TRAFFIC IMPACT ANALYSIS

MAITLAND CITY CENTRE
MAITLAND, FLORIDA

Prepared for:

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Revised
October 2014

TPD № 4568

PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic Planning & Design, Inc., a corporation authorized to operate as an engineering business, EB-3702, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Maitland City Centre

LOCATION: Maitland, Florida

CLIENT: Lamm & Company Partners

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

NAME: Turgut Dervish, P.E.

P.E. №: 20400

DATE: October 9, 2014

SIGNATURE:

TURGUT DERVISH
LICENSE
№ 20400
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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INTRODUCTION

This traffic analysis was performed to assess the traffic impact of the proposed Maitland City Centre, a mixed-use development in Downtown Maitland. The development will consist of 220 apartments, 30 live-in/live-work units and 42,000 square feet of retail stores/shops and restaurants. The site of the development consists of a one-block area bounded by Horatio Avenue on the north, Packwood Avenue on the south, US 17-92 on the east and Independence Lane on the west. This site is currently occupied by the Traditions Plaza and the old Winn Dixie store which will be demolished to make room for the proposed development. **Figure 1** depicts the site location.

The analysis was conducted in accordance tithe a study methodology submitted to and reviewed by the City. Based upon the comments received, the methodology was revised and is included in **Appendix A**. Data used in the analysis consists of site plan/development information provided by the Project Architects and AM/PM peak hour traffic counts obtained from the City and FDOT. Additionally, Traffic Planning and Design, Inc. (TPD) personnel conducted field surveys of existing conditions and conducted supplemental traffic counts during the AM and PM peak periods.

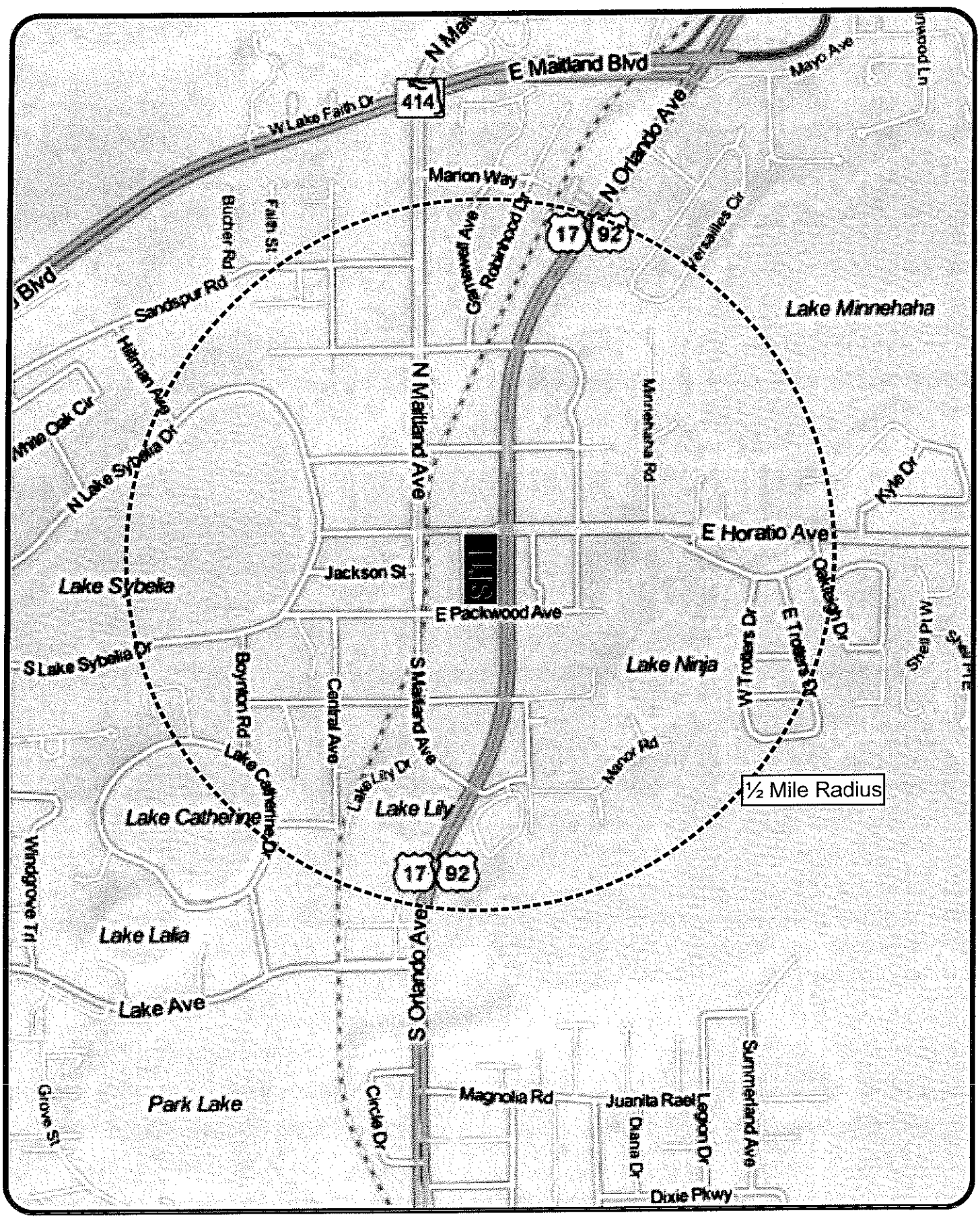

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Figure 1

Site Location

EXISTING TRAFFIC CONDITIONS

An analysis of the existing traffic conditions of the roadways/intersections within a one-half mile impact area was conducted to determine their current operating conditions in terms of Levels of Service. This included the following roadway segments and intersections:

Roadway Segments

US 17-92

- Lake Avenue to Maitland Avenue
- Maitland Avenue to Horatio Avenue
- Horatio Avenue to Sybelia Avenue
- Sybelia Avenue to Maitland Boulevard

Horatio Avenue

- Maitland Avenue to US 17-92
- US 17-92 to Dommerich Drive

Maitland Avenue

- US 17-92 to Horatio Avenue
- Horatio Avenue to Maitland Boulevard

Intersections

- US 17-92 and Horatio Avenue
- US 17-92 and Packwood Avenue
- US 17-92 and Maitland Avenue
- Horatio Avenue and Maitland Avenue
- Horatio Avenue and Independence Lane
- Packwood Avenue and Independence Lane
- Maitland Avenue and Packwood Avenue
- Site Access Driveways

The roadways and intersections were analyzed for both the AM and PM highway peak hours.

Roadway Segment Analysis

A capacity analysis was conducted for the study roadway segments by comparing their peak hour directional capacities at the adopted Level of Service (LOS) with the respective AM and PM peak hour volumes. The AM/PM peak hour volumes used in the analysis were determined from the turning movement counts at the study intersections. This analysis is summarized in **Table 1**. This table shows the roadway segments, their number of lanes, adopted LOS/capacity values, peak hour volumes and resultant Levels of Service. This analysis indicates that the study roadways currently operate at satisfactory Levels of Service.

Table 1
Existing Peak Hour Roadway Segment Analysis

Roadway Segment	No. of Lanes	Period	Adopted LOS		Peak Direction	PHPD Volume	LOS
			Standard	Capacity			
US 17-92							
Lake Ave to Maitland Ave	6	AM	E	3,020	SB	2,879	C
		PM	E	3,020	NB	2,735	C
Maitland Ave to Horatio Ave	6	AM	E	3,020	SB	2,438	C
		PM	E	3,020	NB	2,474	C
Horatio Ave to Sybelia Ave	6	AM	E	3,020	SB	1,592	C
		PM	E	3,020	NB	1,327	C
Sybelia Ave to Maitland Blvd*	6	AM	E	3,020	SB	1,849	C
		PM	E	3,020	NB	1,793	C
Horatio Avenue							
Maitland Ave to US 17-92	2	AM	E	840	WB	582	D
		PM	E	840	WB	423	D
US 17-92 to Dommerich Dr	4	AM	E	1,800	WB	1,381	C
		PM	E	1,800	EB	1,569	C
Maitland Avenue							
US 17-92 to Horatio Ave	2	AM	E	840	SB	502	C
		PM	E	840	SB	534	C
Horatio Ave to Maitland Blvd	4	AM	E	1,530	SB	765	C
		PM	E	1,530	NB	811	C

*From FDOT Hourly 2013 Counts

Intersection Capacity Analysis

A capacity analysis was conducted for each intersection utilizing existing AM and PM peak hour volumes, existing intersection geometry and signal timing data. The AM and PM peak hour volumes (or counts) were obtained from the *SR 15(US17/92) Signal Retiming Report, May 2014*, provided by the City of Maitland and collected by TPD personnel. These counts were adjusted with the use of FDOT seasonal factors and are summarized in **Figures 2a/b and 3a/b**. The unadjusted or raw intersection count data and the seasonal factors are included in **Appendix B** along with signal timing data provided by the City. The analysis was accomplished with the use of HCS software in accordance with the procedures of the *2010 Highway Capacity Manual.* The results of the intersection analysis are summarized in **Table 2** and HCS capacity worksheets are included in **Appendix C.** The results of the intersection capacity analysis indicate that the study intersections currently operate at acceptable overall Levels of Service, LOS E or better.

A further review of the capacity analysis results reveals the minor street approaches to US 17-92 operate at LOS F during the AM and PM peak periods. This is due to the coordinated signal system which allocates maximum green time to the heavy traffic volumes on US 17-92 and reduces the amount of green time for the minor streets resulting in lengthy delays.

Table 2
Existing Intersection Capacity Analysis

Intersection	Control	Period	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
US 17-92 & Horatio Ave	Signal	AM	83.9	F	74.7	E	43.7	D	53.2	D	60.5	E
		PM	101.4	F	90.2	F	60.3	E	57.8	E	69.0	E
US 17-92 & Packwood Ave	Signal	AM	86.1	F	92.1	F	12.2	B	18.5	B	20.2	C
		PM	109.8	F	103.4	F	25.2	C	18.5	B	28.7	C
US 17-92 & Maitland Blvd/Manor Rd	Signal	AM	76.4	E	78.1	E	24.6	C	45.0	D	40.1	D
		PM	104.5	F	99.9	F	18.7	B	21.4	C	21.1	C
Maitland Blvd & Horatio Ave	Signal	AM	17.7	B	41.4	D	25.7	C	18.1	B	26.9	C
		PM	29.3	C	51.9	D	20.7	C	13.1	B	24.5	C
Maitland Blvd & Packwood Ave	STOP	AM	7.5	A	7.2	A	11.5	B	13.5	B	-	-
		PM	7.4	A	7.2	A	16.4	C	16.9	C	-	-
Independence Ln & Horatio Ave	STOP	AM	-	-	7.9	A	10.3	B	-	-	-	-
		PM	-	-	8.4	A	12.3	B	-	-	-	-
Independence Ln & Packwood Ave	STOP	AM	7.5	A	-	-	-	-	9.7	A	-	-
		PM	7.4	A	-	-	-	-	9.6	A	-	-

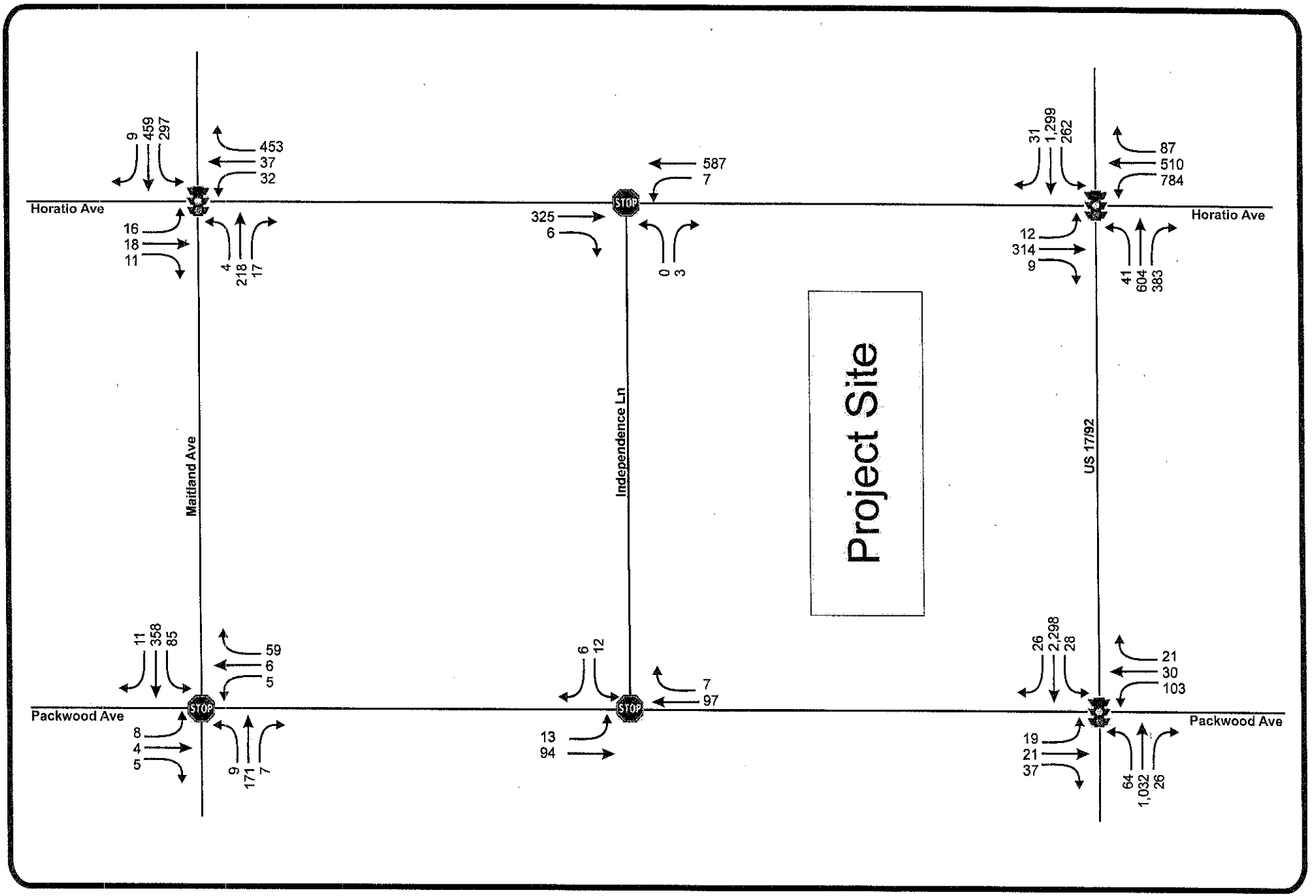

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Figure 2a

Existing A.M. Peak Hour Traffic Volumes

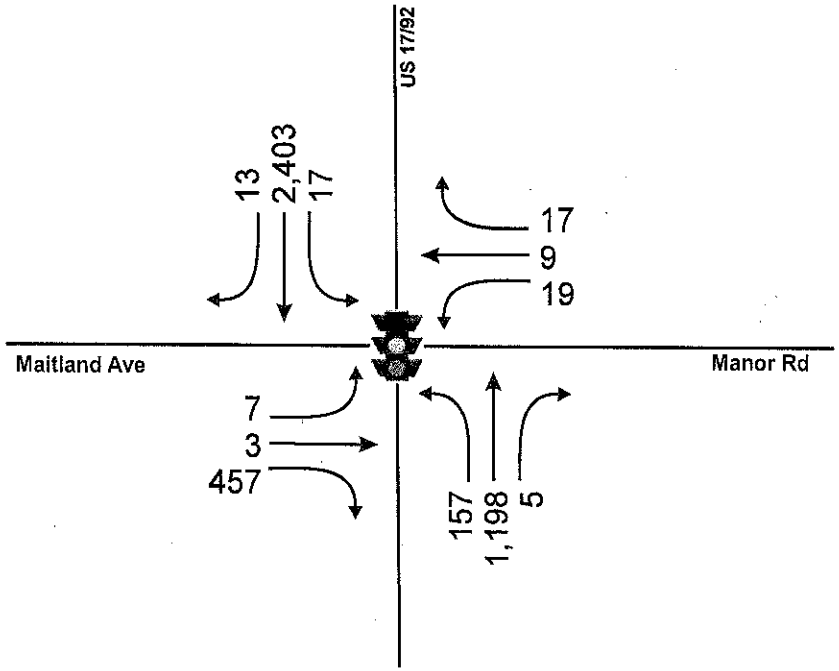

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Figure 2b

Existing A.M. Peak Hour Traffic Volumes

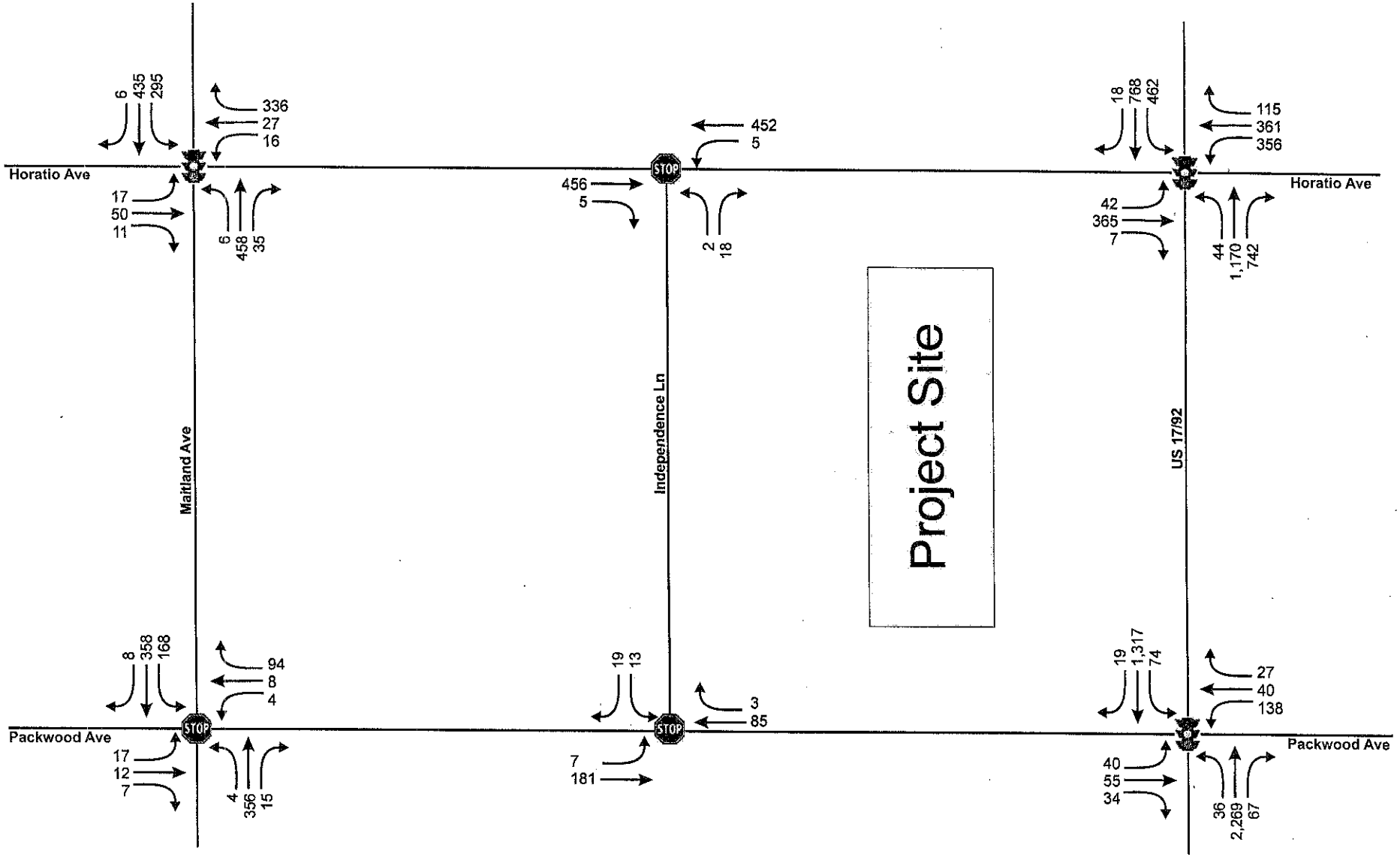

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Figure 3a

Existing P.M. Peak Hour Traffic Volumes

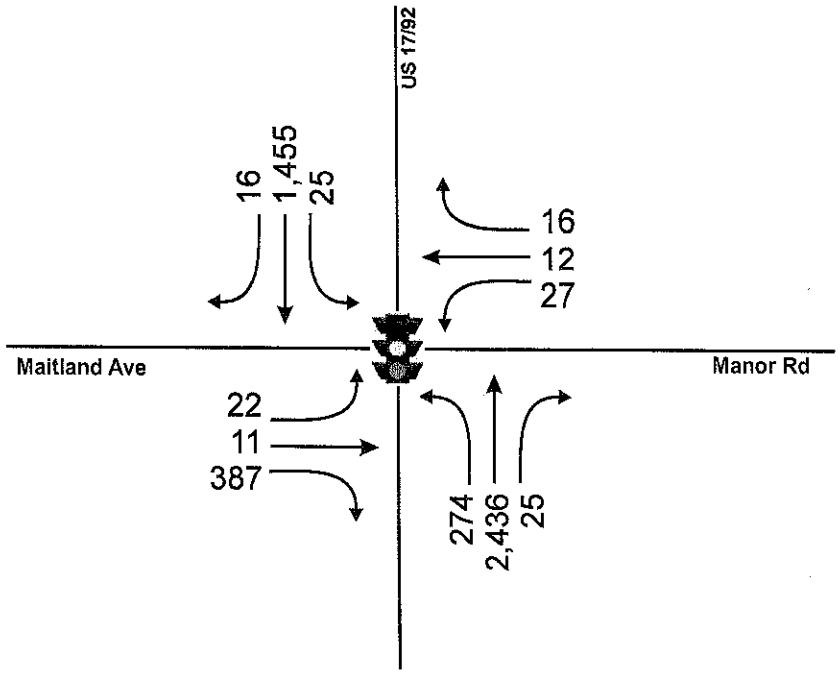

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Figure 3b

Existing P.M. Peak Hour Traffic Volumes

PROPOSED DEVELOPMENT AND TRIP GENERATION

The proposed development consists of 220 apartment units, 30 live-in/live-work units and 42,000 square feet of retail stores/shops and restaurants in a multi-story building with a parking garage. The live-in/live-work units will have 100 square feet of office space within each unit in addition to the 3,000 square foot common conference room areas for the live-in/live-work units. **Figures 4a and 4b** are two alternative conceptual plans considered for the proposed development. The plan shown in Figures 4a has one access driveway on Independence Lane where the plan shown in Figure 4b has two access driveways. A brief review of these plans reveals that the alternative plan with two access driveways on Independence Lane has a more efficient internal circulation and access connectivity with respect to the parking garage while minimizing residential/commercial traffic conflicts. In the two-access scenario, it is proposed that the access driveways on Independence Lane be managed to operate at different time periods. The southern driveway closest to the residential component of the development will be open from 5:00 PM to 10:00 AM serving the residential peak traffic movements and closed from 10:00 AM to 5:00 PM. The northern driveway will be open from 2:00 AM to 5:00 PM and closed from 5:00 PM to 2:00 AM. The two driveways will be open at the same time from 2:00 AM to 10:00 AM.

To determine the impact of this development in the area, an analysis of its trip generation characteristics was conducted. This included the determination of the trips to be generated and the distribution/assignment of these trips to the area roadways/intersections and access driveways. In the assignment of project trips to the access driveways, one loading point on Independence Lane was assumed since the project traffic to utilize Independence Lane would be the same regardless of the number of access points.

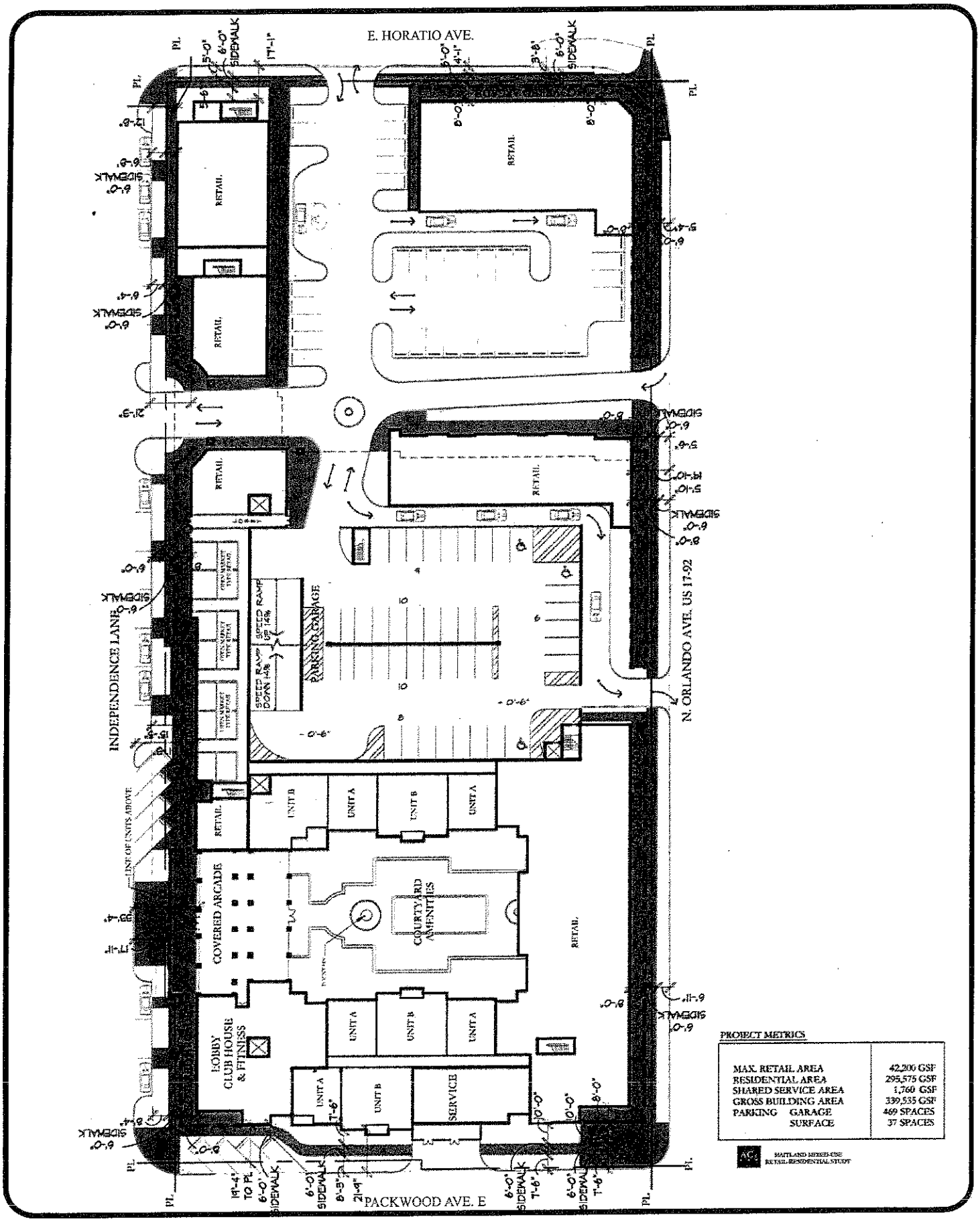

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Figure 4a

Conceptual First Floor Plan Scenario 1

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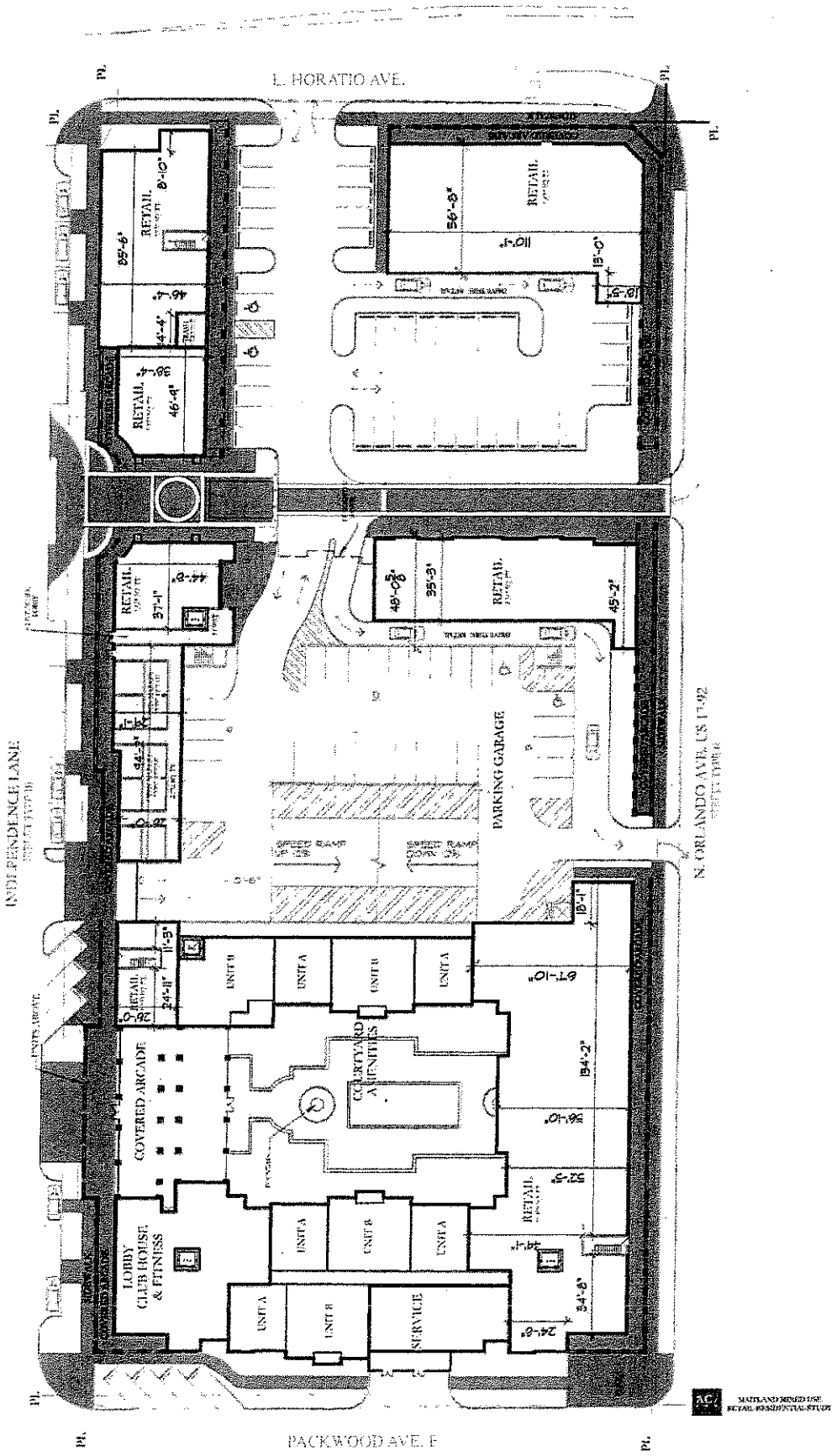

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Figure 4b

Conceptual First Floor Plan Scenario 2

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Trip Generation

Trip generation data from the *9th Edition of the* ITE *Trip Generation Manual* were used to estimate the number of trips that will be generated by the proposed development. A summary of the trip generation calculation as described in more detail in the Study Methodology in Appendix A is provided in **Table 3**. This table also shows the trip generation of the existing shopping center, Traditions Plaza, which occupies part of the site.

The proposed development is estimated to generate 2,152 new daily trips, of which 117 will occur in the AM peak hour and 182 in the PM peak hour. Subtracting the trip generation of the existing shopping center results in 1,417 new net daily trips, 97 new net AM peak hour trips and 61 new net PM hour trips to be added to the area roadways as a result of the proposed development.

In addition to Traditions Plaza, an 18,264 square foot shopping center, the vacant old Winn Dixie store with 21,641 square feet occupies the other part of the site. The trip generation of these uses with Winn Dixie occupied is summarized in **Table 4** which shows 2,278 new net daily trips, 67 new net AM peak hour trips and 252 new net PM peak hour trips. Interestingly, the daily and PM peak hour trip generation of the existing uses is higher than the daily and PM peak hour generation of the proposed uses.

Trip Distribution/Trip Assignment

A trip distribution pattern for the proposed development was determined with the use of the 2015 E+C network of the 2030 OUATS model along with a select zone analysis. This distribution is illustrated in **Figure 5** which shows the percent distribution of the project trips on major roadways converging upon the site. An areawide model distribution plot is included in the Study Methodology in Appendix A. Utilizing this distribution the development's new net AM and PM peak hour trips were assigned to the area roadways as shown in **Figure 6**.

