16/2015	36TH ST	WEST ST	0	Not Stated	Complaint of Pain	3	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
103	6931071	2/17/2015	MACARTHUR BLVD	WEST ST	30	West	Complaint of Pain	1	0	Unsafe Lane Change	Sideswipe	Other Motor Vehicle
104	7018234	3/7/2015	WEST ST	52ND ST	64	North	Property Damage Only	0	0	Unsafe Speed	Sideswipe	Other Motor Vehicle
105	6908702	3/18/2015	WEST ST	25TH ST	60	North	Complaint of Pain	1	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian

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FID	ReportNo	Date	Street	CrossSt	Distance	Direction	Injury	Nolnjured	NoKilled	Cause	CollisnTyp	InvWith
106	7170668	3/18/2015	WEST ST	45TH ST	25	North	Property Damage Only	0	0	Improper Turning	Sideswipe	Parked Motor Vehicle
107	7041032	4/11/2015	42ND ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
108	7073953	5/11/2015	WEST ST	40TH ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
109	7073989	5/13/2015	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
110	7040882	5/18/2015	WEST ST	34TH ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
111	7011860	7/2/2015	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	4	0	Auto R/W Violation	Head-On	Other Motor Vehicle
112	7123077	7/26/2015	29TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Improper Turning	Sideswipe	Parked Motor Vehicle
113	7072630	8/5/2015	WEST ST	35TH ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
114	7093869	8/10/2015	WEST ST	31ST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
115	7011232	8/21/2015	WEST ST	29TH ST	0	Not Stated	Complaint of Pain	3	0	Improper Turning	Sideswipe	Parked Motor Vehicle
116	7117889	9/9/2015	MACARTHUR BLVD	WEST ST	0	Not Stated	Other Visible Injury	1	0	Auto R/W Violation	Other	non-collision
117	7126040	9/13/2015	33RD ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Driving Under Influence	Broadside	Other Motor Vehicle
118	7198406	11/10/2015	WEST ST	51ST ST	0	Not Stated	Other Visible Injury	1	0	Auto R/W Violation	Broadside	Bicycle
119	8003860	11/20/2015	MACARTHUR BLVD	WEST ST	0	Not Stated	Property Damage Only	0	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian
120	8065443	12/11/2015	WEST ST	36TH ST	0	Not Stated	Complaint of Pain	1	0	Unsafe Speed	Rear-End	Other Motor Vehicle
121	8007437	12/12/2015	WEST ST	36TH ST	0	Not Stated	Property Damage Only	0	0	Following Too Closely	Rear-End	Other Motor Vehicle
122	7202979	12/14/2015	36TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
123	8026170	12/27/2015	37TH ST	WEST ST	0	Not Stated	Other Visible Injury	1	0	Auto R/W Violation	Other	Bicycle
124	8033055	1/17/2016	35TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
125	8003976	2/9/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
126	8007878	2/12/2016	WEST ST	44TH ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
127	8034761	3/1/2016	APGAR ST	WEST ST	50	East	Property Damage Only	0	0	Unsafe Speed	Rear-End	Other Motor Vehicle
128	8060013	3/21/2016	27TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
129	8065366	3/24/2016	MACARTHUR BLVD	WEST ST	25	North	Property Damage Only	0	0	Auto R/W Violation	Sideswipe	Other Motor Vehicle
130	8054238	3/29/2016	WEST ST	33RD ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Head-On	Other Motor Vehicle
131	8046587	4/4/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Broadside	Other Motor Vehicle
132	8046571	4/4/2016	27TH ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
133	8027501	4/6/2016	52ND ST	WEST ST	0	Not Stated	Complaint of Pain	1	0	Unknown	Head-On	Other Motor Vehicle
134	8091078	4/15/2016	52ND ST	WEST ST	5	West	Property Damage Only	0	0	Wrong Side of Road	Sideswipe	Other Motor Vehicle
135	8084578	4/25/2016	29TH ST	WEST ST	0	Not Stated	Other Visible Injury	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
136	8102773	4/27/2016	WEST ST	SAN PABLO AV (N)	20	West	Property Damage Only	0	0	Improper Turning	Rear-End	Parked Motor Vehicle
137	8096871	5/14/2016	BROCKHURST ST	WEST ST	25	West	Property Damage Only	0	0	Improper Turning	Head-On	Parked Motor Vehicle
138	8103309	5/18/2016	WEST ST	39TH ST	30	North	Property Damage Only	0	0	Improper Turning	Broadside	Parked Motor Vehicle
139	8130138	6/30/2016	WEST ST	29TH ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Other	Bicycle
140	8081488	7/9/2016	APGAR ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Improper Turning	Broadside	Other Motor Vehicle
141	8121023	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	8110265	7/19/2016	WEST ST	31ST ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
143	8154337	8/5/2016	41ST ST	WEST ST	35	East	Complaint of Pain	1	0	Improper Turning	Broadside	Parked Motor Vehicle
144	8165594	8/31/2016	WEST ST	39TH ST	10	North	Property Damage Only	0	0	Wrong Side of Road	Sideswipe	Other Motor Vehicle
145	8295633	9/12/2016	36TH ST	WEST ST	0	Not Stated	Complaint of Pain	3	0	Auto R/W Violation	Head-On	Other Motor Vehicle
146	8193377	9/25/2016	WEST ST	35TH ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Vehicle - Pedestrian	Bicycle
147	8192027	9/27/2016	WEST ST	31ST ST	0	Not Stated	Property Damage Only	0	0	Auto R/W Violation	Broadside	Other Motor Vehicle
148	8182510	9/28/2016	WEST ST	37TH ST	0	Not Stated	Property Damage Only	0	0	Unsafe Speed	Rear-End	Other Motor Vehicle
149	8166558	10/10/2016	WEST ST	35TH ST	0	Not Stated	Complaint of Pain	1	0	Traffic Signals and Signs	Sideswipe	Other Motor Vehicle
150	8192000	10/15/2016	35TH ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Traffic Signals and Signs	Broadside	Other Motor Vehicle
151	8179805	10/20/2016	WEST ST	35TH ST	0	Not Stated	Property Damage Only	0	0	Improper Turning	Sideswipe	Other Motor Vehicle
152	8299489	11/8/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Other	Bicycle
153	8300582	11/28/2016	APGAR ST	WEST ST	0	Not Stated	Property Damage Only	0	0	Unsafe Starting or Backing	Sideswipe	Other Motor Vehicle
154	8302190	11/28/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Auto R/W Violation	Head-On	Bicycle
155	8206838	12/1/2016	31ST ST	WEST ST	5	West	Property Damage Only	0	0	Improper Turning	Rear-End	Parked Motor Vehicle
156	8309577	12/19/2016	MACARTHUR BLVD	WEST ST	0	Not Stated	Complaint of Pain	1	0	Pedestrian Violation	Vehicle - Pedestrian	Pedestrian

Appendix B. Speed Survey, Average Daily Traffic Counts

Type of report: Tube Count - Speed Data

LOCATION: 37. West St Btwn 30th St & 31st St SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St CITY/STATE: Oakland, CA															QC JOB #: 14773287 DIRECTION: NB/SB DATE: Sep 11 2018			
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	
12:00 AM	3	5	7	14	8	6	0	0	0	0	0	0	0	0	43	26-35	22	
1:00 AM	3	3	8	11	8	0	1	0	0	0	0	0	0	0	34	26-35	19	
2:00 AM	3	1	6	7	2	2	1	0	0	0	0	0	0	0	22	22-31	12	
3:00 AM	1	1	3	6	2	1	0	0	0	0	0	0	0	0	14	25-34	8	
4:00 AM	0	1	0	5	3	0	0	0	0	0	0	0	0	0	9	26-35	7	
5:00 AM	0	1	2	2	7	3	0	0	0	0	0	0	0	0	15	31-40	10	
6:00 AM	2	1	12	28	11	7	4	0	0	0	0	0	0	0	65	21-30	40	
7:00 AM	14	13	27	54	41	11	2	0	0	0	0	0	0	0	162	26-35	94	
8:00 AM	15	6	45	88	79	17	4	1	0	1	0	0	0	0	256	26-35	167	
9:00 AM	7	8	32	71	42	10	2	0	0	0	0	0	0	0	172	26-35	113	
10:00 AM	7	2	22	77	60	15	1	1	0	0	0	0	0	0	185	26-35	137	
11:00 AM	8	7	38	47	33	16	2	0	0	0	0	0	0	0	151	21-30	85	
12:00 PM	12	14	46	66	53	20	4	0	0	0	0	0	0	0	215	26-35	118	
1:00 PM	13	8	27	60	55	14	7	0	1	0	0	0	0	0	185	26-35	115	
2:00 PM	17	15	53	85	52	16	2	0	0	0	0	0	0	0	240	21-30	138	
3:00 PM	12	11	58	128	71	25	2	0	0	0	0	0	0	0	307	26-35	198	
4:00 PM	35	9	45	98	79	27	2	0	1	0	0	0	0	0	296	26-35	177	
5:00 PM	32	14	68	111	83	19	3	0	0	0	0	0	0	0	330	26-35	194	
6:00 PM	25	8	40	103	49	18	3	0	1	0	0	0	0	0	247	26-35	152	
7:00 PM	12	17	47	56	32	8	3	1	0	0	0	0	0	0	176	21-30	102	
8:00 PM	16	19	37	59	15	6	1	0	0	0	0	0	0	0	153	21-30	96	
9:00 PM	15	8	30	47	24	4	1	1	0	0	0	0	0	0	130	21-30	77	
10:00 PM	10	8	21	33	19	4	2	0	0	0	0	0	0	0	97	23-32	53	
11:00 PM	19	5	14	16	7	1	1	0	0	0	0	0	0	0	63	21-30	30	
Day Total	281	185	688	1272	835	250	48	4	3	1	0	0	0	0	3567	26-35	2107	
Percent	7.9%	5.2%	19.3%	35.7%	23.4%	7.0%	1.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%				
ADT 3567																		
AM Peak Volume	8:00 AM	7:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	6:00 AM	8:00 AM	8:00 AM						8:00 AM			
	15	13	45	88	79	17	4	1	1						256			
PM Peak Volume	4:00 PM	8:00 PM	5:00 PM	3:00 PM	5:00 PM	4:00 PM	1:00 PM	7:00 PM	1:00 PM							5:00 PM		
	35	19	68	128	83	27	7	1	1							330		
<i>Comments:</i>																		

