Appendix A. Traffic Crashes 2012-2016

		Vehicle		Ped/Bike		Total	
		Injury	PDO	Injury	PDO	Injury	PDO
	Crash Types	***33***	***44***	***7***	***0***	***40***	***44***
A	Head On	4	2	0	0	4	2
B	Sideswipe	3	13	0	0	3	13
C	Rear End	9	12	0	0	9	12
D	Broadside	13	11	0	0	13	11
E	Hit Object	3	5	0	0	3	5
F	Overturned	1	0	0	0	1	0
G	Vehicle/ped	0	0	6	0	6	0
H	Other	0	1	1	0	1	1
I	Not Stated	0	0	0	0	0	0

		Vehicle		Ped/Bike		Total				
		Injury	PDO	Injury	PDO	Injury	PDO	% Injury	% PDO	Total
	Primary Collision Factors	***32***	***45***	***7***	***0***	***40***	***44***	**100%**	**100%**	**100%**
1	Driving or Bicycling Under the Influence of Alcohol or Drugs	1	3	0	0	1	3	3%	7%	5%
2	Impeding Traffic	0	0	0	0	0	0	0%	0%	0%
3	Unsafe Speed	4	8	0	0	4	8	10%	18%	14%
4	Following Too Closely	3	0	0	0	3	0	8%	0%	4%
5	Wrong Side of Road	2	0	1	0	3	0	8%	0%	4%
6	Improper Passing	0	0	0	0	0	0	0%	0%	0%
7	Unsafe Lane Change	0	0	0	0	0	0	0%	0%	0%
8	Improper Turning	7	22	0	0	7	22	18%	50%	35%
9	Automobile Right of Way	12	7	0	0	12	7	30%	16%	23%
10	Pedestrian Right of Way	0	1	6	0	6	1	15%	2%	8%
11	Pedestrian Violation	0	0	0	0	0	0	0%	0%	0%
12	Traffic Signals and Signs	1	0	0	0	1	0	3%	0%	1%
13	Hazardous Parking	0	0	0	0	0	0	0%	0%	0%
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	0	0	0	0	0	0%	0%	0%
17	Other Hazardous Violation	1	0	0	0	1	0	3%	0%	1%
18	Other than Driving (or Pedestrian)	1	1	0	0	1	1	3%	2%	2%
19		0	0	0	0	0	0	0%	0%	0%
20		0	0	0	0	0	0	0%	0%	0%
21	Unsafe Starting or Backing	0	2	0	0	0	2	0%	5%	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	Unkown	0	0	0	0	0	0	0%	0%	0%
26	Not Stated	0	1	0	0	1	0	3%	0%	1%

YEAR	DATE	PRIMARY RD	SECONDARY RD	INTERSECTION	Mid-Block	Collision Severity	NUMBER KILLED	NUMBER INJURED	PCF	Type	Involved with
2013	20130106	PARK BL	20TH ST		1	Fatal/Injury	0	1	Drove on Wrong Side of Road	Other	Bicycle
2013	20130409	PARK BL	34TH ST	1		Fatal/Injury	0	1	Violated Pedestrian's Right of Way	Vehicle/ped	Pedestrian
2013	20131110	PARK BL	19TH ST		1	Fatal/Injury	0	1	Violated Pedestrian's Right of Way	Vehicle/ped	Pedestrian
2014	20140501	PARK BL	19TH ST		1	Fatal/Injury	0	1	Violated Pedestrian's Right of Way	Vehicle/ped	Pedestrian
2014	20140513	PARK BL	34TH ST	1		Fatal/Injury	0	1	Violated Pedestrian's Right of Way	Vehicle/ped	Pedestrian
2015	20150701	PARK BL	18TH ST		1	Fatal/Injury	0	2	Violated Pedestrian's Right of Way	Vehicle/ped	Pedestrian
2015	20151118	PARK BL	CLEVELAND AV		1	Fatal/Injury	0	1	Violated Pedestrian's Right of Way	Vehicle/ped	Pedestrian
2012	20120627	PARK BL	MACARTHUR BL	1		Fatal/Injury	2	0	Traveled at Unsafe Speed	Hit Object	Vehicle
2014	20140613	PARK BL	7TH AV	1		Fatal/Injury	0	2	Blank	Broadside	Vehicle
2011	20110421	PARK BL	19TH ST		1	Fatal/Injury	0	2	Caused Another Hazard	Sideswipe	Vehicle
2012	20120723	PARK BL	18TH ST	1		Fatal/Injury	0	2	Disobeyed Traffic Signals/Signs	Broadside	Vehicle
2015	20150917	PARK BL	28TH ST	1		Fatal/Injury	0	1	Drove on Wrong Side of Road	Broadside	Vehicle
2011	20110308	PARK BL	MACARTHUR BL		1	Fatal/Injury	0	1	Drove on Wrong Side of Road	Head On	Vehicle
2011	20111014	PARK BL	MACARTHUR BL	1		Fatal/Injury	0	1	DUI	Hit Object	Vehicle
2015	20150413	PARK BL	MCKINLEY AV		1	Fatal/Injury	0	1	Other than Driving (or Pedestrian)	Rear End	Vehicle
2012	20120703	PARK BL	PORTLAND AV		1	Fatal/Injury	0	1	Tailgated	Rear End	Vehicle
2012	20120623	PARK BL	7TH AV		1	Fatal/Injury	0	2	Tailgated	Rear End	Vehicle
2013	20130904	PARK BL	MCKINLEY AV		1	Fatal/Injury	0	2	Tailgated	Rear End	Vehicle
2011	20111111	PARK BL	MACARTHUR BL		1	Fatal/Injury	0	2	Traveled at Unsafe Speed	Hit Object	Vehicle
2012	20120307	PARK BL	28TH ST		1	Fatal/Injury	0	1	Traveled at Unsafe Speed	Rear End	Vehicle
2012	20120726	PARK BL	20TH ST		1	Fatal/Injury	0	1	Traveled at Unsafe Speed	Rear End	Vehicle
2013	20130919	PARK BL	SPRUCE ST		1	Fatal/Injury	0	1	Turned Illegally	Broadside	Vehicle
2014	20141223	PARK BL	22ND ST	1		Fatal/Injury	0	1	Turned Illegally	Broadside	Vehicle
2013	20130601	PARK BL	28TH ST		1	Fatal/Injury	0	2	Turned Illegally	Head On	Vehicle
2012	20120115	PARK BL	MCKINLEY AV		1	Fatal/Injury	0	2	Turned Illegally	Overturned	Vehicle
2012	20120307	PARK BL	HADDON RD		1	Fatal/Injury	0	1	Turned Illegally	Rear End	Vehicle
2012	20120701	PARK BL	VAN DYKE AV		1	Fatal/Injury	0	1	Turned Illegally	Rear End	Vehicle
2014	20140225	PARK BL	VAN DYKE AV		1	Fatal/Injury	0	1	Turned Illegally	Rear End	Vehicle
2011	20110723	PARK BL	IVY DR	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Broadside	Vehicle
2013	20130402	PARK BL	MACARTHUR BL	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Broadside	Vehicle
2013	20130714	PARK BL	MCKINLEY AV	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Broadside	Vehicle
2014	20140122	PARK BL	28TH ST	1		Fatal/Injury	0	2	Violated Another Car's Right of Way	Broadside	Vehicle
2014	20141018	PARK BL	IVY DR		1	Fatal/Injury	0	2	Violated Another Car's Right of Way	Broadside	Vehicle
2014	20141219	PARK BL	SPRUCE ST	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Broadside	Vehicle
2015	20150911	PARK BL	MACARTHUR BL	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Broadside	Vehicle
2015	20150930	PARK BL	PORTLAND AV	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Broadside	Vehicle

YEAR	DATE	PRIMARY RD	SECONDARY RD	INTERSECTION	Mid-Block	Collision Severity	NUMBER KILLED	NUMBER INJURED	PCF	Type	Involved with
2012	20120414	PARK BL	7TH AV	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Head On	Vehicle
2014	20140310	PARK BL	19TH ST	1		Fatal/Injury	0	2	Violated Another Car's Right of Way	Head On	Vehicle
2014	20140203	PARK BL	28TH ST		1	Fatal/Injury	0	1	Violated Another Car's Right of Way	Sideswipe	Vehicle
2015	20150808	PARK BL	22ND ST	1		Fatal/Injury	0	1	Violated Another Car's Right of Way	Sideswipe	Vehicle
2012	20121026	PARK BL	21ST ST		1	Property Damage	0	0	DUI	Rear End	Vehicle
2012	20120410	PARK BL	MONTCLAIR AV		1	Property Damage	0	0	DUI	Rear End	Vehicle
2015	20151213	PARK BL	VAN DYKE AV		1	Property Damage	0	0	DUI	Sideswipe	Vehicle
2014	20140902	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Other than Driving (or Pedestrian)	Hit Object	Vehicle
2011	20111021	PARK BL	MACARTHUR BL	1		Property Damage	0	0	Started or Backed Up Unsafely	Rear End	Vehicle
2014	20140503	PARK BL	19TH ST		1	Property Damage	0	0	Started or Backed Up Unsafely	Rear End	Vehicle
2011	20110717	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Traveled at Unsafe Speed	Rear End	Vehicle
2011	20110407	PARK BL	33RD ST		1	Property Damage	0	0	Traveled at Unsafe Speed	Rear End	Vehicle
2012	20120809	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Traveled at Unsafe Speed	Rear End	Vehicle
2012	20120929	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Traveled at Unsafe Speed	Rear End	Vehicle
2013	20130526	PARK BL	SPRUCE ST		1	Property Damage	0	0	Traveled at Unsafe Speed	Rear End	Vehicle
2011	20110411	PARK BL	VAN DYKE AV		1	Property Damage	0	0	Traveled at Unsafe Speed	Rear End	Vehicle
2011	20110626	PARK BL	MACARTHUR BL	1		Property Damage	0	0	Traveled at Unsafe Speed	Sideswipe	Vehicle
2013	20130107	PARK BL	33RD ST	1		Property Damage	0	0	Traveled at Unsafe Speed	Sideswipe	Vehicle
2012	20120118	PARK BL	VAN DYKE AV	1		Property Damage	0	0	Turned Illegally	Broadside	Vehicle
2012	20120810	PARK BL	28TH ST		1	Property Damage	0	0	Turned Illegally	Broadside	Vehicle
2014	20140605	PARK BL	3RD AV	1		Property Damage	0	0	Turned Illegally	Broadside	Vehicle
2014	20140710	PARK BL	SPRUCE ST	1		Property Damage	0	0	Turned Illegally	Broadside	Vehicle
2013	20131026	PARK BL	18TH ST	1		Property Damage	0	0	Turned Illegally	Head On	Vehicle
2011	20110122	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Turned Illegally	Hit Object	Vehicle
2011	20111019	PARK BL	18TH ST	1		Property Damage	0	0	Turned Illegally	Hit Object	Vehicle
2011	20111103	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Turned Illegally	Hit Object	Vehicle
2012	20120808	PARK BL	7TH AV		1	Property Damage	0	0	Turned Illegally	Hit Object	Vehicle
2015	20150309	PARK BL	VAN DYKE AV	1		Property Damage	0	0	Turned Illegally	Other	Vehicle
2013	20130612	18TH ST	2ND AV		1	Property Damage	0	0	Turned Illegally	Rear End	Vehicle
2015	20150726	PARK BL	PORTLAND AV		1	Property Damage	0	0	Turned Illegally	Rear End	Vehicle
2013	20130822	PARK BL	NEWTON AV		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2011	20110401	PARK BL	NEWTON AV		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2011	20110617	PARK BL	18TH ST		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2013	20131005	PARK BL	19TH ST		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2014	20140710	PARK BL	SPRUCE ST		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2014	20141120	PARK BL	MACARTHUR BL	1		Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2011	20110121	PARK BL	CLEVELAND AV		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2014	20140714	PARK BL	MCKINLEY AV		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle

Appendix A. Traffic Crashes 2016-2016

YEAR	DATE	PRIMARY RD	SECONDARY RD	INTERSECTION	Mid-Block	Collision Severity	NUMBER KILLED	NUMBER INJURED	PCF	Type	Involved with
2015	20150109	PARK BL	NEWTON AV		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2015	20150430	PARK BL	CLEVELAND AV		1	Property Damage	0	0	Turned Illegally	Sideswipe	Vehicle
2013	20130611	18TH ST	3RD AV	1		Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2012	20121020	PARK BL	MACARTHUR BL	1		Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2013	20130403	PARK BL	MACARTHUR BL		1	Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2013	20130623	PARK BL	MCKINLEY AV	1		Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2014	20140228	PARK BL	MCKINLEY AV	1		Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2013	20131118	PARK BL	MCKINLEY AV	1		Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2014	20140510	PARK BL	21ST ST	1		Property Damage	0	0	Violated Another Car's Right of Way	Broadside	Vehicle
2012	20120208	PARK BL	34TH ST	1		Property Damage	0	0	Violated Pedestrian's Right of Way	Head On	Vehicle

Type of report: Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB
DATE: Apr 12 2016

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	0	5	15	19	11	**3**	1	0	0	0	0	0	0	0	54	22-31	33
1:00 AM	0	4	8	6	6	0	0	0	0	0	0	0	0	0	24	23-32	13
2:00 AM	1	3	9	6	1	1	0	**1**	0	0	0	0	0	0	22	21-30	14
3:00 AM	0	1	2	3	1	1	0	0	0	0	0	0	0	0	8	25-34	4
4:00 AM	1	2	3	2	3	0	0	0	0	0	0	0	0	0	11	23-32	5
5:00 AM	0	3	6	2	4	1	0	0	0	0	0	0	0	0	16	20-29	8
6:00 AM	0	7	16	12	9	2	0	0	0	0	0	0	0	0	46	21-30	27
7:00 AM	7	21	59	29	17	1	0	0	0	0	0	0	0	0	134	21-30	88
8:00 AM	8	33	85	**69**	**26**	3	**2**	0	0	0	0	0	0	0	226	21-30	154
9:00 AM	6	52	56	47	14	2	0	0	0	0	0	0	0	0	177	16-25	107
10:00 AM	**23**	**66**	85	43	17	3	0	0	0	0	0	0	0	0	**237**	16-25	151
11:00 AM	9	58	**106**	45	14	1	0	0	0	0	0	0	0	0	233	16-25	163
12:00 PM	11	68	78	56	11	0	0	0	0	0	0	0	0	0	224	16-25	146
1:00 PM	20	61	111	35	15	4	0	0	0	0	0	0	0	0	246	16-25	171
2:00 PM	12	67	141	54	15	4	1	0	0	0	0	0	0	0	294	16-25	207
3:00 PM	26	91	133	71	17	6	0	**1**	0	0	0	0	0	0	345	16-25	224
4:00 PM	43	94	131	78	**47**	**12**	1	0	0	0	0	0	0	0	406	16-25	224
5:00 PM	**75**	**137**	**156**	**101**	33	3	0	1	0	0	0	0	0	0	**506**	16-25	293
6:00 PM	34	102	124	84	35	4	1	1	0	0	0	0	0	0	385	16-25	226
7:00 PM	16	79	113	68	17	2	1	0	0	0	0	0	0	0	296	16-25	192
8:00 PM	19	78	117	50	10	0	0	0	0	0	0	0	0	0	274	16-25	194
9:00 PM	2	34	76	72	21	4	**2**	0	0	0	0	0	0	0	211	21-30	148
10:00 PM	2	19	68	59	25	3	0	0	0	0	0	0	0	0	176	21-30	127
11:00 PM	2	8	33	34	15	3	2	0	0	0	0	0	0	0	97	21-30	67
Day Total	317	1093	1731	1045	384	63	11	4	0	0	0	0	0	0	4648	16-25	2823
Percent	6.8%	23.5%	37.2%	22.5%	8.3%	1.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 4648																	
AM Peak	10:00 AM	10:00 AM	11:00 AM	8:00 AM	8:00 AM	12:00 AM	8:00 AM	2:00 AM							10:00 AM		
Volume	23	66	106	69	26	3	2	1							237		
PM Peak	5:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	9:00 PM	3:00 PM							5:00 PM		
Volume	75	137	156	101	47	12	2	1							506		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB
DATE: Apr 13 2016

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	0	2	8	19	11	4	**1**	0	0	0	0	0	0	0	45	26-35	30
1:00 AM	1	1	6	12	4	1	0	0	0	0	0	0	0	0	25	23-32	17
2:00 AM	1	1	7	12	5	3	1	0	0	0	0	0	0	0	30	23-32	18
3:00 AM	2	0	4	2	3	1	0	0	0	0	0	0	0	0	12	21-30	6
4:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	21-30	2
5:00 AM	1	3	6	5	4	0	1	0	0	0	0	0	0	0	20	21-30	11
6:00 AM	0	12	11	12	6	1	0	0	0	0	0	0	0	0	42	17-26	23
7:00 AM	1	22	40	39	15	3	1	0	0	0	0	0	0	0	121	21-30	79
8:00 AM	5	29	76	**60**	**41**	**8**	1	**1**	0	0	0	0	0	0	**221**	21-30	136
9:00 AM	6	33	61	48	20	7	0	0	0	0	0	0	0	0	175	21-30	108
10:00 AM	**16**	**63**	75	51	10	3	0	0	0	0	0	0	0	0	218	16-25	138
11:00 AM	12	63	**89**	35	9	2	1	0	0	0	0	0	0	0	211	16-25	152
12:00 PM	16	77	114	51	19	4	0	0	0	0	**1**	0	0	0	282	16-25	191
1:00 PM	19	68	119	67	20	1	0	0	0	0	0	0	0	0	294	16-25	187
2:00 PM	15	75	112	61	14	3	1	0	0	0	0	0	0	0	281	16-25	186
3:00 PM	24	87	131	50	16	8	0	0	0	0	0	0	0	0	316	16-25	217
4:00 PM	24	88	**145**	**119**	**51**	**17**	0	0	0	0	0	0	0	0	444	21-30	264
5:00 PM	**93**	**132**	134	102	22	7	1	0	0	0	0	0	0	0	**491**	16-25	266
6:00 PM	54	96	134	86	39	5	1	0	0	0	0	0	0	0	415	16-25	230
7:00 PM	36	96	130	64	5	3	0	0	0	0	0	0	0	0	334	16-25	226
8:00 PM	20	77	110	44	13	1	0	0	0	0	0	0	0	0	265	16-25	187
9:00 PM	11	47	74	43	18	2	1	0	0	0	0	0	0	0	196	16-25	121
10:00 PM	5	46	97	65	21	3	**2**	0	0	0	0	0	0	0	239	21-30	162
11:00 PM	4	15	40	44	27	1	1	0	0	0	0	0	0	0	132	21-30	84
Day Total	366	1133	1723	1093	393	88	13	1	0	0	1	0	0	0	4811	16-25	2856
Percent	7.6%	23.6%	35.8%	22.7%	8.2%	1.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 4811																	
AM Peak	10:00 AM	10:00 AM	11:00 AM	8:00 AM	8:00 AM	8:00 AM	12:00 AM	8:00 AM							8:00 AM		
Volume	16	63	89	60	41	8	1	1							221		
PM Peak	5:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	10:00 PM				12:00 PM				5:00 PM		
Volume	93	132	145	119	51	17	2				1				491		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB
DATE: Apr 12 2016 - Apr 13 2016

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	683	2226	3454	2138	777	151	24	5	0	0	1	0	0	0	9459	16-25	5679
Percent	7.2%	23.5%	36.5%	22.6%	8.2%	1.6%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	7.2%	30.8%	67.3%	89.9%	98.1%	99.7%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT
4729

85th Percentile 28 MPH

Mean Speed(Average) 22 MPH

Median 22 MPH
Mode: 23 MPH

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: WB
DATE: Apr 12 2016

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	2	3	12	17	7	1	0	0	0	0	0	0	0	0	42	21-30	28
1:00 AM	0	3	3	6	2	2	0	0	0	0	0	0	0	0	16	25-34	8
2:00 AM	2	1	6	6	2	2	0	0	0	0	0	0	0	0	19	22-31	11
3:00 AM	1	1	3	3	2	0	0	0	0	0	0	0	0	0	10	26-35	5
4:00 AM	0	0	1	7	1	4	0	0	0	0	0	0	0	0	13	21-30	8
5:00 AM	0	1	8	20	11	4	1	0	0	0	0	0	0	0	45	26-35	31
6:00 AM	2	1	19	48	20	7	1	0	0	0	0	0	0	0	98	26-35	68
7:00 AM	6	12	73	149	59	11	1	0	0	0	0	0	0	0	311	21-30	222
8:00 AM	**22**	30	**118**	**182**	**73**	**12**	**3**	0	0	0	0	0	0	0	**440**	21-30	299
9:00 AM	18	35	100	108	35	8	0	0	0	0	0	0	0	0	304	21-30	208
10:00 AM	17	40	86	71	19	4	1	0	0	0	0	0	0	0	238	21-30	156
11:00 AM	19	**54**	80	78	14	3	1	0	0	0	0	0	0	0	249	21-30	158
12:00 PM	**26**	46	78	63	20	5	1	0	0	0	0	0	0	0	239	21-30	141
1:00 PM	19	61	90	66	18	2	0	0	0	0	0	0	0	0	256	21-30	155
2:00 PM	18	57	102	79	19	4	**3**	0	0	0	0	0	0	0	282	21-30	181
3:00 PM	20	**70**	104	**116**	29	3	0	0	0	0	0	0	0	0	**342**	21-30	219
4:00 PM	10	52	103	98	28	1	0	0	0	0	0	0	0	0	292	21-30	201
5:00 PM	10	43	**108**	99	26	1	0	0	0	0	0	0	0	0	287	21-30	207
6:00 PM	13	38	101	97	**35**	5	1	0	0	0	0	0	0	0	290	21-30	197
7:00 PM	5	33	62	92	24	2	0	0	**1**	0	0	0	0	0	219	21-30	154
8:00 PM	3	34	59	76	18	1	1	0	0	0	0	0	0	0	192	21-30	134
9:00 PM	1	9	47	54	29	**6**	0	0	0	**1**	0	0	0	0	147	21-30	101
10:00 PM	3	10	37	41	14	1	2	0	0	0	0	0	0	0	108	21-30	78
11:00 PM	1	3	27	24	7	2	0	0	0	0	0	0	0	0	64	21-30	50
Day Total	218	637	1427	1600	512	91	16	0	1	1	0	0	0	0	4503	21-30	3027
Percent	4.8%	14.1%	31.7%	35.5%	11.4%	2.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 4503																	
AM Peak	8:00 AM	11:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM								8:00 AM		
Volume	22	54	118	182	73	12	3								440		
PM Peak	12:00 PM	3:00 PM	5:00 PM	3:00 PM	6:00 PM	9:00 PM	2:00 PM		7:00 PM	9:00 PM					3:00 PM		
Volume	26	70	108	116	35	6	3		1	1					342		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: WB
DATE: Apr 13 2016

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	0	3	6	8	4	2	0	**1**	0	0	0	0	0	0	24	21-30	14
1:00 AM	1	5	6	14	4	0	**2**	0	0	0	0	0	0	0	32	21-30	20
2:00 AM	2	0	2	8	3	2	0	0	0	0	0	0	0	0	17	26-35	11
3:00 AM	1	2	4	6	2	0	0	0	0	0	0	0	0	0	15	23-32	9
4:00 AM	0	4	0	7	4	3	1	0	0	0	0	0	0	0	19	26-35	11
5:00 AM	1	4	10	11	14	1	0	0	0	0	0	0	0	0	41	26-35	24
6:00 AM	3	1	19	48	47	10	1	0	0	0	0	0	0	0	129	26-35	95
7:00 AM	8	14	62	137	**69**	10	0	0	0	0	0	0	0	0	300	26-35	206
8:00 AM	**31**	29	99	**200**	62	**17**	2	0	0	0	0	0	0	0	**440**	21-30	299
9:00 AM	14	30	**104**	119	49	9	1	0	0	0	0	0	0	0	326	21-30	223
10:00 AM	17	38	77	97	36	4	0	0	0	0	0	0	0	0	269	21-30	173
11:00 AM	18	**46**	90	77	17	1	0	0	0	0	0	0	0	0	249	21-30	166
12:00 PM	16	**59**	**113**	77	24	5	0	0	0	0	0	0	0	0	294	21-30	189
1:00 PM	15	41	104	83	30	2	1	0	0	0	0	0	0	0	276	21-30	187
2:00 PM	**21**	48	81	100	29	**6**	0	**1**	0	0	0	0	0	0	286	21-30	181
3:00 PM	14	51	92	91	34	2	1	1	0	0	0	0	0	0	286	21-30	182
4:00 PM	16	46	106	**121**	38	5	0	0	0	0	0	0	0	0	**332**	21-30	226
5:00 PM	12	33	101	115	**40**	5	1	0	0	0	0	0	0	0	307	21-30	216
6:00 PM	9	38	101	104	32	3	**3**	0	0	0	0	0	0	0	290	21-30	205
7:00 PM	14	46	86	86	31	5	1	0	0	0	0	0	0	0	269	21-30	171
8:00 PM	2	31	56	68	20	1	1	0	0	0	0	0	0	**1**	180	21-30	123
9:00 PM	5	10	52	53	22	1	1	0	0	0	0	0	0	0	144	21-30	104
10:00 PM	4	23	47	63	20	1	3	0	0	0	0	0	0	0	161	21-30	109
11:00 PM	0	8	24	31	16	1	0	0	0	0	0	0	0	0	80	21-30	55
Day Total	224	610	1442	1724	647	96	19	3	0	0	0	0	0	1	4766	21-30	3166
Percent	4.7%	12.8%	30.3%	36.2%	13.6%	2.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 4766																	
AM Peak	8:00 AM	11:00 AM	9:00 AM	8:00 AM	7:00 AM	8:00 AM	1:00 AM	12:00 AM							8:00 AM		
Volume	31	46	104	200	69	17	2	1							440		
PM Peak	2:00 PM	12:00 PM	12:00 PM	4:00 PM	5:00 PM	2:00 PM	6:00 PM	2:00 PM						8:00 PM	4:00 PM		
Volume	21	59	113	121	40	6	3	1						1	332		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: WB
DATE: Apr 12 2016 - Apr 13 2016

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	442	1247	2869	3324	1159	187	35	3	1	1	0	0	0	1	9269	21-30	6192
Percent	4.8%	13.5%	31.0%	35.9%	12.5%	2.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	4.8%	18.2%	49.2%	85.0%	97.5%	99.6%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT 4634

85th Percentile 29 MPH

Mean Speed(Average) 24 MPH

Median 25 MPH
Mode: 28 MPH

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB/WB
DATE: Apr 12 2016

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	2	8	27	36	18	4	1	0	0	0	0	0	0	0	96	21-30	63
1:00 AM	0	7	11	12	8	2	0	0	0	0	0	0	0	0	40	22-31	22
2:00 AM	3	4	15	12	3	3	0	**1**	0	0	0	0	0	0	41	21-30	26
3:00 AM	1	2	5	6	3	1	0	0	0	0	0	0	0	0	18	23-32	10
4:00 AM	1	2	4	9	4	4	0	0	0	0	0	0	0	0	24	26-35	13
5:00 AM	0	4	14	22	15	5	1	0	0	0	0	0	0	0	61	26-35	37
6:00 AM	2	8	35	60	29	9	1	0	0	0	0	0	0	0	144	21-30	95
7:00 AM	13	33	132	178	76	12	1	0	0	0	0	0	0	0	445	21-30	310
8:00 AM	30	63	**203**	**251**	**99**	**15**	**5**	0	0	0	0	0	0	0	**666**	21-30	454
9:00 AM	24	87	156	155	49	10	0	0	0	0	0	0	0	0	481	21-30	311
10:00 AM	**40**	106	171	114	36	7	1	0	0	0	0	0	0	0	475	21-30	285
11:00 AM	28	**112**	186	123	28	4	1	0	0	0	0	0	0	0	482	21-30	309
12:00 PM	37	114	156	119	31	5	1	0	0	0	0	0	0	0	463	21-30	275
1:00 PM	39	122	201	101	33	6	0	0	0	0	0	0	0	0	502	16-25	323
2:00 PM	30	124	243	133	34	8	**4**	0	0	0	0	0	0	0	576	21-30	376
3:00 PM	46	161	237	187	46	9	0	**1**	0	0	0	0	0	0	687	21-30	423
4:00 PM	53	146	234	176	**75**	**13**	1	0	0	0	0	0	0	0	698	21-30	410
5:00 PM	**85**	**180**	**264**	**200**	59	4	0	1	0	0	0	0	0	0	**793**	21-30	464
6:00 PM	47	140	225	181	70	9	2	1	0	0	0	0	0	0	675	21-30	406
7:00 PM	21	112	175	160	41	4	1	0	**1**	0	0	0	0	0	515	21-30	335
8:00 PM	22	112	176	126	28	1	1	0	0	0	0	0	0	0	466	21-30	302
9:00 PM	3	43	123	126	50	10	2	0	0	**1**	0	0	0	0	358	21-30	248
10:00 PM	5	29	105	100	39	4	2	0	0	0	0	0	0	0	284	21-30	205
11:00 PM	3	11	60	58	22	5	2	0	0	0	0	0	0	0	161	21-30	117
Day Total	535	1730	3158	2645	896	154	27	4	1	1	0	0	0	0	9151	21-30	5803
Percent	5.8%	18.9%	34.5%	28.9%	9.8%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

ADT 9151

AM Peak	10:00 AM	11:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	2:00 AM			8:00 AM	
Volume	40	112	203	251	99	15	5	1			666	
PM Peak	5:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	2:00 PM	3:00 PM	7:00 PM	9:00 PM	5:00 PM	
Volume	85	180	264	200	75	13	4	1	1	1	793	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB/WB
DATE: Apr 13 2016

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	0	5	14	27	15	6	1	**1**	0	0	0	0	0	0	69	26-35	42
1:00 AM	2	6	12	26	8	1	2	0	0	0	0	0	0	0	57	21-30	38
2:00 AM	3	1	9	20	8	5	1	0	0	0	0	0	0	0	47	21-30	29
3:00 AM	3	2	8	8	5	1	0	0	0	0	0	0	0	0	27	21-30	16
4:00 AM	0	4	0	9	4	3	1	0	0	0	0	0	0	0	21	26-35	13
5:00 AM	2	7	16	16	18	1	1	0	0	0	0	0	0	0	61	26-35	34
6:00 AM	3	13	30	60	53	11	1	0	0	0	0	0	0	0	171	26-35	112
7:00 AM	9	36	102	176	84	13	1	0	0	0	0	0	0	0	421	21-30	278
8:00 AM	**36**	58	175	**260**	**103**	**25**	**3**	1	0	0	0	0	0	0	**661**	21-30	435
9:00 AM	20	63	165	167	69	16	1	0	0	0	0	0	0	0	501	21-30	331
10:00 AM	33	101	152	148	46	7	0	0	0	0	0	0	0	0	487	21-30	300
11:00 AM	30	**109**	**179**	112	26	3	1	0	0	0	0	0	0	0	460	21-30	290
12:00 PM	32	136	227	128	43	9	0	0	0	0	**1**	0	0	0	576	16-25	362
1:00 PM	34	109	223	150	50	3	1	0	0	0	0	0	0	0	570	21-30	373
2:00 PM	36	123	193	161	43	9	1	**1**	0	0	0	0	0	0	567	21-30	354
3:00 PM	38	138	223	141	50	10	1	1	0	0	0	0	0	0	602	21-30	364
4:00 PM	40	134	**251**	**240**	**89**	**22**	0	0	0	0	0	0	0	0	776	21-30	491
5:00 PM	**105**	**165**	235	217	62	12	2	0	0	0	0	0	0	0	**798**	21-30	451
6:00 PM	63	134	235	190	71	8	4	0	0	0	0	0	0	0	705	21-30	425
7:00 PM	50	142	216	150	36	8	1	0	0	0	0	0	0	0	603	21-30	366
8:00 PM	22	108	166	112	33	2	1	0	0	0	0	0	0	**1**	445	21-30	277
9:00 PM	16	57	126	96	40	3	2	0	0	0	0	0	0	0	340	21-30	221
10:00 PM	9	69	144	128	41	4	**5**	0	0	0	0	0	0	0	400	21-30	272
11:00 PM	4	23	64	75	43	2	1	0	0	0	0	0	0	0	212	21-30	139
Day Total	590	1743	3165	2817	1040	184	32	4	0	0	1	0	0	1	9577	21-30	5981
Percent	6.2%	18.2%	33.0%	29.4%	10.9%	1.9%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 9577																	
AM Peak	8:00 AM	11:00 AM	11:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	12:00 AM							8:00 AM		
Volume	36	109	179	260	103	25	3	1							661		
PM Peak	5:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	10:00 PM	2:00 PM			12:00 PM			8:00 PM	5:00 PM		
Volume	105	165	251	240	89	22	5	1			1			1	798		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB/WB
DATE: Apr 12 2016 - Apr 13 2016

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	1125	3473	6323	5462	1936	338	59	8	1	1	1	0	0	1	18728	21-30	11785
Percent	6.0%	18.5%	33.8%	29.2%	10.3%	1.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	6.0%	24.6%	58.3%	87.5%	97.8%	99.6%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT
9364

85th Percentile 29 MPH

Mean Speed(Average) 23 MPH

Median 23 MPH
Mode: 23 MPH

Comments:

Report generated on 4/18/2016 4:25 PM

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

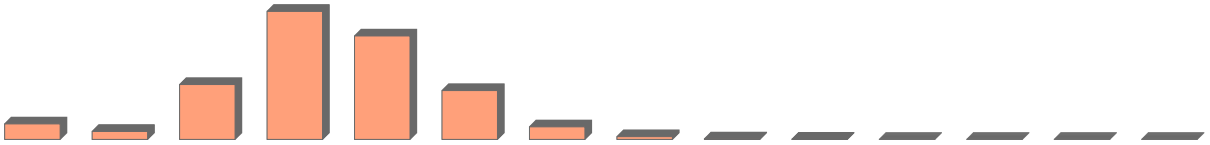
Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB
DATE: Apr 12 2016

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	0	4	20	8	12	1	**3**	**1**	0	0	0	0	0	52	26-35	28
1:00 AM	1	0	4	15	8	3	0	0	0	0	0	0	0	0	31	26-35	23
2:00 AM	0	1	4	7	5	4	0	1	0	0	0	0	0	0	22	26-35	12
3:00 AM	0	1	1	7	2	4	2	0	0	**1**	0	0	0	0	18	27-36	8
4:00 AM	0	0	7	8	10	5	5	2	0	0	0	0	0	0	37	26-35	18
5:00 AM	6	6	11	30	12	8	5	0	0	0	0	0	0	0	78	26-35	42
6:00 AM	7	3	34	52	38	17	2	1	0	0	0	0	0	0	154	26-35	89
7:00 AM	13	9	**96**	125	98	**45**	**14**	0	0	0	0	0	0	0	400	26-35	223
8:00 AM	**23**	**12**	93	**193**	**118**	45	7	0	0	0	0	0	0	0	**491**	26-35	311
9:00 AM	14	10	70	107	93	38	12	2	0	0	0	0	0	0	346	26-35	200
10:00 AM	9	10	46	127	92	37	12	2	0	0	0	0	0	0	335	26-35	218
11:00 AM	21	9	50	121	95	42	13	2	1	0	0	0	0	0	354	26-35	216
12:00 PM	29	15	68	125	83	35	4	3	1	0	0	0	0	0	363	26-35	208
1:00 PM	8	4	42	110	110	53	16	5	0	0	0	0	0	0	348	26-35	220
2:00 PM	20	8	69	136	118	65	26	**6**	**2**	0	0	0	0	0	450	26-35	254
3:00 PM	10	10	49	186	121	95	**28**	2	0	0	0	0	0	0	501	26-35	307
4:00 PM	31	**16**	57	200	165	87	18	5	2	0	0	0	0	0	581	26-35	365
5:00 PM	25	8	**99**	**259**	**298**	**112**	25	6	1	0	0	0	0	0	**833**	26-35	557
6:00 PM	**41**	9	75	200	190	88	20	5	1	0	0	0	0	0	629	26-35	390
7:00 PM	12	6	73	128	131	49	10	4	0	0	0	0	0	0	413	26-35	259
8:00 PM	13	9	38	137	76	32	5	1	0	0	0	0	0	0	311	26-35	212
9:00 PM	4	4	30	81	62	32	8	2	0	0	0	0	0	0	223	26-35	143
10:00 PM	5	1	32	68	47	23	6	1	0	0	0	0	0	0	183	26-35	115
11:00 PM	6	3	13	44	29	17	5	0	0	0	0	0	0	0	117	26-35	73
Day Total	301	154	1065	2486	2009	948	244	53	9	1	0	0	0	0	7270	26-35	4495
Percent	4.1%	2.1%	14.6%	34.2%	27.6%	13.0%	3.4%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

ADT 7270



AM Peak	8:00 AM	8:00 AM	7:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	12:00 AM	12:00 AM	3:00 AM	8:00 AM
Volume	23	12	96	193	118	45	14	3	1	1	491
PM Peak	6:00 PM	4:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	3:00 PM	2:00 PM	2:00 PM		5:00 PM
Volume	41	16	99	259	298	112	28	6	2		833

Comments:

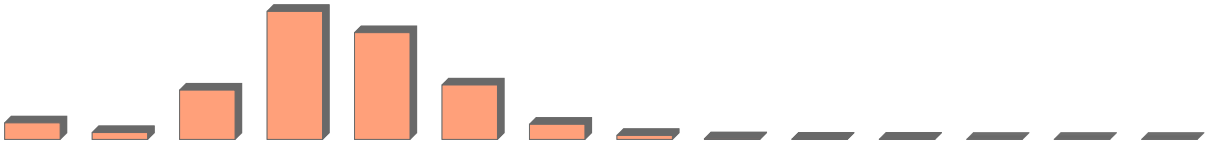
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB
DATE: Apr 13 2016

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	1	11	20	14	7	2	0	**1**	0	0	0	0	0	57	26-35	33
1:00 AM	1	0	5	5	7	9	4	0	0	0	0	0	0	0	31	31-40	16
2:00 AM	0	2	2	7	4	3	2	0	0	0	0	0	0	0	20	26-35	11
3:00 AM	0	0	2	4	4	4	2	0	0	0	0	0	0	0	16	31-40	8
4:00 AM	1	0	5	16	9	5	0	0	0	0	0	0	0	0	36	26-35	24
5:00 AM	7	2	12	35	14	16	3	0	0	0	0	0	0	0	89	26-35	48
6:00 AM	7	1	31	61	37	12	8	1	0	0	0	0	0	0	158	26-35	98
7:00 AM	27	11	78	145	82	37	11	3	0	0	0	0	0	0	394	26-35	226
8:00 AM	**50**	**17**	**83**	**198**	**104**	**64**	10	2	0	0	0	0	0	0	**528**	26-35	301
9:00 AM	13	5	40	118	85	36	12	5	0	0	0	0	0	0	314	26-35	203
10:00 AM	8	6	65	116	89	38	**13**	2	0	0	0	0	0	0	337	26-35	205
11:00 AM	14	9	45	113	90	49	10	**7**	1	0	0	0	0	0	338	26-35	203
12:00 PM	10	5	46	134	111	51	23	4	1	0	0	0	0	0	385	26-35	244
1:00 PM	**39**	**11**	62	192	131	65	14	5	1	0	**1**	0	0	0	521	26-35	323
2:00 PM	15	3	58	138	104	59	15	5	0	**1**	0	0	0	0	398	26-35	242
3:00 PM	17	10	51	149	146	75	19	7	1	0	0	0	0	0	475	26-35	295
4:00 PM	23	9	59	193	195	90	27	5	**3**	0	0	0	0	0	604	26-35	388
5:00 PM	31	7	**89**	**263**	**295**	**153**	27	**12**	1	0	0	0	0	0	**878**	26-35	558
6:00 PM	17	9	52	175	192	102	**31**	5	0	1	0	0	0	0	584	26-35	366
7:00 PM	17	9	59	151	134	57	17	2	0	0	0	0	0	0	446	26-35	285
8:00 PM	10	7	47	103	97	30	14	2	2	0	0	0	0	0	312	26-35	199
9:00 PM	5	3	31	77	52	42	10	2	0	0	0	0	0	0	222	26-35	129
10:00 PM	8	6	29	68	70	40	16	8	0	0	0	0	0	0	245	26-35	138
11:00 PM	5	2	10	43	39	29	8	1	1	0	0	0	0	0	138	26-35	82
Day Total	326	135	972	2524	2105	1073	298	78	12	2	1	0	0	0	7526	26-35	4629
Percent	4.3%	1.8%	12.9%	33.5%	28.0%	14.3%	4.0%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 7526																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	10:00 AM	11:00 AM	12:00 AM						8:00 AM		
Volume	50	17	83	198	104	64	13	7	1						528		
PM Peak	1:00 PM	1:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	6:00 PM	5:00 PM	4:00 PM	2:00 PM	1:00 PM				5:00 PM		
Volume	39	11	89	263	295	153	31	12	3	1	1				878		

Comments:

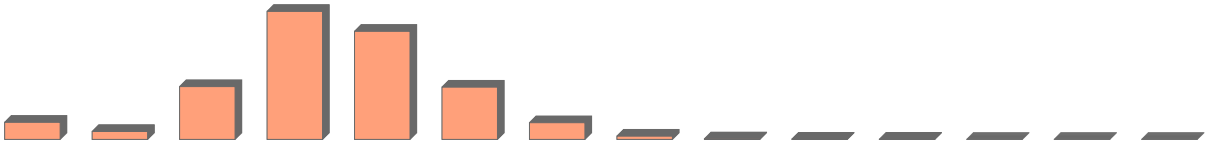
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB
DATE: Apr 14 2016

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	2	0	9	21	20	22	5	2	0	**1**	0	0	0	0	82	31-40	42
1:00 AM	0	0	5	10	13	6	5	1	0	0	0	0	0	0	40	26-35	23
2:00 AM	2	1	0	8	7	4	2	0	0	0	0	0	0	0	24	27-36	14
3:00 AM	2	0	4	6	6	0	1	0	0	1	0	0	0	0	20	26-35	11
4:00 AM	0	2	6	9	4	5	1	0	0	0	0	0	0	0	27	21-30	15
5:00 AM	1	6	11	22	19	10	7	2	0	0	0	0	0	0	78	26-35	40
6:00 AM	7	2	26	48	33	18	3	1	0	0	0	0	0	0	138	26-35	80
7:00 AM	20	**18**	**86**	146	85	38	10	1	0	0	0	0	0	0	404	25-34	231
8:00 AM	**34**	8	83	**208**	**115**	**54**	15	0	0	0	0	0	0	0	**517**	26-35	323
9:00 AM	16	6	45	146	95	36	**21**	2	0	0	0	0	0	0	367	26-35	241
10:00 AM	13	10	41	106	89	39	21	**6**	**1**	0	0	0	0	0	326	26-35	195
11:00 AM	12	5	48	122	114	30	16	0	0	0	0	0	0	0	347	26-35	236
12:00 PM	13	8	68	107	114	48	19	3	0	0	0	0	0	0	380	26-35	221
1:00 PM	10	3	54	127	111	72	20	3	0	0	0	0	0	0	400	26-35	237
2:00 PM	16	9	57	141	119	61	21	6	1	0	0	0	0	0	431	26-35	260
3:00 PM	26	10	64	193	152	91	17	**7**	0	**1**	0	0	0	0	561	26-35	344
4:00 PM	21	6	70	179	187	91	26	7	**3**	0	0	0	0	0	590	26-35	365
5:00 PM	**40**	10	68	**254**	**296**	**146**	**31**	6	0	1	0	0	0	0	**852**	26-35	550
6:00 PM	32	**15**	**73**	172	163	92	25	4	0	0	**1**	0	0	0	577	26-35	335
7:00 PM	24	13	72	173	124	57	9	5	0	0	0	0	0	0	477	26-35	297
8:00 PM	20	12	65	108	101	35	23	1	1	0	0	0	0	0	366	26-35	208
9:00 PM	8	3	33	64	80	24	10	3	2	0	0	0	0	0	227	26-35	144
10:00 PM	5	5	28	81	37	23	10	2	2	0	0	0	0	0	193	26-35	118
11:00 PM	9	2	12	42	21	16	7	1	0	0	0	0	0	0	110	26-35	63
Day Total	333	154	1028	2493	2105	1018	325	63	10	4	1	0	0	0	7534	26-35	4598
Percent	4.4%	2.0%	13.6%	33.1%	27.9%	13.5%	4.3%	0.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 7534																	
AM Peak	8:00 AM	7:00 AM	7:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	10:00 AM	10:00 AM	12:00 AM					8:00 AM		
Volume	34	18	86	208	115	54	21	6	1	1					517		
PM Peak	5:00 PM	6:00 PM	6:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	3:00 PM	4:00 PM	3:00 PM	6:00 PM				5:00 PM		
Volume	40	15	73	254	296	146	31	7	3	1	1				852		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB
DATE: Apr 12 2016 - Apr 14 2016

