APPENDIX A:

RESUME OF PREPARER

WILLIAM A. STIMPSON, P.E.

Senior Traffic Engineer

PROFESSIONAL EXPERIENCE

giffels **=** webster

Two degrees in civil engineering and 47 years of experience in transportation and traffic engineering, specializing in traffic safety and site planning. Traffic safety work has included driver performance research, facility safety auditing, and crash litigation support. Site planning work has included plan development and review, traffic impact analysis, and access management. Has also dealt with parking, ridesharing and bicycling incentives, and freight transportation. Registered Professional Engineer in Michigan since 1980 and expert witness since 1987. Practical experience as a countywide Traffic Engineering Supervisor, 1991-93.

1998 to Present GIFFELS WEBSTER (formerly Clearzoning/Birchler Arroyo Associates) – Washington, Michigan Senior Traffic Engineer

Mr. Stimpson has performed traffic reviews of hundreds of site plans; prepared shared parking studies, thoroughfare plans, crash data studies, corridor safety evaluations, and access management studies; conducted and reviewed numerous traffic impact studies; and completed signal warrant evaluations and cut-through traffic studies for both public and private clients. He has also investigated individual traffic crashes relative to alleged highway-tort, premises, and/or personal liability, and has provided expert testimony as needed. Mr. Stimpson:

- Is a skilled site plan reviewer, providing valuable advice to municipalities and private developers. His
 comprehensive traffic review of a site plan can dramatically improve on-site circulation, access to and from the
 public road network, and pedestrian safety. He is also an expert in shared parking analysis, offering the ability to
 reduce unnecessary impervious surface area and increase site efficiency.
- Has provided traffic engineering, parking, and safety consulting services to several Michigan communities, including the cities of Novi, Rochester, Woodhaven, and Lathrup Village; townships of Shelby, Grand Blanc, and Lenox; and villages of Bingham Farms and Mattawan.
- Formulated a new comprehensive policy for traffic impact studies (subsequently adopted by several client communities); reviews such studies for our municipal clients; and prepares such studies for our private clients.
- Developed access management plans for Southfield Road in Lathrup Village; Van Dyke Avenue in Shelby Township; M-24 in Lapeer County; Novi Road in Novi; and Allen and West Roads in Woodhaven.
- Consults nationally in crash litigation matters. Has deposition and trial experience in both civil and criminal cases. Court-accepted expert witness in traffic engineering and crash causation analysis.

1995 to 1998	WILLIAM A. STIMPSON, P.E. – Rochester, Michigan
	Self-Employed Consultant

- Served as primary author of traffic safety manual for statewide use, under direction of the Southeast Michigan Council of Governments and sponsorship of Michigan's Office of Highway Safety Planning.
- Consulted nationally in crash litigation involving alleged personal and highway tort liability. Investigated crashes involving grade crossings, curves, trucks, pedestrians, and poor weather.
- Conducted and evaluated several traffic impact studies.

1993 to 1995	A/E GROUP, INC. – McLean, Virginia, Program Manager,
	Federal Highway Administration Geometric Design Lab

- Set up and managed national lab to coordinate development of Interactive Highway Safety Design Model, a suite
 of CAD-interactive software for visualizing and assessing the safety of prospective highway designs.
- Edited research reports, set up studies on curve speeds and roadway design consistency, evaluated research proposals for driver performance model, and wrote paper on vehicle dynamics modeling.
- Organized and chaired national workshop on accident analysis methods. Also reviewed 250 police accident reports in search of causal factors.

1991 to 1993	ADA COUNTY HIGHWAY DISTRICT – Boise, Idaho
	Traffic Engineering Supervisor

- Evaluated warrants for and specified design and placement of new signs, signals, and markings on ACHD's 1,500 miles of city streets and county roads.
- Oversaw design, construction, and/or operation of traffic signals at 260 intersections.
- Conceived and directed special traffic engineering and safety studies.
- Participated in conceptual planning and public-meeting review of all capital improvements.
- Evaluated traffic safety of all construction plans for intersections, roadways, and bridges.
- Approved traffic control plans for all significant road-related construction and maintenance.
- Evaluated traffic impacts of proposed land developments, and specified needed roadway and traffic control improvements.
- Analyzed traffic planning issues, such as downtown circulation and parking, new route and intersection alternatives, and regional pathways.

1987 to 1991	WILLIAM A. STIMPSON, P.E. – Rochester Hills, Michigan
	Self-Employed Consultant

- As Ford Motor Company's Proving Ground Safety Consultant in 1990, reviewed all aspects of driving safety at the company's four domestic proving grounds. Recommended new traffic control devices and numerous roadside safety improvements.
- Consulted in accident litigation, investigating crashes involving a construction zone, winter conditions, grade crossings, intersection sight distance, curves, and obstacle visibility. Also analyzed mass crash data, looking for evidence of vehicle design and operational problems.
- Established relationship between driver age and frequency of vehicle rollover crashes.
- Conducted several traffic impact studies and developed site plans for two shopping centers.

1979 to 1986 GENERAL MOTORS RESEARCH LABORATORIES – Warren, Michigan, Senior Research Engineer

- Researched crash causation, traffic signal coordination, in-vehicle navigation, and freight transportation.
- Used mass accident data to determine heavy-truck accident involvement trends, and to detect statistically different safety effects of alternative automobile bumper standards.
- Demonstrated through in-traffic measurements that re-timing and coordinating a network of vehicle-actuated traffic signals can reduce fuel use by as much as 15%.
- Established, for users of an in-vehicle navigation system, a relationship between excess travel and road network familiarity.
- Helped develop concept initially referred to as a "cooperative highway," where in-vehicle navigation, cellular communications, and computerized traffic control might improve travel efficiency and safety (a precursor to Intelligent Transportation Systems, or ITS).
- Developed analytic procedure for trading off receiving dock inventory and unloading costs.
- Helped develop, test, and implement a new production scheduling method proven to reduce finished vehicle logistics costs by as much a \$1 million per year per assembly plant.

1974 to 1979	ALAN M. VOORHEES & ASSOCIATES – McLean, Virginia
	Associate Engineer

- Managed and participated in studies of driver response to traffic control devices under various roadway design and environmental conditions; heavy truck safety; traffic operations; and parking.
- Directed development of accident-probability model based on traffic performance, and used model to evaluate alternative road delineation systems. Research led to new national standard for broken-line striping.
- Directed study of driver response to alternative durations of the yellow traffic signal.
- Assisted in comprehensive research study leading to national policy for right-turn-on-red.
- Evaluated benefits and costs of methods for alleviating adverse aerodynamic effects of large trucks.
- Compiled and analyzed data on 600 downgrade truck accidents.
- Directed comprehensive study of fringe parking lots for carpoolers at 150 lots in four states.

Stimpson, page 3 of 5

- Estimated cost-effectiveness of area-wide express bus service.
- Contributed to development of U.S. Capitol Hill Master Plan.
- Evaluated traffic circulation, traffic impact, parking, and signal timing optimization.

1972 to 1974	NATIONAL MILITARY COMMAND SYSTEM SUPPORT CENTER – The Pentagon,
	Transportation Analyst

- Worked as a junior Army officer in the NMCSSC, an arm of the Defense Communications Agency providing systems analysis support to the Organization of the Joint Chiefs of Staff.
- Developed multi-modal transportation data bases for foreign theaters of operation.
- Consulted with senior officers of OJCS on intra-theater strategic mobility modeling needs, and directed revisions to a large multi-modal transportation simulation model.

1970 to 1971	TEXAS TRANSPORTATION INSTITUTE, Texas A&M University, College Station, Texas,
	Research Assistant

- Researched Highway Visual Communications Systems within TTI's Driving Environment Program.
- Synthesized findings of diagnostic field studies of driver behavior and performance, and used findings to recommend improved roadway design and traffic control practices.
- With a research psychologist, co-authored detailed "Driver Expectancy Checklist" for roadway design (condensed checklist later published by American Association of State Highway Officials, nka as AASHTO).
- Helped conduct daytime and nighttime sign legibility tests.

EDUCATION

B.S.E.	Civil Engineering, University of Michigan
	Dean's Honor List, College of Engineering; top 1/3 of civil engineering graduating class
M.Eng.	Civil Engineering, Texas A&M University
	Top 10% of graduating class; Elected to Chi Epsilon, 1970, and Phi Kappa Phi, 1972
U.S. Army T	ransportation School – Diploma, Transportation Officer Basic Course

Familiarization with all transportation modes; top 10% of graduating class

PROFESSIONAL REGISTRATION AND AFFILIATIONS

REGISTRATION

Professional Engineer (P.E.) – State of Michigan, No. 27420 (since 1980)

AFFILIATIONS

Institute of Transportation Engineers (ITE), Fellow (since 1994) & Life Member (effective January 2013) ITE, Member, Transportation Forensics and Risk Management Council (fka Expert Witness Council)

PUBLICATIONS AND NON-PROPRIETARY MAJOR REPORTS

- 1. "Crash-Data-Assisted Safety Evaluation of 12 Intersections in City of Novi." Prepared for City of Novi, Jun 2012.
- 2. "Identification of High-Crash Intersections in the City of Novi, 2006-2010." Prepared for City of Novi, Jan 2012.
- 3. "Aguirre v. Delta Sonic." Prepared for Packer Engineering, Inc. & Delta Sonic Car Wash Systems, Inc., Mar 2010.
- 4. "Evaluation of Cronin / Greene Motorcycle Crash at Intersection of Western Avenue and 63rd Street in City of Chicago." Prepared for Packer Engineering, Inc. & City of Chicago, Dec 2009.
- 5. "An Evaluation of Golf Cart Utilization for Burnham Harbor Security Patrols." Prepared for Packer Engineering, Inc. & Hector Espitia, Esq., Nov 2009.

Stimpson, page 4 of 5

- 6. "An Evaluation of Driver, Vehicle, and Roadway Causal Factors in the Matter of Kachel v. Hetrick, et al. v. PennDOT." Prepared in association with Engineering Analysis Associates, Inc., Jul 2000.
- 7. "Bridge Management Data for Southeast Michigan." Prepared for Southeast Michigan Council of Governments by William A. Stimpson, P.E., Jun 1996.
- 8. "SEMCOG Traffic Safety Manual First Edition." Prepared for Southeast Michigan Council of Governments by William A. Stimpson, P.E., Feb 1996.
- Workshop on Development of the Interactive Highway Safety Design Model (IHSDM) Accident Analysis Module," co-authored with D.W. Harwood, K.M. Bauer, and J. M. Mason. Prepared for Federal Highway Administration (FHWA) by Midwest Research Institute, Nov 1995.
- 10. "Influence of Vehicle Dynamics on Geometric Design," co-authored with J.A. Reagan. Presented at the Transportation Research Board's (First) International Symposium on Highway Design Practices, Boston, Massachusetts, Aug 1995.
- 11. "Technical Summary: Horizontal Alignment Design Consistency for Rural Two-Lane Highways (Publication No. FHWA-RD-94-034, Jan 1995)." Pub. No. FHWA-RD-130. Prepared for FHWA by A/E Group, Inc., Jan 1995.
- 12. "The Special Intersection Study: A Public/Private Partnership to Expand System Capacity in Concert with Land Development Needs." Presented at Annual Meeting of the Intermountain Section of the Institute of Transportation Engineers, Jackson Hole, Wyoming, May 1993.
- 13. "Rollover Accident Frequency and Driver Age." Unpublished paper, Jun 1987.
- 14. "Co-ordinating Vehicle-Actuated Traffic Signals to Reduce Vehicular Fuel Consumption," co-authored by G.M. Takasaki. <u>Traffic Engineering & Control</u>, Vol. 23, No. 10, Oct 1982.
- 15. "The Influence of the Time Duration of Yellow Traffic Signals on Driver Response," co-authored by P.L. Zador and P. J. Tarnoff. <u>ITE Journal</u>, Nov 1980.
- 16. "Corridor Parking Facilities for Carpoolers," co-authored with J. W. Flora and J. R. Wroble. Final Report on Contract DOT-FH-11-9463. Prepared for FHWA by Alan M. Voorhees & Associates, Jun 1980.
- 17. "Methodologies for Evaluating TSM Actions in Bombay." Working paper prepared for municipality of Bombay, India, under World Bank-sponsored study conducted by Alan M. Voorhees & Associates, Apr 1979.
- 18. "Downgrade Truck Accidents and Their Prevention," co-authored by D.T. Gallagher. Prepared for Systems Technology, Inc. & Federal Highway Administration by Alan M. Voorhees & Associates, Jan 1979.
- "Impact of Park-and-Ride and Express Bus Improvements." Chapter C of <u>Transportation System Management: an</u> <u>Assessment of Impacts.</u> Prepared for Urban Mass Transportation Administration under contract UMTA-VA-06-0047 by Alan M. Voorhees & Associates, Nov 1978.
- 20. "A Cost-Effectiveness Evaluation of Devices for Reducing the Adverse Aerodynamic Effects of Large Trucks," coauthored by S.R. Shapiro. Prepared for Systems Technology, Inc. & Federal Highway Administration by Alan M. Voorhees & Associates, Aug 1978.
- 21. "The Traffic Safety Effectiveness of Selected Delineation Treatments Applied to Two-Lane Rural Highways." Winner of Honorable Mention in Past Presidents' Award competition, Institute of Transportation Engineers, Aug 1978.
- 22. "Study of the Effectiveness of Lane Markings for Traffic Safety," co-authored with M.L. Altman. Prepared for Illinois Department of Transportation by Alan M. Voorhees & Associates, Apr 1978.

Stimpson, page 5 of 5

- 23. "Field Evaluation of Selected Delineation Treatments on Two-Lane Rural Highways," co-authored by H.W. McGee, W.K. Kittelson, and R.H. Ruddy. Report Nos. FHWA-RD-77-118, 119. Prepared for Federal Highway Administration by Alan M. Voorhees & Associates, Oct 1977.
- 24. "Predicting the Traffic Safety Effects of Alternative Roadway Delineation Treatments," co-authored by W.K. Kittelson. <u>AMV Tech Notes</u>, Alan. M. Voorhees & Associates, Mar 1977.
- 25. "Methods for Field Evaluation of Roadway Delineation Treatments," co-authored by W.K. Kittelson and W.D. Berg. <u>Transportation Research Record 630</u>, 1977.
- 26. "Right-Turn-On-Red," Vols. I and II, co-authored with H.W. McGee, J. Cohen, G.F. King, and R.F. Morris. Report Nos. FHWA-RD-76-89, 90. Prepared for Federal Highway Admin. by Alan M. Voorhees & Associates, May 1976.
- 27. "The Effects of Larger Trucks on Highway Operations and Design," co-authored with C.R. Keller. <u>AMV Tech Notes</u>, Alan M. Voorhees & Associates, Sep 1975.
- 28. "Data Base Development for the Transportation Requirements and Capabilities Simulator Model (TRACS)." National Military Command System Support Center, Nov 1974.
- 29. "TRACS: A Computer Model of Intra-theater Strategic Mobility," co-authored by B.D. Nussbaum. Presented at 44th National Meeting of Operations Research Society of America, San Diego, California, Nov 1973.
- 30. "Three Schemes for Improved Line-Haul Bus Rapid Transit." <u>Traffic Engineering</u>, Feb 1973.
- 31. "Driver Expectancy Checklist A Design Review Tool," co-authored by N.C. Ellis. Prepared by Texas Transportation Institute and published by American Association of State Highway Officials, 1972.
- 32. "A New Warning Sign." <u>TexITE</u>, Vol. XVIII, No. 1, Sep 1971.
- 33. "A Critical Review of Climbing Lane Design Practices," co-authored by J.C. Glennon. <u>Highway Research Record</u> <u>371,</u> 1971.
- 34. "Highway Engineering Tips." Prepared for Multi-State Policy Committee of Project HPR-2(108), <u>Diagnostic Studies</u> of Highway Visual Communication Systems. Prepared by Texas Transportation Institute, 1970.

OTHER HONORS

- Honorable Mention, Institute of Transportation Engineers Past Presidents' Award, 1978
- Defense Communications Agency Certificate of Achievement, 1974

MILITARY SERVICE

- 2LT, US Army Reserve, 1970-1973, and 1LT, US Army Reserve, 1973-1976
- Active duty in the Pentagon, 1972-1974 (see Experience section, above)

SELECTED SHORT COURSES

- SIMSCRIPT II.5 computer simulation language
- Computerized control of traffic signals
- Applied multivariate analysis (Princeton University)
- Highway Capacity Software 2000
- Roundabout design, operation, and analysis (M. Wallwork)
- Access Management Guidebook Train the Trainer (MDOT)
- Syncho 6 / SimTraffic software
- Designing Pedestrian Facilities for Accessibility
- ADA Standards for Accessible Design

Last updated: March 2017

APPENDIX B:

SIGNAL TIMING PERMIT

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INTERSECTION :- 307 COOLIDGE & HARVARD DESCRIPTION PROMS :- X00307D / F2202 CONTROLLER TYPE :- STANDARD PERSONALITY CONTROLLER INPUTS :-17. - NOTE: JUMPER INPUTS 1,2,3,4 1. WB HARVARD PRES 18. - & 26 TO LOGIC COMMON. 2. SB COOLIDGE PRES 3. EB HARVARD PRES 19. -4. NB COOLIDGE PRES 20. -5. -21. -6. -22. -7. -23. -8. -24. -9. -25. -26. HARVARD PED P.B. 10. -27. -11. -12. -28. -29. -13. -14. -30. -15. -31. -16. -32. -APPROACHES :-A APPR 1 : SB COOLIDGE A APPR 2 : NB COOLIDGE B APPR 2 : EB HARVARD B APPR 1 : WB HARVARD FLEXIDATA :-PEDESTRIANS :-SEQUENCE A, B A,B 1. COOLIDGE PED AUTO REL 2. HARVARD PED (P+-) R- REL R+ REL Q- REL O+ REL LOOKAHEAD SPECIAL FEATURES :-Ped COOLIDGE PED is walk for green in A stage and is secret under masterlink. Ped COOLIDGE PED has automatic introduction in A stage. Ped HARVARD PED is terminated by QNEG pulse under Flexilink. The personality revision number is currently 1 (=A). EAGLE 4 PHASE BACK PANEL LOADSWITCH 1: COOLIDGE V1 A&C FLA LOADSWITCH 2: HARVARD B&D FLR V2 LOADSWITCH 7: HARVARD PED P2 LOADSWITCH 8: COOLIDGE PED P1 JUMPERS: 145-146,147-148,149-150,151-152,153-154,155-156,157-224, 163-230, 179-202, 185-208, 233-234, 235-236, 237-PB1, 241-PB1, 247-273,251-269,255-256,257-258,259-PB1,263-PB1. CONFLICT MONITOR JUMPERS: NONE Times E4 / 344 Checksums * CONTROLLER INFORMATION SHEET * Pers 0C / 014 * FOR SITE NO. 307 * * Terry Creech * * DATE :- 16-OCT-2015 * Total E8 / 350 ****************************

FLEXILINK PLAN DATA

.