Appendix B. Speed Survey, Average Daily Traffic Counts

Type of report: Tube Count - Speed Data

LOCATION: 37. West St Btwn 30th St & 31st St															QC JOB #: 14773287				
SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St															DIRECTION: NB/SB				
CITY/STATE: Oakland, CA															DATE: Sep 12 2018				
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		
12:00 AM	3	5	10	11	7	3	0	0	0	0	0	0	0	0	39	21-30	21		
1:00 AM	0	4	6	10	1	2	0	0	0	0	0	0	0	0	23	21-30	16		
2:00 AM	10	3	4	9	1	2	0	0	0	0	0	0	0	0	29	21-30	13		
3:00 AM	0	2	6	5	5	0	0	0	0	0	0	0	0	0	18	21-30	11		
4:00 AM	0	1	7	6	2	1	0	0	0	0	0	0	0	0	17	21-30	12		
5:00 AM	2	0	5	4	8	1	0	0	0	0	0	0	0	0	20	26-35	12		
6:00 AM	3	2	12	26	17	4	1	0	0	0	0	0	0	0	65	26-35	43		
7:00 AM	8	6	26	61	43	16	1	0	0	0	0	0	0	0	161	26-35	103		
8:00 AM	19	4	50	97	69	27	3	1	0	0	0	0	0	0	270	26-35	166		
9:00 AM	15	10	19	56	55	19	0	0	0	0	0	0	0	0	174	26-35	111		
10:00 AM	15	9	27	54	48	12	1	1	0	0	0	0	0	0	167	26-35	101		
11:00 AM	4	13	38	53	44	11	3	3	0	0	0	0	0	0	169	26-35	97		
12:00 PM	19	7	54	59	60	12	5	0	0	0	0	0	0	0	216	26-35	119		
1:00 PM	8	9	37	99	56	17	1	1	1	0	0	0	0	0	229	26-35	154		
2:00 PM	25	18	38	95	74	37	2	0	1	0	0	0	0	0	290	26-35	169		
3:00 PM	13	11	46	86	58	18	5	1	0	0	0	0	0	0	238	26-35	144		
4:00 PM	27	7	55	113	70	25	2	1	0	0	0	0	0	0	300	26-35	183		
5:00 PM	26	11	60	136	85	28	2	1	0	1	0	0	0	0	350	26-35	221		
6:00 PM	19	20	62	84	53	12	6	1	0	0	0	0	0	0	257	21-30	146		
7:00 PM	20	11	37	68	38	9	3	0	1	0	0	0	0	0	187	26-35	105		
8:00 PM	14	11	46	49	27	6	1	0	0	0	0	0	0	0	154	21-30	95		
9:00 PM	8	17	40	40	24	7	3	0	0	0	0	0	0	0	139	21-30	80		
10:00 PM	7	13	21	31	18	5	2	2	0	0	0	0	0	0	99	21-30	52		
11:00 PM	3	4	17	22	12	3	0	0	0	0	0	0	0	0	61	21-30	39		
Day Total	268	198	723	1274	875	277	41	12	3	1	0	0	0	0	3672	26-35	2149		
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 3672																			
AM Peak Volume	8:00 AM	11:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM							8:00 AM			
	19	13	50	97	69	27	3	3								270			
PM Peak Volume	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		
	27	20	62	136	85	37	6	2	1	1							350		
Comments:																			

Appendix B. Speed Survey, Average Daily Traffic Counts

Type of report: Tube Count - Speed Data

LOCATION: 37. West St Btwn 30th St & 31st St SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St CITY/STATE: Oakland, CA															QC JOB #: 14773287 DIRECTION: NB/SB DATE: Sep 13 2018			
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	
12:00 AM	1	3	13	13	11	4	1	0	0	0	0	0	0	0	46	21-30	26	
1:00 AM	4	3	5	7	7	5	0	0	0	0	0	0	0	0	31	28-37	13	
2:00 AM	7	0	6	10	6	4	0	0	0	0	0	0	0	0	33	21-30	16	
3:00 AM	1	1	6	4	4	1	0	0	0	0	1	0	0	0	18	21-30	10	
4:00 AM	6	4	5	5	6	0	0	0	0	0	0	0	0	0	26	26-35	10	
5:00 AM	0	1	4	3	5	5	1	0	0	0	0	0	0	0	19	31-40	10	
6:00 AM	3	2	7	20	11	4	2	0	0	0	0	0	0	0	49	26-35	31	
7:00 AM	15	7	23	46	41	14	4	0	0	0	0	0	0	0	150	26-35	86	
8:00 AM	13	7	41	103	68	20	2	0	0	0	0	0	0	0	254	26-35	171	
9:00 AM	8	8	37	81	39	13	1	0	0	0	0	0	0	0	187	26-35	120	
10:00 AM	11	13	41	70	43	13	2	1	0	0	0	0	0	0	194	26-35	112	
11:00 AM	14	9	41	67	41	17	2	0	0	0	0	0	0	0	191	21-30	108	
12:00 PM	17	13	36	87	43	11	4	2	0	0	0	0	0	0	213	26-35	130	
1:00 PM	20	18	37	58	70	25	4	1	0	0	0	0	0	0	233	26-35	128	
2:00 PM	13	27	44	109	55	8	3	1	0	0	0	0	0	0	260	26-35	164	
3:00 PM	28	21	58	108	70	27	1	1	1	0	0	0	0	0	315	26-35	178	
4:00 PM	30	9	65	105	74	15	2	0	0	0	0	0	0	0	300	26-35	179	
5:00 PM	29	12	49	124	83	18	8	3	0	0	0	0	0	0	326	26-35	207	
6:00 PM	17	9	32	88	62	18	4	0	0	0	0	0	0	0	230	26-35	150	
7:00 PM	11	12	47	54	44	8	1	0	0	0	0	0	0	0	177	21-30	101	
8:00 PM	12	10	38	69	27	5	0	0	1	0	0	0	0	0	162	21-30	107	
9:00 PM	6	10	31	46	20	5	0	0	0	0	0	0	0	0	118	21-30	77	
10:00 PM	8	10	28	33	12	8	1	0	0	0	0	0	0	0	100	21-30	60	
11:00 PM	12	7	20	19	16	2	0	1	0	0	0	0	0	0	77	22-31	38	
Day Total	286	216	714	1329	858	250	43	10	2	0	1	0	0	0	3709	26-35	2187	
Percent	7.7%	5.8%	19.3%	35.8%	23.1%	6.7%	1.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%				
ADT 3709																		
AM Peak Volume	7:00 AM	10:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	10:00 AM	3:00 AM						8:00 AM			
	15	13	41	103	68	20	4	1	1						254			
PM Peak Volume	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		
	30	27	65	124	83	27	8	3	1							326		
<i>Comments:</i>																		

Appendix B. Speed Survey, Average Daily Traffic Counts

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

Page 4 of 4

LOCATION: 37. West St Btwn 30th St & 31st St														QC JOB #: 14773287			
SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St														DIRECTION: NB/SB			
CITY/STATE: Oakland, CA														DATE: Sep 11 2018 - Sep 13 2018			
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	835	599	2125	3875	2568	777	132	26	8	2	1	0	0	0	10948	26-35	6443
Percent	7.6%	5.5%	19.4%	35.4%	23.5%	7.1%	1.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
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															85th Percentile 33 MPH Mean Speed(Average): 26 MPH Median 27 MPH Mode: 28 MPH		
<i>Comments:</i>																	

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

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)



Appendix B. Speed Survey, Average Daily Traffic Counts

Type of report: Tube Count - Volume Data

Page 1 of 1

LOCATION: 37. West St Btwn 30th St & 31st St SPECIFIC LOCATION: 37. West St Btwn 30th St & 31st St CITY/STATE: Oakland, CA						QC JOB #: 14773287 DIRECTION: NB/SB DATE: Sep 11 2018 - Sep 13 2018				
Start Time	Mon 11-Sep-18	Tue 12-Sep-18	Wed 13-Sep-18	Thu 13-Sep-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
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	
5:00 AM		15	20	19		18			18	
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			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 Volume		8:00 AM 256	8:00 AM 270	8:00 AM 254		8:00 AM 260			8:00 AM 260	
PM Peak Volume		5:00 PM 330	5:00 PM 350	5:00 PM 326		5:00 PM 335			5:00 PM 335	
<i>Comments:</i>										

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

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)

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.