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	960	443	3065	7503	6219	3039	867	194	31	7	2	0	0	0	22330	26-35	13721
Percent	4.3%	2.0%	13.7%	33.6%	27.9%	13.6%	3.9%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	4.3%	6.3%	20.0%	53.6%	81.5%	95.1%	99.0%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT 7443

85th Percentile 36 MPH

Mean Speed(Average) 29 MPH

Median 29 MPH
Mode: 28 MPH

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 12 2016

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	0	1	3	18	25	7	5	0	0	0	0	0	0	0	59	26-35	43
1:00 AM	1	0	4	10	20	7	2	0	0	0	0	0	0	0	44	26-35	30
2:00 AM	0	0	0	9	9	3	1	1	0	0	0	0	0	0	23	26-35	18
3:00 AM	0	0	0	2	6	4	2	0	0	0	0	0	0	0	14	31-40	10
4:00 AM	0	0	2	9	3	5	3	0	0	0	0	0	0	0	22	26-35	12
5:00 AM	0	3	6	10	13	7	1	0	0	0	0	0	0	0	40	26-35	23
6:00 AM	4	2	8	28	40	27	5	2	0	0	0	0	0	0	116	26-35	68
7:00 AM	12	9	24	84	150	57	7	2	**2**	0	0	0	0	0	347	26-35	234
8:00 AM	16	7	**66**	**214**	**264**	**77**	10	0	2	0	0	0	0	0	**656**	26-35	477
9:00 AM	**18**	**11**	39	109	144	66	**18**	1	0	0	0	0	0	0	406	26-35	253
10:00 AM	6	4	24	89	129	40	8	2	0	**1**	0	0	0	0	303	26-35	218
11:00 AM	16	2	17	100	173	41	12	**3**	1	0	0	0	0	0	365	26-35	273
12:00 PM	10	9	31	83	108	58	12	4	**1**	0	0	0	0	0	316	26-35	191
1:00 PM	10	5	19	83	136	62	11	**5**	0	0	0	0	0	0	331	26-35	218
2:00 PM	8	**12**	33	120	130	49	13	4	1	0	0	0	0	0	370	26-35	250
3:00 PM	9	5	**50**	**157**	183	75	**18**	0	1	0	0	0	0	0	**498**	26-35	340
4:00 PM	11	8	21	97	166	**77**	9	2	0	0	0	0	0	0	391	26-35	263
5:00 PM	12	3	36	135	191	74	15	2	0	0	0	0	0	0	468	26-35	326
6:00 PM	12	12	27	106	**207**	70	17	2	0	0	0	0	0	0	453	26-35	312
7:00 PM	**14**	7	21	87	138	58	11	5	0	**1**	0	0	0	0	342	26-35	225
8:00 PM	4	5	16	100	121	35	8	0	0	0	0	0	0	0	289	26-35	220
9:00 PM	2	3	16	88	96	38	9	1	0	0	0	0	0	0	253	26-35	183
10:00 PM	3	2	17	51	78	33	3	1	0	0	0	0	0	0	188	26-35	129
11:00 PM	1	1	5	29	34	16	4	0	0	0	0	0	0	0	90	26-35	62
Day Total	169	111	485	1818	2564	986	204	37	8	2	0	0	0	0	6384	26-35	4382
Percent	2.6%	1.7%	7.6%	28.5%	40.2%	15.4%	3.2%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 6384																	
AM Peak	9:00 AM	9:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	11:00 AM	7:00 AM	10:00 AM					8:00 AM		
Volume	18	11	66	214	264	77	18	3	2	1					656		
PM Peak	7:00 PM	2:00 PM	3:00 PM	3:00 PM	6:00 PM	4:00 PM	3:00 PM	1:00 PM	12:00 PM	7:00 PM					3:00 PM		
Volume	14	12	50	157	207	77	18	5	1	1					498		

Comments:

Report generated on 4/18/2016 4:25 PM

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

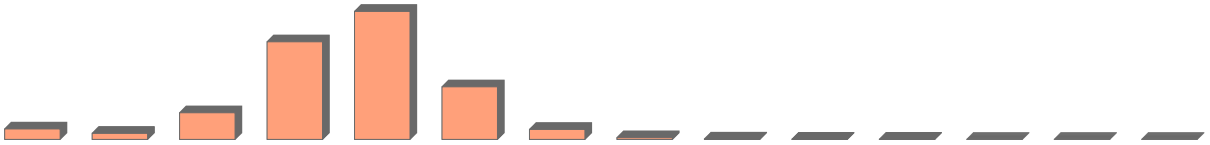
Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 13 2016

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	0	4	8	19	12	3	0	0	0	0	0	0	0	47	31-40	30
1:00 AM	2	0	2	8	19	7	2	**4**	0	0	0	0	0	0	44	30-39	26
2:00 AM	0	0	0	3	7	4	0	1	0	0	0	0	0	0	15	31-40	11
3:00 AM	1	1	0	2	9	5	1	1	0	0	0	0	0	0	20	31-40	14
4:00 AM	0	2	2	5	9	3	0	0	0	0	0	0	0	0	21	26-35	14
5:00 AM	3	2	3	9	12	4	2	0	0	0	0	0	0	0	35	26-35	20
6:00 AM	4	4	13	18	50	22	9	0	0	0	0	0	0	0	120	31-40	72
7:00 AM	9	7	22	90	145	57	18	0	**1**	0	0	0	0	0	349	26-35	235
8:00 AM	**41**	**20**	**60**	**191**	**261**	**98**	12	2	1	0	0	0	0	0	**686**	26-35	452
9:00 AM	7	7	22	95	148	77	**23**	3	0	0	0	0	0	0	382	26-35	243
10:00 AM	14	7	22	96	121	54	6	1	0	0	0	0	0	0	321	26-35	216
11:00 AM	14	5	23	84	108	79	12	3	0	0	0	0	0	0	328	26-35	192
12:00 PM	8	1	22	85	136	63	9	3	0	0	0	0	0	0	327	26-35	220
1:00 PM	**17**	9	36	**158**	156	43	7	**5**	1	0	0	0	0	0	432	26-35	314
2:00 PM	13	2	**40**	113	131	54	**14**	0	**3**	**1**	0	0	0	0	371	26-35	243
3:00 PM	7	6	38	130	176	46	7	0	0	0	0	0	0	0	410	26-35	306
4:00 PM	6	4	25	100	155	**72**	9	2	0	0	0	0	0	0	373	26-35	255
5:00 PM	12	4	27	120	165	72	14	1	0	0	0	0	0	0	415	26-35	285
6:00 PM	10	10	26	139	**180**	61	14	3	0	0	0	0	0	0	**443**	26-35	319
7:00 PM	13	**11**	34	119	154	57	7	0	1	0	0	0	0	0	396	26-35	273
8:00 PM	7	3	24	94	96	42	7	0	0	0	0	0	0	0	273	26-35	189
9:00 PM	5	5	31	73	80	29	4	1	0	0	**1**	0	0	0	229	26-35	153
10:00 PM	4	5	21	90	82	30	7	1	0	0	0	0	0	0	240	26-35	171
11:00 PM	2	1	13	39	32	16	4	2	0	0	0	0	0	0	109	26-35	71
Day Total	200	116	510	1869	2451	1007	191	33	7	1	1	0	0	0	6386	26-35	4320
Percent	3.1%	1.8%	8.0%	29.3%	38.4%	15.8%	3.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

ADT 6386



AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	1:00 AM	7:00 AM						8:00 AM
Volume	41	20	60	191	261	98	23	4	1						686
PM Peak	1:00 PM	7:00 PM	2:00 PM	1:00 PM	6:00 PM	4:00 PM	2:00 PM	1:00 PM	2:00 PM	2:00 PM	9:00 PM				6:00 PM
Volume	17	11	40	158	180	72	14	5	3	1	1				443

Comments:

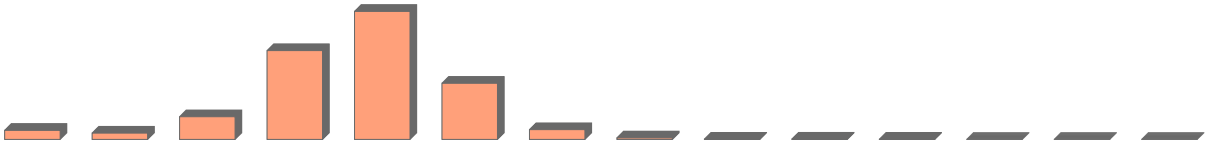
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 14 2016

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	2	1	5	33	33	11	1	**2**	0	0	0	0	0	0	88	26-35	65
1:00 AM	0	0	3	9	13	12	0	0	0	0	0	0	0	0	37	31-40	24
2:00 AM	0	0	0	4	7	5	1	0	0	0	0	0	0	0	17	31-40	12
3:00 AM	0	0	2	1	6	3	2	0	0	0	0	0	0	0	14	31-40	9
4:00 AM	0	1	3	14	9	4	0	0	0	0	0	0	0	0	31	26-35	22
5:00 AM	3	1	4	11	11	5	1	0	0	0	0	0	0	0	36	26-35	22
6:00 AM	2	4	11	21	47	20	6	0	0	0	0	0	0	0	111	26-35	68
7:00 AM	17	10	24	75	159	66	12	2	0	**1**	0	0	0	0	366	26-35	234
8:00 AM	**27**	**17**	**79**	**236**	**242**	66	12	1	0	0	0	0	0	0	**680**	26-35	477
9:00 AM	9	6	34	113	164	**81**	**14**	0	0	0	0	0	0	0	421	26-35	277
10:00 AM	14	9	13	94	135	44	11	2	0	0	0	0	0	0	322	26-35	229
11:00 AM	4	2	20	92	144	61	14	1	0	0	0	0	0	0	338	26-35	236
12:00 PM	8	8	17	68	140	58	13	3	0	0	0	0	0	0	315	26-35	208
1:00 PM	7	2	26	72	135	72	9	3	**2**	**2**	0	0	0	0	330	26-35	207
2:00 PM	9	12	12	110	144	53	12	0	1	0	0	0	0	0	353	26-35	254
3:00 PM	**19**	8	23	123	**189**	87	9	**4**	0	0	0	0	0	0	**462**	26-35	312
4:00 PM	5	4	28	102	151	**98**	12	2	1	0	**1**	0	0	0	404	27-36	252
5:00 PM	8	11	21	89	171	88	13	3	0	0	0	0	0	0	404	26-35	260
6:00 PM	12	**13**	30	122	160	75	7	1	0	0	0	0	0	0	420	26-35	282
7:00 PM	11	5	**31**	**129**	142	74	**15**	2	0	0	0	0	0	0	409	26-35	270
8:00 PM	8	3	17	94	130	37	10	2	0	1	0	0	0	0	302	26-35	224
9:00 PM	5	4	22	81	96	36	10	0	0	0	0	0	0	0	254	26-35	176
10:00 PM	8	2	14	45	75	39	6	0	0	0	0	0	0	0	189	26-35	120
11:00 PM	2	2	12	29	44	22	4	2	0	1	0	0	0	0	118	26-35	73
Day Total	180	125	451	1767	2547	1117	194	30	4	5	1	0	0	0	6421	26-35	4313
Percent	2.8%	1.9%	7.0%	27.5%	39.7%	17.4%	3.0%	0.5%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 6421																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	9:00 AM	12:00 AM		7:00 AM					8:00 AM		
Volume	27	17	79	236	242	81	14	2		1					680		
PM Peak	3:00 PM	6:00 PM	7:00 PM	7:00 PM	3:00 PM	4:00 PM	7:00 PM	3:00 PM	1:00 PM	1:00 PM	4:00 PM				3:00 PM		
Volume	19	13	31	129	189	98	15	4	2	2	1				462		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

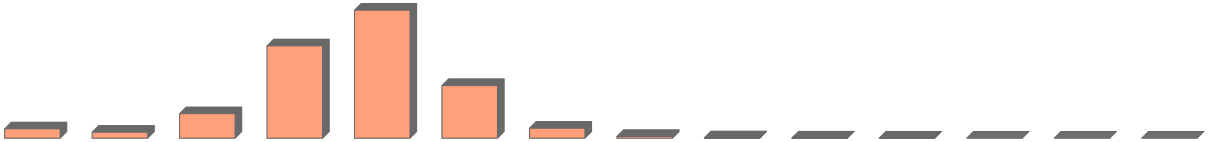
SUMMARY - Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 12 2016 - Apr 14 2016

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	549	352	1446	5454	7562	3110	589	100	19	8	2	0	0	0	19191	26-35	13016
Percent	2.9%	1.8%	7.5%	28.4%	39.4%	16.2%	3.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	2.9%	4.7%	12.2%	40.6%	80.1%	96.3%	99.3%	99.8%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT 6397



85th Percentile 36 MPH

Mean Speed(Average) 30 MPH

Median 31 MPH
Mode: 33 MPH

Comments:

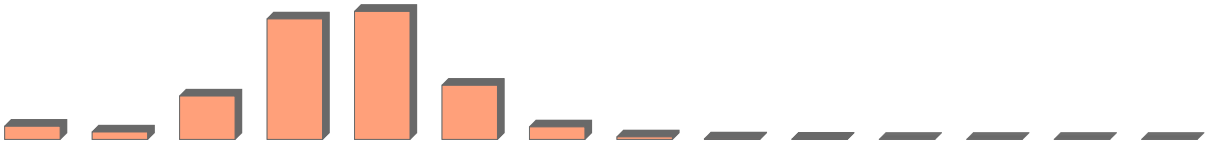
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB/WB
DATE: Apr 12 2016

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	1	7	38	33	19	6	3	1	0	0	0	0	0	111	26-35	70
1:00 AM	2	0	8	25	28	10	2	0	0	0	0	0	0	0	75	26-35	52
2:00 AM	0	1	4	16	14	7	1	2	0	0	0	0	0	0	45	26-35	29
3:00 AM	0	1	1	9	8	8	4	0	0	**1**	0	0	0	0	32	26-35	17
4:00 AM	0	0	9	17	13	10	8	2	0	0	0	0	0	0	59	26-35	30
5:00 AM	6	9	17	40	25	15	6	0	0	0	0	0	0	0	118	26-35	65
6:00 AM	11	5	42	80	78	44	7	3	0	0	0	0	0	0	270	26-35	158
7:00 AM	25	18	120	209	248	102	21	2	**2**	0	0	0	0	0	747	26-35	457
8:00 AM	**39**	19	**159**	**407**	**382**	**122**	17	0	2	0	0	0	0	0	**1147**	26-35	789
9:00 AM	32	**21**	109	216	237	104	**30**	3	0	0	0	0	0	0	752	26-35	452
10:00 AM	15	14	70	216	221	77	20	4	0	1	0	0	0	0	638	26-35	437
11:00 AM	37	11	67	221	268	83	25	**5**	2	0	0	0	0	0	719	26-35	489
12:00 PM	39	**24**	99	208	191	93	16	7	2	0	0	0	0	0	679	26-35	399
1:00 PM	18	9	61	193	246	115	27	**10**	0	0	0	0	0	0	679	26-35	439
2:00 PM	28	20	102	256	248	114	39	10	**3**	0	0	0	0	0	820	26-35	504
3:00 PM	19	15	99	343	304	170	**46**	2	1	0	0	0	0	0	999	26-35	646
4:00 PM	42	24	78	297	331	164	27	7	2	0	0	0	0	0	972	26-35	628
5:00 PM	37	11	**135**	**394**	**489**	**186**	40	8	1	0	0	0	0	0	**1301**	26-35	882
6:00 PM	**53**	21	102	306	397	158	37	7	1	0	0	0	0	0	1082	26-35	703
7:00 PM	26	13	94	215	269	107	21	9	0	**1**	0	0	0	0	755	26-35	483
8:00 PM	17	14	54	237	197	67	13	1	0	0	0	0	0	0	600	26-35	433
9:00 PM	6	7	46	169	158	70	17	3	0	0	0	0	0	0	476	26-35	327
10:00 PM	8	3	49	119	125	56	9	2	0	0	0	0	0	0	371	26-35	244
11:00 PM	7	4	18	73	63	33	9	0	0	0	0	0	0	0	207	26-35	136
Day Total	470	265	1550	4304	4573	1934	448	90	17	3	0	0	0	0	13654	26-35	8877
Percent	3.4%	1.9%	11.4%	31.5%	33.5%	14.2%	3.3%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 13654																	
AM Peak	8:00 AM	9:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	11:00 AM	7:00 AM	3:00 AM					8:00 AM		
Volume	39	21	159	407	382	122	30	5	2	1					1147		
PM Peak	6:00 PM	12:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	3:00 PM	1:00 PM	2:00 PM	7:00 PM					5:00 PM		
Volume	53	24	135	394	489	186	46	10	3	1					1301		

Comments:

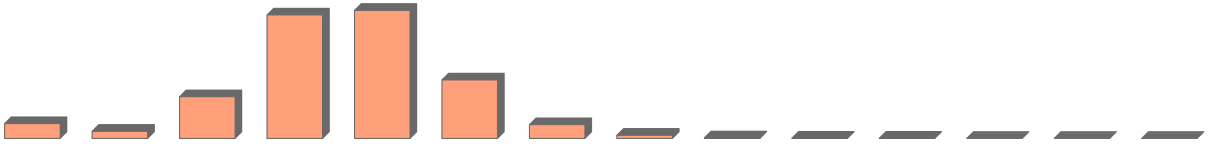
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB/WB
DATE: Apr 13 2016

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	2	1	15	28	33	19	5	0	**1**	0	0	0	0	0	104	26-35	60
1:00 AM	3	0	7	13	26	16	6	4	0	0	0	0	0	0	75	31-40	42
2:00 AM	0	2	2	10	11	7	2	1	0	0	0	0	0	0	35	26-35	21
3:00 AM	1	1	2	6	13	9	3	1	0	0	0	0	0	0	36	31-40	21
4:00 AM	1	2	7	21	18	8	0	0	0	0	0	0	0	0	57	26-35	39
5:00 AM	10	4	15	44	26	20	5	0	0	0	0	0	0	0	124	26-35	70
6:00 AM	11	5	44	79	87	34	17	1	0	0	0	0	0	0	278	26-35	165
7:00 AM	36	18	100	235	227	94	29	3	1	0	0	0	0	0	743	26-35	461
8:00 AM	**91**	**37**	**143**	**389**	**365**	**162**	22	4	1	0	0	0	0	0	**1214**	26-35	754
9:00 AM	20	12	62	213	233	113	**35**	8	0	0	0	0	0	0	696	26-35	446
10:00 AM	22	13	87	212	210	92	19	3	0	0	0	0	0	0	658	26-35	422
11:00 AM	28	14	68	197	198	128	22	**10**	1	0	0	0	0	0	666	26-35	395
12:00 PM	18	6	68	219	247	114	32	7	1	0	0	0	0	0	712	26-35	465
1:00 PM	**56**	**20**	98	350	287	108	21	10	2	0	**1**	0	0	0	953	26-35	637
2:00 PM	28	5	98	251	235	113	29	5	**3**	**2**	0	0	0	0	769	26-35	486
3:00 PM	24	16	89	279	322	121	26	7	1	0	0	0	0	0	885	26-35	601
4:00 PM	29	13	84	293	350	162	36	7	3	0	0	0	0	0	977	26-35	643
5:00 PM	43	11	**116**	**383**	**460**	**225**	41	**13**	1	0	0	0	0	0	**1293**	26-35	843
6:00 PM	27	19	78	314	372	163	**45**	8	0	1	0	0	0	0	1027	26-35	686
7:00 PM	30	20	93	270	288	114	24	2	1	0	0	0	0	0	842	26-35	558
8:00 PM	17	10	71	197	193	72	21	2	2	0	0	0	0	0	585	26-35	390
9:00 PM	10	8	62	150	132	71	14	3	0	0	1	0	0	0	451	26-35	281
10:00 PM	12	11	50	158	152	70	23	9	0	0	0	0	0	0	485	26-35	309
11:00 PM	7	3	23	82	71	45	12	3	1	0	0	0	0	0	247	26-35	152
Day Total	526	251	1482	4393	4556	2080	489	111	19	3	2	0	0	0	13912	26-35	8949
Percent	3.8%	1.8%	10.7%	31.6%	32.7%	15.0%	3.5%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 13912																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	11:00 AM	12:00 AM						8:00 AM		
Volume	91	37	143	389	365	162	35	10	1						1214		
PM Peak	1:00 PM	1:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	6:00 PM	5:00 PM	2:00 PM	2:00 PM	1:00 PM				5:00 PM		
Volume	56	20	116	383	460	225	45	13	3	2	1				1293		

Comments:

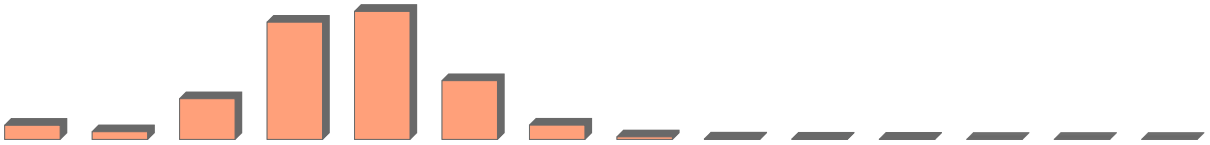
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB/WB
DATE: Apr 14 2016

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	4	1	14	54	53	33	6	4	0	**1**	0	0	0	0	170	26-35	106
1:00 AM	0	0	8	19	26	18	5	1	0	0	0	0	0	0	77	26-35	45
2:00 AM	2	1	0	12	14	9	3	0	0	0	0	0	0	0	41	27-36	25
3:00 AM	2	0	6	7	12	3	3	0	0	1	0	0	0	0	34	27-36	18
4:00 AM	0	3	9	23	13	9	1	0	0	0	0	0	0	0	58	26-35	36
5:00 AM	4	7	15	33	30	15	8	2	0	0	0	0	0	0	114	26-35	63
6:00 AM	9	6	37	69	80	38	9	1	0	0	0	0	0	0	249	26-35	149
7:00 AM	37	**28**	110	221	244	104	22	3	0	1	0	0	0	0	770	26-35	464
8:00 AM	**61**	25	**162**	**444**	**357**	**120**	27	1	0	0	0	0	0	0	**1197**	26-35	801
9:00 AM	25	12	79	259	259	117	**35**	2	0	0	0	0	0	0	788	26-35	517
10:00 AM	27	19	54	200	224	83	32	**8**	**1**	0	0	0	0	0	648	26-35	423
11:00 AM	16	7	68	214	258	91	30	1	0	0	0	0	0	0	685	26-35	472
12:00 PM	21	16	85	175	254	106	32	6	0	0	0	0	0	0	695	26-35	428
1:00 PM	17	5	80	199	246	144	29	6	2	**2**	0	0	0	0	730	26-35	445
2:00 PM	25	21	69	251	263	114	33	6	2	0	0	0	0	0	784	26-35	514
3:00 PM	45	18	87	316	341	178	26	**11**	0	1	0	0	0	0	1023	26-35	657
4:00 PM	26	10	98	281	338	189	38	9	**4**	0	**1**	0	0	0	994	26-35	619
5:00 PM	**48**	21	89	**343**	**467**	**234**	**44**	9	0	1	0	0	0	0	**1256**	26-35	810
6:00 PM	44	**28**	**103**	294	323	167	32	5	0	0	1	0	0	0	997	26-35	617
7:00 PM	35	18	103	302	266	131	24	7	0	0	0	0	0	0	886	26-35	568
8:00 PM	28	15	82	202	231	72	33	3	1	1	0	0	0	0	668	26-35	433
9:00 PM	13	7	55	145	176	60	20	3	2	0	0	0	0	0	481	26-35	321
10:00 PM	13	7	42	126	112	62	16	2	2	0	0	0	0	0	382	26-35	237
11:00 PM	11	4	24	71	65	38	11	3	0	1	0	0	0	0	228	26-35	136
Day Total	513	279	1479	4260	4652	2135	519	93	14	9	2	0	0	0	13955	26-35	8912
Percent	3.7%	2.0%	10.6%	30.5%	33.3%	15.3%	3.7%	0.7%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 13955																	
AM Peak	8:00 AM	7:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	10:00 AM	10:00 AM	12:00 AM					8:00 AM		
Volume	61	28	162	444	357	120	35	8	1	1					1197		
PM Peak	5:00 PM	6:00 PM	6:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	3:00 PM	4:00 PM	1:00 PM	4:00 PM				5:00 PM		
Volume	48	28	103	343	467	234	44	11	4	2	1				1256		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB/WB
DATE: Apr 12 2016 - Apr 14 2016

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	1509	795	4511	12957	13781	6149	1456	294	50	15	4	0	0	0	41521	26-35	26737
Percent	3.6%	1.9%	10.9%	31.2%	33.2%	14.8%	3.5%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	3.6%	5.5%	16.4%	47.6%	80.8%	95.6%	99.1%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT 13840

85th Percentile 36 MPH

Mean Speed(Average) 29 MPH

Median 30 MPH
Mode: 33 MPH

Comments:

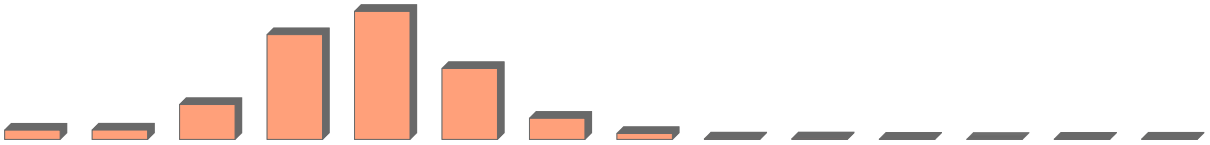
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB
DATE: Apr 12 2016

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 9999	Total	Pace Speed	Number in Pace
12:00 AM	1	0	3	19	24	17	7	2	0	0	0	0	0	0	73	28-37	42
1:00 AM	0	0	4	9	9	13	3	0	0	0	0	0	0	0	38	31-40	22
2:00 AM	0	0	6	5	12	4	1	2	0	0	0	0	0	0	30	26-35	17
3:00 AM	0	0	4	8	4	6	4	3	0	1	0	0	0	0	30	26-35	12
4:00 AM	0	0	3	12	17	13	10	5	**1**	1	0	0	0	0	62	31-40	30
5:00 AM	1	1	13	38	46	32	13	4	0	0	0	0	0	0	148	26-35	83
6:00 AM	0	1	22	63	87	63	14	7	0	1	0	0	0	0	258	30-39	150
7:00 AM	11	13	**68**	151	**189**	82	22	6	1	0	0	0	0	**1**	544	26-35	339
8:00 AM	**22**	**20**	64	**194**	171	80	20	5	0	**2**	0	0	**1**	0	**579**	26-35	365
9:00 AM	18	10	41	114	162	89	**25**	8	0	0	0	0	0	0	467	26-35	275
10:00 AM	10	15	46	120	136	**94**	20	**12**	0	1	0	0	0	0	454	26-35	255
11:00 AM	12	6	47	109	131	85	24	9	1	0	0	0	0	0	424	26-35	239
12:00 PM	7	7	41	92	154	85	26	5	1	0	0	0	0	**3**	421	26-35	246
1:00 PM	8	8	20	100	169	110	36	6	0	1	**1**	0	0	0	459	31-40	279
2:00 PM	13	11	40	163	181	98	27	6	1	**3**	1	0	0	0	544	26-35	344
3:00 PM	16	9	56	144	206	102	23	7	**2**	0	0	0	0	0	565	26-35	350
4:00 PM	13	24	42	144	226	106	35	**16**	1	0	0	0	0	1	608	26-35	370
5:00 PM	**38**	**30**	**96**	**199**	**244**	108	**41**	6	1	2	0	0	**1**	0	**766**	26-35	442
6:00 PM	17	29	42	150	176	**120**	37	6	1	0	0	0	1	1	580	26-35	326
7:00 PM	6	12	35	142	152	81	19	8	0	0	0	0	0	0	455	26-35	293
8:00 PM	7	3	35	111	108	44	18	3	0	0	0	0	0	0	329	26-35	219
9:00 PM	2	3	14	90	74	42	12	2	0	0	0	0	0	0	239	26-35	164
10:00 PM	0	2	12	64	65	41	12	1	0	0	0	0	0	0	197	26-35	129
11:00 PM	0	0	6	42	46	30	11	0	0	0	0	0	0	0	135	26-35	87
Day Total	202	204	760	2283	2789	1545	460	129	10	12	2	0	3	6	8405	26-35	5072
Percent	2.4%	2.4%	9.0%	27.2%	33.2%	18.4%	5.5%	1.5%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%			
ADT 8405																	
AM Peak	8:00 AM	8:00 AM	7:00 AM	8:00 AM	7:00 AM	10:00 AM	9:00 AM	10:00 AM	4:00 AM	8:00 AM			8:00 AM	7:00 AM	8:00 AM		
Volume	22	20	68	194	189	94	25	12	1	2			1	1	579		
PM Peak	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	6:00 PM	5:00 PM	4:00 PM	3:00 PM	2:00 PM	1:00 PM		5:00 PM	12:00 PM	5:00 PM		
Volume	38	30	96	199	244	120	41	16	2	3	1		1	3	766		

Comments:

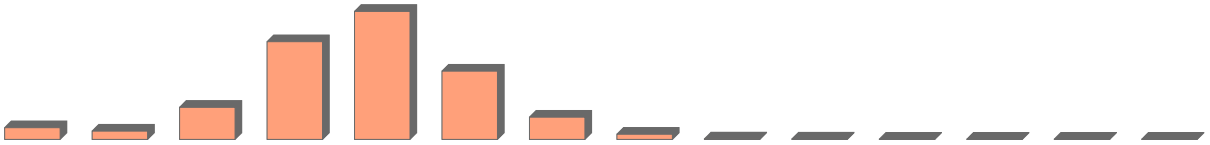
Report generated on 4/18/2016 4:26 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB
DATE: Apr 13 2016

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 9999	Total	Pace Speed	Number in Pace
12:00 AM	1	0	6	17	28	10	4	3	0	0	0	0	0	0	69	26-35	44
1:00 AM	0	0	2	10	11	10	4	3	0	0	0	0	0	0	40	26-35	21
2:00 AM	0	1	6	6	10	4	3	0	0	0	0	0	0	0	30	26-35	16
3:00 AM	0	0	4	6	7	8	3	2	0	**1**	0	0	0	0	31	31-40	15
4:00 AM	0	0	10	12	20	19	10	5	1	0	0	0	0	0	77	31-40	38
5:00 AM	0	0	14	29	45	40	19	4	0	0	0	0	0	0	151	31-40	85
6:00 AM	2	3	18	52	100	57	32	3	1	0	0	0	0	0	268	31-40	156
7:00 AM	13	18	72	160	**176**	82	13	**7**	0	0	0	0	0	0	541	26-35	336
8:00 AM	**43**	**23**	**74**	**168**	172	80	17	2	1	0	0	0	**1**	0	**581**	26-35	339
9:00 AM	9	10	33	110	160	**89**	**43**	4	1	0	**1**	0	1	0	461	26-35	270
10:00 AM	10	7	30	124	150	79	33	5	0	0	0	0	0	**1**	439	26-35	274
11:00 AM	5	5	38	125	137	86	25	7	**2**	0	0	**1**	0	0	431	26-35	261
12:00 PM	11	5	35	99	155	113	37	5	1	1	**1**	0	0	0	463	31-40	268
1:00 PM	22	16	69	172	201	73	23	4	0	**2**	0	0	0	**1**	583	26-35	373
2:00 PM	12	11	36	108	162	102	37	4	**2**	1	0	**1**	0	0	476	26-35	269
3:00 PM	17	13	39	145	206	101	29	**15**	0	0	0	0	**1**	0	566	26-35	351
4:00 PM	29	17	39	144	229	129	37	4	0	1	0	0	0	0	629	26-35	372
5:00 PM	**41**	**30**	**73**	**206**	**240**	**132**	36	10	0	2	0	0	1	0	**771**	26-35	446
6:00 PM	19	14	43	160	188	114	**39**	9	1	0	1	0	0	0	588	26-35	348
7:00 PM	15	7	31	121	184	87	19	6	0	0	0	0	0	0	470	26-35	305
8:00 PM	10	4	31	110	124	42	18	6	0	0	1	1	0	0	347	26-35	234
9:00 PM	4	2	23	64	97	38	9	3	0	0	0	0	0	0	240	26-35	161
10:00 PM	7	4	10	67	94	46	14	6	0	0	0	0	0	1	249	26-35	161
11:00 PM	0	1	4	39	57	34	9	2	0	0	0	0	0	0	146	26-35	96
Day Total	270	191	740	2254	2953	1575	513	119	10	8	4	3	4	3	8647	26-35	5207
Percent	3.1%	2.2%	8.6%	26.1%	34.2%	18.2%	5.9%	1.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 8647																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	9:00 AM	9:00 AM	7:00 AM	11:00 AM	3:00 AM	9:00 AM	11:00 AM	8:00 AM	10:00 AM	8:00 AM		
Volume	43	23	74	168	176	89	43	7	2	1	1	1	1	1	581		
PM Peak	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	6:00 PM	3:00 PM	2:00 PM	1:00 PM	12:00 PM	2:00 PM	3:00 PM	1:00 PM	5:00 PM		
Volume	41	30	73	206	240	132	39	15	2	2	1	1	1	1	771		

Comments:

Report generated on 4/18/2016 4:26 PM

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

Type of report: Tube Count - Speed Data

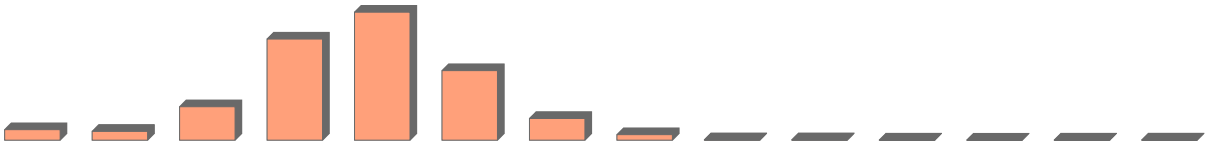
SUMMARY - Tube Count - Speed Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB
DATE: Apr 12 2016 - Apr 13 2016

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 9999	Total	Pace Speed	Number in Pace
Grand Total	472	395	1500	4537	5742	3120	973	248	20	20	6	3	7	9	17052	26-35	10279
Percent	2.8%	2.3%	8.8%	26.6%	33.7%	18.3%	5.7%	1.5%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%			
Cumulative Percent	2.8%	5.1%	13.9%	40.5%	74.2%	92.5%	98.2%	99.6%	99.7%	99.9%	99.9%	99.9%	99.9%	100.0%			

ADT
8526



85th Percentile 37 MPH

Mean Speed(Average) 33 MPH

Median 31 MPH
Mode: 33 MPH

Comments:

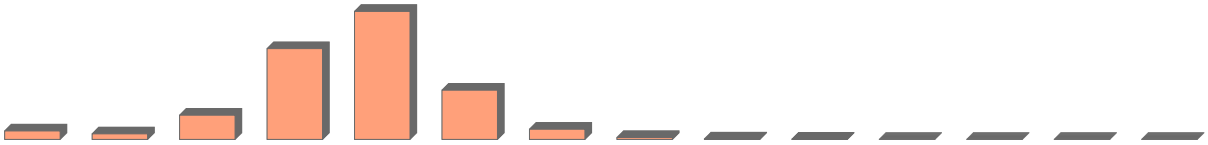
Report generated on 4/18/2016 4:26 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 12 2016

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	0	1	3	18	25	7	5	0	0	0	0	0	0	0	59	26-35	43
1:00 AM	1	0	4	10	20	7	2	0	0	0	0	0	0	0	44	26-35	30
2:00 AM	0	0	0	9	9	3	1	1	0	0	0	0	0	0	23	26-35	18
3:00 AM	0	0	0	2	6	4	2	0	0	0	0	0	0	0	14	31-40	10
4:00 AM	0	0	2	9	3	5	3	0	0	0	0	0	0	0	22	26-35	12
5:00 AM	0	3	6	10	13	7	1	0	0	0	0	0	0	0	40	26-35	23
6:00 AM	4	2	8	28	40	27	5	2	0	0	0	0	0	0	116	26-35	68
7:00 AM	12	9	24	84	150	57	7	2	**2**	0	0	0	0	0	347	26-35	234
8:00 AM	16	7	**66**	**214**	**264**	**77**	10	0	2	0	0	0	0	0	**656**	26-35	477
9:00 AM	**18**	**11**	39	109	144	66	**18**	1	0	0	0	0	0	0	406	26-35	253
10:00 AM	6	4	24	89	129	40	8	2	0	**1**	0	0	0	0	303	26-35	218
11:00 AM	16	2	17	100	173	41	12	**3**	1	0	0	0	0	0	365	26-35	273
12:00 PM	10	9	31	83	108	58	12	4	**1**	0	0	0	0	0	316	26-35	191
1:00 PM	10	5	19	83	136	62	11	**5**	0	0	0	0	0	0	331	26-35	218
2:00 PM	8	**12**	33	120	130	49	13	4	1	0	0	0	0	0	370	26-35	250
3:00 PM	9	5	**50**	**157**	183	75	**18**	0	1	0	0	0	0	0	**498**	26-35	340
4:00 PM	11	8	21	97	166	**77**	9	2	0	0	0	0	0	0	391	26-35	263
5:00 PM	12	3	36	135	191	74	15	2	0	0	0	0	0	0	468	26-35	326
6:00 PM	12	12	27	106	**207**	70	17	2	0	0	0	0	0	0	453	26-35	312
7:00 PM	**14**	7	21	87	138	58	11	5	0	**1**	0	0	0	0	342	26-35	225
8:00 PM	4	5	16	100	121	35	8	0	0	0	0	0	0	0	289	26-35	220
9:00 PM	2	3	16	88	96	38	9	1	0	0	0	0	0	0	253	26-35	183
10:00 PM	3	2	17	51	78	33	3	1	0	0	0	0	0	0	188	26-35	129
11:00 PM	1	1	5	29	34	16	4	0	0	0	0	0	0	0	90	26-35	62
Day Total	169	111	485	1818	2564	986	204	37	8	2	0	0	0	0	6384	26-35	4382
Percent	2.6%	1.7%	7.6%	28.5%	40.2%	15.4%	3.2%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 6384																	
AM Peak	9:00 AM	9:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	11:00 AM	7:00 AM	10:00 AM					8:00 AM		
Volume	18	11	66	214	264	77	18	3	2	1					656		
PM Peak	7:00 PM	2:00 PM	3:00 PM	3:00 PM	6:00 PM	4:00 PM	3:00 PM	1:00 PM	12:00 PM	7:00 PM					3:00 PM		
Volume	14	12	50	157	207	77	18	5	1	1					498		

Comments:

Report generated on 4/18/2016 4:25 PM

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

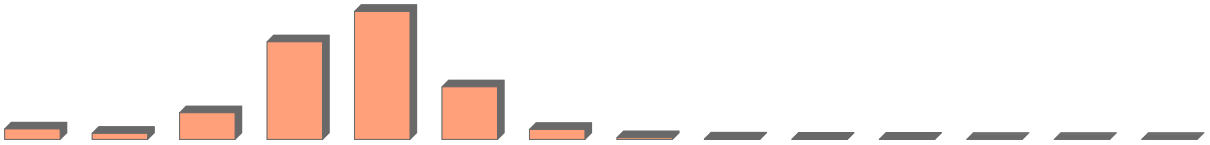
Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 13 2016

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	0	4	8	19	12	3	0	0	0	0	0	0	0	47	31-40	30
1:00 AM	2	0	2	8	19	7	2	**4**	0	0	0	0	0	0	44	30-39	26
2:00 AM	0	0	0	3	7	4	0	1	0	0	0	0	0	0	15	31-40	11
3:00 AM	1	1	0	2	9	5	1	1	0	0	0	0	0	0	20	31-40	14
4:00 AM	0	2	2	5	9	3	0	0	0	0	0	0	0	0	21	26-35	14
5:00 AM	3	2	3	9	12	4	2	0	0	0	0	0	0	0	35	26-35	20
6:00 AM	4	4	13	18	50	22	9	0	0	0	0	0	0	0	120	31-40	72
7:00 AM	9	7	22	90	145	57	18	0	**1**	0	0	0	0	0	349	26-35	235
8:00 AM	**41**	**20**	**60**	**191**	**261**	**98**	12	2	1	0	0	0	0	0	**686**	26-35	452
9:00 AM	7	7	22	95	148	77	**23**	3	0	0	0	0	0	0	382	26-35	243
10:00 AM	14	7	22	96	121	54	6	1	0	0	0	0	0	0	321	26-35	216
11:00 AM	14	5	23	84	108	79	12	3	0	0	0	0	0	0	328	26-35	192
12:00 PM	8	1	22	85	136	63	9	3	0	0	0	0	0	0	327	26-35	220
1:00 PM	**17**	9	36	**158**	156	43	7	**5**	1	0	0	0	0	0	432	26-35	314
2:00 PM	13	2	**40**	113	131	54	**14**	0	**3**	**1**	0	0	0	0	371	26-35	243
3:00 PM	7	6	38	130	176	46	7	0	0	0	0	0	0	0	410	26-35	306
4:00 PM	6	4	25	100	155	**72**	9	2	0	0	0	0	0	0	373	26-35	255
5:00 PM	12	4	27	120	165	72	14	1	0	0	0	0	0	0	415	26-35	285
6:00 PM	10	10	26	139	**180**	61	14	3	0	0	0	0	0	0	**443**	26-35	319
7:00 PM	13	**11**	34	119	154	57	7	0	1	0	0	0	0	0	396	26-35	273
8:00 PM	7	3	24	94	96	42	7	0	0	0	0	0	0	0	273	26-35	189
9:00 PM	5	5	31	73	80	29	4	1	0	0	**1**	0	0	0	229	26-35	153
10:00 PM	4	5	21	90	82	30	7	1	0	0	0	0	0	0	240	26-35	171
11:00 PM	2	1	13	39	32	16	4	2	0	0	0	0	0	0	109	26-35	71
Day Total	200	116	510	1869	2451	1007	191	33	7	1	1	0	0	0	6386	26-35	4320
Percent	3.1%	1.8%	8.0%	29.3%	38.4%	15.8%	3.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

ADT 6386



AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	1:00 AM	7:00 AM						8:00 AM		
Volume	41	20	60	191	261	98	23	4	1						686		
PM Peak	1:00 PM	7:00 PM	2:00 PM	1:00 PM	6:00 PM	4:00 PM	2:00 PM	1:00 PM	2:00 PM	2:00 PM	9:00 PM				6:00 PM		
Volume	17	11	40	158	180	72	14	5	3	1	1				443		

Comments:

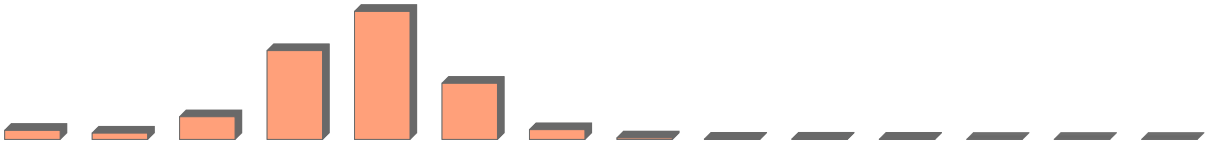
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 14 2016