Intersection # 307 State # Date: 10/16/15

Prepared By: Terry Creech

Intersection: Coolidge & Harvard

City: Berkley

Flash: None

Approved By: Rachel Jones

		PL0	PL1	PL2	PL3	PL4	PL5	PL6	PL7	PL8
0	CL		90	90	90					
1	A		0	0	0					
2	B		60	60	60					
3	С					0				
4	D									
5	E									
6	F									
7	G					2				
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10	Of (Y-)		87	87	87					
11	Y+	С								
12	Z-									
13	Z+									
14	Q-		78	78	78					
15	Q+									
16	XH									
17	XL									

NOTE: STAGES WITH ONE SECOND PHASE TIMES ARE SKIPPED

BLANK ENTRIES ARE DEFAULT VALUES = 0 FOR ENTRIES #0 - #7, #16 - #17

254 FOR ENTRIES #8 - #15 'C' ENTRY MEANS CONTINOUS = 255

						[Timers	
Phase	Direction	Min	Max	ECO	Amber	All Red	Gap	Hdwy	Waste
A	Coolidge	10.0	47.0	4.0	3.5	1.6	3.0	1.2	10.0
В	Harvard	5.0	33.0		3.5	2.5	3.0	1.2	10.0
С									
D									
Е									
F									
G									

	Day	Hours	Plan#
SC1	14	0:00	1
SC2	8	6:00	2
SC3	8	9:00	1
SC4	8	15:00	3
SC5	8	19:00	1
SC6			
SC7			
SC8			
SC9			
SC10			

Pedestrian Crossing Times

Direction	Walk	CL 1	CL 2
Coolidge	7.0	4.0	2.1
Harvard	7.0	12.0	3.0

Normal Operating Mode

Is	solated	Flexilink	Masterlink	Master Isolated	Flexi Isolated
		Х			

DAY OF WEEK CODE NUMBER

0	End of Schedule	4	WED	8	MON-FRI	12	MON, FRI, SAT
1	SUN	5	THUR	9	MON-SAT	13	SAT,SUN
2	MON	6	FRI	10	TUE,WED,THU	14	EVERY DAY
3	TUE	7	SAT	11	MON,FRI	15	NEVER



APPENDIX C:

TRAFFIC COUNTS

Table C-1. Annual Average Daily Traffic (AADT) Volumes on Coolidge, per SEMCOG





Figure C-1. Hourly Volumes on NB Coolidge Approach to 12 Mile Road (June 2015)

Monthly Calendar

Jearch All	▼ I	monun July V	Tear 2017 ▼ Sear	rch Today		Calendar List
•			July 2017			
Sun	Mon	Tue	Wed	Thu	Fri	Sat
11:30 AM Sunday Mass		Mass	07:00 PM Weekday Mass			
9 09:30 AM Sunday Mass 11:30 AM Sunday Mass	10 08:45 AM Communion Service 07:00 PM Holy Hour	11 08:45 AM Weekday Mass	12 01:15 PM Pastoral Team Meeting - Cancelled 07:00 PM Weekday Mass	13 08:45 AM Weekday Mass 07:00 PM Parish Finance Council	14 08:45 AM Weekday Mass	15 05:00 PM Vigil Ma for Sunday
16 09:30 AM Sunday Mass 11:30 AM Sunday Mass 01:00 PM Baptism/Mia Espinoza	17 08:45 AM Communion Service	18 08:45 AM Weekday Mass Traffic counts on Coolidge done this day.	19 01:15 PM Pastoral Team Meeting 07:00 PM Weekday Mass	20 08:45 AM Weekday Mass	21 08:45 AM Weekday Mass	22 11:00 AM Funeral: Zachary Fritsch 05:00 PM Vigil Mar for Sunday
23 09:30 AM Sunday Mass 11:30 AM Sunday Mass	24 08:45 AM Communion Service	25 08:45 AM Weekday Mass	26 01:15 PM Pastoral Team Meeting 07:00 PM Weekday McSunts on Kipling done this day.	27 08:45 AM Weekday Mass	28 08:45 AM Weekday Mass 11:00 AM Funeral: Anna Hodge	29 05:00 PM Vigil Ma for Sunday
30 09:30 AM Sunday Mass 11:30 AM Sunday	31 08:45 AM Communion Service	Aug 01 08:45 AM Weekday Mass	Aug 02 01:15 PM Pastoral Team Meeting 07:00 PM Weekday	Aug 03 08:45 AM Weekday Mass	Aug 04 08:45 AM Weekday Mass	Aug 05 05:00 PM Vigil Ma for Sunday

Figure C-2. Our Lady of La Salette Church Calendar, Early July-Early August, 2017

Traffic Data Collection, LLC tdccounts.com Phone: (586) 786-5407 Traffic Study Peformed For: Giffels Webster



Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 4G2 File Name : TMC_1 Coolidge & Oxford_7-18-17 Site Code : TMC_1 Start Date : 7/18/2017 Page No : 1

							Foups F	rinted-	Pass C	ars - Singl	<u>e units -</u>	Heavy	rucks -	Peds							
		Coc	olidge H	lwy. nd			0) M	ford St /estbou	reet nd			Čo N	olidge H orthbou	łwy. nd			Ox F	ford Str astbour	reet nd		
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	113	1	0	114	2	0	1	0	3	2	114	1	0	117	4	1	4	0	9	243
07:15 AM	0	126	0	0	126	0	0	0	2	2	3	108	0	0	111	2	0	2	0	4	243
07:30 AM	3	157	1	0	161	4	0	1	1	6	1	162	0	1	164	3	0	1	0	4	335
07:45 AM	3	217	2	0	222	2	0	4	0	6	2	156	2	0	160	3	0	4	0	7	395
Total	6	613	4	0	623	8	0	6	3	17	8	540	3	1	552	12	1	11	0	24	1216
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08:00 AM	3	189	1	0	193	4	0	3	0	7	3	172	1	0	176	3	0	0	1	4	380
08:15 AM	3	181	2	0	186	3	1	7	0	11	3	186	4	0	193	2	0	0	0	2	392
08:30 AM	0	181	6	0	187	4	1	4	0	9	2	189	2	1	194	2	1	0	1	4	394
08:45 AM	0	172	2	0	174	5	1	2	3	11	4	183	0	0	187	6	0	1	0	7	379
Total	6	723	11	0	740	16	3	16	3	38	12	730	7	1	750	13	1	1	2	17	1545
**** BDEVK ****																					
DICLAR																					
04:00 PM	2	210	4	0	216	4	1	1	3	9	4	204	2	0	210	2	0	1	1	4	439
04:15 PM	2	233	3	0	238	6	0	3	0	9	2	232	3	0	237	2	0	2	0	4	488
04:30 PM	0	223	4	0	227	4	0	11	1	16	10	260	3	0	273	0	0	0	6	6	522
04:45 PM	7	241	4	0	252	9	0	3	4	16	5	263	2	0	270	2	0	1	2	5	543
Total	11	907	15	0	933	23	1	18	8	50	21	959	10	0	990	6	0	4	9	19	1992
,																					
05:00 PM	4	264	4	0	272	4	0	3	0	7	4	294	3	0	301	6	0	1	2	9	589
05:15 PM	3	231	4	0	238	4	0	2	2	8	4	314	2	0	320	0	2	0	1	3	569
05:30 PM	3	245	3	1	252	3	0	2	0	5	11	311	2	0	324	3	0	1	0	4	585
05:45 PM	2	254	3	0	259	5	0	2	0	7	3	292	1	0	296	5	0	1	1	7	569
Total	12	994	14	1	1021	16	0	9	2	27	22	1211	8	0	1241	14	2	3	4	23	2312
Crand Tatal	25	2227	4.4	1	2217	(2	4	40	1/	100	()	2440	20	2	2522	45	4	10	15	0.2	70/5
Approh %	35 11	3237 97.6	44 13	0	3317	63 47 7	4	49 37 1	10 121	132	63 18	3440 97.4	28 0.8	2	3533	45 54.2	4	19 22.9	15 18 1	83	/065
Total %	0.5	45.8	0.6	0	46.9	0.9	0.1	0.7	0.2	1.9	0.9	48.7	0.4	0.1	50	0.6	0.1	0.3	0.2	1.2	
Pass Cars	35	3178	44	0	3257	58	4	46	0	108	57	3401	28	0	3486	45	4	19	0	68	6919
% Pass Cars	100	98.2	100	0	98.2	92.1	100	93.9	0	81.8	90.5	98.9	100	0	98.7	100	100	100	0	81.9	97.9
Single Units	0	50	0	0	50	5	0	2	0	7	6	34	0	0	40	0	0	0	0	0	97
% Single Units	0	1.5	0	0	1.5	7.9	0	4.1	0	5.3	9.5	1	0	0	1.1	0	0	0	0	0	1.4
Heavy Trucks	0	9	0	0	9	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	15
% Heavy Trucks	0	0.3	0	0	0.3	0	0	2	0	0.8	0	0.1	0	0	0.1	0	0	0	0	0	0.2
Peds	0	0	0	1	1	0	0	0	16	16	0	0	0	2	2	0	0	0	15	15	34
Dody 2	(1	0	0	100	0	() ()	()	0	100	121	1 1)	()	0	100	01		0	0	100	181	1 05

Comments: 4 Hour video intersection turning movement traffic study conducted during typical weekday (Tuesday) from 7:00-9:00 AM morning & 4:00-6:00 PM afternoon peak hours, while school was not in session. Non-signalized intersection, Oxford Street is stop controlled for Coolidge Hwy. VCU video camera was located within SE intersection quadrant.

Traffic Data Collection, LLC

tdccounts.com <u>Phone: (586) 786-5407</u> Traffic Study Peformed For: **Giffels Webster**



Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 4G2 File Name : TMC_1 Coolidge & Oxford_7-18-17 Site Code : TMC_1 Start Date : 7/18/2017 Page No : 3

		Coolid	ge Hwy.			Oxford	Street			Coolido	ge Hwy.			Oxford	Street		
		South	bound			West	oound			North	bound			Eastb	ound		
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis I	rom 07:00	AM to 12:	30 PM - P	eak 1 of 1						•							
Peak Hour for Entire	Intersection	n Begins at	t 07:45 AN	Л													
07:45 AM	3	217	2	222	2	0	4	6	2	156	2	160	3	0	4	7	395
08:00 AM	3	189	1	193	4	0	3	7	3	172	1	176	3	0	0	3	379
08:15 AM	3	181	2	186	3	1	7	11	3	186	4	193	2	0	0	2	392
08:30 AM	0	181	6	187	4	1	4	9	2	189	2	193	2	1	0	3	392
Total Volume	9	768	11	788	13	2	18	33	10	703	9	722	10	1	4	15	1558
% App. Total	1.1	97.5	1.4		39.4	6.1	54.5		1.4	97.4	1.2		66.7	6.7	26.7		
PHF	.750	.885	.458	.887	.813	.500	.643	.750	.833	.930	.563	.935	.833	.250	.250	.536	.986
Pass Cars	9	754	11	774	11	2	16	29	7	688	9	704	10	1	4	15	1522
% Pass Cars	100	98.2	100	98.2	84.6	100	88.9	87.9	70.0	97.9	100	97.5	100	100	100	100	97.7
Single Units	0	12	0	12	2	0	1	3	3	12	0	15	0	0	0	0	30
% Single Units	0	1.6	0	1.5	15.4	0	5.6	9.1	30.0	1.7	0	2.1	0	0	0	0	1.9
Heavy Trucks	0	2	0	2	0	0	1	1	0	3	0	3	0	0	0	0	6
% Heavy Trucks	0	0.3	0	0.3	0	0	5.6	3.0	0	0.4	0	0.4	0	0	0	0	0.4
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC tdccounts.com Phone: (586) 786-5407 Traffic Study Peformed For:

Giffels Webster

Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 4G2 File Name : TMC_1 Coolidge & Oxford_7-18-17 Site Code : TMC_1 Start Date : 7/18/2017 Page No : 4

		Coolid South	lge Hwy. nbound			Oxfor West	d Street bound			Coolic Norti	lge Hwy. hbound			Oxfor East	d Street bound		
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis	From 12:4	5 PM to 0	5:45 PM - I	Peak 1 of 1			•										
Peak Hour for Entire	e Intersectio	on Begins	at 05:00 P	M													
05:00 PM	4	264	4	272	4	0	3	7	4	294	3	301	6	0	1	7	587
05:15 PM	3	231	4	238	4	0	2	6	4	314	2	320	0	2	0	2	566
05:30 PM	3	245	3	251	3	0	2	5	11	311	2	324	3	0	1	4	584
05:45 PM	2	254	3	259	5	0	2	7	3	292	1	296	5	0	1	6	568
Total Volume	12	994	14	1020	16	0	9	25	22	1211	8	1241	14	2	3	19	2305
% App. Total	1.2	97.5	1.4		64	0	36		1.8	97.6	0.6		73.7	10.5	15.8		
PHF	.750	.941	.875	.938	.800	.000	.750	.893	.500	.964	.667	.958	.583	.250	.750	.679	.982
Pass Cars	12	987	14	1013	16	0	8	24	21	1202	8	1231	14	2	3	19	2287
% Pass Cars	100	99.3	100	99.3	100	0	88.9	96.0	95.5	99.3	100	99.2	100	100	100	100	99.2
Single Units	0	7	0	7	0	0	1	1	1	9	0	10	0	0	0	0	18
% Single Units	0	0.7	0	0.7	0	0	11.1	4.0	4.5	0.7	0	0.8	0	0	0	0	0.8
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Traffic Data Collection, LLC

tdccounts.com <u>Phone: (586) 786-5407</u> Traffic Study Peformed For: **Giffels Webster**



Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 4G2 File Name : TMC_1 Coolidge & Oxford_7-18-17 Site Code : TMC_1 Start Date : 7/18/2017 Page No : 5

Aerial Photo



Traffic Data Collection, LLC tdccounts.com Phone: (586) 786-5407 Traffic Study Peformed For: Giffels Webster



Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 5DV File Name : TMC_2 Coolidge & Harvard_7-18-17 Site Code : TMC_2 Start Date : 7/18/2017 Page No : 1

						G	Froups F	Printed-	Pass Ca	ars - Singl	<u>e Units ·</u>	Heavy	<u> Trucks -</u>	Peds							
		Coo	olidge H	lwy.			Ha	rvard St	reet			Co	olidge H	lwy.			Ha	rvard St	reet		
Start Time	Dat	50 Thru	Loft	na Dode	App. Total	Pat	Thru	Loft	Dode	App. Total	Dat	Thru	Loft	na Dode	App. Total	Pat	Thru	astbou	Dode	App. Total	Int Total
	<u>- Kyi</u> 1	108		reus 0	App. 10(a) 109	<u>- Kyi</u>	11110		reus 0	App. Total 12	<u>- Kyi</u> 5	1113	1	reus 0	App. 10(a) 110	Kyi 0	0	2	reus 0	App. Total	243
07:15 AM		100	0	о С	107	י ז	1	, F	0	0	2	110	0	0	110	2	0	1	0	2	210
07.15 AW	5	123	0	2	120	2	0	5	1	0	2	162	2	0	167	2	2	1	0	Л	240
07.30 AM	2	202	4	0	200	2	0	-		,	2	103	2	0	1/0	2	2	1	0	т 2	202
U7:45 AIVI	3	202	4	0	209	3	0	0	0	9	10	157	4	0	102	2	0	1	0	3	383
I OTAI	9	596	4	2	611	11	2	22	I	36	10	543	/	0	560	5	2	6	0	13	1220
08.00 AM	2	186	1	0	189	3	0	11	0	14	1	166	1	0	168	1	1	8	1	11	382
08-15 AM	1	102	ว	0	105	6	1	2	0	10	5	10/	0	0	190	0	0	0		0	304
00.13 AW	2	172	2	0	175	2	י 2	5	0 2	10	1	104	0	0	107	1	0	1	1	2	200
00.30 AIVI	3	102	2	0	107	ა ე	J 1	5	2	13	1	100	0	0	100	1	0	1	1	3	309
08:45 AM	4	168	0	0	1/2	3		0	1	11		710	0	0	1/9	1	0		0	3	365
lotal	10	728	5	0	743	15	5	25	3	48	9	/12	1	0	/22	3	1	11	2	17	1530
**** DDEAV ****																					
DREAK																					
04:00 PM	3	212	3	0	218	0	2	2	1	5	2	213	3	0	218	3	4	3	1	11	452
04:15 PM	2	229	2	0	233	6	2	6	2	16	3	227	1	1	232	0	2	2	0	4	485
04:30 PM	2	213	4	2	221	6	0	3	0	9	5	255	3	0	263	3	1	8	3	15	508
04·45 PM	3	239	1	0	243	2	1	8	2	13	- 3	264	- 1	0	268	2	1	- 1	- 5	9	533
Total	10	803	10	2	015	1/	5	10	5	13	12	050	۰ و	1	0.001	2 0	۰ و	1/	0	30	1078
Total	10	075	10	2	/13	14	5	17	5	45	15	/5/	0	'	701	0	0	14	,	57	1770
05:00 PM	2	268	8	3	281	10	2	9	0	21	5	287	4	1	297	4	4	12	0	20	619
05:15 PM	1	212	2	0	215	5	2	5	3	15	1	305	1	0	307	1	4	9	1	15	552
05:30 PM	2	241	1	0	244	7	3	2	0	12	6	307	1	0	314	3	0	9	0	12	582
05·45 PM	5	244	7	0	256	5	3	4	1	13	4	287	1	1	293	4	3	9	1	17	579
Total	10	965	18	3	996	27	10	20	4	61	16	1186	7	2	1211	12	11	30	2	64	2332
Total		705	10	5	//0	21	10	20	Т	01	10	1100	,	2	1211	12		57	2	04	2002
Grand Total	39	3182	37	7	3265	67	22	86	13	188	48	3400	23	3	3474	28	22	70	13	133	7060
Apprch %	1.2	97.5	1.1	0.2		35.6	11.7	45.7	6.9		1.4	97.9	0.7	0.1		21.1	16.5	52.6	9.8		
Total %	0.6	45.1	0.5	0.1	46.2	0.9	0.3	1.2	0.2	2.7	0.7	48.2	0.3	0	49.2	0.4	0.3	1	0.2	1.9	
Pass Cars	39	3121	37	0	3197	67	22	86	0	175	46	3355	22	0	3423	28	22	69	0	119	6914
% Pass Cars	100	98.1	100	0	97.9	100	100	100	0	93.1	95.8	98.7	95.7	0	98.5	100	100	98.6	0	89.5	97.9
Single Units	0	54	0	0	54	0	0	0	0	0	2	40	1	0	43	0	0	1	0	1	98
% Single Units	0	1./	0	0	1./	0	0	0	0	0	4.2	I.2	4.3	0	I.2	0	0	1.4	0	0.8	1.4
		/ 0.2	0	U	0.2	0	0	0	0	0	0	с 0 1	0	0	5	0	0	0	0	0	12
% Heavy Trucks		0.2	0	7	0.2	0	0	0	13	13	0	0.1	0	<u>।</u> २	<u>ر، ا</u>	0	0	0	13	13	36
% Peds	0	0	0	, 100	0.2	0	0	0	100	6.9	0	0	0	100	0.1	0	0	0	100	9.8	0.5

Comments: 4 Hour video intersection turning movement traffic study conducted during typical weekday (Tuesday) from 7:00-9:00 AM morning & 4:00-6:00 PM afternoon peak hours, while school was not in session. Signalized intersection, ped. signals for all quadrants, no push buttons. VCU video camera was located within NW intersection quadrant.

Traffic Data Collection, LLC

tdccounts.com <u>Phone: (586) 786-5407</u> Traffic Study Peformed For: **Giffels Webster**



Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 5DV File Name : TMC_2 Coolidge & Harvard_7-18-17 Site Code : TMC_2 Start Date : 7/18/2017 Page No : 3

		Coolid	ge Hwy.			Harvar	d Street			Coolid	lge Hwy.			Harvar	d Street		
		South	bound			West	bound			North	nbound			East	oound		
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis I	From 07:00	AM to 12:	30 PM - P	eak 1 of 1													
Peak Hour for Entire	Intersection	n Begins a	t 07:45 AN	N													
07:45 AM	3	202	4	209	3	0	6	9	1	157	4	162	2	0	1	3	383
08:00 AM	2	186	1	189	3	0	11	14	1	166	1	168	1	1	8	10	381
08:15 AM	1	192	2	195	6	1	3	10	5	184	0	189	0	0	0	0	394
08:30 AM	3	182	2	187	3	3	5	11	1	185	0	186	1	0	1	2	386
Total Volume	9	762	9	780	15	4	25	44	8	692	5	705	4	1	10	15	1544
% App. Total	1.2	97.7	1.2		34.1	9.1	56.8		1.1	98.2	0.7		26.7	6.7	66.7		
PHF	.750	.943	.563	.933	.625	.333	.568	.786	.400	.935	.313	.933	.500	.250	.313	.375	.980
Pass Cars	9	747	9	765	15	4	25	44	8	676	4	688	4	1	10	15	1512
% Pass Cars	100	98.0	100	98.1	100	100	100	100	100	97.7	80.0	97.6	100	100	100	100	97.9
Single Units	0	11	0	11	0	0	0	0	0	13	1	14	0	0	0	0	25
% Single Units	0	1.4	0	1.4	0	0	0	0	0	1.9	20.0	2.0	0	0	0	0	1.6
Heavy Trucks	0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0	7
% Heavy Trucks	0	0.5	0	0.5	0	0	0	0	0	0.4	0	0.4	0	0	0	0	0.5
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC tdccounts.com Phone: (586) 786-5407 Traffic Study Peformed For: Giffels Webster

Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 5DV File Name : TMC_2 Coolidge & Harvard_7-18-17 Site Code : TMC_2 Start Date : 7/18/2017 Page No : 4

		Coolid Souti	lge Hwy. nbound			Harvar West	rd Street tbound			Coolid North	lge Hwy. 1bound			Harva East	rd Street bound		
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis	From 12:4	5 PM to 0	5:45 PM -	Peak 1 of 1													
Peak Hour for Entire	e Intersecti	on Begins	at 05:00 F	PM													
05:00 PM	2	268	8	278	10	2	9	21	5	287	4	296	4	4	12	20	615
05:15 PM	1	212	2	215	5	2	5	12	1	305	1	307	1	4	9	14	548
05:30 PM	2	241	1	244	7	3	2	12	6	307	1	314	3	0	9	12	582
05:45 PM	5	244	7	256	5	3	4	12	4	287	1	292	4	3	9	16	576
Total Volume	10	965	18	993	27	10	20	57	16	1186	7	1209	12	11	39	62	2321
% App. Total	1	97.2	1.8		47.4	17.5	35.1		1.3	98.1	0.6		19.4	17.7	62.9		
PHF	.500	.900	.563	.893	.675	.833	.556	.679	.667	.966	.438	.963	.750	.688	.813	.775	.943
Pass Cars	10	958	18	986	27	10	20	57	16	1175	7	1198	12	11	38	61	2302
% Pass Cars	100	99.3	100	99.3	100	100	100	100	100	99.1	100	99.1	100	100	97.4	98.4	99.2
Single Units	0	7	0	7	0	0	0	0	0	11	0	11	0	0	1	1	19
% Single Units	0	0.7	0	0.7	0	0	0	0	0	0.9	0	0.9	0	0	2.6	1.6	0.8
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Traffic Data Collection, LLC

tdccounts.com <u>Phone: (586) 786-5407</u> Traffic Study Peformed For: **Giffels Webster**



Project: Berkley Traffic Impact Study Type: 4 Hr. Video Turning Movement Count Weather: Sunny/Cldy. PM Deg's 80's Count By: Miovision Video VCU 5DV File Name : TMC_2 Coolidge & Harvard_7-18-17 Site Code : TMC_2 Start Date : 7/18/2017 Page No : 5

Aerial Photo



Traffic Data Collection (TDC)

Project: Berkley Traffic Impact Study Count Type: 48 Hr. ATR Volume Count Weather: Pt. Sunny, 80's Degs. Count By: M.Matich Pav't : Concrete 2 Lanes

tdccounts.com <u>Phone (586) 786-5407</u> Traffic Study Performed For: **Giffels & Webster**

ATR_1 Kipling S_Oxford Kipling Ave. (250' South of Oxford Road0 Station ID: 2-Way Volume Count Site Code: ATR 1 Date Start: Tuesday, July 25, 2017