Summary

AM	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	A
34th St (north leg), 37th St, 43rd St, 44th St, 46th St	10%	23.5	D	40%	19.3	C
Apgar St	40%	23.5	D	40%	4.5	A
47th St	20%	23.5	D	40%	19.3	C
51st St	10%	23.5	D	10%	22.6	D
PM	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%	37.8	E	40%	27.8	D
28th St, 33rd St	20%	36.3	E	40%	6.4	B
34th St (north leg), 37th St, 43rd St, 44th St, 46th St	10%	34.9	E	40%	26.1	D
Apgar St	40%	30.1	E	40%	6.0	B
47th St	20%	33.5	E	40%	26.1	D
51st St	10%	34.9	E	10%	33.9	E

Worksheets attached.

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing Unmarked, 60-ft wide crossings that will be modified: (West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg))	Date:	1/23/2020
Scenario:	Existing Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type		3-lane	
Two-stage Crossing Calcs Apply?		No	
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 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	
t_c	Critical headway for pedestrian crossing	20.1	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	260	
C	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	0.77	
Step 4: Calculate 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	
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	10%	
h	Average headway for each through lane	41.5	
n	Average number of crossing events before an adequate gap is available	0	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event 1		
$P(Y_2)$			N/A
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	25.3	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	25.3 D	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing Unmarked, 60-ft wide crossings that will be modified: (West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg))	Date:	1/23/2020
Scenario:	Existing Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type		3-lane	
Two-stage Crossing Calcs Apply?		No	
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 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	
t_c	Critical headway for pedestrian crossing	20.1	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate 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: Calculate 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	
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	10%	
h	Average headway for each through lane	32.2	
n	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
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	37.8	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	37.8 E	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing transverse style marked, 60-ft wide crossings that will be modified: (West St @ 28th St, 33rd St)	Date:	1/23/2020
Scenario:	Existing Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type		3-lane	
Two-stage Crossing Calcs Apply?		No	
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 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	
t_c	Critical headway for pedestrian crossing	20.1	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	260	
C	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	0.77	
Step 4: Calculate 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	
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	20%	
h	Average headway for each through lane	41.5	
n	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
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	25.3	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	25.3 D	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing transverse style marked, 60-ft wide crossings that will be modified: (West St @ 28th St, 33rd St)	Date:	1/23/2020
Scenario:	Existing Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type		3-lane	
Two-stage Crossing Calcs Apply?		No	
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 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	
t_c	Critical headway for pedestrian crossing	20.1	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate 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: Calculate 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	
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	20%	
h	Average headway for each through lane	32.2	
n	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	0.09	
$P(Y_2)$		N/A	N/A
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	36.3	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	36.3 E	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing unmarked, 58-ft wide crossings: (West St @ 34th St (north leg), 37th St, 39th St, 43rd St, 44th St, 46th St, 51st St)	Date:	1/23/2020
Scenario:	Existing Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type		3-lane	
Two-stage Crossing Calcs Apply?		No	
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	260	
C	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: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	10%	
h	Average headway for each through lane	41.5	
n	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
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	23.5	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	23.5	
	Ped LOS		D

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	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, 51st St)	Date:	1/23/2020
Scenario:	Existing Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type		3-lane	
Two-stage Crossing Calcs Apply?		No	
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate 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	0.84	
Step 4: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	10%	
h	Average headway for each through lane	32.2	
n	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
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	34.9	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	34.9 E	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing high visibility style, 58-ft wide crossings: (West St @ Apgar St, 41st St)	Date:	1/23/2020
Scenario:	Existing Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	3-lane		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	260	
C	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: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	41.5	
n	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
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	23.5	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	23.5	
	Ped LOS		D

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing high visibility style, 58-ft wide crossings: (West St @ Apgar St, 41st St)	Date:	1/23/2020
Scenario:	Existing Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	3-lane		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate 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	0.84	
Step 4: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	32.2	
n	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	0.22	
$P(Y_2)$		N/A	N/A
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	30.1	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	30.1 E	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing transverse style, 58-ft wide crossings: (West St @ 47th St)	Date:	1/23/2020
Scenario:	Existing Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	3-lane		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	260	
C	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: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	20%	
h	Average headway for each through lane	41.5	
n	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
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	23.5	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	23.5	
	Ped LOS		D

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Existing transverse style, 58-ft wide crossings: (West St @ 47th St)	Date:	1/23/2020
Scenario:	Existing Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	3-lane		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate 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	0.84	
Step 4: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	20%	
h	Average headway for each through lane	32.2	
n	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	0.10	
$P(Y_2)$		N/A	N/A
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	33.5	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	33.5	
	Ped LOS		E

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style, 60-ft wide crossings: (West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg)	Date:	1/24/2020
Scenario:	Project Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane undivided		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 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	
t_c	Critical headway for pedestrian crossing	20.1	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		260	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.07	
P_b	Probability of a blocked lane	0.52	
P_d	Probability of a delayed crossing	0.77	
Step 4: Calculate 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	
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	27.7	
n	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	0.24	
$P(Y_2)$		N/A	N/A
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	20.7	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	20.7 D	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style, 60-ft wide crossings: (West St @ Sycamore St, 26th St, 30th St, 31st St, 32nd St, 34th St (south leg)	Date:	1/24/2020
Scenario:	Project Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane undivided		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 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	
t_c	Critical headway for pedestrian crossing	20.1	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		335	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.09	
P_b	Probability of a blocked lane	0.61	
P_d	Probability of a delayed crossing	0.85	
Step 4: Calculate 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	
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	21.5	
n	Average number of crossing events before an adequate gap is available	2	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.25	
$P(Y_2)$		0.18	N/A
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	27.8	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	27.8 D	

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style plus Ped Safety Island, 60-ft wide crossings: (West St @ 28th St, 33rd St)	Date:	1/24/2020
Scenario:	Project Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane divided		
Two-stage Crossing Calcs Apply?	Yes		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	27	27
S_p	Average pedestrian speed (ft/s)	3.5	3.5
t_s	Pedestrian start-up time and end clearance time (s)	3	3
t_c	Critical headway for pedestrian crossing	10.7	10.7
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		122	138
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.03	0.04
P_b	Probability of a blocked lane	0.30	0.34
P_d	Probability of a delayed crossing	0.30	0.34
Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	2.2	2.5
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	7.2	7.5
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	29.5	26.1
n	Average number of crossing events before an adequate gap is available	0	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.00
$P(Y_2)$			
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	2.2	2.5
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	4.7	
	Ped LOS		A

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style plus Ped Safety Island, 60-ft wide crossings: (West St @ 28th St, 33rd St)	Date:	1/24/2020
Scenario:	Project Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane divided		
Two-stage Crossing Calcs Apply?	Yes		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	27	27
S_p	Average pedestrian speed (ft/s)	3.5	3.5
t_s	Pedestrian start-up time and end clearance time (s)	3	3
t_c	Critical headway for pedestrian crossing	10.7	10.7
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		141	194
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.04	0.05
P_b	Probability of a blocked lane	0.34	0.44
P_d	Probability of a delayed crossing	0.34	0.44
Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	2.6	3.8
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	7.6	8.6
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	25.5	18.6
n	Average number of crossing events before an adequate gap is available	0	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.00
$P(Y_2)$			
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	2.6	3.8
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	6.4	
	Ped LOS		B

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style, 58-ft wide crossings: (West St @ 34th St (north leg), 37th St, 43rd St, 44th St, 46th St, 47th St)	Date:	1/24/2020
Scenario:	Project Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane undivided		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		260	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.07	
P_b	Probability of a blocked lane	0.51	
P_d	Probability of a delayed crossing	0.76	
Step 4: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	27.7	
n	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	0.24	
$P(Y_2)$		N/A	0.00
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	19.3	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	19.3	
	Ped LOS		C

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style, 58-ft wide crossings: (West St @ 34th St (north leg), 37th St, 43rd St, 44th St, 46th St, 47th St)	Date:	1/24/2020
Scenario:	Project Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane undivided		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		335	
C	Number of lanes crossed	2	
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: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	21.5	
n	Average number of crossing events before an adequate gap is available	2	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.25	
$P(Y_2)$		0.18	0.00
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	26.1	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	26.1	
	Ped LOS		D

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style plus ped safety island, 58-ft wide crossings: (West St @ Apgar St, 41st St)	Date:	1/24/2020
Scenario:	Project Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane divided		
Two-stage Crossing Calcs Apply?	Yes		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	26	26
S_p	Average pedestrian speed (ft/s)	3.5	3.5
t_s	Pedestrian start-up time and end clearance time (s)	3	3
t_c	Critical headway for pedestrian crossing	10.4	10.4
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		122	138
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.03	0.04
P_b	Probability of a blocked lane	0.30	0.33
P_d	Probability of a delayed crossing	0.30	0.33
Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	2.1	2.4
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	7.0	7.3
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	29.5	26.1
n	Average number of crossing events before an adequate gap is available	0	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.00
$P(Y_2)$			
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	2.1	2.4
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	4.5	
	Ped LOS		A

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed Hi-Vis style plus ped safety island, 58-ft wide crossings: (West St @ Apgar St, 41st St)	Date:	1/24/2020
Scenario:	Project Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane divided		
Two-stage Crossing Calcs Apply?	Yes		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	26	26
S_p	Average pedestrian speed (ft/s)	3.5	3.5
t_s	Pedestrian start-up time and end clearance time (s)	3	3
t_c	Critical headway for pedestrian crossing	10.4	10.4
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
Conflicting Vehicles/hr for each stage		141	194
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.04	0.05
P_b	Probability of a blocked lane	0.34	0.43
P_d	Probability of a delayed crossing	0.34	0.43
Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	2.5	3.6
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	7.3	8.3
Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	25.5	18.6
n	Average number of crossing events before an adequate gap is available	0	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.00
$P(Y_2)$			
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	2.5	3.6
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	6.0	
	Ped LOS		B