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	2	1	5	33	33	11	1	**2**	0	0	0	0	0	0	88	26-35	65
1:00 AM	0	0	3	9	13	12	0	0	0	0	0	0	0	0	37	31-40	24
2:00 AM	0	0	0	4	7	5	1	0	0	0	0	0	0	0	17	31-40	12
3:00 AM	0	0	2	1	6	3	2	0	0	0	0	0	0	0	14	31-40	9
4:00 AM	0	1	3	14	9	4	0	0	0	0	0	0	0	0	31	26-35	22
5:00 AM	3	1	4	11	11	5	1	0	0	0	0	0	0	0	36	26-35	22
6:00 AM	2	4	11	21	47	20	6	0	0	0	0	0	0	0	111	26-35	68
7:00 AM	17	10	24	75	159	66	12	2	0	**1**	0	0	0	0	366	26-35	234
8:00 AM	**27**	**17**	**79**	**236**	**242**	66	12	1	0	0	0	0	0	0	**680**	26-35	477
9:00 AM	9	6	34	113	164	**81**	**14**	0	0	0	0	0	0	0	421	26-35	277
10:00 AM	14	9	13	94	135	44	11	2	0	0	0	0	0	0	322	26-35	229
11:00 AM	4	2	20	92	144	61	14	1	0	0	0	0	0	0	338	26-35	236
12:00 PM	8	8	17	68	140	58	13	3	0	0	0	0	0	0	315	26-35	208
1:00 PM	7	2	26	72	135	72	9	3	**2**	**2**	0	0	0	0	330	26-35	207
2:00 PM	9	12	12	110	144	53	12	0	1	0	0	0	0	0	353	26-35	254
3:00 PM	**19**	8	23	123	**189**	87	9	**4**	0	0	0	0	0	0	**462**	26-35	312
4:00 PM	5	4	28	102	151	**98**	12	2	1	0	**1**	0	0	0	404	27-36	252
5:00 PM	8	11	21	89	171	88	13	3	0	0	0	0	0	0	404	26-35	260
6:00 PM	12	**13**	30	122	160	75	7	1	0	0	0	0	0	0	420	26-35	282
7:00 PM	11	5	**31**	**129**	142	74	**15**	2	0	0	0	0	0	0	409	26-35	270
8:00 PM	8	3	17	94	130	37	10	2	0	1	0	0	0	0	302	26-35	224
9:00 PM	5	4	22	81	96	36	10	0	0	0	0	0	0	0	254	26-35	176
10:00 PM	8	2	14	45	75	39	6	0	0	0	0	0	0	0	189	26-35	120
11:00 PM	2	2	12	29	44	22	4	2	0	1	0	0	0	0	118	26-35	73
Day Total	180	125	451	1767	2547	1117	194	30	4	5	1	0	0	0	6421	26-35	4313
Percent	2.8%	1.9%	7.0%	27.5%	39.7%	17.4%	3.0%	0.5%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%			
ADT 6421																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	9:00 AM	12:00 AM		7:00 AM					8:00 AM		
Volume	27	17	79	236	242	81	14	2		1					680		
PM Peak	3:00 PM	6:00 PM	7:00 PM	7:00 PM	3:00 PM	4:00 PM	7:00 PM	3:00 PM	1:00 PM	1:00 PM	4:00 PM				3:00 PM		
Volume	19	13	31	129	189	98	15	4	2	2	1				462		

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

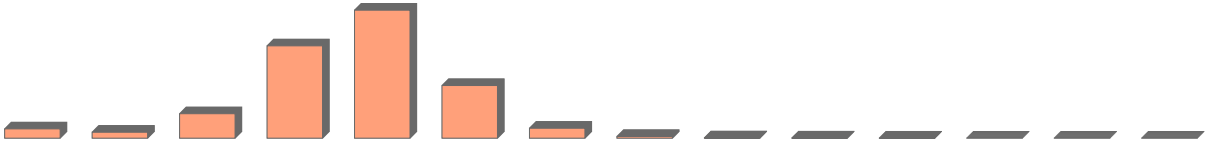
SUMMARY - Tube Count - Speed Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 12 2016 - Apr 14 2016

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	549	352	1446	5454	7562	3110	589	100	19	8	2	0	0	0	19191	26-35	13016
Percent	2.9%	1.8%	7.5%	28.4%	39.4%	16.2%	3.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	2.9%	4.7%	12.2%	40.6%	80.1%	96.3%	99.3%	99.8%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%			

ADT
6397



85th Percentile 36 MPH

Mean Speed(Average) 30 MPH

Median 31 MPH
Mode: 33 MPH

Comments:

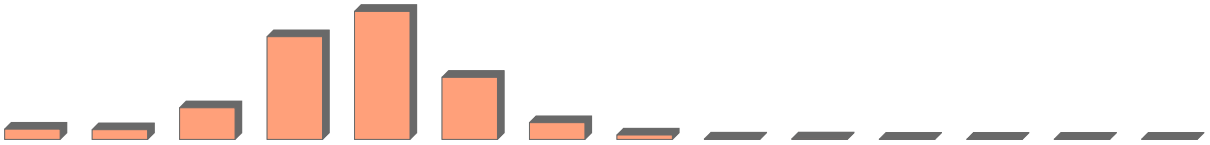
Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB/WB
DATE: Apr 12 2016

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 9999	Total	Pace Speed	Number in Pace
12:00 AM	1	0	4	42	65	36	13	4	0	0	0	0	0	0	165	26-35	107
1:00 AM	0	1	7	21	40	27	7	0	0	0	0	0	0	0	103	31-40	67
2:00 AM	0	0	11	14	29	9	4	2	0	0	0	0	0	0	69	26-35	42
3:00 AM	0	0	6	16	13	8	8	4	0	1	0	0	0	0	56	26-35	29
4:00 AM	1	0	3	18	25	17	13	6	**1**	1	0	0	0	0	85	26-35	43
5:00 AM	1	1	16	53	60	41	13	6	0	0	0	0	0	0	191	26-35	113
6:00 AM	1	1	32	91	126	83	20	10	0	1	0	0	0	0	365	26-35	216
7:00 AM	27	24	106	250	314	133	29	8	1	1	0	0	0	**1**	894	26-35	563
8:00 AM	**43**	**49**	**133**	**367**	**346**	135	33	9	1	**2**	0	0	**1**	0	**1119**	26-35	713
9:00 AM	34	20	61	206	287	**154**	**47**	10	0	0	0	0	1	0	820	26-35	492
10:00 AM	25	26	84	216	249	146	32	**16**	0	1	0	0	0	1	796	26-35	464
11:00 AM	19	12	74	210	257	144	38	13	1	0	0	0	0	0	768	26-35	466
12:00 PM	19	16	64	189	280	154	42	8	1	1	0	0	0	**3**	777	26-35	469
1:00 PM	15	16	40	197	312	174	49	7	0	2	**1**	0	0	0	813	26-35	508
2:00 PM	27	26	78	305	310	158	40	9	2	**3**	1	0	0	0	959	26-35	615
3:00 PM	33	32	84	285	378	167	39	10	2	2	0	**1**	0	0	1033	26-35	663
4:00 PM	30	36	65	250	398	171	43	**21**	**3**	1	1	0	0	1	1020	26-35	648
5:00 PM	**63**	45	**133**	**317**	**416**	183	**59**	9	1	3	0	0	**1**	1	**1231**	26-35	733
6:00 PM	39	**53**	97	284	359	**186**	53	10	1	1	0	0	1	1	1085	26-35	642
7:00 PM	24	22	67	276	298	145	33	11	1	1	1	0	0	0	879	26-35	574
8:00 PM	14	8	66	245	254	97	28	3	0	0	0	0	0	0	715	26-35	498
9:00 PM	5	7	48	202	239	93	19	2	0	0	0	0	0	1	616	26-35	440
10:00 PM	6	9	21	138	181	78	19	3	0	0	0	0	0	0	455	26-35	319
11:00 PM	1	1	19	94	105	51	18	2	0	0	0	0	0	0	291	26-35	199
Day Total	428	405	1319	4286	5341	2590	699	183	15	21	4	1	4	9	15305	26-35	9627
Percent	2.8%	2.6%	8.6%	28.0%	34.9%	16.9%	4.6%	1.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%			
ADT 15305																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	9:00 AM	10:00 AM	4:00 AM	8:00 AM			8:00 AM	7:00 AM	8:00 AM		
Volume	43	49	133	367	346	154	47	16	1	2			1	1	1119		
PM Peak	5:00 PM	6:00 PM	5:00 PM	5:00 PM	5:00 PM	6:00 PM	5:00 PM	4:00 PM	4:00 PM	2:00 PM	1:00 PM	3:00 PM	5:00 PM	12:00 PM	5:00 PM		
Volume	63	53	133	317	416	186	59	21	3	3	1	1	1	3	1231		

Comments:

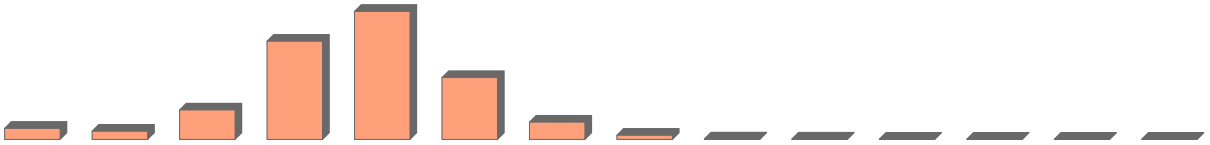
Report generated on 4/18/2016 4:26 PM

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

Type of report: Tube Count - Speed Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB/WB
DATE: Apr 13 2016

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 9999	Total	Pace Speed	Number in Pace
12:00 AM	3	1	9	40	64	30	8	4	0	**1**	0	0	0	0	160	26-35	104
1:00 AM	0	1	3	24	37	24	10	6	0	0	0	0	0	0	105	28-37	61
2:00 AM	0	1	7	23	19	7	5	0	0	0	0	0	0	0	62	26-35	41
3:00 AM	0	1	4	11	18	16	4	4	0	1	0	0	0	0	59	31-40	34
4:00 AM	0	0	14	13	28	26	11	7	1	0	0	0	0	0	100	31-40	54
5:00 AM	0	0	19	46	59	47	20	4	0	0	0	0	0	0	195	31-40	106
6:00 AM	4	5	20	64	158	86	38	5	1	0	0	0	0	0	381	31-40	243
7:00 AM	24	27	102	249	307	116	26	11	0	0	0	0	0	0	862	26-35	556
8:00 AM	**73**	**47**	**120**	**350**	**345**	**158**	26	6	**2**	1	**1**	**1**	**1**	1	**1132**	26-35	695
9:00 AM	23	17	60	186	290	146	**61**	5	1	0	1	0	1	1	792	26-35	476
10:00 AM	16	9	55	236	277	141	44	7	0	0	0	0	0	**2**	787	26-35	513
11:00 AM	8	13	57	219	275	147	45	**12**	2	1	0	1	0	1	781	26-35	494
12:00 PM	20	10	56	202	285	185	50	10	2	2	1	0	0	0	823	26-35	487
1:00 PM	40	32	**120**	308	352	124	32	7	0	**3**	0	0	0	**1**	1019	26-35	660
2:00 PM	28	17	61	222	318	185	51	7	**4**	1	0	**2**	0	0	896	26-35	540
3:00 PM	32	26	61	246	376	177	39	**16**	0	0	1	0	**1**	0	975	26-35	622
4:00 PM	42	27	76	248	384	**204**	49	5	0	1	0	0	0	0	1036	26-35	631
5:00 PM	**61**	**42**	107	**325**	**410**	204	51	16	0	2	0	0	1	0	**1219**	26-35	735
6:00 PM	39	31	80	320	356	176	**62**	14	2	1	1	0	0	0	1082	26-35	676
7:00 PM	27	17	76	281	355	146	32	11	2	1	0	0	0	0	948	26-35	636
8:00 PM	18	13	59	204	260	89	37	9	1	0	1	1	0	0	692	26-35	464
9:00 PM	8	8	56	173	251	85	13	4	0	0	**2**	0	0	0	600	26-35	424
10:00 PM	16	9	37	186	222	102	23	8	1	0	0	1	0	1	606	26-35	407
11:00 PM	0	3	23	100	128	70	15	3	1	0	0	0	0	0	343	26-35	228
Day Total	482	357	1282	4276	5574	2691	752	181	20	15	8	6	4	7	15655	26-35	9849
Percent	3.1%	2.3%	8.2%	27.3%	35.6%	17.2%	4.8%	1.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%			
ADT 15655																	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	9:00 AM	11:00 AM	8:00 AM	12:00 AM	8:00 AM	8:00 AM	8:00 AM	10:00 AM	8:00 AM		
Volume	73	47	120	350	345	158	61	12	2	1	1	1	1	2	1132		
PM Peak	5:00 PM	5:00 PM	1:00 PM	5:00 PM	5:00 PM	4:00 PM	6:00 PM	3:00 PM	2:00 PM	1:00 PM	9:00 PM	2:00 PM	3:00 PM	1:00 PM	5:00 PM		
Volume	61	42	120	325	410	204	62	16	4	3	2	2	1	1	1219		

Comments:

Report generated on 4/18/2016 4:26 PM

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

Type of report: Tube Count - Speed Data

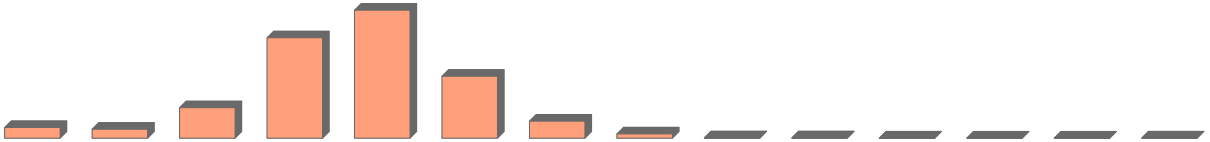
SUMMARY - Tube Count - Speed Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB/WB
DATE: Apr 12 2016 - Apr 13 2016

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 9999	Total	Pace Speed	Number in Pace
Grand Total	910	762	2601	8562	10915	5281	1451	364	35	36	12	7	8	16	30960	26-35	19477
Percent	2.9%	2.5%	8.4%	27.7%	35.3%	17.1%	4.7%	1.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%			
Cumulative Percent	2.9%	5.4%	13.8%	41.5%	76.7%	93.8%	98.5%	99.6%	99.7%	99.9%	99.9%	99.9%	99.9%	100.0%			

ADT 15480



85th Percentile 37 MPH

Mean Speed(Average) 33 MPH

Median 31 MPH
Mode: 33 MPH

Comments:

Report generated on 4/18/2016 4:26 PM

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

Type of report: Tube Count - Volume Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB
DATE: Apr 12 2016 - Apr 13 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		54	45			50			50	
1:00 AM		24	25			25			25	
2:00 AM		22	30			26			26	
3:00 AM		8	12			10			10	
4:00 AM		11	2			7			7	
5:00 AM		16	20			18			18	
6:00 AM		46	42			44			44	
7:00 AM		134	121			128			128	
8:00 AM		226	**221**			224			224	
9:00 AM		177	175			176			176	
10:00 AM		**237**	218			**228**			**228**	
11:00 AM		233	211			222			222	
12:00 PM		224	282			253			253	
1:00 PM		246	294			270			270	
2:00 PM		294	281			288			288	
3:00 PM		345	316			331			331	
4:00 PM		406	444			425			425	
5:00 PM		**506**	**491**			**499**			**499**	
6:00 PM		385	415			400			400	
7:00 PM		296	334			315			315	
8:00 PM		274	265			270			270	
9:00 PM		211	196			204			204	
10:00 PM		176	239			208			208	
11:00 PM		97	132			115			115	
Day Total		4648	4811			4736			4736	
% Weekday Average		98.1%	101.6%							
% Week Average		98.1%	101.6%			100.0%				
AM Peak		10:00 AM	8:00 AM			10:00 AM			10:00 AM	
Volume		237	221			228			228	
PM Peak		5:00 PM	5:00 PM			5:00 PM			5:00 PM	
Volume		506	491			499			499	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: WB
DATE: Apr 12 2016 - Apr 13 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		42	24			33			33	
1:00 AM		16	32			24			24	
2:00 AM		19	17			18			18	
3:00 AM		10	15			13			13	
4:00 AM		13	19			16			16	
5:00 AM		45	41			43			43	
6:00 AM		98	129			114			114	
7:00 AM		311	300			306			306	
8:00 AM		**440**	**440**			**440**			**440**	
9:00 AM		304	326			315			315	
10:00 AM		238	269			254			254	
11:00 AM		249	249			249			249	
12:00 PM		239	294			267			267	
1:00 PM		256	276			266			266	
2:00 PM		282	286			284			284	
3:00 PM		**342**	286			**314**			**314**	
4:00 PM		292	**332**			312			312	
5:00 PM		287	307			297			297	
6:00 PM		290	290			290			290	
7:00 PM		219	269			244			244	
8:00 PM		192	180			186			186	
9:00 PM		147	144			146			146	
10:00 PM		108	161			135			135	
11:00 PM		64	80			72			72	
Day Total		4503	4766			4638			4638	
% Weekday Average		97.1%	102.8%							
% Week Average		97.1%	102.8%			100.0%				
AM Peak Volume		8:00 AM 440	8:00 AM 440			8:00 AM 440			8:00 AM 440	
PM Peak Volume		3:00 PM 342	4:00 PM 332			3:00 PM 314			3:00 PM 314	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: E 18th St btwn 2nd & 4th
SPECIFIC LOCATION: E 18th St btwn 2nd & 4th
CITY/STATE: Oakland, CA

QC JOB #: 13747416
DIRECTION: EB/WB
DATE: Apr 12 2016 - Apr 13 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		96	69			83			83	
1:00 AM		40	57			49			49	
2:00 AM		41	47			44			44	
3:00 AM		18	27			23			23	
4:00 AM		24	21			23			23	
5:00 AM		61	61			61			61	
6:00 AM		144	171			158			158	
7:00 AM		445	421			433			433	
8:00 AM		**666**	**661**			**664**			**664**	
9:00 AM		481	501			491			491	
10:00 AM		475	487			481			481	
11:00 AM		482	460			471			471	
12:00 PM		463	576			520			520	
1:00 PM		502	570			536			536	
2:00 PM		576	567			572			572	
3:00 PM		687	602			645			645	
4:00 PM		698	776			737			737	
5:00 PM		**793**	**798**			**796**			**796**	
6:00 PM		675	705			690			690	
7:00 PM		515	603			559			559	
8:00 PM		466	445			456			456	
9:00 PM		358	340			349			349	
10:00 PM		284	400			342			342	
11:00 PM		161	212			187			187	
Day Total		9151	9577			9370			9370	
% Weekday Average		97.7%	102.2%							
% Week Average		97.7%	102.2%			100.0%				
AM Peak Volume		8:00 AM 666	8:00 AM 661			8:00 AM 664			8:00 AM 664	
PM Peak Volume		5:00 PM 793	5:00 PM 798			5:00 PM 796			5:00 PM 796	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB
DATE: Apr 12 2016 - Apr 14 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu 14-Apr-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		52	57	82		64			64	
1:00 AM		31	31	40		34			34	
2:00 AM		22	20	24		22			22	
3:00 AM		18	16	20		18			18	
4:00 AM		37	36	27		33			33	
5:00 AM		78	89	78		82			82	
6:00 AM		154	158	138		150			150	
7:00 AM		400	394	404		399			399	
8:00 AM		**491**	**528**	**517**		**512**			**512**	
9:00 AM		346	314	367		342			342	
10:00 AM		335	337	326		333			333	
11:00 AM		354	338	347		346			346	
12:00 PM		363	385	380		376			376	
1:00 PM		348	521	400		423			423	
2:00 PM		450	398	431		426			426	
3:00 PM		501	475	561		512			512	
4:00 PM		581	604	590		592			592	
5:00 PM		**833**	**878**	**852**		**854**			**854**	
6:00 PM		629	584	577		597			597	
7:00 PM		413	446	477		445			445	
8:00 PM		311	312	366		330			330	
9:00 PM		223	222	227		224			224	
10:00 PM		183	245	193		207			207	
11:00 PM		117	138	110		122			122	
Day Total		7270	7526	7534		7443			7443	
% Weekday Average		97.7%	101.1%	101.2%						
% Week Average		97.7%	101.1%	101.2%		100.0%				
AM Peak Volume		8:00 AM 491	8:00 AM 528	8:00 AM 517		8:00 AM 512			8:00 AM 512	
PM Peak Volume		5:00 PM 833	5:00 PM 878	5:00 PM 852		5:00 PM 854			5:00 PM 854	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: WB
DATE: Apr 12 2016 - Apr 14 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu 14-Apr-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		59	47	88		65			65	
1:00 AM		44	44	37		42			42	
2:00 AM		23	15	17		18			18	
3:00 AM		14	20	14		16			16	
4:00 AM		22	21	31		25			25	
5:00 AM		40	35	36		37			37	
6:00 AM		116	120	111		116			116	
7:00 AM		347	349	366		354			354	
8:00 AM		**656**	**686**	**680**		**674**			**674**	
9:00 AM		406	382	421		403			403	
10:00 AM		303	321	322		315			315	
11:00 AM		365	328	338		344			344	
12:00 PM		316	327	315		319			319	
1:00 PM		331	432	330		364			364	
2:00 PM		370	371	353		365			365	
3:00 PM		**498**	410	**462**		**457**			**457**	
4:00 PM		391	373	404		389			389	
5:00 PM		468	415	404		429			429	
6:00 PM		453	**443**	420		439			439	
7:00 PM		342	396	409		382			382	
8:00 PM		289	273	302		288			288	
9:00 PM		253	229	254		245			245	
10:00 PM		188	240	189		206			206	
11:00 PM		90	109	118		106			106	
Day Total		6384	6386	6421		6398			6398	
% Weekday Average		99.8%	99.8%	100.4%						
% Week Average		99.8%	99.8%	100.4%		100.0%				
AM Peak Volume		8:00 AM 656	8:00 AM 686	8:00 AM 680		8:00 AM 674			8:00 AM 674	
PM Peak Volume		3:00 PM 498	6:00 PM 443	3:00 PM 462		3:00 PM 457			3:00 PM 457	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: Park Blvd btwn E 18th & 7th Ave
SPECIFIC LOCATION: Park Blvd btwn E 18th & 7th Ave
CITY/STATE: Oakland, CA

QC JOB #: 13747417
DIRECTION: EB/WB
DATE: Apr 12 2016 - Apr 14 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu 14-Apr-16	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		111	104	170		128			128	
1:00 AM		75	75	77		76			76	
2:00 AM		45	35	41		40			40	
3:00 AM		32	36	34		34			34	
4:00 AM		59	57	58		58			58	
5:00 AM		118	124	114		119			119	
6:00 AM		270	278	249		266			266	
7:00 AM		747	743	770		753			753	
8:00 AM		**1147**	**1214**	**1197**		**1186**			**1186**	
9:00 AM		752	696	788		745			745	
10:00 AM		638	658	648		648			648	
11:00 AM		719	666	685		690			690	
12:00 PM		679	712	695		695			695	
1:00 PM		679	953	730		787			787	
2:00 PM		820	769	784		791			791	
3:00 PM		999	885	1023		969			969	
4:00 PM		972	977	994		981			981	
5:00 PM		**1301**	**1293**	**1256**		**1283**			**1283**	
6:00 PM		1082	1027	997		1035			1035	
7:00 PM		755	842	886		828			828	
8:00 PM		600	585	668		618			618	
9:00 PM		476	451	481		469			469	
10:00 PM		371	485	382		413			413	
11:00 PM		207	247	228		227			227	
Day Total		13654	13912	13955		13839			13839	
% Weekday Average		98.7%	100.5%	100.8%						
% Week Average		98.7%	100.5%	100.8%		100.0%				
AM Peak Volume		8:00 AM 1147	8:00 AM 1214	8:00 AM 1197		8:00 AM 1186			8:00 AM 1186	
PM Peak Volume		5:00 PM 1301	5:00 PM 1293	5:00 PM 1256		5:00 PM 1283			5:00 PM 1283	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB
DATE: Apr 12 2016 - Apr 13 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		73	69			71			71	
1:00 AM		38	40			39			39	
2:00 AM		30	30			30			30	
3:00 AM		30	31			31			31	
4:00 AM		62	77			70			70	
5:00 AM		148	151			150			150	
6:00 AM		258	268			263			263	
7:00 AM		544	541			543			543	
8:00 AM		**579**	**581**			**580**			**580**	
9:00 AM		467	461			464			464	
10:00 AM		454	439			447			447	
11:00 AM		424	431			428			428	
12:00 PM		421	463			442			442	
1:00 PM		459	583			521			521	
2:00 PM		544	476			510			510	
3:00 PM		565	566			566			566	
4:00 PM		608	629			619			619	
5:00 PM		**766**	**771**			**769**			**769**	
6:00 PM		580	588			584			584	
7:00 PM		455	470			463			463	
8:00 PM		329	347			338			338	
9:00 PM		239	240			240			240	
10:00 PM		197	249			223			223	
11:00 PM		135	146			141			141	
Day Total		8405	8647			8532			8532	
% Weekday Average		98.5%	101.3%							
% Week Average		98.5%	101.3%			100.0%				
AM Peak		8:00 AM	8:00 AM			8:00 AM			8:00 AM	
Volume		579	581			580			580	
PM Peak		5:00 PM	5:00 PM			5:00 PM			5:00 PM	
Volume		766	771			769			769	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: WB
DATE: Apr 12 2016 - Apr 13 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		92	91			92			92	
1:00 AM		65	65			65			65	
2:00 AM		39	32			36			36	
3:00 AM		26	28			27			27	
4:00 AM		23	23			23			23	
5:00 AM		43	44			44			44	
6:00 AM		107	113			110			110	
7:00 AM		350	321			336			336	
8:00 AM		**540**	**551**			**546**			**546**	
9:00 AM		353	331			342			342	
10:00 AM		342	348			345			345	
11:00 AM		344	350			347			347	
12:00 PM		356	360			358			358	
1:00 PM		354	436			395			395	
2:00 PM		415	420			418			418	
3:00 PM		468	409			439			439	
4:00 PM		412	407			410			410	
5:00 PM		465	448			457			457	
6:00 PM		**505**	**494**			**500**			**500**	
7:00 PM		424	478			451			451	
8:00 PM		386	345			366			366	
9:00 PM		377	360			369			369	
10:00 PM		258	357			308			308	
11:00 PM		156	197			177			177	
Day Total		6900	7008			6961			6961	
% Weekday Average		99.1%	100.7%							
% Week Average		99.1%	100.7%			100.0%				
AM Peak Volume		8:00 AM 540	8:00 AM 551			8:00 AM 546			8:00 AM 546	
PM Peak Volume		6:00 PM 505	6:00 PM 494			6:00 PM 500			6:00 PM 500	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Type of report: Tube Count - Volume Data

LOCATION: Park Blvd btwn 7th & MacArthur
SPECIFIC LOCATION: Park Blvd btwn 7th & MacArthur
CITY/STATE: Oakland, CA

QC JOB #: 13747418
DIRECTION: EB/WB
DATE: Apr 12 2016 - Apr 13 2016

Start Time	Mon	Tue 12-Apr-16	Wed 13-Apr-16	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		165	160			163			163	
1:00 AM		103	105			104			104	
2:00 AM		69	62			66			66	
3:00 AM		56	59			58			58	
4:00 AM		85	100			93			93	
5:00 AM		191	195			193			193	
6:00 AM		365	381			373			373	
7:00 AM		894	862			878			878	
8:00 AM		**1119**	**1132**			**1126**			**1126**	
9:00 AM		820	792			806			806	
10:00 AM		796	787			792			792	
11:00 AM		768	781			775			775	
12:00 PM		777	823			800			800	
1:00 PM		813	1019			916			916	
2:00 PM		959	896			928			928	
3:00 PM		1033	975			1004			1004	
4:00 PM		1020	1036			1028			1028	
5:00 PM		**1231**	**1219**			**1225**			**1225**	
6:00 PM		1085	1082			1084			1084	
7:00 PM		879	948			914			914	
8:00 PM		715	692			704			704	
9:00 PM		616	600			608			608	
10:00 PM		455	606			531			531	
11:00 PM		291	343			317			317	
Day Total		15305	15655			15486			15486	
% Weekday Average		98.8%	101.1%							
% Week Average		98.8%	101.1%			100.0%				
AM Peak Volume		8:00 AM 1119	8:00 AM 1132			8:00 AM 1126			8:00 AM 1126	
PM Peak Volume		5:00 PM 1231	5:00 PM 1219			5:00 PM 1225			5:00 PM 1225	

Comments:

Report generated on 4/18/2016 4:25 PM

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

Appendix C. Pedestrian Level of Service Analysis

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. Oakland-specific base yield rates, based on the City's road diet methodology, were applied to calculate average crossing delay.

Currently, both intersections on E 18th St have high-visibility crosswalks, and and all Park Blvd intersections have transverse markings. The project would re/install high-visibility markings at all crosswalks.

Summary

AM	Existing			Project		
Intersection	Yield rate	Average Delay (sec.)	Ped LOS	Yield rate	Average Delay (sec.)	Ped LOS
1. E 18th St / 2nd Ave	35%	26.5	Good	60%	12.0	Very Good
2. E 18th St at midblock crossing	35%	13.8	Very Good	60%	9.6	Very Good
3. Park Blvd / E 19th St	5%	284.4	Very Poor	40%	9.3	Very Good
4. Park Blvd / Van Dyke Ave*	5%	492.2	Very Poor	40%	16.0	Good
5. Park Blvd / Montclair Ave*						
6. Park Blvd / Cleveland St (East Leg)**	5%	1043.4	Very Poor	40%	15.8	Good
7. Park Blvd / Cleveland St (West Leg)**						
8. Park Blvd / McKinley Ave-8th Ave	5%	1043.4	Very Poor	40%	31.5	Fair
9. Park Blvd / E 28th St***	5%	1043.4	Very Poor	40%	15.8	Good
10. Park Blvd / E 34th St	5%	13265.5	Very Poor	40%	15.1	Good

PM	Existing			Project		
Intersection	Yield rate	Average Delay (sec.)	Ped LOS	Yield rate	Average Delay (sec.)	Ped LOS
1. E 18th St / 2nd Ave	35%	41.3	Fair	60%	10.6	Very Good
2. E 18th St at midblock crossing	35%	20.5	Good	60%	11.2	Very Good
3. Park Blvd / E 19th St	5%	53.7	Fair	40%	10.9	Very Good
4. Park Blvd / Van Dyke Ave*	5%	937.1	Very Poor	40%	15.1	Good
5. Park Blvd / Montclair Ave*						
6. Park Blvd / Cleveland St (East Leg)**	5%	1678.0	Very Poor	40%	15.8	Good
7. Park Blvd / Cleveland St (West Leg)**						
8. Park Blvd / McKinley Ave-8th Ave	5%	1678.0	Very Poor	40%	29.7	Good
9. Park Blvd / E 28th St***	5%	1678.0	Very Poor	40%	15.8	Good
10. Park Blvd / E 34th St	5%	20788.9	Very Poor	40%	13.9	Very Good

Notes:

* The analysis at Van Dyke Ave and Montclair Ave is the same since the same conditions and data apply.

** The analysis at both Cleveland St crossings is the same since the same conditions and data apply.

*** The analysis at E 28th St is the same as at Cleveland St since the same conditions and data apply.

Worksheets attached.

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	E 18 St / 2nd Ave	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	43	29
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	15.3	11.3
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	239	548
C	Number of lanes crossed	2	2
v	Vehicular flow rate (veh/s)	0.07	0.15
P_b	Probability of a blocked lane	0.40	0.58
P_d	Probability of a delayed crossing	0.64	0.82

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	11.2	18.8
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	17.6	22.9

Step 5: Estimate Delay Reduction due to Yielding Vehicles				
M_y	Motorist Yield Rate		35%	35%
h	Average headway for each through lane		30.1	13.1
n	Average number of crossing events before an adequate gap is available		0	1
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i			0.21
$P(Y_2)$				N/A
:				
:				
$P(Y_n)$		N/A		N/A
Note: Full iterations shown on "crossing event calculation" tab				
d_p	Average pedestrian delay for each stage (s)		11.2	15.3

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	26.5
	Ped LOS	***D***

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	E 18 St / 2nd Ave	**Date:**	2/11/2019
Scenario:	Existing Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type	
Crossing Type	4-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	43	29
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	15.3	11.3
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	603	355
C	Number of lanes crossed	2	2
v	Vehicular flow rate (veh/s)	0.17	0.10
P_b	Probability of a blocked lane	0.72	0.43
P_d	Probability of a delayed crossing	0.92	0.67

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	56.0	9.4
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	60.7	14.1

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	35%	35%
h	Average headway for each through lane	11.9	20.3
n	Average number of crossing events before an adequate gap is available	5	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.20	
$P(Y_2)$		0.16	0.00
:			
:			
$P(Y_n)$		7.51E-02	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	31.8	9.4

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	41.3
	Ped LOS	***E***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	E 18 St / 2nd Ave	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	32	24
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	12.1	9.9
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	239	548
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.07	0.15
P_b	Probability of a blocked lane	0.55	0.78
P_d	Probability of a delayed crossing	0.55	0.78

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	6.5	13.0
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	11.8	16.8

Step 5: Estimate Delay Reduction due to Yielding Vehicles				
M_y	Motorist Yield Rate		60%	60%
h	Average headway for each through lane		15.1	6.6
n	Average number of crossing events before an adequate gap is available		0	2
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i			0.47
$P(Y_2)$				0.00
:				
:				
$P(Y_n)$		N/A		N/A
Note: Full iterations shown on "crossing event calculation" tab				
d_p	Average pedestrian delay for each stage (s)		6.5	5.5

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	12.0
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	E 18 St / 2nd Ave	**Date:**	2/11/2019
Scenario:	Project Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	32	24
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	12.1	9.9
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	603	355
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.17	0.10
P_b	Probability of a blocked lane	0.87	0.62
P_d	Probability of a delayed crossing	0.87	0.62

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	27.5	6.8
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	31.7	10.9

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	60%	60%
h	Average headway for each through lane	6.0	10.1
n	Average number of crossing events before an adequate gap is available	5	1
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.52	0.37
$P(Y_2)$		0.21	N/A
:			
:			
$P(Y_n)$		1.34E-02	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	6.0	4.6

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	10.6
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	E 18th St at midblock crossing	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	25	25
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	10.1	10.1
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	228	480
C	Number of lanes crossed	2	2
v	Vehicular flow rate (veh/s)	0.06	0.13
P_b	Probability of a blocked lane	0.27	0.49
P_d	Probability of a delayed crossing	0.47	0.74

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	4.1	11.4
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	8.6	15.3

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	35%	35%
h	Average headway for each through lane	31.6	15.0
n	Average number of crossing events before an adequate gap is available	0	1
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.20
$P(Y_2)$			N/A
:			
:			
$P(Y_n)$		N/A	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	4.1	9.8

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	13.8
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	E 18th St at midblock crossing	**Date:**	2/11/2019
Scenario:	Existing Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	25	25
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	10.1	10.1
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	634	300
C	Number of lanes crossed	2	2
v	Vehicular flow rate (veh/s)	0.18	0.08
P_b	Probability of a blocked lane	0.59	0.34
P_d	Probability of a delayed crossing	0.83	0.57

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	18.1	5.8
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	21.7	10.2

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate		35%	35%
h	Average headway for each through lane		11.4	24.0
n	Average number of crossing events before an adequate gap is available		1	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.21	
$P(Y_2)$		N/A		0.00
:				
:				
$P(Y_n)$		N/A		N/A
Note: Full iterations shown on "crossing event calculation" tab				
d_p	Average pedestrian delay for each stage (s)		14.7	5.8

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	20.5
	Ped LOS	***D***

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	E 18th St at midblock crossing	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type	
Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	25	25
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	10.1	10.1
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	228	480
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.06	0.13
P_b	Probability of a blocked lane	0.47	0.74
P_d	Probability of a delayed crossing	0.47	0.74

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	4.1	11.4
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	8.6	15.3

Step 5: Estimate Delay Reduction due to Yielding Vehicles				
M_y	Motorist Yield Rate		60%	60%
h	Average headway for each through lane		15.8	7.5
n	Average number of crossing events before an adequate gap is available		0	2
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i			0.44
$P(Y_2)$				0.00
:				
:				
$P(Y_n)$		N/A		N/A
Note: Full iterations shown on "crossing event calculation" tab				
d_p	Average pedestrian delay for each stage (s)		4.1	5.5

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	9.6
	Ped LOS	***B***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	E 18th St at midblock crossing	**Date:**	2/11/2019
Scenario:	Project Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	25	25
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	10.1	10.1
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	634	300
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.18	0.08
P_b	Probability of a blocked lane	0.83	0.57
P_d	Probability of a delayed crossing	0.83	0.57

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	18.1	5.8
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	21.7	10.2

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	60%	60%
h	Average headway for each through lane	5.7	12.0
n	Average number of crossing events before an adequate gap is available	3	0
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.50	
$P(Y_2)$		0.20	0.00
:			
:			
$P(Y_n)$		7.99E-02	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	5.4	5.8

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	11.2
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / E 19th St	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	43	
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	15.3	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,074	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.30	
P_b	Probability of a blocked lane	0.68	
P_d	Probability of a delayed crossing	0.99	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	301.8	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	305.0	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	13.4	
n	Average number of crossing events before an adequate gap is available	22	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.01	
$P(Y_2)$		0.01	0.00
:			
:			
$P(Y_n)$		4.66E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	284.4	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	284.4
	Ped LOS	***F***

Summary Data

Intersection:	Park Blvd / E 19th St	**Date:**	2/11/2019
Scenario:	Existing Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	43	
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	15.3	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	597	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.17	
P_b	Probability of a blocked lane	0.47	
P_d	Probability of a delayed crossing	0.92	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	54.8
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	59.5

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
Note: Based on Grand Ave Study			
h	Average headway for each through lane	24.1	
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	0.01	
$P(Y_2)$		0.01	0.00
:			
:			
$P(Y_n)$		N/A	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	53.7	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	53.7
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Park Blvd / E 19th St	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type	
Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	18.5	18.5
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	8.3	8.3
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	270	617
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.08	0.17
P_b	Probability of a blocked lane	0.46	0.76
P_d	Probability of a delayed crossing	0.46	0.76

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	3.2	10.0
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	6.9	13.2

Step 5: Estimate Delay Reduction due to Yielding Vehicles				
M_y	Motorist Yield Rate		40%	40%
h	Average headway for each through lane		13.3	5.8
n	Average number of crossing events before an adequate gap is available		0	2
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i			0.30
$P(Y_2)$				0.00
:				
:				
$P(Y_n)$		N/A		N/A
Note: Full iterations shown on "crossing event calculation" tab				
d_p	Average pedestrian delay for each stage (s)		3.2	6.1

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	9.3
	Ped LOS	***B***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / E 19th St	**Date:**	2/11/2019
Scenario:	Existing Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	18.5	18.5
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	8.3	8.3
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	733	405
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.20	0.11
P_b	Probability of a blocked lane	0.81	0.61
P_d	Probability of a delayed crossing	0.81	0.61

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	13.3	5.4
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	16.4	8.9

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	4.9	8.9
n	Average number of crossing events before an adequate gap is available	3	1
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.33	0.24
$P(Y_2)$		0.20	N/A
:			
:			
$P(Y_n)$		1.17E-01	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	6.6	4.3

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	10.9
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Van Dyke Ave	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	55	
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	18.7	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	960	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.27	
P_b	Probability of a blocked lane	0.71	
P_d	Probability of a delayed crossing	0.99	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	528.8	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	532.4	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	15.0	
n	Average number of crossing events before an adequate gap is available	35	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		3.53E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	492.2	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	492.2
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Van Dyke Ave	**Date:**	2/11/2019
Scenario:	Existing Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	55	
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	18.7	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,114	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.31	
P_b	Probability of a blocked lane	0.76	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1035.9	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1039.1	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
Note: Based on Grand Ave Study			
h	Average headway for each through lane	12.9	
n	Average number of crossing events before an adequate gap is available	80	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		2.07E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	937.1	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	937.1
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data			
Intersection:	Park Blvd / Van Dyke Ave	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type	
Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	24.5	24.5
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	10.0	10.0
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	594	647
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.17	0.18
P_b	Probability of a blocked lane	0.81	0.83
P_d	Probability of a delayed crossing	0.81	0.83

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	15.5	18.0
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	19.2	21.6

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
Note: Based on Grand Ave Study			
h	Average headway for each through lane	6.1	5.6
n	Average number of crossing events before an adequate gap is available	3	3
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.32	0.33
$P(Y_2)$		0.19	0.00
:			
:			
$P(Y_n)$		1.16E-01	0.00E+00
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	7.9	8.2

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	16.0
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Van Dyke Ave	**Date:**	2/11/2019
Scenario:	Project Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	24.5	24.5
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	10.0	10.0
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	658	483
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.18	0.13
P_b	Probability of a blocked lane	0.84	0.74
P_d	Probability of a delayed crossing	0.84	0.74

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	18.6	11.1
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	22.1	15.0

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	5.5	7.5
n	Average number of crossing events before an adequate gap is available	4	2
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.34	0.30
$P(Y_2)$		0.20	0.00
:			
:			
$P(Y_n)$		7.25E-02	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	8.0	7.1

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	15.1
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Cleveland St	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	56	
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	19.0	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,119	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.31	
P_b	Probability of a blocked lane	0.77	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1159.0	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1162.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	12.9	
n	Average number of crossing events before an adequate gap is available	90	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		1.91E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	1043.4	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	1043.4
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Cleveland St	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	56	
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	19.0	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,231	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.34	
P_b	Probability of a blocked lane	0.80	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1917.3	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1920.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	11.7	
n	Average number of crossing events before an adequate gap is available	164	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		1.26E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	1678.0	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	1678.0
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Cleveland St	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	25	25
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	10.1	10.1
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	540	579
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.15	0.16
P_b	Probability of a blocked lane	0.78	0.80
P_d	Probability of a delayed crossing	0.78	0.80

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	13.7	15.4
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	17.5	19.2

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	6.7	6.2
n	Average number of crossing events before an adequate gap is available	2	3
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.31	0.32
$P(Y_2)$		0.19	0.00
:			
:			
$P(Y_n)$		N/A	0.00E+00
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	7.9	7.9

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	15.8
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / Cleveland St	**Date:**	2/11/2019
Scenario:	Project Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	25	25
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	10.1	10.1
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	465	651
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.13	0.18
P_b	Probability of a blocked lane	0.73	0.84
P_d	Probability of a delayed crossing	0.73	0.84

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	10.8	18.9
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	14.8	22.5

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate		40%	40%
Note: Based on Grand Ave Study				
h	Average headway for each through lane		7.7	5.5
n	Average number of crossing events before an adequate gap is available		1	4
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i		0.29	0.34
$P(Y_2)$		N/A		0.00
:				
:				
$P(Y_n)$		N/A		0.00E+00
Note: Full iterations shown on "crossing event calculation" tab				
d_p	Average pedestrian delay for each stage (s)		7.6	8.1

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	15.8
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / McKinley Ave	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	56	
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	19.0	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,119	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.31	
P_b	Probability of a blocked lane	0.77	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1159.0	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1162.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	12.9	
n	Average number of crossing events before an adequate gap is available	90	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		1.91E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	1043.4	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	1043.4
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / McKinley Ave	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	56	
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	19.0	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,231	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.34	
P_b	Probability of a blocked lane	0.80	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1917.3	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1920.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	11.7	
n	Average number of crossing events before an adequate gap is available	164	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		1.26E-03	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	1678.0	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	1678.0
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / McKinley Ave	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	55	
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	18.7	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,119	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.31	
P_b	Probability of a blocked lane	0.95	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1058.9	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1062.1	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	40%	
h	Average headway for each through lane	6.4	
n	Average number of crossing events before an adequate gap is available	165	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.18	
$P(Y_2)$		0.15	0.00
:			
:			
$P(Y_n)$		4.92E-16	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	31.5	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	31.5
	Ped LOS	***E***

Summary Data

Intersection:	Park Blvd / McKinley Ave	**Date:**	2/11/2019
Scenario:	Project Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	55	
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	18.7	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,231	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.34	
P_b	Probability of a blocked lane	0.96	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1737.1	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1740.0	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	40%	
Note: Based on Grand Ave Study			
h	Average headway for each through lane	5.8	
n	Average number of crossing events before an adequate gap is available	297	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.18	
$P(Y_2)$		0.15	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	29.7	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	29.7
	Ped LOS	***D***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / E 34th St	**Date:**	2/11/2019
Scenario:	Existing Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	64	
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	21.3	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,491	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.41	
P_b	Probability of a blocked lane	0.89	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	16250.2	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	16252.6	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	9.7	
n	Average number of crossing events before an adequate gap is available	1682	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	13265.5	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	13265.5
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / E 34th St	**Date:**	2/11/2019
Scenario:	Existing Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	4-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	64	
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	21.3	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,570	
C	Number of lanes crossed	4	
v	Vehicular flow rate (veh/s)	0.44	
P_b	Probability of a blocked lane	0.90	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	24632.9	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	24635.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	5%	
h	Average headway for each through lane	9.2	
n	Average number of crossing events before an adequate gap is available	2685	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	20788.9	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	20788.9
	Ped LOS	***F***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / E 34th St	**Date:**	2/11/2019
Scenario:	Project Conditions AM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	29	19
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	11.3	8.4
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing			
	Conflicting Vehicles/hr for each stage	766	725
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.21	0.20
P_b	Probability of a blocked lane	0.91	0.82
P_d	Probability of a delayed crossing	0.91	0.82

Step 4: Calculate Average Delay to Wait for an Adequate Gap			
d_g	Average pedestrian gap delay (s)	35.9	13.7
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	39.5	16.8

Step 5: Estimate Delay Reduction due to Yielding Vehicles			
M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	4.7	5.0
n	Average number of crossing events before an adequate gap is available	8	3
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.36	0.33
$P(Y_2)$		0.22	0.00
:			
:			
$P(Y_n)$		1.02E-02	0.00E+00
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	8.4	6.7

Step 6: Calculate Average Pedestrian Delay and Determine LOS		
d_p	Average pedestrian delay (s)	15.1
	Ped LOS	***C***

Appendix C. Pedestrian Level of Service Analysis

Summary Data

Intersection:	Park Blvd / E 34th St	**Date:**	2/11/2019
Scenario:	Project Conditions PM	**Analyst:**	JP

Step 1: Identify Crossing Type

Crossing Type	2-lane divided
Two-stage Crossing Calcs Apply?	Yes
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	29	19
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	11.3	8.4
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	918	652
C	Number of lanes crossed	1	1
v	Vehicular flow rate (veh/s)	0.26	0.18
P_b	Probability of a blocked lane	0.94	0.78
P_d	Probability of a delayed crossing	0.94	0.78

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	54.5	11.5
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	57.8	14.6

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	40%	40%
h	Average headway for each through lane	3.9	5.5
n	Average number of crossing events before an adequate gap is available	14	2
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.38	0.31
$P(Y_2)$		0.23	0.00
:			
:			
$P(Y_n)$		4.93E-04	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	7.4	6.5

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	13.9
	Ped LOS	***C***

Appendix D. Bicyclist Level of Stress (LTS) Analysis
Park Blvd, E 18th St to MacArthur Blvd and E 18th St, Lakeshore Ave to Park Blvd

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 Park Blvd and E 18th 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: Park Blvd & E 18th St		
Both Corridors, Existing Condition: LTS = 4		
Factor	***Condition***	***LTS***
Number/type of lanes	four lanes with mixed traffic	LTS = 4
Prevailing (aka 85th%ile) vehicle speed	36 MPH	
On-street parking	both sides of street	
Right turn lanes at intersections	none	

Park Blvd, Proposed Project LTS = 2/3 [2]		
Factor	***Condition***	***LTS***
Number/type of lanes	one travel lane per direction	LTS $\geq$ 1
Sum of bike lane and parking lane width	7'+9'=16'	LTS $\geq$ 1
Prevailing (aka 85th%ile) vehicle speed	36 MPH	LTS $\geq$ 3
Bike lane blockage	rare	LTS $\geq$ 1
Right turn lanes at intersections	none	n/a
E 18th St, Proposed Project LTS = 2/3 [2] [3]		
Factor	***Condition***	***LTS***
Number/type of lanes	one travel lane per direction	LTS $\geq$ 1
Sum of bike lane and parking lane width	7'+10'=17'	LTS $\geq$ 1
Prevailing (aka 85th%ile) vehicle speed	*36 MPH*	LTS $\geq$ 3
Bike lane blockage	*unknown*	LTS $\geq$ 3
Right turn lanes at intersections	none	n/a

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

[2] Road diets improve safety in part by reducing speeds. However, 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 uses the existing prevailing speed. 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.