Table 3
Trip Generation Summary
(Proposed Development)

Proposed Development

ITE Code	Land Use	Size*	Daily Trips		AM Peak Hour Generation				PM Peak Hour Generation			
			Rate	Trips	Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
220	Apartment	220 DU	6.65	1,463	0.51	22	90	112	0.62	88	48	136
230	Live-In/live-Work**	30 DU	5.81	174	0.44	2	11	13	0.52	11	5	16
710	Live-in Office/Conference Space	6 KSF	11.03	66	1.56	7	2	9	1.49	2	7	9
826	Specialty Retail	42 KSF	43.67	1,834	0.75	20	12	32	2.91	54	68	122
	Total Trips		--	3,537	--	51	115	166	--	155	128	283
	Retail Pass-by Trips (34%)***		--	536	--	6	3	9	--	16	20	36
	Internal Trips (14%)		---	495	--	7	16	23	---	21	17	38
	Transit Trips (10%)		--	354	--	5	12	17	--	15	12	27
	Proposed Net New Trips		--	2,152	--	33	84	117	--	103	79	182

Existing Development

ITE Code	Land Use	Size*	Daily Trips		AM Peak Hour Generation				PM Peak Hour Generation			
			Rate	Trips	Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
820	Retail/Traditions Plaza	18.264 KSF	123.14	2,249	3.01	34	21	55	10.51	92	100	192
	Total Trips		--	2,249	--	34	21	55	--	92	100	192
	Retail Pass-by Trips (63%)		--	1,417		22	13	35	--	34	37	71
	Existing Net New Trips		--	832	--	12	8	20	--	58	63	121
	Trip Increase Due to Redevelopment		**----**	**1,417**	**----**	**21**	**76**	**97**	**----**	**45**	**16**	**61**

* *DU = Dwelling Unit, KSF = Thousand Square Feet*
** *ITE does not have data for this type of residential use. Therefore, residential condominium rates were used.*
*** *Applied to external trips*

Table 4
Trip Generation Summary (with Winn Dixie)
(Existing Development)

ITE Code	Land Use	Size*	Daily Trips		AM Peak Hour Generation				PM Peak Hour Generation			
			Rate	Trips	Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
820	Retail/Traditions Plaza	18.264 KSF	123.14	2,249	3.01	34	21	55	10.51	92	100	192
850	Supermarket/Winn Dixie	21.641 KSF	102.24	2,213	3.41	46	28	74	9.48	105	100	205
Total Trips			--	4,462	--	80	49	129	--	197	200	397
Retail Pass-by Trips (63%)			--	1,417	--	22	13	35	--	34	37	71
Supermarket Pass-by Trips (36%)			---	797	--	17	10	27	---	38	36	74
Total Pass-by Trips			--	2,214	--	39	23	62	--	72	73	145
Net New Trips			--	2,278	--	41	26	67	--	125	127	252

* *KSF = Thousand Square Feet*

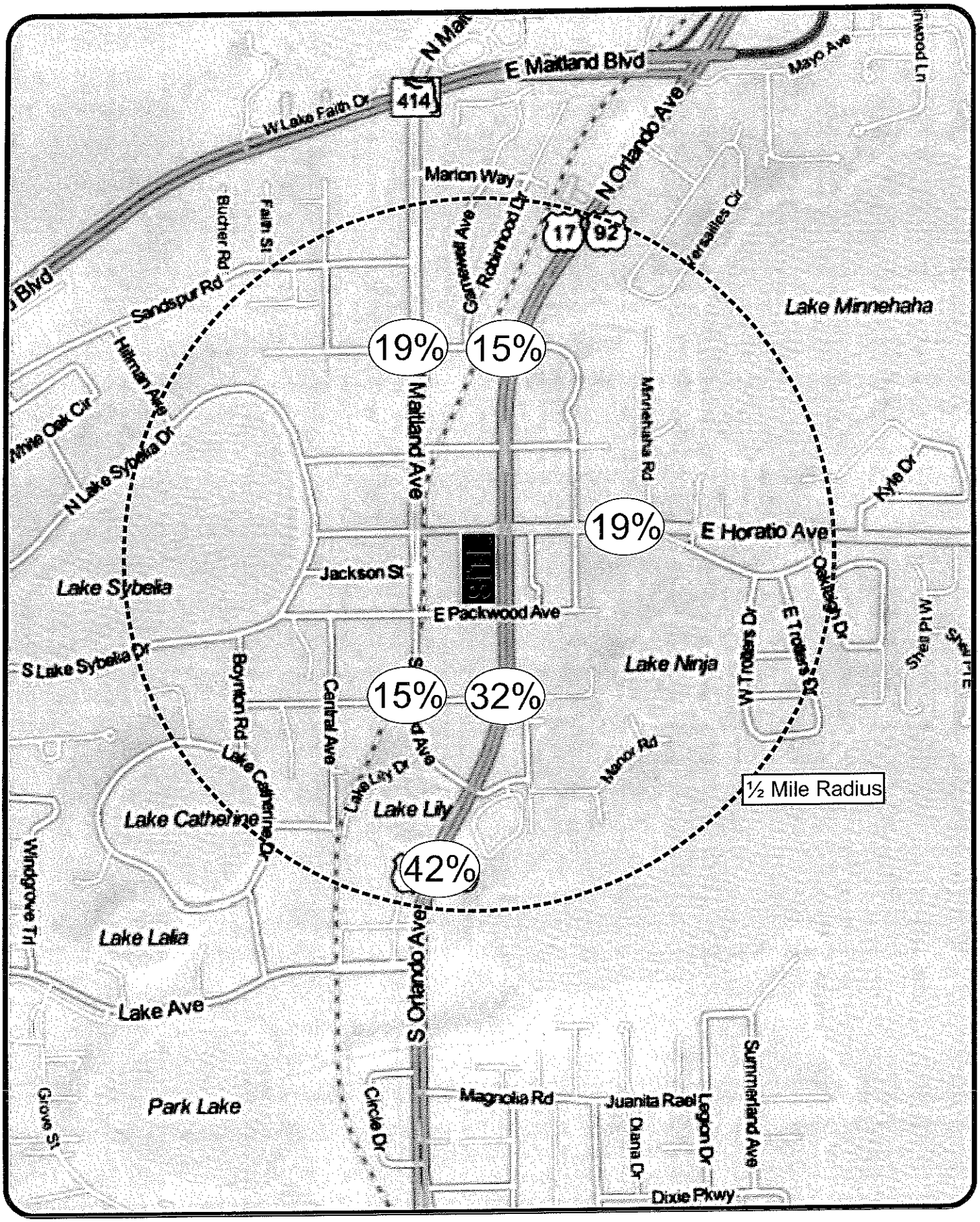

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Figure 5

Project Distribution

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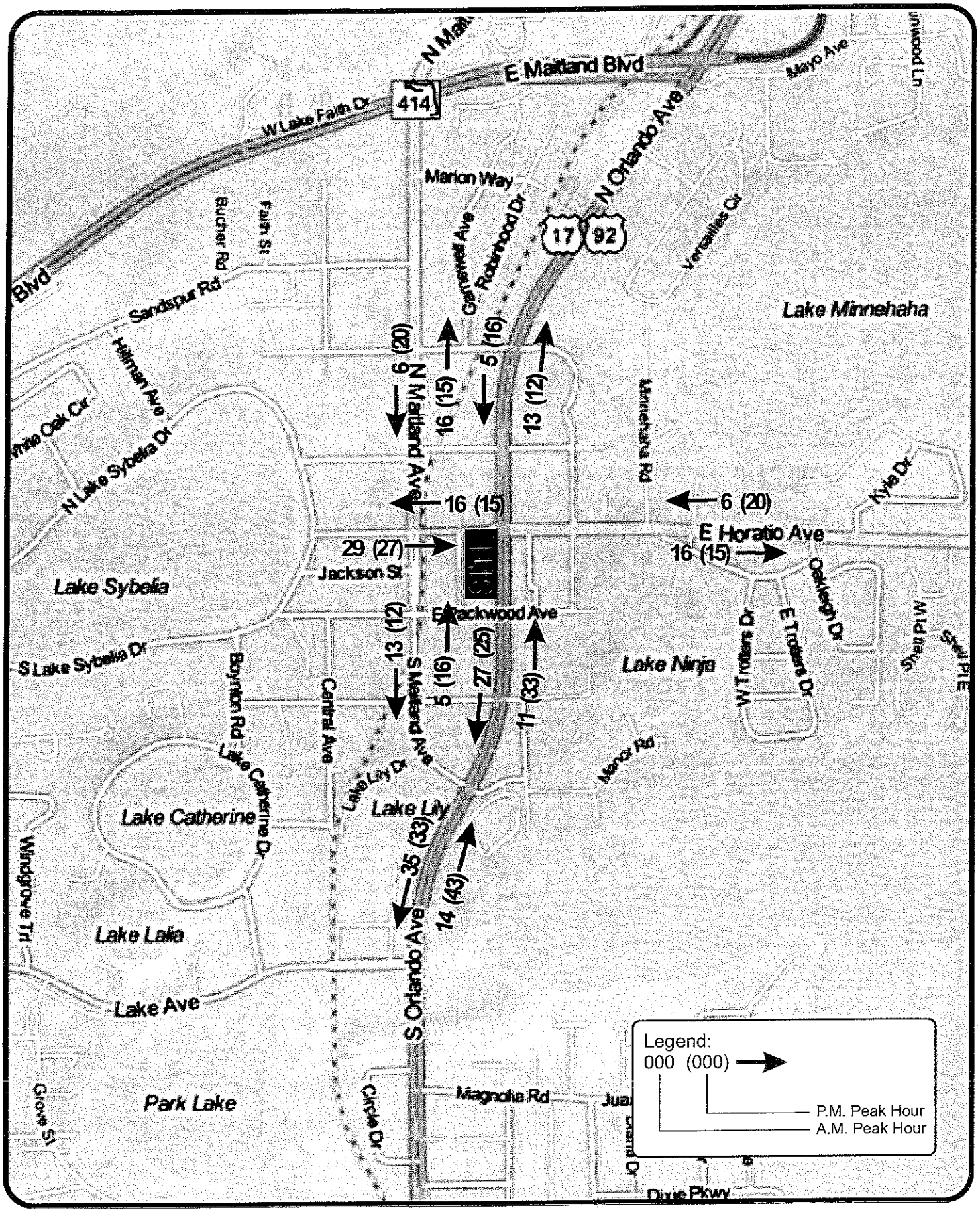

Maitland City Center
Project № 4568
Figure 6

Project Assignment

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PROJECTED TRAFFIC CONDITIONS

Projected traffic conditions for the proposed development were analyzed for the development's anticipated completion within two years. Therefore, projected traffic conditions were determined by expanding existing traffic volumes to 2016, the buildout year of the development. The roadway and intersection analyses were conducted for projected traffic consisting of background traffic volumes and project trips. Background traffic volumes were determined by applying an annual growth rate of 1% or growth factor of 1.02 to the existing traffic volumes. A trends analysis of historical traffic volumes on US 17-92, Horatio Avenue and Maitland Avenue revealed a negative growth trend. The trends analysis charts are included in **Appendix D**.

Roadway Segment Analysis

A capacity analysis was performed for the study roadway segments similar to the existing conditions analysis by comparing their projected traffic volumes in the AM and PM peak hours with the respective segment LOS capacity at the adopted LOS standard. **Table 5** summarizes the results of this analysis which shows the roadway segments, their number of lanes, adopted LOS/capacity values and resultant Levels of Service. The results show that the study roadway segments will operate at satisfactory LOS under the projected conditions in 2016 with the addition of project trips.

Intersection Analysis

To assess the projected operational conditions at the study intersections, a capacity analysis was conducted for each intersection using projected traffic volumes. The intersections were analyzed for the projected AM and PM peak hour volumes using the *Highway Capacity Software (HCS)*. Projected peak hour volumes were determined by adding project trips to the background intersection volumes. The projected traffic volumes are shown in **Figures 7a/b** for the AM peak hour and **Figures 8a/b** for the PM peak hour.

Table 5
Projected Peak Hour Roadway Segment Capacity Analysis

Roadway Segment	No. of Lns	Period	Adopted LOS		Peak Direction	PHPD Volume			LOS
			Standard	Capacity		Background	Project	Total	
US 17-92									
Lake Ave to Maitland Ave	6	AM	E	3,020	SB	2,937	35	2,972	C
		PM	E	3,020	NB	2,790	43	2,833	C
Maitland Ave to Horatio Ave	6	AM	E	3,020	SB	2,487	27	2,514	C
		PM	E	3,020	NB	2,523	33	2,556	C
Horatio Ave to Sybelia Ave	6	AM	E	3,020	SB	1,624	5	1,629	C
		PM	E	3,020	NB	1,354	12	1,366	C
Sybelia Ave to Maitland Blvd	6	AM	E	3,020	SB	1,886	5	1,891	C
		PM	E	3,020	NB	1,829	12	1,841	C
Horatio Avenue									
Maitland Ave to US 17-92	2	AM	E	840	WB	594	29	623	D
		PM	E	840	WB	431	27	458	D
US 17-92 to Dommerich Dr	4	AM	E	1,800	WB	1,409	6	1,415	C
		PM	E	1,800	EB	1,600	15	1,615	C
Maitland Avenue									
US 17-92 to Horatio Ave	2	AM	E	840	SB	512	13	525	C
		PM	E	840	SB	545	12	557	C
Horatio Ave to Maitland Blvd	4	AM	E	1,530	SB	780	6	786	C
		PM	E	1,530	NB	827	15	842	C

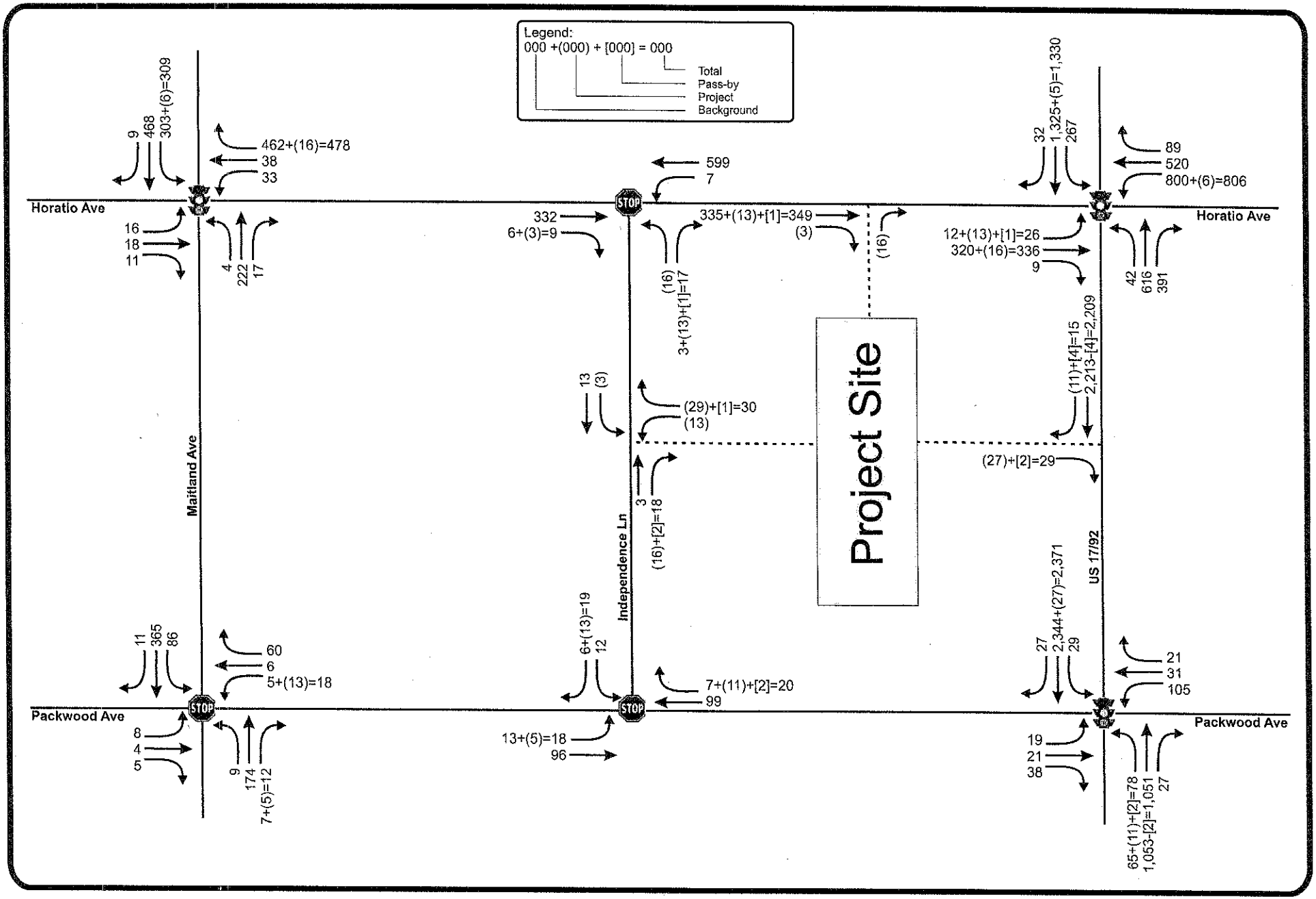

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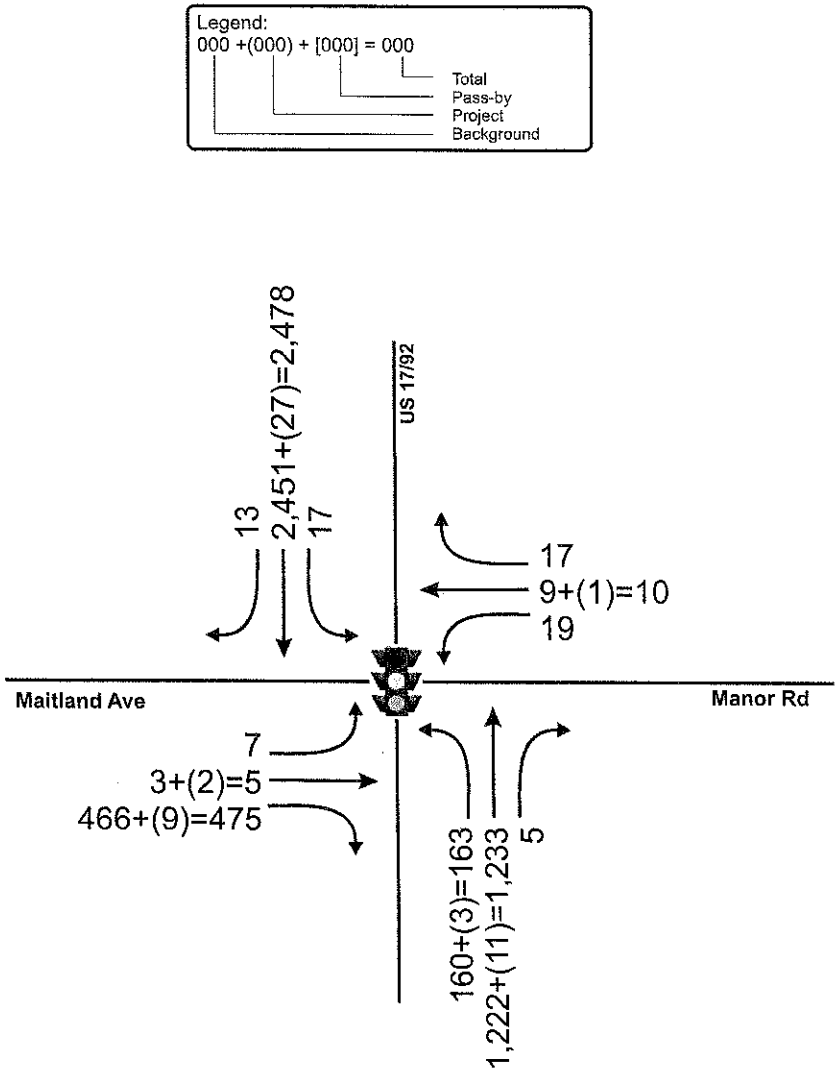
Figure 7a

Projected A.M. Peak Hour Traffic Volumes



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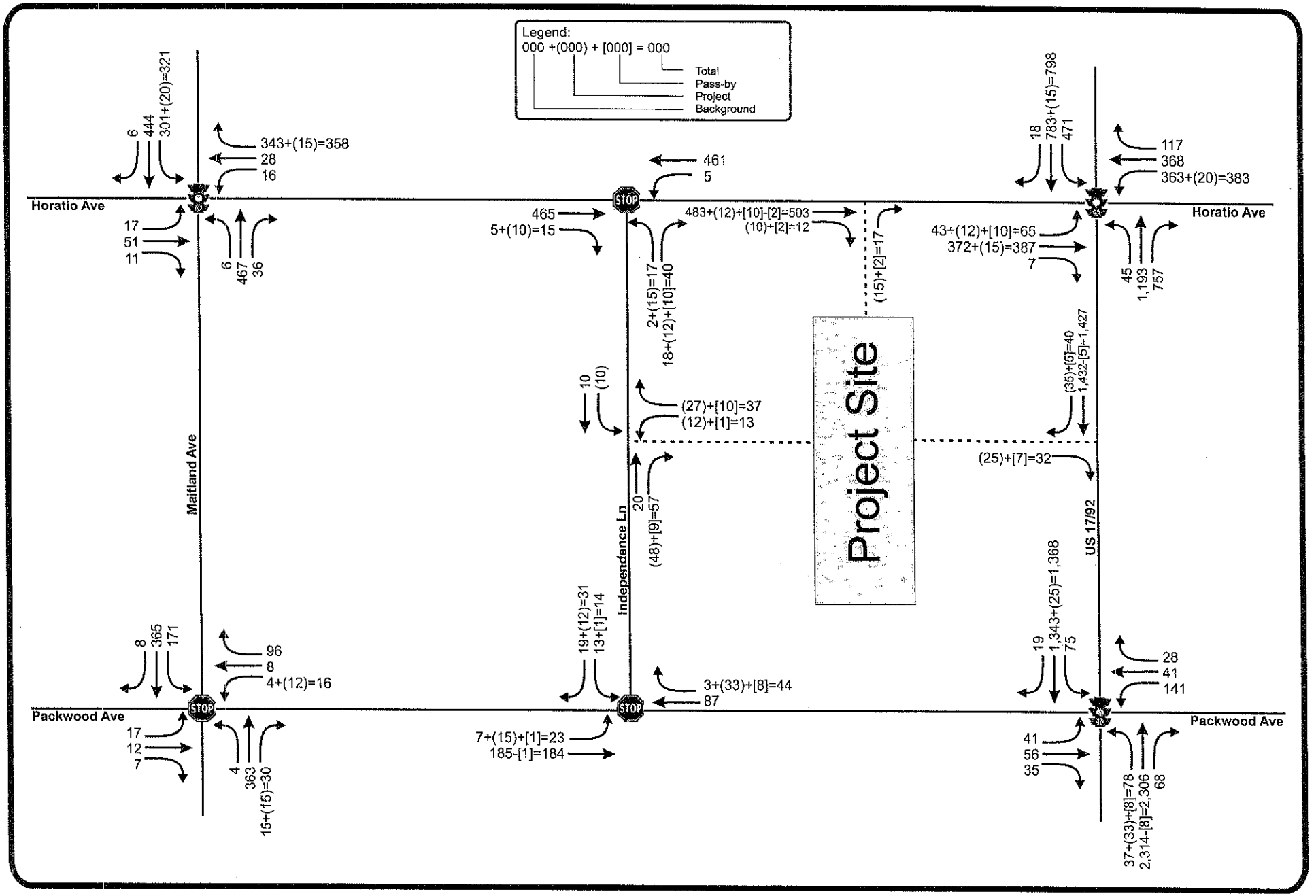
Project № 4568
Figure 7b

Projected A.M. Peak Hour Traffic Volumes



Maitland City Center
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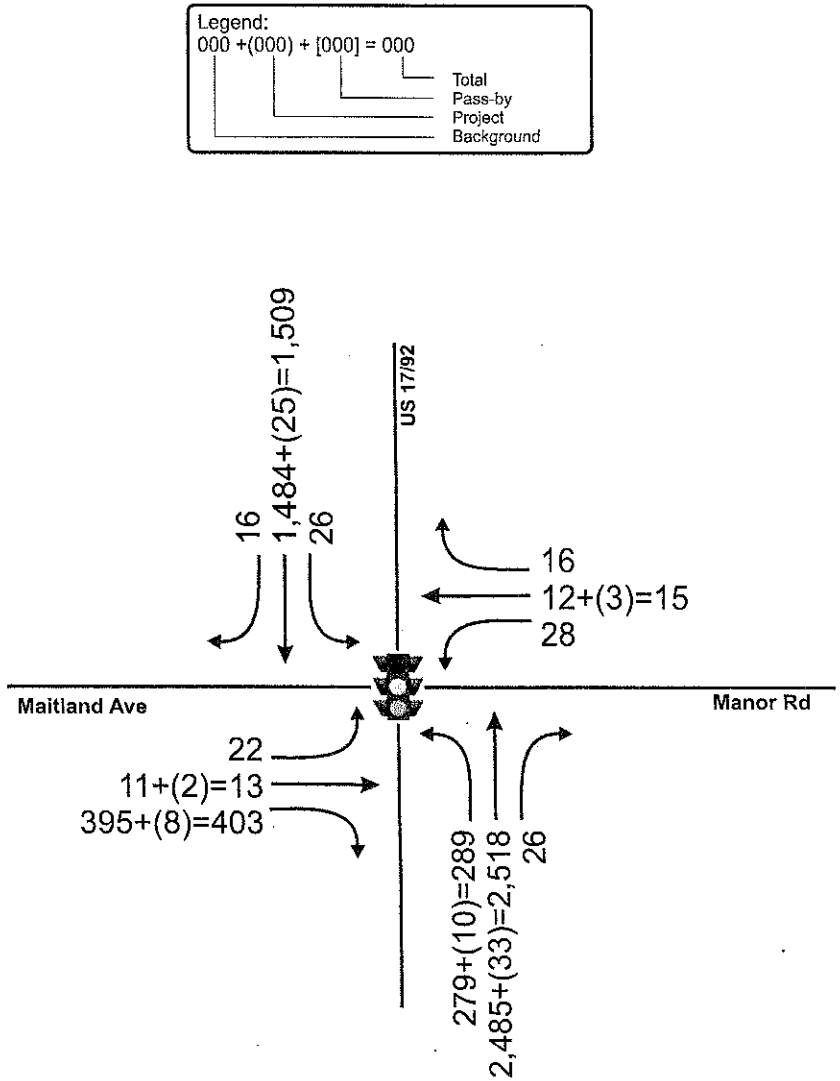
Figure 8a

Projected P.M. Peak Hour Traffic Volumes



Maitland City Center
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Figure 8b

Projected P.M. Peak Hour Traffic Volumes

The results of the intersection capacity analysis for projected conditions are included in the HCS worksheets in **Appendix E**. These results indicate acceptable overall levels of service similar to the existing conditions analysis. Even though the intersections are projected to operate at an acceptable Level of Service according to the adopted LOS standard of E, the minor street approaches to US 17-92 will operate at LOS F due to the coordinated signal timing which favors the heavy traffic volumes on US 17-92 reducing the amount of green time for the minor streets.

Table 6
Projected Intersection Capacity Analysis

Intersection	Control	Period	EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
US 17-92 & Horatio Ave	Signal	AM	87.1	F	80.3	E	45.3	D	55.8	E	64.1	E
		PM	105.3	F	94.9	F	64.1	E	64.1	E	74.0	E
US 17-92 & Packwood Ave	Signal	AM	85.6	F	92.6	F	13.0	B	19.4	B	21.0	C
		PM	109.3	F	103.8	F	26.2	C	19.9	B	29.7	C
US 17-92 & Maitland Blvd/Manor Rd	Signal	AM	75.3	E	77.7	E	25.7	C	54.1	D	46.0	D
		PM	77.2	E	99.8	F	28.9	C	34.8	C	32.2	C
Maitland Blvd & Horatio Ave	Signal	AM	16.8	B	43.1	D	25.7	C	19.7	B	28.4	C
		PM	28.2	C	53.7	D	22.8	C	14.9	B	26.3	C
Maitland Blvd & Packwood Ave	STOP	AM	7.5	A	7.2	A	12.0	B	14.5	B	-	-
		PM	7.4	A	7.3	A	18.2	C	19.6	C	-	-
Independence Ln & Horatio Ave	STOP	AM	-	-	8.0	A	14.6	B	-	-	-	-
		PM	-	-	8.5	A	15.2	C	-	-	-	-
Independence Ln & Packwood Ave	STOP	AM	7.6	A	-	-	-	-	9.5	A	-	-
		PM	7.5	A	-	-	-	-	9.9	A	-	-
Site Access 1 at Independence Ln	STOP	AM	-	-	8.6	A	-	-	7.2	A	-	-
		PM	-	-	8.8	A	-	-	7.4	A	-	-
Site Access 2 at Horatio Ave	STOP	AM	-	-	-	-	10.7	B	-	-	-	-
		PM	-	-	-	-	12.1	B	-	-	-	-
Site Access 3 at US 17-92	STOP	AM	14.8	B	-	-	-	-	-	-	-	-
		PM	11.8	B	-	-	-	-	-	-	-	-

Site Access

The development site currently has four driveways on US 17-92, two driveways on Horatio Avenue and on each on Fenwick Avenue and Independence Lane. These are driveways on US 17-92 and horatio Avenue within 75 feet of the US 17-92/Horatio intersection which will be closed with the proposed access configuration. The project is proposed to be served by two driveways on US 17-92 (one being enter only and the other exit only), a right-in/right-out driveway on Horatio Avenue and full access on Independence Lane. Due to the relatively low traffic volumes and low speeds, no turn lanes will be required on Independence Lane.

Sidewalk and Pedestrian Facilities

The existing/proposed sidewalks on the roadways surrounding the one-block site will provide internal and external pedestrian connectivity to the proposed development. With the exception of the south side on Fenwick Avenue between Maitland Avenue and US 17/92, the streets in the vicinity have sidewalks and pedestrian crossings.

Transit Accessibility

The project site is strategically located with respect to transit service in the area. The area is served by Lynx which provides fixed bus service along US 17-92 with bus stops in close proximity to the site. Link 102, Orange Avenue to SR 436, runs from Lynx Central Station in Downtown Orlando to SR 436 in Casselberry from 5:00 AM to 11:50 PM with 30-minute headways. Additionally, SunRail operates along the existing CSX Railroad corridor with its Maitland station within one-half mile of the project site.

CONCLUSIONS

This traffic analysis was conducted in order to assess traffic impact of the proposed Maitland City Centre, a mixed use development in Downtown Maitland. Located in the southwest corner of US 17-92 and Horatio Avenue, the project site consists of a one-block area currently occupied by the Traditions Plaza and the old Winn Dixie store which will be demolished to make room for the proposed development. The proposed development will consist of 220 apartment units, 30 live-in/work-in units and 42,000 square feet of retail stores/shops and restaurants. The following is a summary of the conclusions of the traffic analysis:

- The proposed development will generate 2,152 new net trips, 117 new net AM peak hour trips and 182 new net PM peak hour trips to be added to the area roadways. The existing development with the Old Winn Dixie Store occupied would generate 2,278 new net daily trips, 67 new net AM peak hour trips and 252 new net PM peak hour trips.

- The generated trips were distributed and assigned to the area's major roadways and intersections within a one-half mile impact area. The analysis of the major roadways within the one-half mile impact area revealed that these roadways consisting of US 17-92, Horatio Avenue and Maitland Avenue currently operate at satisfactory Levels of Service and will continue to do so at project buildout in 2016 with project trips added.

- The analysis of the study intersections revealed that these intersections currently operate at acceptable overall Levels of Service, LOS E or better during both the AM and PM peak hours. The same overall levels of service will continue to prevail with the completion of the project in 2016. However, the minor street approaches to US 17-92 currently operate at LOS F with lengthy delays and will continue to do so at project buildout in 2016. This is due to the coordinated signal timing which favors the heavy traffic volumes on US 17-92 and reduces the amount of green time for the minor streets.

- The project will be served by significantly improved access from US 17-92, Horatio Avenue and Independence Lane which will satisfactorily accommodate the trip generation of the proposed development. Due to the existing uses in the site, the project's impact on Horatio Avenue and Independence Lanes will be minimal.

- The existing/proposed sidewalks on roadways surrounding the site will provide internal and external pedestrian connectivity to the proposed development in the Downtown area.

- The project site is strategically located in close proximity to Lynx and SunRail facilities. Lynx buses provide service along US 17-92 with bus stops close to the site. SunRail's Maitland station is located within one-half mile of the site.

APPENDICIES

APPENDIX A

Study Methodology

Turgut Dervish

From: Noel Cooper [ncooper@itsmymaitland.com]
Sent: Tuesday, September 16, 2014 11:22 AM
To: Turgut Dervish
Cc: Verl Emrick; Sara Blanchard; Dick Wells; Emma Maury; Rick Lemke
Subject: RE: Maitland City Centre/ Revised Traffic Study Methodology

Turgut,

Approved.

Regards,

Noel Cooper, P.E., P.T.O.E.
Public Works Department
City of Maitland
Direct: (407) 539-6217
Cell: (407) 448-3262

From: Turgut Dervish [mailto:Turgut@tpdtraffic.com]
Sent: Monday, September 15, 2014 4:21 PM
To: Noel Cooper
Cc: Verl Emrick; Sara Blanchard; Dick Wells; Emma Maury
Subject: Maitland City Centre/ Revised Traffic Study Methodology

Noel:
Attached is our revised traffic study methodology for the proposed Maitland City Centre. The revisions were based upon our recent meeting held at the request of Verl Emrick, CRA Director, in order to address your comments in consideration of the comments by Littlejohn. Please call me if you have further questions/comments relating to this project.
Regards,
Turgut

Turgut Dervish, P.E., President
TRAFFIC PLANNING AND DESIGN, INC.
535 Versailles Drive
Maitland, Florida 32751
407-628-9955
407-628-8850 FAX
turgut@tpdtraffic.com

TO: Noel Cooper, P.E.

FROM: Turgut Dervish, P.E.

DATE: September 15, 2014

RE: Revised Maitland City Centre Traffic Study Methodology
Maitland, Florida
TPD № 4568

Introduction

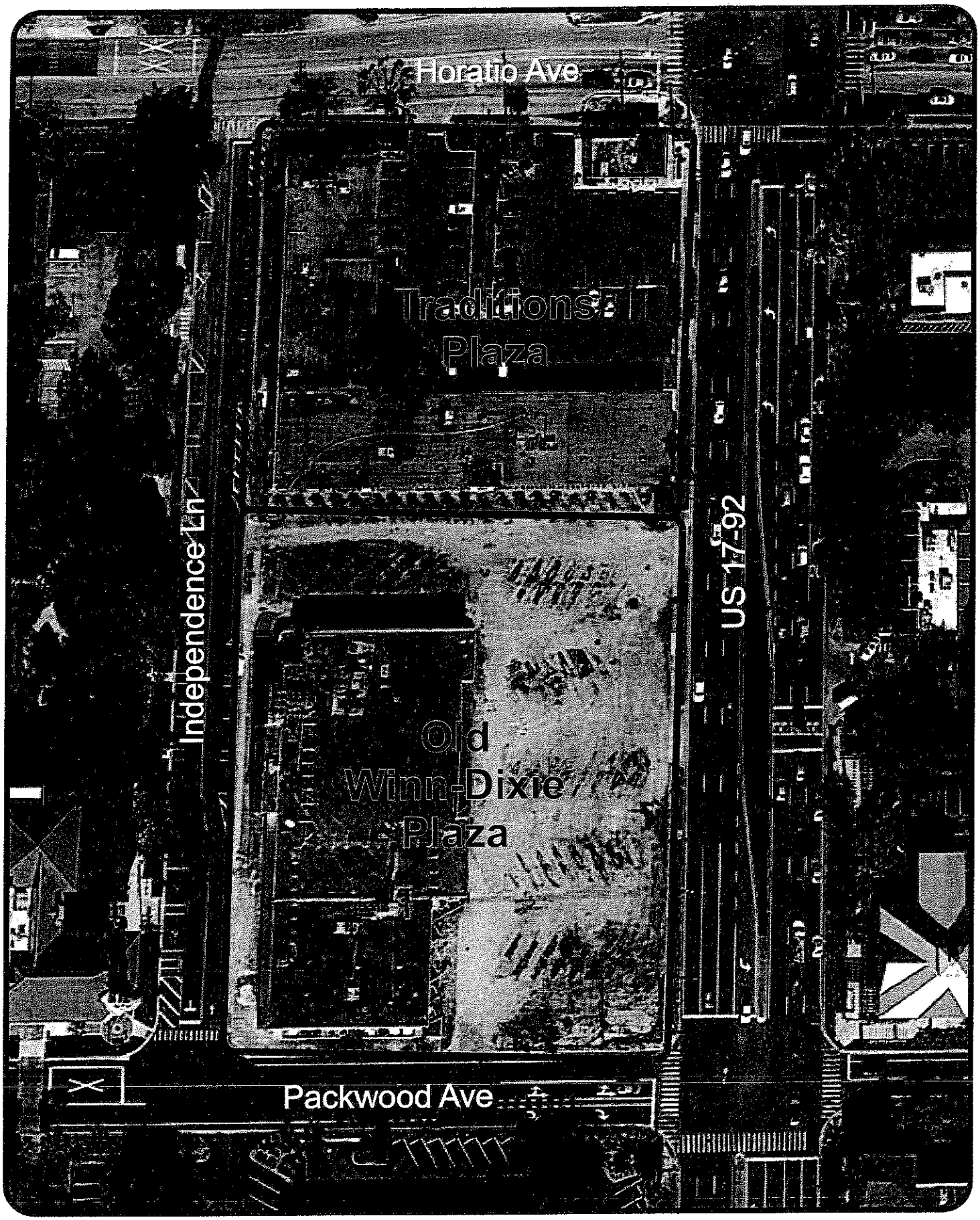
Maitland City Centre is a mixed-use development within the Maitland CRA in downtown Maitland. Its site occupies a one-block area bounded by US 17-92 on the east, Independence Lane on the west, Horatio Avenue on the north, and Packwood Avenue on the south. The site is currently occupied by the Traditions Plaza and the old Winn Dixie store, now vacant. **Figure 1** is an aerial photograph of the site depicting the existing uses and the adjacent roadways.