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed unmarked, 58-ft wide crossings: (West St @ 39th St, 51st St)	Date:	1/24/2020
Scenario:	Project Conditions AM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane undivided		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	260	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.07	
P_b	Probability of a blocked lane	0.51	
P_d	Probability of a delayed crossing	0.76	
Step 4: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	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	1	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.05	
$P(Y_2)$		N/A	0.00
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	22.6	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s)	22.6	
	Ped LOS		D

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Proposed unmarked, 58-ft wide crossings: (West St @ 39th St, 51st St)	Date:	1/24/2020
Scenario:	Project Conditions PM	Analyst:	DEP
Step 1: Identify Crossing Type			
Crossing Type	2-lane undivided		
Two-stage Crossing Calcs Apply?	No		
<i>Note: Two-stage crossing calculation applied at all divided roadways</i>			
Step 2: Determine 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	
<i>Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c</i>			
Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	335	
C	Number of lanes crossed	2	
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: Calculate 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: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	10%	
h	Average headway for each through lane	21.5	
n	Average number of crossing events before an adequate gap is available	2	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.05	
$P(Y_2)$		0.05	0.00
:			
:			
$P(Y_n)$		N/A	N/A
<i>Note: Full iterations shown on "crossing event calculation" tab</i>			
d_p	Average pedestrian delay for each stage (s)	33.9	
Step 6: Calculate Average Pedestrian Delay and Determine LOS			
d_p	Average pedestrian delay (s) Ped LOS	33.9 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 ≥ 1
Sum of bike lane width and parking lane width (includes bike lane buffers and paved gutters)	13 ft	LTS ≥ 3
Prevailing (aka 85th%ile) vehicle speed	33 MPH	LTS ≥ 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 ≥ 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 ≥ 1
Prevailing (aka 85th%ile) vehicle speed	33 MPH	LTS ≥ 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

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.

Analysis

Intersection Peak Hour Turning Movement Counts

West St @ 40th St				
	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
Northbound				
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
West St @ W MacArthur Blvd				
	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
Northbound				
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
West St @ 36th St				
	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
Northbound				
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
West St @ 35th St				
	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
Northbound				
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
West St @ 27th St				
	Northbound Lefts	Southbound Throughs	Product	Left-turn Pocket Needed?
Northbound				
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.

Appendix E: Left-Turn Pocket Analysis

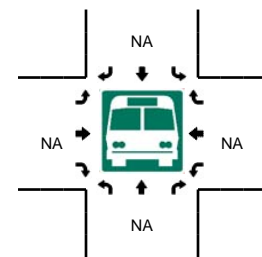
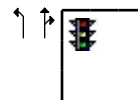
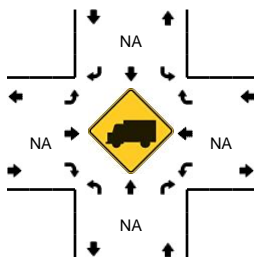
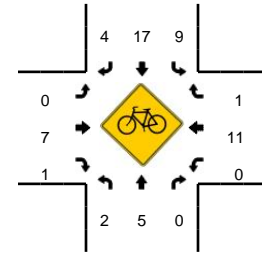
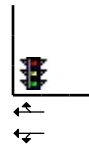
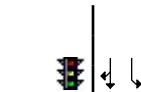
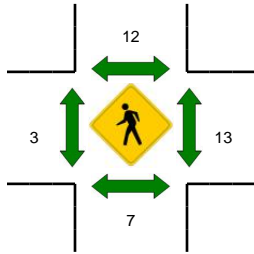
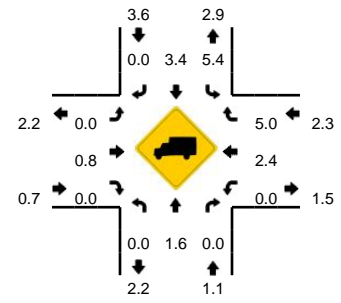
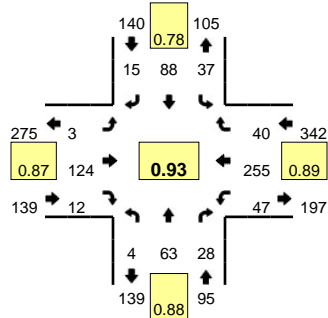
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 43. West St -- 27th St
CITY/STATE: Oakland, CA

QC JOB #: 14773269
DATE: Tue, Sep 11 2018

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:30 AM -- 8:45 AM



15-Min Count Period Beginning At	43. West St (Northbound)				43. West St (Southbound)				27th St (Eastbound)				27th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	5	4	0	3	17	4	0	0	9	0	0	5	30	6	1	86	
7:15 AM	0	6	1	0	5	15	3	0	1	19	2	1	7	29	10	3	102	
7:30 AM	1	13	9	0	4	28	4	0	0	22	1	0	5	30	4	2	123	
7:45 AM	2	11	8	0	6	23	3	0	2	26	2	0	15	42	11	0	151	462
8:00 AM	0	18	8	0	5	26	2	0	0	34	3	0	10	48	5	1	160	536
8:15 AM	1	14	7	0	6	15	6	0	0	27	3	1	11	67	13	3	174	608
8:30 AM	1	16	3	0	11	28	6	0	2	33	5	0	6	72	8	2	193	678
8:45 AM	2	15	10	0	15	19	1	0	0	30	1	0	12	68	14	2	189	716

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	64	12	0	44	112	24	0	8	132	20	0	24	288	32	8	772
Heavy Trucks	0	0	0		4	0	0		0	4	0		0	8	4		20
Pedestrians		12				12				8				0			32
Bicycles	0	1	0		1	5	0		0	2	0		0	2	0		11
Railroad																	
Stopped Buses																	

Comments:

Appendix E: Left-Turn Pocket Analysis

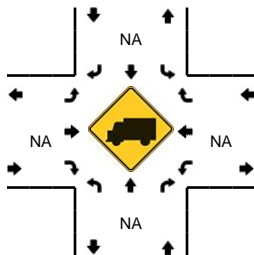
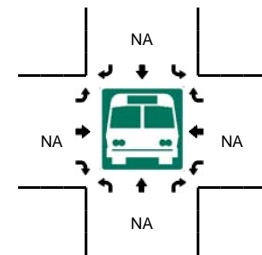
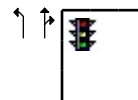
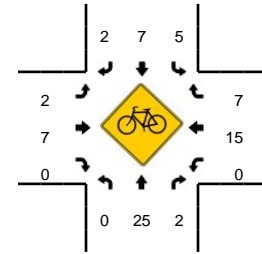
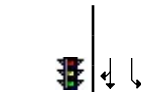
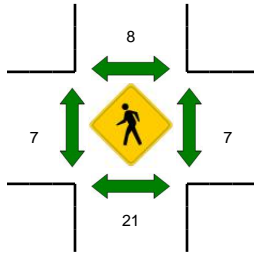
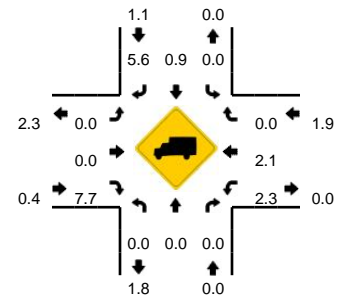
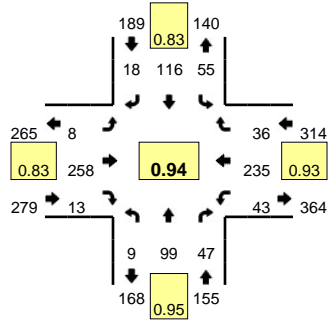
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 43. West St -- 27th St
CITY/STATE: Oakland, CA

QC JOB #: 14773270
DATE: Tue, Sep 11 2018

Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:00 PM -- 5:15 PM



15-Min Count Period Beginning At	43. West St (Northbound)				43. West St (Southbound)				27th St (Eastbound)				27th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	21	8	0	11	19	1	0	1	66	1	2	13	51	3	2	202	
4:15 PM	2	26	12	0	10	18	1	0	4	44	2	1	12	59	10	0	201	
4:30 PM	1	20	9	0	5	23	6	0	1	48	1	1	11	57	8	1	192	
4:45 PM	2	20	13	0	15	28	7	0	0	54	5	1	9	50	7	1	212	807
5:00 PM	2	24	15	0	25	27	8	0	0	58	4	1	7	68	9	0	248	853
5:15 PM	2	27	10	0	7	32	2	0	1	57	3	1	12	57	9	1	221	873
5:30 PM	3	26	11	0	13	31	3	0	2	77	4	1	8	45	12	3	239	920
5:45 PM	2	22	11	0	10	26	5	0	2	66	2	0	12	65	6	0	229	937
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	8	96	60	0	100	108	32	0	0	232	16	4	28	272	36	0	992	
Heavy Trucks	0	0	0		0	0	4		0	0	4		0	4	0		12	
Pedestrians		20				8				4				8			40	
Bicycles	0	5	1		1	2	0		2	3	0		0	5	0		19	
Railroad																		
Stopped Buses																		

Comments:

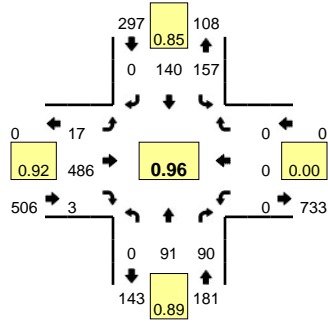
Appendix E: Left-Turn Pocket Analysis

Type of peak hour being reported: Intersection Peak

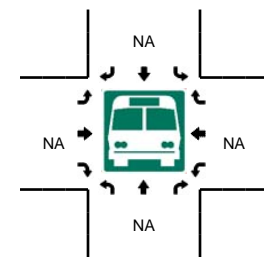
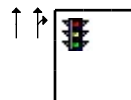
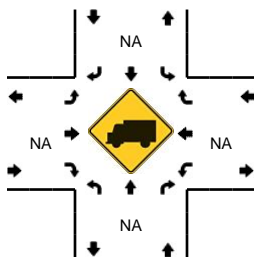
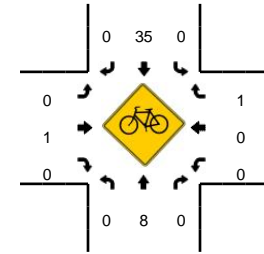
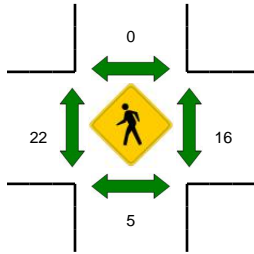
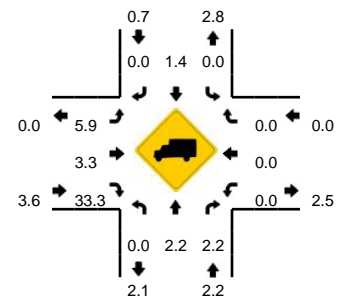
Method for determining peak hour: Total Entering Volume

LOCATION: 44. West St -- 35th St
CITY/STATE: Oakland, CA

QC JOB #: 14773271
DATE: Tue, Sep 11 2018



Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM



15-Min Count Period Beginning At	44. West St (Northbound)				44. West St (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	8	7	0	20	29	0	0	1	72	2	0	0	0	0	0	139	
7:15 AM	0	15	14	0	30	23	0	0	3	94	1	0	0	0	0	0	180	
7:30 AM	0	17	18	0	46	21	0	0	5	96	4	0	0	0	0	0	207	
7:45 AM	0	23	18	0	38	25	0	0	2	115	2	0	0	0	0	0	223	749
8:00 AM	0	26	25	0	47	40	0	0	6	106	0	0	0	0	0	0	250	860
8:15 AM	0	19	19	0	52	39	0	0	3	123	0	0	0	0	0	0	255	935
8:30 AM	0	21	26	0	29	36	0	0	6	131	1	0	0	0	0	0	250	978
8:45 AM	0	25	20	0	29	25	0	0	2	126	2	0	0	0	0	0	229	984

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	76	76	0	208	156	0	0	12	492	0	0	0	0	0	0	1020
Heavy Trucks	0	0	0		0	4	0		0	8	0		0	0	0		12
Pedestrians		20				0				28				40			88
Bicycles	0	2	0		0	10	0		0	0	0		0	0	1		13
Railroad																	
Stopped Buses																	

Comments:

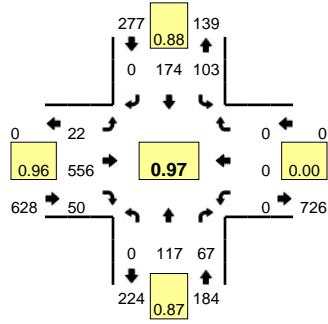
Appendix E: Left-Turn Pocket Analysis

Type of peak hour being reported: Intersection Peak

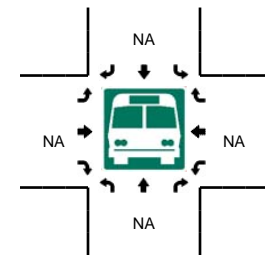
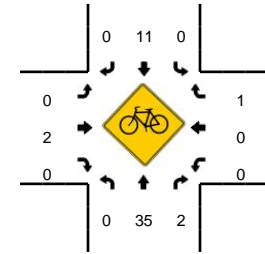
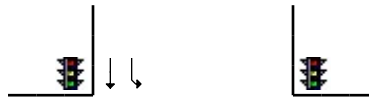
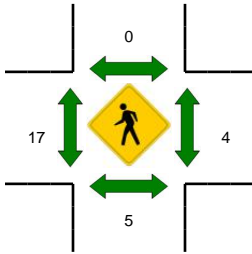
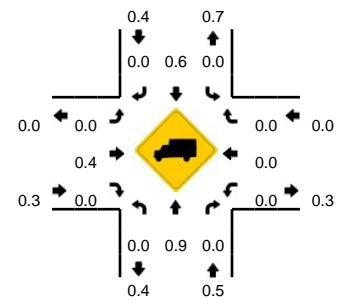
Method for determining peak hour: Total Entering Volume

LOCATION: 44. West St -- 35th St
CITY/STATE: Oakland, CA

QC JOB #: 14773272
DATE: Tue, Sep 11 2018



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



15-Min Count Period Beginning At	44. West St (Northbound)				44. West St (Southbound)				35th St (Eastbound)				35th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	20	26	0	27	32	0	0	3	142	4	0	0	0	0	0	254	
4:15 PM	0	29	15	0	25	39	0	0	4	154	4	0	0	0	0	0	270	
4:30 PM	0	29	25	0	28	41	0	0	8	138	9	0	0	0	0	0	278	
4:45 PM	0	21	17	0	28	51	0	0	3	133	5	0	0	0	0	0	258	1060
5:00 PM	0	26	20	0	18	48	0	0	4	137	23	0	0	0	0	0	276	1082
5:15 PM	0	33	17	0	28	35	0	0	7	141	13	0	0	0	0	0	274	1086
5:30 PM	0	37	13	0	29	40	0	0	8	145	9	0	0	0	0	0	281	1089
5:45 PM	0	24	14	0	23	38	0	0	7	119	15	0	0	0	0	0	240	1071
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	148	52	0	116	160	0	0	32	580	36	0	0	0	0	0	1124	
Heavy Trucks	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	
Pedestrians		8				0				20				12			40	
Bicycles	0	11	0		0	1	0		0	0	0		0	0	0		12	
Railroad																		
Stopped Buses																		

Comments:

Appendix E: Left-Turn Pocket Analysis

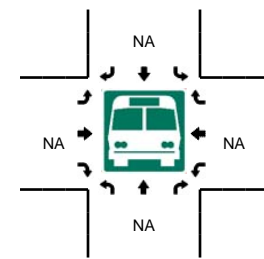
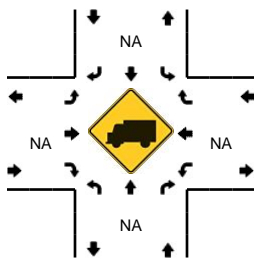
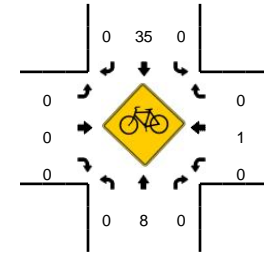
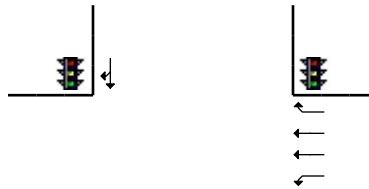
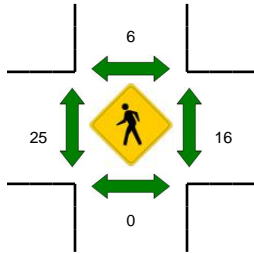
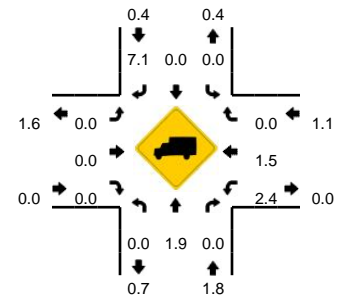
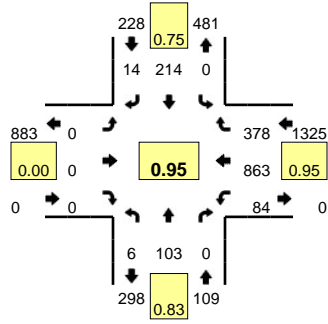
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 45. West St -- 36th St
CITY/STATE: Oakland, CA

QC JOB #: 14773273
DATE: Tue, Sep 11 2018

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM



15-Min Count Period Beginning At	45. West St (Northbound)				45. West St (Southbound)				36th St (Eastbound)				36th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	9	0	0	0	32	2	0	0	0	0	0	16	145	65	0	271	
7:15 AM	0	16	0	0	0	37	0	0	0	0	0	0	19	171	83	0	326	
7:30 AM	3	20	0	0	0	48	1	0	0	0	0	0	16	160	94	0	342	
7:45 AM	2	20	0	0	0	49	3	0	0	0	0	0	14	171	95	0	354	1293
8:00 AM	4	29	0	0	0	78	5	0	0	0	0	0	19	176	116	0	427	1449
8:15 AM	1	21	0	0	0	63	3	0	0	0	0	0	25	219	105	0	437	1560
8:30 AM	0	27	0	0	0	34	3	0	0	0	0	0	27	214	83	0	388	1606
8:45 AM	1	26	0	0	0	39	3	0	0	0	0	0	13	254	74	0	410	1662

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	84	0	0	0	252	12	0	0	0	0	0	100	876	420	0	1748
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	4	16	0	0	20
Pedestrians		0				12				36				32			80
Bicycles	0	3	0		0	10	0		0	0	0		0	0	0		13
Railroad																	
Stopped Buses																	