[3] It is unknown but probable that double parking will block the bike lane occasionally through the commerical district on E 18th St. Therefore, an LTS value of $\geq$ 3 is calculated for this criteria. If bike lane blockage is rare, the overall LTS would remain at 2/3 as per [2].

HCM Signalized Intersection Capacity Analysis
1: Lakeshore Avenue & 18th Street

Existing Conditions
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	403	145	440	155	84	578
Future Volume (vph)	403	145	440	155	84	578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		3.0	4.5
Lane Util. Factor	0.97		0.95		1.00	0.95
Frpb, ped/bikes	0.93		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.96		0.96		1.00	1.00
Flt Protected	0.96		1.00		0.95	1.00
Satd. Flow (prot)	2938		3274		1736	3574
Flt Permitted	0.96		1.00		0.95	1.00
Satd. Flow (perm)	2938		3274		1736	3574
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	403	145	440	155	84	578
RTOR Reduction (vph)	36	0	21	0	0	0
Lane Group Flow (vph)	512	0	574	0	84	578
Confl. Peds. (#/hr)	57	121		19	19	
Confl. Bikes (#/hr)				10		
Heavy Vehicles (%)	3%	1%	4%	7%	4%	1%
Parking (#/hr)	1	1				
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	27.5		61.9		8.6	73.5
Effective Green, g (s)	27.5		61.9		8.6	73.5
Actuated g/C Ratio	0.25		0.56		0.08	0.67
Clearance Time (s)	4.5		4.5		3.0	4.5
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	734		1842		135	2388
v/s Ratio Prot	c0.17		c0.18		c0.05	0.16
v/s Ratio Perm						
v/c Ratio	0.70		0.31		0.62	0.24
Uniform Delay, d1	37.5		12.8		49.1	7.2
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	2.3		0.4		6.3	0.2
Delay (s)	39.8		13.2		55.4	7.5
Level of Service	D		B		E	A
Approach Delay (s)	39.8		13.2			13.5
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: 3rd Avenue & 18th Street

Existing Conditions
AM Peak Hour

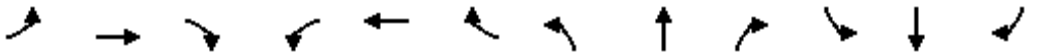
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	205	18	29	200	0	31	0	39	5	68	249
Future Volume (vph)	5	205	18	29	200	0	31	0	39	5	68	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor		0.95		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.98		1.00	0.95	
Flpb, ped/bikes		1.00		0.92	1.00			1.00		1.00	1.00	
Frt		0.99		1.00	1.00			0.92		1.00	0.88	
Flt Protected		1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)		3148		1617	1580			1450		1805	1376	
Flt Permitted		0.95		0.61	1.00			0.98		0.95	1.00	
Satd. Flow (perm)		2998		1038	1580			1450		1805	1376	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	205	18	29	200	0	31	0	39	5	68	249
RTOR Reduction (vph)	0	5	0	0	0	0	0	35	0	0	190	0
Lane Group Flow (vph)	0	223	0	29	200	0	0	35	0	5	127	0
Confl. Peds. (#/hr)	45		45	45		45			18			30
Confl. Bikes (#/hr)			2			10			1			28
Heavy Vehicles (%)	6%	5%	0%	3%	4%	0%	3%	0%	0%	0%	0%	1%
Parking (#/hr)		6			7			6			6	
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6								
Actuated Green, G (s)		40.8		40.8	40.8			11.4		18.8	18.8	
Effective Green, g (s)		40.8		40.8	40.8			11.4		18.8	18.8	
Actuated g/C Ratio		0.51		0.51	0.51			0.14		0.24	0.24	
Clearance Time (s)		3.0		3.0	3.0			3.0		3.0	3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1528		529	805			206		424	323	
v/s Ratio Prot					c0.13			c0.02		0.00	c0.09	
v/s Ratio Perm		0.07		0.03								
v/c Ratio		0.15		0.05	0.25			0.17		0.01	0.39	
Uniform Delay, d1		10.4		9.9	11.0			30.1		23.5	25.8	
Progression Factor		1.00		1.37	1.29			1.00		1.00	1.00	
Incremental Delay, d2		0.2		0.2	0.7			0.1		0.0	0.3	
Delay (s)		10.6		13.7	14.9			30.3		23.5	26.1	
Level of Service		B		B	B			C		C	C	
Approach Delay (s)		10.6			14.7			30.3			26.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Park Boulevard & 18th Street

Existing Conditions
AM Peak Hour

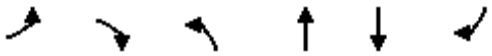


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	98	16	5	148	21	14	96	11	29	219	79
Future Volume (vph)	153	98	16	5	148	21	14	96	11	29	219	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	3.0			3.0			3.0			3.0	3.0
Lane Util. Factor	0.97	1.00			1.00			0.95			1.00	1.00
Frpb, ped/bikes	1.00	0.98			0.99			0.99			1.00	0.95
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	1.00
Frt	1.00	0.98			0.98			0.99			1.00	0.85
Flt Protected	0.95	1.00			1.00			0.99			0.99	1.00
Satd. Flow (prot)	3367	1539			1737			3250			1595	1442
Flt Permitted	0.95	1.00			1.00			0.92			0.96	1.00
Satd. Flow (perm)	3367	1539			1732			3003			1540	1442
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	153	98	16	5	148	21	14	96	11	29	219	79
RTOR Reduction (vph)	0	5	0	0	4	0	0	8	0	0	0	60
Lane Group Flow (vph)	153	109	0	0	170	0	0	113	0	0	248	19
Confl. Peds. (#/hr)			55	55		33	14		25	25		14
Confl. Bikes (#/hr)						4			3			2
Heavy Vehicles (%)	4%	4%	6%	0%	3%	5%	0%	1%	18%	0%	1%	6%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		4						1			9	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases				6			4			8		8
Actuated Green, G (s)	9.0	54.7			40.7			19.3			19.3	19.3
Effective Green, g (s)	9.0	54.7			40.7			19.3			19.3	19.3
Actuated g/C Ratio	0.11	0.68			0.51			0.24			0.24	0.24
Clearance Time (s)	5.0	3.0			3.0			3.0			3.0	3.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	378	1052			881			724			371	347
v/s Ratio Prot	c0.05	0.07										
v/s Ratio Perm					c0.10			0.04			c0.16	0.01
v/c Ratio	0.40	0.10			0.19			0.16			0.67	0.05
Uniform Delay, d1	33.0	4.3			10.7			23.9			27.5	23.3
Progression Factor	1.27	0.24			1.00			1.00			1.00	1.00
Incremental Delay, d2	0.7	0.2			0.5			0.1			4.5	0.1
Delay (s)	42.5	1.2			11.2			24.0			32.0	23.4
Level of Service	D	A			B			C			C	C
Approach Delay (s)		24.9			11.2			24.0			29.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: Park Boulevard & Newton Avenue

Existing Conditions
AM Peak Hour



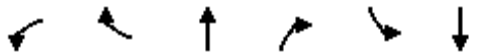
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	51	59	33	248	558	59
Future Volume (vph)	51	59	33	248	558	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			4.0	4.0	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	0.98			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.93			1.00	0.99	
Flt Protected	0.98			0.99	1.00	
Satd. Flow (prot)	1409			3231	3461	
Flt Permitted	0.98			0.87	1.00	
Satd. Flow (perm)	1409			2830	3461	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	51	59	33	248	558	59
RTOR Reduction (vph)	43	0	0	0	13	0
Lane Group Flow (vph)	67	0	0	281	604	0
Confl. Peds. (#/hr)		20	31			31
Confl. Bikes (#/hr)						28
Heavy Vehicles (%)	2%	2%	0%	4%	2%	0%
Parking (#/hr)	10			6		
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	16.0			37.0	37.0	
Effective Green, g (s)	16.0			37.0	37.0	
Actuated g/C Ratio	0.27			0.62	0.62	
Clearance Time (s)	3.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	375			1745	2134	
v/s Ratio Prot	c0.05				c0.17	
v/s Ratio Perm				0.10		
v/c Ratio	0.18			0.16	0.28	
Uniform Delay, d1	16.9			4.9	5.3	
Progression Factor	1.00			1.00	0.52	
Incremental Delay, d2	0.2			0.2	0.3	
Delay (s)	17.2			5.1	3.1	
Level of Service	B			A	A	
Approach Delay (s)	17.2			5.1	3.1	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: Park Boulevard & 21st Street

Existing Conditions
AM Peak Hour

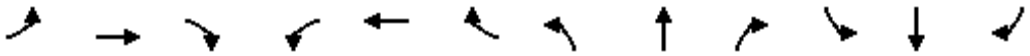


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	79	34	260	33	12	544
Future Volume (vph)	79	34	260	33	12	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.96		0.98			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1538		3166			3345
Flt Permitted	0.97		1.00			0.95
Satd. Flow (perm)	1538		3166			3176
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	34	260	33	12	544
RTOR Reduction (vph)	25	0	13	0	0	0
Lane Group Flow (vph)	88	0	280	0	0	556
Confl. Peds. (#/hr)		12		24	24	
Heavy Vehicles (%)	0%	0%	4%	6%	0%	1%
Parking (#/hr)	4		5			5
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	16.0		37.0			37.0
Effective Green, g (s)	16.0		37.0			37.0
Actuated g/C Ratio	0.27		0.62			0.62
Clearance Time (s)	3.0		4.0			4.0
Vehicle Extension (s)	2.0		2.0			2.0
Lane Grp Cap (vph)	410		1952			1958
v/s Ratio Prot	c0.06		0.09			
v/s Ratio Perm						c0.18
v/c Ratio	0.21		0.14			0.28
Uniform Delay, d1	17.1		4.8			5.3
Progression Factor	1.00		0.57			1.00
Incremental Delay, d2	0.1		0.2			0.4
Delay (s)	17.2		2.9			5.7
Level of Service	B		A			A
Approach Delay (s)	17.2		2.9			5.7
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: 7th Avenue/Spruce Street & Park Boulevard

Existing Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	513	12	19	586	6	35	44	73	19	22	26
Future Volume (vph)	17	513	12	19	586	6	35	44	73	19	22	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.94			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3319			3300			1537			1477	
Flt Permitted		0.94			0.94			0.92			0.93	
Satd. Flow (perm)		3112			3098			1435			1393	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	17	513	12	19	586	6	35	44	73	19	22	26
RTOR Reduction (vph)	0	2	0	0	1	0	0	60	0	0	21	0
Lane Group Flow (vph)	0	540	0	0	610	0	0	92	0	0	46	0
Confl. Peds. (#/hr)	17		15	15		17	22		13	13		22
Confl. Bikes (#/hr)			2			7						
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	1%	0%	5%	0%
Parking (#/hr)		3			6			2			9	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		26.6			26.6			7.6			7.6	
Effective Green, g (s)		26.6			26.6			7.6			7.6	
Actuated g/C Ratio		0.65			0.65			0.18			0.18	
Clearance Time (s)		4.0			4.0			3.0			3.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		2009			2000			264			256	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.20			c0.06			0.03	
v/c Ratio		0.27			0.31			0.35			0.18	
Uniform Delay, d1		3.1			3.2			14.6			14.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.4			0.3			0.1	
Delay (s)		3.5			3.6			14.9			14.3	
Level of Service		A			A			B			B	
Approach Delay (s)		3.5			3.6			14.9			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	7.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: 33rd Street & Park Boulevard

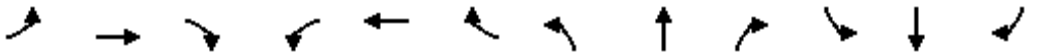
Existing Conditions
AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	766	1	0	713	20	12
Future Volume (vph)	766	1	0	713	20	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	3335			3511	1737	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	3335			3511	1737	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	766	1	0	713	20	12
RTOR Reduction (vph)	0	0	0	0	8	0
Lane Group Flow (vph)	767	0	0	713	24	0
Confl. Peds. (#/hr)		24	24		2	10
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	4	0	0
Parking (#/hr)	3					
Turn Type	NA			NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	22.0			22.0	15.0	
Effective Green, g (s)	22.0			22.0	15.0	
Actuated g/C Ratio	0.49			0.49	0.33	
Clearance Time (s)	4.0			4.0	4.0	
Lane Grp Cap (vph)	1630			1716	579	
v/s Ratio Prot	c0.23			0.20	c0.01	
v/s Ratio Perm						
v/c Ratio	0.47			0.42	0.04	
Uniform Delay, d1	7.6			7.4	10.1	
Progression Factor	1.00			1.05	1.00	
Incremental Delay, d2	1.0			0.6	0.1	
Delay (s)	8.6			8.3	10.3	
Level of Service	A			A	B	
Approach Delay (s)	8.6			8.3	10.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Park Boulevard & MacArthur Boulevard

Existing Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	429	708	321	0	0	0	104	498	202	63	375	427
Future Volume (vph)	429	708	321	0	0	0	104	498	202	63	375	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						5.0		5.0	5.0	
Lane Util. Factor	0.91	0.91						0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.96						0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00						1.00		0.99	1.00	
Frt	1.00	0.96						0.96		1.00	0.92	
Flt Protected	0.95	1.00						0.99		0.95	1.00	
Satd. Flow (prot)	1610	2915						3154		1783	3188	
Flt Permitted	0.95	1.00						0.69		0.28	1.00	
Satd. Flow (perm)	1610	2915						2186		525	3188	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	429	708	321	0	0	0	104	498	202	63	375	427
RTOR Reduction (vph)	0	48	0	0	0	0	0	15	0	0	214	0
Lane Group Flow (vph)	386	1024	0	0	0	0	0	789	0	63	589	0
Confl. Peds. (#/hr)			177						70	70		
Confl. Bikes (#/hr)			2									2
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	2%	1%	0%	3%	3%
Parking (#/hr)		3						4				
Turn Type	Perm	NA					Perm	NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)	36.0	36.0						45.0		45.0	45.0	
Effective Green, g (s)	36.0	36.0						45.0		45.0	45.0	
Actuated g/C Ratio	0.40	0.40						0.50		0.50	0.50	
Clearance Time (s)	4.0	4.0						5.0		5.0	5.0	
Lane Grp Cap (vph)	644	1166						1093		262	1594	
v/s Ratio Prot											0.18	
v/s Ratio Perm	0.24	0.35						c0.36		0.12		
v/c Ratio	0.60	0.88						0.72		0.24	0.37	
Uniform Delay, d1	21.3	25.0						17.6		12.8	13.8	
Progression Factor	1.00	1.00						0.75		1.00	1.00	
Incremental Delay, d2	4.1	9.5						3.8		2.2	0.7	
Delay (s)	25.4	34.5						16.9		14.9	14.5	
Level of Service	C	C						B		B	B	
Approach Delay (s)		32.1			0.0			16.9			14.5	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Lakeshore Avenue & 18th Street

Existing Conditions
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	214	141	654	414	189	434
Future Volume (vph)	214	141	654	414	189	434
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		3.0	4.5
Lane Util. Factor	0.97		0.95		1.00	0.95
Frpb, ped/bikes	0.90		0.97		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.94		0.94		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	2782		3267		1805	3505
Flt Permitted	0.97		1.00		0.95	1.00
Satd. Flow (perm)	2782		3267		1805	3505
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	214	141	654	414	189	434
RTOR Reduction (vph)	98	0	88	0	0	0
Lane Group Flow (vph)	257	0	980	0	189	434
Confl. Peds. (#/hr)	47	120		26	26	
Confl. Bikes (#/hr)				44		
Heavy Vehicles (%)	4%	1%	1%	2%	0%	3%
Parking (#/hr)	1	1				
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	26.5		56.8		14.7	74.5
Effective Green, g (s)	26.5		56.8		14.7	74.5
Actuated g/C Ratio	0.24		0.52		0.13	0.68
Clearance Time (s)	4.5		4.5		3.0	4.5
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	670		1686		241	2373
v/s Ratio Prot	c0.09		c0.30		c0.10	0.12
v/s Ratio Perm						
v/c Ratio	0.38		0.58		0.78	0.18
Uniform Delay, d1	34.9		18.4		46.1	6.5
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.1		1.5		14.2	0.2
Delay (s)	35.1		19.9		60.3	6.7
Level of Service	D		B		E	A
Approach Delay (s)	35.1		19.9			23.0
Approach LOS	D		B			C

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: 3rd Avenue & 18th Street

Existing Conditions
PM Peak Hour

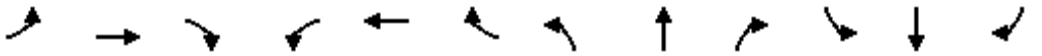
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	587	43	62	168	0	36	0	114	21	78	96
Future Volume (vph)	4	587	43	62	168	0	36	0	114	21	78	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor		0.95		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes		1.00		0.96	1.00			1.00		1.00	1.00	
Frt		0.99		1.00	1.00			0.90		1.00	0.92	
Flt Protected		1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)		3240		1696	1550			1415		1805	1445	
Flt Permitted		0.95		0.31	1.00			0.99		0.95	1.00	
Satd. Flow (perm)		3092		550	1550			1415		1805	1445	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	587	43	62	168	0	36	0	114	21	78	96
RTOR Reduction (vph)	0	5	0	0	0	0	0	91	0	0	60	0
Lane Group Flow (vph)	0	629	0	62	168	0	0	59	0	21	114	0
Confl. Peds. (#/hr)	72		56	56		72			31			74
Confl. Bikes (#/hr)			20			5			2			5
Heavy Vehicles (%)	0%	2%	0%	2%	6%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		6			7			6			6	
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		2			6		8	8		4	4	
Permitted Phases	2			6								
Actuated Green, G (s)		31.8		31.8	31.8			15.8		23.4	23.4	
Effective Green, g (s)		31.8		31.8	31.8			15.8		23.4	23.4	
Actuated g/C Ratio		0.40		0.40	0.40			0.20		0.29	0.29	
Clearance Time (s)		3.0		3.0	3.0			3.0		3.0	3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0		2.0	2.0	
Lane Grp Cap (vph)		1229		218	616			279		527	422	
v/s Ratio Prot					0.11			c0.04		0.01	c0.08	
v/s Ratio Perm		c0.20		0.11								
v/c Ratio		0.51		0.28	0.27			0.21		0.04	0.27	
Uniform Delay, d1		18.2		16.4	16.3			26.9		20.3	21.7	
Progression Factor		1.00		1.67	1.65			1.00		1.00	1.00	
Incremental Delay, d2		1.5		3.2	1.1			0.1		0.0	0.1	
Delay (s)		19.7		30.5	27.9			27.0		20.3	21.9	
Level of Service		B		C	C			C		C	C	
Approach Delay (s)		19.7			28.6			27.0			21.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Park Boulevard & 18th Street

Existing Conditions
PM Peak Hour

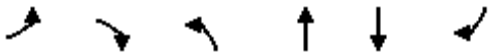


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	447	298	31	7	138	23	30	263	7	35	128	63
Future Volume (vph)	447	298	31	7	138	23	30	263	7	35	128	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	3.0			3.0			3.0			3.0	3.0
Lane Util. Factor	0.97	1.00			1.00			0.95			1.00	1.00
Frpb, ped/bikes	1.00	0.98			0.99			1.00			1.00	0.91
Flpb, ped/bikes	1.00	1.00			1.00			0.99			0.99	1.00
Frt	1.00	0.99			0.98			1.00			1.00	0.85
Flt Protected	0.95	1.00			1.00			1.00			0.99	1.00
Satd. Flow (prot)	3467	1591			1712			3340			1573	1388
Flt Permitted	0.95	1.00			0.99			0.92			0.89	1.00
Satd. Flow (perm)	3467	1591			1694			3084			1415	1388
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	447	298	31	7	138	23	30	263	7	35	128	63
RTOR Reduction (vph)	0	4	0	0	6	0	0	2	0	0	0	47
Lane Group Flow (vph)	447	325	0	0	162	0	0	298	0	0	163	16
Confl. Peds. (#/hr)			73	73		36	31		30	30		31
Confl. Bikes (#/hr)			13			5			1			1
Heavy Vehicles (%)	1%	2%	0%	0%	5%	0%	0%	1%	0%	0%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		4						1			9	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases				6			4			8		8
Actuated Green, G (s)	15.1	54.2			34.1			19.8			19.8	19.8
Effective Green, g (s)	15.1	54.2			34.1			19.8			19.8	19.8
Actuated g/C Ratio	0.19	0.68			0.43			0.25			0.25	0.25
Clearance Time (s)	5.0	3.0			3.0			3.0			3.0	3.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	654	1077			722			763			350	343
v/s Ratio Prot	c0.13	c0.20										
v/s Ratio Perm					0.10			0.10			c0.12	0.01
v/c Ratio	0.68	0.30			0.22			0.39			0.47	0.05
Uniform Delay, d1	30.2	5.2			14.6			25.1			25.6	22.9
Progression Factor	1.55	0.22			1.00			1.00			1.00	1.00
Incremental Delay, d2	2.7	0.7			0.7			0.3			1.0	0.1
Delay (s)	49.4	1.8			15.3			25.4			26.6	23.0
Level of Service	D	A			B			C			C	C
Approach Delay (s)		29.2			15.3			25.4			25.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: Park Boulevard & Newton Avenue

Existing Conditions
PM Peak Hour



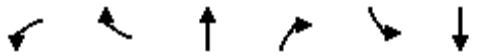
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	59	65	660	346	40
Future Volume (vph)	50	59	65	660	346	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			4.0	4.0	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	0.97			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.93			1.00	0.98	
Flt Protected	0.98			1.00	1.00	
Satd. Flow (prot)	1422			3343	3423	
Flt Permitted	0.98			0.89	1.00	
Satd. Flow (perm)	1422			2981	3423	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	59	65	660	346	40
RTOR Reduction (vph)	43	0	0	0	15	0
Lane Group Flow (vph)	66	0	0	725	371	0
Confl. Peds. (#/hr)		37	39			39
Confl. Bikes (#/hr)						8
Heavy Vehicles (%)	0%	0%	1%	0%	3%	0%
Parking (#/hr)	10			6		
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	16.0			37.0	37.0	
Effective Green, g (s)	16.0			37.0	37.0	
Actuated g/C Ratio	0.27			0.62	0.62	
Clearance Time (s)	3.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	379			1838	2110	
v/s Ratio Prot	c0.05				0.11	
v/s Ratio Perm				c0.24		
v/c Ratio	0.17			0.39	0.18	
Uniform Delay, d1	16.9			5.8	4.9	
Progression Factor	1.00			1.00	0.53	
Incremental Delay, d2	0.2			0.6	0.2	
Delay (s)	17.1			6.5	2.8	
Level of Service	B			A	A	
Approach Delay (s)	17.1			6.5	2.8	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: Park Boulevard & 21st Street

Existing Conditions
PM Peak Hour



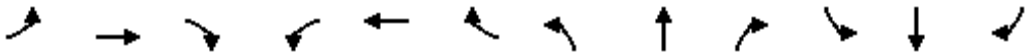
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	43	13	645	62	12	354
Future Volume (vph)	43	13	645	62	12	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0			4.0
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.97		0.99			1.00
Flt Protected	0.96		1.00			1.00
Satd. Flow (prot)	1549		3282			3313
Flt Permitted	0.96		1.00			0.93
Satd. Flow (perm)	1549		3282			3100
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	13	645	62	12	354
RTOR Reduction (vph)	10	0	12	0	0	0
Lane Group Flow (vph)	46	0	695	0	0	366
Confl. Peds. (#/hr)		15		21	21	
Confl. Bikes (#/hr)				13		
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%
Parking (#/hr)	4		5			5
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	16.0		37.0			37.0
Effective Green, g (s)	16.0		37.0			37.0
Actuated g/C Ratio	0.27		0.62			0.62
Clearance Time (s)	3.0		4.0			4.0
Vehicle Extension (s)	2.0		2.0			2.0
Lane Grp Cap (vph)	413		2023			1911
v/s Ratio Prot	c0.03		c0.21			
v/s Ratio Perm						0.12
v/c Ratio	0.11		0.34			0.19
Uniform Delay, d1	16.6		5.6			5.0
Progression Factor	1.00		0.42			1.00
Incremental Delay, d2	0.0		0.4			0.2
Delay (s)	16.7		2.8			5.2
Level of Service	B		A			A
Approach Delay (s)	16.7		2.8			5.2
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: 7th Avenue/Spruce Street & Park Boulevard

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	795	23	45	451	4	19	12	40	7	30	13
Future Volume (vph)	19	795	23	45	451	4	19	12	40	7	30	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3348			3282			1524			1547	
Flt Permitted		0.94			0.86			0.92			0.96	
Satd. Flow (perm)		3161			2842			1413			1493	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	795	23	45	451	4	19	12	40	7	30	13
RTOR Reduction (vph)	0	2	0	0	1	0	0	34	0	0	11	0
Lane Group Flow (vph)	0	835	0	0	499	0	0	37	0	0	39	0
Confl. Peds. (#/hr)	10		22	22		10	13		9	9		13
Confl. Bikes (#/hr)			7			4						
Heavy Vehicles (%)	0%	1%	0%	4%	2%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		3			6			2			9	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.0			30.0			6.0			6.0	
Effective Green, g (s)		30.0			30.0			6.0			6.0	
Actuated g/C Ratio		0.70			0.70			0.14			0.14	
Clearance Time (s)		4.0			4.0			3.0			3.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		2205			1982			197			208	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.18			0.03			c0.03	
v/c Ratio		0.38			0.25			0.19			0.19	
Uniform Delay, d1		2.7			2.4			16.3			16.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.3			0.2			0.2	
Delay (s)		3.2			2.7			16.5			16.5	
Level of Service		A			A			B			B	
Approach Delay (s)		3.2			2.7			16.5			16.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	43.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: 33rd Street & Park Boulevard

Existing Conditions
PM Peak Hour

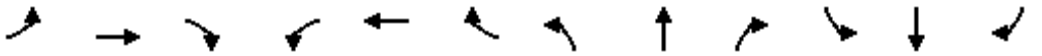
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	915	2	4	648	3	3
Future Volume (vph)	915	2	4	648	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.93	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	3367			3545	1716	
Flt Permitted	1.00			0.95	0.98	
Satd. Flow (perm)	3367			3374	1716	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	915	2	4	648	3	3
RTOR Reduction (vph)	0	0	0	0	2	0
Lane Group Flow (vph)	917	0	0	652	4	0
Confl. Peds. (#/hr)		14	14		1	2
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	4	0	0
Parking (#/hr)	3					
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	45.0			45.0	17.0	
Effective Green, g (s)	45.0			45.0	17.0	
Actuated g/C Ratio	0.64			0.64	0.24	
Clearance Time (s)	4.0			4.0	4.0	
Lane Grp Cap (vph)	2164			2169	416	
v/s Ratio Prot	c0.27				c0.00	
v/s Ratio Perm				0.19		
v/c Ratio	0.42			0.30	0.01	
Uniform Delay, d1	6.1			5.5	20.1	
Progression Factor	1.00			1.01	1.00	
Incremental Delay, d2	0.6			0.3	0.0	
Delay (s)	6.7			5.9	20.1	
Level of Service	A			A	C	
Approach Delay (s)	6.7			5.9	20.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Park Boulevard & MacArthur Boulevard

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	443	795	346	0	0	0	27	578	335	56	323	99
Future Volume (vph)	443	795	346	0	0	0	27	578	335	56	323	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						5.0		5.0	5.0	
Lane Util. Factor	0.91	0.91						0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99						0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.96						0.95		1.00	0.96	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3035						3154		1802	3312	
Flt Permitted	0.95	1.00						0.94		0.23	1.00	
Satd. Flow (perm)	1610	3035						2953		441	3312	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	443	795	346	0	0	0	27	578	335	56	323	99
RTOR Reduction (vph)	0	58	0	0	0	0	0	26	0	0	42	0
Lane Group Flow (vph)	399	1127	0	0	0	0	0	914	0	56	381	0
Confl. Peds. (#/hr)			24						13	13		
Confl. Bikes (#/hr)			8						1			1
Heavy Vehicles (%)	2%	2%	0%	0%	0%	0%	0%	1%	1%	0%	3%	10%
Parking (#/hr)		3						4				
Turn Type	Perm	NA					Perm	NA		Perm	NA	
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)	26.0	26.0						35.0		35.0	35.0	
Effective Green, g (s)	26.0	26.0						35.0		35.0	35.0	
Actuated g/C Ratio	0.37	0.37						0.50		0.50	0.50	
Clearance Time (s)	4.0	4.0						5.0		5.0	5.0	
Lane Grp Cap (vph)	598	1127						1476		220	1656	
v/s Ratio Prot											0.11	
v/s Ratio Perm	0.25	0.37						c0.31		0.13		
v/c Ratio	0.67	1.00						0.62		0.25	0.23	
Uniform Delay, d1	18.4	22.0						12.7		10.0	9.9	
Progression Factor	1.00	1.00						0.82		1.00	1.00	
Incremental Delay, d2	5.8	26.7						1.8		2.8	0.3	
Delay (s)	24.2	48.7						12.2		12.8	10.2	
Level of Service	C	D						B		B	B	
Approach Delay (s)		42.5			0.0			12.2			10.5	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: Lakeshore Avenue & 18th Street

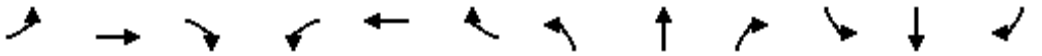
Existing plus Project Conditions
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	403	0	440	155	84	578
Future Volume (vph)	403	0	440	155	84	578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	10	11	11	11	11
Total Lost time (s)	4.5		4.5		3.0	4.5
Lane Util. Factor	0.97		0.95		1.00	0.95
Frpb, ped/bikes	1.00		0.98		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	1.00		0.96		1.00	1.00
Flt Protected	0.95		1.00		0.95	1.00
Satd. Flow (prot)	3114		3141		1678	3455
Flt Permitted	0.95		1.00		0.95	1.00
Satd. Flow (perm)	3114		3141		1678	3455
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	403	0	440	155	84	578
RTOR Reduction (vph)	0	0	20	0	0	0
Lane Group Flow (vph)	403	0	575	0	84	578
Confl. Peds. (#/hr)	57	121		19	19	
Confl. Bikes (#/hr)				10		
Heavy Vehicles (%)	3%	1%	4%	7%	4%	1%
Parking (#/hr)	1	1				
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	27.0		62.2		8.8	74.0
Effective Green, g (s)	27.0		62.2		8.8	74.0
Actuated g/C Ratio	0.25		0.57		0.08	0.67
Clearance Time (s)	4.5		4.5		3.0	4.5
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	764		1776		134	2324
v/s Ratio Prot	c0.13		c0.18		c0.05	0.17
v/s Ratio Perm						
v/c Ratio	0.53		0.32		0.63	0.25
Uniform Delay, d1	36.0		12.7		49.0	7.1
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.3		0.5		6.4	0.3
Delay (s)	36.3		13.2		55.4	7.3
Level of Service	D		B		E	A
Approach Delay (s)	36.3		13.2			13.4
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 3rd Avenue & 18th Street

Existing plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	205	18	29	200	0	31	0	39	5	68	249
Future Volume (vph)	0	205	18	29	200	0	31	0	39	5	68	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	12	11	11	11	11	11	11	11
Grade (%)		0%			13%			0%			0%	
Total Lost time (s)		3.0		3.0	3.0			3.0			3.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.97			0.95	
Flpb, ped/bikes		1.00		0.92	1.00			0.99			1.00	
Frt		0.99		1.00	1.00			0.92			0.90	
Flt Protected		1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)		1496		1463	1478			1378			1350	
Flt Permitted		1.00		0.61	1.00			0.72			1.00	
Satd. Flow (perm)		1496		944	1478			1015			1347	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	205	18	29	200	0	31	0	39	5	68	249
RTOR Reduction (vph)	0	2	0	0	0	0	0	30	0	0	190	0
Lane Group Flow (vph)	0	221	0	29	200	0	0	40	0	0	132	0
Confl. Peds. (#/hr)	45		45	45		45	30		18	18		30
Confl. Bikes (#/hr)			2			10			1			28
Heavy Vehicles (%)	6%	5%	0%	3%	4%	0%	3%	0%	0%	0%	0%	1%
Parking (#/hr)		6			7			6			6	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		55.2		55.2	55.2			18.8			18.8	
Effective Green, g (s)		55.2		55.2	55.2			18.8			18.8	
Actuated g/C Ratio		0.69		0.69	0.69			0.24			0.24	
Clearance Time (s)		3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)		2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)		1032		651	1019			238			316	
v/s Ratio Prot		c0.15			0.14							
v/s Ratio Perm				0.03				0.04			c0.10	
v/c Ratio		0.21		0.04	0.20			0.17			0.42	
Uniform Delay, d1		4.5		4.0	4.4			24.4			25.9	
Progression Factor		1.00		1.93	1.95			1.00			1.00	
Incremental Delay, d2		0.5		0.1	0.4			0.1			0.3	
Delay (s)		5.0		7.8	9.1			24.5			26.3	
Level of Service		A		A	A			C			C	
Approach Delay (s)		5.0			8.9			24.5			26.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Park Boulevard & 18th Street

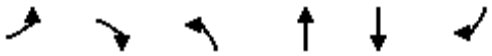
Existing plus Project Conditions
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	98	16	5	148	21	14	96	11	29	219	79
Future Volume (vph)	153	98	16	5	148	21	14	96	11	29	219	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	3.0			3.0			3.0			3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.99			0.99			0.99	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.98			0.98			0.99			0.97	
Flt Protected	0.95	1.00			1.00			0.99			1.00	
Satd. Flow (prot)	1678	1488			1673			1565			1458	
Flt Permitted	0.95	1.00			1.00			0.96			0.97	
Satd. Flow (perm)	1678	1488			1668			1515			1422	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	153	98	16	5	148	21	14	96	11	29	219	79
RTOR Reduction (vph)	0	6	0	0	5	0	0	5	0	0	15	0
Lane Group Flow (vph)	153	108	0	0	169	0	0	116	0	0	312	0
Confl. Peds. (#/hr)			55	55		33	14		25	25		14
Confl. Bikes (#/hr)						4			3			2
Heavy Vehicles (%)	4%	4%	6%	0%	3%	5%	0%	1%	18%	0%	1%	6%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		4						1			9	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases				6			4			8		
Actuated Green, G (s)	12.2	52.4			35.2			21.6			21.6	
Effective Green, g (s)	12.2	52.4			35.2			21.6			21.6	
Actuated g/C Ratio	0.15	0.65			0.44			0.27			0.27	
Clearance Time (s)	5.0	3.0			3.0			3.0			3.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	255	974			733			409			383	
v/s Ratio Prot	c0.09	0.07										
v/s Ratio Perm					c0.10			0.08			c0.22	
v/c Ratio	0.60	0.11			0.23			0.28			0.81	
Uniform Delay, d1	31.6	5.1			14.0			23.1			27.3	
Progression Factor	0.85	0.79			1.00			1.00			1.00	
Incremental Delay, d2	3.7	0.2			0.7			0.4			12.4	
Delay (s)	30.7	4.3			14.7			23.5			39.8	
Level of Service	C	A			B			C			D	
Approach Delay (s)		19.4			14.7			23.5			39.8	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: Park Boulevard & Newton Avenue

Existing plus Project Conditions
AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	51	59	33	248	558	59
Future Volume (vph)	51	59	33	248	558	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11
Total Lost time (s)	3.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	0.97			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.93			1.00	0.99	
Flt Protected	0.98			0.99	1.00	
Satd. Flow (prot)	1345			1584	1764	
Flt Permitted	0.98			0.91	1.00	
Satd. Flow (perm)	1345			1455	1764	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	51	59	33	248	558	59
RTOR Reduction (vph)	43	0	0	0	7	0
Lane Group Flow (vph)	67	0	0	281	610	0
Confl. Peds. (#/hr)		20	31			31
Confl. Bikes (#/hr)						28
Heavy Vehicles (%)	2%	2%	0%	4%	2%	0%
Parking (#/hr)	10			6		
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	16.0			37.0	37.0	
Effective Green, g (s)	16.0			37.0	37.0	
Actuated g/C Ratio	0.27			0.62	0.62	
Clearance Time (s)	3.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	358			897	1087	
v/s Ratio Prot	c0.05				c0.35	
v/s Ratio Perm				0.19		
v/c Ratio	0.19			0.31	0.56	
Uniform Delay, d1	17.0			5.5	6.7	
Progression Factor	1.00			1.00	0.43	
Incremental Delay, d2	0.3			0.9	1.8	
Delay (s)	17.2			6.4	4.7	
Level of Service	B			A	A	
Approach Delay (s)	17.2			6.4	4.7	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: Park Boulevard & 21st Street

Existing plus Project Conditions
AM Peak Hour

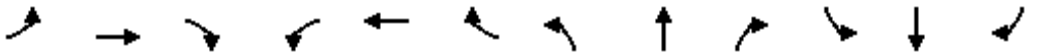
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	79	34	260	33	12	544
Future Volume (vph)	79	34	260	33	12	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	11
Total Lost time (s)	3.0		4.0			4.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.99		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.96		0.98			1.00
Flt Protected	0.97		1.00			1.00
Satd. Flow (prot)	1479		1506			1589
Flt Permitted	0.97		1.00			0.99
Satd. Flow (perm)	1479		1506			1579
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	34	260	33	12	544
RTOR Reduction (vph)	25	0	8	0	0	0
Lane Group Flow (vph)	88	0	285	0	0	556
Confl. Peds. (#/hr)		12		24	24	
Heavy Vehicles (%)	0%	0%	4%	6%	0%	1%
Parking (#/hr)	4		5			5
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	16.0		37.0			37.0
Effective Green, g (s)	16.0		37.0			37.0
Actuated g/C Ratio	0.27		0.62			0.62
Clearance Time (s)	3.0		4.0			4.0
Vehicle Extension (s)	2.0		2.0			2.0
Lane Grp Cap (vph)	394		928			973
v/s Ratio Prot	c0.06		0.19			
v/s Ratio Perm						c0.35
v/c Ratio	0.22		0.31			0.57
Uniform Delay, d1	17.2		5.4			6.8
Progression Factor	1.00		0.53			1.00
Incremental Delay, d2	0.1		0.8			2.4
Delay (s)	17.3		3.7			9.2
Level of Service	B		A			A
Approach Delay (s)	17.3		3.7			9.2
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: 7th Avenue/Spruce Street & Park Boulevard

Existing plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	513	12	19	586	6	35	44	73	19	22	26
Future Volume (vph)	17	513	12	19	586	6	35	44	73	19	22	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.0	4.0			4.0			3.0			3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.98			0.98	
Flpb, ped/bikes	0.99	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.94			0.95	
Flt Protected	0.95	1.00			1.00			0.99			0.99	
Satd. Flow (prot)	1672	1587			1562			1474			1417	
Flt Permitted	0.46	1.00			0.98			0.92			0.93	
Satd. Flow (perm)	802	1587			1537			1377			1333	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	17	513	12	19	586	6	35	44	73	19	22	26
RTOR Reduction (vph)	0	1	0	0	0	0	0	59	0	0	21	0
Lane Group Flow (vph)	17	524	0	0	611	0	0	93	0	0	46	0
Confl. Peds. (#/hr)	17		15	15		17	22		13	13		22
Confl. Bikes (#/hr)			2			7						
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	1%	0%	5%	0%
Parking (#/hr)		3			6			2			9	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	26.6	26.6			26.6			7.7			7.7	
Effective Green, g (s)	26.6	26.6			26.6			7.7			7.7	
Actuated g/C Ratio	0.64	0.64			0.64			0.19			0.19	
Clearance Time (s)	4.0	4.0			4.0			3.0			3.0	
Vehicle Extension (s)	2.0	2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)	516	1022			989			256			248	
v/s Ratio Prot		0.33										
v/s Ratio Perm	0.02				c0.40			c0.07			0.03	
v/c Ratio	0.03	0.51			0.62			0.36			0.18	
Uniform Delay, d1	2.7	3.9			4.3			14.7			14.2	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	1.8			2.9			0.3			0.1	
Delay (s)	2.8	5.7			7.2			15.0			14.3	
Level of Service	A	A			A			B			B	
Approach Delay (s)		5.7			7.2			15.0			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	41.3	Sum of lost time (s)	7.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: 33rd Street & Park Boulevard

Existing plus Project Conditions
AM Peak Hour

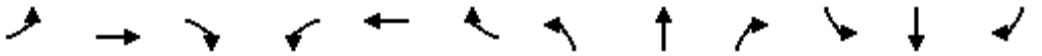
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	766	1	0	713	20	12
Future Volume (vph)	766	1	0	713	20	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	11	11	11	11	11
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	1758			1772	1679	
Flt Permitted	1.00			1.00	0.97	
Satd. Flow (perm)	1758			1772	1679	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	766	1	0	713	20	12
RTOR Reduction (vph)	0	0	0	0	8	0
Lane Group Flow (vph)	767	0	0	713	24	0
Confl. Peds. (#/hr)		24	24		2	10
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	4	0	0
Parking (#/hr)	3					
Turn Type	NA			NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	22.0			22.0	15.0	
Effective Green, g (s)	22.0			22.0	15.0	
Actuated g/C Ratio	0.49			0.49	0.33	
Clearance Time (s)	4.0			4.0	4.0	
Lane Grp Cap (vph)	859			866	559	
v/s Ratio Prot	c0.44			0.40	c0.01	
v/s Ratio Perm						
v/c Ratio	0.89			0.82	0.04	
Uniform Delay, d1	10.4			9.8	10.1	
Progression Factor	1.00			1.20	1.00	
Incremental Delay, d2	13.6			6.8	0.1	
Delay (s)	24.1			18.6	10.3	
Level of Service	C			B	B	
Approach Delay (s)	24.1			18.6	10.3	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Park Boulevard & MacArthur Boulevard