Start	Monday, Jul	y 24, 2017	Tuesday 20	, July 25, 17	Wednesda 20	ay, July 26, 117	Thursday 20	, July 27, 17	Friday, July	y 28, 2017	Weekday	Average	Saturday, 201	July 29, 7	Sunday, J 201	July 30, 7
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	*	*	0	6	2	4	*	*	1	5	*	*	*	*
01:00	*	*	*	*	2	3	2	0	*	*	2	2	*	*	*	*
02:00	*	*	*	*	2	1	0	0	*	*	1	0	*	*	*	*
03:00	*	*	*	*	1	0	0	3	*	*	0	2	*	*	*	*
04:00	*	*	*	*	2	1	2	1	*	*	2	1	*	*	*	*
05:00	*	*	*	*	2	2	2	1	*	*	2	2	*	*	*	*
06:00	*	*	*	*	10	6	12	5	*	*	11	6	*	*	*	*
07:00	*	*	*	*	22	17	18	22	*	*	20	20	*	*	*	*
08:00	*	*	*	*	21	23	21	15	*	*	21	19	*	*	*	*
09:00	*	*	*	*	23	23	11	36	*	*	17	30	*	*	*	*
10:00	*	*	*	*	23	16	16	17	*	*	20	16	*	*	*	*
11:00	*	*	27	23	16	24	*	*	*	*	22	24	*	*	*	*
12:00 PM	*	*	15	55	20	27	*	*	*	*	18	41	*	*	*	*
01:00	*	*	19	28	24	28	*	*	*	*	22	28	*	*	*	*
02:00	*	*	10	24	20	31	*	*	*	*	15	28	*	*	*	*
03:00	*	*	23	36	21	31	*	*	*	*	22	34	*	*	*	*
04:00	*	*	27	45	13	38	*	*	*	*	20	42	*	*	*	*
05:00	*	*	32	53	41	47	*	*	*	*	36	50	*	*	*	*
06:00	*	*	31	26	25	44	*	*	*	*	28	35	*	*	*	*
07:00	*	*	17	22	12	31	*	*	*	*	14	26	*	*	*	*
08:00	*	*	11	25	22	19	*	*	*	*	16	22	*	*	*	*
09:00	*	*	16	12	13	9	*	*	*	*	14	10	*	*	*	*
10:00	*	*	8	3	11	10	*	*	*	*	10	6	*	*	*	*
11:00	*	*	2	2	6	5	*	*	*	*	4	4	*	*	*	*
Total	0	0	238	354	352	442	86	104	0	0	338	453	0	0	0	0
Day	/ 0		592	2	79	4	190)	0		791		0		0	
AM Peak	-	-	11:00	11:00	09:00	11:00	08:00	09:00	-	-	11:00	09:00	-	-	-	-
Vol.	-	-	27	23	23	24	21	36	-	-	22	30	-	-	-	-
PM Peak	-	-	17:00	12:00	17:00	17:00	-	-	-	-	17:00	17:00	-	-	-	-
Vol.	-	-	32	55	41	47	-	-	-	-	36	50	-	-	-	
Comb.	C	h		502		70/		100		0	-	701		0		0
Total	C	,	•	002		104		100		0	'	51		0		0

ADT ADT 787 AADT 787

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Project: Berkley Traffic Impact Study Count Type: 48 Hr. ATR Volume Count Weather: Pt. Sunny, 80's Degs. Count By: M.Matich Pav't : Concrete 2 Lanes

Traffic Data Collection (TDC)

tdccounts.com <u>Phone (586) 786-5407</u> Traffic Study Performed For: **Giffels & Webster**



ATR_1 Kipling S_Oxford Kipling Ave. (250' South of Oxford Road0 Station ID: 2-Way Volume Count Site Code: ATR 1 Date Start: Tuesday, July 25, 2017



Project: Berkley Traffic Impact Study Count Type: 48 Hr. ATR Volume Count Weather: Pt. Sunny, 80's Degs. Count By: M.Matich Pav't : Concrete 2 Lanes

Traffic Data Collection (TDC)

tdccounts.com Phone (586) 786-5407 Traffic Study Performed For: Giffels & Webster

ATR_1 Kipling S_Oxford Kipling Ave. (250' South of Oxford Road0 Station ID: 2-Way Volume Count Site Code: ATR 1 Date Start: Tuesday, July 25, 2017

Start	Tuesday, J	J	SB		NB	С	ombined	Wedne		SB		NB	С	ombined
Time	Tue	A.M	I. P.N	1. A.M	. P.N	I. A.M	l. P.N	1. Wed	A.M	I. P.M	I. A.N	1. P.M	I. A.M	. P.M.
12:00		*	6	*	8	*	14		0	7	2	4	2	11
12:15		*	6	*	10	*	16		0	5	2	10	2	15
12:30		*	3	*	19	*	22		0	7	1	9	1	16
12:45		*	0	*	18	*	18		0	1	1	4	1	5
01:00		*	3	*	7	*	10		0	6	2	4	2	15
01:15		*	6	*	5	*	11		0	6	0	6	0	12
01.13		*	7	*	12	*	10		1	7	1	7	0	14
01.30		*	2	*	12	*	19		1	5	0	6	2	14
01.45		*	3	*	4	*	1		1	3	0	0	1	10
02.00		*	2	*	1	*	9		0	4	1	0	1	10
02:15		*	3	*	4	*	1		0	5	1	0	1	11
02:30			3	*	9		12		0	6	0	13	0	19
02:45		- +	2	÷	4	- +	6		1	5	0	6	1	11
03:00		^ _	5	· .	1	· ·	12		0	6	0	1	0	13
03:15			2	^	9		11		0	4	0	9	0	13
03:30		*	6	*	8	*	14		0	3	0	8	0	11
03:45		*	10	*	12	*	22		1	8	0	7	1	15
04:00		*	12	*	12	*	24		1	3	0	7	1	10
04:15		*	3	*	10	*	13		0	3	0	10	0	13
04:30		*	5	*	7	*	12		1	5	1	8	2	13
04:45		*	7	*	16	*	23		0	2	0	13	0	15
05:00		*	5	*	14	*	19		0	6	0	11	0	17
05:15		*	6	*	13	*	19		0	19	0	13	0	32
05:30		*	11	*	10	*	21		0	8	0	14	0	22
05.45		*	10	*	16	*	26		2	8	2	9	4	17
06:00		*	10	*	6	*	16		0	9	0	16		25
06:15		*	12	*	0	*	21		2	1	1	10	3	14
06:20		*	2	*	5	*	21		2	4	2	7	1	14
06:45		*	6	*	5	*	11		6	6	2	11	4	13
00.45		*	6	*	5	*	10		0	5	2	12	9	17
07.00		*	0	*	0	*	12		4	5	2	13	10	10
07:15		*	C C	*	1	*	12		4	3	0	7	10	10
07:30			4		4	 	8		<u>'</u>	3	2	1	9	10
07:45			2		5		(1	(4	14	5
08:00		*	3	*	3	*	6		8	5	6	4	14	9
08:15		*	3	*	7	*	10		5	4	3	5	8	9
08:30		*	4	*	9	*	13		5	8	5	5	10	13
08:45		*	1	*	6	*	7		3	5	9	5	12	10
09:00		*	2	*	4	*	6		10	3	8	0	18	3
09:15		*	6	*	2	*	8		7	5	4	3	11	8
09:30		*	3	*	0	*	3		4	2	7	5	11	7
09:45		*	5	*	6	*	11		2	3	4	1	6	4
10:00		*	2	*	1	*	3		5	4	6	1	11	5
10:15		*	0	*	1	*	1		3	4	2	3	5	7
10:30		*	2	*	1	*	3		3	3	2	2	5	5
10.45		*	4	*	0	*	4		12	0	6	4	18	4
11:00		13	1	2	1	15	2		2	1	6		8	1
11:15		5	0	5	0	10	0		5	3	7	2	12	5
11.13		5	0	5	0	10	0		2	1	2	2	12	3
11.30		5	0	5	0	10	0		3	1	3	1	0	2
11:45 Tatal		4	014		004	15	Z		404	000	400	2	14	5 40
i otal		21	211	23	331	50	542		124	228	122	320	246	548
	11	4 00/	238	0.000	504	ł	592		1 - 00/	JOZ	4 - 40/	442		194
% I otal		4.6%	35.6%	3.9%	55.9%				15.6%	28.7%	15.4%	40.3%		
					10.00					o= ·-		05.15	oc :-	
Peak	-	11:00	05:30	11:00	12:00	11:00	05:00	-	07:30	05:15	08:45	05:15	08:45	05:15
Vol.	-	27	43	23	55	50	85	-	27	44	28	52	52	96
P.H.F.		0.519	0.896	0.523	0.724	0.833	0.817		0.844	0.579	0.778	0.813	0.722	0.750

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Project: Berkley Traffic Impact Study Count Type: 48 Hr. ATR Volume Count Weather: Pt. Sunny, 80's Degs. Count By: M.Matich Pav't : Concrete 2 Lanes

Traffic Data Collection (TDC)

tdccounts.com <u>Phone (586) 786-5407</u> Traffic Study Performed For: **Giffels & Webster**

ATR_1 Kipling S_Oxford Kipling Ave. (250' South of Oxford Road0 Station ID: 2-Way Volume Count Site Code: ATR 1 Date Start: Tuesday, July 25, 2017

Start	Thursday	SB		NB	0	Combined	Friday		SB		NB	Com	hined
Time	Thu A	м рі	<i>ι</i> Δι				1 Fri	ΔM	PM	ΔМ	PM	A M	PM
12.00	1	*	1 1	*	2	*		*	*	*	*	*	*
12:00	1	*	1	*	2	*		*	*	*	*	*	*
12:10	0	*	0	*	0	*		*	*	*	*	*	*
12:00	0	*	2	*	2	*		*	*	*	*	*	*
01:00	0	*	2	*	2	*		*	*	*	*	*	*
01:00	0	*	0	*	2	*		*	*	*	*	*	*
01.15	2	*	0	*	2	*		*	*	*	*	*	*
01.30	0	*	0	*	0	*		*	*	*	*	*	*
01.45	0	*	0	*	0	*		*	*	*	*	*	*
02.00	0	*	0	*	0	*		*	*	*	*	*	*
02:15	0	*	0	*	0	*		*	*	*	*	*	*
02:30	0	*	0	*	0	*		*	*	*	*	*	*
02:45	0	*	0	*	0	*		*	*	*	*	*	*
03:00	0	*	0	*	0	*		*	*	*	*	*	*
03:15	0		2		2								
03:30	0	- -	1	- -	1	^ +		~	~ _	- -	-	- -	- -
03:45	0	*	0	^ _	0	^ +		^ _	* +	^ 	^ _	* +	· .
04:00	0	^ 	0	· ·	0	^ 		^ 	* *	·	^ 	* +	· .
04:15	0	^	0	^	0	^			•				
04:30	1	^ 	0	· ·	1	^ 		^ 	* *	·	^ 	* +	· .
04:45	1	*	1	*	2	*		*	*	*	*	*	*
05:00	1	*	0	*	1	*		*	*	*	*	*	
05:15	0	*	0	*	0	*		*	*	*	*	*	*
05:30	1	*	1	*	2	*		*	*	*	*	*	*
05:45	0	*	0	*	0	*		*	*	*	*	*	*
06:00	1	*	1	*	2	*		*	*	*	*	*	*
06:15	2	*	1	*	3	*		*	*	*	*	*	*
06:30	3	*	1	*	4	*		*	*	*	*	*	*
06:45	6	*	2	*	8	*		*	*	*	*	*	*
07:00	2	*	3	*	5	*		*	*	*	*	*	*
07:15	4	*	6	*	10	*		*	*	*	*	*	*
07:30	2	*	7	*	9	*		*	*	*	*	*	*
07:45	10	*	6	*	16	*		*	*	*	*	*	*
08:00	8	*	4	*	12	*		*	*	*	*	*	*
08:15	2	*	2	*	4	*		*	*	*	*	*	*
08:30	7	*	3	*	10	*		*	*	*	*	*	*
08.45	4	*	6	*	10	*		*	*	*	*	*	*
09.00	3	*	9	*	12	*		*	*	*	*	*	*
09:15	3	*	12	*	15	*		*	*	*	*	*	*
00:10	0	*	6	*	6	*		*	*	*	*	*	*
00:45	5	*	0	*	1/	*		*	*	*	*	*	*
10:00	7	*	4	*	11	*		*	*	*	*	*	*
10:00	1	*	4	*	0	*		*	*	*	*	*	*
10.15	3	*	2	*	5	*		*	*	*	*	*	*
10.30	2	*	5	*	0	*		*	*	*	*	*	*
10.45	4	*	Э *	*	9	*		*	*	*	*	*	*
11.00	*	*	*	*	*	*		*	*	*	*	*	*
11:15	*	*	*	*	*	*		*	*	*	*	*	*
11:30	*	*	*	*	*	*		*	*	*	*	*	*
11:45			404		400					0		0	
I otal	00	0	104	101	190	100		0	0	0	0	0	0
Day Tota	45.00/	86		104		190	0	0.00/	0	0.00/	0	0	
% I otal	45.3%	0.0%	54.7%	0.0%			Ŭ	1.0%	0.0%	0.0%	0.0%		
Deel	07.45		00.00		07.45								
Peak	- 07:45	-	09:00	-	07:15	-	-	-	-	-	-	-	-
	- 27	-	30	-	4/	-	-	-	-	-	-	-	-
P.H.F.	0.675		0.750		0.734								
				_									

ADT ADT 787 AADT 787

TRAFFIC IMPACT STUDY FOR "THE BERKLEY"

AM Turning-Movement Count at Kipling and Oxford

Wednesday, 7-26-17

Cumulative Turning-Movement Count

15 Minutes Ending		EB Oxford			WB Oxford	b		NB Kipling	J		SB Kipling	1	Total
(Enter Data)	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOtal
7:15	1	0	0	1	0	3	0	2	0	3	3	0	13
7:30	1	1	0	2	0	3	0	6	0	3	6	0	22
7:45	2	3	0	3	1	3	0	9	0	4	11	0	36
8:00	4	3	1	3	2	9	0	15	1	4	17	1	60
8:15	7	3	1	3	2	11	1	19	1	4	24	3	79
8:30	10	4	1	3	2	11	1	21	2	4	28	3	90
8:45	12	5	1	3	3	12	1	24	2	6	33	3	105
9:00	15	5	1	4	4	13	1	33	3	6	36	5	126

Turning-Movement Count by 15-Minute Interval

15 Minutos Ending		EB Oxford			WB Oxford	d l		NB Kipling	1		SB Kipling	1	Total
15 Minutes Ending	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total
7:15	1	0	0	1	0	3	0	2	0	3	3	0	13
7:30	0	1	0	1	0	0	0	4	0	0	3	0	9
7:45	1	2	0	1	1	0	0	3	0	1	5	0	14
8:00	2	0	1	0	1	6	0	6	1	0	6	1	24
8:15	3	0	0	0	0	2	1	4	0	0	7	2	19
8:30	3	1	0	0	0	0	0	2	1	0	4	0	11
8:45	2	1	0	0	1	1	0	3	0	2	5	0	15
9:00	3	0	0	1	1	1	0	9	1	0	3	2	21
TOTAL	15	5	1	4	4	13	1	33	3	6	36	5	126

Hourly Total

Hour Paginning		EB Oxford			WB Oxfore	d		NB Kipling	ļ		SB Kipling	J	Total
Hour beginning	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOLAI
7:00	4	3	1	3	2	9	0	15	1	4	17	1	60
7:15	6	3	1	2	2	8	1	17	1	1	21	3	66
7:30	9	3	1	1	2	8	1	15	2	1	22	3	68
7:45	10	2	1	0	2	9	1	15	2	2	22	3	69
8:00	11	2	0	1	2	4	1	18	2	2	19	4	66

AM Peak Hour

Hour Boginning		EB Oxford			WB Oxfore	b		NB Kipling	J		SB Kipling	1	Total
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOLAI
7:45	10	2	1	0	2	9	1	15	2	2	22	3	69
PHF (Peak-Hour Factor)	0.83	0.50	0.25	#DIV/0!	0.50	0.38	0.25	0.63	0.50	0.25	0.79	0.38	0.72
		0.81			0.39			0.64			0.75		0.72

TRAFFIC IMPACT STUDY FOR "THE BERKLEY" PM Turning-Movement Count at Kipling and Oxford Wednesday, 7-26-17

Wednesday, 7-20-17

Cumulative Turning-Movement Count

15 Minutes Ending		EB Oxford			WB Oxford	1		NB Kipling	1		SB Kipling	ļ	Total
(Enter Data)	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOTAL
4:15	3	1	0	1	3	1	2	5	0	0	2	1	19
4:30	8	1	0	1	7	1	2	14	0	1	8	2	45
4:45	9	5	0	1	7	3	2	23	0	1	12	4	67
5:00	11	7	1	1	7	4	3	36	0	2	14	4	90
5:15	14	8	2	1	9	7	3	44	1	2	19	5	115
5:30	17	13	2	2	11	8	3	57	1	2	39	8	163
5:45	18	15	2	2	15	9	3	72	4	2	47	8	197
6:00	22	17	3	3	19	12	4	79	4	2	53	10	228

Turning-Movement Count by 15-Minute Interval

15 Minutos Ending		EB Oxford			WB Oxford	t		NB Kipling)		SB Kipling	1	Total
15 Minutes Ending	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total
4:15	3	1	0	1	3	1	2	5	0	0	2	1	19
4:30	5	0	0	0	4	0	0	9	0	1	6	1	26
4:45	1	4	0	0	0	2	0	9	0	0	4	2	22
5:00	2	2	1	0	0	1	1	13	0	1	2	0	23
5:15	3	1	1	0	2	3	0	8	1	0	5	1	25
5:30	3	5	0	1	2	1	0	13	0	0	20	3	48
5:45	1	2	0	0	4	1	0	15	3	0	8	0	34
6:00	4	2	1	1	4	3	1	7	0	0	6	2	31
TOTAL	22	17	3	3	19	12	4	79	4	2	53	10	228

Hourly Total

		EB Oxford			WB Oxford	d l		NB Kipling	J		SB Kipling	j	Total
Hour Beginning	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOLAI
4:00	11	7	1	1	7	4	3	36	0	2	14	4	90
4:15	11	7	2	0	6	6	1	39	1	2	17	4	96
4:30	9	12	2	1	4	7	1	43	1	1	31	6	118
4:45	9	10	2	1	8	6	1	49	4	1	35	4	130
5:00	11	10	2	2	12	8	1	43	4	0	39	6	138

PM Peak Hour

Hour Boginning		EB Oxford			WB Oxford	d l		NB Kipling	1		SB Kipling	j	Total
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total
5:00	11	10	2	2	12	8	1	43	4	0	39	6	138
PHF (Peak-Hour Factor)	0.69	0.50	0.50	0.50	0.75	0.67	0.25	0.72	0.33	#DIV/0!	0.49	0.50	0.72
		0.72			0.69			0.67			0.49		0.72

TRAFFIC IMPACT STUDY FOR "THE BERKLEY"

AM Turning-Movement Count at Kipling and Harvard

Wednesday, 7-26-17

Cumulative Turning-Movement Count

15 Minutes Ending		EB Harvar	d	V	VB Harvar	d		NB Kipling	9		SB Kipling	1	Total
(Enter Data)	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOtal
7:15	0	2	0	0	0	0	0	2	0	0	4	0	8
7:30	0	3	0	0	1	0	0	5	2	1	7	0	19
7:45	0	7	0	1	3	0	0	6	3	2	11	0	33
8:00	1	10	0	2	3	0	0	12	4	5	14	0	51
8:15	4	13	0	4	5	1	0	17	6	7	20	0	77
8:30	4	16	0	4	6	1	0	19	9	8	23	1	91
8:45	4	18	0	5	10	1	0	20	10	8	30	1	107
9:00	5	23	0	5	12	3	0	26	13	10	32	1	130

Turning-Movement Count by 15-Minute Interval

15 Minutos Ending		EB Harvar	d	١	NB Harvar	ď		NB Kipling	J		SB Kipling)	Total
15 Minutes Ending	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	TOTAL
7:15	0	2	0	0	0	0	0	2	0	0	4	0	8
7:30	0	1	0	0	1	0	0	3	2	1	3	0	11
7:45	0	4	0	1	2	0	0	1	1	1	4	0	14
8:00	1	3	0	1	0	0	0	6	1	3	3	0	18
8:15	3	3	0	2	2	1	0	5	2	2	6	0	26
8:30	0	3	0	0	1	0	0	2	3	1	3	1	14
8:45	0	2	0	1	4	0	0	1	1	0	7	0	16
9:00	1	5	0	0	2	2	0	6	3	2	2	0	23
TOTAL	5	23	0	5	12	3	0	26	13	10	32	1	130

Hourly Total ¹ Peak hour on Coolidge at Harvard EB Harvard WB Harvard NB Kipling SB Kipling Hour Beginning Total RT LT ΤH RT LT ΤH RT LT ΤH RT LT ΤH 7:00 7:15 7:30 7:45¹ 8:00

AM Peak Hour

Hour Reginning	I	EB Harvar	d	V	VB Harvar	d		NB Kipling			SB Kipling	1	Total
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total
8:00	4	13	0	3	9	3	0	14	9	5	18	1	79
PHF (Peak-Hour Factor)	0.33	0.65	#DIV/0!	0.38	0.56	0.38	#DIV/0!	0.58	0.75	0.63	0.64	0.25	0.76
		0.71			0.75			0.64			0.75		0.70

TRAFFIC IMPACT STUDY FOR "THE BERKLEY" PM Turning-Movement Count at Kipling and Harvard Wednesday, 7-26-17

Cumulative Turning-Movement Count

15 Minutes Ending	EB Harvard			WB Harvard			NB Kipling			SB Kipling			Total
(Enter Data)	LT	TH	RT	Total									
4:15	0	4	0	1	4	1	0	6	4	0	3	0	23
4:30	1	8	0	1	6	3	0	13	6	1	5	0	44
4:45	2	8	0	1	9	4	0	18	9	2	6	2	61
5:00	2	12	0	1	12	4	0	30	10	2	8	2	83
5:15	3	17	0	5	18	5	0	40	14	4	12	2	120
5:30	3	24	0	5	22	7	0	49	15	6	27	4	162
5:45	3	27	0	7	23	8	2	64	18	7	32	5	196
6:00	3	33	0	8	29	8	2	72	23	9	35	7	229

Turning-Movement Count by 15-Minute Interval

15 Minutes Ending		EB Harvar	d	WB Harvard			NB Kipling			SB Kipling			Total
15 Minutes Ending	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total
4:15	0	4	0	1	4	1	0	6	4	0	3	0	23
4:30	1	4	0	0	2	2	0	7	2	1	2	0	21
4:45	1	0	0	0	3	1	0	5	3	1	1	2	17
5:00	0	4	0	0	3	0	0	12	1	0	2	0	22
5:15	1	5	0	4	6	1	0	10	4	2	4	0	37
5:30	0	7	0	0	4	2	0	9	1	2	15	2	42
5:45	0	3	0	2	1	1	2	15	3	1	5	1	34
6:00	0	6	0	1	6	0	0	8	5	2	3	2	33
TOTAL	3	33	0	8	29	8	2	72	23	9	35	7	229

Hourly Total

Hour Paginning	EB Harvard			WB Harvard			NB Kipling				Total		
Hour Beginning	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total
4:00	2	12	0	1	12	4	0	30	10	2	8	2	83
4:15	3	13	0	4	14	4	0	34	10	4	9	2	97
4:30	2	16	0	4	16	4	0	36	9	5	22	4	118
4:45	1	19	0	6	14	4	2	46	9	5	26	3	135
5:00	1	21	0	7	17	4	2	42	13	7	27	5	146

PM Peak Hour

Hour Regipping	EB Harvard			WB Harvard			NB Kipling			SB Kipling			Total	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	
5:00	1	21	0	7	17	4	2	42	13	7	27	5	146	
DHE (Pook Hour Footor)	0.25	0.75	#DIV/0!	0.44	0.71	0.50	0.25	0.70	0.65	0.88	0.45	0.63	0.87	
	0.79			0.64		0.71			0.51			0.07		

YEAR	ID	MONTH	SUNFAC	MONFAC	TUEFAC	WEDFAC	THURFAC	FRIFAC	SATFAC
2016	1	Jan	1.662	1.179	1.159	1.100	1.068	1.110	1.268
2016	2	Feb	1.442	1.083	1.091	1.130	1.120	0.976	1.185
2016	3	Mar	1.345	1.025	1.014	1.000	1.014	0.932	1.165
2016	4	Apr	1.367	0.966	0.958	0.940	0.936	0.879	1.132
2016	5	Мау	1.258	1.019	0.945	0.932	0.895	0.856	1.100
2016	6	Jun	1.219	0.928	0.906	0.897	0.878	0.841	1.061
2016	7	Jul	1.237	1.007	0.916	0.901	0.885	0.852	1.092
2016	8	Aug	1.170	0.913	0.910	0.889	0.866	0.831	1.069
2016	9	Sep	1.237	1.017	0.937	0.948	0.927	0.864	1.105
2016	10	Oct	1.263	0.976	0.946	0.933	0.920	0.851	1.086
2016	11	Nov	1.305	1.000	0.973	0.965	1.005	0.939	1.160
2016	12	Dec	1.690	1.193	1.061	1.012	1.017	0.981	1.301

Table C-2. SEMCOG Seasonal Adjustment Factors

Traffic Counts

The Regional Traffic Counts Database is SEMCOG's central repository for traffic counts in the Southeast Michigan region. Traffic counts in this database were collected and provided to SEMCOG by county road commissions, local communities in Southeast Michigan, the Michigan Department of Transportation, and by consultants specializing in traffic data collection. Each count was taken during a continuous 24-hour period. The initial search results show the most recent Average Annual Daily Traffic (AADT) for the given location for the stated year. AADT are traffic volumes that are adjusted by a month and day of week factor to account for seasonal variations in traffic. By clicking on a AADT hyperlink, you will leave SEMCOG's website and will be directed to a more detailed report containing the AADT, Raw Traffic Count, and other information.