Proposed Development

The proposed development will consist of 220 apartment units, 30 live-in units and 42,000 square feet of retail stores/shops and restaurants in a multi-story building with a parking garage to be completed within two years or by the end of 2016. **Figure 2** is a conceptual first floor plan showing the site's internal traffic/parking circulation and proposed access connections.

Trip Generation

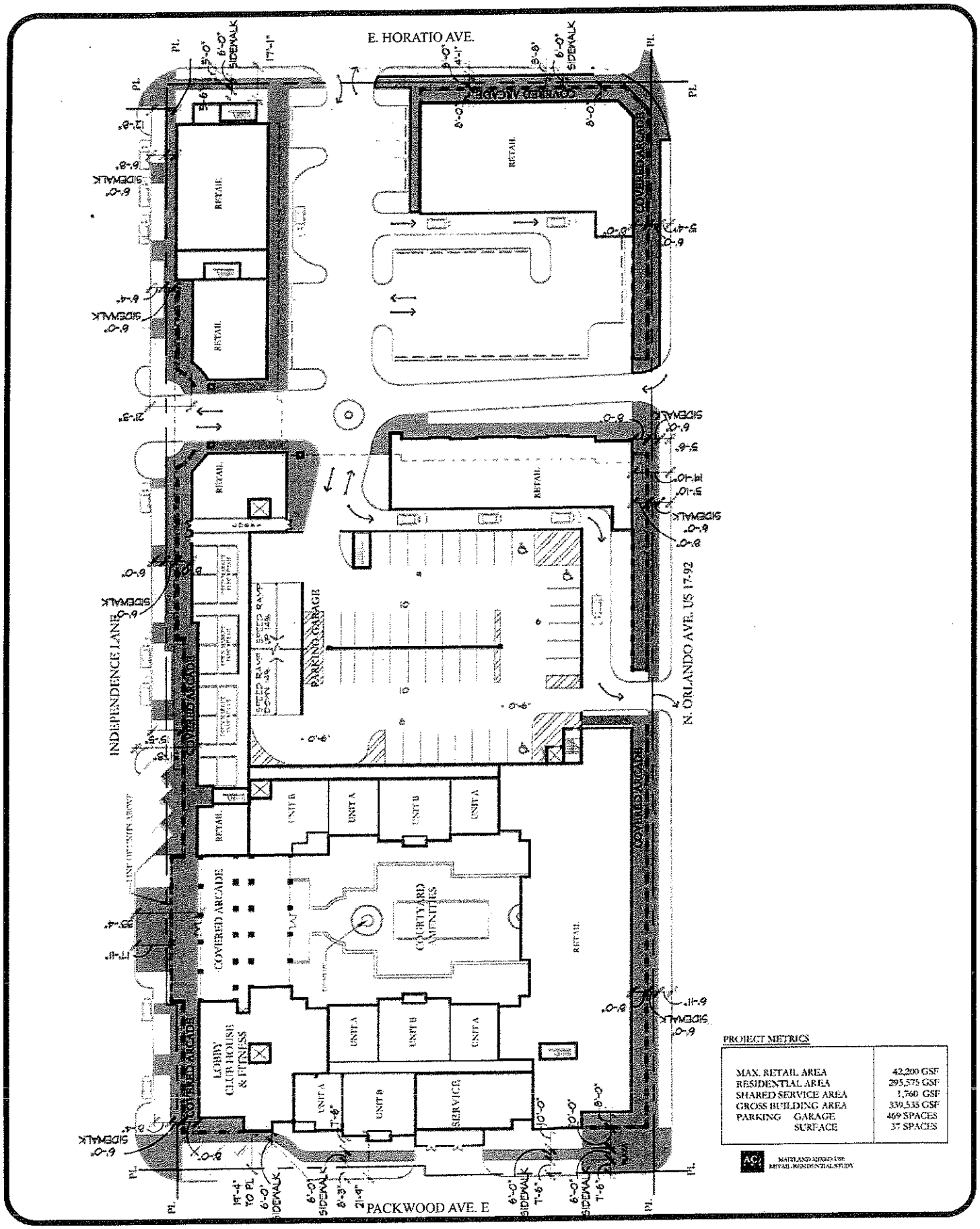
The trip generation of proposed development will be calculated with the use of the trip generation data from the 9th Edition of the *ITE Trip Generation Manual.* This calculation is summarized in **Table 1** which also shows the trip generation of the existing shopping center. The trip generation of the old Winn-Dixie store, now vacant, is not included in the calculation. The site's retail commercial component as proposed no longer fits ITE's shopping center land use code. Therefore, the Specialty Retail land use code, which contains a variety of retail shops including restaurants, was used.



Maitland City Center
Project № 4568
Figure 1

Existing Site Layout

N
NTS



Maitland City Center
Project № 4568
Figure 2

Conceptual First Floor Plan

N
NTS

Table 1
Trip Generation Calculation Summary

Proposed Development

ITE Code	Land Use	Size*	Daily Trips		A.M. Peak Hour Generation				P.M. Peak Hour Generation			
			Rate	Trips	Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
220	Apartment	220 DU	6.65	1,463	0.51	22	90	112	0.62	88	48	136
230	Live-In/live-Work**	30 DU	5.81	174	0.44	2	11	13	0.52	11	5	16
710	Live-in Office/Conference Space	6 KSF	11.03	66	1.56	7	2	9	1.49	2	7	9
826	Specialty Retail	42 KSF	43.67	1,834	0.75	20	12	32	2.91	54	68	122
	Total Trips		--	3,537	--	51	115	166	--	155	128	283
	Retail Pass-by Trips (34%)***		--	536	--	6	3	9	--	16	20	36
	Internal Trips (14%)		---	495	--	7	16	23	---	21	17	38
	Transit Trips (10%)		--	354	--	5	12	17	--	15	12	27
	Proposed Net New Trips		--	2,152	--	33	84	117	--	103	79	182

Existing Development

ITE Code	Land Use	Size*	Daily Trips		A.M. Peak Hour Generation				P.M. Peak Hour Generation			
			Rate	Trips	Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
820	Retail/Traditions Plaza	18.264 KSF	123.14	2,249	3.01	34	21	55	10.51	92	100	192
	Total Trips		--	2,249	--	34	21	55	--	92	100	192
	Retail Pass-by Trips (63%)		--	1,417		22	13	35	--	34	37	71
	Existing Net New Trips		--	832	--	12	8	20	--	58	63	121
	Trip Increase Due to Redevelopment		**----**	**1,417**	**----**	**21**	**76**	**97**	**----**	**45**	**16**	**61**

* *DU = Dwelling Unit, KSF = Thousand Square Feet*
** *ITE does not have data for this type of residential use. Therefore, residential condominium rates were used.*
*** *Applied to external trips*

As a mixed-use development, the project will generate internal trips which were estimated with the use of RFDOT's TIPS program. Due to the existing Lynx bus service and the proximity of the Sun Rail station, an estimated 10% of the total trips would be transit trips. The ITE trip generation sheets and TIPS summary worksheet are attached.

The Maitland City Centre redevelopment project will generate 2,152 new net daily trips, 117 new net A.M. peak hour trips and 182 P.M. peak hour trips. Because of existing development on the site, its trip generation will increase by 1,147 new net daily trips, 97 A.M. peak hour trips and 61 P.M. hour trips.

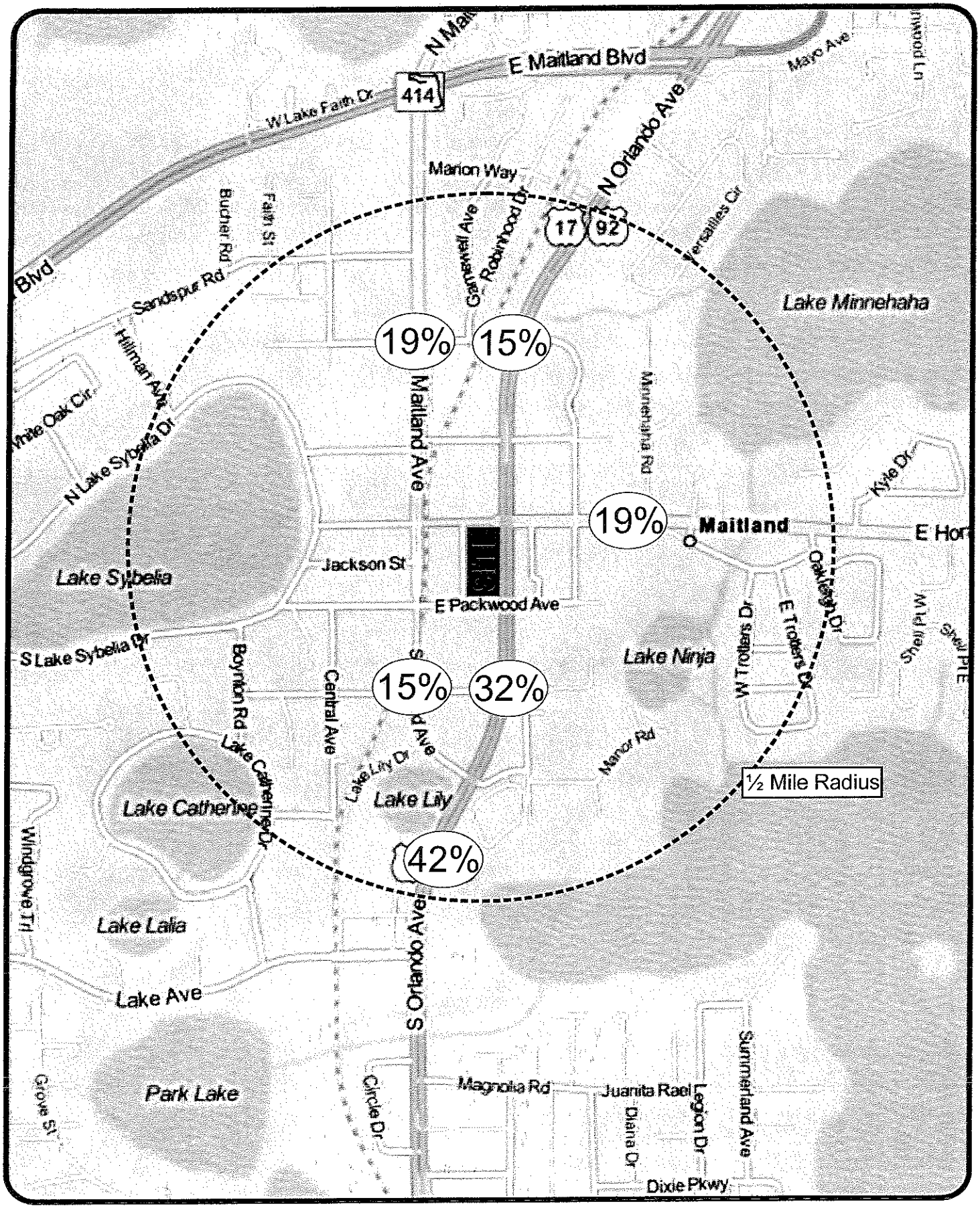
Trip Distribution

The trip distribution for the proposed development will be based upon the Orlando Urban Area Transportation Study (OUATS) Model. With the use of this model, a distribution pattern on the major roadways converging upon the site was determined as shown in **Figure 3**. This distribution pattern will be used to assign trips to the adjacent roadway/access connections based upon the site's accessibility and traffic controls. The model distribution plots are attached.

Study Area

The roadways within the site's one-half mile sphere of influence will be included in the analysis. This will include segments of US 17-92, Horatio Avenue and Maitland Avenue. These roadway segments and the following intersections will be included in the analysis:

- US 17-92 and Horatio Avenue
- US 17-92 and Packwood Avenue
- US 17-92 and Maitland Avenue
- Horatio Avenue and Independence Lane
- Packwood Avenue and Independence Lane
- Horatio Avenue and Maitland Avenue
- Maitland Avenue and Packwood Avenue
- Site Access Driveways



Maitland City Center
Project № 4568
Figure 3

Project Distribution

N
NTS

Traffic Impact Assessment

To assess the impact of the project traffic on the study roadways/intersections, the following steps will be followed in the analysis:

Roadways

- Determine background traffic volumes on impacted roadways based upon historical growth trend of daily volumes. A minimum annual growth 1% will be used to estimate the background traffic volumes for the project's buildout year.
- Combine project traffic with background traffic to obtain total traffic flows. In the assignment of project's trips to the proposed access driveways, the project's total trip generation will be used without discounting for the trip generation of the existing uses.
- Perform traffic analysis utilizing FDOT Level of Service Standards/Guidelines consistent with the City's Comprehensive Plan.

Intersections

- Conduct intersection counts during the A.M. and P.M. peak periods at the study intersections.
- Expand existing traffic counts to the project's buildout year using growth factors based upon historical traffic volume data.
- Combine project traffic with background traffic to obtain total traffic.
- Perform intersection capacity analysis utilizing the latest HCM/HCS operational analysis procedures for the A.M./P.M. peak hours.

Traffic Report

A traffic report will be prepared summarizing study procedures, analyses and recommendations.

cc: Verl Emrick
Sara Blanchard
Dick Wells
Emma Maury

Attachments

Apartment
(220)

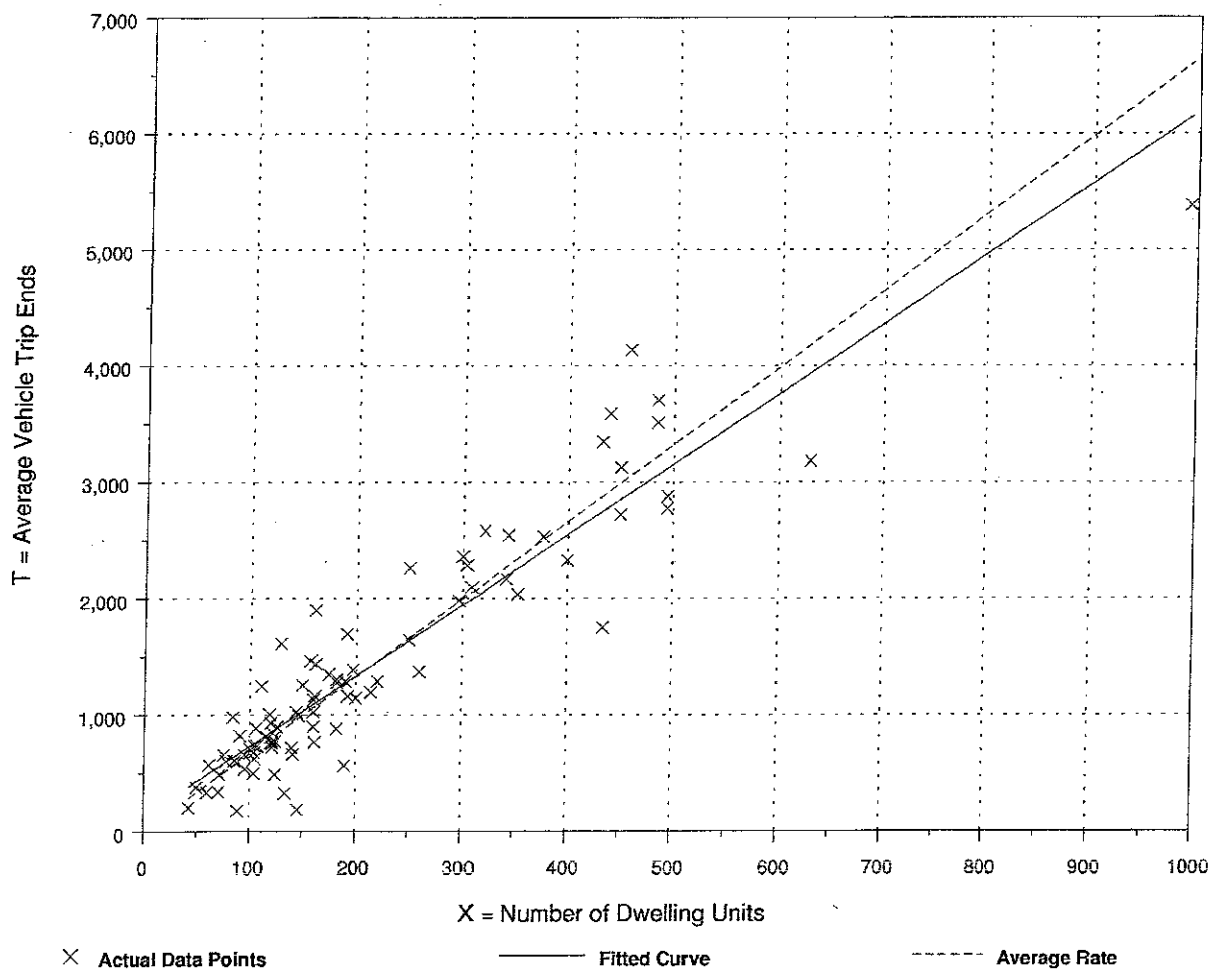
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 88
Avg. Number of Dwelling Units: 210
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.65	1.27 - 12.50	3.07

Data Plot and Equation



Fitted Curve Equation: T = 6.06(X) + 123.56 $R^2 = 0.87$

Apartment
(220)

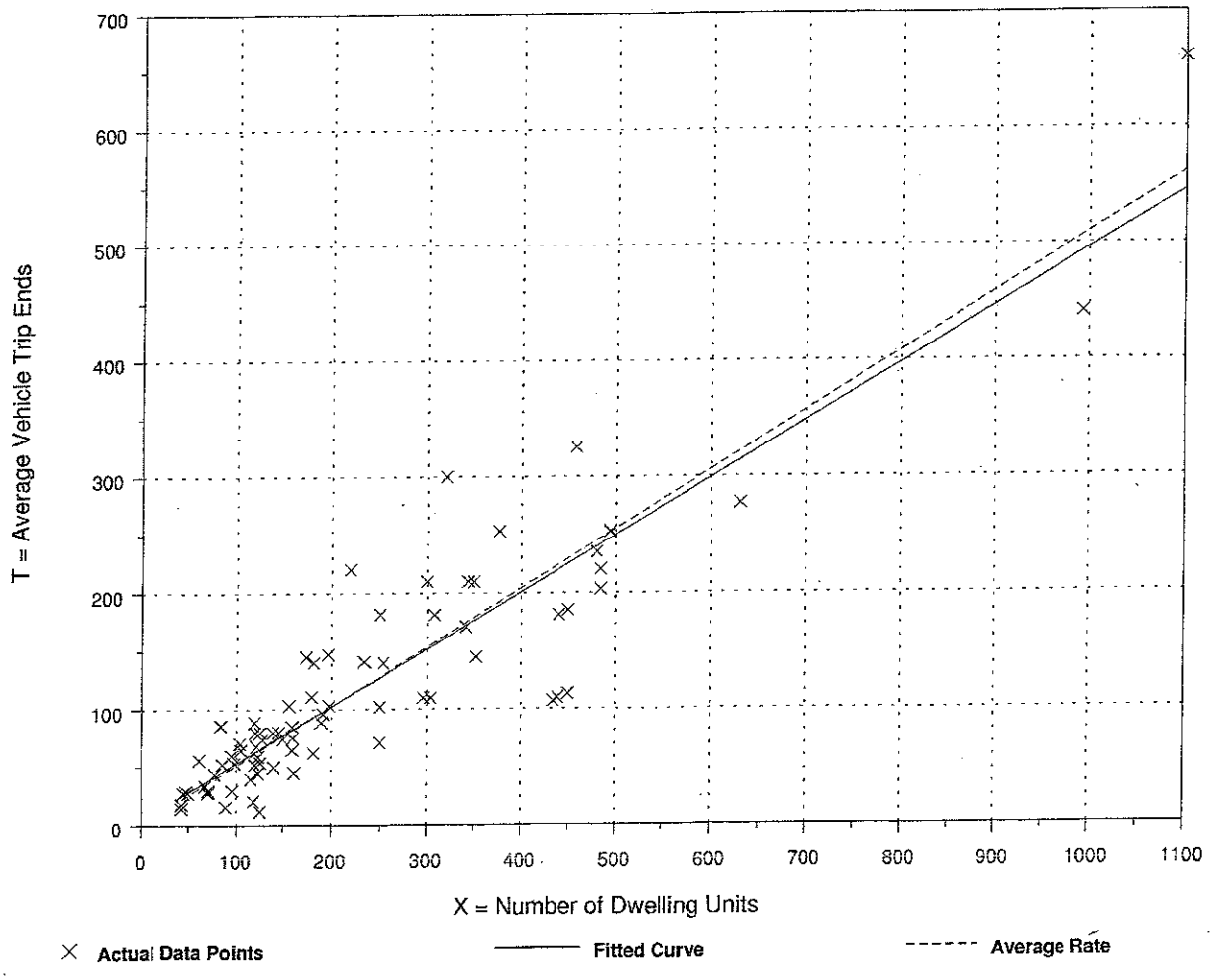
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 78
Avg. Number of Dwelling Units: 235
Directional Distribution: 20% entering, 80% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.10 - 1.02	0.73

Data Plot and Equation



Fitted Curve Equation: T = 0.49(X) + 3.73

R^2 = 0.83

Apartment
(220)

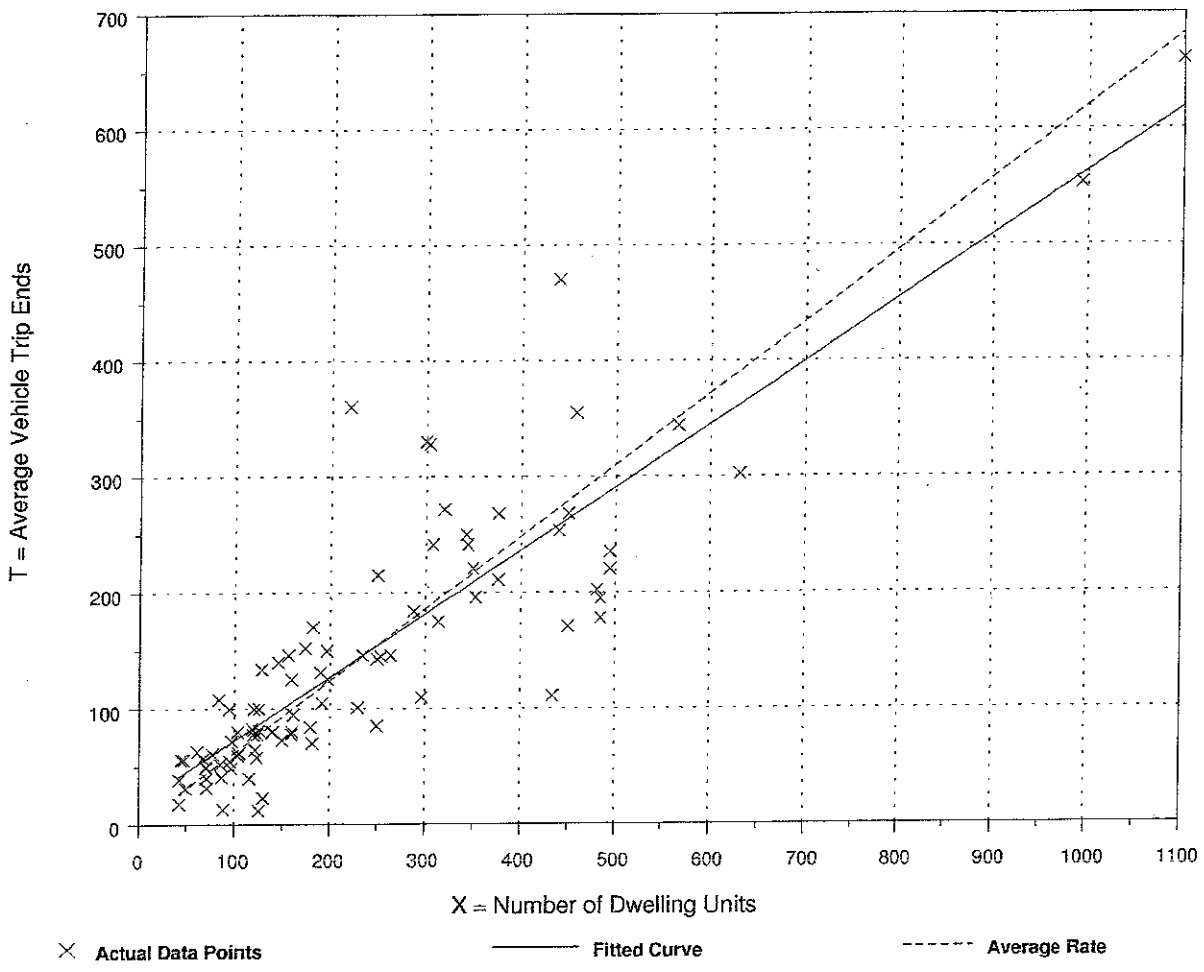
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 90
Avg. Number of Dwelling Units: 233
Directional Distribution: 65% entering, 35% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.62	0.10 - 1.64	0.82

Data Plot and Equation



Fitted Curve Equation: T = 0.55(X) + 17.65

$R^2 = 0.77$

Residential Condominium/Townhouse
(230)

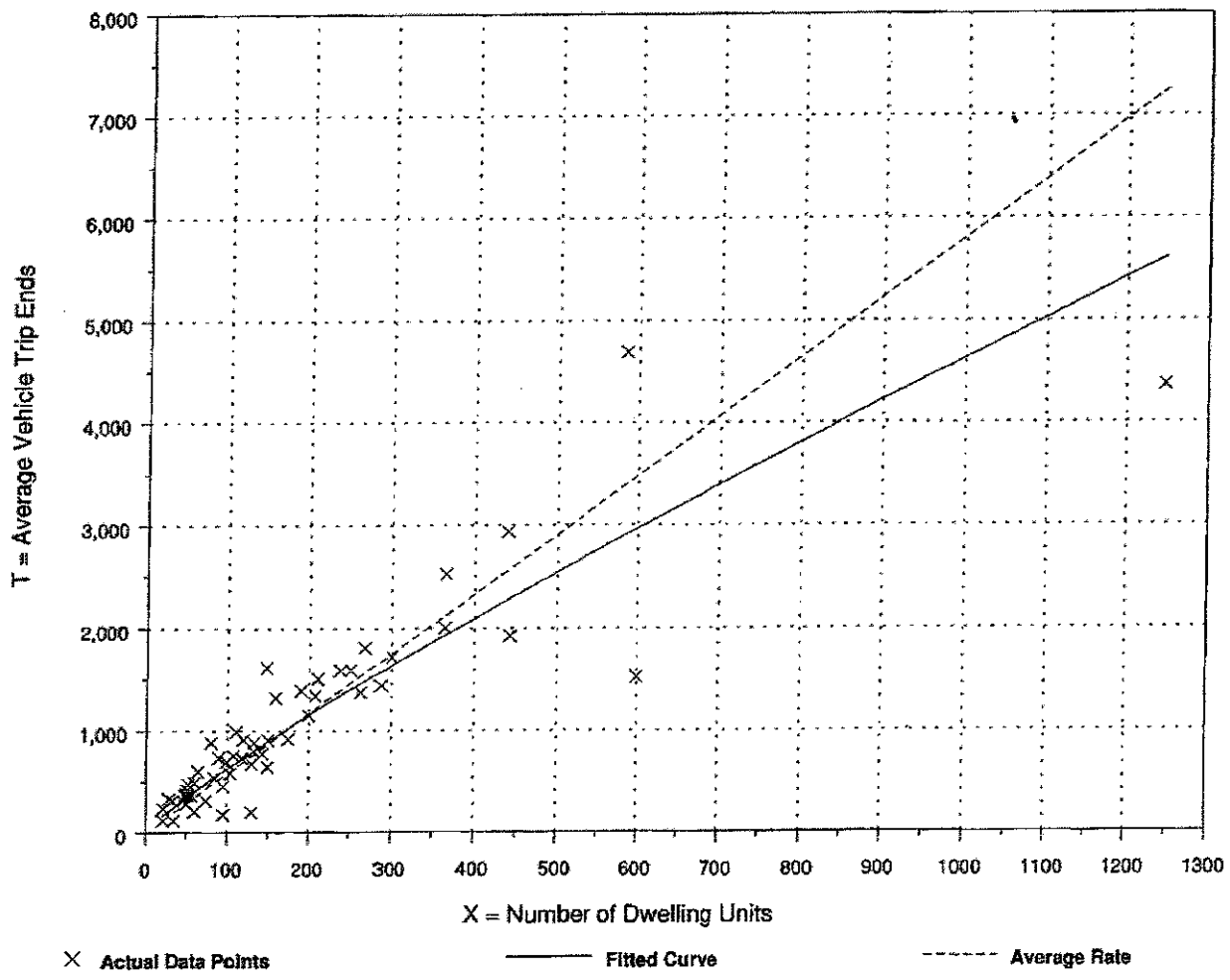
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 56
Avg. Number of Dwelling Units: 179
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.81	1.53 - 11.79	3.11

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.87 Ln(X) + 2.46

R^2 = 0.80

Residential Condominium/Townhouse
(230)

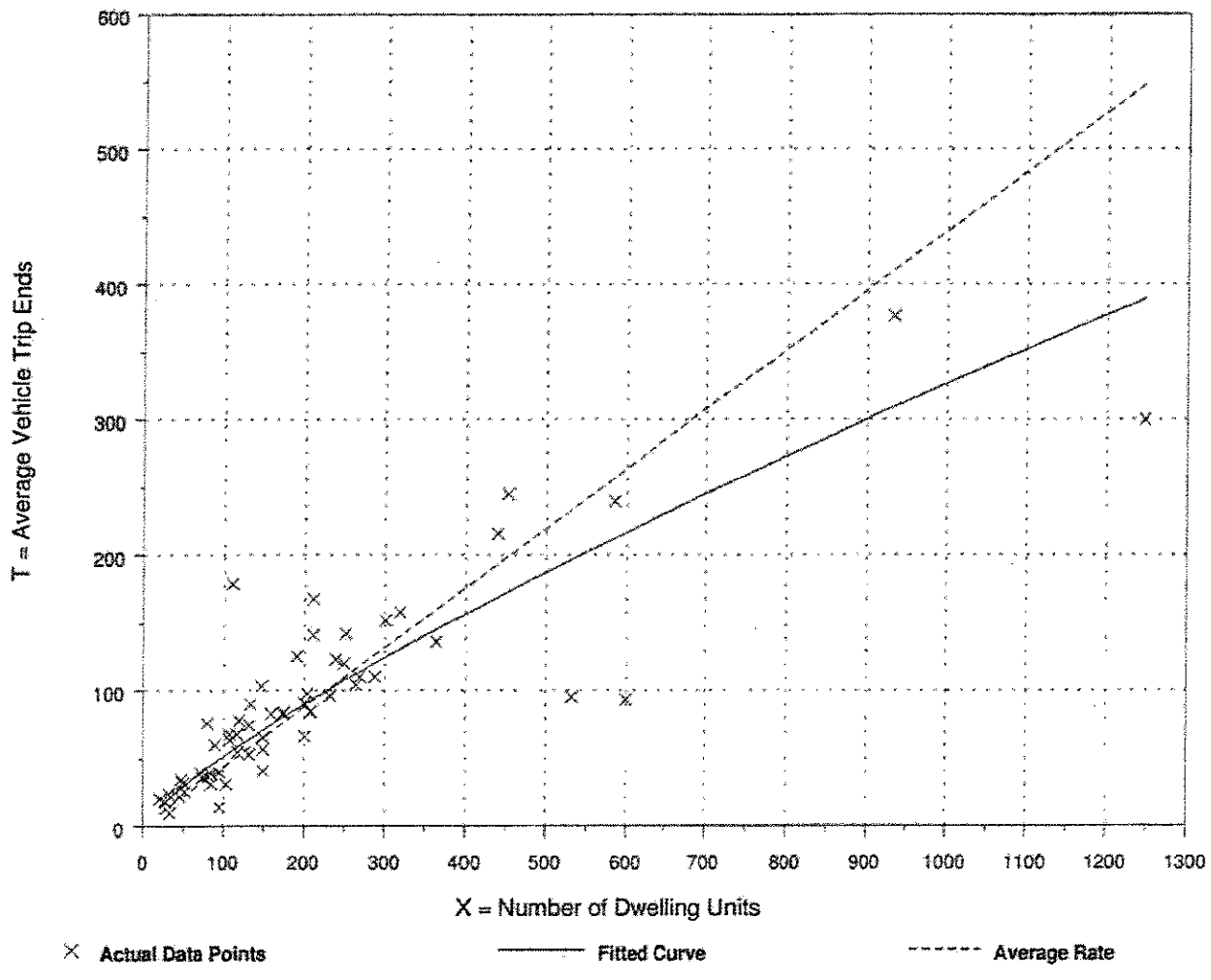
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 59
Avg. Number of Dwelling Units: 213
Directional Distribution: 17% entering, 83% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.61	0.69

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.80 Ln(X) + 0.26 $R^2 = 0.76$

Residential Condominium/Townhouse
(230)