Existing plus Project Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	429	708	321	0	0	0	104	498	202	63	375	427
Future Volume (vph)	429	708	321	0	0	0	104	498	202	63	375	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	10	10	12	11	10
Total Lost time (s)	4.0	4.0						5.0		5.0	5.0	4.0
Lane Util. Factor	0.91	0.91						0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.93						0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00						1.00		0.99	1.00	1.00
Frt	1.00	0.96						0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00						0.99		0.95	1.00	1.00
Satd. Flow (prot)	1557	2734						2944		1783	1783	1463
Flt Permitted	0.95	1.00						0.80		0.28	1.00	1.00
Satd. Flow (perm)	1557	2734						2361		525	1783	1463
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	429	708	321	0	0	0	104	498	202	63	375	427
RTOR Reduction (vph)	0	48	0	0	0	0	0	15	0	0	0	427
Lane Group Flow (vph)	386	1024	0	0	0	0	0	789	0	63	375	0
Confl. Peds. (#/hr)			177						70	70		
Confl. Bikes (#/hr)			2									2
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	2%	1%	0%	3%	3%
Parking (#/hr)		3						4				
Turn Type	Perm	NA					Perm	NA		Perm	NA	NA
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)	36.0	36.0						45.0		45.0	45.0	0.0
Effective Green, g (s)	36.0	36.0						45.0		45.0	45.0	0.0
Actuated g/C Ratio	0.40	0.40						0.50		0.50	0.50	0.00
Clearance Time (s)	4.0	4.0						5.0		5.0	5.0	
Lane Grp Cap (vph)	622	1093						1180		262	891	0
v/s Ratio Prot											0.21	
v/s Ratio Perm	0.25	0.37						c0.33		0.12		
v/c Ratio	0.62	0.94						0.67		0.24	0.42	0.00
Uniform Delay, d1	21.5	25.9						16.9		12.8	14.2	45.0
Progression Factor	1.00	1.00						0.64		1.00	1.00	1.00
Incremental Delay, d2	4.6	15.7						1.5		2.2	1.5	0.0
Delay (s)	26.2	41.6						12.4		14.9	15.7	45.0
Level of Service	C	D						B		B	B	D
Approach Delay (s)		37.5			0.0			12.4			30.1	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: Lakeshore Avenue & 18th Street

Existing plus Project Conditions
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	214	0	654	414	189	434
Future Volume (vph)	214	0	654	414	189	434
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	10	11	11	11	11
Total Lost time (s)	4.5		4.5		3.0	4.5
Lane Util. Factor	0.97		0.95		1.00	0.95
Frpb, ped/bikes	1.00		0.96		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	1.00		0.94		1.00	1.00
Flt Protected	0.95		1.00		0.95	1.00
Satd. Flow (prot)	3084		3102		1745	3388
Flt Permitted	0.95		1.00		0.95	1.00
Satd. Flow (perm)	3084		3102		1745	3388
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	214	0	654	414	189	434
RTOR Reduction (vph)	0	0	77	0	0	0
Lane Group Flow (vph)	214	0	991	0	189	434
Confl. Peds. (#/hr)	47	120		26	26	
Confl. Bikes (#/hr)				44		
Heavy Vehicles (%)	4%	1%	1%	2%	0%	3%
Parking (#/hr)	1	1				
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	27.0		54.8		16.2	74.0
Effective Green, g (s)	27.0		54.8		16.2	74.0
Actuated g/C Ratio	0.25		0.50		0.15	0.67
Clearance Time (s)	4.5		4.5		3.0	4.5
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	756		1545		256	2279
v/s Ratio Prot	c0.07		c0.32		c0.11	0.13
v/s Ratio Perm						
v/c Ratio	0.28		0.64		0.74	0.19
Uniform Delay, d1	33.7		20.4		44.9	6.8
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.1		2.1		9.2	0.2
Delay (s)	33.7		22.4		54.1	6.9
Level of Service	C		C		D	A
Approach Delay (s)	33.7		22.4			21.2
Approach LOS	C		C			C

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 3rd Avenue & 18th Street

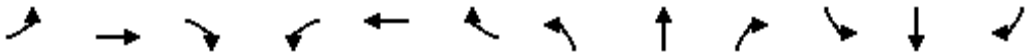
Existing plus Project Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	587	43	62	168	0	36	0	114	21	78	96
Future Volume (vph)	0	587	43	62	168	0	36	0	114	21	78	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	13	11	11	11	11	11	11	11
Total Lost time (s)		3.0		3.0	3.0			3.0			3.5	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.94			0.96	
Flpb, ped/bikes		1.00		0.96	1.00			0.99			1.00	
Frt		0.99		1.00	1.00			0.90			0.93	
Flt Protected		1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		1537		1650	1602			1321			1412	
Flt Permitted		1.00		0.32	1.00			0.91			0.96	
Satd. Flow (perm)		1537		565	1602			1212			1369	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	587	43	62	168	0	36	0	114	21	78	96
RTOR Reduction (vph)	0	3	0	0	0	0	0	82	0	0	48	0
Lane Group Flow (vph)	0	627	0	62	168	0	0	68	0	0	147	0
Confl. Peds. (#/hr)	72		56	56		72	74		31	31		74
Confl. Bikes (#/hr)			20			5			2			5
Heavy Vehicles (%)	0%	2%	0%	2%	6%	0%	0%	0%	0%	0%	1%	0%
Parking (#/hr)		6			7			6			6	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		51.7		51.7	51.7			22.3			21.8	
Effective Green, g (s)		51.7		51.7	51.7			22.3			21.8	
Actuated g/C Ratio		0.65		0.65	0.65			0.28			0.27	
Clearance Time (s)		3.0		3.0	3.0			3.0			3.5	
Vehicle Extension (s)		2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)		993		365	1035			337			373	
v/s Ratio Prot		c0.41			0.10							
v/s Ratio Perm				0.11				0.06			c0.11	
v/c Ratio		0.63		0.17	0.16			0.20			0.39	
Uniform Delay, d1		8.5		5.6	5.6			22.0			23.7	
Progression Factor		1.00		1.01	1.00			1.00			1.00	
Incremental Delay, d2		3.1		0.9	0.3			0.1			0.3	
Delay (s)		11.5		6.6	5.9			22.2			24.0	
Level of Service		B		A	A			C			C	
Approach Delay (s)		11.5			6.1			22.2			24.0	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Park Boulevard & 18th Street

Existing plus Project Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	447	298	31	7	138	23	30	263	7	35	128	63
Future Volume (vph)	447	298	31	7	138	23	30	263	7	35	128	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	5.0	3.0			3.0			3.0			3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.99			1.00			0.98	
Flpb, ped/bikes	1.00	1.00			1.00			1.00			1.00	
Frt	1.00	0.99			0.98			1.00			0.96	
Flt Protected	0.95	1.00			1.00			1.00			0.99	
Satd. Flow (prot)	1728	1538			1647			1608			1417	
Flt Permitted	0.95	1.00			0.99			0.96			0.90	
Satd. Flow (perm)	1728	1538			1628			1556			1289	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	447	298	31	7	138	23	30	263	7	35	128	63
RTOR Reduction (vph)	0	4	0	0	7	0	0	1	0	0	19	0
Lane Group Flow (vph)	447	325	0	0	161	0	0	299	0	0	207	0
Confl. Peds. (#/hr)			73	73		36	31		30	30		31
Confl. Bikes (#/hr)			13			5			1			1
Heavy Vehicles (%)	1%	2%	0%	0%	5%	0%	0%	1%	0%	0%	2%	6%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		4						1			9	
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases				6			4			8		
Actuated Green, G (s)	23.4	53.4			25.0			20.6			20.6	
Effective Green, g (s)	23.4	53.4			25.0			20.6			20.6	
Actuated g/C Ratio	0.29	0.67			0.31			0.26			0.26	
Clearance Time (s)	5.0	3.0			3.0			3.0			3.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	505	1026			508			400			331	
v/s Ratio Prot	c0.26	c0.21										
v/s Ratio Perm					0.10			c0.19			0.16	
v/c Ratio	0.89	0.32			0.32			0.75			0.62	
Uniform Delay, d1	27.0	5.6			21.0			27.3			26.3	
Progression Factor	1.09	0.75			1.00			1.00			1.00	
Incremental Delay, d2	14.8	0.7			1.6			7.4			3.6	
Delay (s)	44.2	4.9			22.6			34.7			29.9	
Level of Service	D	A			C			C			C	
Approach Delay (s)		27.5			22.6			34.7			29.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: Park Boulevard & Newton Avenue

Existing plus Project Conditions
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	59	65	660	346	40
Future Volume (vph)	50	59	65	660	346	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11
Total Lost time (s)	3.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	0.95			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.93			1.00	0.99	
Flt Protected	0.98			1.00	1.00	
Satd. Flow (prot)	1347			1638	1744	
Flt Permitted	0.98			0.94	1.00	
Satd. Flow (perm)	1347			1545	1744	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	59	65	660	346	40
RTOR Reduction (vph)	43	0	0	0	7	0
Lane Group Flow (vph)	66	0	0	725	379	0
Confl. Peds. (#/hr)		37	39			39
Confl. Bikes (#/hr)						8
Heavy Vehicles (%)	0%	0%	1%	0%	3%	0%
Parking (#/hr)	10			6		
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	16.0			37.0	37.0	
Effective Green, g (s)	16.0			37.0	37.0	
Actuated g/C Ratio	0.27			0.62	0.62	
Clearance Time (s)	3.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	359			952	1075	
v/s Ratio Prot	c0.05				0.22	
v/s Ratio Perm				c0.47		
v/c Ratio	0.18			0.76	0.35	
Uniform Delay, d1	17.0			8.3	5.6	
Progression Factor	1.00			1.00	0.49	
Incremental Delay, d2	0.2			5.7	0.9	
Delay (s)	17.2			14.0	3.6	
Level of Service	B			B	A	
Approach Delay (s)	17.2			14.0	3.6	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: Park Boulevard & 21st Street

Existing plus Project Conditions
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	43	13	645	62	12	354
Future Volume (vph)	43	13	645	62	12	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	10	11
Total Lost time (s)	3.0		4.0			4.0
Lane Util. Factor	1.00		1.00			1.00
Frpb, ped/bikes	0.99		0.99			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.97		0.99			1.00
Flt Protected	0.96		1.00			1.00
Satd. Flow (prot)	1491		1561			1573
Flt Permitted	0.96		1.00			0.98
Satd. Flow (perm)	1491		1561			1543
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	13	645	62	12	354
RTOR Reduction (vph)	10	0	6	0	0	0
Lane Group Flow (vph)	46	0	701	0	0	366
Confl. Peds. (#/hr)		15		21	21	
Confl. Bikes (#/hr)				13		
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%
Parking (#/hr)	4		5			5
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	16.0		37.0			37.0
Effective Green, g (s)	16.0		37.0			37.0
Actuated g/C Ratio	0.27		0.62			0.62
Clearance Time (s)	3.0		4.0			4.0
Vehicle Extension (s)	2.0		2.0			2.0
Lane Grp Cap (vph)	397		962			951
v/s Ratio Prot	c0.03		c0.45			
v/s Ratio Perm						0.24
v/c Ratio	0.12		0.73			0.38
Uniform Delay, d1	16.7		8.0			5.8
Progression Factor	1.00		0.37			1.00
Incremental Delay, d2	0.0		3.3			1.2
Delay (s)	16.7		6.2			7.0
Level of Service	B		A			A
Approach Delay (s)	16.7		6.2			7.0
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: 7th Avenue/Spruce Street & Park Boulevard

Existing plus Project Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	795	23	45	451	4	19	12	40	7	30	13
Future Volume (vph)	19	795	23	45	451	4	19	12	40	7	30	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)	4.0	4.0			4.0			3.0			3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00			1.00			0.98			0.99	
Flpb, ped/bikes	0.99	1.00			1.00			1.00			1.00	
Frt	1.00	1.00			1.00			0.92			0.96	
Flt Protected	0.95	1.00			1.00			0.99			0.99	
Satd. Flow (prot)	1675	1601			1554			1461			1490	
Flt Permitted	0.52	1.00			0.91			0.92			0.96	
Satd. Flow (perm)	922	1601			1416			1356			1438	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	795	23	45	451	4	19	12	40	7	30	13
RTOR Reduction (vph)	0	1	0	0	0	0	0	34	0	0	11	0
Lane Group Flow (vph)	19	817	0	0	500	0	0	37	0	0	39	0
Confl. Peds. (#/hr)	10		22	22		10	13		9	9		13
Confl. Bikes (#/hr)			7			4						
Heavy Vehicles (%)	0%	1%	0%	4%	2%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)		3			6			2			9	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	30.0	30.0			30.0			6.1			6.1	
Effective Green, g (s)	30.0	30.0			30.0			6.1			6.1	
Actuated g/C Ratio	0.70	0.70			0.70			0.14			0.14	
Clearance Time (s)	4.0	4.0			4.0			3.0			3.0	
Vehicle Extension (s)	2.0	2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)	641	1114			985			191			203	
v/s Ratio Prot		c0.51										
v/s Ratio Perm	0.02				0.35			c0.03			0.03	
v/c Ratio	0.03	0.73			0.51			0.19			0.19	
Uniform Delay, d1	2.0	4.1			3.1			16.3			16.3	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	4.3			1.9			0.2			0.2	
Delay (s)	2.1	8.4			4.9			16.5			16.5	
Level of Service	A	A			A			B			B	
Approach Delay (s)		8.2			4.9			16.5			16.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	7.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: 33rd Street & Park Boulevard

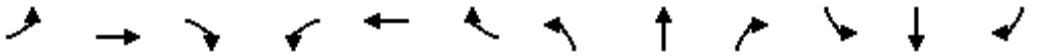
Existing plus Project Conditions
PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	915	2	4	648	3	3
Future Volume (vph)	915	2	4	648	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	14	11	10	11	11	11
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.93	
Flt Protected	1.00			1.00	0.98	
Satd. Flow (prot)	1775			1789	1659	
Flt Permitted	1.00			1.00	0.98	
Satd. Flow (perm)	1775			1783	1659	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	915	2	4	648	3	3
RTOR Reduction (vph)	0	0	0	0	2	0
Lane Group Flow (vph)	917	0	0	652	4	0
Confl. Peds. (#/hr)		14	14		1	2
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	4	0	0
Parking (#/hr)	3					
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	45.0			45.0	17.0	
Effective Green, g (s)	45.0			45.0	17.0	
Actuated g/C Ratio	0.64			0.64	0.24	
Clearance Time (s)	4.0			4.0	4.0	
Lane Grp Cap (vph)	1141			1146	402	
v/s Ratio Prot	c0.52				c0.00	
v/s Ratio Perm				0.37		
v/c Ratio	0.80			0.57	0.01	
Uniform Delay, d1	9.2			7.0	20.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	6.0			1.4	0.0	
Delay (s)	15.3			8.5	20.2	
Level of Service	B			A	C	
Approach Delay (s)	15.3			8.5	20.2	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: Park Boulevard & MacArthur Boulevard

Existing plus Project Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	443	795	346	0	0	0	27	578	335	56	323	99
Future Volume (vph)	443	795	346	0	0	0	27	578	335	56	323	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	10	10	12	11	10
Total Lost time (s)	4.0	4.0						5.0		5.0	5.0	4.0
Lane Util. Factor	0.91	0.91						0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98						0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	1.00
Frt	1.00	0.96						0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00						1.00		0.95	1.00	1.00
Satd. Flow (prot)	1557	2914						2944		1802	1783	1370
Flt Permitted	0.95	1.00						0.94		0.23	1.00	1.00
Satd. Flow (perm)	1557	2914						2769		441	1783	1370
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	443	795	346	0	0	0	27	578	335	56	323	99
RTOR Reduction (vph)	0	58	0	0	0	0	0	26	0	0	0	99
Lane Group Flow (vph)	399	1127	0	0	0	0	0	914	0	56	323	0
Confl. Peds. (#/hr)			24						13	13		
Confl. Bikes (#/hr)			8						1			1
Heavy Vehicles (%)	2%	2%	0%	0%	0%	0%	0%	1%	1%	0%	3%	10%
Parking (#/hr)		3						4				
Turn Type	Perm	NA					Perm	NA		Perm	NA	NA
Protected Phases		4						2			2	
Permitted Phases	4						2			2		
Actuated Green, G (s)	26.0	26.0						35.0		35.0	35.0	0.0
Effective Green, g (s)	26.0	26.0						35.0		35.0	35.0	0.0
Actuated g/C Ratio	0.37	0.37						0.50		0.50	0.50	0.00
Clearance Time (s)	4.0	4.0						5.0		5.0	5.0	
Lane Grp Cap (vph)	578	1082						1384		220	891	0
v/s Ratio Prot											0.18	
v/s Ratio Perm	0.26	0.39						c0.33		0.13		
v/c Ratio	0.69	1.04						0.66		0.25	0.36	0.00
Uniform Delay, d1	18.6	22.0						13.1		10.0	10.7	35.0
Progression Factor	1.00	1.00						1.16		1.00	1.00	1.00
Incremental Delay, d2	6.6	38.7						1.5		2.8	1.1	0.0
Delay (s)	25.2	60.7						16.7		12.8	11.8	35.0
Level of Service	C	E						B		B	B	C
Approach Delay (s)		51.7			0.0			16.7			16.7	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Vehicle Travel Time Comparison for Existing and Existing + Project Conditions
(a.m. peak hour)

Arterial Level of Service
1/24/2018

Existing AM

Existing + Project AM

Arterial Level of Service: EB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)	Change in Arterial Speed	
Lakeshore Avenue	IV	25	14.9	13.2	28.1	0.06	7.7	14.9	13.2	28.1	0.06	7.7	0		
3rd Avenue	IV	25	25.8	16.6	42.4	0.14	11.9	25.8	7.3	33.1	0.14	15.2	-9.3	3.3	3
Park Boulevard	IV	25	17.5	44.5	62	0.07	4.1	17.5	36.2	53.7	0.07	4.7	-8.3	0.6	1
Newton Avenue	IV	25	30.6	5.2	35.8	0.17	17.1	30.6	6.6	37.2	0.17	16.5	1.4	-0.6	-1
21st Street	IV	25	11.3	2.6	13.9	0.04	10.4	11.3	3.6	14.9	0.04	9.7	1	-0.7	-1
7th Avenue	IV	25	54.3	5.2	59.5	0.36	21.8	54.3	9.5	63.8	0.36	20.3	4.3	-1.5	-1
33rd Street	IV	25	53.7	8.8	62.5	0.35	20.2	53.7	27.4	81.1	0.35	15.5	18.6	-4.6	-5
MacArthur Boulevard	IV	25	22.9	16.8	39.7	0.1	9.1	22.9	12.2	35.1	0.1	10.3	-4.6	1.2	1
Total	IV		231	112.9	343.9	1.23	12.9	231	102.8	347	1.23	12.8	3.1	-0.1	0
				5.7	*5.7*				*5.6*	*5.8*			0.1	minutes	
										0.1			0.0	minutes per mile	
										1%					

Arterial Level of Service: WB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)	Change in Arterial Speed	
MacArthur Boulevard	IV	25	11.1	7.1	18.2	0.04	7.9	11.1	16.1	27.2	0.04	5.3			
33rd Street	IV	25	22.9	8.4	31.3	0.1	11.5	22.9	19.7	42.6	0.1	8.5	11.3	-3.1	-3
Spruce Street	IV	25	53.7	5.4	59.1	0.35	21.3	53.7	12.3	66	0.35	19.1	6.9	-2.2	-2
21st Street	IV	25	54.3	5.8	60.1	0.36	21.6	54.3	9.7	64	0.36	20.3	3.9	-1.3	-1
Newton Avenue	IV	25	11.3	3	14.3	0.04	10.1	11.3	4.8	16.1	0.04	8.9	1.8	-1.1	-1
Corridor	IV	25	30.6	23.4	54	0.17	11.3	30.6	39.8	70.4	0.17	8.7	16.4	-2.6	-3
3rd Avenue	IV	25	17.5	25	42.5	0.07	5.9	17.5	13.8	31.3	0.07	8.1	-11.2	2.1	2
Lakeshore Avenue	IV	25	25.8	39.9	65.7	0.14	7.7	25.8	38.9	64.7	0.14	7.8	-1	0.1	0
Total	IV		227.2	103.3	345.2	1.23	12.8	227.2	155.1	382.3	1.23	11.6	37.1	-1.2	-1
				5.5	*5.8*				*6.4*	*6.4*			0.6	minutes	
										TT Incr.		*0.6*			0.5 minutes per mile
										% Incr.		*11%*			

Vehicle Travel Time Comparison for Existing and Existing + Project Conditions
(p.m. peak hour)

Existing PM

Existing + Project PM

Arterial Level of Service: EB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)		Change in Arterial Speed
Lakeshore Avenue	IV	25	14.9	19.9	34.8	0.06	6.2	14.9	20.7	35.6	0.06	6.1	0.8		
3rd Avenue	IV	25	25.8	24.9	50.7	0.14	9.9	25.8	13.8	39.6	0.14	12.7	-11.1	2.8	3
Park Boulevard	IV	25	17.5	51.4	68.9	0.07	3.7	17.5	51.7	69.2	0.07	3.6	0.3	0.0	0
Newton Avenue	IV	25	30.6	6.6	37.2	0.17	16.5	30.6	17.0	47.6	0.17	12.9	10.4	-3.6	-4
21st Street	IV	25	11.3	2.7	14	0.04	10.3	11.3	6.4	17.7	0.04	8.1	3.7	-2.2	-2
7th Avenue	IV	25	54.3	5.1	59.4	0.36	21.8	54.3	13.9	68.2	0.36	19.0	8.8	-2.8	-3
33rd Street	IV	25	53.7	6.9	60.6	0.35	20.8	53.7	16.5	70.2	0.35	17.9	9.6	-2.8	-3
MacArthur Boulevard	IV	25	22.9	11.9	34.8	0.1	10.3	22.9	16.3	39.2	0.1	9.2	4.4	-1.2	-1
Total	IV		231	109.5	360.4	1.23	12.3	231	135.6	387.3	1.23	11.4	26.9	-0.9	-1
				5.7	*6.0*				*6.1*	*6.5*			0.4 minutes		
										0.4			0.4 minutes per mile		
										7%					

Arterial Level of Service: WB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)		Change in Arterial Speed
MacArthur Boulevard	IV	25	11.1	8.3	19.4	0.04	7.4	11.1	12.2	23.3	0.04	6.2	3.9		
33rd Street	IV	25	22.9	6.0	28.9	0.1	12.5	22.9	8.9	31.8	0.1	11.3	2.9	-1.1	-1
Spruce Street	IV	25	53.7	4.6	58.3	0.35	21.6	53.7	9.5	63.2	0.35	19.9	4.9	-1.7	-2
21st Street	IV	25	54.3	5.3	59.6	0.36	21.7	54.3	7.2	61.5	0.36	21.1	1.9	-0.7	-1
Newton Avenue	IV	25	11.3	2.6	13.9	0.04	10.4	11.3	3.6	14.9	0.04	9.7	1	-0.7	-1
Corridor	IV	25	30.6	23.0	53.6	0.17	11.4	30.6	29.9	60.5	0.17	10.1	6.9	-1.3	-1
3rd Avenue	IV	25	17.5	38.5	56	0.07	4.5	17.5	7.5	25	0.07	10.1	-31	5.6	6
Lakeshore Avenue	IV	25	25.8	24.4	50.2	0.14	10.0	25.8	34.9	60.7	0.14	8.3	10.5	-1.7	-2
Total	IV		227.2	95.7	339.9	1.23	13.0	227.2	83.8	340.9	1.23	13.0	1	0.0	0
				5.4	*5.7*				*5.2*	*5.7*			0.0 minutes		
										TT Incr.		*0.0*		0.0 minutes per mile	
										% Incr.		*0%*			

Appendix F. Bus Travel Times

Travel Time Comparison for Existing plus Project Conditions
(a.m. peak hour)

Arterial Level of Service

1/24/2018 NOTE: Bus Stop Delay Revised 2/5/2021

Existing AM

Existing + Project AM

Arterial Level of Service: EB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	TCQOS Ch.6 *Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	TCQOS Ch.6 *Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)	Change in Arterial Speed	
Lakeshore Avenue	Class	25	14.9	13.2		28.1	0.06	7.7	14.9	13.2		28.1	0.06	7.7	0		
3rd Avenue	IV	25	25.8	16.6	*22.81*	65.20925	0.14	7.7	25.8	7.3	*24.03*	57.13454	0.14	8.8	-8.07471	1.1	1
Park Boulevard	IV	25	17.5	44.5	*20.42*	82.421	0.07	3.1	17.5	36.2	*21.31*	75.0073	0.07	3.4	-7.4137	0.3	0
Newton Avenue	IV	25	30.6	5.2	*22.27*	58.06638	0.17	10.5	30.6	6.6	*24.57*	61.76969	0.17	9.9	3.703319	-0.6	-1
21st Street	IV	25	11.3	2.6	*41.44*	55.34042	0.04	2.6	11.3	3.6	*22.03*	36.93463	0.04	3.9	-18.4058	1.3	1
7th Avenue	IV	25	54.3	5.2	*66.68*	126.185	0.36	10.3	54.3	9.5	*22.91*	86.70953	0.36	14.9	-39.4755	4.7	5
33rd Street	IV	25	53.7	8.8	*26.01*	88.5092	0.35	14.2	53.7	27.4	*24.95*	106.0451	0.35	11.9	17.5359	-2.4	-2
MacArthur Boulevard	IV	25	22.9	16.8	*31.23*	70.93287	0.1	5.1	22.9	12.2	*31.23*	66.33287	0.1	5.4	-4.6	0.4	0
Total	IV		231	112.9	230.8641	574.7641	1.23	7.7	231	102.8	171.0337	518.0337	1.23	8.5	-56.7304	0.8	1
				5.7	*3.8*	*9.6*				*5.6*	*2.9*	*8.6*			-0.9	minutes	
											TT Incr.	*-0.9*			-0.8	minutes per mile	
											% Incr.	*-10%*					

Arterial Level of Service: WB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	TCQOS Ch.6 *Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	TCQOS Ch.6 *Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)	Change in Arterial Speed	
MacArthur Boulevard	IV	25	11.1	7.1	*21.73*	39.93344	0.04	3.6	11.1	16.1	*25.20*	52.40083	0.04	2.7			
33rd Street	IV	25	22.9	8.4	*65.01*	96.30965	0.1	3.7	22.9	19.7	*28.28*	70.8767	0.1	5.1	-25.433	1.3	1
Spruce Street	IV	25	53.7	5.4	*66.10*	125.1993	0.35	10.1	53.7	12.3	*50.56*	116.5562	0.35	10.8	-8.6431	0.7	1
21st Street	IV	25	54.3	5.8		60.1	0.36	21.6	54.3	9.7		64	0.36	20.3	3.9	-1.3	-1
Newton Avenue	IV	25	11.3	3	*25.03*	39.32906	0.04	3.7	11.3	4.8	*30.41*	46.50671	0.04	3.1	7.177643	-0.6	-1
E 18th Street	IV	25	30.6	23.4	*25.76*	79.76268	0.17	7.7	30.6	39.8	*21.08*	91.47737	0.17	6.7	11.71469	-1.0	-1
3rd Avenue	IV	25	17.5	25	*21.63*	64.12921	0.07	3.9	17.5	13.8	*21.60*	52.90499	0.07	4.8	-11.2242	0.8	1
Lakeshore Avenue	IV	25	25.8	39.9		65.7	0.14	7.7	25.8	38.9		64.7	0.14	7.8	-1	0.1	0
Total	IV		227.2	103.3	225.2633	570.4633	1.23	7.8	227.2	155.1	177.1228	559.4228	1.23	7.9	-11.0405	0.2	0
				5.5	*3.8*	*9.5*				*6.4*	*3.0*	*9.3*			-0.2	minutes	
											TT Incr.	*-0.2*			-0.1	minutes per mile	
											% Incr.	*-2%*					

Appendix F. Bus Travel Times

Bus Travel Time Comparison for Existing plus Project Conditions
(p.m. peak hour)

Arterial Level of Service

1/24/2018 NOTE: Bus Stop Delay Revised 2/5/2021

Existing PM

Existing + Project PM

Arterial Level of Service: EB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	*TCQOS Ch.6 Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	*TCQOS Ch.6 Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)	Change in A Speed	
Lakeshore Avenue	IV	25	14.9	19.9		34.8	0.06	6.2	14.9	20.7		35.6	0.06	6.1	0.8		
3rd Avenue	IV	25	25.8	24.9	*29.17*	79.8744	0.14	6.3	25.8	13.8	*32.71*	72.31463	0.14	7.0	-7.55977	0.7	1
Park Boulevard	IV	25	17.5	51.4	*22.25*	91.14998	0.07	2.8	17.5	51.7	*26.21*	95.40673	0.07	2.6	4.256747	-0.1	0
Newton Avenue	IV	25	30.6	6.6	*25.94*	63.13983	0.17	9.7	30.6	17.0	*32.40*	80.0022	0.17	7.6	16.86237	-2.0	-2
21st Street	IV	25	11.3	2.7	*43.74*	57.73577	0.04	2.5	11.3	6.4	*26.27*	43.97273	0.04	3.3	-13.763	0.8	1
7th Avenue	IV	25	54.3	5.1	*70.23*	129.6321	0.36	10.0	54.3	13.9	*24.94*	93.13546	0.36	13.9	-36.4967	3.9	4
33rd Street	IV	25	53.7	6.9	*28.27*	88.86624	0.35	14.2	53.7	16.5	*28.58*	98.77893	0.35	12.8	9.912696	-1.4	-1
MacArthur Boulevard	IV	25	22.9	11.9	*30.25*	65.05214	0.1	5.5	22.9	16.3	*30.25*	69.45214	0.1	5.2	4.4	-0.4	0
Total	IV		231	109.5	249.8505	610.2505	1.23	7.3	231	135.6	201.3628	588.6628	1.23	7.5	-21.5877	0.3	0
				5.7	*4.2*	*10.2*				*6.1*	*3.4*	*9.8*			-0.4	minutes	
											TT Incr.	*-0.4*			-0.3	minutes per mile	
											% Incr.	*-4%*					

Arterial Level of Service: WB Corridor

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	*TCQOS Ch.6 Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Running Time	Signal Delay	*TCQOS Ch.6 Bus Stop Delay (s)*	Travel Time (s)	Dist (mi)	Arterial Speed	Change in Travel Time (s)	Change in A Speed	
MacArthur Boulevard	IV	25	11.1	8.3	*21.46*	40.86222	0.04	3.5	11.1	12.2	*24.18*	47.48134	0.04	3.0	6.619116		
33rd Street	IV	25	22.9	6.0	*64.54*	93.43898	0.1	3.9	22.9	8.9	*26.23*	58.02886	0.1	6.2	-35.4101	2.4	2
Spruce Street	IV	25	53.7	4.6	*63.79*	122.0883	0.35	10.3	53.7	9.5	*46.11*	109.3115	0.35	11.5	-12.7768	1.2	1
21st Street	IV	25	54.3	5.3		59.6	0.36	21.7	54.3	7.2		61.5	0.36	21.1	1.9	-0.7	-1
Newton Avenue	IV	25	11.3	2.6	*23.11*	37.01065	0.04	3.9	11.3	3.6	*26.32*	41.22285	0.04	3.5	4.212204	-0.4	0
Corridor	IV	25	30.6	23.0	*23.95*	77.54943	0.17	7.9	30.6	29.9	*21.06*	81.56351	0.17	7.5	4.014082	-0.4	0
3rd Avenue	IV	25	17.5	38.5	*20.97*	76.97465	0.07	3.3	17.5	7.5	*20.95*	45.94596	0.07	5.5	-31.0287	2.2	2
Lakeshore Avenue	IV	25	25.8	24.4		50.2	0.14	10.0	25.8	34.9		60.7	0.14	8.3	10.5	-1.7	-2
Total	IV		227.2	95.7	217.8242	557.7242	1.23	7.9	227.2	83.8	164.854	505.754	1.23	8.8	-51.9702	0.8	1
				5.4	*3.6*	*9.3*				*5.2*	*2.7*	*8.4*			-0.9	minutes	
											TT Incr.	*-0.9*			-0.7	minutes per mile	
											% Incr.	*-9%*					

Appendix F. Bus Travel Times

Existing Bus Stop Delay Calculations: REFERENCE: Transit Capacity Quality of Service Manual, 3 ED. P. 6-3 through 6-76

Dir	Street	Cross-Street	TCQS Re-entry delay Case	AM Adjacent Lane Vol (from nearby TMCs)	PM Adjacent Lane Vol (from nearby TMCs)	AM g/C Ratio	PM g/C Ratio	AM Cycle Length [sec]	PM Cycle Length [sec]	Distance from Upstream Signal [meters]	TMC intersection used for volume	Decel, Dwell, Accel Delay [sec] (Default values ex. 6-1)	AM Case 1 Reentry Delay (TCQSM Eq. 6-7)	PM Case 1 Reentry Delay (TCQSM Eq. 6-7)	AM Case 2 Reentry Delay (TCQSM, Ex. 6-61, Eqs. 6-13, 6-14, 6-15)	PM Case 2 Reentry Delay (TCQSM, Ex. 6-61, Eqs. 6-13, 6-14, 6-15)	AM Case 3 Reentry Delay	PM Case 3 Reentry Delay	AM Bus Stop Delay [sec]	PM Bus Stop Delay [sec]
EB	E 18th St	3rd Ave	Case 2, NS	114	317	0.51	0.4	80	80	-	E 18th St/3rd Ave	20			2.81	9.17			22.81	29.17
EB	Park Blvd	E 18th St	Case 2, FS	135	363	0.24	0.25	80	80	-	E 18th St/Park Blvd	20			0.42	2.25			20.42	22.25
EB	Park Blvd	Newton Ave	Case 2, NS	140.5	362.5	0.62	0.62	60	60	-	Park Blvd/Newton Ave	20			2.27	5.94			22.27	25.94
EB	Park Blvd	Ivy Dr	Case 3	147.5	329	0.62	0.62	60	60	165	Park Blvd/E 21st St	20	0.82	2.11	0.53	1.39	0.65	1.69	20.65	21.69
EB	Park Blvd	Montclair Ave	Case 3	147.5	329	0.62	0.62	60	60	366	Park Blvd/E 21st St	20	0.82	2.11	0.53	1.39	0.79	2.05	20.79	22.05
EB	Park Blvd	7th Ave	Case 2, NS	271	418.5	0.65	0.7	41.2	43	-	Park Blvd/7th Ave	20			3.20	4.85			23.20	24.85
EB	Park Blvd	8th Ave	Case 3	303	421.5	0.65	0.7	41.2	43	235	Park Blvd/7th Ave	20	1.90	2.92	1.21	1.92	1.62	2.51	21.62	22.51
EB	Park Blvd	E 28th St	Case 3	303	421.5	0.65	0.7	41.2	43	379	Park Blvd/7th Ave	20	1.90	2.92	1.21	1.92	1.86	2.87	21.86	22.87
EB	Park Blvd	E 33rd St	Case 2, NS	383.5	458.5	0.49	0.64	45	70	-	Park Blvd/E 33rd St	20			6.01	8.27			26.01	28.27
EB	Park Blvd	MacArthur Blvd	Case 2, NS	402	456.5	0.5	0.5	90	70	-	Park Blvd/MacArthur Blvd	20			11.23	10.25			31.23	30.25
																		TOTAL Existing EB Bus Stop Delay (sec, AM, PM):		**230.86**	**249.85**
WB	Park Blvd	MacArthur Blvd	Case 2, FS	348	334.5	0.5	0.5	90	70	-	Park Blvd/MacArthur Blvd	20			1.73	1.46			21.73	21.46
WB	Park Blvd	E 33rd St	Case 2, FS	366.5	325.5	0.49	0.64	45	70	-	Park Blvd/E 33rd St	20			1.41	1.43			21.41	21.43
WB	Park Blvd	E 28th St	Case 3	366.5	325.5	0.49	0.64	45	70	119	Park Blvd/E 33rd St	20	2.43	2.08	1.41	1.43	1.71	1.62	21.71	21.62
WB	Park Blvd	Cleveland St	Case 3	305.5	250	0.49	0.64	45	70	386	Park Blvd/7th Ave	20	1.92	1.50	1.10	1.03	1.89	1.49	21.89	21.49
WB	Park Blvd	Spruce St/7th Ave	Case 2, FS	323.5	241.5	0.65	0.7	41.2	43	-	Park Blvd/7th Ave	20			1.31	0.98			21.31	20.98
WB	Park Blvd	Montclair Ave	Case 3	278	183	0.65	0.7	41.2	43	635	Park Blvd/E 21st St	20	1.71	1.04	1.09	0.72	2.07	1.23	22.07	21.23
WB	Park Blvd	Van Dyke Ave	Case 3	278	183	0.65	0.7	41.2	43	1057	Park Blvd/E 21st St	20	1.71	1.04	1.09	0.72	2.72	1.57	22.72	21.57
WB	Park Blvd	Newton Ave	Case 2, NS	308.5	192.5	0.62	0.62	60	60		Park Blvd/Newton Ave	20			5.03	3.11			25.03	23.11
WB	Park Blvd	E 18th St	Case 2, NS	163.5	113	0.24	0.25	80	80		E 18th St/Park Blvd	20			5.76	3.95			25.76	23.95
WB	E 18th St	Athol St	Case 3	242.5	152	0.51	0.4	80	80	555	E 18th St/3rd Ave	20	1.45	0.84	0.98	0.51	1.63	0.97	21.63	20.97
																		TOTAL Existing WB Bus Stop Delay (sec, AM, PM):		**225.26**	**217.82**

Proposed Bus Stop Delay Calculations: REFERENCE: Transit Capacity Quality of Service Manual, 3 ED. P. 6-3 through 6-76

Dir	Street	Cross-Street	TCQS Re-entry delay Case	AM Adjacent Lane Vol (from nearby TMCs)	PM Adjacent Lane Vol (from nearby TMCs)	AM g/C Ratio	PM g/C Ratio	AM Cycle Length [sec]	PM Cycle Length [sec]	Distance from Upstream Signal [meters]	TMC intersection used for volume	Decel, Dwell, Accel Delay [sec] (Default values ex. 6-1)	AM Case 1 Reentry Delay (TCQSM Eq. 6-7)	PM Case 1 Reentry Delay (TCQSM Eq. 6-7)	AM Case 2 Reentry Delay (TCQSM, Ex. 6-61, Eqs. 6-13, 6-14, 6-15)	PM Case 2 Reentry Delay (TCQSM, Ex. 6-61, Eqs. 6-13, 6-14, 6-15)	AM Case 3 Reentry Delay	PM Case 3 Reentry Delay	AM Bus Stop Delay [sec]	PM Bus Stop Delay [sec]
EB	E 18th St	3rd Ave	Case 2, NS	228	634	0.69	0.65	80	80	-	E 18th St/3rd Ave	20			4.03	12.71			24.03	32.71
EB	Park Blvd	E 18th St	Case 2, FS	270	726	0.27	0.26	80	80	-	E 18th St/Park Blvd	20			1.31	6.21			21.31	26.21
EB	Park Blvd	Newton Ave	Case 2, NS	281	725	0.62	0.62	60	60	-	Park Blvd/Newton Ave	20			4.57	12.40			24.57	32.40
EB	Park Blvd	Ivy Dr	Case 3	295	658	0.62	0.62	60	60	525	Park Blvd/E 21st St	20	1.84	5.63	1.21	3.57	2.03	6.27	22.03	26.27
EB	Park Blvd	7th Ave	Case 2, FS	606	843	0.64	0.7	41.3	43.1	-	Park Blvd/7th Ave	20			2.91	4.94			22.91	24.94
EB	Park Blvd	E 28th St	Case 1	606	843	-	-	-	-	-	Park Blvd/7th Ave	20	4.95	8.58					24.95	28.58
EB	Park Blvd	MacArthur Blvd	Case 2, NS	402	456.5	0.5	0.5	90	70	-	Park Blvd/MacArthur Blvd	20			11.23	10.25			31.23	30.25
																		TOTAL Proposed EB Bus Stop Delay (sec, AM, PM):		**171.03**	**201.36**
WB	Park Blvd	MacArthur Blvd	Case 2, FS	696	669	0.5	0.5	90	70	-	Park Blvd/MacArthur Blvd	20			5.20	4.18			25.20	24.18
WB	Park Blvd	E 28th St	Case 3	733	651	0.49	0.45	45	70	615	Park Blvd/E 33rd St	20	6.72	5.53	3.83	4.24	8.28	6.23	28.28	26.23
WB	Park Blvd	Spruce St/7th Ave	Case 2, FS	647	483	0.64	0.7	41.3	43.1	-	Park Blvd/7th Ave	20			3.18	2.29			23.18	22.29
WB	Park Blvd	Van Dyke Ave	Case 3	556	366	0.64	0.7	41.3	43.1	1095	Park Blvd/E 21st St	20	4.34	2.42	2.59	1.62	7.37	3.82	27.37	23.82
WB	Park Blvd	Newton Ave	Case 2, NS	617	385	0.62	0.62	60	60	-	Park Blvd/Newton Ave	20			10.41	6.32			30.41	26.32
WB	Park Blvd	E 18th St	Case 2, FS	241	238	0.27	0.26	80	80	-	E 18th St/Park Blvd	20			1.08	1.06			21.08	21.06
WB	E 18th St	Athol St	Case 3	242.5	152	0.69	0.65	80	80	555	E 18th St/3rd Ave	20	1.45	0.84	1.04	0.58	1.60	0.95	21.60	20.95
																		TOTAL Proposed WB Bus Stop Delay (sec, AM, PM):		**177.12**	**164.85**

Appendix G: Left-Turn Pocket Analysis
Park Blvd, E 18th St to MacArthur Blvd

Overview

The volume of left turning and conflicting through movements are used to evaluate whether left turn pockets should be considered 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.

Signalized Intersections Analysis

Intersection	**Peak Hour Turning Movement Counts**			
E 18th St @ Lakeshore Ave				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	405	N/A	N/A	Consider left turn pocket
PM	215	N/A	N/A	Consider left turn pocket
E 18th St @ 3rd Ave				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	30	205	6150	Left turn pocket may not be needed
PM	60	585	35100	Consider left turn pocket
Park Blvd @ E 18th St				
Eastbound E 18th St	Eastbound Lefts	Westbound Throughs	Product	Analysis Result
AM	153	N/A	N/A	Consider left turn pocket
PM	447	N/A	N/A	Consider left turn pocket
Westbound Park Blvd	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	29	107	3103	Left turn pocket may not be needed
PM	35	270	9450	Left turn pocket may not be needed
Park Blvd @ Newton Ave [1]				
Eastbound	Eastbound Lefts	Westbound Throughs	Product	Analysis Result
AM	33	617	20361	Left turn pocket may not be needed
PM	65	386	25090	Consider left turn pocket
Park Blvd @ E 21st St				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	12	293	3516	Left turn pocket may not be needed
PM	12	707	8484	Left turn pocket may not be needed
Park Blvd @ 7th Ave/Spruce St				
Eastbound	Eastbound Lefts	Westbound Throughs	Product	Analysis Result
AM	17	592	10064	Left turn pocket might not be needed
PM	19	455	8645	Left turn pocket might not be needed
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	19	525	9975	Left turn pocket may not be needed
PM	45	818	36810	Consider left turn pocket
Park Blvd @ E 33rd St [2]				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	0	767	0	Left turn pocket may not be needed
PM	4	917	3668	Left turn pocket may not be needed
Park Blvd @ MacArthur Blvd [3]				
Eastbound	Eastbound Lefts	Westbound Throughs	Product	Analysis Result
AM	104	802	83408	Consider left turn pocket
PM	27	422	11394	Left turn pocket may not be needed
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	63	700	44100	Consider left turn pocket
PM	56	913	51128	Consider left turn pocket

Turning movement counts attached.

Appendix G: Left-Turn Pocket Analysis
Park Blvd, E 18th St to MacArthur Blvd

Overview

Additional counts were collected at the following non-signalized locations, based on community input, to evaluate whether additional left turn pockets should be considered:

- 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.

Additional Non-Signalized Intersections Analysis

Intersection	Peak Hour Turning Movement Counts			
Park Blvd @ 5th Ave/Portland Ave				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	194	275	53350	Consider left turn pocket
PM	98	751	73598	Consider left turn pocket
Eastbound	Eastbound Lefts	Westbound Throughs	Product	Analysis Result
AM	23	430	9890	Left turn pocket may not be needed
PM	9	290	2610	Left turn pocket may not be needed
Park Blvd @ 8th Ave/McKinley Ave				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	36	537	19332	Left turn pocket may not be needed
PM	61	525	32025	Consider left turn pocket
Eastbound	Eastbound Lefts	Westbound Throughs	Product	Analysis Result
AM	123	562	69126	Consider left turn pocket
PM	48	404	19392	Left turn pocket may not be needed
Park Blvd @ E 28th St [(2)]				
Westbound	Westbound Lefts	Eastbound Throughs	Product	Analysis Result
AM	86	633	54438	Consider left turn pocket
PM	79	1033	81607	Consider left turn pocket

Turning movement counts attached.