Seasonal adjustment factors are used to calculate average annual daily traffic (AADT) from short duration vehicle counts. These seasonal factors were developed using the Permanent Traffic Recorders (PTR) located in Southeast Michigan. The factors were averaged from each of these locations, thus resulting in adjustment factors by year and month for each day of the week. These adjustment factors can be applied to the raw counts in Southeast Michigan. An estimated AADT is produced by multiplying the factors times the raw counts. Click seasonal adjustment factors to download the factors.

For more information on traffic counts contact Chade Saghir. SEMCOG also has a Traffic Volume map in the Map Gallery.

Hour	Heatherw	vood Condos	(188 d.u.)	Weathers	tone Condos	(302 d.u.)	Combir	ned Trips (4	90 d.u.)	% of	% of Combined Trips In Out To 1% 1% 1 1% 1% 1 1% 0% 0 0% 0% 0 0% 0% 0 0% 0% 0 0% 0% 0 0% 0% 0 0% 0% 0 1% 1% 1 1% 6% 4 2% 12% 7 3% 6% 5		
Starting	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
12 am	7	7	14	5	3	8	12	10	22	1%	1%	1%	
1 am	3	2	5	4	2	6	7	4	11	1%	0%	0%	
2 am	2	0	2	3	0	3	5	0	5	0%	0%	0%	
3 am	1	1	2	0	0	0	1	1	2	0%	0%	0%	
4 am	0	2	2	2	5	7	2	7	9	0%	0%	0%	
5 am	4	5	9	4	15	19	8	20	28	1%	1%	1%	
6 am	2	24	26	9	64	73	11	88	99	1%	6%	4%	
7 am	4	75	79	16	103	119	20	178	198	2%	12%	7%	
8 am	6	62	68	20	106	126	26	168	194	2%	12%	7%	
9 am	6	24	30	32	67	99	38	91	129	3%	6%	5%	
10 am	11	16	27	39	70	109	50	86	136	4%	6%	5%	
11 am	14	26	40	40	67	107	54	93	147	4%	6%	5%	
12 pm	28	25	53	42	53	95	70	78	148	5%	5%	5%	
1 pm	20	21	41	42	47	89	62	68	130	5%	5%	5%	
2 pm	16	17	33	32	43	75	48	60	108	4%	4%	4%	
3 pm	22	18	40	80	48	128	102	66	168	8%	5%	6%	
4 pm	37	19	56	69	39	108	106	58	164	8%	4%	6%	
5 pm	48	20	68	105	60	165	153	80	233	12%	6%	8%	
6 pm	58	34	92	91	48	139	149	82	231	11%	6%	8%	
7 pm	44	26	70	66	54	120	110	80	190	8%	6%	7%	
8 pm	46	15	61	59	43	102	105	58	163	8%	4%	6%	
9 pm	22	12	34	63	22	85	85	34	119	6%	2%	4%	
10 pm	26	7	33	35	28	63	61	35	96	5%	2%	3%	
11 pm	15	2	17	18	5	23	33	7	40	3%	0%	1%	
Total	442	460	902	876	992	1868	1318	1452	2770	100%	100%	100%	

Table C-3. Residential Traffic by Hour of a Typical Weekday¹

¹ Data collected by Traffic Data Collection, LLC for Birchler Arroyo Associates, Inc. in November 2003, at two condo developments on the south edge of the Ann Arbor urban area.

APPENDIX D:

BACKGROUND TRAFFIC



Figure D-1. Future Background Peak-Hour Volumes due to General Trends¹



Figure D-2. Future Background Volumes Generated by Harvard Commons (West of D#4)
APPENDIX E:

LEVEL OF SERVICE ANALYSES

Current AM Peak Hour



Berkley Synchro Network

7

Intersection	
Int Delay, s/veh	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBI	SBT	SBR
Lane Configurations		4			4.			đ.	TIDI	004	1	001
Traffic Vol, veh/h	10	2	1	0	2	9	1	15	2	2	22	3
Future Vol, veh/h	10	2	1	0	2	9	1	15	2	2	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Ston	Stop	Stop	Stop	Ston
RT Channelized	-	-	None	-	-	None	- Clop	-	None	otop	otop	None
Storage Length	-	-	-		-	-	-		-			NUIG
Veh in Median Storage, #	-	0	-	-	0	-	-	0			0	
Grade, %	_	0		-	0	-		0		-	0	-
Peak Hour Factor	81	81	81	60	60	60	64	64	64	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	12	2	1	0	3	15	2	23	3	3	29	4

Major/Minor	Major1				Major2				Minor1			Minor2	- 3	
Conflicting Flow All	18	0	0		4	0	0		56	46	3	52	39	11
Stage 1	-		-		-			Case of the	28	28	-	11	11	
Stage 2	-				-				28	18	-	41	28	
Critical Hdwy	4.12	-	-		4.12	-	-	0.1.1.1	7.12	6.52	6 22	7 12	6 52	6 22
Critical Hdwy Stg 1		-	-		-		-		6.12	5.52	-	6.12	5 52	0.22
Critical Hdwy Stg 2		-	10-						6.12	5.52	-	6.12	5.52	1
Follow-up Hdwy	2.218	-	-		2.218				3.518	4 018	3.318	3.518	4 018	3 318
Pot Cap-1 Maneuver	1599	-	4		1618	-	-	1.11	941	846	1081	947	853	1070
Stage 1		-	-		-	-	-		989	872	-	1010	886	1010
Stage 2	-	-	-					S-11 (989	880		974	872	
Platoon blocked, %		-				-	-			000		714	012	
Mov Cap-1 Maneuver	1599	-			1618	-	-	- mart	907	839	1081	919	846	1070
Mov Cap-2 Maneuver	-				-		-		907	839	-	919	846	1010
Stage 1		-	-	torn-		-	-		981	865	-	1002	886	
Stage 2	-	-				-	-		953	880	-	937	865	
Approach	EB				WB				NB			65		
HCM Control Delay, s	5.6				0				03			0.2	-	-
HCM LOS									A			9.3 A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					-	
Capacity (veh/h)	864	1599	-	-	1618	-		871						
HCM Lane V/C Ratio	0.033	0.008	-		-	-	-	0.041			-			
HCM Control Delay (s)	9.3	7.3	0	-	0	-		93		(C)	0.0		With State	-
HCM Lane LOS	A	A	A		A	-	-	A				1937	-	1000
HCM 95th %tile Q(veh)	0.1	0		-	0	-	-	01	-					1

ntersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBI	SBT	SBR
Lane Configurations		4.			44			ፈተሴ		001	11	our
Traffic Vol, veh/h	4	1	10	18	2	13	9	703	10	11	768	0
Future Vol, veh/h	4	1	10	18	2	13	9	703	10	11	768	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	100	9 0
Sign Control	Stop	Stop	Stop	Stop	Stop	Ston	Eree	Free	Free	Free	Free	Eroo
RT Channelized		-	None		-	None	-	-	None	1166	1100	Mone
Storage Length	-	-		-	-	-	-		INCITO	-		HUIG
Veh in Median Storage, #	-	0	14	-	0	-	-	0		-	- 0	
Grade, %	-	0	-		0	-	-	0	-	-	0	
Peak Hour Factor	60	60	60	75	75	75	94	94	94	RO	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	03
Mymt Flow	7	2	17	24	3	17	10	748	11	12	863	10

Major/Minor	Minor2	1.0		N	Ainor1			1	Maior1			Major2		12-1
Conflicting Flow All	1287	1671	437		1229	1670	379		873	n	0	759	Π	0
Stage 1	893	893	-	Transa and	772	772		a	-	-	-	100		0
Stage 2	394	778	-		457	898	-			-	-			-
Critical Hdwy	7.54	6.54	6.94	1949 - S	7.54	6.54	6.94		4.14	-	-	4 14	-	1
Critical Hdwy Stg 1	6.54	5.54	-		6.54	5.54	-		-	-	-	-		
Critical Hdwy Stg 2	6.54	5.54	-	ALC: NO	6.54	5.54			-		-			-
Follow-up Hdwy	3.52	4.02	3.32		3.52	4.02	3.32		2.22	-	-	2 22		-
Pot Cap-1 Maneuver	121	95	567	8 mari	134	95	619	_	768			848	1	
Stage 1	303	358			358	407			-	-		-	-	-
Stage 2	602	405	-		553	356		and III	-	1				
Platoon blocked, %			_							-	-		_	
Mov Cap-1 Maneuver	111	90	567	1	123	90	619		768	-		848		-
Mov Cap-2 Maneuver	111	90	-		123	90	-	0.02	-	_		-		
Stage 1	296	348	-		350	398		12251	-	-	-	-		-
Stage 2	568	396	•		519	346	•		-	•	-	•	•	
Approach	EB	_			WB	010	_		NB			SB		
HCM Control Delay, s	22.4		1		32.6		-		0.2			0.2		
HCM LOS	C		T.S.M		D				U.E			0.2	_	
Minor Lane/Major Mymt	NBL	NBT	NBR	EBLn1W	BLn1	SBL	SBT	SBR					-	
Capacity (veh/h)	768	-		232	174	848	-		Contraction of the				2010	
HCM Lane V/C Ratio	0.012		-	0.108	0.253	0.015	-	-						0.000
HCM Control Delay (s)	9.7	0.1	-	22.4	32.6	9.3	0.1	30-	23 - EH	3.1	-		-	
HCM Lane LOS	A	Α	-	С	D	A	A						a star	1 6

0

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0.4

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0

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HCM 95th %tile Q(veh)

	>		\mathbf{F}	×	-	*		1	~	1	Ŧ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SB	SBT	SBR
Lane Configurations		4			đ,		ħ	A 1.		K	A1.	CDI
Traffic Volume (veh/h)	10	1	4	25	4	15	5	692	8	9	762	Q
Future Volume (veh/h)	10	1	4	25	4	15	5	692	8	9	762	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	Ó	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1 00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	2080	2039	2080	2080	2039	2080	1961	1961	2000	1961	1961	2000
Adj Flow Rate, veh/h	17	2	7	32	5	19	5	744	9	10	819	10
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.60	0.60	0.60	0.79	0.79	0.79	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	59	147	368	70	189	362	1974	24	393	1974	24
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1009	175	436	881	208	560	693	3770	46	745	3769	46
Grp Volume(v), veh/h	26	0	0	56	0	0	5	368	385	10	405	474
Grp Sat Flow(s) veh/h/ln	1620	0	0	1649	0	0	693	1863	1953	745	1863	1953
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	0.4	9.4	94	0.6	10.6	10.6
Cycle Q Clear(g_c), s	0.7	0.0	0.0	1.6	0.0	0.0	10.9	9.4	94	10.0	10.6	10.6
Prop In Lane	0.65		0.27	0.57		0.34	1.00		0.02	1.00	10.0	0.02
Lane Grp Cap(c), veh/h	621	0	0	627	0	0	362	976	1023	393	976	1023
V/C Ratio(X)	0.04	0.00	0.00	0.09	0.00	0.00	0.01	0.38	0.38	0.03	0.41	0.41
Avail Cap(c_a), veh/h	621	0	0	627	0	0	362	976	1023	393	976	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1 00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	0.0	18.1	0.0	0.0	14.9	11.3	11.3	14.3	11.6	11.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	1.1	1.1	0.1	13	12
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	0.4	0.0	0.0	0.9	0.0	0.0	0.1	5.1	5.3	0.1	57	6.0
LnGrp Delay(d),s/veh	17.9	0.0	0.0	18.4	0.0	0.0	15.0	12.4	12.4	14.4	12.9	12.8
LnGrp LOS	В			В			В	B	B	B	B	R
Approach Vol, veh/h	-V. 8	26			56			758	No.		830	
Approach Delay, s/veh		17.9			18.4		No. of Concession, Name	12.4	and an owned when the		12.9	
Approach LOS		В	. Stations		В			B		141.525	12.5 B	10 181
Timer	1	2	3	A	5	6	7					
Assigned Phs		2		4		6		0				_
Phs Duration (G+Y+Rc), s		47 0		33.0	-	47.0		22.0		S		
Change Period (Y+Rc), s		*51	1112 2	6.0		*51	100	53.0	-			
Max Green Setting (Gmax), s		* 42		27.0		+ 12		27.0	201-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-			
Max Q Clear Time (g c+11), s	man-e	12.9	1	27		12.6		21.0				
Green Ext Time (p_c), s	124	12.6		0.4		12.6		0.4				
Intersection Summary							1167	VIT				
HCM 2010 Ctrl Delav			12.9					1000			-	
HCM 2010 LOS		34-33	B		200					-		-
Notes				net ne		1411			-			
					_					-		-

Current AM Peak Hour Giffels Webster / W. A. Stimpson, P.E.

Int	re		2	ł.		m.
14 E U		0	U		L	H F

Int Delay, s/veh

1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		स	1		W		
Traffic Vol, veh/h	10	15	8	10	0	0	9-3-5 States
Future Vol, veh/h	10	15	8	10	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	And Andrews
Sign Control	Free	Free	Free	Free	Ston	Stop	
RT Channelized	-	None		None		None	March Street
Storage Length		-	-	_	0		
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %		0	0	-	0		
Peak Hour Factor	69	69	90	90	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	14	22	9	11	0	0	

Major/Minor	Major1				Ma	aior2		Minor2	and the second s	
Conflicting Flow All	20	0				-	0	65	14	
Stage 1	-	-	Sel Come	the series	C.Y.C.	- 11	10.000	14	-	-
Stage 2	-		- 52.0	1.1				51	-	
Critical Hdwy	4.12	-		and a second	100	-	-	6.42	6.22	11 m/ 22 -
Critical Hdwy Stg 1				-			-	5.42		
Critical Hdwy Stg 2	-	-	24511	20.20		-	-	5.42	-	and the second se
Follow-up Hdwy	2.218	-				-	-	3.518	3.318	
Pot Cap-1 Maneuver	1596	-		State of the second sec		-	-	941	1066	
Stage 1	-	-			And the second	-		1009	1000	
Stage 2	-		all_36_		CHILL.	-	-	971		
Platoon blocked, %								011		
Mov Cap-1 Maneuver	1596				0.4420-000		-	933	1066	Contraction of the local division of the loc
Mov Cap-2 Maneuver						-		933	-	
Stage 1	-	-	-1-10		- inte	-	-	1009		
Stage 2		•					-	962	-	
Approach	FR				-	14/0	_	00		
HCM Control Delay s	20					WD 0	-	SB	-	
HCM LOS	2.0				1000	U		0		
		4182		and the second s	111111			A		
Minor Lane/Major Mymt	EBL	EBT	WBT	WBR SBL	_n1		120 14			
Capacity (veh/h)	1596		-	-		The state	101 182			
HCM Lane V/C Ratio	0.009	-	-		-					
HCM Control Delay (s)	7.3	0			0	2 300				
HCM Lane LOS	А	A		-	A				and the second sec	
HCM 95th %tile Q(veh)	0	-	-	- V					a superior	

- 4 -	a second	Theory and
inte	rsen	TION T
	1000	LINE I.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBI	SBT	SBR
Lane Configurations	-	4			4			4	(test)	UUL	4	CLA 1
Traffic Vol, veh/h	4	13	0	3	9	3	0	14	9	5	18	1
Future Vol, veh/h	4	13	0	3	9	3	0	14	9	5	18	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	Ō	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Ston	Ston	Stop	Ston	Ston
RT Channelized	-	-	None	-	-	None	-	-	None	0.00	otop	None
Storage Length	-	-	-	-	- 111 I	-		_	-		_	140115
Veh in Median Storage, #	-	0	-	-	0	Server-1	-	0		100 March 100 Ma	0	
Grade, %	-	0		-	0	-	-	0	_		0	
Peak Hour Factor	71	71	71	75	75	75	64	64	64	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	18	0	4	12	4	0	22	14	7	24	1

Major/Minor	Major1				Major2				Minor1			Minor2		
Conflicting Flow All	16	0	0		18	0	0		65	54	18	70	52	14
Stage 1	-	-	-			-		1.5755	30	30		22	22	14
Stage 2	-	-	<u>_</u>		-				35	24		48	30	-
Critical Hdwy	4.12	-	-	Burginn	4.12	-	-		7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	•	-						6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	11.0	-	-	-	1	6.12	5.52	-	6.12	5.52	
Follow-up Hdwy	2.218	-	-		2.218	-			3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1602		-		1599	-			929	837	1061	922	839	1066
Stage 1		-			-			e constituição	987	870	-	996	877	-
Stage 2		-	-		-	-	-	- Long	981	875	-	965	870	-
Platoon blocked, %									the same				0.0	
Mov Cap-1 Maneuver	1602	-	-	1. 12 A	1599	-		1. Carrier	903	831	1061	887	833	1066
Mov Cap-2 Maneuver	-	-	-			-	_		903	831	-	887	833	
Stage 1	100 march =	-	•	Sam-	-		-		983	867	-	992	874	-
Stage 2	-		-	-	-				950	872		924	867	
Contraction of the second		- Yurk	2318	103		1940 - A	20		1000					
Approach	EB				WB				NB			SB		2
HCM Control Delay, s	1.7	_	1	i devi	1.5				9.1	Sec. 1		9.4	19.75	
HCM LOS									A			A	and the plat	and the second second
	in a care		121	-		12500	and the second			in the				71-22
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1		Service -		n i i se di s		
Capacity (veh/h)	908	1602	-		1599	-		852			- C		100	
HCM Lane V/C Ratio	0.04	0.004	•	-	0.003	-		0.038						
HCM Control Delay (s)	9.1	7.3	0	-	7.3	0	-	9.4		1.00-00	10. 01.	S. 11.2713		1
HCM Lane LOS	А	А	A		A	A		A					The second second	and the second second
HCM 95th %tile Q(veh)	0.1	0		-	0	-		0.1	-2X		and the second	Second Sec.	-	2023