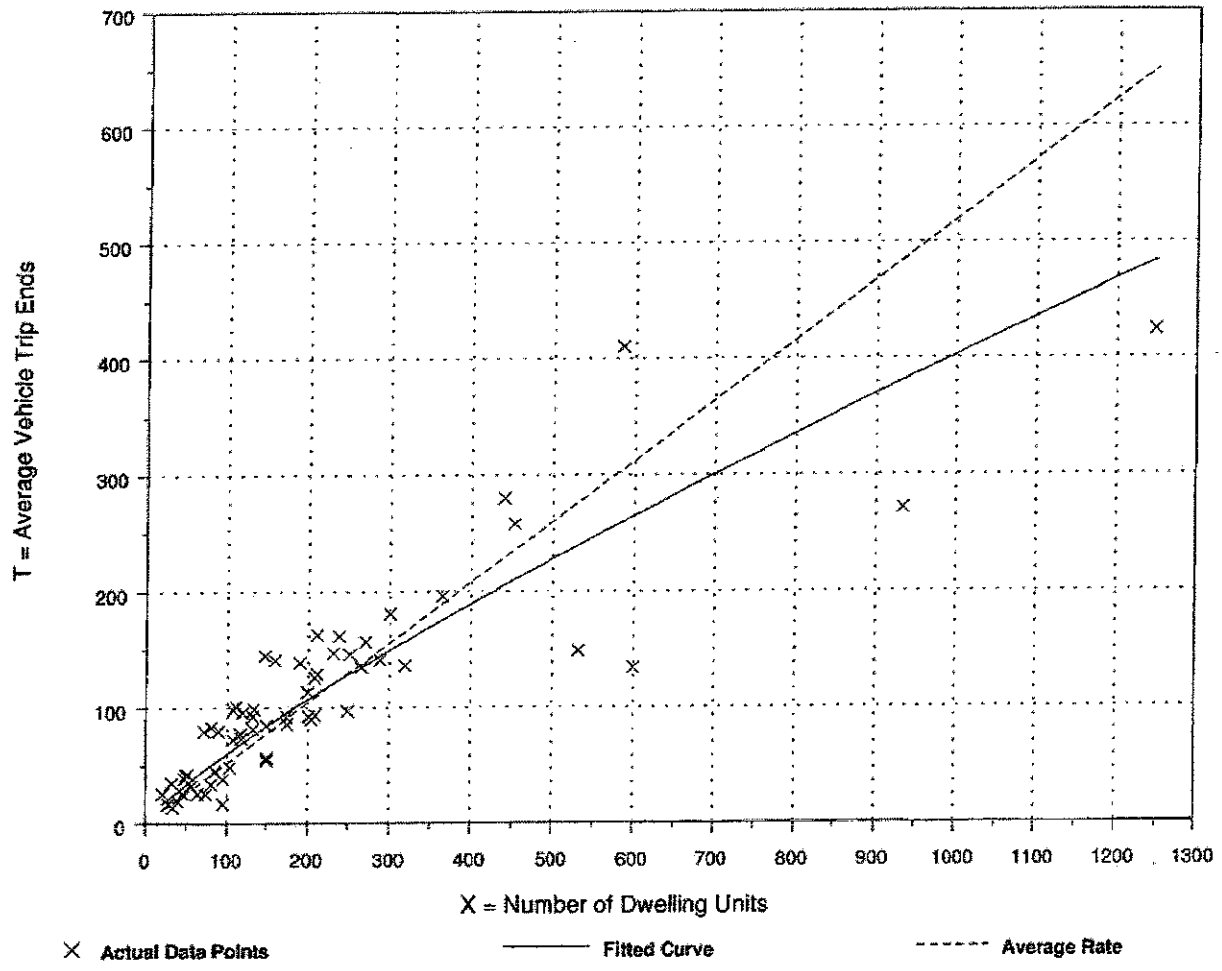
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 62
Avg. Number of Dwelling Units: 205
Directional Distribution: 67% entering, 33% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.18 - 1.24	0.75

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.82 Ln(X) + 0.32

R^2 = 0.80

General Office Building
(710)

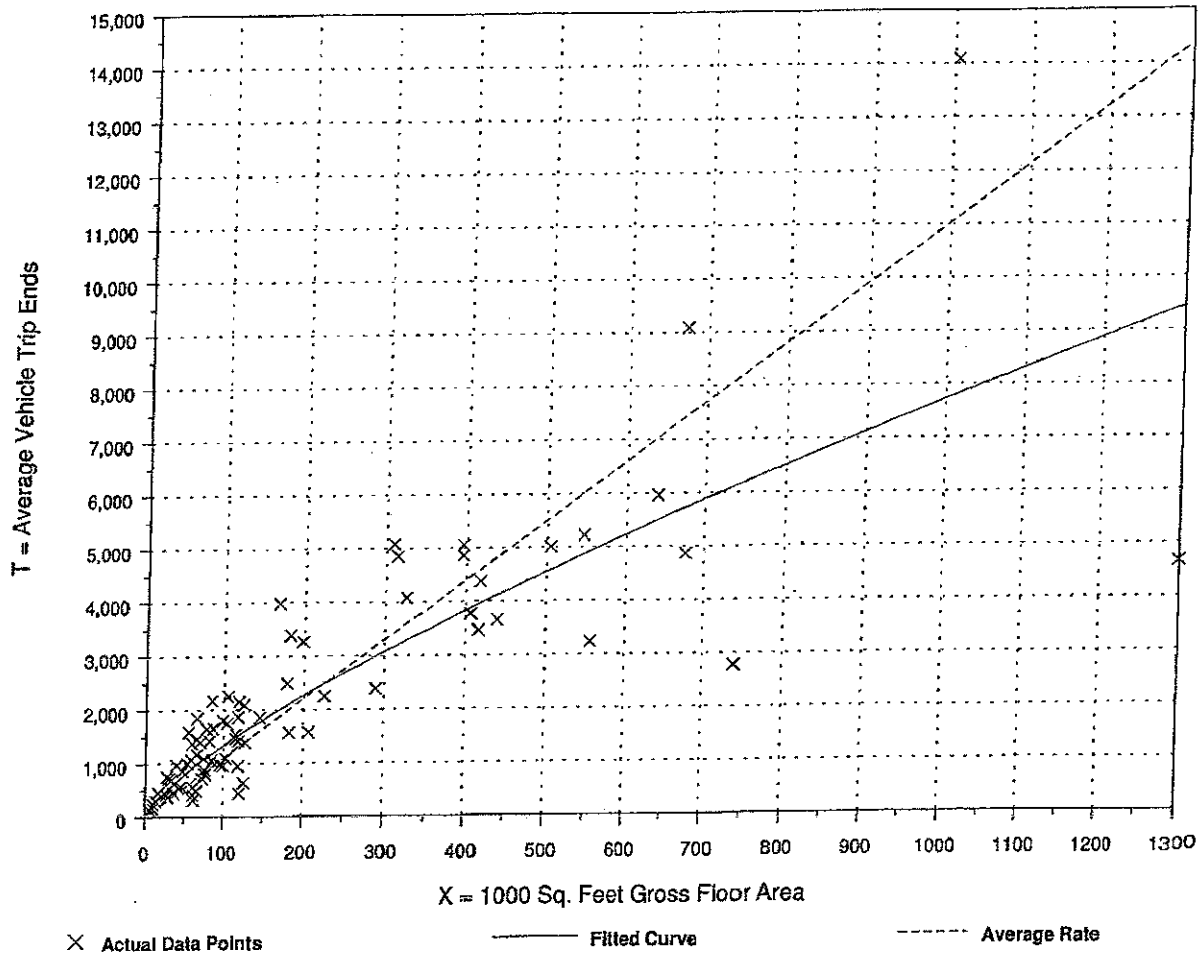
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday

Number of Studies: 79
Average 1000 Sq. Feet GFA: 197
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
11.03	3.58 - 28.80	6.15

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.76 Ln(X) + 3.68

R^2 = 0.81

General Office Building
(710)

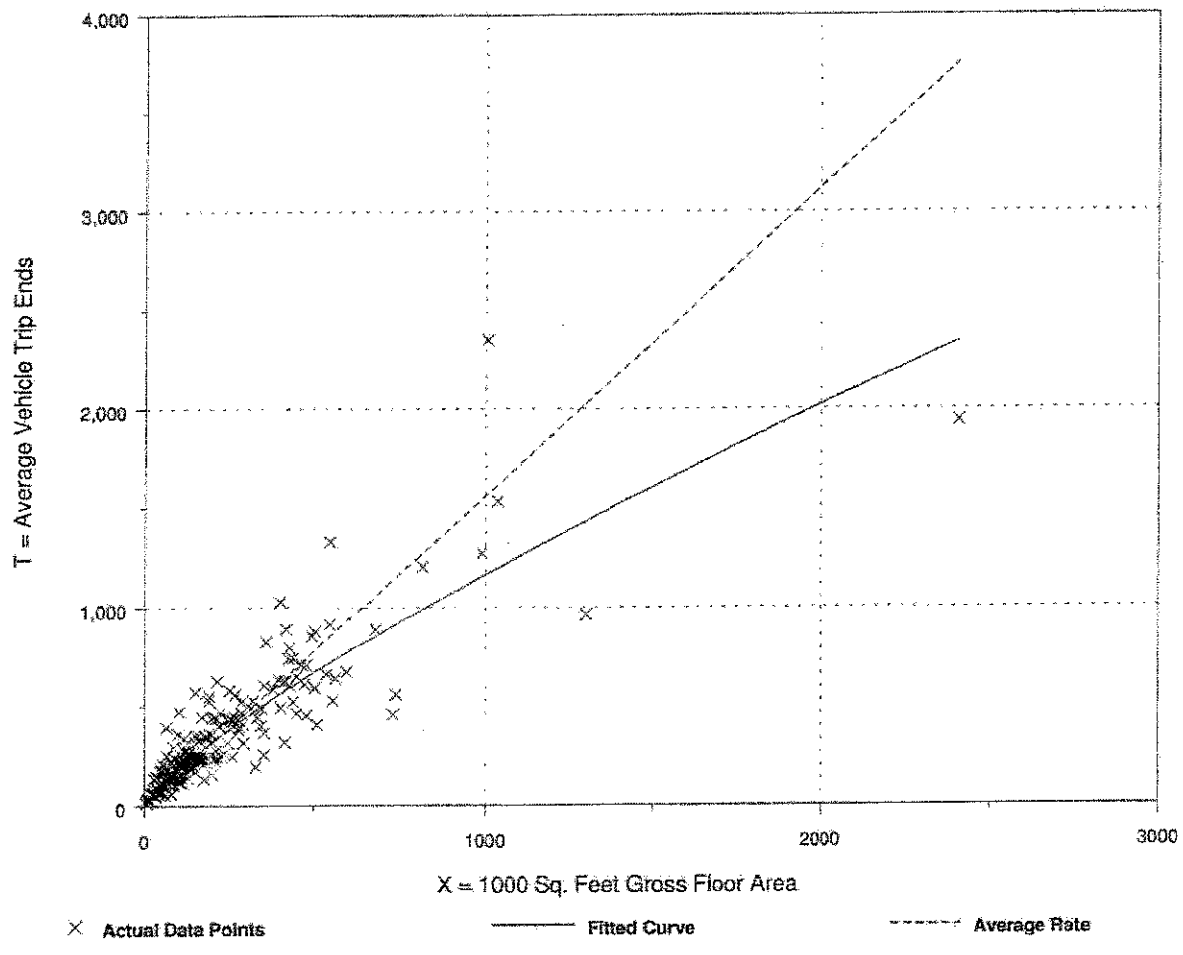
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
A.M. Peak Hour

Number of Studies: 218
Average 1000 Sq. Feet GFA: 222
Directional Distribution: 88% entering, 12% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
1.56	0.60 - 5.98	1.40

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.80 Ln(X) + 1.57 $R^2 = 0.83$

General Office Building
(710)

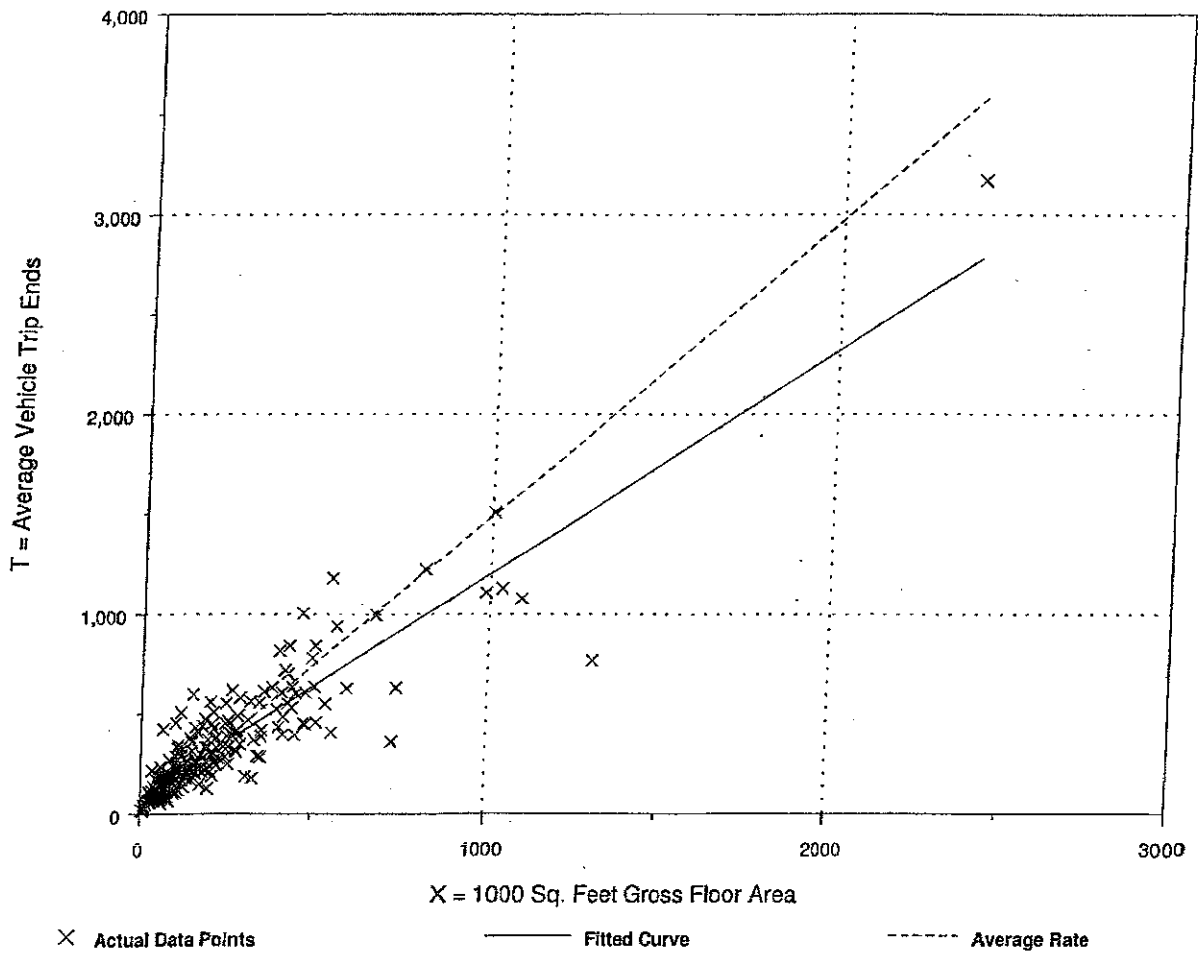
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
P.M. Peak Hour

Number of Studies: 236
Average 1000 Sq. Feet GFA: 215
Directional Distribution: 17% entering, 83% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
1.49	0.49 - 6.39	1.37

Data Plot and Equation



Fitted Curve Equation: T = 1.12(X) + 78.45 $R^2 = 0.82$

Shopping Center
(820)

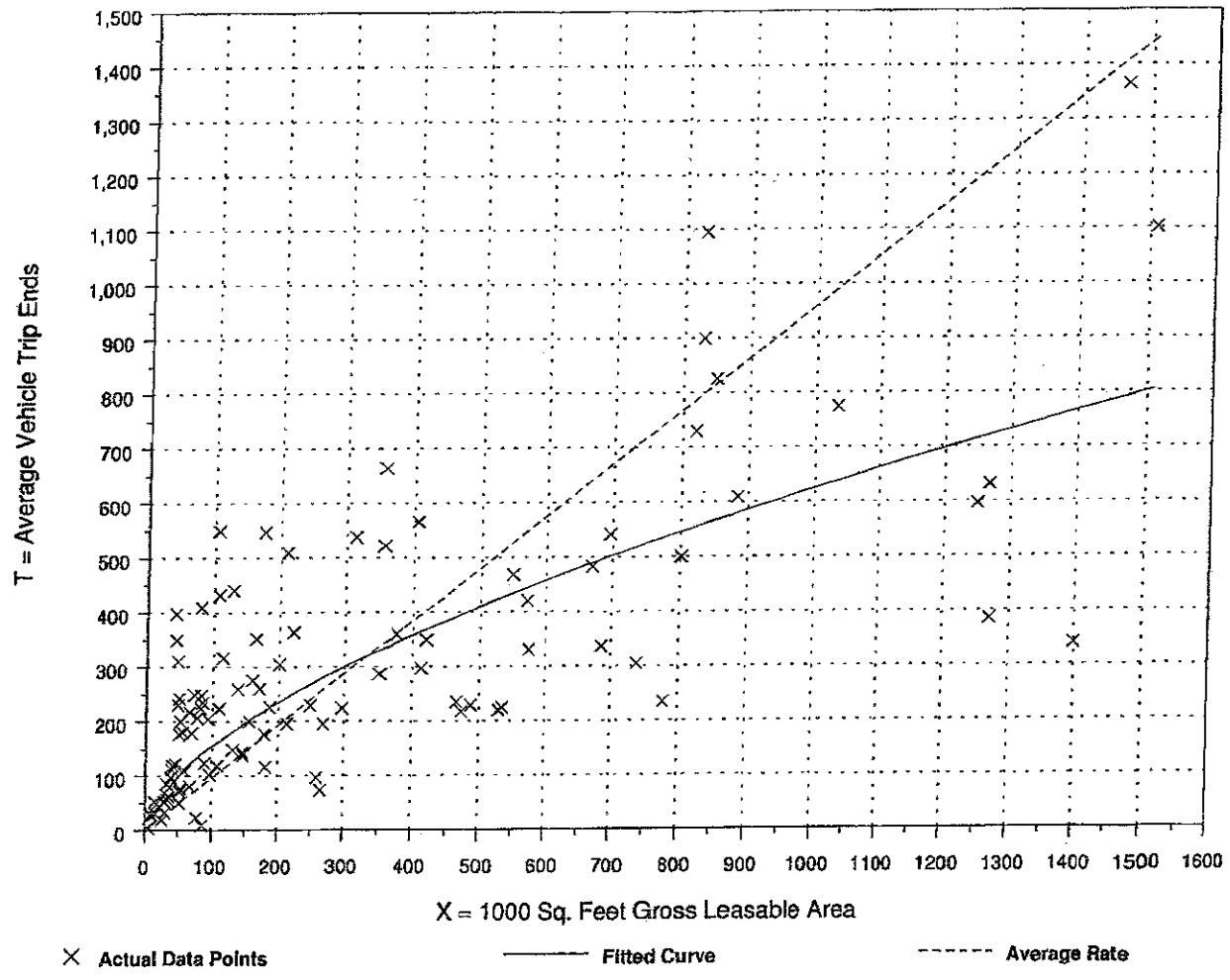
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 104
Average 1000 Sq. Feet GLA: 310
Directional Distribution: 62% entering, 38% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
0.96	0.10 - 9.05	1.31

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.61 Ln(X) + 2.24

R^2 = 0.56

Specialty Retail Center
(826)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday

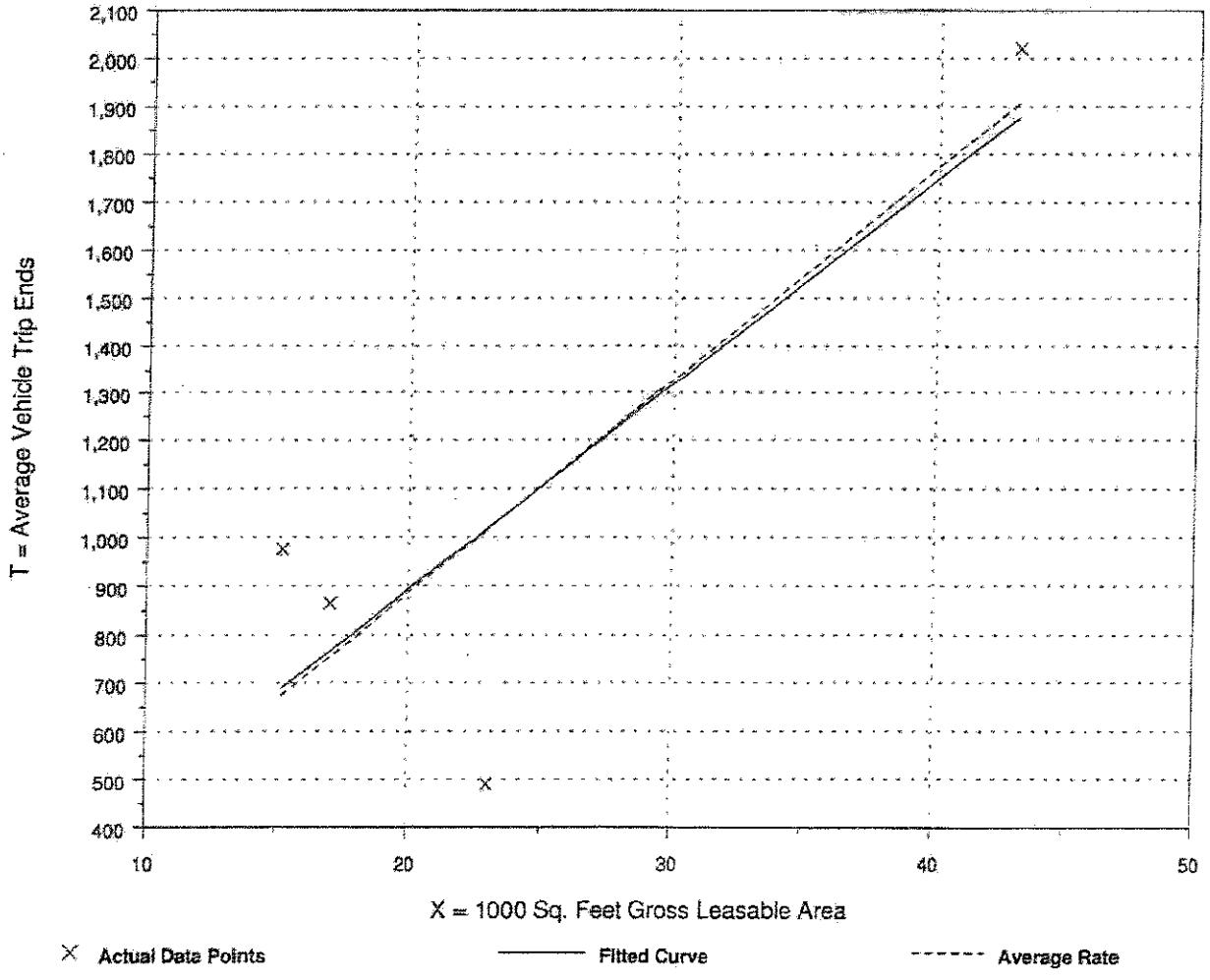
Number of Studies: 4
Average 1000 Sq. Feet GLA: 25
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
44.32	21.30 - 64.21	15.52

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: T = 42.78(X) + 37.66

$R^2 = 0.69$

Specialty Retail Center
(826)

Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Leasable Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

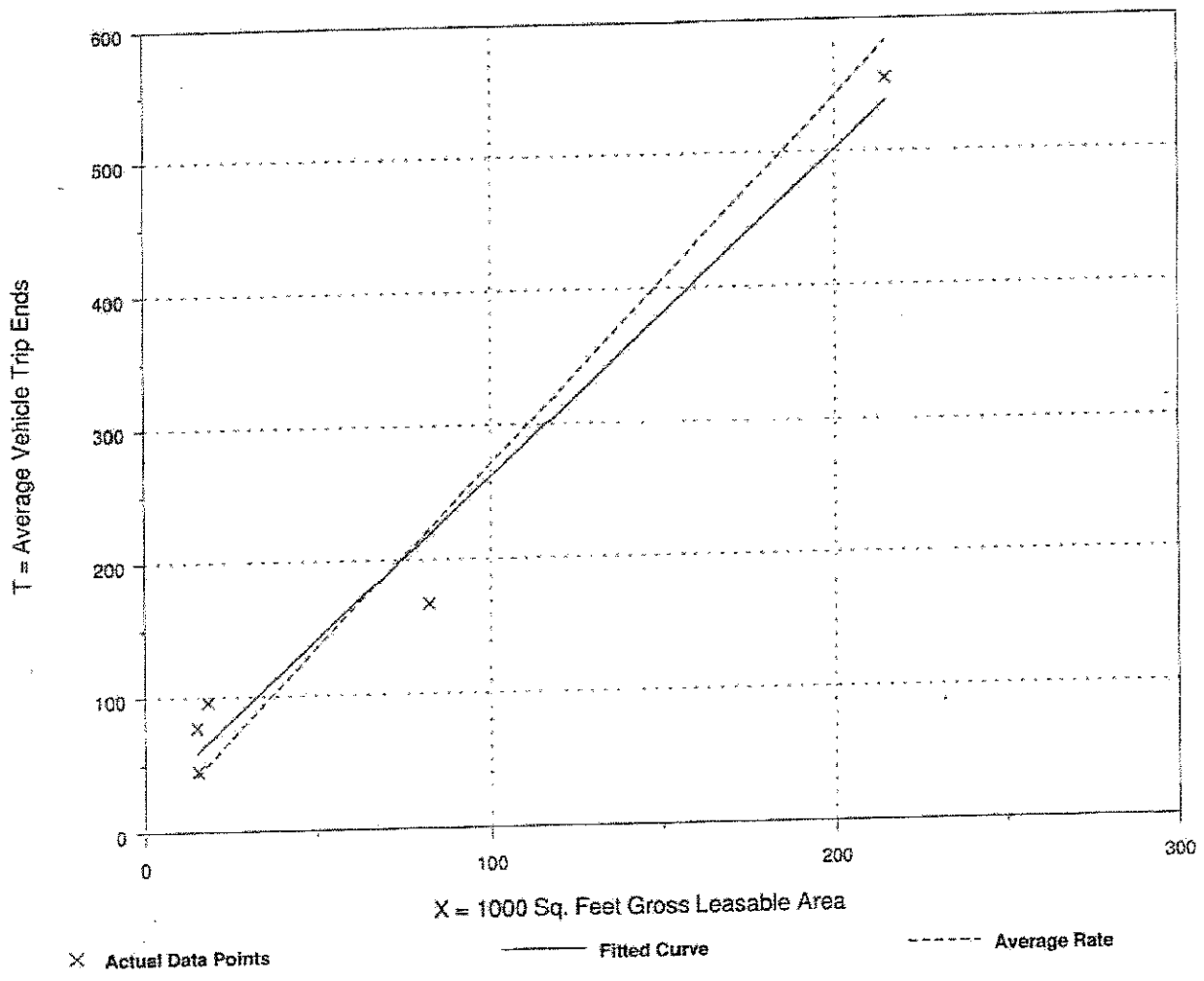
Number of Studies: 5
Average 1000 Sq. Feet GLA: 69
Directional Distribution: 44% entering, 56% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
2.71	2.03 - 5.16	1.83

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: T = 2.40(X) + 21.48

$R^2 = 0.98$

Shopping Center
(820)

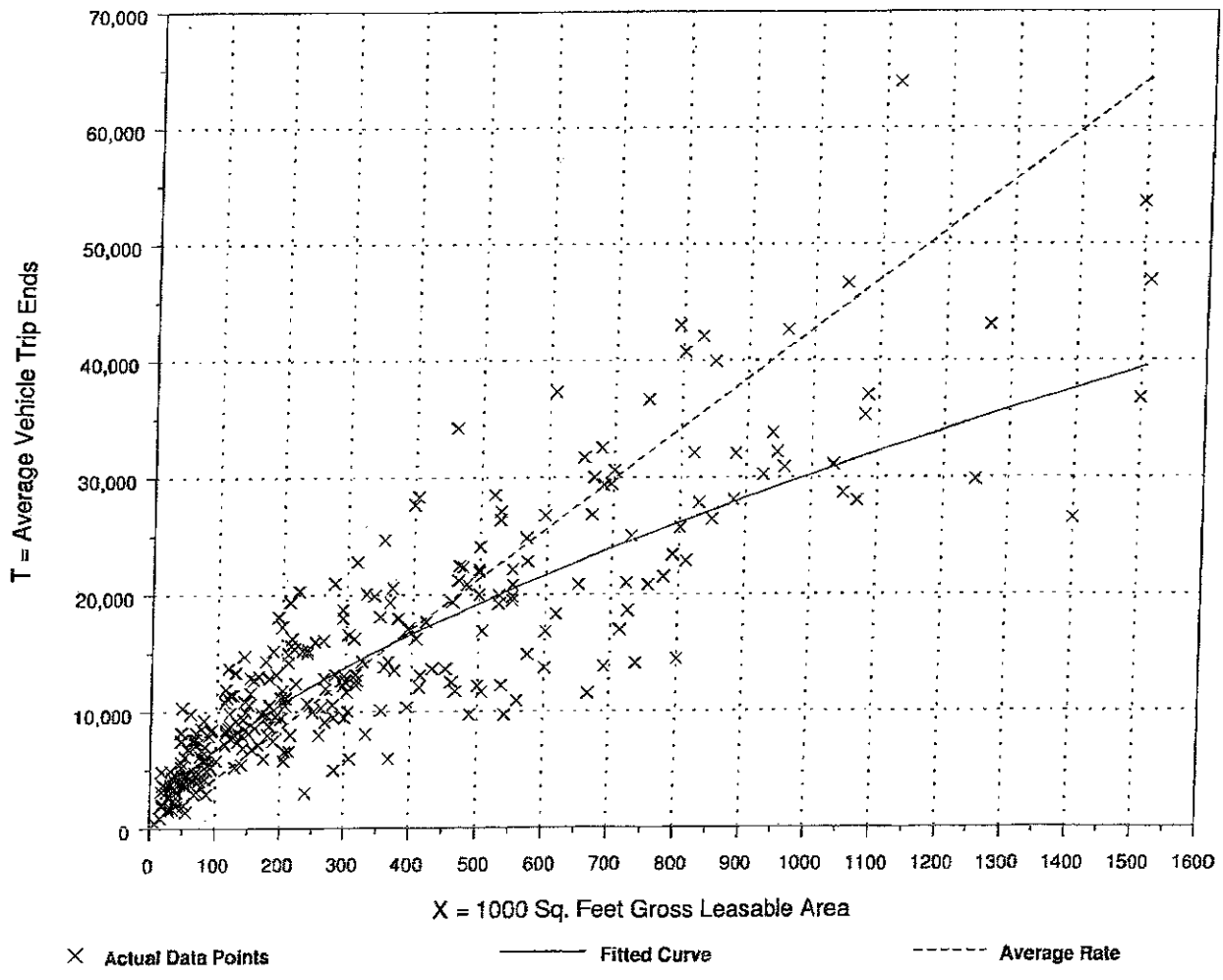
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday

Number of Studies: 302
Average 1000 Sq. Feet GLA: 331
Directional Distribution: 50% entering, 50% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
42.70	12.50 - 270.89	21.25

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.65 Ln(X) + 5.83 $R^2 = 0.79$

Shopping Center
(820)

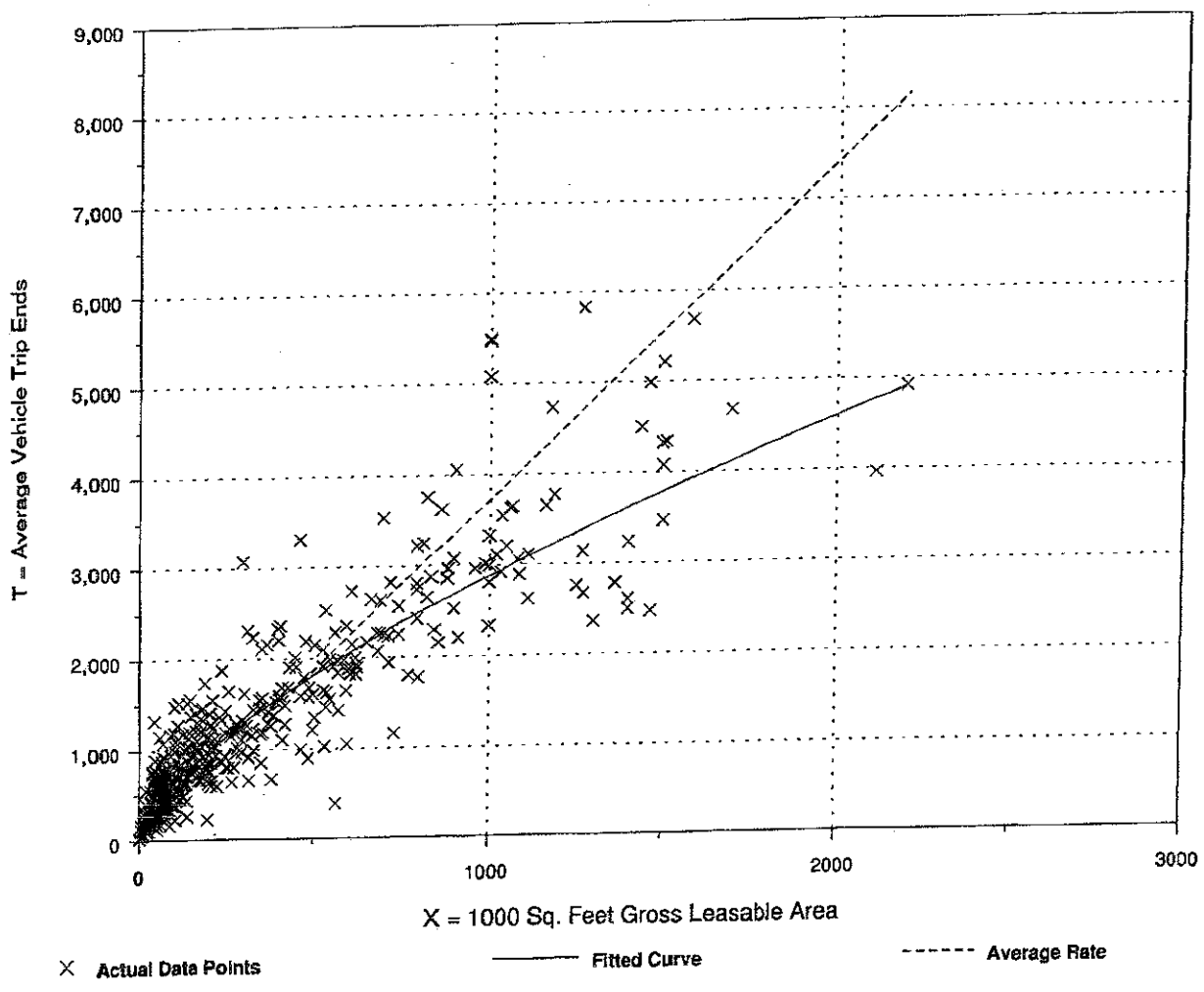
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Leasable Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 426
Average 1000 Sq. Feet GLA: 376
Directional Distribution: 48% entering, 52% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
3.71	0.68 - 29.27	2.74

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.67 Ln(X) + 3.31

R^2 = 0.81

TIPS Site Summary Worksheet

Site Information

Name of Development	4568 - Maitland City Center
Name of Applicant	TPD
Name of Analyst	MJA
Date	08/26/14
Development Phase	
Analysis Year	2014