Notes:

(1) At the eastbound approach to Newton Ave on Park Blvd, the volume of left turning vehicles and conflicting oncoming traffic are just high enough to suggest a left turn pocket may be beneficial. The installation of a left turn pocket here would require removing a bike lane in one direction or an existing sidewalk bulb out. As an alternative, the following treatments could be installed: (a) wide centerline striping that provides space for vehicles to move clear of through traffic while waiting to turn left; and (b) a left turn pocket on eastbound Park Blvd at Haddon Rd (the next intersection where drivers can turn left). This alternative follows OakDOT guidance to weigh the potential benefits of providing a left turn lane in a given location against the competing demands of pedestrian safety and bicyclist safety.

(2) At the westbound approach to E 28th St on Park Blvd, the volume of left turning vehicles and conflicting oncoming through traffic suggest a left turn pocket may be beneficial. The installation of a left turn pocket here would preclude the proposed installation of a pedestrian safety island at the existing uncontrolled school crosswalk. As an alternative, the project should install left turn pockets on the westbound approach to 8th Ave which is wider than E 28th St, classified as a collector (vs a local) roadway, and which has a marked centerline. Left turn pockets recommended on westbound approaches to the traffic signals at E 33rd St and 7th Ave will fit without removal of bike or pedestrian infrastructure. Some of the traffic that currently turns left at E 28th St is expected to turn left at these other nearby intersections.

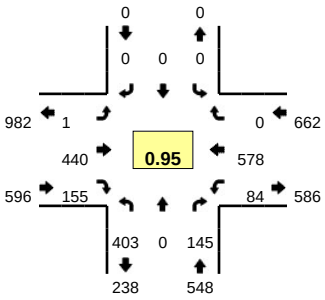
(3) At Park Blvd at MacArthur Blvd, the existing westbound left turn pocket and the two lanes eastbound will remain. Left turn operations will not change: eastbound motorists will continue to turn left from the leftmost travel lane.

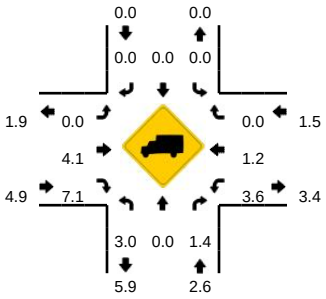
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

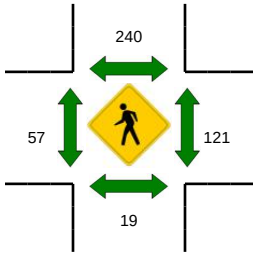
LOCATION: E 18th St -- Lakeshore Ave
CITY/STATE: Oakland, CA

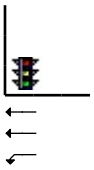
QC JOB #: 13747419
DATE: Tue, Apr 12 2016

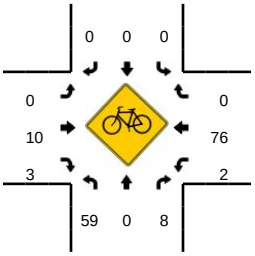
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

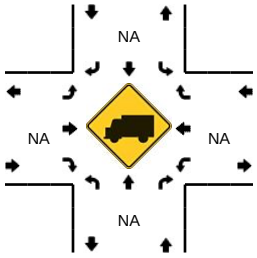


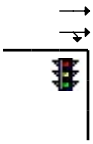


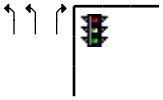


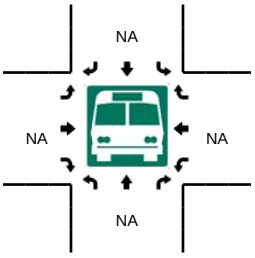












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				Lakeshore Ave (Eastbound)				Lakeshore Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	0	5	0	0	0	0	0	0	10	5	0	3	24	0	0	53	
7:05 AM	11	0	4	0	0	0	0	0	0	13	3	0	5	39	0	0	75	
7:10 AM	17	0	8	0	0	0	0	0	0	21	5	0	4	21	0	0	76	
7:15 AM	12	0	7	0	0	0	0	0	0	19	4	0	4	31	0	0	77	
7:20 AM	13	0	7	0	0	0	0	0	0	20	6	0	1	39	0	0	86	
7:25 AM	27	0	3	0	0	0	0	0	0	18	9	0	7	40	0	0	104	
7:30 AM	23	0	6	0	0	0	0	0	0	18	9	0	5	37	0	0	98	
7:35 AM	24	0	12	0	0	0	0	0	0	28	9	0	2	43	0	0	118	
7:40 AM	23	0	14	0	0	0	0	0	0	35	12	0	5	53	0	0	142	
7:45 AM	37	0	10	0	0	0	0	0	0	34	8	0	4	45	0	0	138	
7:50 AM	42	0	7	0	0	0	0	0	0	28	8	0	11	59	0	0	155	
7:55 AM	23	0	16	0	0	0	0	0	0	44	10	0	4	53	0	0	150	1272
8:00 AM	33	0	15	0	0	0	0	0	0	45	20	0	3	52	0	0	168	1387
8:05 AM	32	0	9	0	0	0	0	0	0	38	17	0	7	45	0	0	148	1460
8:10 AM	35	0	13	0	0	0	0	0	0	31	16	0	6	46	0	0	147	1531
8:15 AM	18	0	17	0	0	0	0	0	0	43	9	1	7	51	0	0	146	1600
8:20 AM	43	0	7	0	0	0	0	0	0	40	17	0	10	40	0	0	157	1671
8:25 AM	43	0	15	0	0	0	0	0	0	40	12	0	7	42	0	0	159	1726
8:30 AM	33	0	15	0	0	0	0	0	0	27	14	0	9	39	0	0	137	1765
8:35 AM	26	0	8	0	0	0	0	0	0	39	16	0	6	56	0	0	151	1798
8:40 AM	38	0	13	0	0	0	0	0	0	31	8	0	9	50	0	1	150	1806
8:45 AM	20	0	11	0	0	0	0	0	0	40	10	0	4	46	0	0	131	1799
8:50 AM	26	0	14	0	0	0	0	0	0	43	13	0	12	50	0	0	158	1802
8:55 AM	26	0	10	0	0	0	0	0	0	31	16	0	7	43	0	2	135	1787

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	392	0	152	0	0	0	0	0	0	468	152	0	72	656	0	0	1892
Heavy Trucks	20	0	4		0	0	0		0	24	16		4	8	0		76
Pedestrians		20				212				72				112			416
Bicycles	13	0	0		0	0	0		0	1	1		0	15	0		30
Railroad																	
Stopped Buses																	

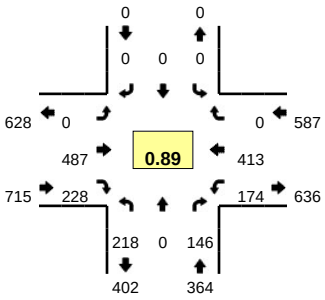
Comments:

Report generated on 4/19/2016 2:59 PM

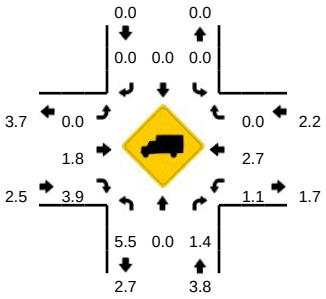
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

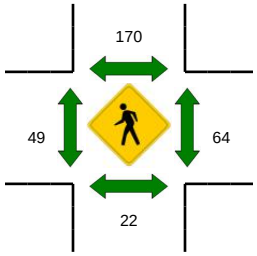
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

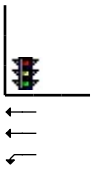
LOCATION: E 18th St -- Lakeshore Ave | **QC JOB #:** 13747420
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

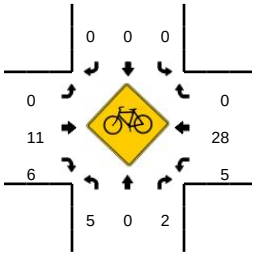


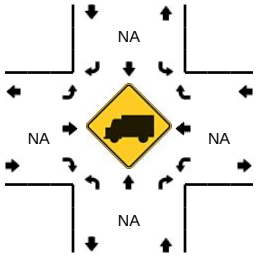
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:35 PM -- 3:50 PM

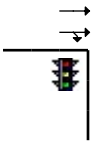


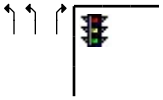


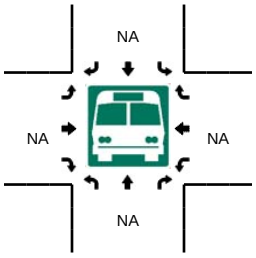












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				Lakeshore Ave (Eastbound)				Lakeshore Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	14	0	10	0	0	0	0	0	0	40	12	0	14	25	0	0	115	
2:05 PM	14	0	10	0	0	0	0	0	0	39	11	0	13	33	0	0	120	
2:10 PM	17	0	9	1	0	0	0	0	0	30	11	0	11	26	0	0	105	
2:15 PM	13	0	7	0	0	0	0	0	0	34	8	0	19	27	0	0	108	
2:20 PM	14	0	10	0	0	0	0	0	0	34	12	0	15	38	0	0	123	
2:25 PM	10	0	12	0	0	0	0	0	0	38	13	0	11	26	0	0	110	
2:30 PM	15	0	6	0	0	0	0	0	0	36	16	0	17	31	0	0	121	
2:35 PM	12	0	11	0	0	0	0	0	0	33	15	0	7	37	0	0	115	
2:40 PM	21	0	8	0	0	0	0	0	0	34	14	0	8	16	0	0	101	
2:45 PM	15	0	10	0	0	0	0	0	0	25	18	0	17	41	0	0	126	
2:50 PM	14	0	11	0	0	0	0	0	0	37	18	0	14	31	0	0	125	
2:55 PM	22	0	8	0	0	0	0	0	0	27	9	0	12	23	0	0	101	1370
3:00 PM	16	0	6	0	0	0	0	0	0	36	24	0	17	29	0	0	128	1383
3:05 PM	23	0	9	1	0	0	0	0	0	55	15	0	14	28	0	0	145	1408
3:10 PM	16	0	10	0	0	0	0	0	0	31	15	0	12	24	0	0	108	1411
3:15 PM	9	0	13	0	0	0	0	0	0	36	12	0	20	32	0	1	123	1426
3:20 PM	12	0	20	0	0	0	0	0	0	47	25	0	6	36	0	0	146	1449
3:25 PM	24	0	10	0	0	0	0	0	0	29	13	0	13	47	0	0	136	1475
3:30 PM	17	0	13	1	0	0	0	0	0	39	19	0	12	39	0	1	141	1495
3:35 PM	26	0	10	0	0	0	0	0	0	40	20	0	20	41	0	1	158	1538
3:40 PM	16	0	14	0	0	0	0	0	0	48	17	0	21	41	0	0	157	1594
3:45 PM	27	0	13	0	0	0	0	0	0	44	27	0	14	27	0	0	152	1620
3:50 PM	19	0	12	0	0	0	0	0	0	32	21	0	15	29	0	0	128	1623
3:55 PM	10	0	16	1	0	0	0	0	0	50	20	0	7	40	0	0	144	1666

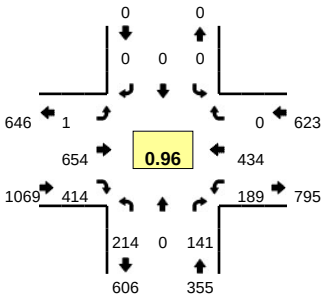
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	276	0	148	0	0	0	0	0	0	528	256	0	220	436	0	4	1868
Heavy Trucks	12	0	8		0	0	0		0	8	8		4	4	0		44
Pedestrians		20				160				76				68			324
Bicycles	0	0	2		0	0	0		0	3	2		1	13	0		21
Railroad																	
Stopped Buses																	

Comments:

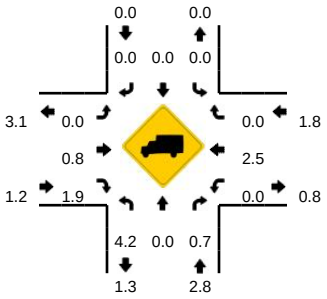
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

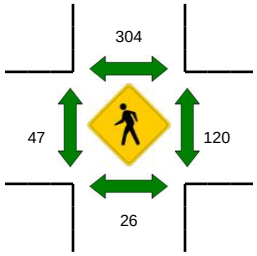
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

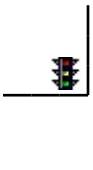
LOCATION: E 18th St -- Lakeshore Ave | **QC JOB #:** 13747421
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

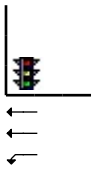


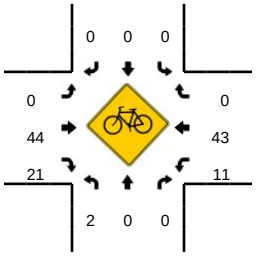
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

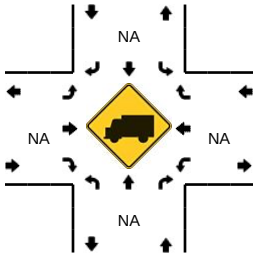


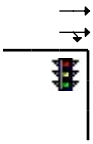


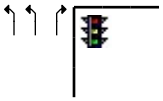


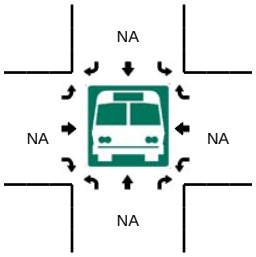












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				Lakeshore Ave (Eastbound)				Lakeshore Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	0	13	2	0	0	0	0	0	44	11	0	13	42	0	0	146	
4:05 PM	17	0	9	0	0	0	0	0	0	41	26	0	15	31	0	0	139	
4:10 PM	17	0	5	0	0	0	0	0	0	38	21	0	11	37	0	0	129	
4:15 PM	9	0	7	0	0	0	0	0	0	48	23	0	18	33	0	0	138	
4:20 PM	23	0	10	0	0	0	0	0	0	47	20	0	25	36	0	0	161	
4:25 PM	16	0	9	1	0	0	0	0	0	41	24	0	20	44	0	0	155	
4:30 PM	14	0	13	0	0	0	0	0	0	46	34	1	15	34	0	0	157	
4:35 PM	18	0	15	0	0	0	0	0	0	63	35	0	6	51	0	0	188	
4:40 PM	17	0	16	0	0	0	0	0	0	49	24	0	15	34	0	1	156	
4:45 PM	25	0	9	0	0	0	0	0	0	52	37	0	16	38	0	0	177	
4:50 PM	11	0	5	0	0	0	0	0	0	56	30	0	19	35	0	0	156	
4:55 PM	24	0	9	0	0	0	0	0	0	57	34	0	14	49	0	0	187	1889
5:00 PM	24	0	10	0	0	0	0	0	0	42	24	1	10	41	0	0	152	1895
5:05 PM	16	0	18	0	0	0	0	0	0	59	33	0	14	32	0	0	172	1928
5:10 PM	11	0	19	0	0	0	0	0	0	52	34	0	19	31	0	0	166	1965
5:15 PM	22	0	9	1	0	0	0	0	0	52	40	0	24	35	0	0	183	2010
5:20 PM	18	0	20	0	0	0	0	0	0	50	43	0	16	38	0	0	185	2034
5:25 PM	10	0	10	0	0	0	0	0	0	52	36	0	10	29	0	0	147	2026
5:30 PM	12	0	11	0	0	0	0	0	0	63	38	0	17	26	0	0	167	2036
5:35 PM	17	0	12	0	0	0	0	0	0	55	34	0	16	28	0	0	162	2010
5:40 PM	16	0	9	0	0	0	0	0	0	61	31	0	20	42	0	0	179	2033
5:45 PM	23	0	5	2	0	0	0	0	0	56	37	0	10	43	0	0	176	2032
5:50 PM	18	0	9	0	0	0	0	0	0	55	30	0	19	40	0	0	171	2047
5:55 PM	17	0	6	0	0	0	0	0	0	47	37	0	16	37	0	0	160	2020

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	204	0	192	4	0	0	0	0	0	616	468	0	236	416	0	0	2136
Heavy Trucks	8	0	4		0	0	0		0	8	12		0	8	0		40
Pedestrians		28				276				48				108			460
Bicycles	1	0	0		0	0	0		0	13	6		2	12	0		34
Railroad																	
Stopped Buses																	

Comments:

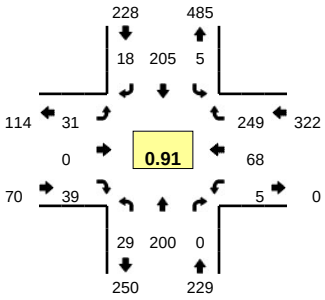
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

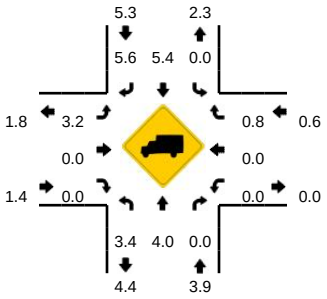
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

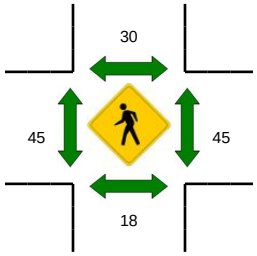
LOCATION: E 18th St -- 3rd Ave
CITY/STATE: Oakland, CA

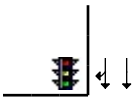
QC JOB #: 13747422
DATE: Tue, Apr 12 2016

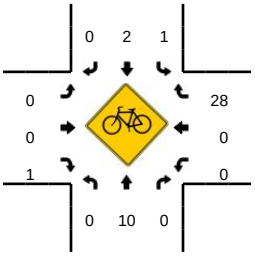
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:20 AM -- 8:35 AM

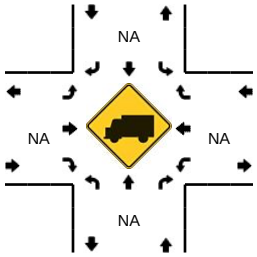


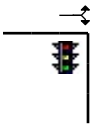


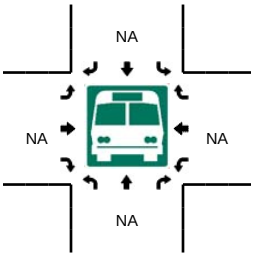












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				3rd Ave (Eastbound)				3rd Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	10	0	0	0	9	0	0	2	0	0	0	1	0	4	0	27	
7:05 AM	1	7	0	0	0	5	3	0	1	0	1	0	0	3	10	0	31	
7:10 AM	0	8	0	0	0	8	0	0	1	0	1	0	0	4	12	0	34	
7:15 AM	0	6	0	0	0	8	1	0	2	0	4	0	1	1	7	0	30	
7:20 AM	0	9	0	0	0	6	0	0	1	0	1	0	0	5	14	0	36	
7:25 AM	0	5	0	0	0	11	0	2	1	0	3	0	0	4	15	0	41	
7:30 AM	1	10	0	0	0	11	3	0	0	0	0	0	0	6	12	0	43	
7:35 AM	1	11	0	0	0	10	2	0	1	0	2	0	0	1	18	0	46	
7:40 AM	2	18	0	0	0	10	1	1	2	0	3	0	0	4	18	0	59	
7:45 AM	4	12	0	0	0	12	3	0	0	0	2	0	0	2	29	0	64	
7:50 AM	1	14	0	0	0	12	3	0	0	0	4	0	0	6	17	0	57	
7:55 AM	1	18	0	0	0	12	1	0	0	0	4	0	0	3	15	0	54	522
8:00 AM	2	20	0	1	0	17	0	0	3	0	5	0	1	4	12	0	65	560
8:05 AM	3	13	0	0	0	22	1	1	2	0	4	0	1	1	16	0	64	593
8:10 AM	0	18	0	0	0	19	2	0	4	0	4	0	1	8	23	0	79	638
8:15 AM	3	15	0	0	0	16	1	0	3	0	3	0	0	6	13	0	60	668
8:20 AM	3	28	0	0	0	17	1	0	1	0	1	0	0	6	24	0	81	713
8:25 AM	1	17	0	0	0	17	2	0	1	0	3	0	1	8	28	0	78	750
8:30 AM	5	14	0	0	0	16	2	1	3	0	2	0	1	5	25	0	74	781
8:35 AM	4	18	0	0	0	16	3	0	5	0	3	0	0	3	22	0	74	809
8:40 AM	2	13	0	0	0	13	0	0	0	0	5	0	0	12	26	0	71	821
8:45 AM	3	12	0	0	0	14	1	1	2	0	2	0	0	8	20	0	63	820
8:50 AM	2	14	0	0	0	19	3	1	3	0	5	0	0	2	23	0	72	835
8:55 AM	0	18	0	0	0	19	2	1	4	0	2	0	0	5	17	0	68	849

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	36	236	0	0	0	200	20	4	20	0	24	0	8	76	308	0	932
Heavy Trucks	0	8	0		0	12	0		4	0	0		0	0	0		24
Pedestrians		28				32				52				28			140
Bicycles	0	1	0		0	0	0		0	0	0		0	0	3		4
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/19/2016 2:59 PM

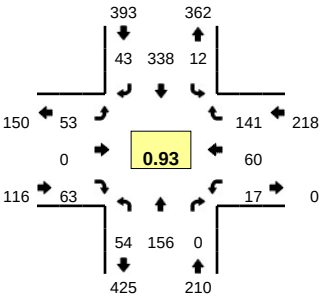
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

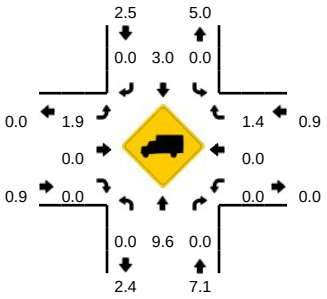
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

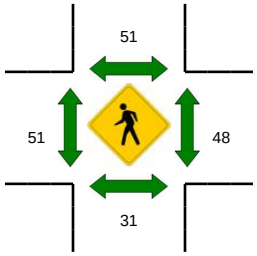
LOCATION: E 18th St -- 3rd Ave
CITY/STATE: Oakland, CA

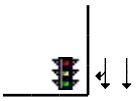
QC JOB #: 13747423
DATE: Tue, Apr 12 2016

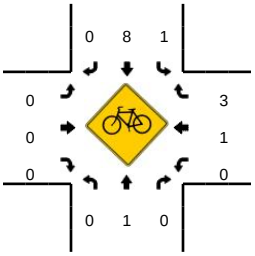
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:35 PM -- 3:50 PM

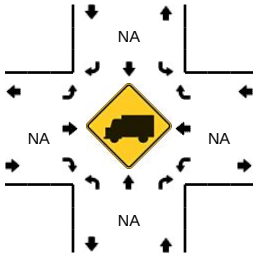


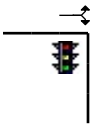


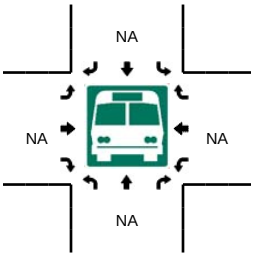












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				3rd Ave (Eastbound)				3rd Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	1	14	0	0	0	19	4	1	7	0	7	0	0	4	4	0	61	
2:05 PM	1	9	0	0	0	18	4	4	3	0	4	0	0	2	8	0	53	
2:10 PM	2	11	0	0	0	16	4	1	1	0	4	0	0	3	12	0	54	
2:15 PM	5	14	0	1	0	17	3	1	4	0	7	0	1	3	7	0	63	
2:20 PM	1	11	0	1	0	27	1	1	8	0	3	0	2	5	7	0	67	
2:25 PM	5	18	0	0	0	18	2	0	3	0	9	0	0	2	7	0	64	
2:30 PM	3	14	0	0	0	26	7	0	4	0	8	0	5	5	5	0	77	
2:35 PM	4	12	0	2	0	27	3	0	4	0	6	0	1	4	8	0	71	
2:40 PM	1	15	0	0	0	18	2	2	3	0	3	0	0	8	9	0	61	
2:45 PM	3	15	0	0	0	17	7	2	4	0	3	0	1	4	11	0	67	
2:50 PM	4	9	0	0	0	24	4	2	2	0	5	0	0	4	9	0	63	
2:55 PM	1	8	0	0	0	23	1	1	2	0	6	0	2	4	12	0	60	761
3:00 PM	1	12	0	0	0	22	7	1	5	0	3	0	0	9	9	0	69	769
3:05 PM	5	15	0	1	0	31	2	3	3	0	8	0	2	8	12	0	90	806
3:10 PM	2	9	0	0	0	27	3	0	6	0	5	0	0	5	8	0	65	817
3:15 PM	4	18	0	2	0	25	1	1	4	0	6	0	2	5	7	0	75	829
3:20 PM	1	8	0	0	0	29	4	0	5	0	3	0	4	7	13	0	74	836
3:25 PM	3	12	0	1	0	24	5	0	3	0	5	0	2	6	17	0	78	850
3:30 PM	5	15	0	1	0	28	5	0	3	0	5	0	1	7	10	0	80	853
3:35 PM	6	16	0	0	0	35	3	2	3	0	8	0	2	1	12	0	88	870
3:40 PM	6	17	0	0	0	29	3	3	8	0	2	0	0	2	14	0	84	893
3:45 PM	6	14	0	1	0	32	3	0	5	0	6	0	0	0	14	0	81	907
3:50 PM	5	7	0	0	0	27	5	1	4	0	8	0	4	6	11	0	78	922
3:55 PM	3	13	0	1	0	29	2	1	4	0	4	0	0	4	14	0	75	937

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	72	188	0	4	0	384	36	20	64	0	64	0	8	12	160	0	1012
Heavy Trucks	0	16	0		0	8	0		4	0	0		0	0	4		32
Pedestrians		32				104				48				72			256
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/19/2016 2:59 PM

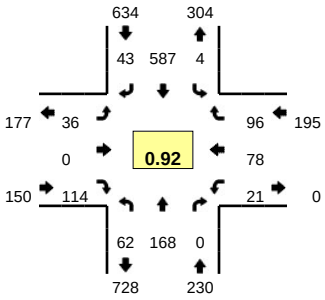
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

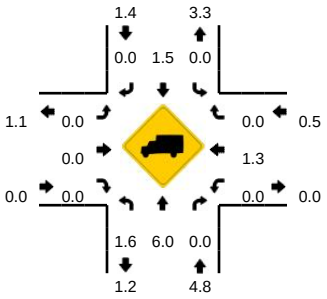
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

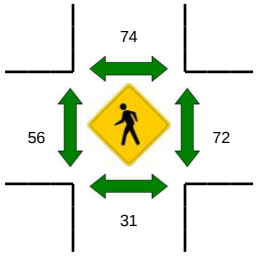
LOCATION: E 18th St -- 3rd Ave
CITY/STATE: Oakland, CA

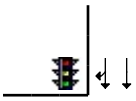
QC JOB #: 13747424
DATE: Tue, Apr 12 2016

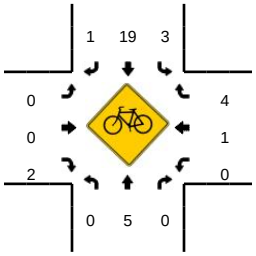
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

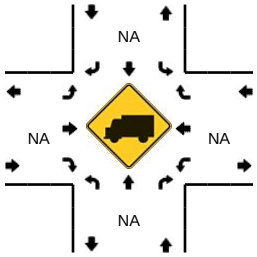


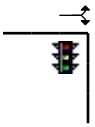


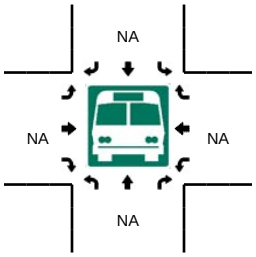












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				3rd Ave (Eastbound)				3rd Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	9	0	0	0	34	3	2	5	0	8	0	0	2	11	0	78	
4:05 PM	0	9	0	0	0	24	3	1	1	0	12	0	2	7	9	0	68	
4:10 PM	2	12	0	0	0	28	4	1	2	0	3	0	0	3	7	0	62	
4:15 PM	4	13	0	1	0	30	4	0	2	0	10	0	1	2	8	0	75	
4:20 PM	4	15	0	0	0	44	2	2	1	0	4	0	0	4	10	0	86	
4:25 PM	2	9	0	0	0	28	7	0	4	0	8	0	1	4	9	0	72	
4:30 PM	0	12	0	1	0	36	1	0	0	0	6	0	1	5	13	0	75	
4:35 PM	4	13	0	0	0	39	3	0	3	0	5	0	1	5	9	0	82	
4:40 PM	4	18	0	0	0	43	5	0	2	0	6	0	1	5	11	0	95	
4:45 PM	3	13	0	1	0	42	8	0	3	0	15	0	0	4	13	0	102	
4:50 PM	1	9	0	0	0	40	2	2	0	0	10	0	1	3	14	0	82	
4:55 PM	6	16	0	0	0	49	4	1	2	0	6	0	1	7	7	0	99	976
5:00 PM	3	18	0	1	0	27	2	0	2	0	12	0	2	3	13	0	83	981
5:05 PM	3	16	0	1	0	37	6	0	4	0	7	0	1	7	7	0	89	1002
5:10 PM	7	13	0	2	0	50	4	1	4	0	11	0	0	8	13	0	113	1053
5:15 PM	4	10	0	0	0	61	5	1	4	0	12	0	3	2	9	0	111	1089
5:20 PM	4	18	0	0	0	56	3	0	3	0	7	0	2	5	8	0	106	1109
5:25 PM	4	9	0	0	0	45	4	0	2	0	15	0	2	5	8	0	94	1131
5:30 PM	4	13	0	1	0	51	4	0	4	0	7	0	2	5	5	0	96	1152
5:35 PM	3	9	0	0	0	60	5	0	6	0	4	0	2	5	7	0	101	1171
5:40 PM	8	17	0	0	0	56	1	0	1	0	8	0	2	8	2	0	103	1179
5:45 PM	3	19	0	0	0	48	3	1	2	0	7	0	1	8	9	0	101	1178
5:50 PM	7	10	0	1	0	47	2	0	2	0	18	0	3	15	8	0	113	1209
5:55 PM	1	15	0	0	0	47	6	0	1	0	10	0	2	8	4	0	94	1204

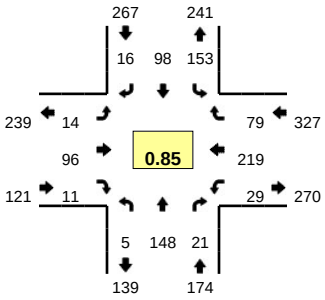
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	164	0	8	0	668	48	8	44	0	120	0	20	60	120	0	1320
Heavy Trucks	0	12	0		0	12	0		0	0	0		0	4	0		28
Pedestrians		28				112				60				88			288
Bicycles	0	1	0		2	3	0		0	0	1		0	0	1		8
Railroad																	
Stopped Buses																	

Comments:

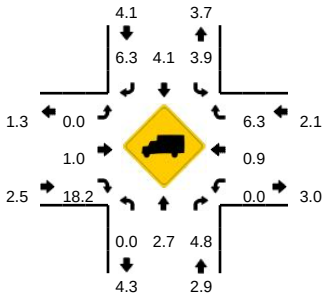
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

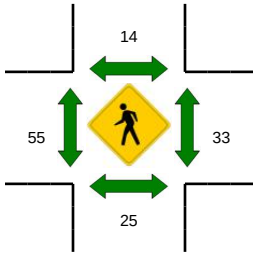
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

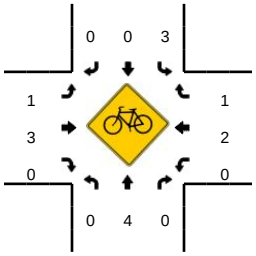
LOCATION: E 18th St -- Park Blvd | **QC JOB #:** 13747425
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

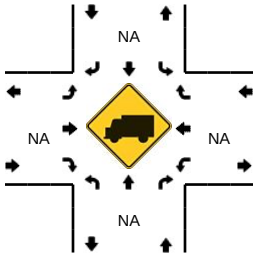


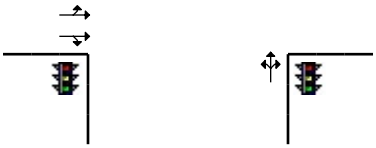
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

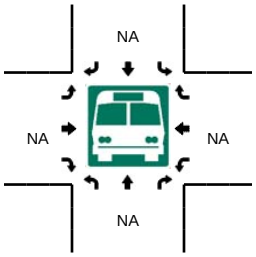












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	5	3	0	6	3	0	0	0	4	1	0	1	8	2	0	35	
7:05 AM	0	6	1	0	4	2	0	0	1	5	0	0	0	1	3	0	23	
7:10 AM	0	6	1	0	3	4	0	0	0	4	1	0	0	6	4	0	29	
7:15 AM	0	6	0	0	5	6	1	0	0	7	0	0	2	7	1	0	35	
7:20 AM	0	3	2	0	6	7	0	0	1	4	1	0	0	6	0	0	30	
7:25 AM	0	8	3	0	2	4	2	0	0	6	1	0	0	7	1	0	34	
7:30 AM	0	8	3	0	7	6	2	0	1	6	0	0	3	8	4	0	48	
7:35 AM	0	9	1	0	7	5	1	0	1	1	0	0	1	14	2	0	42	
7:40 AM	0	9	5	0	10	1	2	0	1	5	0	0	2	9	4	0	48	
7:45 AM	0	14	3	0	4	7	2	0	1	8	2	0	6	12	4	0	63	
7:50 AM	0	10	3	0	7	8	1	0	1	12	0	0	1	18	7	0	68	
7:55 AM	1	17	2	0	8	4	2	0	1	9	0	0	2	10	2	0	58	513
8:00 AM	0	11	2	0	20	8	1	0	1	10	2	0	5	27	7	0	94	572
8:05 AM	0	13	1	0	16	10	0	0	0	11	1	0	2	17	10	0	81	630
8:10 AM	1	15	2	0	14	10	0	0	1	17	1	0	1	23	3	0	88	689
8:15 AM	0	10	3	0	11	6	3	0	1	6	0	0	1	12	8	0	61	715
8:20 AM	0	16	0	0	12	7	1	0	1	11	0	0	0	16	14	0	78	763
8:25 AM	0	11	1	1	10	7	0	0	2	8	0	0	1	21	4	0	66	795
8:30 AM	1	15	3	0	13	7	3	0	3	9	1	0	1	18	7	0	81	828
8:35 AM	0	15	2	0	11	9	1	0	0	3	2	0	2	14	4	0	63	849
8:40 AM	0	9	1	0	11	12	1	0	1	7	1	0	3	22	6	0	74	875
8:45 AM	1	6	2	0	10	3	3	0	1	3	0	0	4	21	5	0	59	871
8:50 AM	1	13	0	0	10	9	1	0	2	7	1	0	4	15	7	0	70	873
8:55 AM	0	14	4	0	15	10	2	0	1	4	2	0	5	13	4	0	74	889

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	156	20	0	200	112	4	0	8	152	16	0	32	268	80	0	1052
Heavy Trucks	0	0	0		12	0	0		0	0	4		0	4	4		24
Pedestrians		28				8				48				52			136
Bicycles	0	3	0		1	0	0		0	2	0		0	0	0		6
Railroad																	
Stopped Buses																	

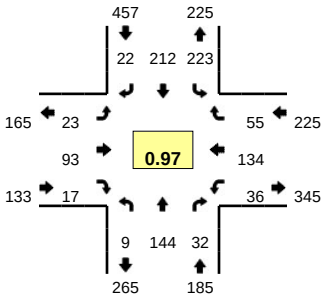
Comments:

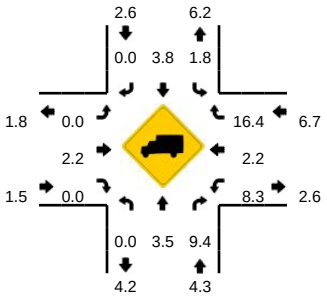
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

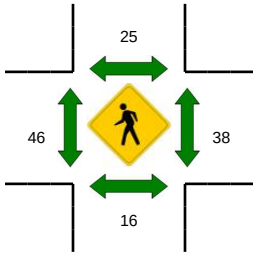
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

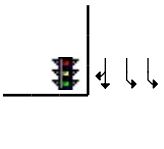
LOCATION: E 18th St -- Park Blvd | **QC JOB #:** 13747426
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

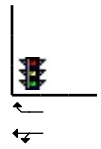
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:25 PM -- 3:40 PM

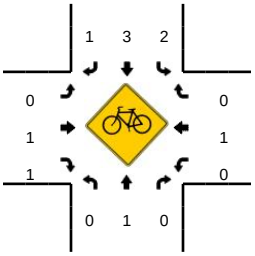


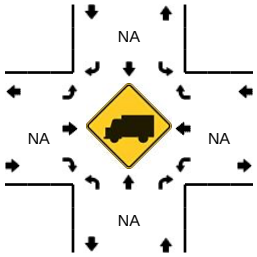


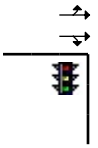


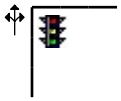


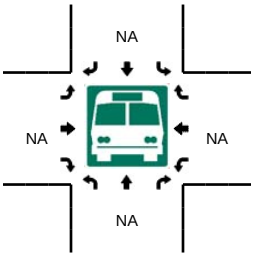












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	8	0	0	11	9	1	0	1	8	0	0	2	6	1	0	47	
2:05 PM	1	9	1	0	12	11	5	0	2	7	3	0	1	11	6	0	69	
2:10 PM	0	9	2	0	15	8	5	1	3	10	0	0	4	10	5	0	72	
2:15 PM	0	13	4	0	10	15	2	1	1	7	0	0	2	5	2	0	62	
2:20 PM	0	11	2	0	16	21	1	0	2	6	1	0	3	9	3	0	75	
2:25 PM	0	13	4	0	16	13	0	0	4	6	0	0	5	8	7	0	76	
2:30 PM	3	11	3	0	19	11	4	2	2	11	0	0	3	5	4	0	78	
2:35 PM	0	14	5	0	19	17	1	1	1	6	1	0	3	8	3	0	79	
2:40 PM	0	8	3	0	19	8	2	0	1	3	1	0	1	14	7	0	67	
2:45 PM	1	13	1	0	10	13	1	1	2	13	0	0	2	9	7	0	73	
2:50 PM	0	9	3	0	14	19	1	0	1	8	1	0	3	7	4	0	70	
2:55 PM	0	4	3	0	12	18	3	0	0	9	1	0	1	18	5	0	74	842
3:00 PM	0	11	4	0	17	10	1	1	1	11	3	0	3	12	2	0	76	871
3:05 PM	0	10	5	0	16	24	2	0	4	13	1	0	1	7	5	0	88	890
3:10 PM	1	10	3	0	14	21	4	0	2	12	1	0	2	16	2	0	88	906
3:15 PM	0	15	4	0	15	20	1	1	1	5	3	0	1	6	5	0	77	921
3:20 PM	1	5	4	0	24	13	2	0	3	9	1	0	6	8	6	0	82	928
3:25 PM	0	10	1	0	13	15	2	0	1	9	0	0	4	21	4	0	80	932
3:30 PM	0	17	0	0	17	19	2	0	3	6	0	0	2	13	8	0	87	941
3:35 PM	0	16	1	0	21	29	0	0	1	4	3	0	3	8	5	0	91	953
3:40 PM	2	14	2	0	19	10	3	0	0	10	1	0	3	9	5	0	78	964
3:45 PM	1	15	1	0	18	13	2	0	4	6	2	0	3	9	6	0	80	971
3:50 PM	3	10	3	0	17	22	2	1	2	5	2	0	7	15	2	0	91	992
3:55 PM	1	11	4	0	29	16	1	0	1	3	0	0	1	10	5	0	82	1000

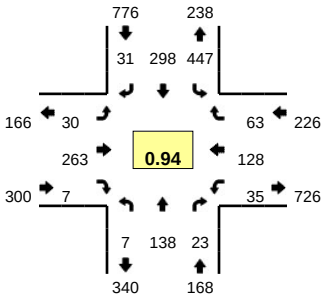
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	172	8	0	204	252	16	0	20	76	12	0	36	168	68	0	1032
Heavy Trucks	0	8	0		4	4	0		0	4	0		4	0	12		36
Pedestrians		32				32				36				48			148
Bicycles	0	0	0		1	2	1		0	0	0		0	0	0		4
Railroad																	
Stopped Buses																	

Comments:

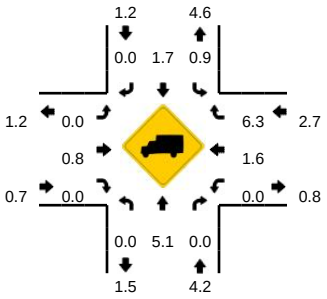
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

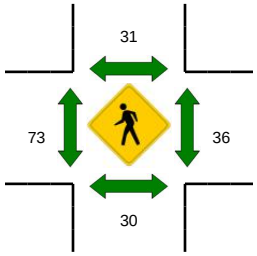
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

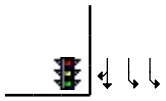
LOCATION: E 18th St -- Park Blvd | **QC JOB #:** 13747427
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

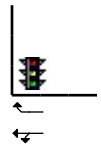


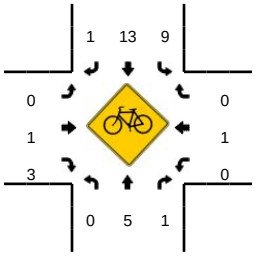
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

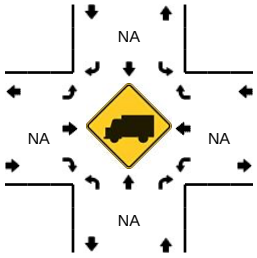


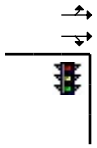


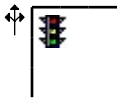


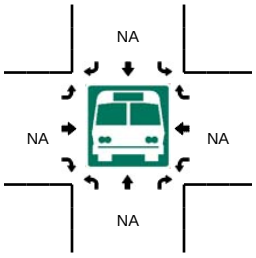












5-Min Count Period Beginning At	E 18th St (Northbound)				E 18th St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	7	2	0	13	25	1	0	0	10	0	0	2	7	5	0	72	
4:05 PM	0	8	1	0	21	15	5	0	2	14	0	0	2	14	3	0	85	
4:10 PM	0	15	3	0	13	17	1	0	0	15	2	0	8	8	0	0	82	
4:15 PM	0	11	4	0	24	21	4	1	0	12	1	0	1	8	5	0	92	
4:20 PM	0	13	1	1	25	19	3	3	1	11	2	0	1	10	6	0	96	
4:25 PM	0	11	6	0	20	17	1	0	0	7	3	0	5	3	1	0	74	
4:30 PM	0	14	4	0	25	23	0	0	0	14	0	0	4	6	3	0	93	
4:35 PM	1	13	4	0	31	20	1	0	3	15	0	0	0	9	2	0	99	
4:40 PM	0	13	3	0	30	18	2	0	2	10	1	0	1	13	4	0	97	
4:45 PM	0	13	2	1	27	28	1	0	2	9	1	0	2	5	5	0	96	
4:50 PM	0	8	3	0	24	29	0	0	3	11	0	0	2	4	3	0	87	
4:55 PM	0	12	3	0	32	22	2	0	0	17	5	0	2	10	11	0	116	1089
5:00 PM	1	9	2	0	32	21	1	0	2	17	1	0	5	11	7	0	109	1126
5:05 PM	1	12	0	0	26	16	1	0	9	28	0	0	1	11	4	0	109	1150
5:10 PM	0	11	4	0	36	28	2	0	4	22	0	0	2	16	9	0	134	1202
5:15 PM	0	8	1	0	42	35	1	0	1	24	0	0	3	6	5	0	126	1236
5:20 PM	2	13	2	0	47	28	4	0	2	15	1	0	1	10	6	0	131	1271
5:25 PM	0	7	1	0	35	27	4	2	3	25	0	0	3	8	6	0	121	1318
5:30 PM	0	13	0	0	44	14	2	0	2	21	3	0	3	11	2	0	115	1340
5:35 PM	1	8	2	0	34	26	6	2	2	33	0	0	3	8	3	0	128	1369
5:40 PM	1	13	2	0	33	28	3	0	2	19	1	0	4	14	6	0	126	1398
5:45 PM	1	18	2	0	34	17	0	2	2	27	0	0	4	9	7	0	123	1425
5:50 PM	0	15	5	0	43	27	3	0	0	18	0	0	4	8	5	0	128	1466
5:55 PM	0	11	2	0	34	31	4	1	1	14	1	0	2	16	3	0	120	1470