Current PM Peak Hour



ntersection		Sec. 2	2222	a cas				-						
Int Delay, s/veh	7.5				-	-	-		-	-				
Movement	EBL	EBT	EBR		WBL	WBT	WBR	a (34)	NBL	NBT	NRR	192	CRT	CDD
Lane Configurations		4				4			1.1.1.1.1	đ.	TRUTY	000	001	opn
Traffic Vol, veh/h	11	10	2	S. R	2	12	8		1	43	4	0	30	G
Future Vol, veh/h	11	10	2		2	12	8		1	43	т Д	0	30	0
Conflicting Peds, #/hr	0	0	0		0	0	Ō		0	0	т П	0	59	0
Sign Control	Free	Free	Free		Free	Free	Free		Ston	Ston	Ston	Stop	Stop	Stop
RT Channelized	-	-	None	Sec.	-	-	None	(C. 20	-	otop -	None	Otop	otop	None
Storage Length		-	-		-	-	-		-	_	-			NUNG
Veh in Median Storage, #	-	0	-	W.C.		0	-		-	0	-	and the second	0	
Grade, %	-	0	-			0			-	0			0	-
Peak Hour Factor	72	72	72		69	69	69		67	67	67	60	0	60
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	15	14	3		3	17	12		1	64	6	0	65	10
Major/Minor	Maior1				Major2	-			Minor1	247		Minor		
Conflicting Flow All	29	0	0		17	0	0		110	04	45	MINOrZ	-	
Stage 1	-		0	13	11	U	U		112	01	15	110	76	23
Stage 2	_		-			100	-		40	40		29	29	-
Critical Hdwy	4 12			1.12-0	4 1 2	-	-		7 40	50		81	47	-
Critical Hdwy Sto 1	-				4.14	-	•		6.12	0.02	0.22	7.12	6.52	6.22
Critical Hdwy Sto 2		-	7-1			-	-	01 00 0	0.12	0.02	-	6.12	5.52	
Follow-up Hdwy	2 218				2 218	-			2.540	0.02	-	6.12	5.52	
Pot Can-1 Maneuver	1584		-	10.00	1600	-	-		3.318	4.018	3.318	3.518	4.018	3.318
Stage 1	1004				1000		-		000	009	1000	868	814	1054
Stage 2		-	100 240		-	-	an and	-	908	007	-	988	871	-
Platoon blocked %		-	Cur.		-		-		940	800		927	856	
Mov Can-1 Maneuver	1584	1		Distant.	1600		00.01		707	700	4005	000	004	
Mov Cap-2 Maneuver	- 100	and the local dist.		10111	1000	-			797	799	1000	803	804	1054
Stage 1	1.2.2.2.2.1		-		C. C	-	-		/9/	799		803	804	-
Stage 2			1		-	-	-		906	040	-	9/8	869	
olugo z	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -						-	1	804	864	11000	844	847	
Approach	EB				WB				NB			SB	1	
HCM Control Delay, s	3.5			ALC: N	0.7				9.8		12 Stores	9.8	2010	-112
HCM LOS	10				9				Α	-		A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WEL	WBT	WBR	BLn1		D. M.	-			and the same
Capacity (veh/h)	816	1584	-	-	1600	-		830		-				
HCM Lane V/C Ratio	0.088	0.01		-	0.002			000	11-22				100 000	
HCM Control Delay (s)	9.8	7.3	0		7.3	n	110-13	0.03		-04210				
ICM Lane LOS	A	A	A		A	A		Δ		100				
HCM 95th %tile Q(veh)	0.3	0	-		0			03				State -	-	

intersection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			ፈሴ			ታሴ	0.01
Traffic Vol, veh/h	3	2	14	9	0	16	8	1211	22	14	994	12
Future Vol, veh/h	3	2	14	9	0	16	8	1211	22	14	994	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized			None			None	-	-	None	1100	-	None
Storage Length	-	-			-	-	-	-	-	-		110110
Veh in Median Storage, #	-	0	-		0	-	-	n			0	
Grade, %	-	0	-	· · ·	0	-	-	0			0	
Peak Hour Factor	68	68	68	89	89	89	96	96	96	94	04	04
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	4	3	21	10	0	18	8	1261	23	15	1057	13

and the second se													
Major/Minor	Minor2	1000		Minor1	in the second	1	N	Aajor1	en a		Major2		
Conflicting Flow All	1741	2395	535	1850	2390	642		1070	0	0	1284	0	
Stage 1	1094	1094		1290	1290	-	1000	-		-	-	-	Ĩ
Stage 2	647	1301	-	560	1100			-	-		-		
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	1.3	4.14		-	4.14		
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-		-	-	-	-		_
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54		11.0		-		-	-	
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32		2.22	-	-	2 22	-	-
Pot Cap-1 Maneuver	56	33	490	46	33	417		647	140	-	536		
Stage 1	228	288	-	173	232			-	-	-	-		-
Stage 2	426	229		480	286	106 -		-	-	-	2012221.000		
Platoon blocked, %							942		-	-			
Mov Cap-1 Maneuver	49	29	490	37	29	417		647	-	-	536	-	
Mov Cap-2 Maneuver	49	29	-	37	29	-				-	-		_
Stage 1	218	268	-	165	222	-		-	-	1	112 C 12		
Stage 2	390	219	•	423	266	-		-	-		-	-	-
Annraach	50			14.00				N/D	-				
HOM Control D. L	EB			WB		-		NB			SB		
HUM Control Delay, s	43.9	ALL CONTRACTOR		63.1	anica nes	1700	1 5000	0.3		1 15	0.6		
HCM LOS	E			F		1211133	12. J. 19.			En line			
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR			-	-		
Capacity (veh/h)	647	-	-	120 89	536								
HCM Lane V/C Ratio	0.013	-	-	0.233 0.316	0.028		-	and the second s			and the second	0.010	
HCM Control Delay (s)	10.6	0.2		43.9 63.1	11.9	0.4	-		N.	1000	- Pagraa		-
HOLL mail 00			_		and the second se		And a state of the			- Andrew -			-

now control Delay (S)	10.0	0.2	-	43.9	63.1	11.9	0.4	-	
HCM Lane LOS	В	Α	-	Е	F	В	Α		
HCM 95th %tile Q(veh)	0	-	•	0.8	1.2	0.1	-	-	

	≯	-	\mathbf{F}	1	-	A.	-	1	~	1	ŧ	-
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		5	A1		K	Å 1.	001
Traffic Volume (veh/h)	39	11	12	20	10	27	7	1186	16	18	965	10
Future Volume (veh/h)	39	11	12	20	10	27	7	1186	16	18	965	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adi(A_pbT)	1.00		1.00	1.00		1.00	1.00	1. IN 18	1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/in	2080	2039	2080	2080	2039	2080	1961	1961	2000	1961	1961	2000
Adj Flow Rate, veh/h	50	14	15	29	15	40	7	1235	17	20	1084	11
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.68	0.68	0.68	0.96	0.96	0.96	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	116	104	230	134	276	269	1971	27	225	1979	20
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	978	343	310	502	398	818	540	3763	52	465	3778	38
Grp Volume(v), veh/h	79	0	0	84	0	0	7	611	641	20	534	561
Grp Sat Flow(s),veh/h/ln	1630	0	0	1717	0	0	540	1863	1952	465	1863	105/
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.7	18.6	18.6	25	153	15 3
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.5	0.0	0.0	16.0	18.6	18.6	21.2	15.3	15.3
Prop In Lane	0.63		0.19	0.35		0.48	1.00	10.0	0.03	1 00	10.0	0.02
Lane Grp Cap(c), veh/h	624	0	0	640	0	0	269	976	1022	225	976	1023
V/C Ratio(X)	0.13	0.00	0.00	0.13	0.00	0.00	0.03	0.63	0.63	0.09	0.55	0.55
Avail Cap(c_a), veh/h	624	0	0	640	0	0	269	976	1022	225	976	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1 00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	18.4	0.0	0.0	18.1	13.5	13.5	21.0	12.7	127
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	0.0	0.2	3.0	2.9	0.8	22	21
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	1.3	0.0	0.0	1.4	0.0	0.0	0.1	10.3	10.8	0.4	8.5	8.9
LnGrp Delay(d),s/veh	18.7	0.0	0.0	18.8	0.0	0.0	18.3	16.5	16.4	21.8	14.9	14.8
LnGrp LOS	В			В			B	B	B	C	B	B
Approach Vol, veh/h	300 100	79	25.00		84			1259			1115	
Approach Delay, s/veh		18.7			18.8			16.5			15.0	Concerning of the
Approach LOS		В	23.7		B	-	-	B	- transfer	all and a second	10.0 R	-
Timer	1	2	2	4	5	6	7	0			U	
Assigned Phs		2		4	0	6	/	0	_			
Phs Duration (G+Y+Rc) s		47 0		33.0		47.0		22.0		1.10	1.1.1	
Change Period (Y+Rc) s		*51		60		+7.0	tor and	33.0	10			-
Max Green Setting (Gmax) s	The Baseline	+ 42		27.0		+ 40	2	0.0			1993	
Max O Clear Time (a c+11) s	1	20.6	-	12		72.0		21.0			- 24 A	
Green Ext Time (n_c) s		16.3		4.2	-	14 7		4.0	5-0750 M	A ANDRES	6 A	
		10.5		0.5		(4.7		0.9				
HCM 2010 Ctrl Dalow	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -		16.0						1000	in the second		
HCM 2010 LOS	A11		10.0	110000000			- 100 -		-	_	_	
			В	3 UH))	SC.WY			No.	2 2011201	a.u. a.	-	
Notes		1. 200	2 - #Ess									

Current PM Peak Hour Giffels Webster / W. A. Stimpson, P.E.

Inter	sec	tion
inter i	360	LICU I

Int Delay, s/veh

Int Delay, s/veh	0			2.		Challenger State of the	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	1	स	ţ,		W		
Traffic Vol, veh/h	0	62	27	0	0	0	
Future Vol, veh/h	0	62	27	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None		None	
Storage Length	-	-	-		0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0		0		
Peak Hour Factor	78	78	83	83	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	0	79	33	0	0	0	

Major/Minor	Major1				Major2		Minor2		and the second
Conflicting Flow All	33	0			-	0	112	33	
Stage 1	The second	-			A. 2781	-	33	-	
Stage 2		-				-	79	-	
Critical Hdwy	4.12	-	1	WT SHE I		-	6.42	6.22	
Critical Hdwy Stg 1	-				-	-	5.42	-	
Critical Hdwy Stg 2	-		1 22	1/1/21/201	- 1		5.42	-	
Follow-up Hdwy	2.218				-		3.518	3.318	
Pot Cap-1 Maneuver	1579	-		N. X 1. E	-	-	885	1041	TWREE IN CONTRACTOR
Stage 1	-	-			-		989	-	College College
Stage 2	-						944	1.00	1.19
Platoon blocked, %					-	-			
Mov Cap-1 Maneuver	1579	-		201 000	-		885	1041	and the second sec
Mov Cap-2 Maneuver	-				-	-	885	-	
Stage 1	line at -	0	-			-	989	-	Martin States
Stage 2		-			-		944	-	
Approach	EB				WB		SB		
HCM Control Delay, s	0				0	-	0		A DE PERSON DE LA COMPANY
HCM LOS							A		
	and the second	unar de		ing and a state		Sints 1			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SBL	n1	1000	tion of the second		In the second second second
Capacity (veh/h)	1579	-	-		-			mana and	
HCM Lane V/C Ratio	-		-	-	-				
HCM Control Delay (s)	0	-	-	-	0		10-11 - 10 S	1	2 200 0 10 10 10 10 10 10 10 10 10 10 10 10
HCM Lane LOS	A	-		-	A		and the second s		
HCM 95th %tile Q(veh)	0	-	-	-	12 203	12.2			

	19.51	_		1.1			- 11 A							
ntersection	-	Sec. 10	-	93	an an	- 10	5-76-	Star 1	in the	n Gran	2000 C		1 100	
Int Delay, s/veh	6.9													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NB	NBT	NRR	SBI	SRT	CRI
Lane Configurations		4		-		4			1100	4	TABLE	006	1001	UDI
Traffic Vol. veh/h	1	21	0		7	17	4		2	42	13	7	97	5
Future Vol. veh/h	1	21	0	1	7	17	4		2	42	13	7	21	5
Conflicting Peds, #/hr	0	0	0		0	0	0		0	1	0	0	21	0
Sign Control	Free	Free	Free		Free	Free	Free		Ston	Ston	Ston	Ston	Stop	Stop
RT Channelized	-	-	None	(-	-	None		otop	otop	None	Otop	Stop	Mono
Storage Length	-	. <u>.</u>	-			-	-		-	_	-		_	IAOHO
Veh in Median Storage, #	Buckey.	0	-	131-		0	-		-	n			0	
Grade, %		0	-		-	0	-			0			0	
Peak Hour Factor	79	79	79		64	64	64		71	71	71	60	03	60
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mymt Flow	1	27	0	1.55	11	27	6	_	2	50	18	12	45	2
			_				0		0	00	10	14	46	0
Major/Minor	Majort				Major2	-	-		Minort		222	Maga		
Conflicting Flow Alt	33	0	0	-	97	0	-		407	04	07	1002		
Stane 1		0	U	1000	21	U	U		107	84	27	120	81	30
Stane 2		1.1.2	-		-	-	•		29	29	-	52	52	-
Critical Hdwy	4 12	-	•	HC	4 4 7				78	0.50	-	68	29	-
Critical Hdwy Sta 1	4.12		-		4.12	-	•	ناب و	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 7	•	all and					-		0.12	5.52		6.12	5.52	-
Follow-up Hdwy	2 240	-	-				-	1100	0.12	5.52	-	6,12	5.52	-
Pot Can-1 Manauver	4570	-	-		4.210	-			3.518	4.018	3.318	3.518	4.018	3.318
Stare 1	1019	-	-		1967	-	-		8/2	806	1048	855	809	1044
Stage 2	11100 112	-				-	-		988	8/1	-	961	852	-
Platoon blocked %		-	•			110 C. 🔻	•		931	849	-	942	871	-
May Cap 1 Manaumor	1570	-	-		4007	-	•				10.10		-	
Mov Cap-1 Maneuver	10/8	-			1587	-			823	800	1048	788	803	1044
Stage 1	S 1184	1000	•	111-21-		•	-	-	823	800	•	788	803	-
Stage 1	-		-			-	•	_	987	870	-	960	846	
Sldye Z	-	-	-			-			868	843		862	870	-
Approach			_	-2110000	LAUD	-	-			100	1			
HOM Control Delay a	ED				WB		_		NB			SB		
HOM CONTROL Delay, s	0.3	11 11	alare -	Server and	1.8	ALC: NO	1000		9.7		S TRI	9.7		
HUM LOS									A			Α		-
Alines Long Males March	NIDI - 4	CDI	FOT		TA IPI							I personal -		
	NBL01	EBL	EBI	EBR	WBL	WBI	WBR	SBLn1						
UCM Long V/C Defin	0.005	15/9	-	•	1587		-	825	1 2.20		Sec.			
HOW Lane V/C Katlo	0.095	0.001		•	0.007	-	-	0.079						-
HOM CONTROL Delay (S)	9./	13	0	•	7.3	0	•	9.7	1	a seller		-Silven-22	100	
	A	A	A	-	A	A	-	A	_	-	100			
ICM YOU THIR U(VED)	0.3	0	-		0		1	03						

Future Background AM Peak Hour



Giffels Webster / W. A. Stimpson, P.E.

Berkley Synchro Network

7

Intersection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			đ			4	001
Traffic Vol, veh/h	11	2	1	0	2	10	1	16	2	2	24	3
Future Vol, veh/h	11	2	1	0	2	10	1	16	2	2	24	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Ston	Ston
RT Channelized	-	-	None	14	-	None	-		None		otop	None
Storage Length	-	-	-	-		-	-					THOMAS
Veh in Median Storage, #		0	-	-	0			0	-	-	n	
Grade, %	-	0	-		0	-	-	0	-		0	
Peak Hour Factor	81	81	81	60	60	60	64	64	64	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	2	1	0	3	17	2	25	3	3	32	4

Major/Minor	Major 1	-			Major2				Minor1	-		Minor2		
Conflicting Flow All	20	0	0		4	0	0		60	50	3	56	43	12
Stage 1	-	-	-		100				30	30	-	12	12	12
Stage 2	-	-	-		-	_			30	20	-	44	31	
Critical Hdwy	4.12	-	-	aver 1	4.12		-		7.12	6.52	6 22	7 12	6.52	6 22
Critical Hdwy Stg 1	_				-	-		~	6.12	5.52	-	6.12	5 52	0.2.4
Critical Hdwy Stg 2	-	-		Non Str	-	-		8	6.12	5.52	-	6.12	5.52	17/164
Follow-up Hdwy	2.218	-	-		2.218	-	_		3.518	4.018	3.318	3.518	4 018	3 318
Pot Cap-1 Maneuver	1596	-			1618				936	841	1081	941	849	1069
Stage 1		-				-			987	870	-	1009	886	1000
Stage 2			-			-	6		987	879		970	869	() · · ·
Platoon blocked, %		-	-			-						010	000	
Mov Cap-1 Maneuver	1596	-	-		1618		-	APRIL PARTY	899	833	1081	911	841	1069
Mov Cap-2 Maneuver	-	-	-		-	-	-		899	833	-	911	841	-
Stage 1	1 11 m -	-	-	-		-	-	19913	978	862	-	1000	886	
Stage 2		-	-		-	•	-	-	948	879		931	861	-
Approach	EB				WB				NB			SB	1000	
HCM Control Delay, s	5.7				0	1			9.4			94		
HCM LOS			10			_			A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	857	1596	-		1618	-		865		(A			-	
HCM Lane V/C Ratio	0.035	0.009	-	-	-	-		0.045						- 00001
HCM Control Delay (s)	9.4	7.3	0	-	0	-	-	9.4			1 // 23	Sec. Sec.		
HCM Lane LOS	A	A	A		A		-	A			Para annual a			100
HCM 95th %tile Q(veh)	0.1	0		-	0	8 13	-	01	2017		-			

Intersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBI	SBT	SBR
Lane Configurations		4	-		4.			11		00-	415	ODI
Traffic Vol, veh/h	4	1	11	19	2	14	10	766	11	12	830	10
Future Vol, veh/h	4	1	11	19	2	14	10	766	11	12	830	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	12	000	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-		None			None			None	-	1100	None
Storage Length		-	_	_	-	-		-	-	-		HONG
Veh in Median Storage, #	-	0			0	-		0			0	
Grade, %	-	0	-	-	0	-		0	-	_	0	
Peak Hour Factor	60	60	60	75	75	75	94	94	94	98	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	03	03
Mvmt Flow	7	2	18	25	3	19	11	815	12	13	933	11

Major/Minor	Minor2	100		Minor	1			Major1	1.15 C		Major?		
Conflicting Flow All	1395	1813	472	133	6 1813	413	5.944	944	0	0	827	0	
Stage 1	965	965	-	84	2 842	-	1.0	-	-	-	021		0
Stage 2	430	848		49	4 971			-	-		-		
Critical Hdwy	7.54	6.54	6.94	7.5	4 6.54	6.94	~	4.14		-	4 14		
Critical Hdwy Stg 1	6.54	5.54		6.5	4 5.54	-			_	-	-		
Critical Hdwy Stg 2	6.54	5.54	-	6.5	4 5.54	1.14				-	-	-	1
Follow-up Hdwy	3.52	4.02	3.32	3.5	2 4.02	3.32		2.22		-	2 22	-	_
Pot Cap-1 Maneuver	101	78	538	11:	2 78	588		722	-	-	800		
Stage 1	274	331	-	32	5 378			-	-	-	-	-	_
Stage 2	574	376		52	5 329	-			-				
Platoon blocked, %									-	-	and the second second	-	
Mov Cap-1 Maneuver	91	73	538	10	1 73	588		722	-	-	800		-
Mov Cap-2 Maneuver	91	73	-	10	1 73				-		-		-
Stage 1	266	320	-	310	6 367	-			-	- 100	-	-	
Stage 2	536	365	-	488	3 318	-		-	•	•	-	•	-
Approach	FR			VA/E	2		_	MD			0.0	222.3	
HCM Control Delay s	25.2			40.0		-		ND	-	-	38		_
HCM LOS	20.2 D	1.11		40.0 E		11217		0.2			0.3		
		LUCI I		Woons - II	-212L3								
Minor Lane/Major Mvmt	NBL	NBT	NBR	BLn1WBLn1	SBL	SBT	SBR	1249		1			
Capacity (veh/h)	722		-	205 146	6 800								
HCM Lane V/C Ratio	0.015	-	-	0.13 0.32	2 0.017	-		-	_				
HCM Control Delay (s)	10.1	0.1		25.2 40.8	9.6	0.2	-	2. U	02003				
HCM Lane LOS	В	Α	-	DE	A	A	-					-	
HCM 95th %tile Q(veh)	0	-	-	0.4 1.3	0.1	10.3-1						-	

	۶	-	\mathbf{F}	-	+	•	1	Ť	1	1	↓ -	-
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ň	A 14		N	4 1	
Traffic Volume (veh/h)	18	1	7	27	4	16	6	747	9	10	823	11
Future Volume (veh/h)	18	1	7	27	4	16	6	747	9	10	823	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	-	1.00	1.00		1.00	1.00	State P	1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	2080	2039	2080	2080	2039	2080	1961	1961	2000	1961	1961	2000
Adj Flow Rate, veh/h	30	2	12	34	5	20	6	803	10	11	885	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.60	0.60	0.60	0.79	0.79	0.79	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	40	148	370	67	188	336	1974	25	368	1971	27
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1051	119	439	886	200	557	651	3768	47	704	3763	51
Grp Volume(v), veh/h	44	0	0	59	0	0	6	397	416	11	438	459
Grp Sat Flow(s),veh/h/in	1609	0	0	1643	0	0	651	1863	1953	704	1863	1952
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.5	10.3	10.3	0.8	11.7	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.7	0.0	0.0	12.2	10.3	10.3	11.1	11.7	11.7
Prop In Lane	0.68		0.27	0.58		0.34	1.00	Subsection of	0.02	1.00		0.03
Lane Grp Cap(c), veh/h	619	0	0	625	0	0	336	976	1023	368	976	1022
V/C Ratio(X)	0.07	0.00	0.00	0.09	0.00	0.00	0.02	0.41	0.41	0.03	0.45	0.45
Avail Cap(c_a), veh/h	619	0	0	625	0	0	336	976	1023	368	976	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	0.0	18.1	0.0	0.0	15.7	11.5	11.5	14.9	11.9	11.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	1.3	1.2	0.2	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	0.7	0.0	0.0	0.9	0.0	0.0	0.1	5.6	5.9	0.2	6.4	6.7
LnGrp Delay(d),s/veh	18.2	0.0	0.0	18.4	0.0	0.0	15.8	12.8	12.7	15.0	13.4	13.3
LnGrp LOS	В			В			В	В	В	В	В	В
Approach Vol, veh/h		44	8 I. I.I.,		59	CALLES.	S. Bas	819	11 C. A		908	01 NS
Approach Delay, s/veh		18.2			18.4			12.8			13.3	
Approach LOS		В	0>102.		В	Marine -		В			В	100 - 20
Timer	1	2	3	4	5	6	7	8		100		
Assigned Phs	-	2	- 0.044	4		6		8				
Phs Duration (G+Y+Rc), s		47.0		33.0		47.0		33.0		-		
Change Period (Y+Rc), s		* 5.1	1000	6.0	3	*5.1		60	THE CO	_	1000	
Max Green Setting (Gmax), s		* 42		27.0		* 42		27.0				
Max Q Clear Time (g_c+l1), s		14.2		3.2		13.7	STH 5	3.7	1.0.00			(BIAG)
Green Ext Time (p_c), s		13.6		0.5		13.8	and a second	0.5			Contra de la	
ntersection Summary					Sec. 1	- fi., 20,		Networks				STATE OF
HCM 2010 Ctrl Delay			13.4		152				6		11.17	
HCM 2010 LOS		WELCH REAL	В	and and	100			201	101 101		-	
Notes		1.000							-			
		-			in the second							