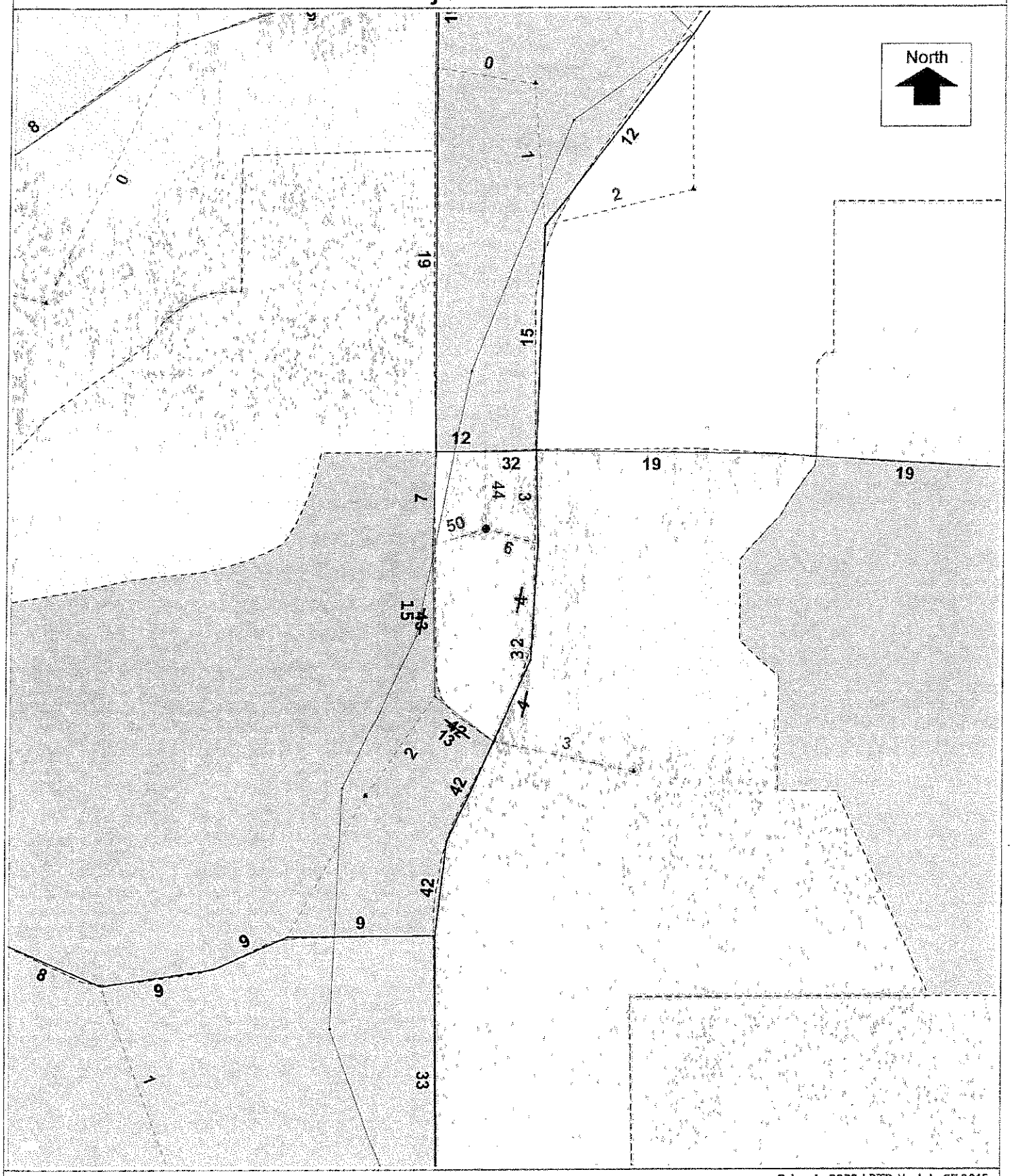
Adjacent Highways Passby Information

North/ South Roadway	
North/ South PM Peak Hour Volume	
East/ West Roadway	
East/ West PM Peak Hour Volume	

ITE Code	Land Type	# Units	Independent Variable	Total Single Use Trips	Trip Generation		IC Trips Based on IC Rate		Balanced IC Trips w/Reason Check		Total IC Trips	Real IC %	Trips on External Roadway		Total Trips	Result Pass By	Street Dir	MOD
					In	Out	In	Out	In	Out			In	Out				
230	Residential Condominium/Townhouse	30	dwelling units	16	11	5	3	3	3	3	6	38	8	2	10	-	N/S	
220	Apartments	250	dwelling units	155	101	54	10	7	10	7	17	11	91	47	138	-	N/S	
820	Shopping Center	42000	sq. feet gross leasable area	158	76	82	10	13	10	13	23	15	66	69	135	0	N/S	
	Total Volume			329			23	23	23	23	46	14%	165	118	283			

(indicates the land use was modified from the original rates.)*

Project Distribution



Orlando 2030 LRTP Model, CF 2015
TPD 4568

cube

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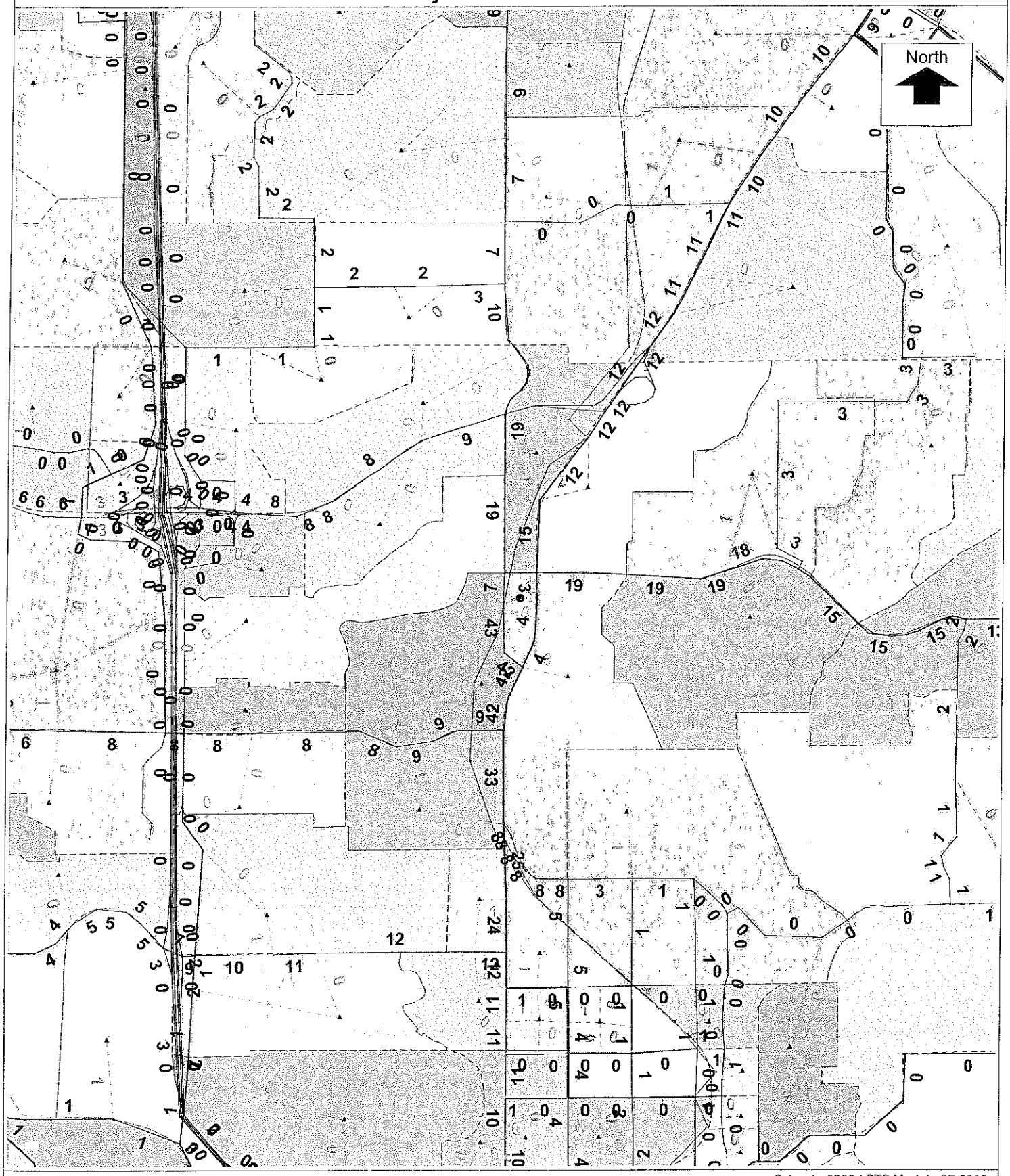
Project Distribution



Orlando 2030 LRTP Model, CF 2015
TPD 4568

cube

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APPENDIX B

Intersection Counts /
Seasonal Factors & Signal Timings

15 MINUTE TURNING MOVEMENT COUNTS

(Cars and Trucks)

DATE: September 23, 2014 (Tuesday)

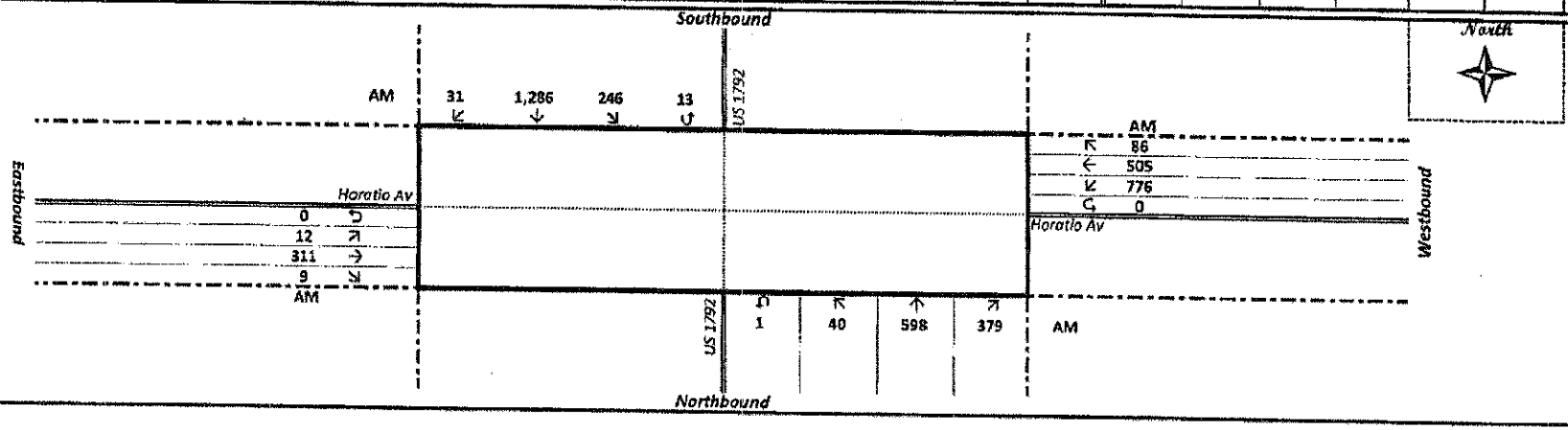
CITY: Maitland

LOCATION: US 1792 & Horatio Av

COUNTY: Orange

TIME BEGIN	US 1792 NORTHBOUND L	T	R	U-turn	TOTAL	US 1792 SOUTHBOUND L	T	R	U-turn	TOTAL	N/S TOTAL	Horatio Av EASTBOUND L	T	R	U-turn	TOTAL	Horatio Av WESTBOUND L	T	R	U-turn	TOTAL	E/W TOTAL	GRAND TOTAL
07:00 AM	3	62	51	0	116	46	281	2	1	330	446	3	68	2	0	73	160	75	13	0	248	321	767
07:15 AM	10	74	75	2	159	57	258	2	1	318	479	4	94	5	0	103	199	142	21	0	362	465	944
07:30 AM	9	125	72	0	206	36	293	4	2	335	541	3	74	1	0	78	190	123	14	0	327	405	946
07:45 AM	6	146	86	0	238	73	336	5	3	417	655	3	81	1	0	85	176	117	13	0	306	391	1,046
TOTAL	28	407	284	2	719	212	1,168	13	7	1,400	2,121	13	317	9	0	339	725	457	61	0	1,243	1,582	3,703
08:00 AM	10	129	96	0	235	51	285	5	3	344	579	1	81	3	0	85	214	132	30	0	376	461	1,040
08:15 AM	16	157	97	0	270	70	354	7	6	437	707	4	71	2	0	77	198	123	25	0	346	423	1,130
08:30 AM	8	166	100	1	274	52	311	14	1	378	653	4	78	3	0	85	188	133	18	0	339	424	1,077
08:45 AM	10	132	82	0	224	59	228	8	4	299	523	10	72	6	0	88	205	133	26	0	364	452	975
TOTAL	44	584	375	1	1,003	232	1,178	34	14	1,458	2,462	19	302	14	0	335	805	521	99	0	1,425	1,760	4,222
AM Peak 07:45 AM to 08:45 AM	40	598	379	1	1,017	246	1,286	31	13	1,576	2,594	12	311	9	0	332	776	505	86	0	1,367	1,699	4,293

Peak Hour Factor: 0.950



15 MINUTE TURNING MOVEMENT COUNTS

(Trucks Only)

DATE: September 23, 2014 (Tuesday) CITY: Maitland

LOCATION: US 1792 & Horatio Av COUNTY: Orange

TIME BEGIN	US 1792 NORTHBOUND L	T	R	U-turn	TOTAL	US 1792 SOUTHBOUND L	T	R	U-turn	TOTAL	N/S TOTAL	Horatio Av EASTBOUND L	T	R	U-turn	TOTAL	Horatio Av WESTBOUND L	T	R	U-turn	TOTAL	E/W TOTAL	GRAND TOTAL
07:00 AM	0	2	0	0	2	0	3	0	0	3	5	0	0	1	0	1	0	0	0	0	0	1	6
07:15 AM	1	2	3	0	6	0	1	0	0	1	7	0	3	0	0	3	2	0	0	0	2	5	12
07:30 AM	0	2	3	0	5	0	3	1	0	4	9	0	0	0	0	0	1	0	0	0	1	1	10
07:45 AM	1	2	1	0	4	1	2	0	0	3	7	0	0	0	0	0	1	1	0	0	2	2	9
TOTAL	2	8	7	0	17	1	9	1	0	11	28	0	3	1	0	4	4	1	0	0	5	9	37
08:00 AM	0	2	2	0	4	0	2	0	0	2	6	0	1	0	0	1	1	1	1	0	3	4	10
08:15 AM	0	2	2	0	4	0	2	0	0	2	6	0	1	0	0	1	1	2	0	0	3	4	10
08:30 AM	0	2	1	0	3	2	6	0	0	8	11	0	3	1	0	4	1	2	0	0	3	7	18
08:45 AM	0	2	2	0	4	1	2	0	0	3	7	0	0	0	0	0	2	1	0	0	3	3	10
TOTAL	0	8	7	0	15	3	12	0	0	15	30	0	5	1	0	6	5	6	1	0	12	18	48
AM Peak 07:45 AM to 08:45 AM	1	8	6	0	15	3	12	0	0	15	30	0	5	1	0	6	4	6	1	0	11	17	47

15 MINUTE TURNING MOVEMENT COUNTS RTOR

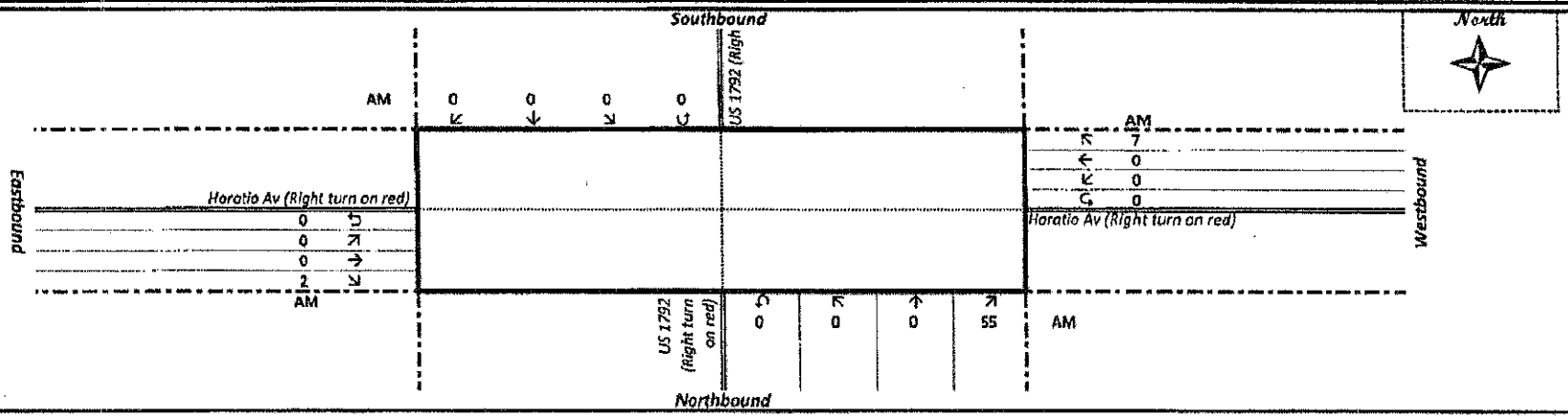
(Cars and Trucks)

DATE: September 23, 2014 (Tuesday) **CITY:** Maitland

LOCATION: US 1792 (Right turn on red) & Horatio Av (Right turn on red) **COUNTY:** Orange

TIME BEGIN	US 1792 (Right turn on red) NORTHBOUND L	T	R	U-turn	TOTAL	US 1792 (Right turn on red) SOUTHBOUND L	T	R	U-turn	TOTAL	N/S TOTAL	Horatio Av (Right turn on red) EASTBOUND L	T	R	U-turn	TOTAL	Horatio Av (Right turn on red) WESTBOUND L	T	R	U-turn	TOTAL	E/W TOTAL	GRAND TOTAL
07:00 AM	0	0	12	0	12	0	0	0	0	0	12	0	0	1	0	1	0	0	2	0	2	3	15
07:15 AM	0	0	3	0	3	0	0	0	0	0	3	0	0	1	0	1	0	0	1	0	1	2	5
07:30 AM	0	0	7	0	7	0	0	0	0	0	7	0	0	1	0	1	0	0	1	0	1	2	9
07:45 AM	0	0	7	0	7	0	0	0	0	0	7	0	0	1	0	1	0	0	1	0	1	2	9
TOTAL	0	0	29	0	29	0	0	0	0	0	29	0	0	4	0	4	0	0	5	0	5	9	38
08:00 AM	0	0	11	0	11	0	0	0	0	0	11	0	0	1	0	1	0	0	4	0	4	5	16
08:15 AM	0	0	11	0	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	11
08:30 AM	0	0	19	0	19	0	0	0	0	0	19	0	0	1	0	1	0	0	1	0	1	2	21
08:45 AM	0	0	14	0	14	0	0	0	0	0	14	0	0	0	0	0	0	0	2	0	2	2	16
TOTAL	0	0	55	0	55	0	0	0	0	0	55	0	0	2	0	2	0	0	7	0	7	9	64
AM Peak 08:00 AM to 09:00 AM	0	0	55	0	55	0	0	0	0	0	55	0	0	2	0	2	0	0	7	0	7	9	64

Peak Hour Factor: 0.762



15 MINUTE TURNING MOVEMENT COUNTS RTOR

(Trucks Only)

DATE: September 23, 2014 (Tuesday) CITY: Maitland

LOCATION: US 1792 (Right turn on red) & Horatio Av (Right turn on red) COUNTY: Orange

	US 1792 (Right turn on red)					US 1792 (Right turn on red)						Horatio Av (Right turn on red)					Horatio Av (Right turn on red)						
TIME	NORTHBOUND					SOUTHBOUND					N/S	EASTBOUND					WESTBOUND					E/W	GRAND
BEGIN	L	T	R	*U-turn*	TOTAL	L	T	R	*U-turn*	TOTAL	TOTAL	L	T	R	*U-turn*	TOTAL	L	T	R	*U-turn*	TOTAL	TOTAL	TOTAL
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Peak 08:00 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15 MINUTE TURNING MOVEMENT COUNTS

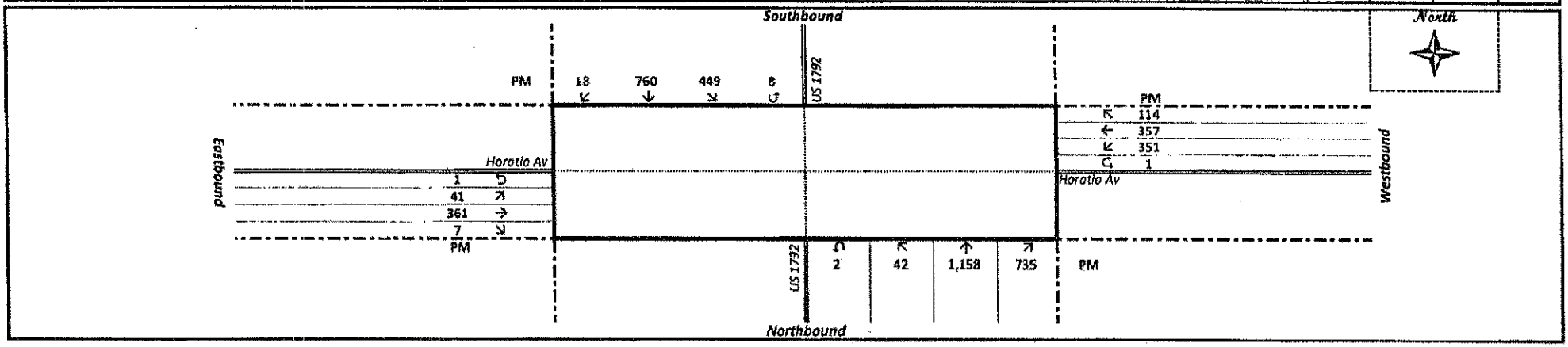
(Cars and Trucks)

DATE: September 23, 2014 (Tuesday) CITY: Maitland

LOCATION: US 1792 & Horatio Av COUNTY: Orange

TIME BEGIN	US 1792 NORTHBOUND L	T	R	U-turn	TOTAL	US 1792 SOUTHBOUND L	T	R	U-turn	TOTAL	N/S TOTAL	Horatio Av EASTBOUND L	T	R	U-turn	TOTAL	Horatio Av WESTBOUND L	T	R	U-turn	TOTAL	E/W TOTAL	GRAND TOTAL
04:00 PM	10	280	138	0	428	80	158	8	1	247	675	5	71	2	0	78	81	74	18	1	174	251	926
04:15 PM	5	201	158	0	364	102	132	9	4	247	611	8	95	3	0	106	104	79	22	1	206	311	922
04:30 PM	8	275	170	0	453	102	170	6	0	278	731	12	71	0	0	83	84	58	20	0	162	245	976
04:45 PM	11	220	166	1	397	107	121	5	6	239	637	12	88	4	0	104	99	87	25	1	212	315	952
TOTAL	34	976	632	1	1,642	391	581	28	11	1,011	2,654	37	325	9	0	371	368	298	85	3	754	1,122	3,776
05:00 PM	8	301	174	0	483	109	205	7	2	323	806	12	78	1	1	92	72	70	18	0	160	251	1,057
05:15 PM	10	278	186	1	474	109	185	5	1	300	775	17	106	3	0	126	98	90	34	0	222	348	1,123
05:30 PM	8	323	202	0	533	121	188	5	3	317	850	5	77	1	0	83	84	80	31	1	196	278	1,128
05:45 PM	16	256	173	1	445	110	182	1	2	295	741	7	100	2	0	109	97	117	31	0	245	354	1,095
TOTAL	42	1,158	735	2	1,935	449	760	18	8	1,235	3,172	41	361	7	1	410	351	357	114	1	823	1,231	4,403
PM Peak 05:00 PM to 06:00 PM	42	1,158	735	2	1,935	449	760	18	8	1,235	3,172	41	361	7	1	410	351	357	114	1	823	1,231	4,403

Peak Hour Factor: 0.976



15 MINUTE TURNING MOVEMENT COUNTS

(Trucks Only)

DATE: September 23, 2014 (Tuesday) CITY: Maitland

LOCATION: US 1792 & Horatio Av COUNTY: Orange

TIME BEGIN	US 1792 NORTHBOUND L	T	R	U-turn	TOTAL	US 1792 SOUTHBOUND L	T	R	U-turn	TOTAL	N/S TOTAL	Horatio Av EASTBOUND L	T	R	U-turn	TOTAL	Horatio Av WESTBOUND L	T	R	U-turn	TOTAL	E/W TOTAL	GRAND TOTAL
04:00 PM	0	1	3	0	4	0	1	0	0	1	5	0	1	0	0	1	3	1	1	0	5	6	11
04:15 PM	0	1	1	0	2	2	1	0	0	3	5	0	0	0	0	0	2	0	0	0	2	2	7
04:30 PM	0	2	3	0	5	1	1	0	0	2	7	0	1	0	0	1	1	0	0	0	1	2	9
04:45 PM	0	2	2	0	4	1	1	0	0	2	6	0	0	0	0	0	0	1	0	0	1	1	7
TOTAL	0	6	9	0	15	4	4	0	0	8	23	0	2	0	0	2	6	2	1	0	9	11	34
05:00 PM	0	1	2	0	3	0	2	0	0	2	5	0	0	0	0	0	0	0	0	0	0	0	5
05:15 PM	0	1	2	0	3	0	5	0	0	5	8	0	0	0	0	0	1	0	0	0	1	1	9
05:30 PM	0	3	0	0	3	0	1	0	0	1	4	1	0	0	0	1	0	0	0	0	0	1	5
05:45 PM	0	1	0	0	1	0	1	0	0	1	2	0	0	0	0	0	0	1	1	0	2	2	4
TOTAL	0	6	4	0	10	0	9	0	0	9	19	1	0	0	0	1	1	1	1	0	3	4	23
PM Peak 05:00 PM to 06:00 PM	0	6	4	0	10	0	9	0	0	9	19	1	0	0	0	1	1	1	1	0	3	4	23

15 MINUTE TURNING MOVEMENT COUNTS RTOR

(Cars and Trucks)

DATE: September 22, 2014 (Monday)

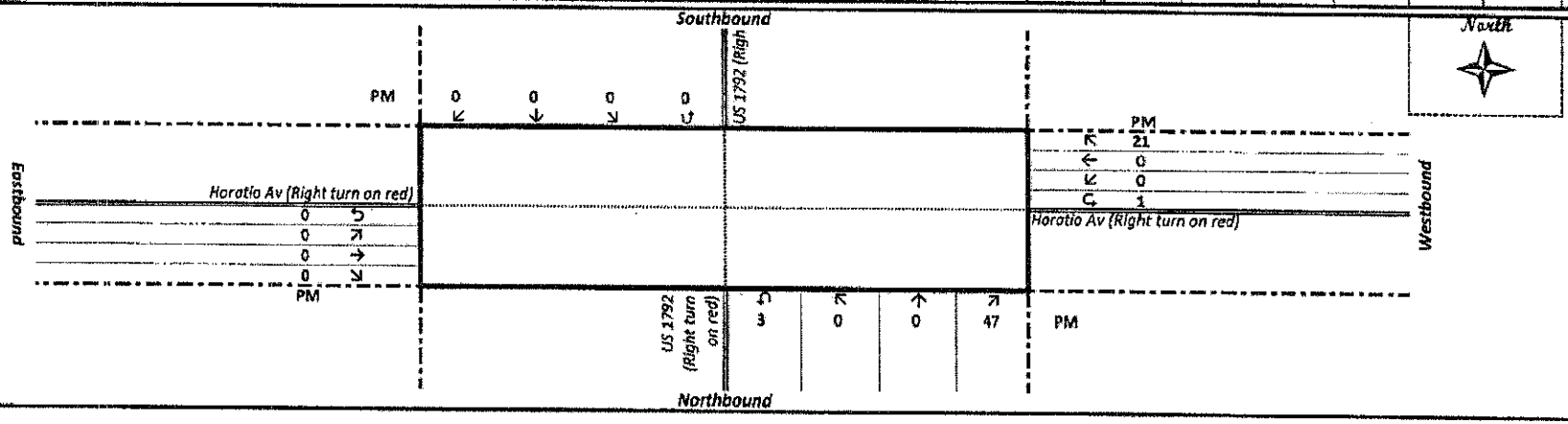
CITY: Maitland

LOCATION: US 1792 (Right turn on red) & Horatio Av (Right turn on red)

COUNTY: Orange

TIME BEGIN	NORTHBOUND					SOUTHBOUND					N/S	EASTBOUND					WESTBOUND					E/W	GRAND
	US 1792 (Right turn on red)					US 1792 (Right turn on red)						Horatio Av (Right turn on red)					Horatio Av (Right turn on red)						
	L	T	R	U-turn	TOTAL	L	T	R	U-turn	TOTAL	TOTAL	L	T	R	U-turn	TOTAL	L	T	R	U-turn	TOTAL	TOTAL	TOTAL
04:00 PM	0	0	19	0	19	0	0	1	0	1	20	0	0	0	0	0	0	0	10	1	11	10	30
04:15 PM	0	0	5	0	5	0	0	5	0	5	10	0	0	0	0	0	0	2	1	0	3	3	13
04:30 PM	0	0	7	0	7	0	0	2	0	2	9	0	0	1	0	1	0	0	4	0	4	5	14
04:45 PM	0	0	8	0	8	0	0	3	0	3	11	0	0	0	0	0	0	0	2	0	2	2	13
TOTAL	0	0	39	0	39	0	0	11	0	11	50	0	0	1	0	1	0	2	17	1	20	20	70
05:00 PM	0	0	9	0	9	0	0	0	0	0	9	0	0	0	0	0	0	0	4	0	4	4	13
05:15 PM	0	0	13	0	13	0	0	0	0	0	13	0	0	0	0	0	0	0	6	1	7	6	19
05:30 PM	0	0	11	0	11	0	0	0	0	0	11	0	0	0	0	0	0	0	6	0	6	6	17
05:45 PM	0	0	14	3	14	0	0	0	0	0	17	0	0	0	0	0	0	0	5	0	5	5	22
TOTAL	0	0	47	3	47	0	0	0	0	0	50	0	0	0	0	0	0	0	21	1	22	21	71
PM Peak 05:00 PM to 06:00 PM	0	0	47	3	47	0	0	0	0	0	50	0	0	0	0	0	0	0	21	1	22	21	71

Peak Hour Factor: 0.807



15 MINUTE TURNING MOVEMENT COUNTS RTOR

(Trucks Only)

DATE: September 22, 2014 (Monday) CITY: Maitland

LOCATION: US 1792 (Right turn on red) & Horatio Av (Right turn on red) COUNTY: Orange

	US 1792 (Right turn on red)					US 1792 (Right turn on red)						Horatio Av (Right turn on red)					Horatio Av (Right turn on red)						
TIME	NORTHBOUND					SOUTHBOUND					N/S	EASTBOUND					WESTBOUND					E/W	GRAND
BEGIN	L	T	R	*U-turn*	TOTAL	L	T	R	*U-turn*	TOTAL	TOTAL	L	T	R	*U-turn*	TOTAL	L	T	R	*U-turn*	TOTAL	TOTAL	TOTAL
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
05:00 PM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
TOTAL	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2
PM Peak 05:00 PM to 06:00 PM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2

VEHICLE TURNING MOVEMENT COUNT

SECTION: 75030000
STATE ROUTE: U.S. 17-92
OBSERVER: GMB Engineers and Planners, Inc
WEATHER: CLEAR
NORTH APPROACH: U.S. 17-92
SOUTH APPROACH: U.S. 17-92

CITY: Orlando
INTERSECTING ROUTE: U.S. 17-92 at Packwood Avenue
DATE OF COUNT: 10/1/2013
ROAD CONDITION: GOOD
EAST APPROACH: Packwood Avenue
WEST APPROACH: Packwood Avenue
COUNT PERIODS: 7:00 A - 9:00 A, 11:45 A - 3:15 P, 4:15 P - 6:15 P