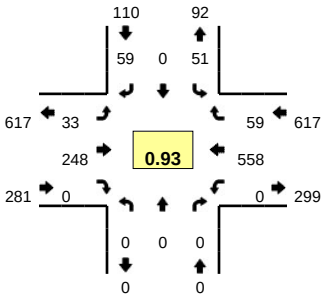
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	128	28	0	500	364	28	0	28	244	4	0	24	128	80	0	1564
Heavy Trucks	0	8	0		8	4	0		0	4	0		0	4	4		32
Pedestrians		64				32				104				48			248
Bicycles	0	1	0		1	3	0		0	0	0		0	0	0		5
Railroad																	
Stopped Buses																	

Comments:

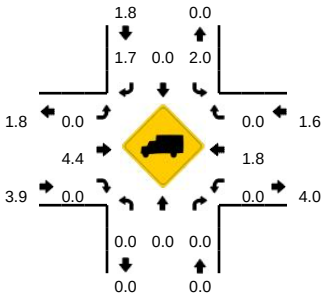
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

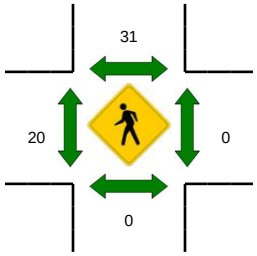
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

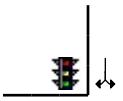
LOCATION: Newton Ave -- Park Blvd | **QC JOB #:** 13747428
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

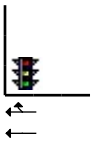


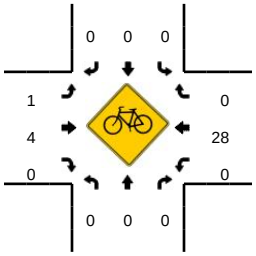
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

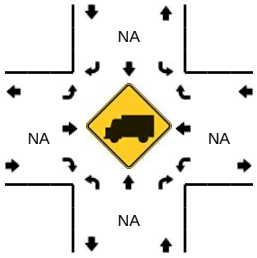


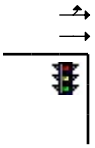


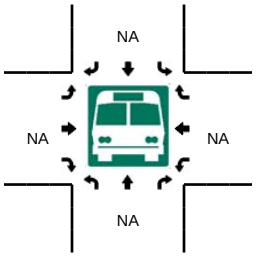












5-Min Count Period Beginning At	Newton Ave (Northbound)				Newton Ave (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	1	0	2	11	0	0	0	11	1	0	27	
7:05 AM	0	0	0	0	5	0	1	0	0	10	0	0	0	16	0	0	32	
7:10 AM	0	0	0	0	1	0	1	0	0	8	0	0	0	23	0	0	33	
7:15 AM	0	0	0	0	0	0	1	0	0	13	0	0	0	16	4	0	34	
7:20 AM	0	0	0	0	2	0	4	0	1	7	0	0	0	25	3	0	42	
7:25 AM	0	0	0	0	4	0	1	0	2	11	0	0	0	23	2	0	43	
7:30 AM	0	0	0	0	2	0	5	0	1	15	0	0	0	21	2	0	46	
7:35 AM	0	0	0	0	2	0	5	0	0	17	0	0	0	29	3	0	56	
7:40 AM	0	0	0	0	1	0	2	0	2	19	0	0	0	36	8	0	68	
7:45 AM	0	0	0	0	4	0	5	0	2	16	0	0	0	43	2	0	72	
7:50 AM	0	0	0	0	3	0	8	0	5	21	0	0	0	32	3	0	72	
7:55 AM	0	0	0	0	8	0	5	0	2	19	0	0	0	46	5	0	85	610
8:00 AM	0	0	0	0	2	0	5	0	3	27	0	0	0	37	2	0	76	659
8:05 AM	0	0	0	0	5	0	4	0	4	28	0	0	0	46	1	0	88	715
8:10 AM	0	0	0	0	3	0	8	0	3	37	0	0	0	45	5	0	101	783
8:15 AM	0	0	0	0	5	0	3	0	3	18	0	0	0	43	10	0	82	831
8:20 AM	0	0	0	0	8	0	1	0	5	18	0	0	0	53	2	0	87	876
8:25 AM	0	0	0	0	4	0	8	0	1	20	0	0	0	48	6	0	87	920
8:30 AM	0	0	0	0	2	0	4	0	5	18	0	0	0	49	2	0	80	954
8:35 AM	0	0	0	0	4	0	6	0	1	14	0	0	0	49	10	0	84	982
8:40 AM	0	0	0	0	2	0	2	0	2	17	0	0	0	49	6	0	78	992
8:45 AM	0	0	0	0	3	0	4	0	1	13	0	0	0	52	8	0	81	1001
8:50 AM	0	0	0	0	5	0	9	0	3	19	0	0	0	41	2	0	79	1008
8:55 AM	0	0	0	0	4	0	5	0	1	23	0	0	0	44	3	0	80	1003

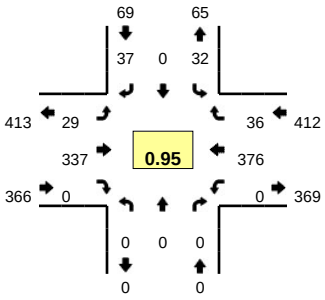
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	52	0	60	0	40	332	0	0	0	536	64	0	1084
Heavy Trucks	0	0	0		4	0	0		0	12	0		0	12	0		28
Pedestrians		0				44				32				0			76
Bicycles	0	0	0		0	0	0		1	1	0		0	8	0		10
Railroad																	
Stopped Buses																	

Comments:

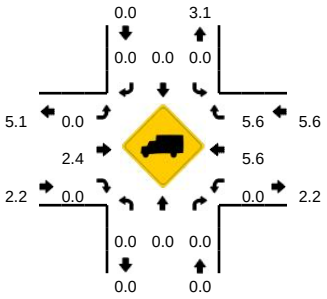
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

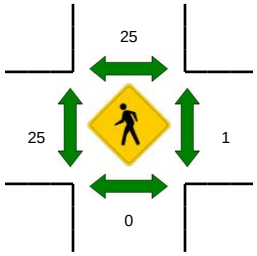
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

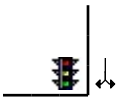
LOCATION: Newton Ave -- Park Blvd | **QC JOB #:** 13747429
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

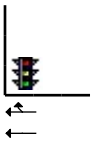


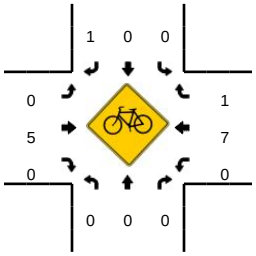
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:20 PM -- 3:35 PM

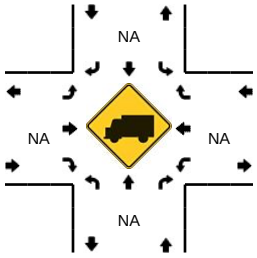


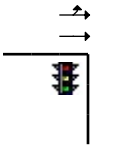


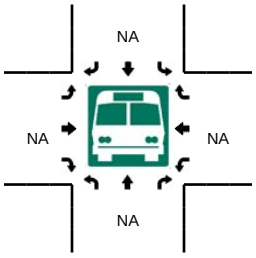












5-Min Count Period Beginning At	Newton Ave (Northbound)				Newton Ave (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	0	0	2	0	1	0	2	19	0	0	0	17	2	0	43	
2:05 PM	0	0	0	0	4	0	2	0	2	16	0	0	0	27	3	0	54	
2:10 PM	0	0	0	0	3	0	3	0	2	26	0	0	0	25	1	0	60	
2:15 PM	0	0	0	0	0	0	2	0	3	21	0	0	0	17	3	0	46	
2:20 PM	0	0	0	0	2	0	4	0	0	29	0	0	0	27	1	0	63	
2:25 PM	0	0	0	0	2	0	4	0	4	18	0	0	0	21	1	0	50	
2:30 PM	0	0	0	0	0	0	4	0	6	27	0	0	0	20	3	0	60	
2:35 PM	0	0	0	0	2	0	6	0	6	21	0	0	0	21	1	0	57	
2:40 PM	0	0	0	0	3	0	2	0	2	25	0	0	0	31	2	0	65	
2:45 PM	0	0	0	0	2	0	5	0	5	20	0	0	0	32	2	0	66	
2:50 PM	0	0	0	0	0	0	7	0	2	24	0	0	0	25	2	0	60	
2:55 PM	0	0	0	0	4	0	3	0	3	24	0	0	0	29	0	0	63	687
3:00 PM	0	0	0	0	2	0	4	0	0	33	0	0	0	39	3	0	81	725
3:05 PM	0	0	0	0	1	0	0	0	4	36	0	0	0	25	1	0	67	738
3:10 PM	0	0	0	0	2	0	4	0	1	30	0	0	0	25	5	0	67	745
3:15 PM	0	0	0	0	0	0	1	0	2	24	0	0	0	26	2	0	55	754
3:20 PM	0	0	0	0	0	0	2	0	8	33	0	0	0	32	6	0	81	772
3:25 PM	0	0	0	0	2	0	7	0	2	24	0	0	0	47	2	0	84	806
3:30 PM	0	0	0	0	1	0	4	0	0	21	0	0	0	32	1	0	59	805
3:35 PM	0	0	0	0	4	0	2	0	5	24	0	0	0	25	4	0	64	812
3:40 PM	0	0	0	0	3	0	4	0	1	29	0	0	0	30	3	0	70	817
3:45 PM	0	0	0	0	8	0	4	0	3	21	0	0	0	23	3	0	62	813
3:50 PM	0	0	0	0	6	0	3	0	1	30	0	0	0	42	5	0	87	840
3:55 PM	0	0	0	0	3	0	2	0	2	32	0	0	0	30	1	0	70	847

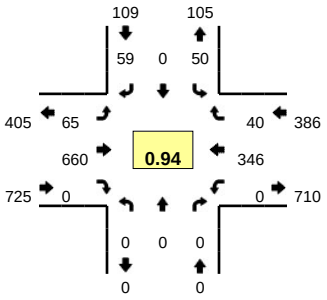
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	12	0	52	0	40	312	0	0	0	444	36	0	896
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	28	0		36
Pedestrians		0				40				20				0			60
Bicycles	0	0	0		0	0	0		0	3	0		0	2	0		5
Railroad																	
Stopped Buses																	

Comments:

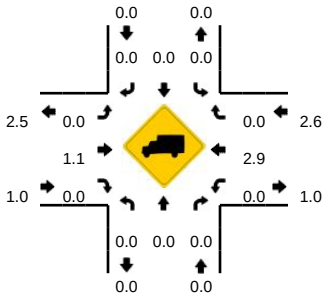
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

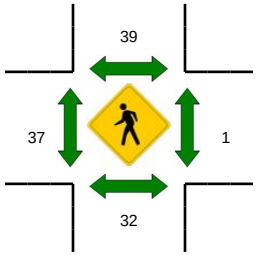
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

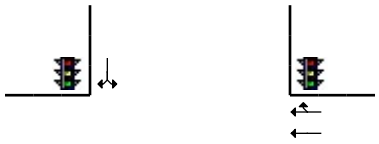
LOCATION: Newton Ave -- Park Blvd | **QC JOB #:** 13747430
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

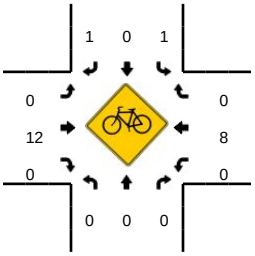


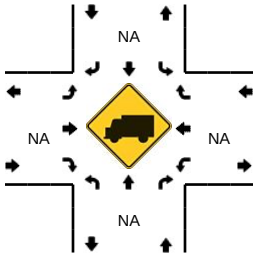
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

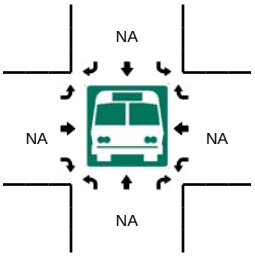












5-Min Count Period Beginning At	Newton Ave (Northbound)				Newton Ave (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	3	0	0	0	0	23	0	1	0	21	3	0	51	
4:05 PM	0	0	0	0	3	0	4	0	4	36	0	0	0	28	2	0	77	
4:10 PM	0	0	0	0	3	0	3	0	5	29	0	0	0	19	4	0	63	
4:15 PM	0	0	0	0	4	0	4	0	5	35	0	0	0	25	5	0	78	
4:20 PM	0	0	0	0	4	0	3	0	2	35	0	0	0	20	1	0	65	
4:25 PM	0	0	0	0	4	0	2	0	2	29	0	0	0	25	0	0	62	
4:30 PM	0	0	0	0	2	0	2	0	2	40	0	0	0	29	3	0	78	
4:35 PM	0	0	0	0	2	0	4	0	6	43	0	0	0	28	2	0	85	
4:40 PM	0	0	0	0	4	0	4	0	4	34	0	0	0	19	4	0	69	
4:45 PM	0	0	0	0	0	0	5	0	4	36	0	0	0	19	0	0	64	
4:50 PM	0	0	0	0	5	0	2	0	4	34	0	0	0	27	4	0	76	
4:55 PM	0	0	0	0	3	0	11	0	3	48	0	0	0	28	3	0	96	864
5:00 PM	0	0	0	0	3	0	7	0	5	40	0	0	0	35	2	0	92	905
5:05 PM	0	0	0	0	1	0	10	0	6	49	0	0	0	14	4	0	84	912
5:10 PM	0	0	0	0	4	0	1	0	6	59	0	0	0	42	2	0	114	963
5:15 PM	0	0	0	0	4	0	4	0	5	63	0	0	0	22	2	0	100	985
5:20 PM	0	0	0	0	4	0	4	0	5	58	0	0	0	39	0	0	110	1030
5:25 PM	0	0	0	0	5	0	5	0	6	56	0	0	0	24	3	0	99	1067
5:30 PM	0	0	0	0	4	0	3	0	6	61	0	0	0	15	2	0	91	1080
5:35 PM	0	0	0	0	7	0	5	0	2	65	0	0	0	27	4	0	110	1105
5:40 PM	0	0	0	0	7	0	5	0	6	50	0	0	0	28	8	0	104	1140
5:45 PM	0	0	0	0	4	0	4	0	7	56	0	0	0	36	3	0	110	1186
5:50 PM	0	0	0	0	4	0	3	0	5	60	0	0	0	30	4	0	106	1216
5:55 PM	0	0	0	0	3	0	8	0	6	43	0	0	0	34	6	0	100	1220

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	0	0	0	48	0	36	0	64	720	0	0	0	412	16	0	1296
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	16	0		32
Pedestrians		20				36				36				4			96
Bicycles	0	0	0		0	0	0		0	3	0		0	1	0		4
Railroad																	
Stopped Buses																	

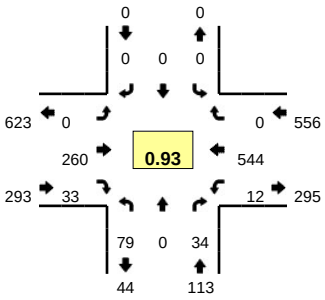
Comments:

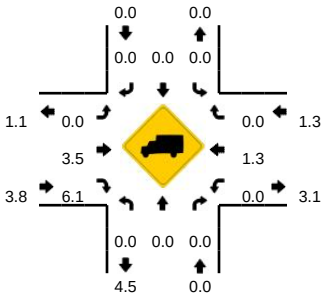
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

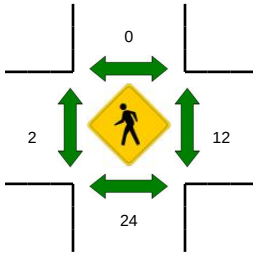
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

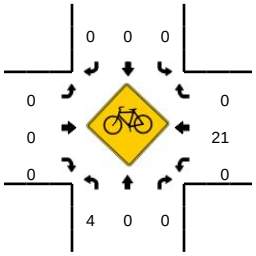
LOCATION: E 21st St -- Park Blvd | **QC JOB #:** 13747431
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

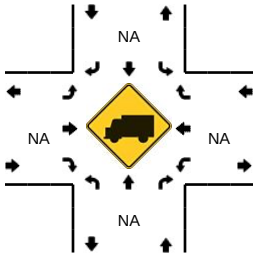
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

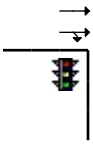


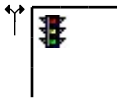


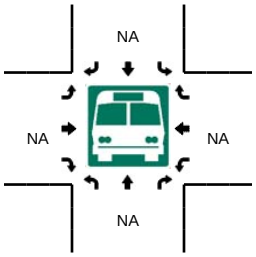












5-Min Count Period Beginning At	E 21st St (Northbound)				E 21st St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	2	0	0	0	0	0	0	12	0	0	0	10	0	0	24	
7:05 AM	1	0	1	0	0	0	0	0	0	10	2	0	1	22	0	0	37	
7:10 AM	3	0	0	0	0	0	0	0	0	10	1	0	0	15	0	0	29	
7:15 AM	4	0	1	0	0	0	0	0	0	11	0	0	0	20	0	0	36	
7:20 AM	0	0	1	0	0	0	0	0	0	11	1	0	0	25	0	0	38	
7:25 AM	1	0	2	0	0	0	0	0	0	10	3	0	0	26	0	0	42	
7:30 AM	5	0	0	0	0	0	0	0	0	17	2	0	0	19	0	0	43	
7:35 AM	8	0	2	0	0	0	0	0	0	16	3	1	0	25	0	0	55	
7:40 AM	4	0	0	0	0	0	0	0	0	18	0	0	0	39	0	0	61	
7:45 AM	6	0	3	0	0	0	0	0	0	19	3	0	1	40	0	0	72	
7:50 AM	6	0	2	0	0	0	0	0	0	27	2	0	0	29	0	0	66	
7:55 AM	9	0	6	0	0	0	0	0	0	23	4	0	0	42	0	0	84	587
8:00 AM	2	0	3	0	0	0	0	0	0	28	0	0	1	33	0	0	67	630
8:05 AM	2	0	4	0	0	0	0	0	0	27	3	0	0	47	0	1	84	677
8:10 AM	5	0	4	0	0	0	0	0	0	35	6	0	0	45	0	0	95	743
8:15 AM	8	0	2	0	0	0	0	0	0	18	3	0	1	46	0	0	78	785
8:20 AM	10	0	2	0	0	0	0	0	0	23	2	0	3	45	0	0	85	832
8:25 AM	4	0	5	0	0	0	0	0	0	19	3	0	1	48	0	0	80	870
8:30 AM	11	0	0	0	0	0	0	0	0	21	2	0	0	43	0	0	77	904
8:35 AM	6	0	1	0	0	0	0	0	0	15	1	0	2	58	0	0	83	932
8:40 AM	7	0	2	0	0	0	0	0	0	16	2	0	0	40	0	0	67	938
8:45 AM	10	0	1	0	0	0	0	0	0	13	4	0	2	61	0	0	91	957
8:50 AM	5	0	4	0	0	0	0	0	0	22	3	0	1	36	0	0	71	962
8:55 AM	5	0	3	0	0	0	0	0	0	20	4	0	0	41	0	0	73	951

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	92	0	32	0	0	0	0	0	0	304	44	0	16	544	0	0	1032
Heavy Trucks	0	0	0		0	0	0		0	16	4		0	8	0		28
Pedestrians		32				0				8				12			52
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Railroad																	
Stopped Buses																	

Comments:

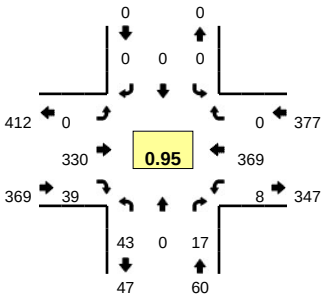
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

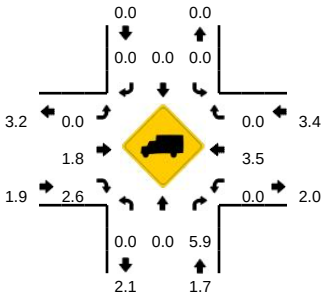
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

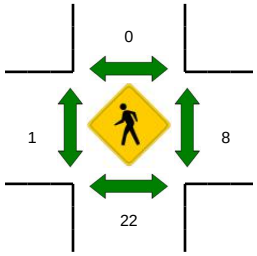
LOCATION: E 21st St -- Park Blvd
CITY/STATE: Oakland, CA

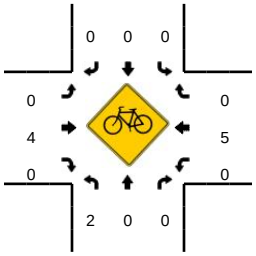
QC JOB #: 13747432
DATE: Tue, Apr 12 2016

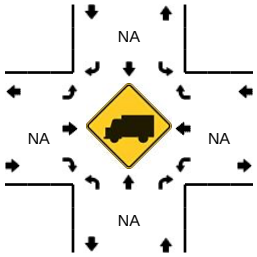
Peak-Hour: 3:00 PM -- 4:00 PM
Peak 15-Min: 3:45 PM -- 4:00 PM

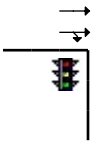


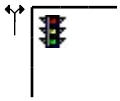


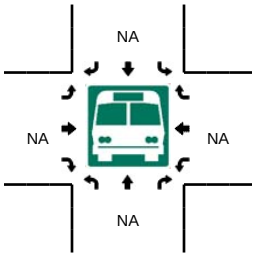












5-Min Count Period Beginning At	E 21st St (Northbound)				E 21st St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	3	0	2	0	0	0	0	0	0	20	1	0	0	17	0	0	43	
2:05 PM	4	0	0	0	0	0	0	0	0	22	1	0	0	26	0	0	53	
2:10 PM	4	0	0	0	0	0	0	0	0	26	5	0	1	23	0	0	59	
2:15 PM	3	0	4	0	0	0	0	0	0	18	1	0	0	20	0	0	46	
2:20 PM	5	0	0	0	0	0	0	0	0	26	3	0	2	21	0	0	57	
2:25 PM	1	0	2	0	0	0	0	0	0	17	2	0	1	24	0	0	47	
2:30 PM	0	0	0	0	0	0	0	0	0	29	2	1	1	18	0	0	51	
2:35 PM	2	0	4	0	0	0	0	0	0	23	2	0	1	26	0	0	58	
2:40 PM	6	0	0	0	0	0	0	0	0	22	3	0	0	25	0	0	56	
2:45 PM	6	0	1	0	0	0	0	0	0	22	4	0	0	20	0	0	53	
2:50 PM	1	0	1	0	0	0	0	0	0	22	3	0	0	34	0	0	61	
2:55 PM	2	0	4	0	0	0	0	0	0	22	2	0	1	28	0	0	59	643
3:00 PM	6	0	3	0	0	0	0	0	0	37	3	0	2	35	0	0	86	686
3:05 PM	5	0	0	0	0	0	0	0	0	28	2	0	0	21	0	0	56	689
3:10 PM	1	0	1	0	0	0	0	0	0	30	3	0	0	27	0	0	62	692
3:15 PM	2	0	1	0	0	0	0	0	0	20	2	0	1	29	0	0	55	701
3:20 PM	1	0	1	0	0	0	0	0	0	25	7	0	1	43	0	0	78	722
3:25 PM	7	0	2	0	0	0	0	0	0	26	2	0	0	40	0	0	77	752
3:30 PM	2	0	1	0	0	0	0	0	0	19	3	0	1	25	0	0	51	752
3:35 PM	2	0	4	0	0	0	0	0	0	25	3	0	0	30	0	0	64	758
3:40 PM	4	0	1	0	0	0	0	0	0	26	3	0	1	31	0	0	66	768
3:45 PM	6	0	0	0	0	0	0	0	0	33	7	0	0	23	0	0	69	784
3:50 PM	7	0	2	0	0	0	0	0	0	28	4	0	1	33	0	0	75	798
3:55 PM	0	0	1	0	0	0	0	0	0	33	0	0	1	32	0	0	67	806

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	52	0	12	0	0	0	0	0	0	376	44	0	8	352	0	0	844
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	12	0		20
Pedestrians		16				0				0				0			16
Bicycles	1	0	0		0	0	0		0	1	0		0	2	0		4
Railroad																	
Stopped Buses																	

Comments:

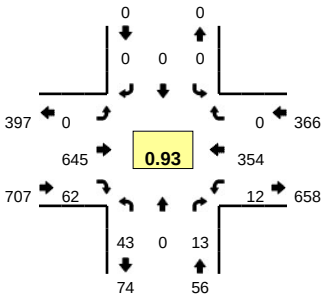
Report generated on 4/19/2016 2:59 PM

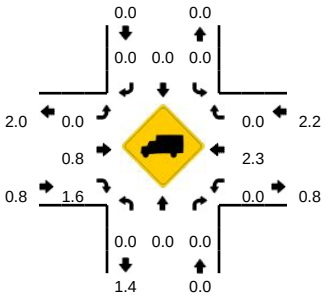
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

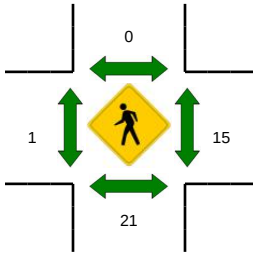
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

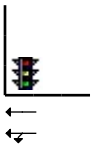
LOCATION: E 21st St -- Park Blvd | **QC JOB #:** 13747433
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

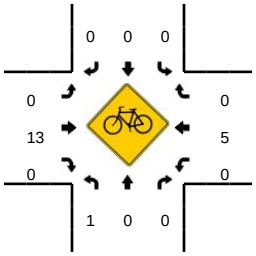
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:40 PM -- 5:55 PM

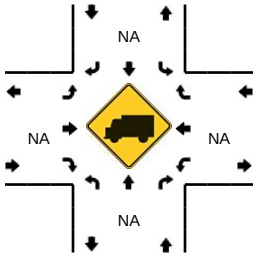


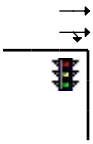


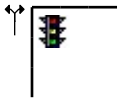


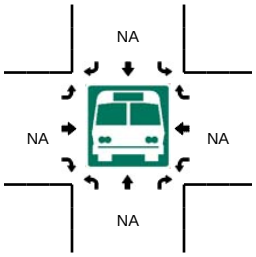












5-Min Count Period Beginning At	E 21st St (Northbound)				E 21st St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	0	0	0	0	0	0	0	25	2	0	1	28	0	0	58	
4:05 PM	1	0	1	0	0	0	0	0	0	39	3	0	0	24	0	0	68	
4:10 PM	3	0	1	0	0	0	0	0	0	30	5	0	2	20	0	0	61	
4:15 PM	5	0	0	0	0	0	0	0	0	25	4	0	1	26	0	0	61	
4:20 PM	1	0	2	0	0	0	0	0	0	38	5	0	3	19	0	0	68	
4:25 PM	2	0	2	0	0	0	0	0	0	35	0	0	1	21	0	0	61	
4:30 PM	2	0	1	0	0	0	0	0	0	38	5	0	0	32	0	0	78	
4:35 PM	7	0	2	0	0	0	0	0	0	37	3	0	1	24	0	0	74	
4:40 PM	1	0	2	0	0	0	0	0	0	34	3	0	0	21	0	0	61	
4:45 PM	5	0	1	0	0	0	0	0	0	37	2	0	0	21	0	0	66	
4:50 PM	3	0	0	0	0	0	0	0	0	42	4	0	1	23	0	0	73	
4:55 PM	6	0	1	0	0	0	0	0	0	44	4	0	0	23	0	0	78	807
5:00 PM	4	0	1	0	0	0	0	0	0	35	3	0	0	33	0	0	76	825
5:05 PM	1	0	0	0	0	0	0	0	0	50	3	0	0	31	0	0	85	842
5:10 PM	3	0	0	0	0	0	0	0	0	58	10	0	3	33	0	0	107	888
5:15 PM	3	0	0	0	0	0	0	0	0	65	2	0	1	20	0	0	91	918
5:20 PM	2	0	5	0	0	0	0	0	0	59	4	0	0	29	0	0	99	949
5:25 PM	7	0	0	0	0	0	0	0	0	52	7	0	0	23	0	0	89	977
5:30 PM	1	0	0	0	0	0	0	0	0	69	3	0	0	16	0	0	89	988
5:35 PM	5	0	1	0	0	0	0	0	0	62	9	0	0	29	0	0	106	1020
5:40 PM	5	0	1	0	0	0	0	0	0	48	3	0	0	31	0	0	88	1047
5:45 PM	1	0	1	0	0	0	0	0	0	56	7	0	2	40	0	0	107	1088
5:50 PM	5	0	1	0	0	0	0	0	0	57	5	0	4	36	0	0	108	1123
5:55 PM	6	0	3	0	0	0	0	0	0	34	6	0	2	33	0	0	84	1129

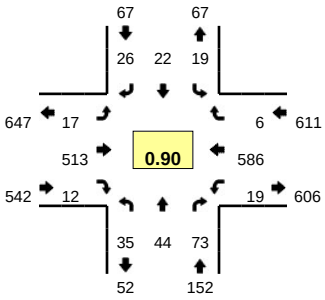
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	0	12	0	0	0	0	0	0	644	60	0	24	428	0	0	1212
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	12	0		16
Pedestrians		40				0				4				12			56
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

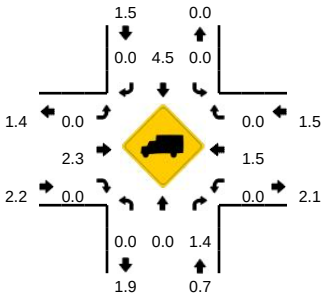
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

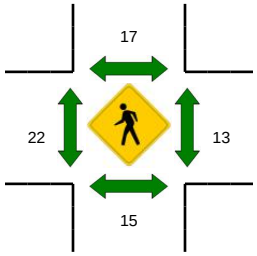
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

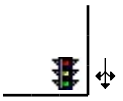
LOCATION: 7th Ave -- Park Blvd | **QC JOB #:** 13747434
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

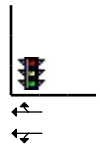


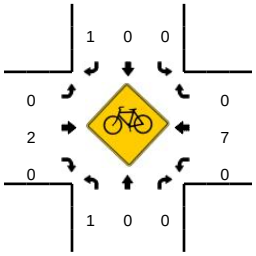
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

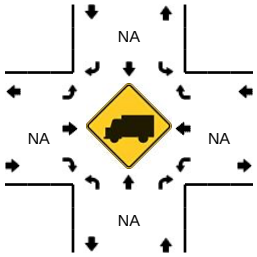


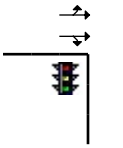


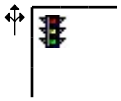


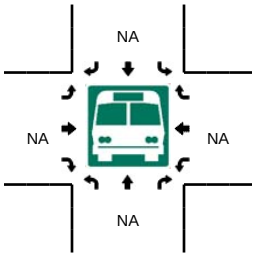












5-Min Count Period Beginning At	7th Ave (Northbound)				7th Ave (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	4	0	1	2	0	0	1	21	1	0	1	14	0	0	46	
7:05 AM	1	0	5	0	1	0	1	0	1	32	1	0	0	16	1	0	59	
7:10 AM	0	0	5	0	0	0	0	0	0	27	0	0	0	19	0	1	52	
7:15 AM	2	1	6	0	1	0	1	0	0	30	0	0	1	26	0	0	68	
7:20 AM	0	1	3	0	1	1	1	0	0	21	0	0	1	22	1	0	52	
7:25 AM	1	0	6	0	0	0	1	0	1	33	0	0	1	33	0	0	76	
7:30 AM	1	0	6	0	0	1	0	0	0	31	1	0	1	24	0	0	65	
7:35 AM	3	1	4	0	1	0	0	0	1	31	0	0	0	23	0	0	64	
7:40 AM	1	1	6	0	0	1	0	0	2	34	1	0	1	36	0	0	83	
7:45 AM	3	1	9	1	0	1	0	0	0	39	0	0	2	40	0	0	96	
7:50 AM	3	6	10	0	1	1	2	0	0	44	1	0	0	35	0	0	103	
7:55 AM	2	4	5	0	0	1	3	0	2	61	0	0	2	42	1	0	123	887
8:00 AM	3	6	10	0	0	2	3	0	2	46	0	0	0	48	0	0	120	961
8:05 AM	3	2	8	0	3	0	2	0	0	61	0	0	4	52	0	0	135	1037
8:10 AM	1	4	12	0	4	1	2	0	3	49	0	0	2	44	1	0	123	1108
8:15 AM	4	8	6	0	0	1	0	0	3	47	2	0	2	49	1	0	123	1163
8:20 AM	2	2	4	0	2	1	3	0	1	45	0	0	0	55	1	0	116	1227
8:25 AM	3	1	3	0	1	3	2	0	2	46	3	0	1	56	0	1	122	1273
8:30 AM	5	4	4	0	3	3	5	0	2	31	2	0	2	41	0	0	102	1310
8:35 AM	2	2	3	0	4	4	0	0	0	25	4	0	1	51	1	0	97	1343
8:40 AM	5	4	0	0	1	4	1	0	0	37	0	0	2	52	0	0	106	1366
8:45 AM	2	1	8	0	0	1	3	0	2	21	0	0	2	61	1	0	102	1372
8:50 AM	3	0	4	0	1	0	1	0	0	31	0	0	1	41	0	0	82	1351
8:55 AM	2	1	4	0	0	1	2	0	2	35	2	0	1	51	0	1	102	1330

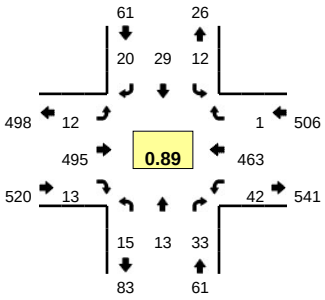
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	56	104	0	28	8	16	0	24	628	8	0	32	580	8	0	1524
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	12	0		24
Pedestrians		16				28				28				16			88
Bicycles	0	0	0		0	0	0		0	1	0		0	4	0		5
Railroad																	
Stopped Buses																	

Comments:

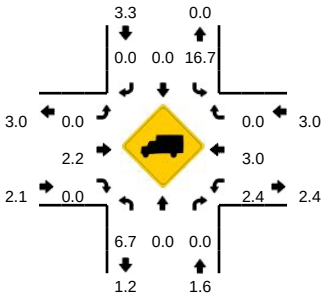
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

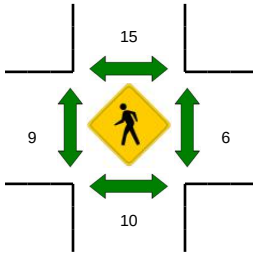
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

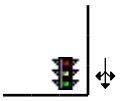
LOCATION: 7th Ave -- Park Blvd | **QC JOB #:** 13747435
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

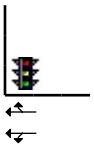


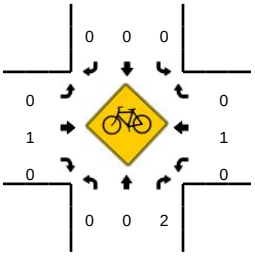
Peak-Hour: 2:50 PM -- 3:50 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

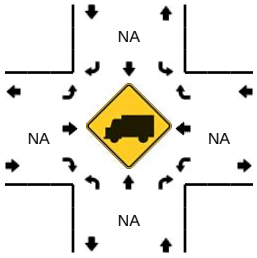


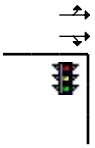


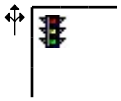


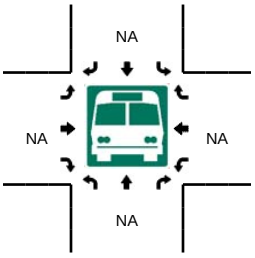












5-Min Count Period Beginning At	7th Ave (Northbound)				7th Ave (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	4	0	2	0	0	1	1	0	0	28	1	0	2	22	0	0	61	
2:05 PM	1	0	3	0	0	0	2	0	1	32	1	0	2	31	0	0	73	
2:10 PM	1	0	3	0	0	1	0	0	2	32	1	0	2	30	0	0	72	
2:15 PM	0	0	4	0	0	1	0	0	1	32	0	0	3	26	0	0	67	
2:20 PM	0	0	0	0	1	1	1	0	0	34	2	0	1	27	0	0	67	
2:25 PM	2	1	1	0	1	0	0	0	0	36	2	0	3	17	1	0	64	
2:30 PM	0	3	5	0	1	1	1	0	2	36	1	0	3	32	1	1	87	
2:35 PM	1	0	3	0	1	0	1	0	0	38	0	0	2	30	0	0	76	
2:40 PM	3	4	3	0	0	0	2	0	1	34	1	0	3	32	1	0	84	
2:45 PM	0	2	4	0	1	5	1	0	0	37	3	0	2	35	0	0	90	
2:50 PM	0	3	2	0	0	4	3	0	1	43	3	0	2	41	0	0	102	
2:55 PM	3	2	3	0	5	3	1	0	1	46	0	0	1	32	0	1	98	941
3:00 PM	1	1	2	0	1	2	0	0	1	54	0	0	6	47	1	0	116	996
3:05 PM	1	1	6	0	0	1	1	0	4	42	2	0	3	24	0	0	85	1008
3:10 PM	1	1	2	0	0	4	0	0	1	44	0	0	2	29	0	0	84	1020
3:15 PM	2	2	1	0	2	0	0	0	1	47	1	0	6	41	0	0	103	1056
3:20 PM	3	0	2	0	0	5	8	0	1	33	0	0	2	54	0	0	108	1097
3:25 PM	0	0	5	0	2	0	1	0	1	47	0	0	4	50	0	0	110	1143
3:30 PM	1	1	0	0	0	1	4	0	0	30	1	0	3	38	0	0	79	1135
3:35 PM	0	1	3	0	0	3	1	0	0	38	2	0	4	35	0	0	87	1146
3:40 PM	1	1	3	0	0	3	1	0	0	35	1	0	3	34	0	0	82	1144
3:45 PM	2	0	4	0	2	3	0	0	1	36	3	0	5	38	0	0	94	1148
3:50 PM	2	2	1	0	2	4	2	0	2	36	0	0	3	33	1	0	88	1134
3:55 PM	1	0	3	0	1	2	0	0	0	42	1	0	5	42	0	0	97	1133

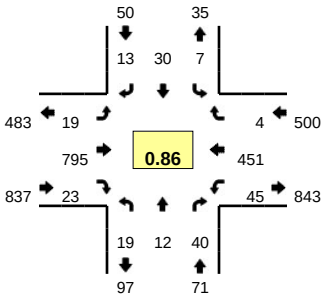
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	8	32	0	16	20	36	0	12	508	4	0	48	580	0	0	1284
Heavy Trucks	0	0	0		4	0	0		0	12	0		0	12	0		28
Pedestrians		12				40				4				4			60
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

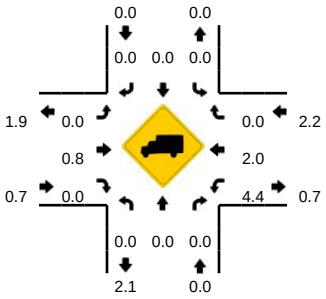
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

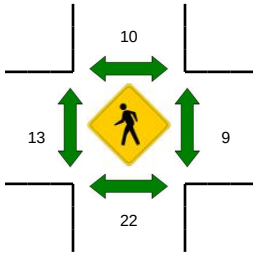
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

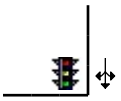
LOCATION: 7th Ave -- Park Blvd | **QC JOB #:** 13747436
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

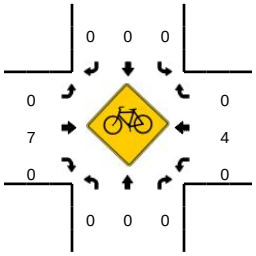


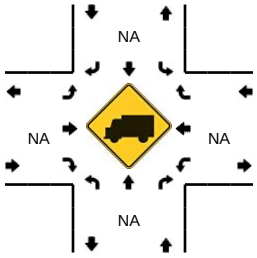
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:35 PM -- 5:50 PM

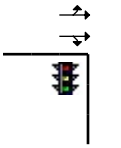


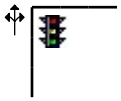


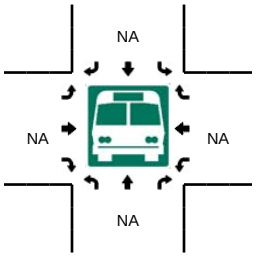












5-Min Count Period Beginning At	7th Ave (Northbound)				7th Ave (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	2	0	0	1	2	0	0	35	1	0	2	32	1	0	77	
4:05 PM	1	0	5	0	0	0	0	0	1	41	1	0	1	32	0	0	82	
4:10 PM	1	0	5	0	0	0	0	0	0	44	0	0	2	33	0	0	85	
4:15 PM	1	2	4	0	0	0	1	0	0	45	2	0	1	35	0	0	91	
4:20 PM	1	1	4	0	0	2	1	0	0	45	1	0	4	34	1	0	94	
4:25 PM	1	1	4	0	0	0	1	0	1	47	0	0	3	40	1	0	99	
4:30 PM	0	0	6	0	1	0	2	0	1	47	1	0	0	36	1	0	95	
4:35 PM	1	1	1	0	0	2	2	0	1	55	0	0	4	35	3	0	105	
4:40 PM	1	2	2	0	1	2	2	0	0	50	2	0	3	27	1	0	93	
4:45 PM	0	1	0	0	0	2	1	0	1	47	2	0	2	27	0	0	83	
4:50 PM	0	1	5	0	1	0	1	0	0	44	3	0	0	31	0	0	86	
4:55 PM	2	1	6	0	0	2	1	0	1	60	0	0	5	35	0	0	113	1103
5:00 PM	0	2	3	0	0	1	2	0	2	44	0	0	0	26	0	0	80	1106
5:05 PM	3	1	2	0	1	2	0	0	1	61	0	0	4	38	0	0	113	1137
5:10 PM	0	1	2	0	0	2	2	0	0	63	2	0	6	33	1	0	112	1164
5:15 PM	1	0	2	0	1	1	3	0	0	82	2	0	5	34	1	0	132	1205
5:20 PM	1	1	1	0	1	3	2	0	3	75	1	0	4	43	1	0	136	1247
5:25 PM	1	1	6	0	1	2	1	0	0	79	3	0	3	33	0	0	130	1278
5:30 PM	4	2	4	0	1	4	0	0	1	48	4	0	3	30	0	0	101	1284
5:35 PM	1	0	3	0	0	3	0	0	3	89	1	0	4	47	0	1	152	1331
5:40 PM	2	0	7	0	1	2	1	0	4	66	3	0	4	42	0	0	132	1370
5:45 PM	3	0	4	0	1	2	1	0	3	78	1	0	3	42	0	0	138	1425
5:50 PM	0	1	3	0	0	3	1	0	1	57	5	0	4	43	0	0	118	1457
5:55 PM	3	3	3	0	0	5	0	0	1	53	1	0	4	40	1	0	114	1458

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	24	0	56	0	8	28	8	0	40	932	20	0	44	524	0	4	1688
Heavy Trucks	0	0	0		0	0	0		0	4	0		4	8	0		16
Pedestrians		32				20				4				4			60
Bicycles	0	0	0		0	0	0		0	2	0		0	0	0		2
Railroad																	
Stopped Buses																	

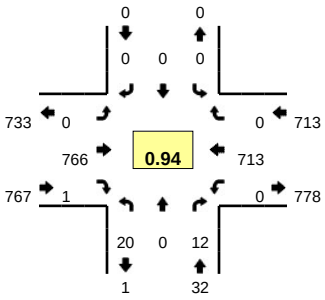
Comments:

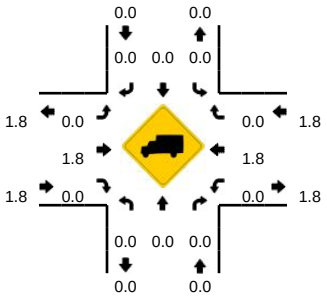
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

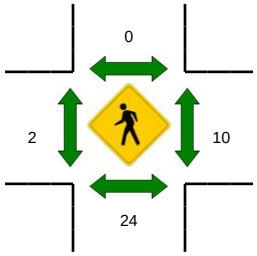
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

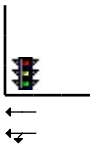
LOCATION: E 33rd St -- Park Blvd | **QC JOB #:** 13747437
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

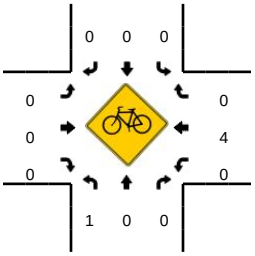
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