Future Background AM Peak Hour Giffels Webster / W. A. Stimpson, P.E.

ersection	
Delay, s/veh	1.4

ntersection	
Int Delay, s/veh	

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		đ	1		W.		
Traffic Vol, veh/h	10	26	11	10	0	0	
Future Vol, veh/h	10	26	11	10	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	and being a
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	200	None	State of the second
Storage Length	-	-	-	-	0		
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	69	69	90	90	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	14	38	12	11	0	0	

Major/Minor	Major1				Major2		Minor2		
Conflicting Flow All	23	0			-	0	85	18	
Stage 1	- 125	-			-	Desce #h	18	II COLOR AND DECOMO	 8
Stage 2		-	-102			-	67		_
Critical Hdwy	4.12		a Sin	100 C	-		6.42	6.22	
Critical Hdwy Stg 1	-	-				-	5.42	-	
Critical Hdwy Stg 2		-	1 Care	. IP1 116		-	5.42		0.5
Follow-up Hdwy	2.218					-	3.518	3.318	
Pot Cap-1 Maneuver	1592	-			-	1.1	916	1061	
Stage 1	-				-	-	1005	-	A PORT
Stage 2			1. X				956	-	
Platoon blocked, %		-							
Mov Cap-1 Maneuver	1592	-			-	-	908	1061	
Mov Cap-2 Maneuver		-					908	-	
Stage 1	-	-	1000	1.2.5		-	1005	-	
Stage 2	1 10 In	-			-	-	947		
Approach	EB				WB		SB		
HCM Control Delay, s	2			STERING!	0		0		
HCMLOS							A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SBLr	11		1		
Capacity (veh/h)	1592	-	-			-	a deste andres		
HCM Lane V/C Ratio	0.009	-	-	-	-				a constant of the local of
HCM Control Delay (s)	7.3	0	-	-	0		Sec. In Color		
HCM Lane LOS	А	Α		-	A				
HCM 95th %tile Q(veh)	0	-	-		-	COLEMAN SER	11 II I		

ntersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBI	SBT	SBR
Lane Configurations		4			4.			4		001	4	ODI
Traffic Vol, veh/h	4	14	0	4	10	3	0	15	10	5	19	1
Future Vol, veh/h	4	14	0	4	10	3	0	15	10	5	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Ston	Ston	Stop	Stop	Stop
RT Channelized	-		None		-	None		-	None	Clop	otop	None
Storage Length	-	-	-	-		-	-	-		-		Hons
Veh in Median Storage, #	-	0	-		0	-	-	0			0	-
Grade, %		0	-	-	0		-	0	-	-	0	
Peak Hour Factor	71	71	71	75	75	75	64	64	64	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	20	0	5	13	4	0	23	16	7	25	1

Major/Minor	Major1				Major2				Minor1			Minor2	1	
Conflicting Flow All	17	0	0		20	0	0)	70	59	20	77	57	15
Stage 1	-	-	-				200		31	31		26	26	10
Stage 2		-	-		-				39	28	-	51	31	
Critical Hdwy	4.12	-	-	1	4.12	-	1 0.5		7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-		-	-			6.12	5.52	-	6.12	5.52	
Critical Hdwy Stg 2	-	-	-		-		Non a		6.12	5.52	-	6.12	5.52	
Follow-up Hdwy	2.218	-	-		2.218	-	- 1		3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1600		-		1596	-	-		922	832	1058	912	834	1065
Stage 1	-		-		-	-			986	869	-	992	874	-
Stage 2	- sellenne-	61 - 1 -	-		-	-	-		976	872		962	869	
Platoon blocked, %		-	-											
Mov Cap-1 Maneuver	1600	-	-		1596	-		Sec. 1	895	826	1058	874	828	1065
Mov Cap-2 Maneuver		-	-		-	-	-		895	826	-	874	828	
Stage 1	illing	-	-		-	-		a constant	982	866	-	988	871	
Stage 2	_	-	-			•	-	-	944	869	-	918	866	
Approach	EB				WB		200		NB			SB		
HCM Control Delay, s	1.6	11 C			1.7			1. 3.	9.2			94		
HCM LOS		-					ai		A			A		
Minor Lane/Major Mymt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1		1.00				
Capacity (veh/h)	905	1600	-	-	1596	-	-	844	all'in		and the second			
HCM Lane V/C Ratio	0.043	0.004		-	0.003			0.039		-			and a state of the	
HCM Control Delay (s)	9.2	7.3	0	-	7.3	0	-	9.4	110.22	22.5%				

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HCM Lane LOS

HCM 95th %tile Q(veh)

Future Background PM Peak Hour



Berkley Synchro Network

ntersection	and the second		Se lan		Carles .	-	1			-	a de la calega de la		~	
Int Delay, s/veh	7.5			1			17							
Movement	EBL	EBT	EBR	12 2	WBL	WBT	WBR		NBL	NBT	NBR	SBI	SBT	SAR
Lane Configurations		4				4.				đ.			1	
Traffic Vol, veh/h	11	10	2		2	12	8		1	44	4	0	40	6
Future Vol, veh/h	11	10	2		2	12	8		1	44	4	0	40	6
Conflicting Peds, #/hr	0	0	0		0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free		Free	Free	Free		Stop	Ston	Stop	Stop	Ston	Ston
RT Channelized	-	-	None		-	-	None	1-1-1-1	-	otop -	None	Otop	otop	None
Storage Length	-	-	-		-		-		-		-	_		HUNG
Veh in Median Storage, #		0		20		0	-			0			0	
Grade, %	-	0			-	0	-	A		0	_		0	1001
Peak Hour Factor	72	72	72	1	69	69	69		67	67	67	60	60	60
Heavy Vehicles, %	2	2	2		2	2	2	-	2	2	2	2	2	2
Mymt Flow	15	14	3		3	17	12	-	1	66	6	0	67	10
Major/Minor	Major1	- 11S	-	10 10	Mainr2			-	Minort			Marcal		
Conflicting Flow All	20	0	0		17	0	-	-110	MINORI	04	4.5	Minor2	_	
Stano 1	29	v	U		17	U	0		113	81	15	111	76	23
Stage 2		-	-				•		46	46		29	29	-
Critical Hduay	4 4 9	17/200	•		4.40	-			67	35	-	82	47	-
Critical Houry Sta 1	4.12	-	-		4.12		/// 8 -		7.12	6.52	6.22	7.12	6.52	6.22
Critical Houry Sta 2		•			-		-		6.12	5.52	-	6.12	5.52	-
Follow up Hdung	1 110		•	-	-	-	-		6.12	5.52	-	6.12	5.52	-
Pot Cap 1 Manager	4504	-			2.218	-	•		3.518	4.018	3.318	3.518	4.018	3.318
Since 1	1004	-	•	al Silin	1600	-			864	809	1065	867	814	1054
Stage 1	-	-		_	-	•			968	857	•	988	871	-
Oldye z	•	-	-	-	-	-	-		943	866	-	926	856	-
Hauton blocked, 76	4004	-	•	_	1000	-	•	Concernant las						
Mov Cap-1 Maneuver	1564		-		1600	-	•		794	799	1065	801	804	1054
Mov Cap-2 Maneuver	-	•	-	NC.	-	-			794	799	-	801	804	-
Stage 1	-	-	•		-	-	-		958	848	- 1.2	978	869	
Stage 2	•	-	-	250	-	-	•		861	864		841	847	
Approach	EB		127.5		WB				NB			SB		
HCM Control Delay, s	3.5			200	0.7		1.32.3		9.8		101 - C.S.	9.8	1	
HCM LOS									A		-	A		
Minor Lane/Maior Mymt	NBLn1	EBI	FBT	FRR	WRI	WRT	WRD	te IB2						
Canacity (veh/h)	R16	1584		In COLV	1600	1101	more	020		_	-			
CM Lane V/C Ratio	0.00	0.01		•	0.000	10.7	•	0.000		14 - 120-	- 6 ¹² min	Change Street	- 35-	
ICM Control Delay (c)	0.03	7.2	-	-	7.002	-	-	0.092		-	-			
ICM Lane LOS	Δ	Δ	v ۵	-	1.0	U A	•	9.0	23.030		12.5		(-III)	
ICM 95th %tile O(veh)	03	0	-		0	-		0.2				8999		

intersection

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4.			at.			11	00.1
Traffic Vol, veh/h	3	2	15	9	0	16	8	1251	23	14	1029	12
Future Vol, veh/h	3	2	15	9	0	16	8	1251	23	14	1029	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	020	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized		-	None	Service States	-	None		-	None		-	None
Storage Length	-		_	-	-	-		-	-			THONG
Veh in Median Storage, #	-	0	-	-	0	-		0	-	-	0	-
Grade, %		0	-	-	0	-	-	0	-		0	
Peak Hour Factor	68	68	68	89	89	89	96	96	96	94	94	04
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	27
Mvmt Flow	4	3	22	10	0	18	8	1303	24	15	1095	13

Major/Minor	Minor2	12112	Sec. 1	Minor1		1942	Major1	1		Major2		2 8
Conflicting Flow All	1799	2475	554	1911	2469	664	1107	0	0	1327	0	0
Stage 1	1131	1131	-	1332	1332	-	-		-	-	-	
Stage 2	668	1344	-	579	1137	-	-		-	-	-	
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	1
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	- 10 Mar 19 -	-				
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22		-	2.22		
Pot Cap-1 Maneuver	50	29	476	41	30	403	626	-		516		
Stage 1	217	277	-	163	222	-	-	-				_
Stage 2	414	219		468	275		-	-	-	-		
Platoon blocked, %											-	
Mov Cap-1 Maneuver	43	25	476	32	26	403	626	-	-	516		
Mov Cap-2 Maneuver	43	25	-	32	26	-	_	-	-	-	-	-
Stage 1	206	256	-	155	211	-	-	-	-	-		1
Stage 2	376	208	•	408	254			•	-	-	•	·
Approach	EB			WB			NB			SB		
HCM Control Delay, s	49.3		1000	75.1			0.4	1		0.6	-	
HCMLOS	E			F				1		0.0		
Minor Long/Major Munt	NDI	NIDT		-44001-4	0.01	OPT			- 10/23			

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR	The second s
Capacity (veh/h)	626	-	-	110	78	516	-	=	
HCM Lane V/C Ratio	0.013	-	-	0.267	0.36	0.029	-		
HCM Control Delay (s)	10.8	0.3	-	49.3	75.1	12.2	0.5	-	
HCM Lane LOS	В	Α	-	E	F	В	Α		
HCM 95th %tile Q(veh)	0	-	-	1	1.4	0.1	-	-	

	۶		7	1		*	1	1	1	1	Ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4	1. C.	N.	#1		3	A 1.	
Traffic Volume (veh/h)	44	11	13	21	10	28	11	1222	16	19	994	15
Future Volume (veh/h)	44	11	13	21	10	28	11	1222	16	19	994	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00	officer and	1.00	1.00		1.00	1.00	Station Station	1.00
Parking Bus, Adj	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 Sat Flow, veh/h/in	2080	2039	2080	2080	2039	2080	1961	1961	2000	1961	1961	2000
Adj Flow Rate, veh/h	56	14	17	31	15	41	11	1273	17	21	1117	17
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.68	0.68	0.68	0.96	0.96	0.96	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	106	107	237	130	272	258	1972	26	216	1967	30
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	994	313	317	520	385	806	520	3764	50	449	3756	57
Grp Volume(v), veh/h	87	0	0	87	0	0	11	630	660	21	554	580
Grp Sat Flow(s),veh/h/In	1625	0	0	1711	0	0	520	1863	1952	449	1863	1951
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.2	19.5	19.5	28	16.1	16.1
Cycle Q Clear(g_c), s	2.4	0.0	0.0	2.6	0.0	0.0	17.3	19.5	19.5	22.3	16.1	16.1
Prop In Lane	0.64	2000	0.20	0.36		0.47	1.00		0.03	1 00	10.1	0.03
Lane Grp Cap(c), veh/h	622	0	0	639	0	0	258	976	1022	216	976	1022
V/C Ratio(X)	0.14	0.00	0.00	0.14	0.00	0.00	0.04	0.65	0.65	0.10	0.57	0.57
Avail Cap(c_a), veh/h	622	0	0	639	0	0	258	976	1022	216	976	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	0.0	18.4	0.0	0.0	18.8	13.7	13.7	21.7	12.9	12.9
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.4	0.0	0.0	0.3	3.3	3.1	0.9	24	23
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	1.4	0.0	0.0	1.4	0.0	0.0	0.2	10.9	11.3	0.4	8.8	9.2
LnGrp Delay(d),s/veh	18.8	0.0	0.0	18.9	0.0	0.0	19.1	17.0	16.9	22.6	15.3	15.2
LnGrp LOS	В			В			В	В	B	C	B	B
Approach Vol, veh/h	1.0	87			87		-	1301		are set	1155	
Approach Delay, s/veh		18.8			18.9			16.9		176200	15.4	
Approach LOS	1	В			B	TRAIL.		B	1.119.10		R	
Timer	1	2	2	A	5	C	7	0				
Assigned Phs		2	<u> </u>	4	5	0 6		0				
Phs Duration (G+Y+Rc) s		47.0	-	33.0	1075	47.0		22.0			10000	
Change Period (Y+Rc) s		*51		50.0		47.0	Root C	33.0				and in case
Max Green Setting (Gmax) s		* 42	2011	27.0		* 40	1.90	27.0				
Max O Clear Time (q. c+l1) s	T F CHI	21.5		4.4		24.2		21.0				
Green Ext Time (p c), s		16.2	(Inclusion)	1.4		14.3		4.0			1000	
Intersection Summary					-	14.0		1.0				-
HCM 2010 Ctd Dolou		A COMPANY	10.4				S Mark	100	100	THE R	-	- 2- 3
HOM 2010 OUT Delay		12254	10.4	10.0						- 11		
HOW ZUTU LUS	Lis hi	Sm ik	В							10 m		
Notes			10. J.	18		11 - 24						

Future Background PM Peak Hour Giffels Webster / W. A. Stimpson, P.E.

Synchro 9 Light Report Page 1 0

intersection

Movement	EBL	EBT	WBT	WBR	SBI	SBR	
Lane Configurations		4	1.		W	CDIN	
Traffic Vol, veh/h	0	68	36	0	0	0	Contraction of the second
Future Vol, veh/h	0	68	36	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	Ő	0	
Sign Control	Free	Free	Free	Free	Stop	Ston	
RT Channelized	-	None		None		None	and the second second
Storage Length	-	-	-	-	0	-	
Veh in Median Storage, #	- 2	0	0	-	0	-	
Grade, %	-	0	0	-	0		
Peak Hour Factor	78	78	83	83	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	0	87	43	0	0	0	
			the second s		and the second		

Major/Minor	Major1		200		Major2		Minor2	1. S.		
Conflicting Flow All	43	0			-	0	130	43		-
Stage 1	-	-	No.	A Change of the	- 10 m	-	43	-	and the second second	
Stage 2	-	-	0				87	_		
Critical Hdwy	4.12		00.01	10000	- 1		6.42	6 22	1000 C	
Critical Hdwy Stg 1	-	-			-	-	5.42			_
Critical Hdwy Stg 2		-				1	5.42		AND STREET	10-5X
Follow-up Hdwy	2.218				-		3.518	3 318		
Pot Cap-1 Maneuver	1566	-	5			10-	864	1027		
Stage 1	-				-	-	979	-		
Stage 2					-	1.1	936		and the second	
Platoon blocked, %		-			-	-				-
Mov Cap-1 Maneuver	1566	-	1, 114	Sec. 22	-		864	1027		-
Mov Cap-2 Maneuver	-	-			-	_	864			
Stage 1	-	-		1045	-	-	979	-	State of the second	
Stage 2	-	•				-	936	•		
Approach	EB		_		WB		SB		in stars in the	
HCM Control Delay, s	0				0		0			10.0171
HCM LOS			11-11				A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SBLn1				_		
Capacity (veh/h)	1566		-							
HCM Lane V/C Ratio		-					1000	10121-102		-
HCM Control Delay (s)	0	-	-	- 0				ISS/PERCENT	THE REAL PROPERTY OF	
HCM Lane LOS	A	-		- A	Difference in the second				The second second	
HCM 95th %tile Q(veh)	0	-	-		100-00 (C	1.0	ALL	Include Include		1000

	nt	ers	ect	้อภ
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EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBI	SBT	SBR
	4			4.			4			4	C C I
1	22	0	7	18	4	2	43	14	7	28	5
1	22	0	7	18	4	2	43	14	7	28	5
0	0	0	0	0	0	0	0	0	0	20	0
Free	Free	Free	Free	Free	Free	Stop	Stop	Ston	Stop	Ston	Ston
-		None	-	-	None	-	-	None	Otop	0.00	Mone
-	-	-	-		-		-	-			HUIG
-	0		-	0		-	0	and the second		0	-
	0			0		-	0			0	
79	79	79	64	64	64	71	71	71	60	60	60
2	2	2	2	2	2	2	2	2	2	2	2
1	28	0	11	28	6	3	61	20	12	47	8
	EBL 1 1 0 Free - - - - - 79 2 1	EBL EBT 1 22 1 22 0 0 Free Free - - - 0 79 79 2 2 1 28	EBL EBT EBR 1 22 0 1 22 0 1 22 0 1 22 0 1 22 0 0 0 0 Free Free Free - - None - 0 - - 0 - 79 79 79 2 2 2 1 28 0	EBL EBT EBR WBL 1 22 0 7 1 22 0 7 1 22 0 7 1 22 0 7 1 22 0 7 1 22 0 7 1 22 0 7 0 0 0 0 Free Free Free Free - - - - - 0 - - - 0 - - 79 79 79 64 2 2 2 2 1 28 0 11	EBL EBT EBR WBL WBT 1 22 0 7 18 1 22 0 7 18 1 22 0 7 18 0 0 0 0 0 Free Free Free Free Free - - None - - - 0 - - 0 - 0 - - 0 - 0 - - 0 79 79 79 64 64 2 2 2 2 2 2 1 28 0 11 28	EBL EBT EBR WBL WBT WBR 1 22 0 7 18 4 1 22 0 7 18 4 1 22 0 7 18 4 0 0 0 0 0 0 Free Free Free Free Free - - None - None - 0 - - 0 - - 0 - - 0 - - - 0 - - 0 - - - - 0 - - 0 -	EBL EBT EBR WBL WBT WBR NBL 1 22 0 7 18 4 2 1 22 0 7 18 4 2 1 22 0 7 18 4 2 0 0 0 0 0 0 0 Free Free Free Free Free Stop - - None - None - - 0 - - 0 - - - 0 - - 0 - - - 0 - - 0 - - - 0 - - 0 - - - - 0 - - 0 - - - - 79 79 79 64 64 64 71 <td>EBL EBT EBR WBL WBT WBR NBL NBT 1 22 0 7 18 4 2 43 1 22 0 7 18 4 2 43 1 22 0 7 18 4 2 43 0 0 0 0 0 0 0 0 0 Free Free Free Free Free Stop Stop - - - - - - - - - None - - None - - - - 0 - - 0 - - 0 - 0 - - 0 - 0 0 - 0 - - 0 - 0 0 0 0 0 0 0 0</td> <td>EBL EBT EBR WBL WBT WBR NBL NBT NBR 1 22 0 7 18 4 2 43 14 1 22 0 7 18 4 2 43 14 1 22 0 7 18 4 2 43 14 0 0 0 0 0 0 0 0 0 0 Free Free Free Free Free Stop Stop Stop - - - - - - - None - - - - - - - - - - - - - - - None - - 0 - - No</td> <td>EBL EBR WBL WBT WBR NBL NBT NBR SBL 1 22 0 7 18 4 2 43 14 7 1 22 0 7 18 4 2 43 14 7 1 22 0 7 18 4 2 43 14 7 0 <t< td=""><td>EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT 1 22 0 7 18 4 2 43 14 7 28 1 22 0 7 18 4 2 43 14 7 28 1 22 0 7 18 4 2 43 14 7 28 0</td></t<></td>	EBL EBT EBR WBL WBT WBR NBL NBT 1 22 0 7 18 4 2 43 1 22 0 7 18 4 2 43 1 22 0 7 18 4 2 43 0 0 0 0 0 0 0 0 0 Free Free Free Free Free Stop Stop - - - - - - - - - None - - None - - - - 0 - - 0 - - 0 - 0 - - 0 - 0 0 - 0 - - 0 - 0 0 0 0 0 0 0 0	EBL EBT EBR WBL WBT WBR NBL NBT NBR 1 22 0 7 18 4 2 43 14 1 22 0 7 18 4 2 43 14 1 22 0 7 18 4 2 43 14 0 0 0 0 0 0 0 0 0 0 Free Free Free Free Free Stop Stop Stop - - - - - - - None - - - - - - - - - - - - - - - None - - 0 - - No	EBL EBR WBL WBT WBR NBL NBT NBR SBL 1 22 0 7 18 4 2 43 14 7 1 22 0 7 18 4 2 43 14 7 1 22 0 7 18 4 2 43 14 7 0 <t< td=""><td>EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT 1 22 0 7 18 4 2 43 14 7 28 1 22 0 7 18 4 2 43 14 7 28 1 22 0 7 18 4 2 43 14 7 28 0</td></t<>	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT 1 22 0 7 18 4 2 43 14 7 28 1 22 0 7 18 4 2 43 14 7 28 1 22 0 7 18 4 2 43 14 7 28 0