COUNTY: Orange
MILEPOST: 7.650

ALL VEHICLES / ALL MOVEMENTS

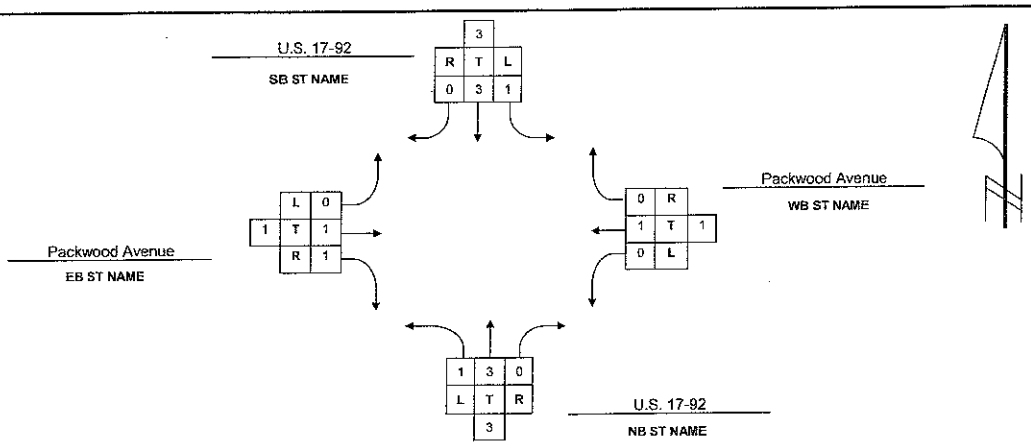
START TIME	NORTHBOUND						SOUTHBOUND						NS TOTAL	EASTBOUND						WESTBOUND						EW TOTAL	GRAND TOTAL
	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL		
7:00	0	3	115	0	0	118	3	3	414	2	0	422	540	0	3	0	1	3	7	0	15	2	1	0	18	25	565
7:15	1	7	199	2	0	209	1	1	601	2	0	605	814	0	3	0	2	5	10	0	26	3	4	1	34	44	858
7:30	1	10	204	3	1	219	2	1	629	2	0	634	853	0	1	1	2	5	9	0	26	4	3	0	33	42	895
7:45	0	6	269	4	0	279	1	5	594	3	0	603	882	0	2	6	5	4	17	0	17	7	2	0	26	43	925
Total	**2**	**26**	**787**	**9**	**1**	**825**	**7**	**10**	**2,238**	**9**	**0**	**2,264**	**3,089**	**0**	**9**	**7**	**10**	**17**	**43**	**0**	**84**	**16**	**10**	**1**	**111**	**154**	**3,243**
8:00	2	12	255	5	0	274	3	4	579	5	0	591	865	0	5	3	5	8	21	0	25	5	3	1	34	55	920
8:15	3	10	255	9	1	278	2	7	580	3	1	593	871	0	1	12	3	3	19	0	23	8	4	2	37	56	927
8:30	1	16	277	4	0	298	3	4	603	5	0	615	913	0	5	4	6	5	20	0	25	11	6	2	44	64	977
8:45	2	17	235	7	0	261	2	3	513	11	1	530	791	0	8	2	3	4	17	0	29	6	2	1	38	55	846
Total	**8**	**55**	**1,022**	**25**	**1**	**1,111**	**10**	**18**	**2,275**	**24**	**2**	**2,329**	**3,440**	**0**	**19**	**21**	**17**	**20**	**77**	**0**	**102**	**30**	**15**	**6**	**153**	**230**	**3,670**
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	9	16	270	5	1	301	4	9	308	7	0	328	629	0	10	6	5	3	24	0	12	5	9	1	27	51	680
Total	**9**	**16**	**270**	**5**	**1**	**301**	**4**	**9**	**308**	**7**	**0**	**328**	**629**	**0**	**10**	**6**	**5**	**3**	**24**	**0**	**12**	**5**	**9**	**1**	**27**	**51**	**680**
12:00	5	12	303	10	0	330	5	13	290	2	0	310	640	0	11	9	3	12	35	0	33	12	11	3	59	94	734
12:15	4	16	275	7	2	304	6	14	266	19	0	305	609	0	23	13	3	2	41	0	26	10	7	3	46	87	696
12:30	5	19	324	4	1	353	2	16	329	2	0	349	702	0	9	9	4	7	29	0	22	4	4	3	33	62	764
12:45	1	27	318	6	3	355	5	17	322	12	0	356	711	0	13	7	1	9	30	0	22	6	9	3	40	70	781
Total	**15**	**74**	**1,220**	**27**	**6**	**1,342**	**18**	**60**	**1,207**	**35**	**0**	**1,320**	**2,662**	**0**	**56**	**38**	**11**	**30**	**135**	**0**	**103**	**32**	**31**	**12**	**178**	**313**	**2,975**
13:00	12	23	320	15	2	372	3	13	257	7	2	282	654	0	10	6	5	9	30	0	19	7	2	2	30	60	714
13:15	1	36	299	15	1	352	1	12	326	9	0	348	700	0	6	5	2	4	17	0	25	20	3	2	50	67	767
13:30	4	12	278	6	3	303	2	6	286	2	1	297	600	0	16	7	3	8	34	0	27	20	6	3	56	90	690
13:45	3	11	365	8	1	388	3	30	297	7	1	338	726	0	9	8	0	10	27	0	14	6	6	1	27	54	780
Total	**20**	**82**	**1,262**	**44**	**7**	**1,415**	**9**	**61**	**1,166**	**25**	**4**	**1,265**	**2,680**	**0**	**41**	**26**	**10**	**31**	**108**	**0**	**85**	**53**	**17**	**8**	**163**	**271**	**2,951**
14:00	5	13	299	7	1	325	4	5	240	10	2	261	586	0	10	2	1	7	20	0	19	8	11	1	39	59	645
14:15	8	14	374	13	2	411	5	10	278	4	0	297	708	0	17	8	5	11	41	0	26	5	6	1	38	79	787
14:30	2	14	369	14	0	399	2	6	238	7	0	253	652	0	4	8	3	7	22	0	33	4	4	0	41	63	715
14:45	7	21	404	9	3	444	6	8	260	7	0	281	725	0	10	4	3	7	24	0	26	10	11	3	50	74	799
Total	**22**	**62**	**1,446**	**43**	**6**	**1,579**	**17**	**29**	**1,016**	**28**	**2**	**1,092**	**2,671**	**0**	**41**	**22**	**12**	**32**	**107**	**0**	**104**	**27**	**32**	**5**	**168**	**275**	**2,846**
15:00	4	17	420	8	0	449	2	8	266	6	2	286	735	0	11	5	2	4	22	0	30	10	7	1	48	70	805
15:15	2	13	415	5	1	436	6	12	242	7	1	268	704	0	9	5	4	4	22	0	34	9	9	0	52	74	778
15:30	1	16	517	9	1	544	3	15	264	12	0	294	838	0	14	10	4	5	33	0	35	10	6	0	51	84	922
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**7**	**46**	**1,352**	**22**	**2**	**1,429**	**11**	**35**	**772**	**27**	**3**	**848**	**2,277**	**0**	**34**	**20**	**10**	**13**	**77**	**0**	**99**	**29**	**22**	**1**	**151**	**228**	**2,505**
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	2	40	508	10	2	562	0	6	244	11	2	263	825	0	6	5	3	2	16	0	30	7	7	1	45	61	886
16:30	0	10	559	18	2	589	2	7	283	8	3	303	892	0	11	7	4	4	26	0	22	6	7	0	35	61	953
16:45	5	14	546	14	1	580	5	10	276	11	1	303	883	0	17	8	2	5	32	0	24	8	12	1	45	77	960
Total	**7**	**64**	**1,613**	**42**	**5**	**1,731**	**7**	**23**	**803**	**30**	**6**	**869**	**2,600**	**0**	**34**	**20**	**9**	**11**	**74**	**0**	**76**	**21**	**26**	**2**	**125**	**199**	**2,799**
17:00	3	7	530	13	0	553	1	16	339	2	0	358	911	0	14	22	2	6	44	0	30	11	10	3	54	98	1,009
17:15	0	13	582	18	0	613	3	28	342	1	0	372	985	0	17	12	2	4	35	0	32	13	6	1	52	87	1,072
17:30	0	4	536	20	0	560	0	15	322	3	0	340	900	0	5	11	6	5	27	0	38	8	1	0	47	74	974
17:45	1	8	599	15	0	623	0	12	301	10	3	326	949	0	4	9	1	8	22	0	37	8	6	0	51	73	1,022
Total	**4**	**32**	**2,247**	**66**	**0**	**2,349**	**4**	**69**	**1,304**	**16**	**3**	**1,396**	**3,745**	**0**	**40**	**54**	**11**	**23**	**128**	**0**	**137**	**40**	**23**	**4**	**204**	**332**	**4,077**
18:00	2	14	547	22	0	585	3	11	286	5	1	306	891	0	8	11	4	2	25	0	30	7	9	1	47	72	963
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**2**	**14**	**547**	**22**	**0**	**585**	**3**	**11**	**286**	**5**	**1**	**306**	**891**	**0**	**8**	**11**	**4**	**2**	**25**	**0**	**30**	**7**	**9**	**1**	**47**	**72**	**963**

FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

SECTION:	750300000	CITY:	Orlando	COUNTY:	Orange
STATE ROUTE:	U.S. 17-92	INTERSECTING ROUTE:	U.S. 17-92 at Packwood Avenue		
OBSERVER:	GMB Engineers and Planners, Inc	DATE:	10/1/2013		
WEATHER:	CLEAR	ROAD CONDITION:	GOOD		
REMARKS:					

FORM COMPLETED BY: ACB DATE: 12/30/13



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
BEGIN/END	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	E/W
7 - 8	2	26	787	9	1	825	7	10	2,238	9	0	2,264	3,089	0	9	7	10	17	43	0	84	16	10	1	111	154
8 - 9	8	55	1,022	25	1	1,111	10	18	2,275	24	2	2,329	3,440	0	19	21	17	20	77	0	102	30	15	6	153	230
11 - 12	9	16	270	5	1	301	4	9	308	7	0	328	629	0	10	6	5	3	24	0	12	5	9	1	27	51
12 - 1	15	74	1,220	27	6	1,342	18	60	1,207	35	0	1,320	2,662	0	56	38	11	30	135	0	103	32	31	12	178	313
1 - 2	20	82	1,262	44	7	1,415	9	61	1,166	25	4	1,265	2,680	0	41	26	10	31	108	0	86	53	17	8	163	271
2 - 3	22	62	1,446	43	6	1,579	17	29	1,016	28	2	1,092	2,671	0	41	22	12	32	107	0	104	27	32	5	168	275
3 - 4	7	46	1,352	22	2	1,429	11	35	772	27	3	848	2,277	0	34	20	10	13	77	0	99	29	22	1	151	228
4 - 5	7	64	1,613	42	5	1,731	7	23	803	30	6	869	2,600	0	34	20	9	11	74	0	76	21	26	2	125	199
5 - 6	4	32	2,247	66	0	2,349	4	69	1,304	16	3	1,396	3,745	0	40	54	11	23	128	0	137	40	23	4	204	332
6 - 7	2	14	547	22	0	585	3	11	286	5	1	306	891	0	8	11	4	2	25	0	30	7	9	1	47	72
TOTAL	96	471	11,766	305	29	12,667	90	325	11,375	206	21	12,017	24,684	0	292	225	99	182	798	0	832	260	194	41	1,327	2,125

Percentage	0.8%	3.7%	92.9%	2.4%	0.2%	100.0%	0.7%	2.7%	94.7%	1.7%	0.2%	100.0%		0.0%	36.6%	28.2%	12.4%	22.8%	100.0%	0.0%	62.7%	19.6%	14.6%	3.1%	100.0%	
Maximum	22	82	2247	66	7		18	69	2275	35	6			0	56	54	17	32		0	137	53	32	12		
Minimum	2	14	0	5	0		3	9	286	5	0			0	8	6	4	2		0	12	5	9	1		
Total Heavy Veh	3		204	1	0		3		178	3	0			1		2	8	0		6		2	4	0		
% Heavy Veh	0.5%		1.7%	0.3%			0.7%		1.6%	1.3%				0.3%		0.9%	2.8%			0.7%		0.8%	1.7%			

VEHICLE TURNING MOVEMENT COUNT (TRUCKS)

SECTION: 75030000
STATE ROUTE: U.S. 17-92
OBSERVER: GMB Engineers and Planners, Inc
WEATHER: CLEAR
NORTH APPROACH: U.S. 17-92
SOUTH APPROACH: U.S. 17-92

CITY: Orlando
INTERSECTING ROUTE: U.S. 17-92 at Packwood Avenue
DATE OF COUNT: 10/1/2013
ROAD CONDITION: GOOD
EAST APPROACH: Packwood Avenue
WEST APPROACH: Packwood Avenue
COUNT PERIODS: 7:00 A - 9:00 A, 11:45 A - 3:15 P, 4:15 P - 6:15 P

COUNTY: Orange
MILEPOST: 7.650

ALL TRUCKS / ALL MOVEMENTS

START	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND					GRAND
TIME	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	NS TOTAL	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	EW TOTAL	TOTAL
7:00	0	3	0	3	0	6	0	6	9	0	0	0	0	0	0	0	0	0	9
7:15	0	3	0	3	0	8	1	9	12	0	0	0	0	0	0	0	0	0	12
7:30	0	5	0	5	0	5	0	5	10	0	0	0	0	0	0	0	0	0	10
7:45	0	7	0	7	0	7	0	7	14	0	0	1	1	0	1	0	1	2	16
Total	**0**	**18**	**0**	**18**	**0**	**26**	**1**	**27**	**45**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**2**	**47**
8:00	0	8	0	8	0	7	0	7	15	0	0	0	0	0	0	0	0	0	15
8:15	0	7	0	7	0	8	0	8	15	0	0	0	0	0	0	0	0	0	15
8:30	0	8	0	8	0	12	0	12	20	0	0	1	1	1	0	0	1	2	22
8:45	0	12	0	12	0	10	0	10	22	0	0	0	0	0	0	0	0	0	22
Total	**0**	**35**	**0**	**35**	**0**	**37**	**0**	**37**	**72**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**1**	**2**	**74**
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	10	0	10	0	3	0	3	13	0	0	0	0	0	1	0	1	1	14
Total	**0**	**10**	**0**	**10**	**0**	**3**	**0**	**3**	**13**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**14**
12:00	0	3	0	3	0	5	0	5	8	1	0	1	2	0	0	0	0	2	10
12:15	0	5	0	5	0	6	0	6	11	0	0	0	0	0	0	0	0	0	11
12:30	1	9	0	10	0	2	0	2	12	0	0	1	1	0	0	0	0	1	13
12:45	0	6	0	6	2	5	0	7	13	0	0	0	0	0	0	0	0	0	13
Total	**1**	**23**	**0**	**24**	**2**	**18**	**0**	**20**	**44**	**1**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**3**	**47**
13:00	0	5	0	5	0	6	0	6	11	0	0	0	0	0	0	0	0	0	11
13:15	1	4	0	5	0	5	0	5	10	0	0	0	0	1	0	0	1	1	11
13:30	0	9	0	9	0	6	0	6	15	0	0	0	0	0	0	0	0	0	15
13:45	0	6	0	6	0	9	0	9	15	0	0	0	0	0	0	0	0	0	15
Total	**1**	**24**	**0**	**25**	**0**	**26**	**0**	**26**	**51**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**52**
14:00	0	4	0	4	0	6	0	6	10	0	0	0	0	1	0	0	1	1	11
14:15	1	11	0	12	0	5	0	5	17	0	0	0	0	1	0	0	1	1	18
14:30	0	3	0	3	0	3	1	4	7	0	0	1	1	1	0	0	1	2	9
14:45	0	10	0	10	0	2	0	2	12	0	0	0	0	0	0	0	0	0	12
Total	**1**	**28**	**0**	**29**	**0**	**16**	**1**	**17**	**46**	**0**	**0**	**1**	**1**	**3**	**0**	**0**	**3**	**4**	**50**
15:00	0	4	0	4	0	4	0	4	8	0	0	0	0	0	0	0	0	0	8
15:15	0	4	0	4	0	6	1	7	11	0	0	0	0	0	0	1	1	1	12
15:30	0	12	1	13	1	6	0	7	20	0	0	1	1	0	0	0	0	1	21
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**20**	**1**	**21**	**1**	**16**	**1**	**18**	**39**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**2**	**41**
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	11	0	11	0	5	0	5	16	0	0	0	0	0	0	0	0	0	16
16:30	0	9	0	9	0	5	0	5	14	0	0	0	0	1	0	0	1	1	15
16:45	0	7	0	7	0	5	0	5	12	0	0	0	0	0	0	1	1	1	13
Total	**0**	**27**	**0**	**27**	**0**	**15**	**0**	**15**	**42**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**	**2**	**44**
17:00	0	5	0	5	0	7	0	7	12	0	0	0	0	0	0	1	1	1	13
17:15	0	4	0	4	0	4	0	4	8	0	0	1	1	0	0	0	0	1	9
17:30	0	3	0	3	0	4	0	4	7	0	1	1	2	0	0	0	0	2	9
17:45	0	4	0	4	0	3	0	3	7	0	1	0	1	0	0	0	0	1	8
Total	**0**	**16**	**0**	**16**	**0**	**18**	**0**	**18**	**34**	**0**	**2**	**2**	**4**	**0**	**0**	**1**	**1**	**5**	**39**
18:00	0	3	0	3	0	3	0	3	6	0	0	0	0	0	0	1	1	1	7
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**3**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**7**

VEHICLE TURNING MOVEMENT COUNT

SECTION:	75030000	**CITY:**	Orlando	**COUNTY:**	Orange
STATE ROUTE:	U.S. 17-92	**INTERSECTING ROUTE:**	U.S. 17-92 at Maitland Avenue/Manor Road	**MILEPOST:**	7.387
OBSERVER:	GMB Engineers and Planners, Inc	**DATE OF COUNT:**	10/1/2013		
WEATHER:	CLEAR	**ROAD CONDITION:**	GOOD		
NORTH APPROACH:	U.S. 17-92	**EAST APPROACH:**	Manor Road		
SOUTH APPROACH:	U.S. 17-92	**WEST APPROACH:**	Maitland Avenue		
		COUNT PERIODS:	7:00 A - 9:00 A, 11:45 A - 3:15 P, 4:15 P - 6:15 P		

ALL VEHICLES / ALL MOVEMENTS

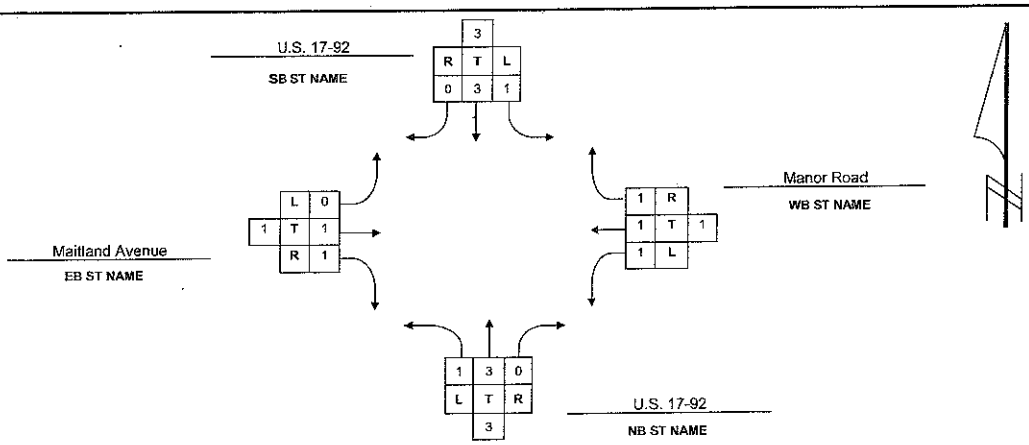
START	NORTHBOUND						SOUTHBOUND							EASTBOUND						WESTBOUND							GRAND
TIME	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	NS TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	U-TURN	LEFT	THRU	RIGHT	RTOR	TOTAL	EW TOTAL	TOTAL
7:00	0	12	143	1	0	156	0	0	456	1	0	457	613	0	1	0	15	30	46	0	4	0	0	1	5	51	664
7:15	0	23	222	0	0	245	0	1	621	2	0	624	869	0	0	0	41	35	76	0	8	0	0	1	9	85	954
7:30	0	27	240	1	0	268	0	4	661	3	0	668	936	0	2	0	71	13	86	0	5	1	1	3	10	96	1,032
7:45	1	42	298	3	1	345	1	4	588	3	0	596	941	0	1	1	110	15	127	0	8	0	2	3	11	138	1,079
Total	**1**	**104**	**903**	**5**	**1**	**1,014**	**1**	**9**	**2,326**	**9**	**0**	**2,345**	**3,359**	**0**	**4**	**1**	**237**	**93**	**335**	**0**	**23**	**1**	**3**	**8**	**35**	**370**	**3,729**
8:00	0	44	296	3	0	343	0	1	610	3	0	614	957	0	1	0	51	47	99	0	2	2	0	3	7	106	1,063
8:15	0	39	301	2	0	342	1	3	608	0	0	612	954	0	2	3	80	25	110	0	6	1	0	2	9	119	1,073
8:30	0	37	320	0	0	357	2	5	631	2	0	640	997	0	2	0	103	23	128	0	3	3	4	3	13	141	1,138
8:45	0	35	269	0	0	304	3	2	530	8	0	543	847	0	2	0	97	26	125	0	8	3	3	2	16	141	988
Total	**0**	**155**	**1,186**	**5**	**0**	**1,346**	**6**	**11**	**2,379**	**13**	**0**	**2,409**	**3,755**	**0**	**7**	**3**	**331**	**121**	**462**	**0**	**19**	**9**	**7**	**10**	**45**	**507**	**4,262**
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	2	43	337	1	2	385	4	1	342	2	0	349	734	0	5	0	49	36	90	0	2	0	1	5	8	98	832
Total	**2**	**43**	**337**	**1**	**2**	**385**	**4**	**1**	**342**	**2**	**0**	**349**	**734**	**0**	**5**	**0**	**49**	**36**	**90**	**0**	**2**	**0**	**1**	**5**	**8**	**98**	**832**
12:00	3	37	326	4	0	370	2	2	309	6	3	322	692	0	4	3	31	53	91	0	6	0	0	5	10	101	793
12:15	0	54	349	7	0	410	1	2	318	7	0	328	738	0	11	3	26	52	92	0	2	1	0	5	8	100	838
12:30	1	57	367	5	0	430	7	4	352	4	0	367	797	0	8	2	21	41	72	0	2	1	2	2	7	79	876
12:45	0	51	364	4	0	419	1	5	335	6	0	347	766	0	7	0	43	45	95	0	4	2	1	2	9	104	870
Total	**4**	**199**	**1,406**	**20**	**0**	**1,629**	**11**	**13**	**1,314**	**23**	**3**	**1,364**	**2,993**	**0**	**30**	**8**	**121**	**191**	**350**	**0**	**13**	**4**	**3**	**14**	**34**	**384**	**3,377**
13:00	1	42	399	6	0	448	3	2	314	6	3	328	776	0	4	1	30	48	83	0	1	0	0	2	3	86	862
13:15	2	61	316	3	0	382	4	5	352	9	2	372	754	0	4	0	43	41	88	0	2	1	1	2	6	94	848
13:30	0	47	346	4	0	397	1	1	326	5	0	333	730	0	2	0	29	40	71	0	9	0	0	3	12	83	813
13:45	0	43	373	8	0	424	3	1	346	5	0	355	779	0	4	0	26	41	71	0	6	2	0	4	12	83	862
Total	**3**	**193**	**1,434**	**21**	**0**	**1,651**	**11**	**9**	**1,338**	**25**	**5**	**1,388**	**3,039**	**0**	**14**	**1**	**128**	**170**	**313**	**0**	**18**	**3**	**1**	**11**	**33**	**346**	**3,365**
14:00	1	53	393	6	0	453	4	1	263	4	0	272	725	0	6	1	45	34	86	0	3	2	1	6	12	98	823
14:15	2	44	409	1	0	456	8	2	306	7	0	323	779	0	11	1	41	54	107	0	2	2	1	2	7	114	893
14:30	1	58	462	1	0	512	1	2	301	10	0	314	826	0	2	1	18	38	59	0	1	3	0	2	6	65	891
14:45	1	41	470	3	1	516	3	4	290	6	0	303	819	0	6	0	31	54	91	0	5	0	1	5	11	102	921
Total	**5**	**196**	**1,724**	**11**	**1**	**1,937**	**16**	**9**	**1,160**	**27**	**0**	**1,212**	**3,149**	**0**	**25**	**3**	**135**	**180**	**343**	**0**	**11**	**7**	**3**	**15**	**36**	**379**	**3,528**
15:00	2	48	471	1	0	522	0	3	315	2	2	322	844	0	5	2	15	61	83	0	2	3	3	2	10	93	937
15:15	1	66	485	7	0	559	1	5	280	4	1	291	850	0	3	3	42	50	98	0	3	0	0	5	8	106	956
15:30	0	59	545	6	0	610	3	1	321	2	1	328	938	0	7	1	27	51	86	0	3	0	1	3	7	93	1,031
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3**	**173**	**1,501**	**14**	**0**	**1,691**	**4**	**9**	**916**	**8**	**4**	**941**	**2,632**	**0**	**15**	**6**	**84**	**162**	**267**	**0**	**8**	**3**	**4**	**10**	**25**	**292**	**2,924**
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	57	588	7	0	652	2	4	289	9	0	284	936	0	4	8	27	46	85	0	5	0	1	1	7	92	1,028
16:30	0	50	610	9	0	669	5	5	308	2	0	320	989	0	2	2	29	59	92	0	1	4	1	0	6	98	1,087
16:45	1	54	572	3	0	630	1	1	298	1	0	301	931	0	6	3	43	60	112	0	3	1	0	4	8	120	1,051
Total	**1**	**161**	**1,770**	**19**	**0**	**1,951**	**8**	**10**	**875**	**12**	**0**	**905**	**2,856**	**0**	**12**	**13**	**99**	**165**	**289**	**0**	**9**	**5**	**2**	**5**	**21**	**310**	**3,166**
17:00	0	66	589	8	0	663	1	5	385	4	0	395	1,058	0	7	1	52	43	103	0	3	2	2	1	8	111	1,169
17:15	1	64	605	6	0	676	7	3	366	2	0	378	1,054	0	3	5	42	52	102	0	4	6	1	2	13	115	1,169
17:30	0	75	594	5	1	675	0	2	356	1	0	359	1,034	0	5	3	59	45	112	0	11	2	4	2	19	131	1,165
17:45	2	63	624	5	0	694	1	6	334	8	1	350	1,044	0	7	2	37	53	99	0	9	2	0	4	15	114	1,158
Total	**3**	**268**	**2,412**	**24**	**1**	**2,708**	**9**	**16**	**1,441**	**15**	**1**	**1,482**	**4,190**	**0**	**22**	**11**	**190**	**193**	**416**	**0**	**27**	**12**	**7**	**9**	**55**	**471**	**4,661**
18:00	0	62	584	7	0	653	1	2	301	7	1	312	965	0	3	3	25	49	80	0	6	0	0	3	9	89	1,054
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**62**	**584**	**7**	**0**	**653**	**1**	**2**	**301**	**7**	**1**	**312**	**965**	**0**	**3**	**3**	**25**	**49**	**80**	**0**	**6**	**0**	**0**	**3**	**9**	**89**	**1,054**

FLORIDA DEPARTMENT OF TRANSPORTATION

SUMMARY OF VEHICLE MOVEMENTS

SECTION:	750300000	CITY:	Orlando	COUNTY:	Orange
STATE ROUTE:	U.S. 17-92	INTERSECTING ROUTE:	U.S. 17-92 at Maitland Avenue/Manor Road		
OBSERVER:	GMB Engineers and Planners, Inc	DATE:	10/1/2013		
WEATHER:	CLEAR	ROAD CONDITION:	GOOD		
REMARKS:					

FORM COMPLETED BY: ACB DATE: 12/30/13



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
BEGIN/END	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	E/W
7 - 8	1	104	903	5	1	1,014	1	9	2,326	9	0	2,345	3,359	0	4	1	237	93	335	0	23	1	3	8	35	370
8 - 9	0	155	1,186	5	0	1,346	6	11	2,379	13	0	2,409	3,755	0	7	3	331	121	462	0	19	9	7	10	45	507
11 - 12	2	43	337	1	2	385	4	1	342	2	0	349	734	0	5	0	49	36	90	0	2	0	1	5	8	98
12 - 1	4	199	1,406	20	0	1,629	11	13	1,314	23	3	1,364	2,993	0	30	8	121	191	350	0	13	4	3	14	34	384
1 - 2	3	193	1,434	21	0	1,651	11	9	1,338	25	5	1,388	3,039	0	14	1	128	170	313	0	18	3	1	11	33	346
2 - 3	5	196	1,724	11	1	1,937	16	9	1,160	27	0	1,212	3,149	0	25	3	135	180	343	0	11	7	3	15	36	379
3 - 4	3	173	1,501	14	0	1,691	4	9	916	8	4	941	2,632	0	15	6	84	162	267	0	8	3	4	10	25	292
4 - 5	1	161	1,770	19	0	1,951	8	10	875	12	0	905	2,856	0	12	13	99	165	289	0	9	5	2	5	21	310
5 - 6	3	268	2,412	24	1	2,708	9	16	1,441	15	1	1,482	4,190	0	22	11	190	193	416	0	27	12	7	9	55	471
6 - 7	0	62	584	7	0	653	1	2	301	7	1	312	965	0	3	3	25	49	80	0	6	0	0	3	9	89
TOTAL	22	1,554	13,257	127	5	14,965	71	89	12,392	141	14	12,707	27,672	0	137	49	1,399	1,360	2,945	0	136	44	31	90	301	3,246

Percentage	0.1%	10.4%	88.6%	0.8%	0.0%	99.9%	0.8%	0.7%	97.5%	1.1%	0.1%	100.0%		0.0%	4.7%	1.6%	47.5%	46.2%	100.0%	0.0%	45.2%	14.6%	10.3%	29.9%	100.0%	
Maximum	5	268	2412	24	2		16	16	2379	27	5			0	30	13	331	193		0	27	12	7	15		
Minimum	0	43	0	1	0		1	1	301	2	0			0	3	0	25	36		0	2	0	0	3		
Total Heavy Veh	14		265	2	0		2		227	5	0			2		0	23	0		2		1	1	0		
% Heavy Veh	0.9%		2.0%	1.5%			1.3%		1.8%	3.2%				1.5%		0.0%	0.8%			1.5%		2.3%	0.8%			

VEHICLE TURNING MOVEMENT COUNT (TRUCKS)

SECTION: 75030000
STATE ROUTE: U.S. 17-92
OBSERVER: GMB Engineers and Planners, Inc
WEATHER: CLEAR
NORTH APPROACH: U.S. 17-92
SOUTH APPROACH: U.S. 17-92

CITY: Orlando
COUNTY: Orange
INTERSECTING ROUTE: U.S. 17-92 at Maitland Avenue/Manor Roac
MILEPOST: 7.387
DATE OF COUNT: 10/1/2013
ROAD CONDITION: GOOD
EAST APPROACH: Manor Road
WEST APPROACH: Maitland Avenue
COUNT PERIODS: 7:00 A - 9:00 A, 11:45 A - 3:15 P, 4:15 P - 6:15 P

ALL TRUCKS / ALL MOVEMENTS

START	NORTHBOUND				SOUTHBOUND					EASTBOUND				WESTBOUND					GRAND
TIME	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	NS TOTAL	LEFT	THRU	RIGHT	TOTAL	LEFT	THRU	RIGHT	TOTAL	EW TOTAL	TOTAL
7:00	0	4	0	4	0	6	0	6	10	0	0	0	0	0	0	0	0	0	10
7:15	0	5	0	5	0	7	0	7	12	0	0	0	0	0	0	0	0	0	12
7:30	1	5	1	7	0	6	0	6	13	0	0	1	1	0	0	0	0	1	14
7:45	0	7	0	7	0	8	0	8	15	0	0	1	1	0	0	0	0	1	16
Total	1	21	1	23	0	27	0	27	50	0	0	2	2	0	0	0	0	2	52
8:00	0	8	0	8	0	6	0	6	14	0	0	0	0	0	0	0	0	0	14
8:15	0	6	0	6	0	8	0	8	14	0	0	1	1	0	0	0	0	1	15
8:30	0	15	0	15	0	15	0	15	30	0	0	3	3	0	0	0	0	3	33
8:45	0	18	0	18	0	8	1	9	27	0	0	2	2	0	0	1	1	3	30
Total	0	47	0	47	0	37	1	38	85	0	0	6	6	0	0	1	1	7	92
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	1	12	0	13	0	3	0	3	16	0	0	0	0	0	0	0	0	0	16
Total	1	12	0	13	0	3	0	3	16	0	0	0	0	0	0	0	0	0	16
12:00	1	5	0	6	0	7	0	7	13	0	0	0	0	0	0	0	0	0	13
12:15	2	6	0	8	0	5	0	5	13	0	0	1	1	0	0	0	0	1	14
12:30	0	12	0	12	0	7	1	8	20	1	0	0	1	0	0	0	0	1	21
12:45	0	3	0	3	0	9	0	9	12	0	0	0	0	0	0	0	0	0	12
Total	3	26	0	29	0	28	1	29	58	1	0	1	2	0	0	0	0	2	60
13:00	0	11	0	11	0	9	0	9	20	0	0	0	0	0	0	0	0	0	20
13:15	2	8	0	10	0	7	0	7	17	0	0	0	0	0	0	0	0	0	17
13:30	0	14	0	14	1	6	0	7	21	0	0	0	0	1	0	0	1	1	22
13:45	0	7	0	7	0	14	0	14	21	0	0	1	1	0	0	0	0	1	22
Total	2	40	0	42	1	36	0	37	79	0	0	1	1	1	0	0	1	2	81
14:00	1	8	0	9	0	7	0	7	16	0	0	1	1	0	0	0	0	1	17
14:15	1	9	0	10	0	11	0	11	21	0	0	1	1	0	0	0	0	1	22
14:30	1	7	0	8	0	6	3	9	17	0	0	0	0	0	0	0	0	0	17
14:45	2	13	0	15	0	5	0	5	20	0	0	0	0	0	0	0	0	0	20
Total	5	37	0	42	0	29	3	32	74	0	0	2	2	0	0	0	0	2	76
15:00	0	14	0	14	0	7	0	7	21	0	0	2	2	0	1	0	1	3	24
15:15	0	6	0	6	1	12	0	13	19	1	0	3	4	0	0	0	0	4	23
15:30	0	16	1	17	0	10	0	10	27	0	0	0	0	1	0	0	1	1	28
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	36	1	37	1	29	0	30	67	1	0	5	6	1	1	0	2	8	75
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	9	0	10	0	6	0	6	16	0	0	0	0	0	0	0	0	0	16
16:30	0	9	0	9	0	5	0	5	14	0	0	0	0	0	0	0	0	0	14
16:45	0	5	0	5	0	5	0	5	10	0	0	2	2	0	0	0	0	2	12
Total	1	23	0	24	0	16	0	16	40	0	0	2	2	0	0	0	0	2	42
17:00	0	7	0	7	0	8	0	8	15	0	0	0	0	0	0	0	0	0	15
17:15	0	4	0	4	0	5	0	5	9	0	0	0	0	0	0	0	0	0	9
17:30	0	5	0	5	0	5	0	5	10	0	0	3	3	0	0	0	0	3	13
17:45	1	2	0	3	0	1	0	1	4	0	0	0	0	0	0	0	0	0	4
Total	1	18	0	19	0	19	0	19	38	0	0	3	3	0	0	0	0	3	41
18:00	0	5	0	5	0	3	0	3	8	0	0	1	1	0	0	0	0	1	9
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	5	0	5	0	3	0	3	8	0	0	1	1	0	0	0	0	1	9

Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave		& Horatio Ave
Date	July 2, 2014		All Vehicles
Time Period	7:00 to 9:00		

GMB Project #: 14-110.01

Time Period	Northbound Left	Northbound Through	Northbound Right	Southbound Left	Southbound Through	Southbound Right
7:00 - 7:15	0	23	2	75	52	2
7:15 - 7:30	1	30	1	70	72	0
7:30 - 7:45	1	26	2	64	92	0
7:45 - 8:00	3	57	4	63	109	0
8:00 - 8:15	1	42	1	68	106	1
8:15 - 8:30	2	53	0	79	120	2
8:30 - 8:45	0	47	8	62	101	2
8:45 - 9:00	1	72	3	82	123	4
	9	350	21	563	775	11

Time Period	Eastbound Left	Eastbound Through	Eastbound Right	Westbound Left	Westbound Through	Westbound Right
7:00 - 7:15	1	2	1	1	5	65
7:15 - 7:30	0	2	1	5	2	120
7:30 - 7:45	1	1	2	3	4	112
7:45 - 8:00	4	2	0	7	4	136
8:00 - 8:15	3	6	1	9	6	115
8:15 - 8:30	5	3	1	5	13	86
8:30 - 8:45	4	2	2	8	12	107
8:45 - 9:00	4	7	3	9	5	129
	22	25	11	47	51	870

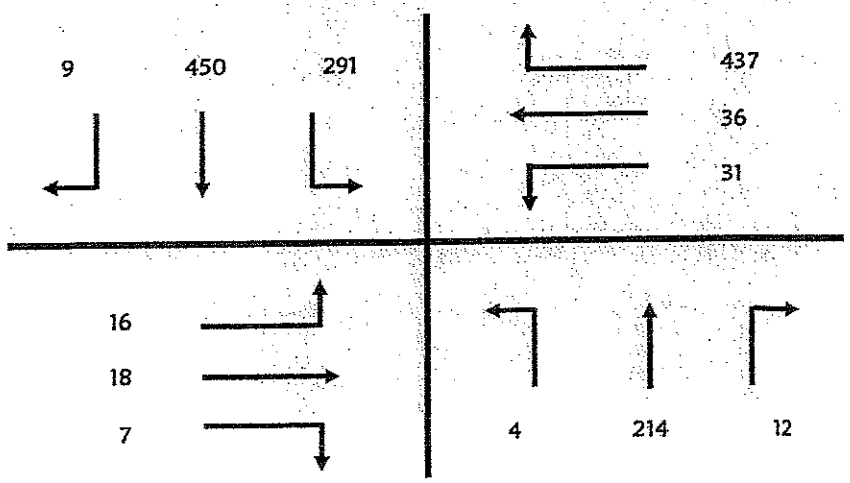
North / South
Maitland Ave

East / West
Horatio Ave

Peak Hour
8:00 - 9:00

Peak Hour Factor
0.86

Total Pk Hr Voume
1,525



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Horatio Ave
Date	July 2, 2014		
Time Period	7:00 to 9:00		Trucks