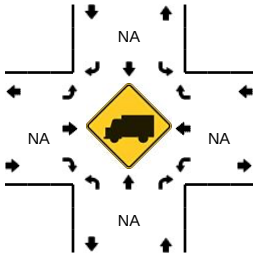


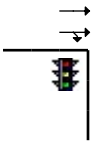


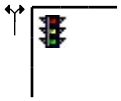


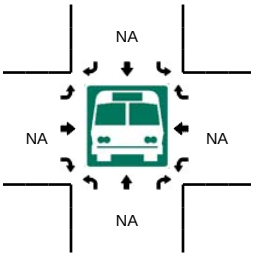












5-Min Count Period Beginning At	E 33rd St (Northbound)				E 33rd St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	2	0	0	0	0	0	0	42	0	0	0	16	0	0	60	
7:05 AM	0	0	0	0	0	0	0	0	0	44	0	0	0	18	0	0	62	
7:10 AM	0	0	0	0	0	0	0	0	0	49	0	0	0	25	0	0	74	
7:15 AM	0	0	1	0	0	0	0	0	0	46	0	0	0	28	0	0	75	
7:20 AM	1	0	0	0	0	0	0	0	0	40	0	0	0	36	0	0	77	
7:25 AM	0	0	0	0	0	0	0	0	0	54	0	0	0	31	0	0	85	
7:30 AM	1	0	0	0	0	0	0	0	0	58	0	0	0	33	0	0	92	
7:35 AM	0	0	0	0	0	0	0	0	0	47	0	0	0	40	0	0	87	
7:40 AM	2	0	2	0	0	0	0	0	0	62	0	0	0	40	0	0	106	
7:45 AM	0	0	0	0	0	0	0	0	0	68	0	0	0	50	0	0	118	
7:50 AM	1	0	0	0	0	0	0	0	0	67	0	0	0	60	0	0	128	
7:55 AM	2	0	3	0	0	0	0	0	0	64	0	0	0	46	0	0	115	1079
8:00 AM	1	0	0	0	0	0	0	0	0	68	0	0	0	53	0	0	122	1141
8:05 AM	4	0	1	0	0	0	0	0	0	71	0	0	0	62	0	0	138	1217
8:10 AM	4	0	3	0	0	0	0	0	0	67	0	0	0	60	0	0	134	1277
8:15 AM	3	0	2	0	0	0	0	0	0	70	0	0	0	55	0	0	130	1332
8:20 AM	0	0	0	0	0	0	0	0	0	53	0	0	0	77	0	0	130	1385
8:25 AM	2	0	0	0	0	0	0	0	0	67	0	0	0	68	0	0	137	1437
8:30 AM	1	0	2	0	0	0	0	0	0	65	0	0	0	55	0	0	123	1468
8:35 AM	1	0	1	0	0	0	0	0	0	52	1	0	0	66	0	0	121	1502
8:40 AM	1	0	0	0	0	0	0	0	0	54	0	0	0	61	0	0	116	1512
8:45 AM	0	0	2	0	0	0	0	0	0	59	0	0	0	57	0	0	118	1512
8:50 AM	0	0	0	0	0	0	0	0	0	41	0	0	0	52	0	0	93	1477
8:55 AM	1	0	0	0	0	0	0	0	0	52	0	0	0	50	0	1	104	1466

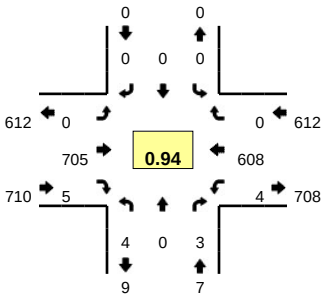
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	0	24	0	0	0	0	0	0	832	0	0	0	708	0	0	1608
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	8	0		24
Pedestrians		40				0				4				12			56
Bicycles	1	0	0		0	0	0		0	0	0		0	4	0		5
Railroad																	
Stopped Buses																	

Comments:

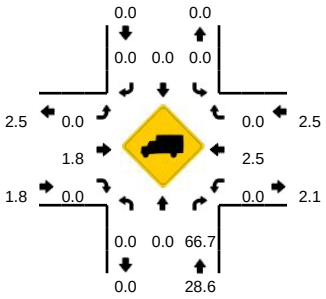
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

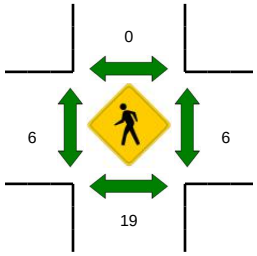
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

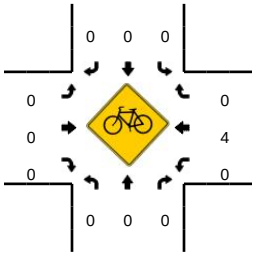
LOCATION: E 33rd St -- Park Blvd | **QC JOB #:** 13747438
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

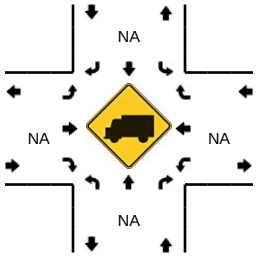


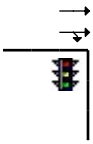
Peak-Hour: 2:30 PM -- 3:30 PM
Peak 15-Min: 3:15 PM -- 3:30 PM

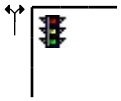


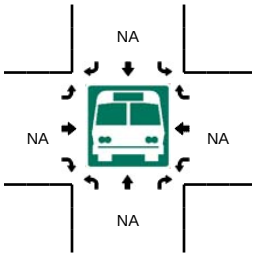












5-Min Count Period Beginning At	E 33rd St (Northbound)				E 33rd St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	0	0	0	0	0	0	0	42	0	0	0	31	0	0	73	
2:05 PM	1	0	0	0	0	0	0	0	0	48	0	0	0	42	0	0	91	
2:10 PM	1	0	0	0	0	0	0	0	0	37	0	0	0	38	0	0	76	
2:15 PM	0	0	1	0	0	0	0	0	0	52	0	0	0	34	0	0	87	
2:20 PM	0	0	0	0	0	0	0	0	0	52	1	0	0	39	0	0	92	
2:25 PM	0	0	0	0	0	0	0	0	0	34	1	0	1	33	0	0	69	
2:30 PM	0	0	0	0	0	0	0	0	0	51	1	0	0	53	0	0	105	
2:35 PM	1	0	0	0	0	0	0	0	0	50	1	0	0	51	0	0	103	
2:40 PM	0	0	0	0	0	0	0	0	0	53	1	0	0	55	0	0	109	
2:45 PM	0	0	0	0	0	0	0	0	0	60	0	0	1	50	0	0	111	
2:50 PM	0	0	0	0	0	0	0	0	0	58	0	0	1	42	0	0	101	
2:55 PM	1	0	0	0	0	0	0	0	0	70	0	0	0	39	0	0	110	1127
3:00 PM	1	0	1	0	0	0	0	0	0	74	0	0	0	62	0	0	138	1192
3:05 PM	0	0	1	0	0	0	0	0	0	53	0	0	1	43	0	0	98	1199
3:10 PM	0	0	1	0	0	0	0	0	0	44	1	0	0	53	0	0	99	1222
3:15 PM	1	0	0	0	0	0	0	0	0	70	0	0	1	60	0	0	132	1267
3:20 PM	0	0	0	0	0	0	0	0	0	61	1	0	0	46	0	0	108	1283
3:25 PM	0	0	0	0	0	0	0	0	0	61	0	0	0	54	0	0	115	1329
3:30 PM	0	0	0	0	0	0	0	0	0	51	0	0	0	42	0	0	93	1317
3:35 PM	0	0	0	0	0	0	0	0	0	38	0	0	0	48	0	0	86	1300
3:40 PM	0	0	0	0	0	0	0	0	0	54	0	0	0	41	0	0	95	1286
3:45 PM	1	0	0	0	0	0	0	0	0	52	0	0	0	50	0	0	103	1278
3:50 PM	1	0	1	0	0	0	0	0	0	49	0	0	0	54	0	0	105	1282
3:55 PM	0	0	0	0	0	0	0	0	0	56	0	0	0	50	0	0	106	1278

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	0	0	0	0	0	0	0	0	768	4	0	4	640	0	0	1420
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	12	0		24
Pedestrians		52				0				20				16			88
Bicycles	0	0	0		0	0	0		0	0	0		0	2	0		2
Railroad																	
Stopped Buses																	

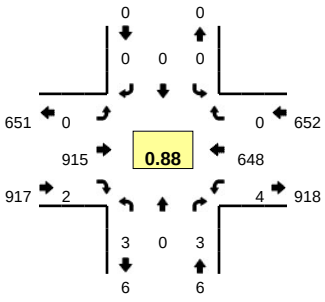
Comments:

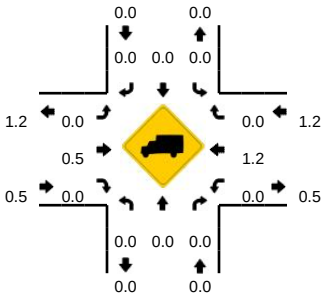
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

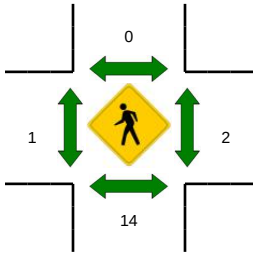
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

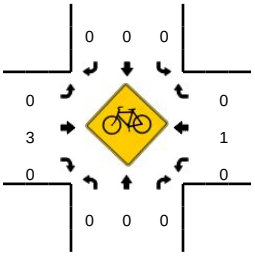
LOCATION: E 33rd St -- Park Blvd | **QC JOB #:** 13747439
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

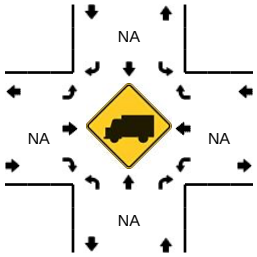
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:35 PM -- 5:50 PM

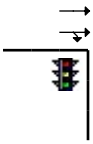


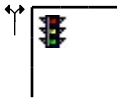


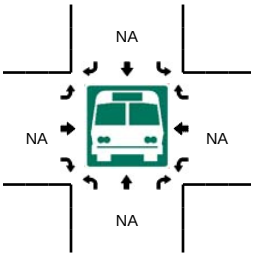












5-Min Count Period Beginning At	E 33rd St (Northbound)				E 33rd St (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	4	0	0	0	0	0	0	50	0	0	1	46	0	1	102	
4:05 PM	0	0	0	0	0	0	0	0	0	50	0	0	0	48	0	0	98	
4:10 PM	0	0	0	0	0	0	0	0	0	63	0	0	0	47	0	0	110	
4:15 PM	0	0	1	0	0	0	0	0	0	53	0	0	0	53	0	0	107	
4:20 PM	0	0	1	0	0	0	0	0	0	49	0	0	0	50	0	0	100	
4:25 PM	1	0	0	0	0	0	0	0	0	71	0	0	0	53	0	0	125	
4:30 PM	0	0	1	0	0	0	0	0	0	64	0	0	0	45	0	0	110	
4:35 PM	0	0	1	0	0	0	0	0	0	57	1	1	0	46	0	0	106	
4:40 PM	0	0	1	0	0	0	0	0	0	44	0	1	0	39	0	0	85	
4:45 PM	0	0	0	0	0	0	0	0	0	70	0	0	0	31	0	0	101	
4:50 PM	1	0	0	0	0	0	0	0	0	56	0	0	0	33	0	0	90	
4:55 PM	2	0	0	0	0	0	0	0	0	64	0	0	1	46	0	0	113	1247
5:00 PM	0	0	0	0	0	0	0	0	0	67	1	0	0	39	0	0	107	1252
5:05 PM	1	0	0	0	0	0	0	0	0	67	0	0	0	53	0	0	121	1275
5:10 PM	0	0	0	0	0	0	0	0	0	78	0	0	1	52	0	0	131	1296
5:15 PM	0	0	1	0	0	0	0	0	0	79	0	0	0	51	0	0	131	1320
5:20 PM	0	0	0	0	0	0	0	0	0	91	0	0	0	60	0	0	151	1371
5:25 PM	0	0	1	0	0	0	0	0	0	77	0	0	0	58	0	0	136	1382
5:30 PM	0	0	0	0	0	0	0	0	0	72	0	0	1	52	0	0	125	1397
5:35 PM	0	0	0	0	0	0	0	0	0	84	0	0	0	61	0	0	145	1436
5:40 PM	0	0	0	0	0	0	0	0	0	87	1	0	0	57	0	0	145	1496
5:45 PM	0	0	0	0	0	0	0	0	0	93	0	0	1	61	0	0	155	1550
5:50 PM	0	0	1	0	0	0	0	0	0	56	0	0	0	58	0	0	115	1575
5:55 PM	0	0	0	0	0	0	0	0	0	59	0	0	0	50	0	0	109	1571

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	0	0	0	0	0	0	0	0	1056	4	0	4	716	0	0	1780
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	16	0		20
Pedestrians		20				0				0				0			20
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

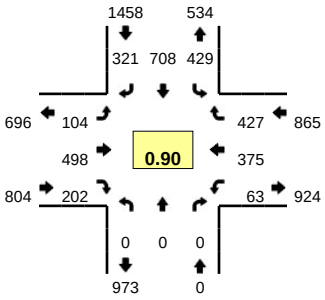
Comments:

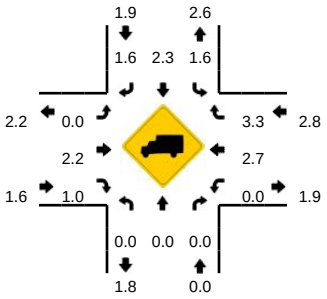
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

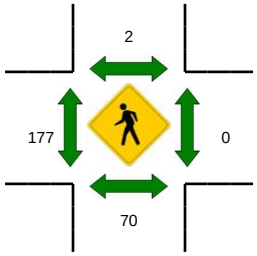
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

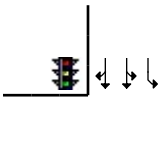
LOCATION: MacArthur Blvd -- Park Blvd | **QC JOB #:** 13747440
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

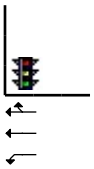
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

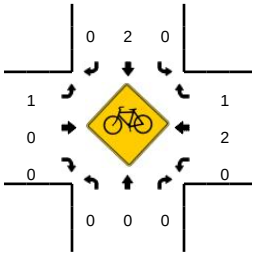


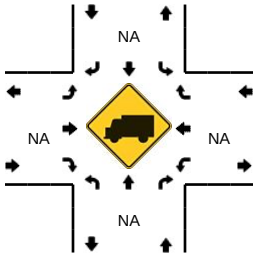


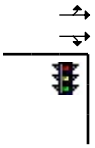


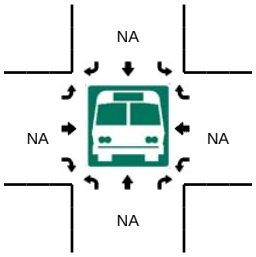












5-Min Count Period Beginning At	MacArthur Blvd (Northbound)				MacArthur Blvd (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	9	36	7	0	2	34	14	0	3	7	7	0	119	
7:05 AM	0	0	0	0	19	41	7	0	2	24	11	0	1	12	8	0	125	
7:10 AM	0	0	0	0	21	25	11	0	3	41	11	0	2	18	3	0	135	
7:15 AM	0	0	0	0	9	28	11	0	6	34	11	0	3	13	13	0	128	
7:20 AM	0	0	0	0	8	41	17	0	2	23	10	0	1	15	12	0	129	
7:25 AM	0	0	0	0	20	32	22	0	5	40	10	0	1	10	10	0	150	
7:30 AM	0	0	0	0	11	44	21	0	2	44	15	0	4	18	11	0	170	
7:35 AM	0	0	0	0	28	50	21	0	1	31	12	0	2	18	24	0	187	
7:40 AM	0	0	0	0	29	47	20	0	7	44	17	0	2	25	24	0	215	
7:45 AM	0	0	0	0	27	50	20	0	8	47	19	0	3	31	34	0	239	
7:50 AM	0	0	0	0	37	83	32	2	12	38	17	0	4	20	34	0	279	
7:55 AM	0	0	0	0	32	64	24	1	9	43	15	0	6	26	34	0	254	2130
8:00 AM	0	0	0	0	35	54	28	0	11	44	20	0	12	26	46	0	276	2287
8:05 AM	0	0	0	0	54	77	33	0	12	38	18	0	3	24	45	0	304	2466
8:10 AM	0	0	0	0	39	68	33	0	11	50	11	0	2	33	43	0	290	2621
8:15 AM	0	0	0	0	42	43	21	0	6	51	17	0	5	26	37	0	248	2741
8:20 AM	0	0	0	0	53	74	27	0	7	28	20	0	6	46	36	0	297	2909
8:25 AM	0	0	0	0	29	55	29	0	7	43	18	0	6	38	37	0	262	3021
8:30 AM	0	0	0	0	19	41	22	0	10	42	17	0	5	32	33	0	221	3072
8:35 AM	0	0	0	0	39	54	26	0	4	39	13	0	4	35	22	0	236	3121
8:40 AM	0	0	0	0	20	45	26	0	7	35	17	0	7	38	26	0	221	3127
8:45 AM	0	0	0	0	18	26	27	0	8	49	9	0	5	33	21	0	196	3084
8:50 AM	0	0	0	0	32	42	27	0	4	26	11	0	6	23	24	0	195	3000
8:55 AM	0	0	0	0	26	50	18	0	4	33	16	0	5	38	19	0	209	2955

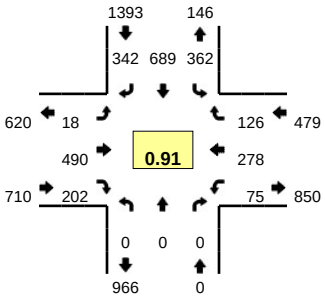
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	512	796	376	0	136	528	196	0	68	332	536	0	3480
Heavy Trucks	0	0	0		8	20	4		0	16	0		0	8	16		72
Pedestrians		84				4				384				0			472
Bicycles	0	0	0		0	0	0		1	0	0		0	2	0		3
Railroad																	
Stopped Buses																	

Comments:

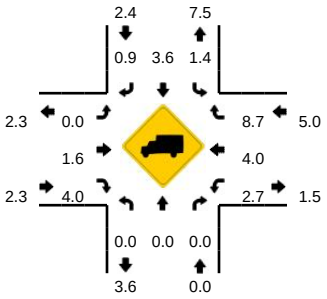
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

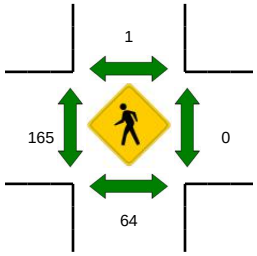
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

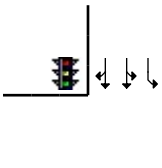
LOCATION: MacArthur Blvd -- Park Blvd | **QC JOB #:** 13747441
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

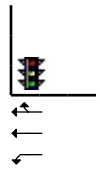


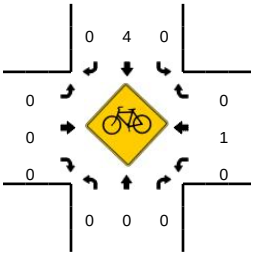
Peak-Hour: 2:35 PM -- 3:35 PM
Peak 15-Min: 3:20 PM -- 3:35 PM

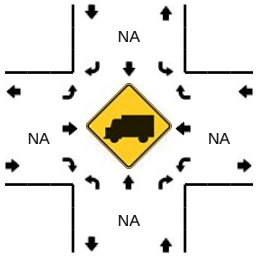


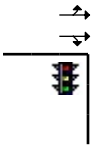


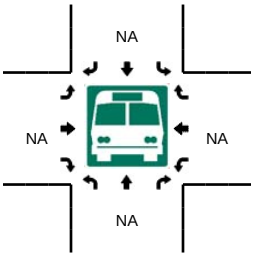












5-Min Count Period Beginning At	MacArthur Blvd (Northbound)				MacArthur Blvd (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	0	0	24	31	28	0	3	31	11	0	2	14	2	0	146	
2:05 PM	0	0	0	0	24	44	25	0	0	33	16	0	5	18	2	0	167	
2:10 PM	0	0	0	0	22	32	29	0	2	32	6	0	2	12	7	0	144	
2:15 PM	0	0	0	0	36	38	30	0	1	39	12	0	2	12	7	0	177	
2:20 PM	0	0	0	0	36	45	34	0	2	32	14	0	2	9	4	0	178	
2:25 PM	0	0	0	0	32	33	20	0	2	32	8	0	4	23	5	0	159	
2:30 PM	0	0	0	0	25	44	31	0	2	33	20	0	1	18	6	0	180	
2:35 PM	0	0	0	0	26	54	36	0	0	31	16	0	3	24	7	0	197	
2:40 PM	0	0	0	0	36	49	32	0	1	39	8	0	3	22	10	0	200	
2:45 PM	0	0	0	0	38	45	29	0	1	52	17	0	5	24	7	0	218	
2:50 PM	0	0	0	0	40	61	25	0	2	39	20	0	7	18	7	0	219	
2:55 PM	0	0	0	0	29	53	23	0	1	40	18	0	6	19	7	0	196	2181
3:00 PM	0	0	0	0	25	37	19	0	1	52	23	0	4	41	10	0	212	2247
3:05 PM	0	0	0	0	21	46	27	0	3	43	12	0	3	26	15	0	196	2276
3:10 PM	0	0	0	0	30	67	38	1	1	32	13	0	8	21	17	0	228	2360
3:15 PM	0	0	0	0	13	63	32	0	1	39	17	0	9	18	12	0	204	2387
3:20 PM	0	0	0	0	25	67	29	0	4	45	15	0	10	24	12	0	231	2440
3:25 PM	0	0	0	0	37	77	31	1	1	42	26	0	11	26	12	0	264	2545
3:30 PM	0	0	0	0	40	70	21	0	2	36	17	0	6	15	10	0	217	2582
3:35 PM	0	0	0	0	24	70	31	0	4	28	13	0	3	16	4	0	193	2578
3:40 PM	0	0	0	0	12	49	16	0	1	35	22	0	1	15	2	0	153	2531
3:45 PM	0	0	0	0	33	49	31	0	4	26	20	0	4	16	1	0	184	2497
3:50 PM	0	0	0	0	11	67	32	0	0	33	12	0	3	5	5	0	168	2446
3:55 PM	0	0	0	0	21	52	31	0	2	35	25	0	8	17	7	0	198	2448

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	0	0	0	408	856	324	4	28	492	232	0	108	260	136	0	2848
Heavy Trucks	0	0	0		0	36	0		0	12	8		8	12	12		88
Pedestrians		100				0				360				0			460
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

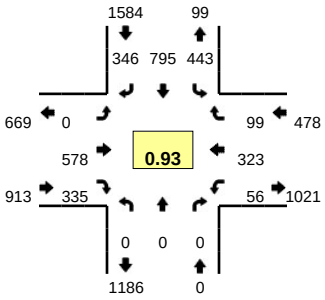
Comments:

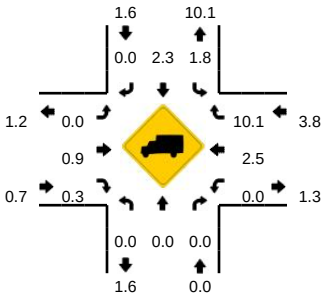
Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

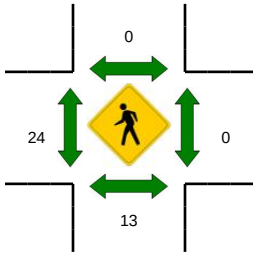
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

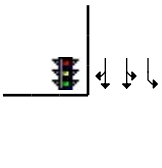
LOCATION: MacArthur Blvd -- Park Blvd | **QC JOB #:** 13747442
CITY/STATE: Oakland, CA | **DATE:** Tue, Apr 12 2016

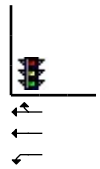
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:35 PM -- 5:50 PM

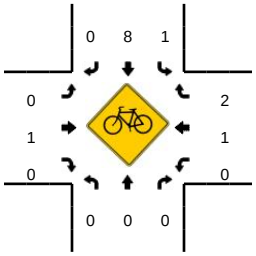


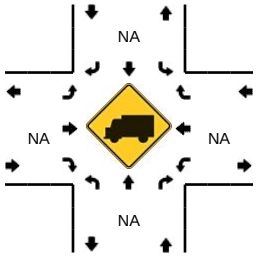


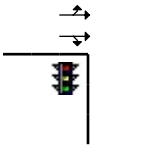


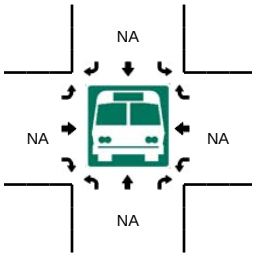












5-Min Count Period Beginning At	MacArthur Blvd (Northbound)				MacArthur Blvd (Southbound)				Park Blvd (Eastbound)				Park Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	36	43	27	0	0	34	20	0	6	21	9	0	196	
4:05 PM	0	0	0	0	50	49	33	0	0	30	18	0	9	20	9	0	218	
4:10 PM	0	0	0	0	35	61	26	0	0	47	18	0	5	24	6	0	222	
4:15 PM	0	0	0	0	30	43	37	0	0	36	23	0	5	20	5	0	199	
4:20 PM	0	0	0	0	38	58	32	0	0	37	19	0	6	20	6	0	216	
4:25 PM	0	0	0	0	33	56	32	0	0	37	26	0	5	23	14	0	226	
4:30 PM	0	0	0	0	46	37	23	0	0	40	28	0	2	30	8	0	214	
4:35 PM	0	0	0	0	34	58	27	0	0	37	19	0	5	10	12	1	203	
4:40 PM	0	0	0	0	39	47	23	0	0	25	18	0	6	18	10	0	186	
4:45 PM	0	0	0	0	31	59	17	0	0	44	26	0	5	15	11	0	208	
4:50 PM	0	0	0	0	42	56	19	0	0	34	22	0	5	18	5	0	201	
4:55 PM	0	0	0	0	51	64	20	0	0	41	21	0	7	23	9	0	236	2525
5:00 PM	0	0	0	0	28	66	22	0	0	49	13	0	2	17	9	0	206	2535
5:05 PM	0	0	0	0	31	54	20	0	0	38	28	0	5	34	10	0	220	2537
5:10 PM	0	0	0	0	38	75	25	0	0	47	34	0	6	28	6	0	259	2574
5:15 PM	0	0	0	0	45	85	26	0	0	40	37	0	7	24	10	0	274	2649
5:20 PM	0	0	0	0	31	60	32	0	0	60	31	0	4	35	5	0	258	2691
5:25 PM	0	0	0	0	33	56	34	0	0	50	28	0	4	30	9	0	244	2709
5:30 PM	0	0	0	0	45	61	32	0	0	41	35	0	5	21	9	0	249	2744
5:35 PM	0	0	0	0	45	80	30	0	0	55	24	0	7	30	6	0	277	2818
5:40 PM	0	0	0	0	30	79	36	0	0	59	30	0	2	26	12	0	274	2906
5:45 PM	0	0	0	0	30	49	36	0	0	56	38	0	4	30	7	0	250	2948
5:50 PM	0	0	0	0	36	66	33	0	0	42	16	0	3	25	7	0	228	2975
5:55 PM	0	0	0	0	54	49	29	0	0	37	22	0	3	22	7	0	223	2962

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	0	0	0	420	832	408	0	0	680	368	0	52	344	100	0	3204
Heavy Trucks	0	0	0		16	20	0		0	4	0		0	20	8		68
Pedestrians		12				0				16				0			28
Bicycles	0	0	0		0	3	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

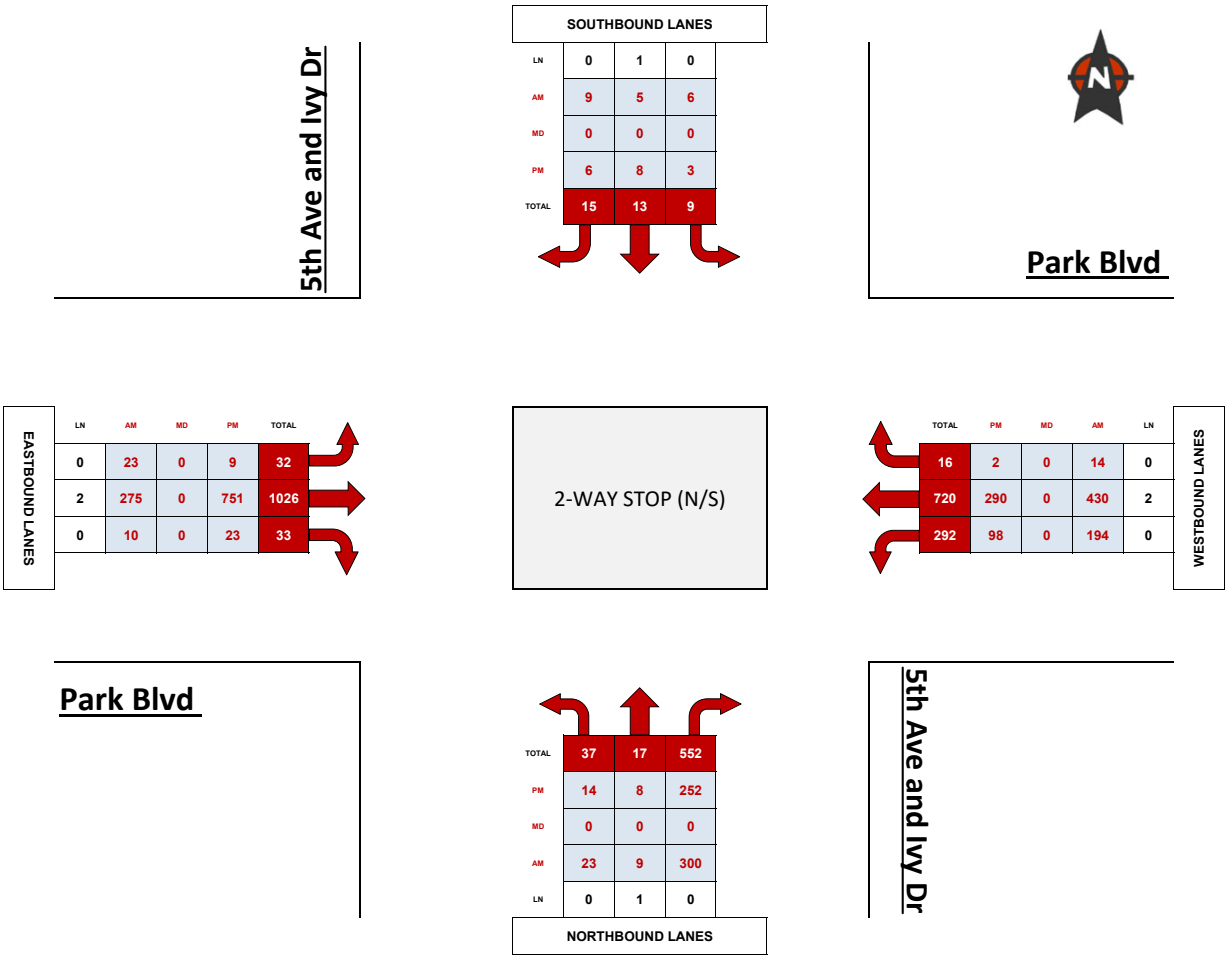
Comments:

Report generated on 4/19/2016 2:59 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

PEAK HOUR ITM SUMMARY

#001 5th Ave and Ivy Dr & Park Blvd

LOCATION#:	001	QTD PROJ#:	2018176	AM PEAK:	745 AM
NORTH / SOUTH:	5th Ave and Ivy Dr	DATE:	Tuesday, May 15, 2018	MD PEAK:	
EAST / WEST:	Park Blvd	VICINITY:	Oakland, CA	PM PEAK:	500 PM



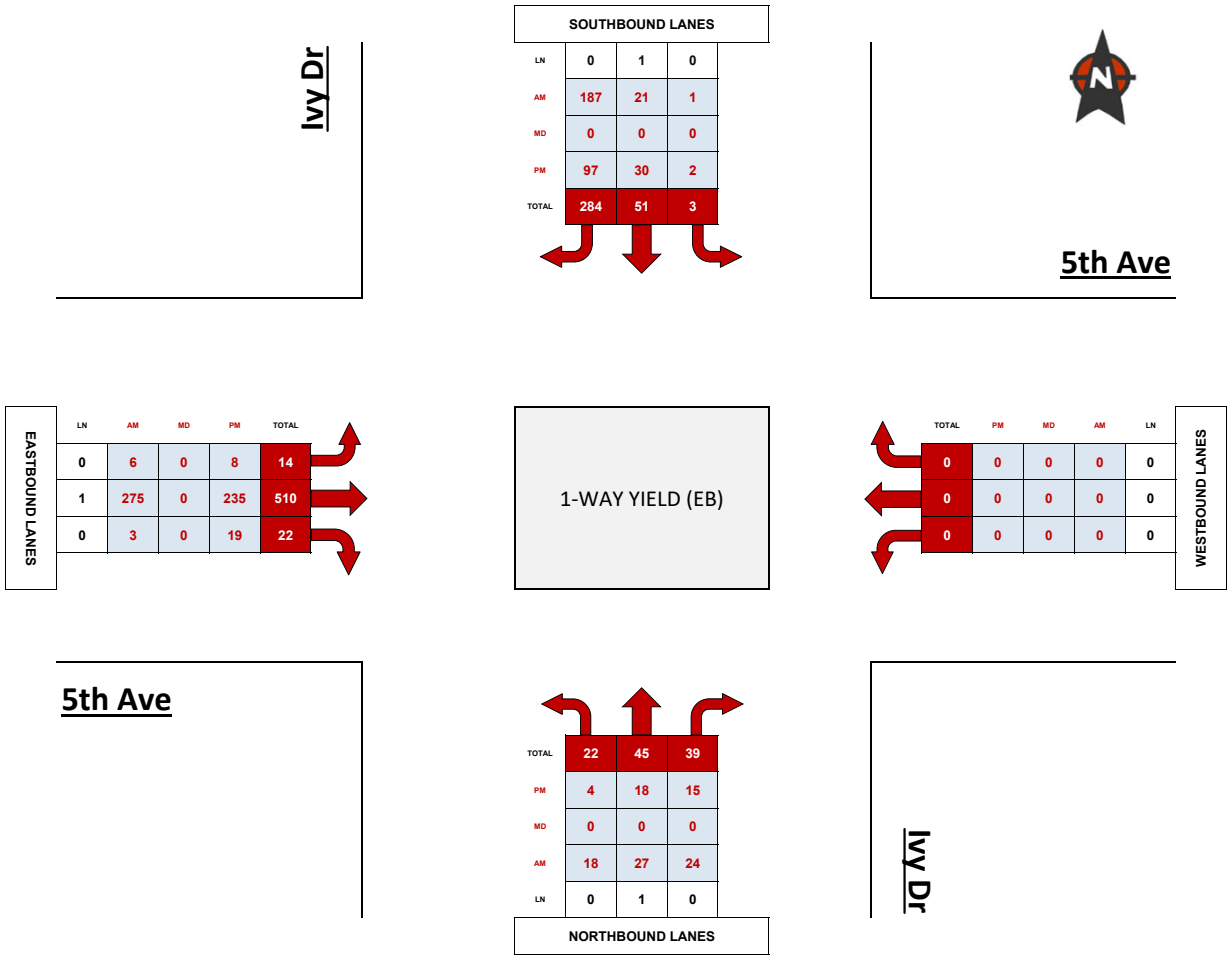
QUALITY TRAFFIC DATA, LLC
Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

AM COUNT	7:00 AM	TO	9:00 AM
MD COUNT	-	TO	-
PM COUNT	4:00 PM	TO	6:00 PM

PEAK HOUR ITM SUMMARY

#004 Ivy Dr & 5th Ave

LOCATION#:	004	QTD PROJ#:	2018176	AM PEAK:	745 AM
NORTH / SOUTH:	Ivy Dr	DATE:	Tuesday, May 15, 2018	MD PEAK:	
EAST / WEST:	5th Ave	VICINITY:	Oakland, CA	PM PEAK:	500 PM



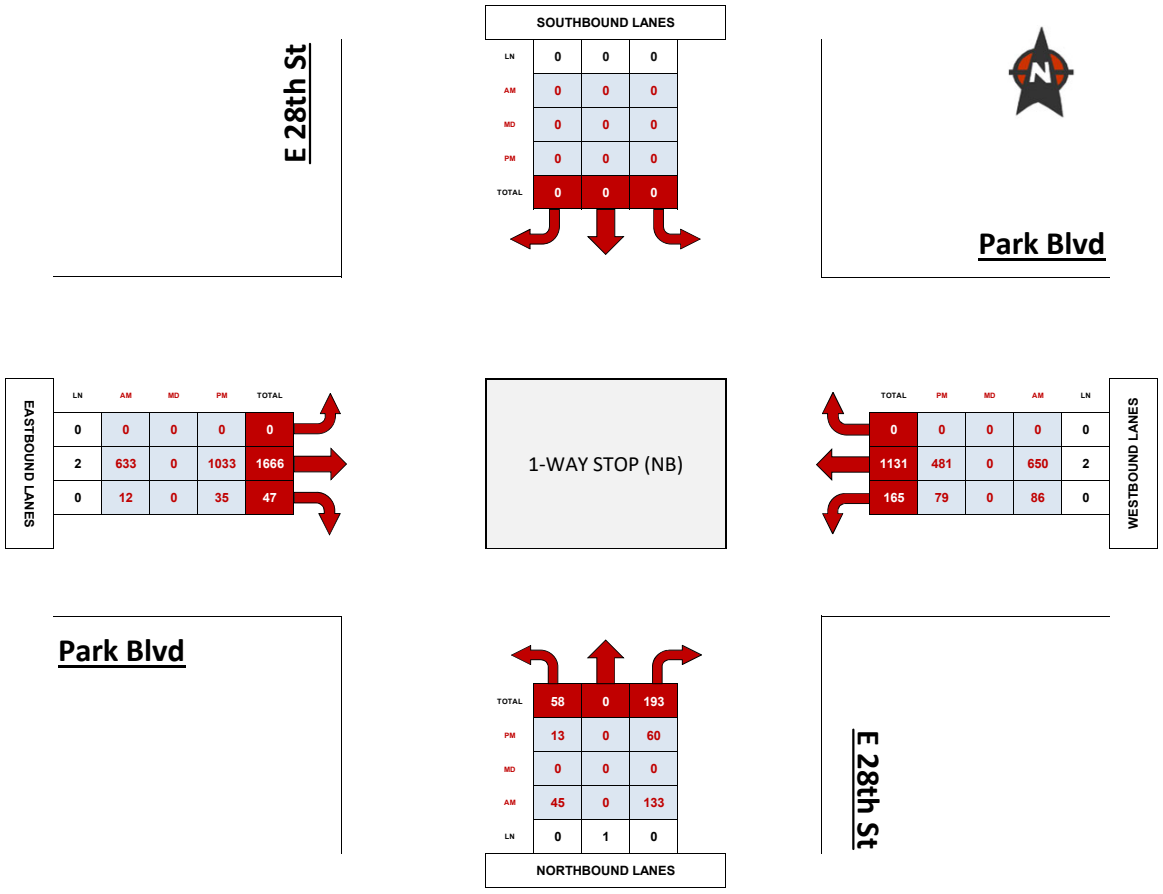
QUALITY TRAFFIC DATA, LLC
Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

AM COUNT	7:00 AM	TO	9:00 AM
MD COUNT	-	TO	-
PM COUNT	4:00 PM	TO	6:00 PM

PEAK HOUR ITM SUMMARY

#002 E 28th St & Park Blvd

LOCATION#:	002	QTD PROJ#:	2018176	AM PEAK:	745 AM
NORTH / SOUTH:	E 28th St	DATE:	Tuesday, May 15, 2018	MD PEAK:	
EAST / WEST:	Park Blvd	VICINITY:	Oakland, CA	PM PEAK:	500 PM



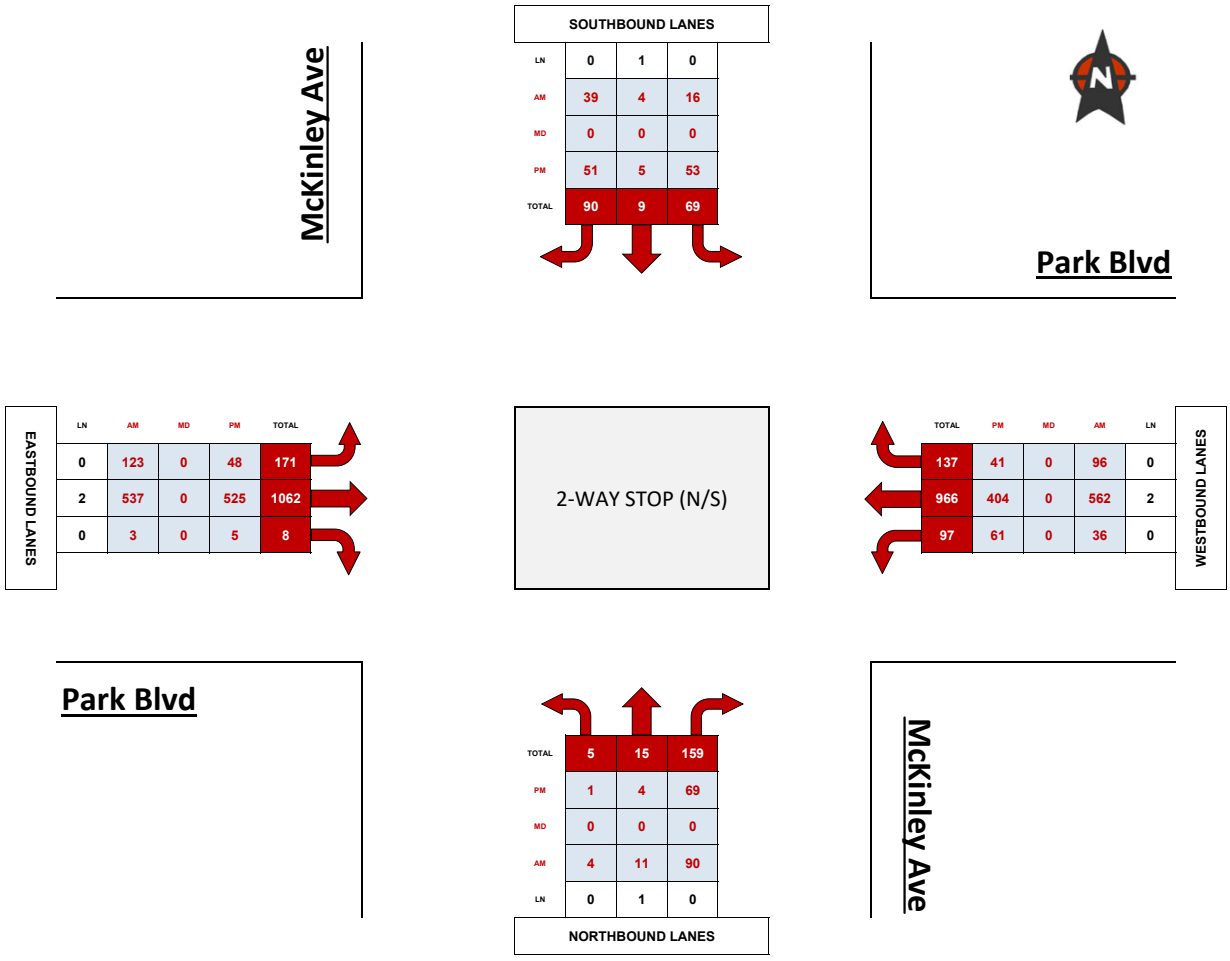
QUALITY TRAFFIC DATA, LLC
Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

AM COUNT	7:00 AM	TO	9:00 AM
MD COUNT	-	TO	-
PM COUNT	4:00 PM	TO	6:00 PM

PEAK HOUR ITM SUMMARY

#003 McKinley Ave & Park Blvd

LOCATION#:	003	QTD PROJ#:	2018176	AM PEAK:	745 AM
NORTH / SOUTH:	McKinley Ave	DATE:	Tuesday, May 15, 2018	MD PEAK:	
EAST / WEST:	Park Blvd	VICINITY:	Oakland, CA	PM PEAK:	245 PM



QUALITY TRAFFIC DATA, LLC
Phone: 877-852-4355 Fax: 877-877-3698 Info@QualityTrafficData.com

AM COUNT	7:00 AM	TO	9:00 AM
MD COUNT	-	TO	-
PM COUNT	2:30 PM	TO	4:30 PM