Major/Minor	Major1				Major2				Minor1			Minor2		
Conflicting Flow All	34	0	0		28	0	0		111	86	28	124	83	31
Stage 1	-	-	-				-	e	30	30	-	53	53	
Stage 2		-	-		•				81	56	-	71	30	_
Critical Hdwy	4.12	-	-		4.12	-		Contra	7.12	6.52	6.22	7.12	6.52	6 22
Critical Hdwy Stg 1	-	-	-		-	-		0	6.12	5.52	-	6.12	5.52	
Critical Hdwy Stg 2	-	-	-	0.000	- 10	-			6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218		-		2.218			2	3.518	4.018	3.318	3 518	4 018	3 318
Pot Cap-1 Maneuver	1578	1	-	6 I.L.	1585	-		1	867	804	1047	850	807	1043
Stage 1		-			-				987	870	-	960	851	1010
Stage 2	-	-	-	1.1.1	-	- 1		(F	927	848	2340 <u>2</u> 1	939	870	
Platoon blocked, %		-					-				and the second se	000	010	
Mov Cap-1 Maneuver	1578	-	- 20 N		1585		-		817	798	1047	781	801	1043
Mov Cap-2 Maneuver	-		-		-				817	798	-	781	801	1010
Stage 1	-	-	-		-	-	-		986	869	-	959	845	
Stage 2			-		-	-	-		863	842	-	856	869	-
No. of American State						iomhia					13-10			
Approach	EB				WB	10			NB			SB		
HCM Control Delay, s	0.3				1.8	A. P. A.	a (3		9.7	100	-	9.8		
HCM LOS			_						A		1000	A		
		Tainet	and and		1.12.13									1
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1		161 1				
Capacity (veh/h)	846	1578	-		1585	-		821			-			
HCM Lane V/C Ratio	0.098	0.001	-	-	0.007			0.081		Contraction of the		11-1		
HCM Control Delay (s)	9.7	7.3	0	-	7.3	0	-	9.8			1000			
HCM Lane LOS	A	A	A		A	A		A	Contract in the					and a start
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	1	0.3					1	19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1



Berkley Synchro Network

Intersection			-			1.1.2		an an-					8.8	
Int Delay, s/veh	6.4										1.100			
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4.				4			4	
Traffic Vol, veh/h	11	2	1	1	0	2	16	E and a	1	16	2	2	24	1
Future Vol, veh/h	11	2	1		0	2	16	Contraction of the	1	16	2	2	24	
Conflicting Peds, #/hr	0	0	0	1	0	0	0	1	0	0	0	0	0	ĺ
Sign Control	Free	Free	Free		Free	Free	Free	12	Stop	Stop	Stop	Stop	Stop	Stor
RT Channelized	-	-	None	1	-	-	None				None		-	None
Storage Length	-	-	-		-	-	-		-	-	-	_		
Veh in Median Storage, #	-	0	-	i and	-	0	-		- 10	0	-	-	0	
Grade, %		0	-		-	0	-		-	0	-	-	0	
Peak Hour Factor	81	81	81		60	60	60		64	64	64	75	75	75
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	14	2	1		0	3	27		2	25	3	3	32	4
Maior/Minor	Major1			M	ainr2			200	Minor1			Minor		
Conflicting Flow All	30	0	0		A	0	0		CE	60	2		40	47
Stage 1		-	0		-	U	U		20	20	3	01	48	1/
Stage 2			-		-		-	2.1.61	30	30	-	1/	1/	-
Critical Hdwy	4 12		-	-	4 12		-		7 40	00	6 00	44	31	0.00
Critical Hdwy Sto 1	7.16				4.12				6.10	0.02	0.22	7.12	0.02	0.22
Critical Hdwy Sto 2			-		-	-	100 0 4		6.12	0.02	-	0.12	0.02	-
Follow-up Hdwy	2 218				2 218		-	Carrier II	2 510	1.010	2 240	0.12	0.02	2.240
Pot Can-1 Maneuver	1583				1610	-		1000	0.010	4.010	3.310	3.518	4.018	3.318
Stage 1	1000	and the second second			1010	- 11 -			343	970	1001	934	044	1002
Stage 2	1911 192		0.00			-			001	070	-	1002	100	-
Platoon blocked. %	and a standard							in the	301	0/0	-	970	809	
Mov Can-1 Maneuver	1583	120 120			1618		-		902	004	4004	004	000	4000
Moy Cap-2 Maneuver	1000				1010				802	024	1001	904	000	1002
Stage 1	_			141000			-	1-10-	070	024	-	904	000	
Stage 2			_	-		-			010	002	-	993	001	
oldgo z									342	070		931	861	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	5.7		- under		0	-			9.4			9.4	1.75	
HCM LOS							110020		A	1101		A	-	
Minor Lane/Major Mymt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	849	1583	-	-	1618	-		850			-			
HCM Lane V/C Ratio	0.035	0.009	-					0.045	-		1000	20.0		
HCM Control Delay (s)	9.4	7.3	0	-	0			0.040			C- WOT	-		-
HCM Lane LOS	A	A	A	-	A	-	-	Δ						
HCM 95th %tile Q(veh)	0.1	0		-	0			01			-			

ntersection

Int Delay, s/veh

1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	ţ.			4	W	, ABA	
Traffic Vol, veh/h	16	Ð	1	25	3	6	
Future Vol, veh/h	16	0	1	25	3	6	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Ston	
RT Channelized	1	None		None	-	None	
Storage Length		-	-	-	0	Hono	
Veh in Median Storage, #	0	-		0	0		
Grade, %	0	-		0	0		
Peak Hour Factor	60	60	64	64	60	60	
Heavy Vehicles, %	2	0	0	2	0	0	100000
Mvmt Flow	27	0	2	39	5	10	
	22.1	and the second s		and the second			

Major/Minor		Major1			Major2		Minor1		
Conflicting Flow All		0	0		27	0	69	27	
Stage 1	W. Strange	-	-		-	-	27		
Stage 2			-		0000	-	42		
Critical Hdwy		-	-		4.1	-	6.4	62	Conception in the second second
Critical Hdwy Stg 1	11	-	- C	10.10	-	-	5.4	-	
Critical Hdwy Stg 2		-	-			-	5.4		
Follow-up Hdwy		-	-		2.2		3.5	3.3	
Pot Cap-1 Maneuver		-	-		1600	11=2201	941	1054	
Stage 1							1001	-	
Stage 2			- 11 -		10.4	-	986	-	
Platoon blocked, %			-			-			
Mov Cap-1 Maneuver				14 XA	1600	· ·	940	1054	
Mov Cap-2 Maneuver		-				-	940	-	
Stage 1				5511	-		1001	diterra di amatria	and the second second
Stage 2		-	-		-	•	985	-	
Approach		FR			WR	-	ND	-triper-	
HCM Control Delay s		0	-		0.3				
HCMLOS	- to an	v	1.000		0.0	20040	0.0		
		- Contraction					A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT				
Capacity (veh/h)	1013		-	1600		A			
HCM Lane V/C Ratio	0.015		-	0.001	-				
HCM Control Delay (s)	8.6		-	7.3	0	3 34.5			
HCM Lane LOS	A	-	-	A	A			12221	
HCM 95th %tile Q(veh)	0	-		0		111112	I HE I STATE		The second second second

ntersection	12	and the second			Sec. 100			married			
Int Delay, s/veh	2.1	-	-			-		-illing-		THE PERSON NAME	
Movement		EBT	EBR		WBL	WBT		NBI	NBR		
Lane Configurations		14				đ		M		a second and a second second	
Traffic Vol. veh/h		22	0	Part I	7	23		3	6		12.00
Future Vol. veh/h		22	0		7	23		3	6		
Conflicting Peds. #/hr		0	0	100 C 100	Ó	0		0	0		
Sign Control	198	Free	Free		Free	Free		Stop	Stop		-
RT Channelized	instanting.	-	None	1	-	None		-	None		
Storage Length			-		-	-		0	THOME		
Veh in Median Storage, #	73 III 88	0		15	- 10 m	0	100 C	0			
Grade, %		0				0		0	-	and the second second second	
Peak Hour Factor		60	60	1	64	64	1	60	60		-
leavy Vehicles. %		2	0		0	2		0	0		-
Mymt Flow		37	n	1 8 -	11	36	-	5	10		
		91	0			00		U	10		Avie -
Major/Minor	-	Major1		5 K 1	Major2	l - mail	Mi	nor1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Conflicting Flow All	3	0	0		37	0		95	37		-
Stage 1		-	-	100 E 100	-	-	Contract of the second	37			2
Stage 2		-	-					58			
Critical Hdwy	Est E	-		and the second s	4.1	-		6.4	62		
Critical Hdwy Stg 1		-			-	-		5.4			
Critical Hdwy Stg 2			-		-	-		5.4		and the second second	
ollow-up Hdwy			-		2.2	-		3.5	33		
Pot Cap-1 Maneuver	a week to		-		1587	-		909	1041		5 P.
Stage 1			-		-	-		991	-		
Stage 2		-	•	1993	-	-	Constanting of	970	-		
latoon blocked, %		-				-				Construction of the	
Nov Cap-1 Maneuver			-	Re Cont	1587			903	1041		
lov Cap-2 Maneuver	10.3	-			-	-		903	-	Y	
Stage 1			-	N PARA	-	-		991			
Stage 2		-	-		-	-	Real Part of the	963			
and the second second								500			110
pproach	X. 1. 1.	EB			WB			NB			
ICM Control Delay, s		0	1		1.7			8.7	C. CONTRACTOR	-0-118-Y	10
ICM LOS			-	10 - 10 10-				A			
						10.8.1	2	, LLL		1	
Alinor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT						
Japacity (veh/h)	991	-	-	1587						Same State	
ICM Lane V/C Ratio	0.015	-	-	0.007	•				1000		
ICM Control Delay (s)	8.7		-	7.3	0	1 Ibrus					
ICM Lane LOS	A	-		Α	Α						
ICM 95th %tile Q(veh)	0	-	-	0	-		18 W		2 2 2 0 S 2 S		12, 91

ntersection

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SRI	SBT	SRR
Lane Configurations		4			4.			11	TIETT	UP L	11	CDI
Traffic Vol, veh/h	16	1	11	19	2	14	12	778	11	12	831	16
Future Vol, veh/h	16	1	11	19	2	14	12	778	11	12	831	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None		-	None	-	1100	None
Storage Length	-	-	-	-		-	_	-	-		-	HOIL
Veh in Median Storage, #	-	0	-		0	-	-	0	-		0	
Grade, %		0	-	-	0			0	-	-	0	
Peak Hour Factor	60	60	60	75	75	75	94	94	94	89	89	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	27	2	18	25	3	19	13	828	12	13	934	18

Major/Minor	Minor2			Minor1			1	Major1		erecta -	Major2		
Conflicting Flow All	1411	1835	476	1354	1838	420		952	0	0	839	0	
Stage 1	970	970	-	859	859	-		-	-		-	-	
Stage 2	441	865	-	495	979				-	-	_		
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	100	4.14	-		4 14	-	2
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54			-	-	-	-		-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54		W. 115	-	-	-			
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32		2.22	-	-	2.22		a de la companya de l
Pot Cap-1 Maneuver	98	75	535	108	75	582	SH3	717	-	-	791		027
Stage 1	272	330		317	371			-		-	-	-	_
Stage 2	565	369		525	326	-	1.5.5.6	-	-	-			
Platoon blocked, %										-		-	
Mov Cap-1 Maneuver	87	70	535	97	70	582		717	-	- /-	791	-	
Mov Cap-2 Maneuver	87	70	-	97	70	-		-		-			
Stage 1	263	318		306	358					-	-		
Stage 2	524	356	•	487	315			-	-		-	-	
Approach	EB			WB		-		NB			SB		
HCM Control Delay, s	48.4			427	-			03		-	0.2	-	-
HCM LOS	E			E				0.0			0.3		
Minor Lane/Major Mvmt	NBL	NBT	NBR I	BLn1WBLn1	SBL	SBT	SBR		_			_	
Capacity (veh/h)	717	-	-	128 141	791	-	-	1				-	
HCM Lane V/C Ratio	0.018		-	0.365 0.331	0.017	-	-		1.00		- Para a		
HCM Control Delay (s)	10.1	0.2		48.4 42.7	9.6	0.2	17.	7/35M		7/2/		1.5	
HCM Lane LOS	В	A	-	EE	A	A	-						10.00

HCM 95th %tile Q(veh)

0.1

Α

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Ε

-1.5 1.3

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0.1

A

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ntersection							
Int Delay, s/veh (0.1		-	-			and the state of
Movement	EBL		EBR	NBL	NBT	SRT	SER
Lane Configurations			1		44	A1.	QUIT
Traffic Vol. veh/h	0		21	0	795	844	1
Future Vol. veh/h	0		21	0	795	844	1
Conflicting Peds #/hr	n		0	0	100	0-++ 0	0
Sign Control	Ston		Ston	Free	Free	Free	Eree
RT Channelized	0.0p	-	None	Tiec	None	TICE	None
Storage Length			0	-	-		THOMO
Veh in Median Storage, #	0			-	Ω	0	-
Grade. %	0				0	0	
Peak Hour Factor	92		92	92	92	92	92
Heavy Vehicles %	2		2	2	2	52 1	2
Mymt Flow	n n		23	n n	864	017	1
	0		20	V	004	317	
Major/Minor	Minor2			Major1		Major2	
Conflicting Flow All			459		0		0
Stage 1	-	1111		100			
Stage 2				-			
Critical Hdwv	-		6.94	-			1
Critical Hdwy Stg 1			-				- contraction of
Critical Hdwy Stg 2				-			
Follow-up Hdwy	-	Service Street of	3.32	-		-	-
Pot Cap-1 Maneuver	0	13	549	0			THE REAL
Stage 1	0			0	-	-	
Stage 2	0	10.000	-	0	-		
Platoon blocked. %	4		and the state of the	U			
Moy Cap-1 Maneuver			549				100
Moy Cap-2 Maneuver	-		-	_	-		
Stage 1						ners - real construction	
Stage 2			_		_		
olugo z	The state			44			
Approach	EB			NB		SB	
HCM Control Delay, s	11.8	- Antonio		0		0	1999 - L. M.
HCM LOS	В			Contraction of the			
	ALC: T		-		100		
Minor Lane/Major Mymt	NBT	EBLNI	SBI	SBR	-		
Capacity (veh/h)	-	549	-				
HCM Lane V/C Ratio	•	0.042	•	-	-		
HCM Control Delay (s)	-	11.8		-	S.D.	Share - M. S. S. San San	3311 IN
HCM Lane LOS	-	В	-	•			
HCM 95th %tile Q(veh)	-	0.1	-				

	۶	-	\mathbf{r}	4	-	*	1	1	1	1	Ļ	-
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		٦	4 12		ሻ	朴ђ	
Traffic Volume (veh/h)	30	1	13	27	4	16	10	749	9	10	844	11
Future Volume (veh/h)	30	1	13	27	4	16	10	749	9	10	844	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/in	2080	2039	2080	2080	2039	2080	1961	1961	2000	1961	1961	2000
Adj Flow Rate, veh/h	50	2	22	34	5	20	11	805	10	11	908	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.60	0.60	0.60	0.79	0.79	0.79	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	30	161	370	67	188	327	1974	25	367	1972	26
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1038	90	477	887	200	557	637	3768	47	703	3765	50
Grp Volume(v), veh/h	74	0	0	59	0	0	11	398	417	11	449	471
Grp Sat Flow(s),veh/h/In	1605	0	0	1644	0	0	637	1863	1953	703	1863	1952
Q Serve(g_s), s	0.5	0.0	0.0	0.0	0.0	0.0	0.9	10.3	10.4	0.8	12.1	12.1
Cycle Q Clear(g_c), s	2.2	0.0	0.0	1.7	0.0	0.0	13.0	10.3	10.4	11.1	12.1	12.1
Prop In Lane	0.68		0.30	0.58	S	0.34	1.00	No.	0.02	1.00		0.03
Lane Grp Cap(c), veh/h	617	0	0	626	0	0	327	976	1023	367	976	1022
V/C Ratio(X)	0.12	0.00	0.00	0.09	0.00	0.00	0.03	0.41	0.41	0.03	0.46	0.46
Avail Cap(c_a), veh/h	617	0	0	626	0	0	327	976	1023	367	976	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	0.0	0.0	18.1	0.0	0.0	16.0	11.5	11.5	14.9	12.0	12.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.0	0.2	1.3	1.2	0.2	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	1.2	0.0	0.0	0.9	0.0	0.0	0.2	5.6	5.9	0.2	6.5	6.8
LnGrp Delay(d),s/veh	18.7	0.0	0:0	18.4	0.0	0.0	16.2	12.8	12.7	15.1	13.5	13.4
LnGrp LOS	В			В			В	В	В	В	В	В
Approach Vol, veh/h	Section and	74	-	anne an anna	59	1000		826		1.4.1	931	
Approach Delay, s/veh		18.7		NAME AND ADDRESS OF AD	18.4			12.8			13.5	
Approach LOS		В	1980	10000	В	and the second	1.0	В			B	
Timer	1	2	3	A	5	6	7	8		-		
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc) s		47.0		33.0	171 (1912) 1	47.0		33.0				994-54 SE
Change Period (Y+Rc), s		*51	nd o s	6.0		*51	2 222.27	6.0				-
Max Green Setting (Gmax) s		* 42		27.0		* 42		27.0				
Max O Clear Time (g. c+l1) s	1.000	15.0		4.2	1.02	14.1		37	-			
Green Ext Time (p_c), s	and the second sec	13.7		0.7		14.0		0.7				
Intersection Summary							-1-1158- E.					
HCM 2010 Ctrl Delay	A STREET		12.6				-					
HCM 2010 LOS	- 112		13.0				-	-	- 10 - 100			
		- Andreas and	D	-				nien k			and the second second	in the second
Notes			-						2.	-	table of	

Future Total AM Peak Hour Giffels Webster / W. A. Stimpson, P.E.

ntersection	on
Int Delay.	s/veh

Movement EBL EBT WBT WBR SBL SBR Lane Configurations Image: Configuration service of the service o	
Lane Configurations Image: Configuration of the second secon	
Traffic Vol, veh/h 11 26 11 14 18 3 Future Vol, veh/h 11 26 11 14 18 3	
Future Vol, veh/h 11 26 11 14 18 3	
Conflicting Peds, #/hr 0 0 0 0 0 0	
Sign Control Free Free Free Free Stop Stop	-
RT Channelized - None - None - None	
Storage Length 0 -	
/eh in Median Storage, # - 0 0 - 0 -	
Grade, % - 0 0 - 0 -	
Peak Hour Factor 69 69 90 90 60 60	ama
Heavy Vehicles, % 2 2 2 2 2 2 2	
Avmt Flow 16 38 12 16 30 5	133

Major/Minor	Major1		Same		Major2	120002235	Minor2			
Conflicting Flow All	28	0			-	0	90	20		-
Stage 1		1.			-	-	20	-		
Stage 2	-	-	8		-		70	-		1 Carl Carl
Critical Hdwy	4.12	-	3		-	-	6.42	6.22		
Critical Hdwy Stg 1	-		ŝ		2	-	5.42			
Critical Hdwy Stg 2	-	-		1 900 1 23	-	-	5.42			-
Follow-up Hdwy	2.218	-			-	-	3.518	3.318	110	
Pot Cap-1 Maneuver	1585	-	10.00		-	-	910	1058		100
Stage 1			3	1			1003			
Stage 2	-			Constant Section 1	-		953	-	10 M 10	
Platoon blocked, %					-					-
Mov Cap-1 Maneuver	1585	-		120103	-	-	901	1058		-
Mov Cap-2 Maneuver	-				-	-	901	-		
Stage 1	-	-		H 200 - 145			1003	-		in the
Stage 2	•	-			-		943			
Approach	EB			S. Market	WB		SB			
HCM Control Delay, s	2.2	10.00	120		0		9.1		and the sea	1945 - 1945
HCM LOS	-						A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SBLn1				in the second		
Capacity (veh/h)	1585	-		- 921					and the second	023
HCM Lane V/C Ratio	0.01		-	- 0.038						
HCM Control Delay (s)	7.3	0	-	- 9.1		Relation of the			Contraction of the local distance	112 - C
HCM Lane LOS	A	Α		- A						
HCM 95th %tile Q(veh)	0	-	-	- 0.1	ALL DO					1200

ntersection	840 T			100		61.18	1				6 A 4	Sec. 1910		
Int Delay, s/veh	6.3												-	
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	4	14	0	- Alexander	7	10	3	23/17.	0	15	11	5	19	1
Future Vol, veh/h	4	14	0		7	10	3		0	15	11	5	19	1
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	0
Sign Control	Free	Free	Free		Free	Free	Free		Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None		-	-	None				None		-	None
Storage Length			-			•	-			-	-	-	-	-
Veh in Median Storage, #		0		Constanting of the second	-	0	-			0	-	-	0	
Grade, %	-	0	-		-	0	-			0	-		0	
Peak Hour Factor	71	71	71	1238	75	75	75		64	64	64	75	75	75
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	6	20	0		9	13	4	a i t	0	23	17	7	25	1
Major/Minor	Major1				Major2		uere e fi		Minor1			Minor2		- 24
Conflicting Flow All	17	0	0	17.6	20	0	0	-	78	67	20	85	65	15
Stage 1		-	-	1000	-	-	-		31	31		34	34	10
Stage 2	-				-				47	36	-	51	31	
Critical Hdwv	4.12	-	-1 :		4 12	- 12	-		7 12	6.52	6 22	7 12	6 52	6 22
Critical Hdwy Stg 1	-	-			-	-	-		6.12	5.52	-	6.12	5.52	0,22
Critical Hdwy Sto 2		-	-		-	-	-		6.12	5.52		6.12	5.52	10/307
Follow-up Hdwy	2.218	_			2.218				3.518	4 018	3 318	3.518	4 018	3 318
Pot Cap-1 Maneuver	1600	-		in the second second	1596		-	1.1.23	911	824	1058	901	826	1065
Stage 1			-				-	- Contraction of the local division of the l	986	869	1000	982	867	1000
Stage 2		-	-	101-201	-	-	-		967	865		962	869	
Platoon blocked. %			-	-					001	000		JUL	000	
Mov Cap-1 Maneuver	1600	-		in the second	1596	-	-		882	816	1058	860	818	1065
Mov Cap-2 Maneuver	-		-		-	-			882	816	1000	860	818	1000
Stage 1		-	112	17			-		982	866		078	862	-
Stage 2		-				- Contraction			032	860	_	9/0	200	
									552	000	21.	211	000	
Approach	EB				WB	1.000	1.1		NB	1000	and the	SB		
HCM Control Delay, s	1.6		-		2.5	2502			9.2			9.5		
HCM LOS									A	er er in jaar		A		
Minor Lane/Major Mymt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	U. Cest					
Capacity (veh/h)	903	1600	-	-	1596	-	-	834	1.50					and the second
HCM Lane V/C Ratio	0.045	0.004		-	0.006		-	0.04			No. State State			10000
HCM Control Delay (s)	9.2	7.3	0	-	7.3	0		95			150-21			
HCM Lane LOS	A	A	A	-	A	A	-	A			-			
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-		0.1						