GMB Project #: 14-110.01

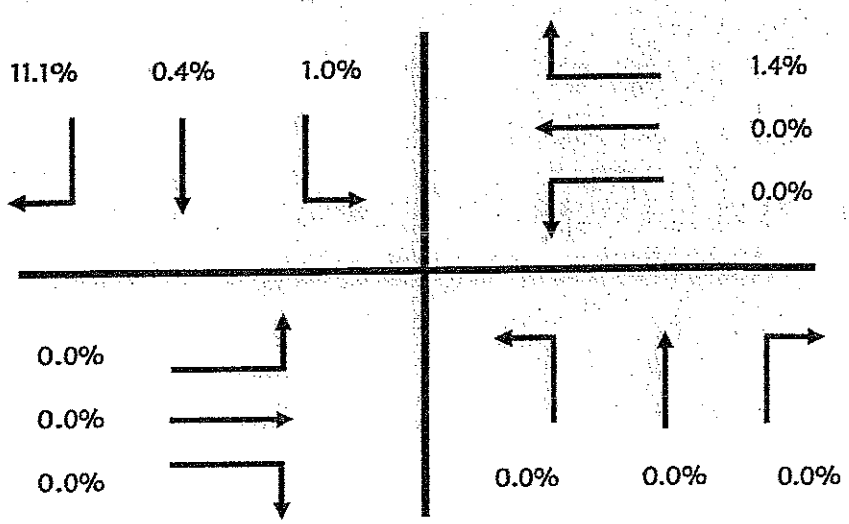
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	3	0	0
7:15 - 7:30	0	1	0	1	0	0
7:30 - 7:45	0	0	0	1	0	0
7:45 - 8:00	0	0	0	1	1	0
8:00 - 8:15	0	0	0	1	0	0
8:15 - 8:30	0	0	0	1	1	0
8:30 - 8:45	0	0	0	1	0	0
8:45 - 9:00	0	0	0	0	1	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	1	0
7:15 - 7:30	0	0	0	0	1	1
7:30 - 7:45	0	0	0	0	1	0
7:45 - 8:00	0	0	0	0	0	2
8:00 - 8:15	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	0	1
8:30 - 8:45	0	0	0	0	0	2
8:45 - 9:00	0	0	0	0	0	2

North / South
Maitland Ave

East / West
Horatio Ave

Peak Hour
8:00 - 9:00



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Horatio Ave
Date	July 2, 2014		
Time Period	7:00 to 9:00		U-Turn & RTOR

GMB Project #: 14-110.01

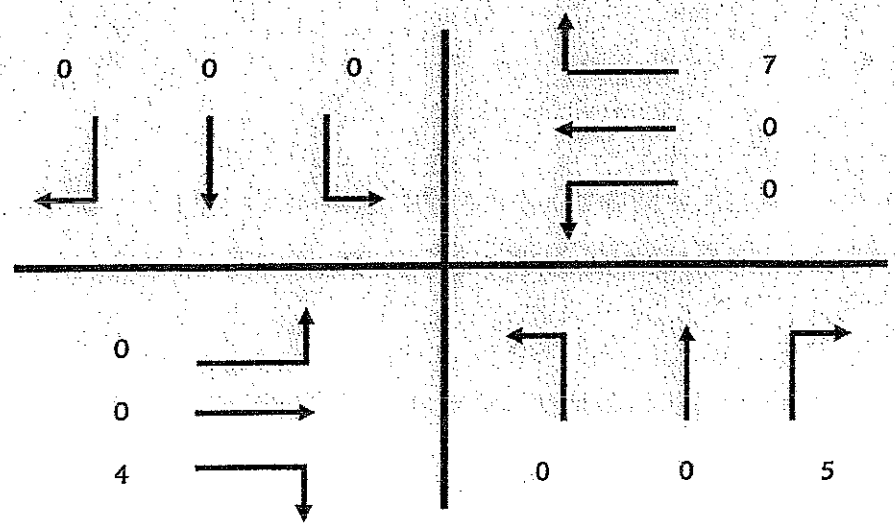
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	1	0	0	1
7:15 - 7:30	0	0	1	0	0	0
7:30 - 7:45	0	0	1	0	0	0
7:45 - 8:00	0	0	1	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	4	0	0	0
8:45 - 9:00	0	0	1	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	1	0	0	1
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	2	0	0	0
7:45 - 8:00	0	0	0	0	0	3
8:00 - 8:15	0	0	1	0	0	0
8:15 - 8:30	0	0	0	0	0	3
8:30 - 8:45	0	0	1	0	0	2
8:45 - 9:00	0	0	2	0	0	2

North / South
Maitland Ave

East / West
Horatio Ave

Peak Hour
8:00 - 9:00



Roadway Count Summary

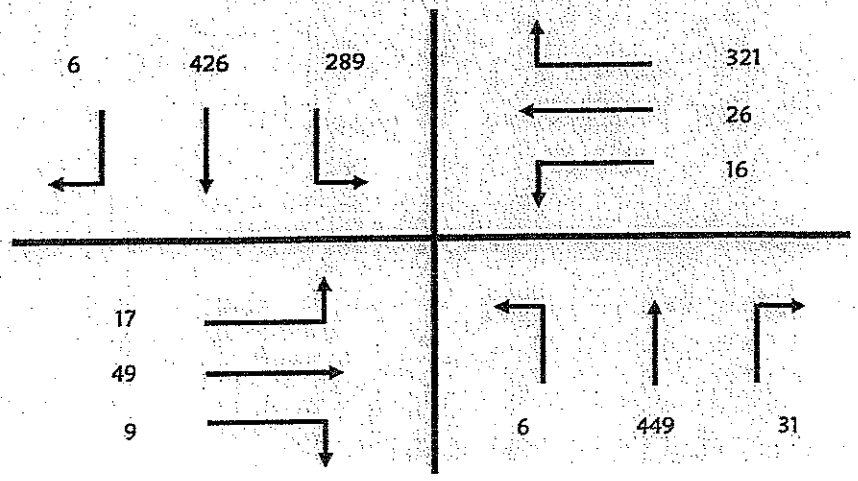
GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Horatio Ave
Date	July 1, 2014		All Vehicles
Time Period	16:00 to 18:00		

GMB Project #: 14-110.01

Time Period	Northbound Left	Northbound Through	Northbound Right	Southbound Left	Southbound Through	Southbound Right
16:00 - 16:15	3	93	15	69	111	5
16:15 - 16:30	1	88	9	66	97	2
16:30 - 16:45	2	73	5	71	88	3
16:45 - 17:00	7	102	6	61	82	1
17:00 - 17:15	1	124	8	65	125	3
17:15 - 17:30	1	102	8	72	88	2
17:30 - 17:45	1	132	10	73	110	0
17:45 - 18:00	3	91	5	79	103	1
	19	805	66	556	804	17

Time Period	Eastbound Left	Eastbound Through	Eastbound Right	Westbound Left	Westbound Through	Westbound Right
16:00 - 16:15	5	7	4	3	5	78
16:15 - 16:30	7	7	5	2	7	93
16:30 - 16:45	5	15	3	4	2	81
16:45 - 17:00	7	18	1	7	4	79
17:00 - 17:15	5	13	2	2	4	81
17:15 - 17:30	4	12	2	4	6	90
17:30 - 17:45	4	12	2	2	2	75
17:45 - 18:00	4	12	3	8	14	75
	41	96	22	32	44	652



North / South
Maitland Ave

East / West
Horatio Ave

Peak Hour
17:00 - 18:00

Peak Hour Factor
0.95

Total Pk Hr Voume
1,645

Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Horatio Ave
Date	July 1, 2014		
Time Period	16:00 to 18:00		Trucks

GMB Project #: 14-110.01

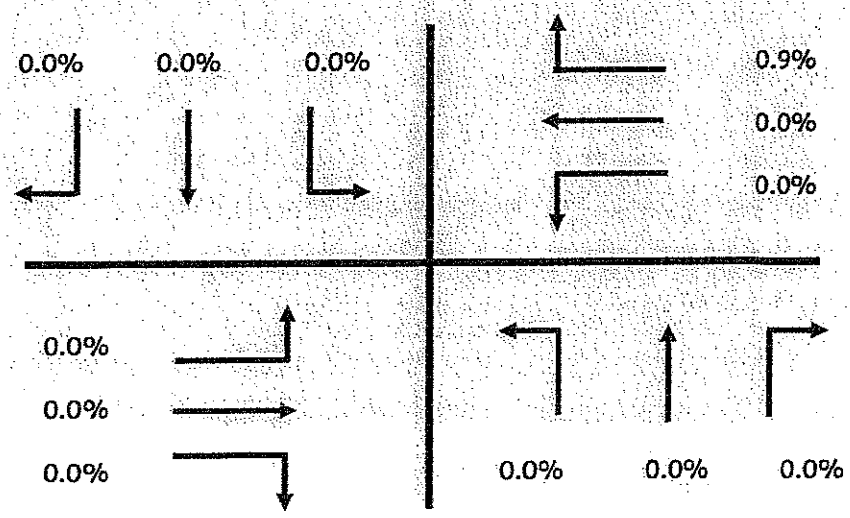
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	1	0	0
16:15 - 16:30	0	1	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	1
16:15 - 16:30	0	0	0	0	0	2
16:30 - 16:45	0	2	0	0	0	0
16:45 - 17:00	0	3	0	0	0	0
17:00 - 17:15	0	0	0	0	0	1
17:15 - 17:30	0	0	0	0	0	1
17:30 - 17:45	0	0	0	0	0	1
17:45 - 18:00	0	0	0	0	0	0

North / South
Maitland Ave

East / West
Horatio Ave

Peak Hour
17:00 - 18:00



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Horatio Ave
Date	July 1, 2014		
Time Period	16:00 to 18:00		U-Turn & RTOR

GMB Project #: 14-110.01

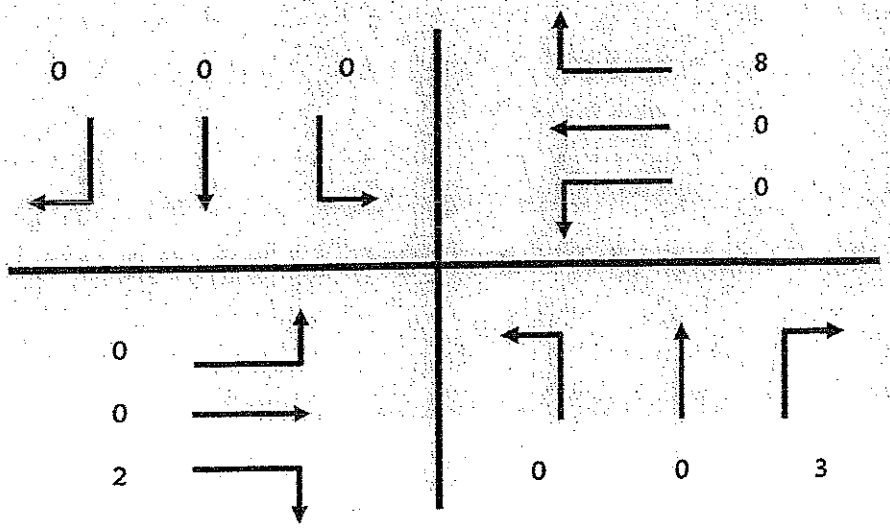
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	6	0	0	1
16:15 - 16:30	0	0	5	0	0	1
16:30 - 16:45	0	0	3	0	0	0
16:45 - 17:00	0	0	1	0	0	0
17:00 - 17:15	0	0	1	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	2	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	6
16:15 - 16:30	0	0	2	0	0	0
16:30 - 16:45	0	0	1	0	0	3
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	4
17:15 - 17:30	0	0	1	0	0	2
17:30 - 17:45	0	0	0	0	0	2
17:45 - 18:00	0	0	1	0	0	0

North / South
Maitland Ave

East / West
Horatio Ave

Peak Hour
17:00 - 18:00



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave		& Packwood Ave
Date	July 2, 2014		All Vehicles
Time Period	7:00 to 9:00		

GMB Project #: 14-110.01

Time Period	Northbound Left	Northbound Through	Northbound Right	Southbound Left	Southbound Through	Southbound Right
7:00 - 7:15	1	14	0	7	38	0
7:15 - 7:30	2	22	0	10	51	1
7:30 - 7:45	0	23	0	14	79	1
7:45 - 8:00	1	27	1	10	85	6
8:00 - 8:15	1	37	1	30	80	2
8:15 - 8:30	4	34	1	15	91	2
8:30 - 8:45	1	52	2	16	75	2
8:45 - 9:00	3	45	3	21	105	5
	13	254	8	123	604	19

Time Period	Eastbound Left	Eastbound Through	Eastbound Right	Westbound Left	Westbound Through	Westbound Right
7:00 - 7:15	0	2	0	0	0	8
7:15 - 7:30	0	0	0	1	0	6
7:30 - 7:45	0	3	0	0	0	13
7:45 - 8:00	0	1	1	0	3	16
8:00 - 8:15	3	1	0	1	2	12
8:15 - 8:30	0	1	0	2	1	14
8:30 - 8:45	0	2	4	1	0	10
8:45 - 9:00	5	0	1	1	3	22
	8	10	6	6	9	101

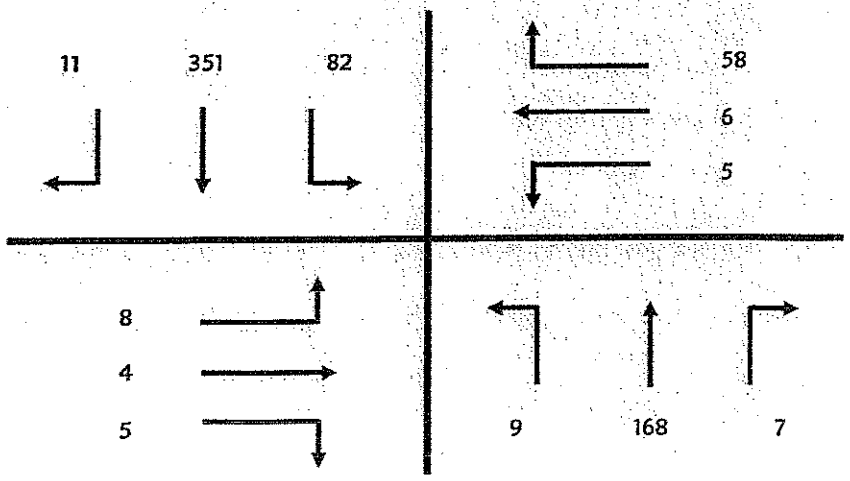
North / South
Maitland Ave

East / West
Packwood Ave

Peak Hour
8:00 - 9:00

Peak Hour Factor
0.83

Total Pk Hr Voume
714



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Packwood Ave
Date	July 2, 2014		
Time Period	7:00 to 9:00		Trucks

GMB Project #: 14-110.01

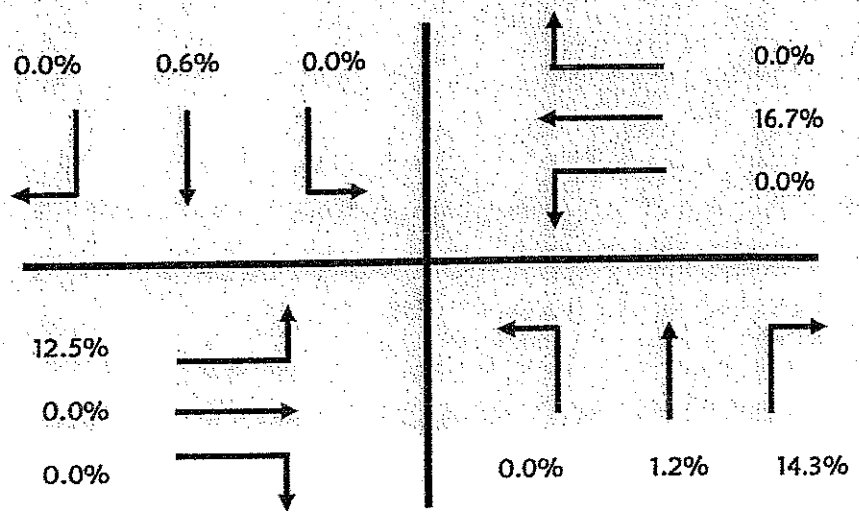
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	2	0
8:00 - 8:15	0	0	0	0	1	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	2	0	0	0	0
8:45 - 9:00	0	0	1	0	1	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	1	0	0	0	1	0

North / South
Maitland Ave

East / West
Packwood Ave

Peak Hour
8:00 - 9:00



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Packwood Ave
Date	July 2, 2014		
Time Period	7:00 to 9:00		U-Turn & RTOR

GMB Project #: 14-110.01

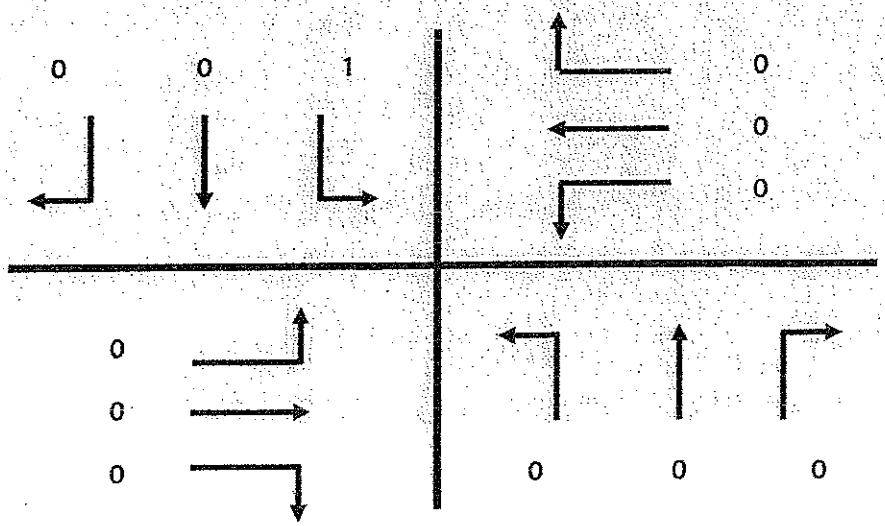
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	1	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

North / South
Maitland Ave

East / West
Packwood Ave

Peak Hour
8:00 - 9:00



Roadway Count Summary

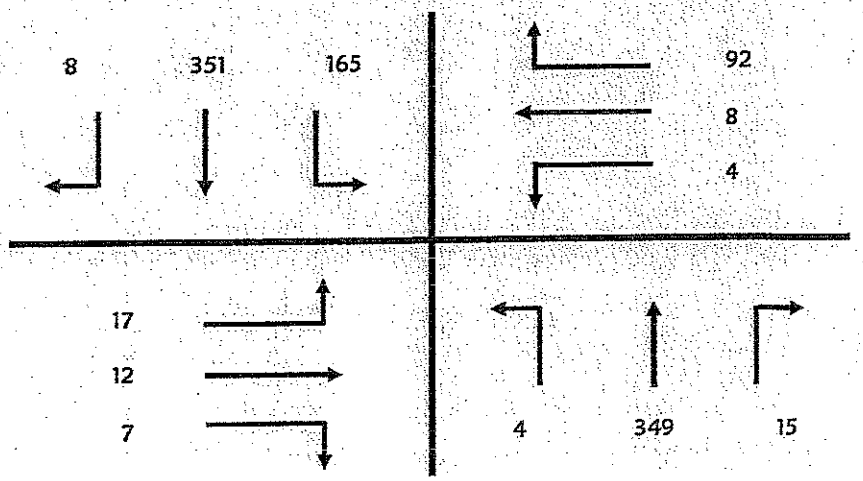
GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave		& Packwood Ave
Date	July 1, 2014		All Vehicles
Time Period	16:00 to 18:00		

GMB Project #: 14-110.01

Time Period	Northbound Left	Northbound Through	Northbound Right	Southbound Left	Southbound Through	Southbound Right
16:00 - 16:15	1	66	3	29	83	2
16:15 - 16:30	2	95	3	20	77	1
16:30 - 16:45	3	78	1	37	90	1
16:45 - 17:00	1	73	7	44	90	3
17:00 - 17:15	1	93	4	50	88	0
17:15 - 17:30	1	85	3	36	92	2
17:30 - 17:45	1	98	1	35	81	3
17:45 - 18:00	2	63	3	32	81	1
	12	651	25	283	682	13

Time Period	Eastbound Left	Eastbound Through	Eastbound Right	Westbound Left	Westbound Through	Westbound Right
16:00 - 16:15	7	1	1	5	2	15
16:15 - 16:30	5	1	6	2	2	29
16:30 - 16:45	6	3	4	1	1	21
16:45 - 17:00	1	0	4	2	3	20
17:00 - 17:15	11	3	1	0	2	34
17:15 - 17:30	3	5	1	0	2	18
17:30 - 17:45	2	4	1	2	1	20
17:45 - 18:00	5	4	1	0	5	21
	40	21	19	12	18	178



North / South
Maitland Ave

East / West
Packwood Ave

Peak Hour
16:45 - 17:45

Peak Hour Factor
0.90

Total Pk Hr Voume
1,032

Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Packwood Ave
Date	July 1, 2014		
Time Period	16:00 to 18:00		Trucks

GMB Project #: 14-110.01

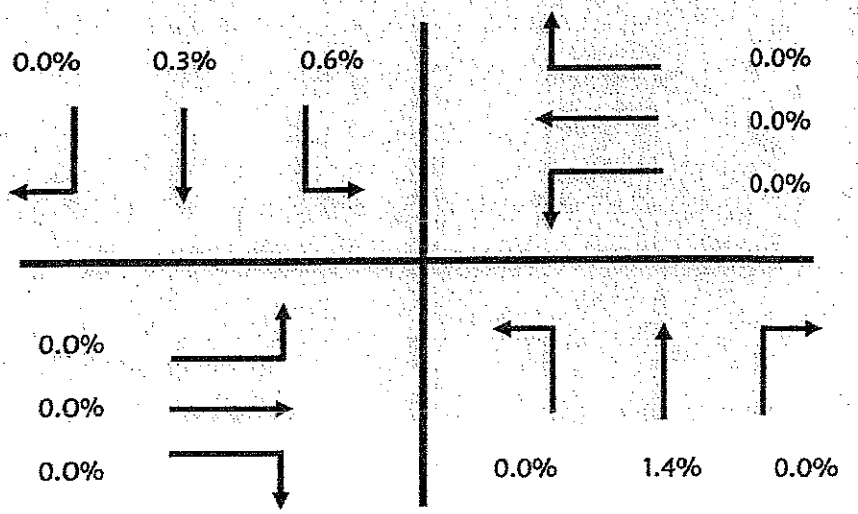
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	1	0	0
16:15 - 16:30	0	0	0	0	1	0
16:30 - 16:45	0	0	0	1	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	3	0	0	0	0
17:15 - 17:30	0	1	0	1	1	0
17:30 - 17:45	0	1	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	1	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
Maitland Ave

East / West
Packwood Ave

Peak Hour
16:45 - 17:45



Roadway Count Summary

GMB Engineers & Planners, Inc.

County	Orange	City	Maitland
Intersection	Maitland Ave	&	Packwood Ave
Date	July 1, 2014		
Time Period	16:00 to 18:00		U-Turn & RTOR

GMB Project #: 14-110.01

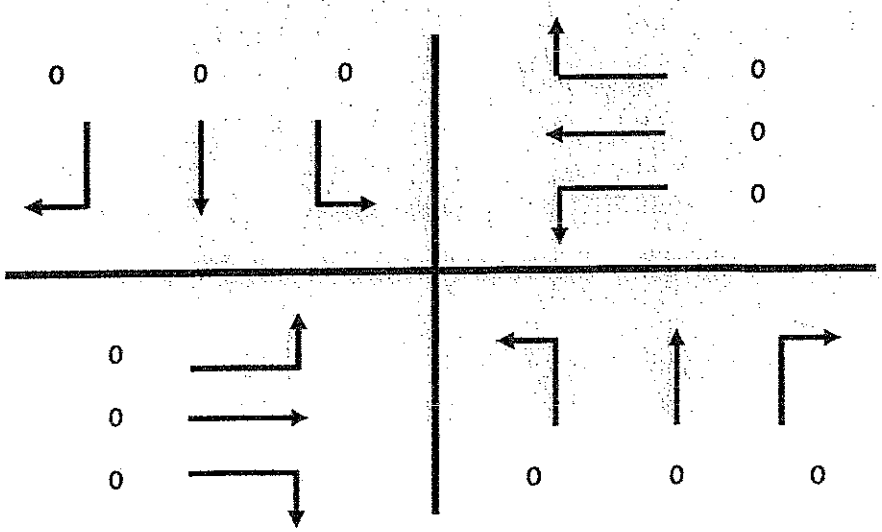
Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

North / South
Maitland Ave

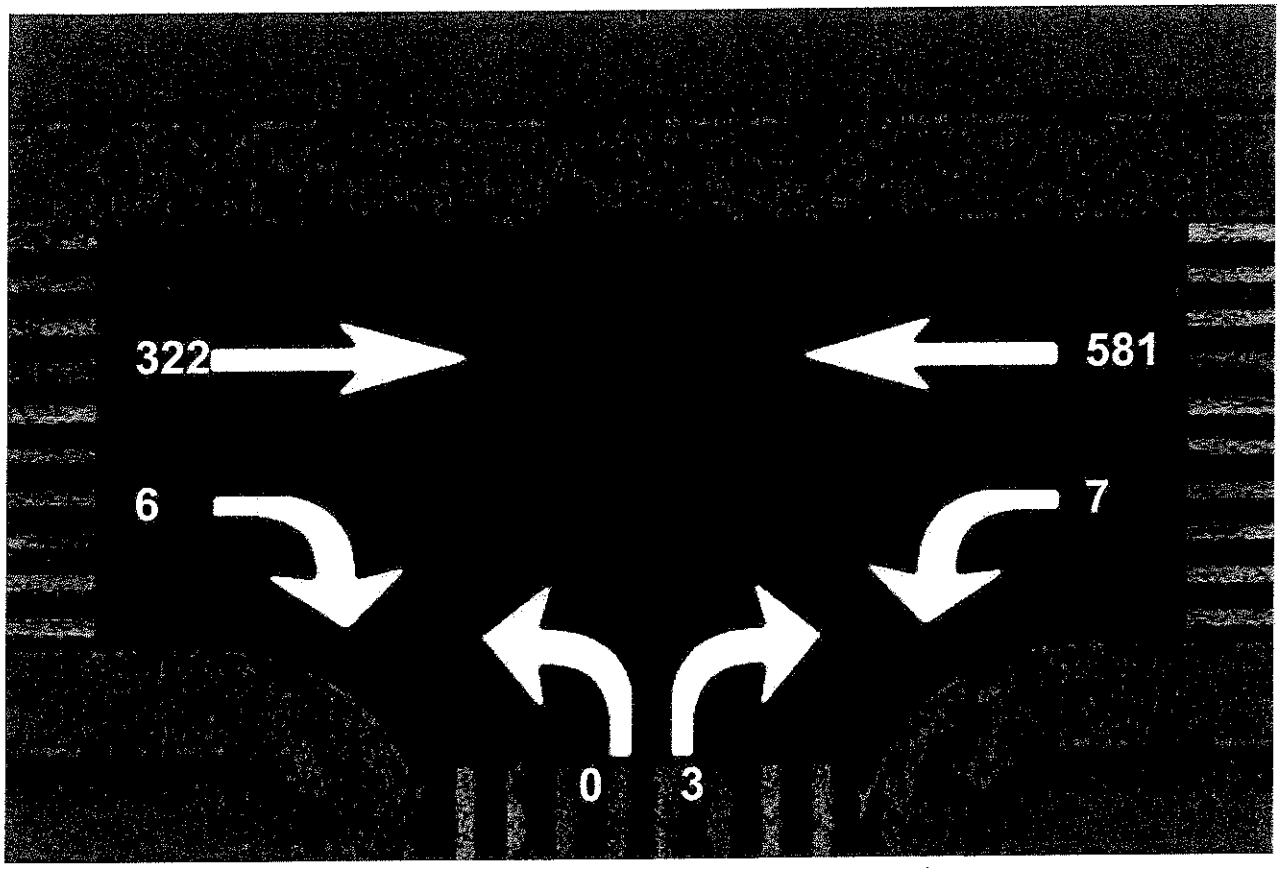
East / West
Packwood Ave

Peak Hour
16:45 - 17:45



Intersection Peak Hour

Location: Independence Lane at Horatio Avenue, Maitland, FL
GPS Coordinates:
Date: 09/16/14
Day of week: tuesday
Weather:
Analyst: Scott



Intersection Peak Hour

07:45 - 08:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	7	581	0	0	0	3	0	322	6	919
Factor	0.00	0.00	0.00	0.88	0.95	0.00	0.00	0.00	0.25	0.00	0.91	0.50	0.99
Approach factor	0.00			0.95			0.25			0.92			

Intersection Peak Hour

07:45 - 08:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	7	581	0	0	0	3	0	322	6	919
Factor	0.00	0.00	0.00	0.88	0.95	0.00	0.00	0.00	0.25	0.00	0.91	0.50	0.99
Approach factor	0.00			0.95			0.25			0.92			

Peak Hour Vehicle Summary

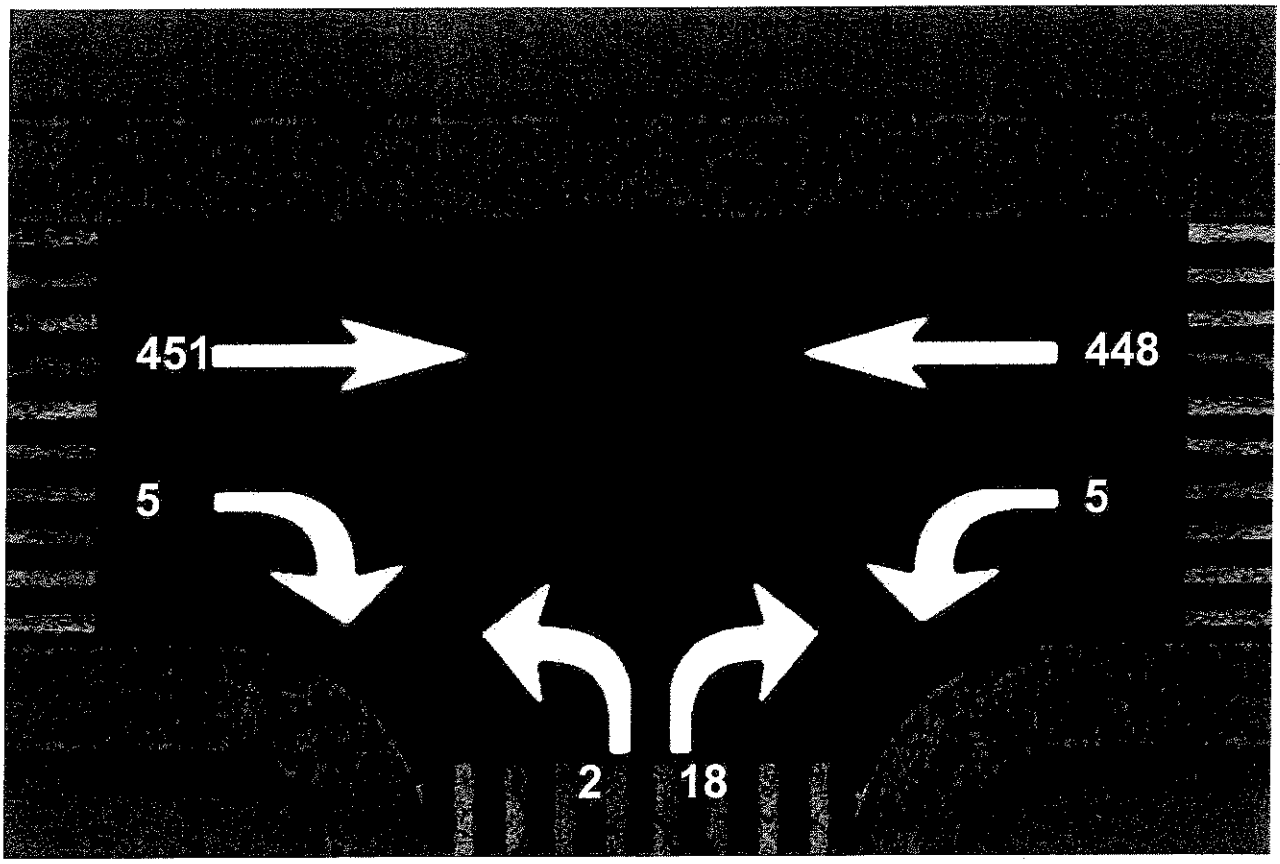
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	0	0	7	577	0	0	0	3	0	319	6	912
Truck	0	0	0	0	4	0	0	0	0	0	3	0	7

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Independence at Horatio, Maitland FL
GPS Coordinates:
Date: 2014-09-12
Day of week: Friday
Weather:
Analyst:



Intersection Peak Hour

16:15 - 17:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	5	448	0	2	0	18	0	451	5	929
Factor	0.00	0.00	0.00	0.62	0.86	0.00	0.25	0.00	0.50	0.00	0.90	0.42	0.90
Approach factor	0.00			0.86			0.45			0.91			

Intersection Peak Hour

16:15 - 17:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	5	448	0	2	0	18	0	451	5	929
Factor	0.00	0.00	0.00	0.62	0.86	0.00	0.25	0.00	0.50	0.00	0.90	0.42	0.90
Approach factor	0.00			0.86			0.45			0.91			