Comments:

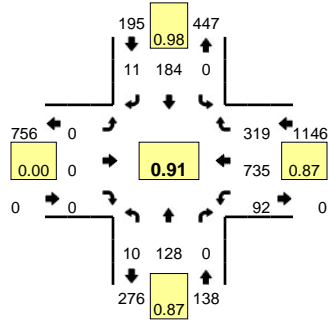
Appendix E: Left-Turn Pocket Analysis

Type of peak hour being reported: Intersection Peak

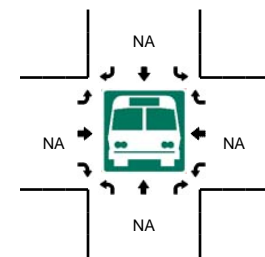
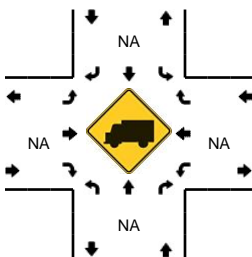
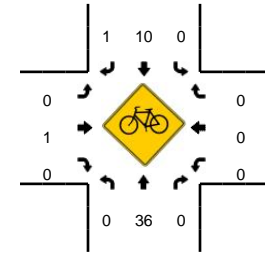
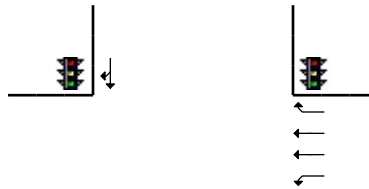
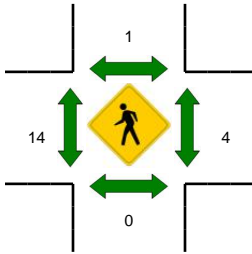
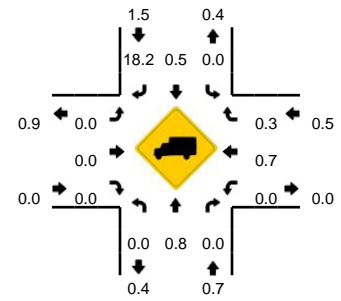
Method for determining peak hour: Total Entering Volume

LOCATION: 45. West St -- 36th St
CITY/STATE: Oakland, CA

QC JOB #: 14773274
DATE: Tue, Sep 11 2018



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM



15-Min Count Period Beginning At	45. West St (Northbound)				45. West St (Southbound)				36th St (Eastbound)				36th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	24	0	0	0	43	0	1	0	0	0	0	16	162	58	0	306	
4:15 PM	3	27	0	0	0	39	3	0	0	0	0	0	22	148	70	0	312	
4:30 PM	3	32	0	0	0	42	0	0	0	0	0	0	24	170	81	0	352	
4:45 PM	4	23	0	0	0	47	3	0	0	0	0	0	30	207	93	0	407	1377
5:00 PM	1	30	0	0	0	49	1	0	0	0	0	0	24	171	72	0	348	1419
5:15 PM	5	34	0	0	0	42	3	0	0	0	0	0	21	173	83	0	361	1468
5:30 PM	0	41	0	0	0	46	4	0	0	0	0	0	17	184	71	0	363	1479
5:45 PM	3	29	0	0	0	33	4	0	0	0	0	0	28	182	82	0	361	1433
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	92	0	0	0	188	12	0	0	0	0	0	120	828	372	0	1628	
Heavy Trucks	0	4	0	0	0	0	4	0	0	0	0	0	0	12	0	0	20	
Pedestrians	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	
Bicycles	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	
Railroad																		
Stopped Buses																		

Comments:

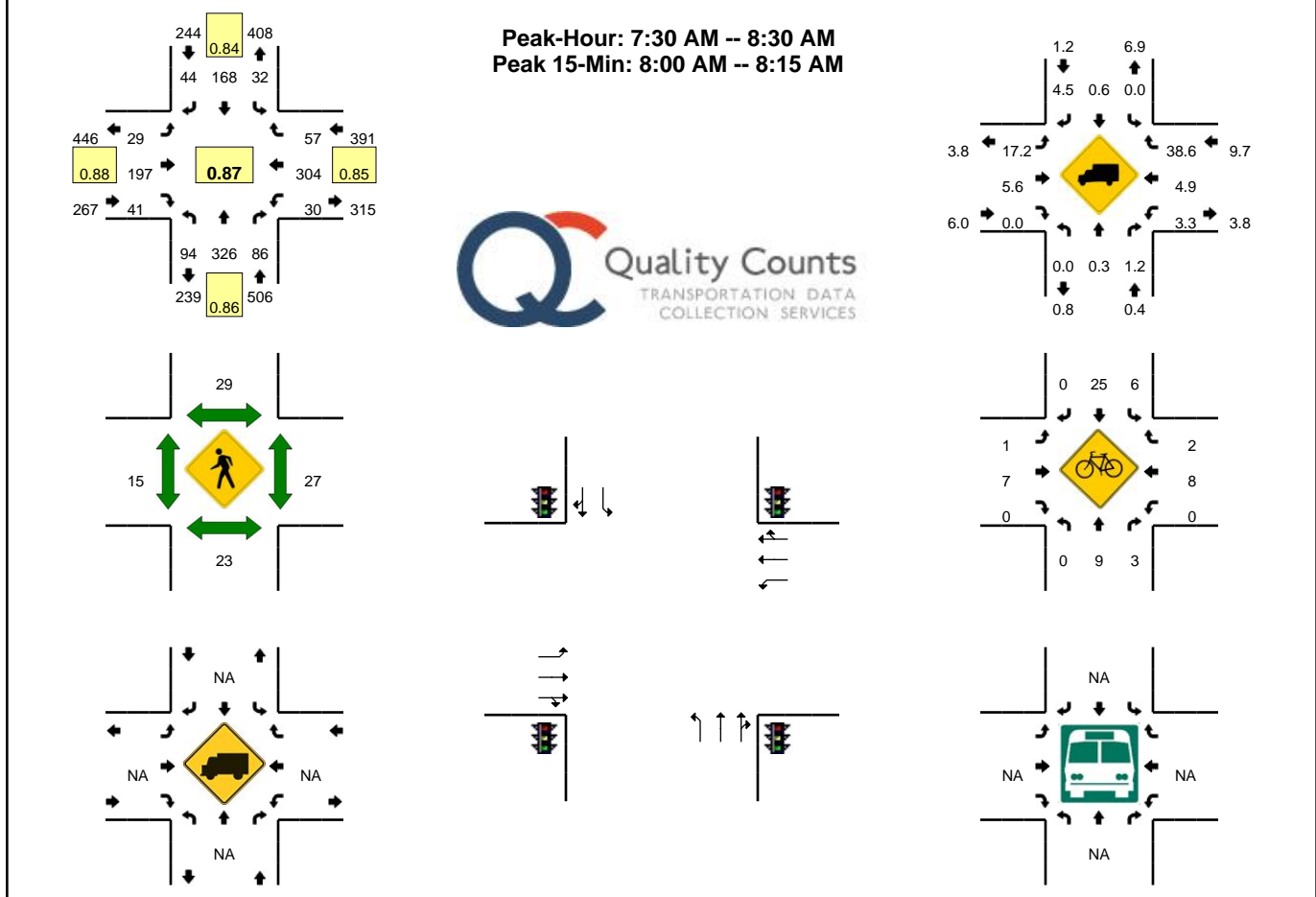
Appendix E: Left-Turn Pocket Analysis

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 46. West St -- W MacArthur Blvd
CITY/STATE: Oakland, CA

QC JOB #: 14773275
DATE: Tue, Sep 11 2018



15-Min Count Period Beginning At	46. West St (Northbound)				46. West St (Southbound)				W MacArthur Blvd (Eastbound)				W MacArthur Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	16	40	14	0	3	15	5	0	3	23	6	1	4	36	7	0	173	
7:15 AM	16	65	23	0	4	21	9	0	2	44	10	0	5	53	12	0	264	
7:30 AM	19	80	14	0	6	36	7	0	4	55	17	0	3	67	14	0	322	
7:45 AM	26	71	25	0	8	44	11	0	10	40	5	0	5	73	21	0	339	1098
8:00 AM	17	101	29	0	9	49	15	0	4	51	14	1	13	87	13	0	403	1328
8:15 AM	32	74	18	0	9	39	11	0	7	51	5	3	9	77	9	0	344	1408
8:30 AM	33	49	21	0	7	27	7	0	4	38	5	0	6	91	19	1	308	1394
8:45 AM	32	42	18	0	8	26	11	0	1	38	2	0	5	113	18	0	314	1369
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	68	404	116	0	36	196	60	0	16	204	56	4	52	348	52	0	1612	
Heavy Trucks	0	0	4		0	0	0		0	8	0		0	28	24		64	
Pedestrians		16				20				8				20			64	
Bicycles	0	1	0		1	5	0		0	0	0		0	0	0		7	
Railroad																		
Stopped Buses																		

Comments:

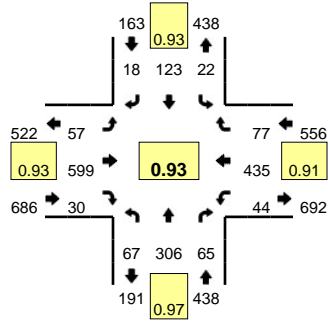
Appendix E: Left-Turn Pocket Analysis

Type of peak hour being reported: Intersection Peak

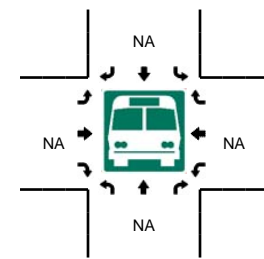
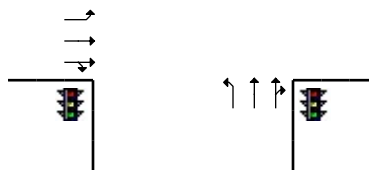
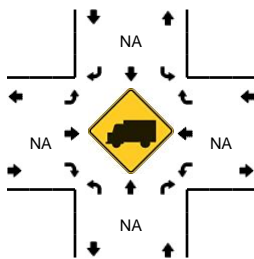
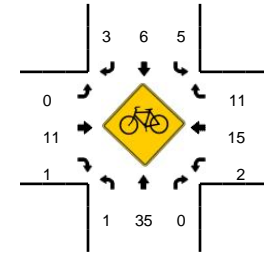
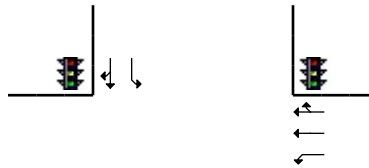
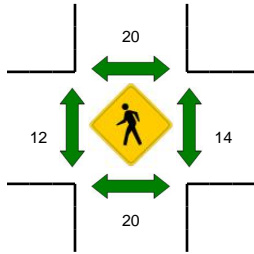
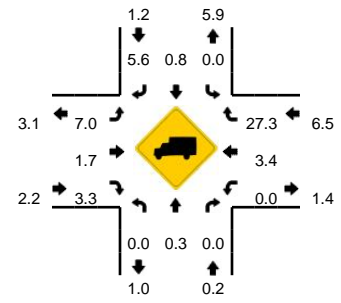
Method for determining peak hour: Total Entering Volume

LOCATION: 46. West St -- W MacArthur Blvd
CITY/STATE: Oakland, CA

QC JOB #: 14773276
DATE: Tue, Sep 11 2018



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM



15-Min Count Period Beginning At	46. West St (Northbound)				46. West St (Southbound)				W MacArthur Blvd (Eastbound)				W MacArthur Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	16	54	15	0	12	31	4	0	6	92	7	5	8	113	15	1	379	
4:15 PM	15	68	13	0	7	29	3	0	9	112	7	0	4	83	23	1	374	
4:30 PM	13	78	20	0	10	30	4	0	7	134	1	0	9	97	9	0	412	
4:45 PM	22	73	18	0	5	34	5	0	17	138	7	0	8	102	15	2	446	1611
5:00 PM	17	73	13	0	3	28	4	0	16	127	7	0	10	104	18	1	421	1653
5:15 PM	14	80	18	0	5	30	5	0	10	168	7	2	8	113	19	3	482	1761
5:30 PM	14	80	16	0	9	31	4	0	12	166	9	0	12	116	25	0	494	1843
5:45 PM	6	78	20	0	16	25	6	0	6	163	5	0	8	86	18	0	437	1834
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	56	320	64	0	36	124	16	0	48	664	36	0	48	464	100	0	1976	
Heavy Trucks	0	0	0		0	0	0		4	0	0		0	12	28		44	
Pedestrians		20				32				20				12			84	
Bicycles	0	13	0		1	0	3		0	3	0		0	4	5		29	
Railroad																		
Stopped Buses																		

Comments:

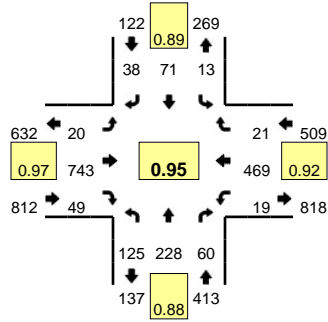
Appendix E: Left-Turn Pocket Analysis

Type of peak hour being reported: Intersection Peak

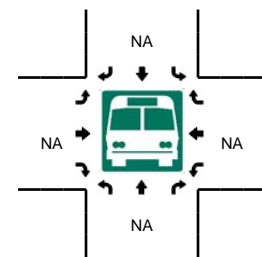
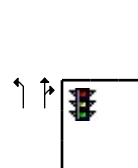
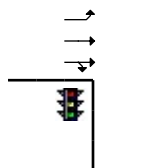
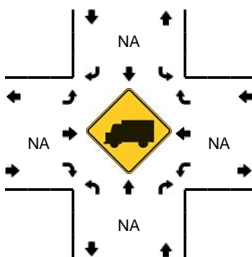
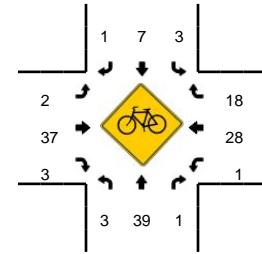
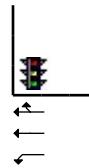
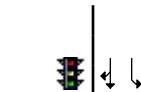
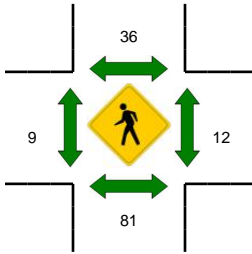
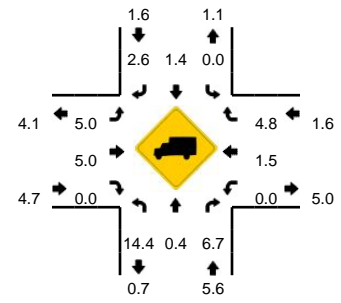
Method for determining peak hour: Total Entering Volume

LOCATION: 2. West St -- 40th St
CITY/STATE: Alameda, CA

QC JOB #: 14773203
DATE: Tue, Sep 11 2018



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM



15-Min Count Period Beginning At	2. West St (Northbound)				2. West St (Southbound)				40th St (Eastbound)				40th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	19	30	8	0	6	13	10	0	9	195	14	0	3	130	8	0	445	
4:15 PM	32	47	16	0	4	14	11	0	6	188	13	0	5	92	5	1	434	
4:30 PM	27	45	18	0	7	14	14	0	10	183	12	0	6	108	8	5	457	
4:45 PM	33	63	12	0	3	19	9	0	5	199	13	0	4	117	9	0	486	1822
5:00 PM	23	44	13	0	1	17	9	0	2	173	14	0	6	126	8	0	436	1813
5:15 PM	42	61	14	0	3	15	11	0	6	180	14	0	3	112	2	0	463	1842
5:30 PM	27	60	21	0	6	20	9	0	7	191	8	0	4	114	2	2	471	1856
5:45 PM	32	57	17	0	8	17	8	0	8	196	16	0	4	104	4	3	474	1844
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	132	252	48	0	12	76	36	0	20	796	52	0	16	468	36	0	1944	
Heavy Trucks	20	4	4		0	0	0		0	52	0		0	4	0		84	
Pedestrians		52				28				12				0			92	
Bicycles	0	3	1		1	1	0		1	7	0		0	6	2		22	
Railroad																		
Stopped Buses																		

Comments:

Appendix E: Left-Turn Pocket Analysis

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

Unshifted Count = All Vehicles & Uturns

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.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	4	14	8	0	26	9	98	3	0	110	18	16	6	0	40	8	99	17	0	124	300	0
8:00	4	13	13	0	30	16	77	12	4	109	23	25	20	0	68	6	107	13	0	126	333	4
8:15	9	21	5	0	35	7	99	3	1	110	14	24	14	0	52	6	112	10	0	128	325	1
Total	18	60	34	0	112	37	353	22	6	418	66	81	50	0	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	3	11	6	0	20	5	102	3	2	112	11	17	13	0	41	3	87	9	0	99	272	2
9:15	0	9	10	0	19	3	99	4	2	108	13	13	9	0	35	1	98	7	1	107	269	3
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	3	19	4	0	26	5	78	1	2	86	15	20	7	0	42	6	123	13	0	142	296	2
12:00	3	15	12	0	30	8	98	7	1	114	24	21	7	0	52	2	103	11	0	116	312	1
12:15	1	12	7	0	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	3	11	7	0	21	5	93	7	1	106	6	18	7	0	31	3	106	10	0	119	277	1
13:15	1	14	9	0	24	2	100	4	2	108	14	23	3	0	40	4	100	11	0	115	287	2
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	5	21	12	0	38	4	111	8	1	124	15	34	11	0	60	2	138	17	0	157	379	1
16:15	5	19	11	0	35	5	114	6	1	126	24	56	9	0	89	3	158	20	0	181	431	1
16:30	7	18	11	0	36	5	107	7	1	120	21	49	15	0	85	1	153	19	1	174	415	2
16:45	7	23	17	0	47	4	110	8	2	124	20	70	11	0	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	3	17	8	0	28	9	95	4	0	108	31	71	11	0	113	7	172	6	0	185	434	0
17:45	6	18	12	0	36	5	107	10	0	122	38	61	11	0	110	9	166	16	0	191	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
Approch %	12.4%	54.8%	32.8%	0.0%		5.5%	88.8%	4.6%	1.1%		30.5%	53.6%	15.9%	0.0%		3.2%	87.4%	9.3%	0.1%			
Total %	1.1%	4.7%	2.8%	0.0%	8.6%	1.8%	29.0%	1.5%	0.4%	32.6%	1.8%	9.7%	2.9%	0.0%	18.2%	1.3%	35.5%	3.8%	0.0%	40.6%	100.0%	