Intersection		5.0 N	1000											
Int Delay, s/veh	7.4			_				1.11						
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4.				4.				4			4	
Traffic Vol, veh/h	11	10	2	and the second	2	12	11		1	44	4	0	40	6
Future Vol, veh/h	11	10	2		2	12	11		1	44	4	0	40	6
Conflicting Peds, #/hr	0	0	0	Total Contraction	0	0	0	12	0	0	0	0	0	Ő
Sign Control	Free	Free	Free		Free	Free	Free		Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	- (-	None		-	-	None	1100	-	-	None	-	-	None
Storage Length			-		-	-	-		-		-	-		-
Veh in Median Storage, #	-	0	-		-	0	-	118		0	-	-	0	
Grade, %	-	0	-			0				0			0	-
Peak Hour Factor	72	72	72	1	69	69	69		67	67	67	60	60	60
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	15	14	3		3	17	16		1	66	6	0	67	10
64-5-64-5-5	117.7					_								
Major/Minor	Major1	-	1	M	ajor2				Minor 1		**************************************	Minor2		
Conflicting Flow All	33	0	0		17	0	0		115	85	15	113	78	25
Stage 1		-	-			-	-		46	46	(C) #	31	31	-
Stage 2		-			-	-	-		69	39	•	82	47	-
Critical Hdwy	4.12	-		2	4.12	-			7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-		-	-	-		6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	•	-			-	-	-	Sec.	6.12	5.52		6.12	5.52	-
Follow-up Hdwy	2.218	-		2	2.218	-	-		3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	Finders	1600	-	-		862	805	1065	864	812	1051
Stage 1		-	-		-	-	-		968	857	-	986	869	
Stage 2	-	-	-		-	-	-		941	862	-	926	856	e
Platoon blocked, %		-	-			-	-							
Mov Cap-1 Maneuver	1579	-	-		1600	-	-		792	795	1065	798	802	1051
Mov Cap-2 Maneuver		•	-		-	-	•		792	795	-	798	802	-
Stage 1	-	-	-		-	-	-		958	848	-	976	867	-
Stage 2	-	-	•			•	-		859	860	-	841	847	
Annroach	ER		-		11/0			_	N.D.			00		
HCM Control Dolou a	2.5		-		0.6				ND		-	0.0		1.00
HCM LOS	3.0	-			0.0				9.9 A			9.8 A		
									-		3.110			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				. (28) M., H	والمراسح	
Capacity (veh/h)	812	1579	-	-	1600	-	-	828				and the second		
HCM Lane V/C Ratio	0.09	0.01		- 0	0.002	-	-	0.093						
HCM Control Delay (s)	9.9	7.3	0	-	7.3	0		9.8						
HCM Lane LOS	A	Α	A		Α	A	-	A						
HCM 95th %tile O(veh)	03	0			n		1-1-1-1	03						
ntersection	and the second		18 19 1				1							
--------------------------	------------------------	----------------------	-----------------------	-----------	-----------	--------	--	-----------------------------	----------------	--	-----------			
Int Delay, s/veh	1.4		-							Contraction of the second second				
Movement		EBT	EBR		WBL	WBT	N	31	NBR					
Lane Configurations		ĥ				đ	1	¥.			-			
Traffic Vol, veh/h	1497. an E	20	0		4	22	10.9040	1	3	87 14 - 14 -				
Future Vol, veh/h		20	0		4	22		1	3					
Conflicting Peds, #/hr		0	0	N ANTES	0	0		0	n n					
Sign Control		Free	Free		Free	Free	Ste	מנ	Stop					
RT Channelized	2010 - Diese	-	None	a The T	-	None		-	None	101				
Storage Length		-				-		0	-	11026	_			
Veh in Median Storage, #	3	0	-	8	-	0		0	-	1				
Grade, %		0	-		-	0		0		Contraction of the local division of the loc				
Peak Hour Factor		73	73		83	83		50	60					
Heavy Vehicles, %		2	0		0	2		0	0		10.0000			
Mvmt Flow		27	0	1.00	5	27		2	5					
		and the state of the			-			- International Contraction						
Major/Minor	N	lajor1	- 2514.27		Major2	-	Mino	r1						
Conflicting Flow All	0.32	0	0		27	0	f	63	27					
Stage 1	111.85	-	-			-		27	-	and the second				
Stage 2	-	-			-	-		86			- Antonia			
Critical Hdwy	Street.	-	-		4.1	-	7	1	62					
Critical Hdwy Stg 1		-	-		-		6	1						
Critical Hdwy Stg 2		-	-				6	1	-		100			
Follow-up Hdwy					2.2		3	5	33					
Pot Cap-1 Maneuver		-		-	1600	-	93	6	1054					
Stage 1		-	-			-	90	6	-					
Stage 2	20 22 June	-	-	11/22/1	-		96	15	-	and a low off	-			
Platoon blocked, %		-	-			-								
Nov Cap-1 Maneuver	Sector State		-	anoren er	1600	-	93	4	1054					
Mov Cap-2 Maneuver		•				-	93	4		830				
Stage 1		-	-	10	-	-	99	6	-					
Stage 2			-		-	-	98	2	-	in and the				
		1												
Approach	10.178	EB	15 13		WB		N	В						
ICM Control Delay, s		0			11		8	5		Serence				
HCM LOS								A						
- and the break	Constant of the second	1123			in starte			in the second	in the second	-				
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT				and the second					
Capacity (veh/h)	1021	-	10 () (*	1600	=		and the	- Anto						
-ICM Lane V/C Ratio	0.007	-	- ·	0.003		_								
HCM Control Delay (s)	8.5	-		7.3	0	Sec. 1				Sec. 1				
ICM Lane LOS	Α		-	Α	Α									
HCM 95th %tile Q(veh)	0	-	•	0	-	1.124	and the second sec	- 14 m						

Intersection											
Int Delay, s/veh	3.1				-	1					
Movement	E	BT	EBR		WBL	WBT		NBL	NBR		
Lane Configurations		t.				1		M	TIDIT	117.	
Traffic Vol. veh/h	THE REAL PROPERTY AND	23	Ő	i.	29	24		7	٨	Carlos Color Ma	
Future Vol. veh/h		23	0		29	24	e 111	2	4		
Conflicting Peds. #/hr		0	0	1000	0	0		2	4	11214 March 1	
Sign Control	Fr	0	Free		Free	Eree		Stop	Sion		
RT Channelized		-	None	1-1-1-	1100	None		Stop	Nono		
Storage Length			THOME		_	NOTE		0	INDUG		
Veh in Median Storage #		0	-		-	0	-	0			_
Grade %		0	-			0		0	-		
Peak Hour Factor	-	6R	68	-	05	05	10 mm	0	-		
Heavy Vehicles %	in the second se	2	00	1	0	30		00	00	Same lines	
Mumt Flow	din a ute	24	0		24	2	-	0	U		
		94	U		31	23	-	3	(
Major/Minor	Maio	or1			Major2	100		Minor1			1. N. T.
Conflicting Flow All		0	0	24	34	0		120	3/		-
Stage 1		0 - 1	-	0 - eeo-	-	-		34		See on the second	- 73
Stage 2	Contraction of the second second			-				88	•	STILL STOLE	
Critical Hdwv	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				41	-		64	62		
Critical Hdwy Sto 1					-	_		5.4	0.2	10.000	
Critical Howy Sto 2				· · · · ·	-	-		5.4	-		
Follow-up Hdwy		-	200		22	-	Contra Vitte	3.5	22		
Pot Cap-1 Maneuver					1501	-	12-172	890	1045		
Stage 1			-		1001			100	1040		
Stage 2	REAL PROPERTY	-				-	THE REAL PROPERTY AND	994			
Platoon blocked %		-						942	-	A CALL IN LANS	
Mov Can-1 Maneuver				14	1501		wheeler more	000	404E	110 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Mov Can-2 Maneuver			-	100	1091	-		002	1040		8.1
Stage 1			- Mine		-			002			-
Stage 2			-	21.24L	•	•	Ser April	554	-		24
Oldyo z						C. Str.		923		al de la company	
Approach	E	B			WB			NB	Constanting of the		
CM Control Delay, s	TOTOL C	0			A		10 120	87	-		-
ICM LOS	and the state			2007 AU	4			A			
Rear Long Billing Musel	NIDI - 4	Ť		Lateral	11000	- 11 - 11 - 11 - 11 - 11 - 11 - 11 - 1					del .
mitor Lanenviajor MVmt	NBLN1 EE		EBR	WBL	WBT						
sapacity (ven/h)	976	-	-	1591	-	1 25	1.2	Same and	Version -		
HCM Lane V/C Ratio	0.01	-	•	0.019	-						
ICM Control Delay (s)	8.7	-		7.3	0				inst the	AUX N	
ICM Lane LOS	A	-	-	Α	Α			Alleria	- Rultm		0.4
HCM 95th %tile Q(veh)	0	-	-	0.1				State of the second second	are set	State Street in some	

Critical Hdwy Stg 2

Pot Cap-1 Maneuver

Stage 1

Stage 2

Follow-up Hdwy

6.54

3.52

47

210

402

5.54

4.02

28

270

213

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3.32

464

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ntersection	- ANNO - ANN				1.53							
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			ታሴ			<u>.</u>	000
Traffic Vol, veh/h	10) 2	15	9	0	16	16	1258	23	14	1036	37
Future Vol, veh/h	10) 2	15	9	0	16	16	1258	23	14	1036	37
Conflicting Peds, #/hr	0) 0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized		-	None	-	-	None	-	-	None	-	-	None
Storage Length					-	-		-	-		-	-
Veh in Median Storage, #		. 0	2.00	-	0	-	-	0	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	
Grade, %		0	-	-	0	-	-	0	-	_	0	
Peak Hour Factor	68	68	68	89	89	89	96	96	96	94	94	Q4
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	3	22	10	0	18	17	1310	24	15	1102	39
Major/Minor	Minor2			Miport			Major1	-0		Major2		
Conflicting Flow All	1841	2520	571	1938	2527	667	11/1		0	1224	-	
Stage 1	1152	1152	-	1356	1356	007	1141	U	U	1554	U	0
Stage 2	689	1368	-	582	1171	-				-	•	y
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6 94	4 14	-	C Parks	A 1A	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-		4.14		

Platoon blocked, %								-			_	
Mov Cap-1 Maneuver	39	23	464	29	22	401	608		E.	513		
Mov Cap-2 Maneuver	39	23		29	22	-	-			-		
Stage 1	187	248	-	140	192	-	-	-				
Stage 2	342	190	-	403	244	-	-	•	-		-	
Approach	EB			WB			NB			SR	1030	
HCM Control Delay, s	104.4	11.5		85.6			0.7	199.00		0.6		1.10
HCM LOS	F			F			0.1			0.0		
												-

6.54

3.52

39

157

466

5.54

4.02

27

216

265

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3.32

401

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2.22

608

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2.22

513

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Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	-		
Capacity (veh/h)	608	-	-	72	71	513					-
HCM Lane V/C Ratio	0.027		-	0.551	0.396	0.029		-			
HCM Control Delay (s)	11.1	0.6	-	104.4	85.6	12.2	0.5	-		1975 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 -	14
HCM Lane LOS	В	Α	-	F	F	В	A	-	 101		
HCM 95th %tile Q(veh)	0.1	-	-	2.3	1.5	0.1	-		 0.0122		-

ntersection		Distante	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Status Cont		B-TONIO -	
Int Delay, s/veh C	0.1						
Movement	EBL	FBR	NBI	NRT	SBT	SBR	
Lane Configurations		1	1 Martin	**		ODN	
Traffic Vol. veh/h	0	12	0	1300	1029	7	
Future Vol. veh/h	0	12	0	1300	1020	7	
Conflicting Peds. #/hr	0	0	0	1303	1020	1	
Sian Control	Ston	Ston	Free	Free	Free	Eree	
RT Channelized	-	None	1100	None	1166	None	
Storage Length		0	-	-	1472	HUIG	71010
Veh in Median Storage, #	0		-	0	0		
Grade, %	0		-	0	0	-	
Peak Hour Factor	92	92	95	95	89	89	
Heavy Vehicles, %	2	2	2	2	2	2	APGRONAL STREET, STREE
Mymt Flow	0	13	0	1378	1155	8	
halles in a former of the state				Iora	1100		
Major/Minor	Minor2		Major1		Major2	1975 - 1977	3-17-11-12-2
Conflicting Flow All	<u></u>	581		0		0	
Stage 1			-	-		-	
Stage 2		-	-	-		-	
Critical Hdwy	-	6.94		- 1		12 -	SHALL BUILDING
Critical Hdwy Stg 1	-	-	-	-		-	
Critical Hdwy Stg 2	-	-		an (- 3		-	
Follow-up Hdwy	-	3.32	-	-			
Pot Cap-1 Maneuver	0	457	0			-	
Stage 1	0		0	-	<u>.</u>	-	11.5
Stage 2	0	-	0	-			
Platoon blocked, %				-		-	
Mov Cap-1 Maneuver	-	457	-		-	-	
Mov Cap-2 Maneuver	-	-	-			-	
Stage 1	-		1	-		-	of the blue server
Stage 2	-					•	
Approach	EB	and the second	NB	-	SB		and the second
HCM Control Delay, s	13.1		0		0		
HCM LOS	В						an aire aire
Minor Lane/Maior Mymt	NETE	Bin1 CPT	SBR				
Canacity (veh/h)	HUIL	457	301				
HCM Lane V/C Ratio	-	1029			States and the states of the s	1200	
HCM Control Delay (s)		13.1			a la		
HCM Lane LOS		B -		1000			
HCM 95th %tile O(veh)		01		-			
Tom oour mule warein	and the second second	U. -					

	≯	-	\rightarrow	4	+	*	-	1	1	>	÷.	-
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			4		1	≜ †₽		٢	4 14	
Traffic Volume (veh/h)	51	11	16	21	10	28	30	1230	16	19	1006	15
Future Volume (veh/h)	51	11	16	21	10	28	30	1230	16	19	1006	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Red-Bike Adi(A_pbT)	1.00		1.00	1.00		1.00	1.00	0	1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	2080	2039	2080	2080	2039	2080	1961	1961	2000	1961	1961	2000
Adj Flow Rate, veh/h	65	14	21	31	15	41	31	1281	17	21	1130	17
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.78	0.78	0.78	0.68	0.68	0.68	0.96	0.96	0.96	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	94	115	236	130	272	254	1972	26	214	1968	30
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1001	278	340	519	384	805	514	3765	50	445	3757	57
Grp Volume(v), veh/h	100	Ó	0	87	0	0	31	634	664	21	560	587
Grp Sat Flow(s), veh/h/ln	1619	0	0	1709	0	0	514	1863	1952	445	1863	1951
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	3.5	19.6	19.7	2.9	16.4	16.4
Cycle Q Clear(g_c), s	2.9	0.0	0.0	2.6	0.0	0.0	19.9	19.6	19.7	22.5	16.4	16.4
Prop In Lane	0.65		0.21	0.36		0.47	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	621	0	0	638	0	0	254	976	1022	214	976	1022
V/C Ratio(X)	0.16	0.00	0.00	0.14	0.00	0.00	0.12	0.65	0.65	0.10	0.57	0.57
Avail Cap(c_a), veh/h	621	0	0	638	0	0	254	976	1022	214	976	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	0.0	18.4	0.0	0.0	19.7	13.7	13.8	21.9	13.0	13.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.4	0.0	0.0	1.0	3.3	3.2	0.9	2.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/In	1.6	0.0	0.0	1.4	0.0	0.0	0.6	10.9	11.4	0.4	9.1	9.5
LnGrp Delay(d),s/veh	19.1	0.0	0.0	18.9	0.0	0.0	20.7	17.1	17.0	22.8	15.4	15.3
LnGrp LOS	В			В			С	В	В	C	В	B
Approach Vol. veh/h		100		-	87			1329			1168	A DESCRIPTION
Approach Delay, s/veh		19.1			18.9			17.1			15.5	
Approach LOS		В	02 - 12	and said	B			B		- 3	B	
Timer	1	0	2	Ā	5	Ē	7	0	11000			
Assigned Phs	0.0	2		4	3	6	/	0				
Phs Duration (G+V+Rc) s		47.0		33.0		47.0		22.0	11-2-22			Deliver
Change Period (Y+Rc) s	Xa	*51		6.0		*5.1		53.0				
May Green Setting (Gmay) s		* 42		27.0		* 40	1.1	0.0				
Max Oreen detailing (Ornax), s	-	21.0		4.0		94 5	10000	21.0			_	Photos a
Green Ext Time (p. c) s		16.1		4.0		14.3		4.0	and a second			
Oreen Ext nine (p_0), s		10.1		1.1		14.3		le l	-			
Intersection Summary			40.5			1.1						
HOM 2010 CIT Delay			16.5			-					_	
ICM 2010 LUS	in The Store	1997 - 1998 1997 - 1998 1997 - 1998	В				-				Self-	
Notes					1 = 1							

Future Total PM Peak Hour Giffels Webster / W. A. Stimpson, P.E.

ntersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		4	1		Y		
Traffic Vol, veh/h	4	68	36	19	10	2	
Future Vol, veh/h	4	68	36	19	10	2	
Conflicting Peds, #/hr	0	0	0	0	0	0	State Stat
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized		None	-	None		None	
Storage Length		-	•	-	0		
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0		
Peak Hour Factor	78	78	83	83	60	60	
Heavy Vehicles, %	2	2	2	2	2	2	
Mymt Flow	5	87	43	23	17	3	Contraction of the local states of the local s

Major/Minor	Major1	10162		and the second second	Major2		Minor2			
Conflicting Flow All	66	0			-	0	152	55		_
Stage 1				1220	-	- 4	55			
Stage 2	-	•			-		97			No.
Critical Hdwy	4.12		and.		- 111		6.42	6.22		
Critical Hdwy Stg 1	-	-			-	-	5.42		Conce	
Critical Hdwy Stg 2	-		- Second	and the second		-	5.42	-		100
Follow-up Hdwy	2.218	-	_			-	3.518	3.318		
Pot Cap-1 Maneuver	1536			State of the second	-	-	840	1012	State of the second	13
Stage 1	-						968	-		
Stage 2	-	-	Statuli I	100 March 100		-	927	-	E Section Section	
Platoon blocked, %					-					_
Mov Cap-1 Maneuver	1536	-	8.5	1	-	(1)	837	1012		
Mov Cap-2 Maneuver	-	-			-	-	837	-		income of
Stage 1	- 11 I I I	-			-	-	968	-		
Stage 2	•	-			-	-	924	-		
Anoroach	FB				WR		CB			
HCM Control Delay s	04				0		93			-
HCM LOS	0.1						A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR SBLn1						
Capacity (veh/h)	1536	-	-	- 862	and there are a			Same and		100
HCM Lane V/C Ratio	0.003	-	-	- 0.023						
HCM Control Delay (s)	7.4	0	-	- 9.3				Contraction of the second		
HCM Lane LOS	А	Α	-	- A				and the second second		-
HCM 95th %tile Q(veh)	0	-	-	- 0.1		a second	a for a			-

7

Int	ers	se	ct	0	1	
	-	-		-		_

Int Delay, s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4.			4			4	001
Traffic Vol, veh/h	1	22	0	9	18	4	2	43	18	7	28	5
Future Vol, veh/h	1	22	0	9	18	4	2	43	18	. 7	28	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Ston	Ston	Stop	Ston
RT Channelized	-		None		-	None	-		None	-	ciop	None
Storage Length	-		-	-		-		-	-	-	-	Hong
Veh in Median Storage, #	-	0		-	0	-	-	0	-	-	0	1
Grade, %		0	-	-	0	2	-	0	-		0	
Peak Hour Factor	79	79	79	64	64	64	71	71	71	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mymt Flow	1	28	0	14	28	6	3	61	25	12	47	8

Major/Minor	Major1		255		Major2		- 29		Minor1			Minor2		
Conflicting Flow All	34	0	0	31	28	0	0		117	93	28	132	89	31
Stage 1	-	- 11	-		-		-		30	30		59	59	
Stage 2		-	-		-	-			87	63		73	30	
Critical Hdwy	4.12				4.12	-			7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-			-	-			6.12	5.52	-	6.12	5.52	
Critical Hdwy Stg 2			-		-	-	2. 11		6.12	5.52	-	6.12	5.52	
Follow-up Hdwy	2.218	-	-	_	2.218	-	-		3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1578	-	-	-725	1585	-	- 1	100.00	859	797	1047	840	801	1043
Stage 1	-	-				-		3	987	870	_	953	846	-
Stage 2	-	-		min/mer	-	-	-	-	921	842		937	870	-
Platoon blocked, %		-	-	· · · ·			-	-						
Mov Cap-1 Maneuver	1578	-	•		1585	-	-	10 mm	808	789	1047	766	793	1043
Mov Cap-2 Maneuver		-	-		-		-		808	789	-	766	793	
Stage 1	- 100	-			-				986	869	-	952	838	1
Stage 2	-	•	-		-	•			855	834	-	850	869	-
Approach	FB				WR				MB			00		
HCM Control Delay, s	0.3				21	-			0.7	-	-	0.0		
HCMLOS	0.0				2.1				5.1			9.8	-	·
	i la contra				Street Bar	34 - W			A	and the second		A	The second	
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	849	1578			1585	-	-	812		1			Nation 1	
HCM Lane V/C Ratio	0.105	0.001			0.009		-	0.082					1	
HCM Control Delay (s)	9.7	7.3	0	-	7.3	0	-	9.8			aux -	and the second	1000	N-1-1
HCM Lane LOS	A	А	Α		A	A	-	A				1000		and the second
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.3	1 1000	1221	C. C	No. State		Sania