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	4	14	8	0	26	9	98	3	0	110	18	16	6	0	40	8	99	17	0	124	300
8:00	4	13	13	0	30	16	77	12	4	109	23	25	20	0	68	6	107	13	0	126	333
8:15	9	21	5	0	35	7	99	3	1	110	14	24	14	0	52	6	112	10	0	128	325
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	371	21	6	439	74	86	47	0	207	21	416	52	0	489	1247
% App Total	17.9%	52.7%	29.5%	0.0%		9.3%	84.5%	4.8%	1.4%		35.7%	41.5%	22.7%	0.0%		4.3%	85.1%	10.6%	0.0%		
PHF	.556	.702	.635	.000	.800	.641	.937	.438	.375	.998	.804	.860	.588	.000	.761	.656	.929	.765	.000	.955	.936

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	3	15	12	0	30	8	98	7	1	114	24	21	7	0	52	2	103	11	0	116	312
12:15	1	12	7	0	20	7	104	6	0	117	13	21	8	0	42	4	109	6	0	119	298
12:30	2	13	8	0	23	4	98	4	3	99	22	16	5	0	43	4	98	10	0	112	277
12:45	3	16	16	0	35	6	84	5	0	95	21	22	7	0	50	4	109	17	0	130	310
Total Volume	9	56	43	0	108	25	374	22	4	425	80	80	27	0	187	14	419	44	0	477	1197
% App Total	8.3%	51.9%	39.8%	0.0%		5.9%	88.0%	5.2%	0.9%		42.8%	42.8%	14.4%	0.0%		2.9%	87.8%	9.2%	0.0%		
PHF	.750	.875	.672	.000	.771	.722	.893	.600	.250	.908	.833	.909	.844	.000	.899	.875	.961	.647	.000	.917	.959

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	2	18	9	0	29	4	126	2	0	132	27	66	16	0	109	10	177	18	1	206	476
17:15	10	25	14	0	49	8	117	8	1	134	25	77	17	0	119	4	155	25	0	184	486
17:30	3	17	8	0	28	9	95	4	0	108	31	71	11	0	113	7	172	6	0	185	434
17:45	6	18	12	0	36	5	107	10	0	122	38	61	11	0	110	9	166	16	0	191	459
Total Volume	21	78	43	0	142	26	445	24	1	496	121	275	55	0	451	30	670	65	1	766	1855
% App Total	14.8%	54.9%	30.3%	0.0%		5.2%	89.7%	4.8%	0.2%		26.8%	61.0%	12.2%	0.0%		3.9%	87.5%	8.5%	0.1%		
PHF	.525	.780	.768	.000	.724	.722	.883	.600	.250	.925	.796	.893	.809	.000	.947	.750	.946	.650	.250	.930	.954

Appendix E: Left-Turn Pocket Analysis

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

Bank 1 Count = Bikes & Peds

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total	Peds Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL		
7:30	8	0	0	7	8	0	9	1	3	10	1	3	4	39	8	0	12	1	3	13	39	52
7:45	8	5	0	3	13	0	7	1	4	8	0	3	0	42	3	0	5	1	4	6	30	53
8:00	3	3	0	6	6	0	5	0	3	5	0	2	1	38	3	0	15	0	3	15	29	50
8:15	1	8	0	5	9	0	4	0	2	4	0	0	0	21	0	0	12	0	10	12	25	38
Total	20	16	0	21	36	0	25	2	12	27	1	8	5	140	14	0	44	2	20	46	123	193
8:30	3	6	0	5	9	0	10	0	5	10	2	2	0	20	4	0	8	0	4	8	31	34
8:45	5	9	0	5	14	1	8	2	2	11	2	4	3	14	9	0	13	1	3	14	48	24
9:00	3	4	0	6	7	0	5	0	2	5	0	1	2	14	3	0	12	2	2	14	29	24
9:15	2	7	0	8	9	1	6	0	3	7	0	0	0	10	0	0	12	0	0	12	28	21
Total	13	26	0	24	39	2	29	2	12	33	4	7	5	58	16	0	45	3	9	48	136	103
11:30	0	0	0	2	0	0	3	0	2	3	0	2	0	6	2	0	3	1	1	4	9	11
11:45	0	4	1	2	5	2	4	1	4	7	0	0	1	7	1	0	1	2	2	3	16	15
12:00	2	1	1	1	4	1	0	0	1	1	0	2	1	5	3	0	8	1	4	9	17	11
12:15	2	4	1	5	7	0	3	1	1	4	0	2	0	4	2	0	8	1	2	9	22	12
Total	4	9	3	10	16	3	10	2	8	15	0	6	2	22	8	0	20	5	9	25	64	49
12:30	0	0	0	2	0	0	6	0	1	6	1	2	0	7	3	0	7	1	1	8	17	11
12:45	0	1	0	5	1	2	1	0	5	3	0	3	0	3	3	0	3	2	2	5	12	15
13:00	3	0	0	3	3	1	5	2	2	8	1	3	0	4	4	0	4	0	1	4	19	10
13:15	1	2	0	8	3	1	1	0	3	2	0	2	0	4	2	0	9	1	1	10	17	16
Total	4	3	0	18	7	4	13	2	11	19	2	10	0	18	12	0	23	4	5	27	65	52
16:00	1	1	0	8	2	1	5	0	4	6	0	3	0	31	3	0	14	2	1	16	27	44
16:15	2	2	1	7	5	0	3	1	1	4	0	7	0	14	7	2	3	0	4	5	21	26
16:30	1	3	1	4	5	1	4	1	5	6	0	5	1	16	6	0	3	0	5	3	20	30
16:45	3	1	0	8	4	0	9	6	7	15	0	6	0	12	6	1	15	0	1	16	41	28
Total	7	7	2	27	16	2	21	8	17	31	0	21	1	73	22	3	35	2	11	40	109	128
17:00	0	2	1	5	3	0	4	3	1	7	0	5	1	21	6	0	15	1	3	16	32	30
17:15	3	4	2	13	9	3	6	2	3	11	2	9	0	22	11	0	19	0	4	19	50	42
17:30	3	3	0	8	6	1	8	1	7	10	2	4	0	21	6	0	4	1	2	5	27	38
17:45	2	5	0	8	7	1	11	6	4	18	0	8	2	22	10	0	9	1	3	10	45	37
Total	8	14	3	34	25	5	29	12	15	46	4	26	3	86	33	0	47	3	12	50	154	147
Grand Total	56	75	8	134	139	16	127	28	75	171	11	78	16	397	105	3	214	19	66	236	651	672
Apprch %	40.3%	54.0%	5.8%			9.4%	74.3%	16.4%			10.5%	74.3%	15.2%			1.3%	90.7%	8.1%				
Total %	8.6%	11.5%	1.2%		21.4%	2.5%	19.5%	4.3%		26.3%	1.7%	12.0%	2.5%		16.1%	0.5%	32.9%	2.9%		36.3%	100.0%	

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	8	5	0	3	13	0	7	1	4	8	0	3	0	42	3	0	5	1	4	6	30
8:00	3	3	0	6	6	0	5	0	3	5	0	2	1	38	3	0	15	0	3	15	29
8:15	1	8	0	5	9	0	4	0	2	4	0	0	0	21	0	0	12	0	10	12	25
8:30	3	6	0	5	9	0	10	0	5	10	2	2	0	20	4	0	8	0	4	8	31
Total Volume	15	22	0	19	37	0	26	1	14	27	2	7	1	121	10	0	40	1	21	41	115
% App Total	40.5%	59.5%	0.0%			0.0%	96.3%	3.7%			20.0%	70.0%	10.0%			0.0%	97.6%	2.4%			
PHF	.469	.688	.000		.712	.000	.650	.250		.675	.250	.583	.250	.625	.625	.000	.667	.250		.683	.927

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 12:00 to 13:00																					
Peak Hour For Entire Intersection Begins at 12:00																					
12:00	2	1	1	1	4	1	0	0	1	1	0	2	1	5	3	0	8	1	4	9	17
12:15	2	4	1	5	7	0	3	1	1	4	0	2	0	4	2	0	8	1	2	9	22
12:30	0	0	0	2	0	0	6	0	1	6	1	2	0	7	3	0	7	1	1	8	17
12:45	0	1	0	5	1	2	1	0	5	3	0	3	0	3	3	0	3	2	2	5	12
Total Volume	4	6	2	13	12	3	10	1	8	14	1	9	1	19	11	0	26	5	9	31	68
% App Total	33.3%	50.0%	16.7%			21.4%	71.4%	7.1%			9.1%	81.8%	9.1%			0.0%	83.9%	16.1%			
PHF	.500	.375	.500		.429	.375	.417	.250		.583	.250	.750	.250	.917	.917	.000	.813	.625		.861	.773

START TIME	West Street Southbound					40th Street Westbound					West Street Northbound					40th Street Eastbound					Total
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	2	1	5	3	0	4	3	1	7	0	5	1	21	6	0	15	1	3	16	32
17:15	3	4	2	13	9	3	6	2	3	11	2	9	0	22	11	0	19	0	4	19	50
17:30	3	3	0	8	6	1	8	1	7	10	2	4	0	21	6	0	4	1	2	5	27
17:45	2	5	0	8	7	1	11	6	4	18	0	8	2	22	10	0	9	1	3	10	45
Total Volume	8	14	3	34	25	5	29	12	15	46	4	26	3	86	33	0	47	3	12	50	154
% App Total	32.0%	56.0%	12.0%			10.9%	63.0%	26.1%			12.1%	78.8%	9.1%			0.0%	94.0%	6.0%			
PHF	.667	.700	.375		.694	.417	.659	.500		.639	.500	.722	.375	.750	.750	.000	.618	.750		.658	.770