Peak Hour Vehicle Summary

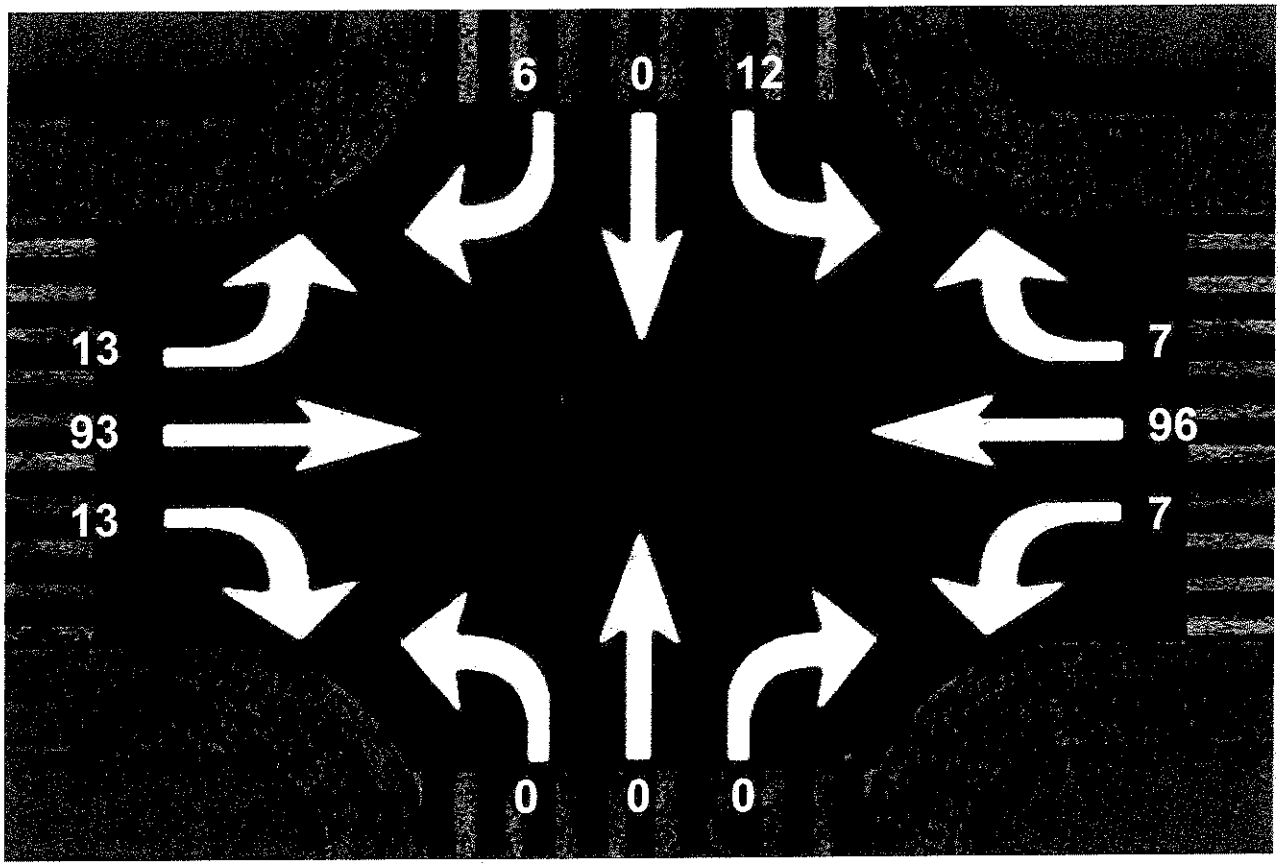
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	0	0	0	5	443	0	2	0	18	0	448	5	921
Truck	0	0	0	0	5	0	0	0	0	0	3	0	8

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Independence Lane at Packwood Avenue, Maitland, FL
GPS Coordinates:
Date: 2014-09-15
Day of week: Monday
Weather:
Analyst: scott



Intersection Peak Hour

07:45 - 08:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	0	6	7	96	7	0	0	0	13	93	13	247
Factor	0.75	0.00	0.50	0.44	0.69	0.44	0.00	0.00	0.00	0.54	0.77	0.65	0.86
Approach factor	0.64			0.71			0.00			0.85			

Intersection Peak Hour

07:45 - 08:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	12	0	6	7	96	7	0	0	0	13	93	13	247
Factor	0.75	0.00	0.50	0.44	0.69	0.44	0.00	0.00	0.00	0.54	0.77	0.65	0.86
Approach factor	0.64			0.71			0.00			0.85			

Peak Hour Vehicle Summary

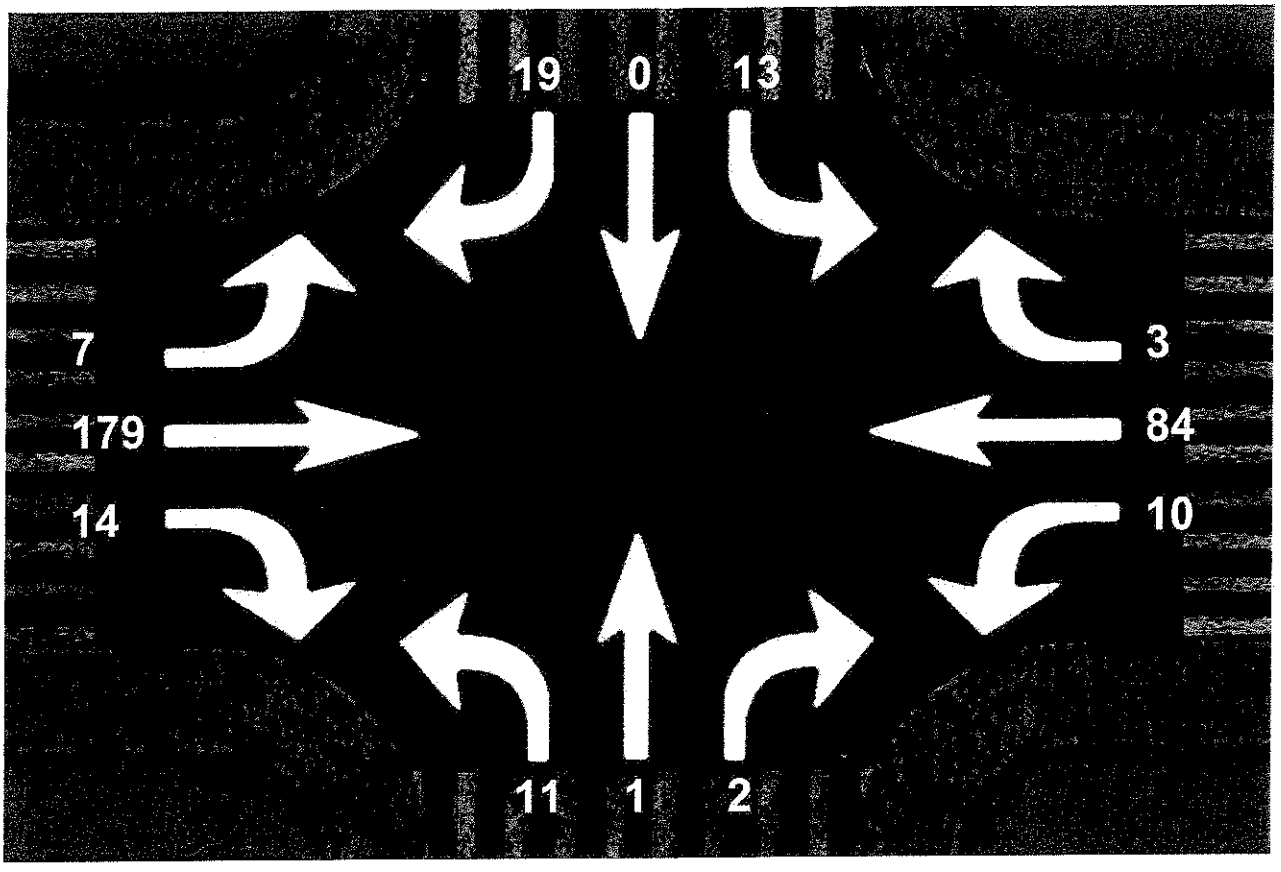
Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	12	0	6	7	95	7	0	0	0	12	93	13	245
Truck	0	0	0	0	1	0	0	0	0	1	0	0	2

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour

Location: Independence Lane at Packwood Avenue, Maitland, FL
GPS Coordinates:
Date: 2014-09-12
Day of week: Friday
Weather:
Analyst: Scott



Intersection Peak Hour

16:45 - 17:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	13	0	19	10	84	3	11	1	2	7	179	14	343
Factor	0.81	0.00	0.53	0.50	0.75	0.38	0.55	0.25	0.25	0.58	0.80	0.70	0.85
Approach factor	0.67			0.73			0.70			0.83			

Intersection Peak Hour

16:45 - 17:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	13	0	19	10	84	3	11	1	2	7	179	14	343
Factor	0.81	0.00	0.53	0.50	0.75	0.38	0.55	0.25	0.25	0.58	0.80	0.70	0.85
Approach factor	0.67			0.73			0.70			0.83			

Peak Hour Vehicle Summary

Vehicle	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Car	13	0	19	10	83	3	11	1	2	7	179	13	341
Truck	0	0	0	0	1	0	0	0	0	0	0	1	2

Peak Hour Pedestrians

	NE			NW			SW			SE			Total
	Left	Right	Total	Left	Right	Total	Left	Right	Total	Left	Right	Total	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0

2013 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7500 ORANGE COUNTYWIDE

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2013 - 01/05/2013	1.01	1.02
2	01/06/2013 - 01/12/2013	1.03	1.04
3	01/13/2013 - 01/19/2013	1.04	1.05
4	01/20/2013 - 01/26/2013	1.03	1.04
5	01/27/2013 - 02/02/2013	1.02	1.03
6	02/03/2013 - 02/09/2013	1.01	1.02
7	02/10/2013 - 02/16/2013	1.00	1.01
8	02/17/2013 - 02/23/2013	0.99	1.00
* 9	02/24/2013 - 03/02/2013	0.99	1.00
*10	03/03/2013 - 03/09/2013	0.98	0.99
*11	03/10/2013 - 03/16/2013	0.98	0.99
*12	03/17/2013 - 03/23/2013	0.98	0.99
*13	03/24/2013 - 03/30/2013	0.98	0.99
*14	03/31/2013 - 04/06/2013	0.98	0.99
*15	04/07/2013 - 04/13/2013	0.98	0.99
*16	04/14/2013 - 04/20/2013	0.99	1.00
*17	04/21/2013 - 04/27/2013	0.99	1.00
*18	04/28/2013 - 05/04/2013	0.99	1.00
*19	05/05/2013 - 05/11/2013	0.99	1.00
*20	05/12/2013 - 05/18/2013	0.99	1.00
*21	05/19/2013 - 05/25/2013	0.99	1.00
22	05/26/2013 - 06/01/2013	1.00	1.01
23	06/02/2013 - 06/08/2013	1.00	1.01
24	06/09/2013 - 06/15/2013	1.00	1.01
25	06/16/2013 - 06/22/2013	1.01	1.02
26	06/23/2013 - 06/29/2013	1.01	1.02
27	06/30/2013 - 07/06/2013	1.02	1.03
28	07/07/2013 - 07/13/2013	1.02	1.03
29	07/14/2013 - 07/20/2013	1.03	1.04
30	07/21/2013 - 07/27/2013	1.02	1.03
31	07/28/2013 - 08/03/2013	1.01	1.02
32	08/04/2013 - 08/10/2013	1.00	1.01
33	08/11/2013 - 08/17/2013	1.00	1.01
34	08/18/2013 - 08/24/2013	0.99	1.00
35	08/25/2013 - 08/31/2013	1.00	1.01
36	09/01/2013 - 09/07/2013	1.00	1.01
37	09/08/2013 - 09/14/2013	1.01	1.02
38	09/15/2013 - 09/21/2013	1.01	1.02
39	09/22/2013 - 09/28/2013	1.01	1.02
40	09/29/2013 - 10/05/2013	1.01	1.02
41	10/06/2013 - 10/12/2013	1.00	1.01
42	10/13/2013 - 10/19/2013	1.00	1.01
43	10/20/2013 - 10/26/2013	1.00	1.01
44	10/27/2013 - 11/02/2013	1.01	1.02
45	11/03/2013 - 11/09/2013	1.01	1.02
46	11/10/2013 - 11/16/2013	1.01	1.02
47	11/17/2013 - 11/23/2013	1.02	1.03
48	11/24/2013 - 11/30/2013	1.01	1.02
49	12/01/2013 - 12/07/2013	1.01	1.02
50	12/08/2013 - 12/14/2013	1.01	1.02
51	12/15/2013 - 12/21/2013	1.01	1.02
52	12/22/2013 - 12/28/2013	1.03	1.04
53	12/29/2013 - 12/31/2013	1.04	1.05

* PEAK SEASON

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Districtwide Traffic Signal Retiming - Orange County 2013-2014

FM: 427046-2-32-02

SR 15 (US 17/92) at Horatio Ave		Prepared By: DJP	Date: 6/9/2014
North-South Roadway	SR 15 (US 17/92)	East-West Roadway	Horatio Ave

PHASE TIMES

MOVEMENT	1	2	3	4	5	6	7	8
DIRECTION	NBL	SB	EBL	WB	SBL	NB	WBL	EB
LEFT TURN	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
MIN GRN	5	15	7	7	5	15	7	7
GAP EXT	3.0	4.0	3.0	3.0	3.0	4.0	4.0	3.0
YEL CLR	4.5	4.5	4.0	4.1	4.5	4.5	4.1	4.1
RED CLR	2.4	2.4	2.7	3.0	2.3	2.4	2.3	3.0
MAX 1	25	60	10	40	25	60	35	35
MAX 2	30	30	30	30	30	30	30	30
WALK		7		7		7		7
PED CLR		27		33		28		32

	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt Seq
Weekday	-	0:00	6:30	0/0/4	FREE			0
	AM	6:30	10:00	2/1/1	160	130	1	2
	Midday	10:00	15:15	2/3/1	180	7	2	1
	PM	15:15	19:30	3/3/1	200	48	3	1
	-	19:30	0:00	0/0/4	FREE			0

COORDINATION SPLIT TABLES

Split 1

Phase	1	2	3	4	5	6	7	8
Time (sec)	16	58	18	68	22	52	44	42
Coord Phase		X				X		
Mode		MAX				MAX		

Split 2

Phase	1	2	3	4	5	6	7	8
Time (sec)	20	72	20	68	25	67	36	52
Coord Phase		X				X		
Mode		MAX				MAX		

Split 3

Phase	1	2	3	4	5	6	7	8
Time (sec)	20	98	20	65	32	83	30	55
Coord Phase		X				X		
Mode		MAX				MAX		

NOTES

1. Coordination Mode: Permissive
2. Maximum Mode: Inhibit Max
3. Offset Reference: End of Green
4. Force Mode: Plan
5. Alternate Sequence 1: reverse phases 3 & 4, 5 & 6
6. Alternate Sequence 2: reverse phases 3 & 4

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Districtwide Traffic Signal Retiming - Orange County 2013-2014

FM: 427046-2-32-02

SR 15 (US 17/92) at Packwood Ave	Prepared By: DJP	Date: 5/6/2014	
North-South Roadway	SR 15 (US 17/92)	East-West Roadway	Packwood Ave

PHASE TIMES

MOVEMENT	1	2		4	5	6		8
DIRECTION	NBL	SB		WB	SBL	NB		EB
LEFT TURN	Prot/Perm	Perm		Perm	Prot/Perm	Perm		Perm
MIN GRN	5	15		7	5	15		7
GAP EXT	3.0	4.0		4.0	3.0	4.0		4.0
YEL CLR	4.6	4.6		4.0	4.5	4.6		4.0
RED CLR	2.0	2.0		3.4	2.0	2.0		3.4
MAX 1	45	60		30	20	60		30
MAX 2	30	30		30	30	30		30
WALK		7				7		7
PED CLR		16				12		25

	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt Seq
Weekday	-	0:00	6:30	0/0/4	FREE			0
	AM	6:30	10:00	2/1/1	160	29	1	0
	Midday	10:00	15:15	2/3/1	180	54	2	0
	PM	15:15	19:30	3/3/1	200	103	3	0
	-	19:30	0:00	0/0/4	FREE			0

COORDINATION SPLIT TABLES

Split 1

Phase	1	2		4	5	6		8
Time (sec)	20	110		30	20	110		30
Coord Phase		X				X		
Mode		MAX				MAX		

Split 2

Phase	1	2		4	5	6		8
Time (sec)	20	115		45	20	115		45
Coord Phase		X				X		
Mode		MAX				MAX		

Split 3

Phase	1	2		4	5	6		8
Time (sec)	20	130		50	20	130		50
Coord Phase		X				X		
Mode		MAX				MAX		

NOTES

1. Coordination Mode: Permissive
2. Maximum Mode: Inhibit Max
3. Offset Reference: End of Green
4. Force Mode: Plan

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Districtwide Traffic Signal Retiming - Orange County 2013-2014

FM: 427046-2-32-02

SR 15 (US 17/92) at Maitland Ave/Manor Rd	Prepared By: DJP	Date: 5/6/2014	
North-South Roadway	SR 15 (US 17/92)	East-West Roadway	Maitland Ave/Manor Rd

PHASE TIMES

MOVEMENT	1	2		4	5	6		8
DIRECTION	NBL	SB		WB	SBL	NB		EB
LEFT TURN	Prot	Prot		Perm	Prot	Prot		Perm
MIN GRN	5	15		7	5	15		7
GAP EXT	3.0	4.0		3.0	3.0	4.0		3.0
YEL CLR	4.8	4.8		4.4	4.8	4.8		4.4
RED CLR	2.1	2.0		3.6	2.0	2.0		3.6
MAX 1	20	60		30	20	60		30
MAX 2	30	50		50	30	50		50
WALK		7		7		7		7
PED CLR		18		26		18		26

	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt Seq
Weekday	-	0:00	6:30	0/0/4	FREE			0
	AM	6:30	10:00	2/1/1	160	50	1	1
	Midday	10:00	15:15	2/3/1	180	46	2	2
	PM	15:15	19:30	3/3/1	200	91	3	2
	-	19:30	0:00	0/0/4	FREE			0

COORDINATION SPLIT TABLES

Split 1

Phase	1	2		4	5	6		8
Time (sec)	24	96		40	22	98		40
Coord Phase		X				X		
Mode		MAX				MAX		

Split 2

Phase	1	2		4	5	6		8
Time (sec)	45	100		35	25	120		35
Coord Phase		X				X		
Mode		MAX				MAX		

Split 3

Phase	1	2		4	5	6		8
Time (sec)	50	115		35	25	140		35
Coord Phase		X				X		
Mode		MAX				MAX		

NOTES

1. Coordination Mode: Permissive
2. Maximum Mode: Inhibit Max
3. Offset Reference: End of Green
4. Force Mode: Plan
5. Alternate Sequence 1: reverse phases 1 & 2
6. Alternate Sequence 2: reverse phases 5 & 6

COORDINATED TIMINGS

Faller, Davis & Associated, Inc.

Maitland Avenue at Horatio Avenue		Prepared By:	NJS	Date:	5/23/2014
North-South Roadway	Maitland Avenue	East-West Roadway	Horatio Avenue		

PHASE TIMES

MOVEMENT	1	2	3	4	5	6	7	OLA
DIRECTION	NBL	SB		EB	SBL	NB		WB
LEFT TURN	Prot/Perm	Perm		Perm	Prot/Perm	Perm		Perm
MIN GRN	5	15		8	5	15		
GAP EXT	3.5	4.0		4.0	3.5	4.0		
YEL CLR	4.0	4.0		3.7	4.0	4.0		3.7
RED CLR	2.0	2.1		3.9	2.3	2.1		3.9
MAX 1	10	45		55	15	45		
MAX 2								
WALK		7		7				
PED CLR		12		26				

	TIME BASE COORDINATION				COORDINATION PATTERN TABLES			
	Plan	Start	End	C/S/O	Cycle Length	Offset	Split	Alt Seq
Weekday	-	0:00	6:30	0/0/4	FREE			0
	AM	6:30	10:00	2/1/1	80	65	1	0
	Midday	10:00	15:15	2/3/1	90	45	2	0
	PM	15:15	19:30	3/3/1	100	90	3	0
	-	19:30	0:00	0/0/4	FREE			0

COORDINATION SPLIT TABLES

Split 1

Phase	1	2	3	4	5	6	7	8
Time (sec)	16	26		38	16	26		
Coord Phase		X				X		
Mode		MAX		MAX		MAX		

Split 2

Phase	1	2	3	4	5	6	7	8
Time (sec)	16	29		45	16	29		
Coord Phase		X				X		
Mode		MAX		MAX		MAX		

Split 3

Phase	1	2	3	4	5	6	7	8
Time (sec)	16	34		50	16	34		
Coord Phase		X				X		
Mode		MAX		MAX		MAX		

NOTES

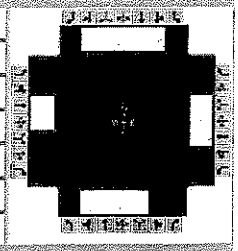
1. Coordination Mode: Permissive
2. Maximum Mode: Inhibit Max
3. Offset Reference: End of Green
4. Force Mode: Plan

APPENDIX C

Existing
HCS Capacity Worksheets

HCS 2010 Signalized Intersection Results Summary

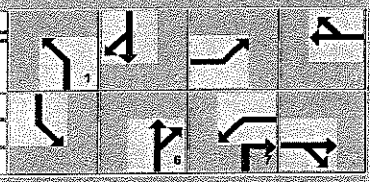
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Hour	PHF	0.95
Intersection	US 17/92 & Horatio Ave	Analysis Year	2014	Analysis Period	1> 8:00
File Name	4568 - US 1792 & Horatio - Existing AM - new counts.xus				
Project Description	AM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	12	314	7	784	510	80	41	604	327	262	1299	31

Signal Information			
Cycle, s	160.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.0	3.1	48.4	3.0	27.9	31.8
Yellow	4.5	4.5	4.5	4.0	4.1	4.1
Red	2.4	2.3	2.4	2.7	2.3	3.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	9.7	38.9	44.0	73.2	11.9	55.3	21.8	65.2
Change Period, ($Y+R_c$), s	6.7	7.1	6.4	7.1	6.9	6.9	6.8	6.9
Max Allow Headway (*MAH*), s	4.1	4.1	5.1	4.1	4.0	0.0	4.1	0.0
Queue Clearance Time (g_s), s	3.1	30.0	39.6	49.0	5.9		14.6	
Green Extension Time (g_e), s	0.0	1.8	0.0	3.7	0.0	0.0	0.4	0.0
Phase Call Probability	0.43	1.00	1.00	1.00	0.85		1.00	
Max Out Probability	0.00	0.83	1.00	0.04	0.05		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	13	336		825	614		43	636	285	276	937	463
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1876		1740	1840		1774	1773	1533	1723	1881	1858
Queue Service Time (g_s), s	1.1	28.0		37.6	47.0		3.9	24.4	16.9	12.6	33.7	33.7
Cycle Queue Clearance Time (g_c), s	1.1	28.0		37.6	47.0		3.9	24.4	16.9	12.6	33.7	33.7
Green Ratio (*g/C*)	0.02	0.20		0.23	0.41		0.03	0.30	0.54	0.09	0.36	0.36
Capacity (*c*), veh/h	34	373		818	760		56	1073	824	323	1370	677
Volume-to-Capacity Ratio (*X*)	0.371	0.901		1.009	0.808		0.774	0.592	0.346	0.854	0.684	0.684
Available Capacity (c_a), veh/h	128	409		818	796		135	1073	824	394	1370	677
Back of Queue (*Q*), veh/ln (95th percentile)	1.0	22.0		27.9	30.2		3.7	16.4	10.3	10.3	22.6	23.0
Queue Storage Ratio (*RQ*) (95th percentile)	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	77.6	62.6		61.2	41.4		76.9	47.4	21.0	71.4	43.1	43.1
Incremental Delay (d_2), s/veh	6.6	21.3		33.8	6.0		20.0	2.4	1.2	14.2	2.8	5.5
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	84.2	83.9		95.0	47.3		96.9	49.8	22.2	85.7	45.9	48.6
Level of Service (LOS)	F	F		F	D		F	D	C	F	D	D
Approach Delay, s/veh / LOS	83.9	F		74.7	E		43.7	D		53.2	D	
Intersection Delay, s/veh / LOS	60.5						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.4	C	3.1	C	2.9	C	2.3	B
Bicycle LOS Score / LOS	1.1	A	2.9	C	1.3	A	1.4	A

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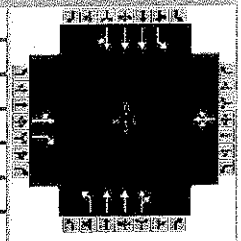
HCS 2010 Signalized Intersection Results Summary

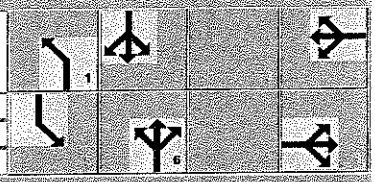
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Period	PHF	0.94
Intersection	US 17/92 & Packwood Ave	Analysis Year	2014	Analysis Period	1> 8:00
File Name	4568 - US 1792 & Packwood - Existing AM.xus				
Project Description	AM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	19	21	20	103	30	15	64	1032	25	28	2298	24

Signal Information			
Cycle, s	160.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.7	1.2	105.5	15.6	6.1	0.0
Yellow	4.5	0.0	4.6	4.0	4.0	0.0
Red	2.0	0.0	2.0	3.4	3.4	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		13.5		23.0	11.4	113.3	10.2	112.1
Change Period, ($Y+R_c$), s		7.4		7.4	6.6	6.6	6.5	6.6
Max Allow Headway (*MAH*), s		5.2		5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		5.6		15.3	3.9		2.9	
Green Extension Time (g_e), s		0.2		0.4	0.2	0.0	0.1	0.0
Phase Call Probability		0.87		1.00	0.95		0.73	
Max Out Probability		0.00		0.30	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		43	3		151		68	752	372	30	1647	821
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1856	1548		1796		1810	1845	1822	1810	1863	1853
Queue Service Time (g_s), s		3.6	0.3		13.3		1.9	13.6	13.6	0.9	43.2	43.3
Cycle Queue Clearance Time (g_c), s		3.6	0.3		13.3		1.9	13.6	13.6	0.9	43.2	43.3
Green Ratio (*g/C*)		0.04	0.04		0.10		0.69	0.67	0.67	0.68	0.66	0.66
Capacity (*c*), veh/h		71	59		175		152	2461	1215	376	2457	1222
Volume-to-Capacity Ratio (*X*)		0.603	0.054		0.861		0.447	0.306	0.306	0.079	0.670	0.672
Available Capacity (c_a), veh/h		343	286		254		516	2461	1215	753	2457	1222
Back of Queue (*Q*), veh/ln (95th percentile)		3.5	0.2		11.6		2.3	9.4	9.4	0.6	24.8	25.4
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		75.8	74.2		71.1		19.7	11.1	11.1	8.9	16.6	16.7
Incremental Delay (d_2), s/veh		11.2	0.5		21.0		2.0	0.3	0.7	0.1	1.5	3.0
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		87.0	74.7		92.1		21.7	11.5	11.8	9.0	18.1	19.6
Level of Service (LOS)		F	E		F		C	B	B	A	B	B
Approach Delay, s/veh / LOS	86.1	F		92.1	F		12.2	B		18.5	B	
Intersection Delay, s/veh / LOS	20.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.1	B	2.3	B
Bicycle LOS Score / LOS	0.6	A	0.7	A	1.1	A	1.9	A

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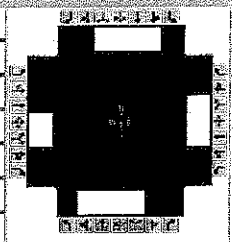
HCS 2010 Signalized Intersection Results Summary

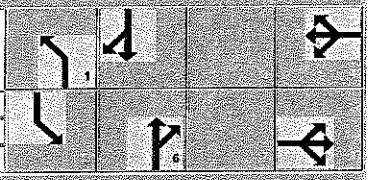
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Period	PHF	0.94
Intersection	US 17/92 & Maitland Ave/M	Analysis Year	2014	Analysis Period	1> 8:00
File Name	4568 - US 1792 & Maitland-Manor - Existing AM.xus				
Project Description	AM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	7	3	334	19	9	9	157	1198	5	17	2403	13

Signal Information			
Cycle, s	160.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.8	7.5	81.8	5.2	26.2	0.0
Yellow	4.8	4.8	4.8	4.4	4.4	0.0
Red	2.0	2.1	2.0	3.6	3.6	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		9.0	2.0	4.0	2.0	4.0
Phase Duration, s		34.2		13.2	24.0	103.1	9.6	88.6
Change Period, ($Y+R_c$), s		8.0		8.0	6.9	6.8	6.8	6.8
Max Allow Headway (*MAH*), s		4.4		4.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		25.2		3.7	16.5		3.6	
Green Extension Time (g_e), s		0.9		0.1	0.6	0.0	0.0	0.0
Phase Call Probability		1.00		0.75	1.00		0.55	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		11	224	20	10	1	167	854	426	18	1714	856
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1836	1519	1810	1881	1610	1810	1827	1823	1810	1863	1857
Queue Service Time (g_s), s		0.8	23.2	1.7	0.8	0.1	14.5	19.4	19.4	1.6	66.6	66.8
Cycle Queue Clearance Time (g_c), s		0.8	23.2	1.7	0.8	0.1	14.5	19.4	19.4	1.6	66.6	66.8
Green Ratio (*g/C*)		0.16	0.16	0.03	0.03	0.03	0.11	0.60	0.60	0.02	0.51	0.51
Capacity (*c*), veh/h		300	248	59	61	53	193	2198	1097	31	1906	950
Volume-to-Capacity Ratio (*X*)		0.035	0.904	0.342	0.156	0.020	0.865	0.388	0.388	0.579	0.900	0.901
Available Capacity (c_a), veh/h		674	558	362	376	322	562	2198	1097	541	1906	950
Back of Queue (*Q*), veh/ln (95th percentile)		0.7	14.9	1.6	0.7	0.1	11.7	12.8	13.0	1.6	40.3	42.1
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		56.3	65.7	75.7	75.2	74.9	70.3	16.6	16.6	78.0	35.4	35.4
Incremental Delay (d_2), s/veh		0.0	11.6	3.4	1.2	0.2	10.9	0.5	1.0	15.8	7.3	13.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		56.4	77.3	79.1	76.4	75.1	81.3	17.1	17.6	93.8	42.6	48.7
Level of Service (LOS)		E	E	E	E	E	F	B	B	F	D	D
Approach Delay, s/veh / LOS	76.4	E		78.1	E		24.6	C		45.0	D	
Intersection Delay, s/veh / LOS	40.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.4	B	2.5	B
Bicycle LOS Score / LOS	0.9	A	0.5	A	1.3	A	1.9	A

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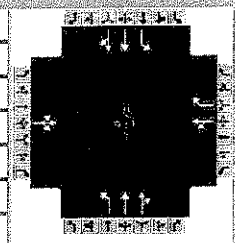
HCS 2010 Signalized Intersection Results Summary

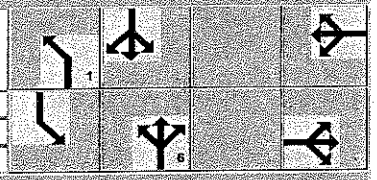
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Hour	PHF	0.86
Intersection	Maitland Ave & Horatio Ave	Analysis Year	2014	Analysis Period	1> 8:00
File Name	4568 - Maitland Ave & Horatio - Existing AM.xus				
Project Description	AM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	16	18	7	32	37	446	4	218	12	297	459	9

Signal Information			
Cycle, s	80.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.5	6.2	19.9	27.4	0.0	0.0
Yellow	4.0	4.0	4.0	3.7	0.0	0.0
Red	2.0	2.3	2.1	3.9	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		8.0		7.0	1.1	4.0	1.1	4.0
Phase Duration, s		35.0		35.0	6.5	26.0	19.0	38.5
Change Period, ($Y+R_c$), s		7.6		7.6	6.0	6.1	6.3	6.1
Max Allow Headway (*MAH*), s		3.4		3.4	3.1	0.0	3.1	0.0
Queue Clearance Time (g_s), s		3.2		26.8	2.2		12.9	
Green Extension Time (g_e), s		1.6		0.7	0.0	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.10		1.00	
Max Out Probability		0.00		0.89	0.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		43			80	510	5	131	130	345	273	271
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1641			1658	1594	1810	1900	1879	1792	1712	1700
Queue Service Time (g_s), s		0.0			0.0	24.8	0.2	4.5	4.5	10.9	9.0	9.0
Cycle Queue Clearance Time (g_c), s		1.2			2.3	24.8	0.2	4.5	4.5	10.9	9.0	9.0
Green Ratio (*g/C*)		0.34			0.34	0.34	0.25	0.25	0.25	0.43	0.40	0.40
Capacity (*c*), veh/h		627			635	547	319	473	467	590	692	688
Volume-to-Capacity Ratio (*X*)		0.069			0.126	0.933	0.015	0.277	0.279	0.585	0.394	0.395
Available Capacity (c_a), veh/h		687			695	606	601	473	467	590	692	688
Back of Queue (*Q*), veh/ln (95th percentile)		1.0			1.8	17.4	0.1	3.8	3.8	7.6	6.5	6.5
Queue Storage Ratio (*RQ*) (95th percentile)		0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		17.7			18.0	25.4	22.3	24.2	24.3	16.4	16.9	16.9
Incremental Delay (d_2), s/veh		0.0			0.0	19.7	0.0	1.5	1.5	1.0	1.7	1.7
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		17.7			18.1	45.1	22.3	25.7	25.7	17.4	18.6	18.6
Level of Service (LOS)		B			B	D	C	C	C	B	B	B
Approach Delay, s/veh / LOS	17.7	B		41.4		D	25.7		C	18.1		B
Intersection Delay, s/veh / LOS		26.9						C				

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.3	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	1.5	A	0.7	A	1.2	A

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Existing

Site Information

Intersection	Maitland Blvd & Packwood Ave
Jurisdiction	City of Maitland
Analysis Year	2014

Project Description 4568

East/West Street: Packwood Ave | North/South Street: Maitland Ave

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	8	4	5	5	6	59
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	9	4	6	6	7	71
Percent Heavy Vehicles	12	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	1
Configuration	LTR			LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	9	171	7	85	358	11
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	10	206	8	102	431	13
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LT	L		TR	L		TR
v (veh/h)	9	6	10		214	102		444
C (m) (veh/h)	1459	1623	382		777	641		845
v/c	0.01	0.00	0.03		0.28	0.16		0.53
95% queue length	0.02	0.01	0.08		1.12	0.56		3.13
Control Delay (s/veh)	7.5	7.2	14.7		11.4	11.7		13.9
LOS	A	A	B		B	B		B
Approach Delay (s/veh)	--	--	11.5			13.5		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Existing

Site Information

Intersection	Horatio Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2014

Project Description 4568

East/West Street: Horatio Ave | North/South Street: Independence Ln

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		325	6	7	587	
Peak-Hour Factor, PHF	0.86	0.99	0.99	0.99	0.99	0.86
Hourly Flow Rate, HFR (veh/h)	0	328	6	7	592	0
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0		3			
Peak-Hour Factor, PHF	0.99	0.83	0.99	0.86	0.83	0.86
Hourly Flow Rate, HFR (veh/h)	0	0	3	0	0	0
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		7		3				
C (m) (veh/h)		1237		684				
v/c		0.01		0.00				
95% queue length		0.02		0.01				
Control Delay (s/veh)		7.9		10.3				
LOS		A		B				
Approach Delay (s/veh)	--	--	10.3					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Existing

Site Information

Intersection	Packwood Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2014

Project Description 4568

East/West Street: Packwood Ave | North/South Street: Independence Ln

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	13	94			97	7
Peak-Hour Factor, PHF	0.86	0.86	0.83	0.83	0.86	0.86
Hourly Flow Rate, HFR (veh/h)	15	109	0	0	112	8
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				12		6
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.86	0.83	0.86
Hourly Flow Rate, HFR (veh/h)	0	0	0	13	0	6
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	15						19	
C (m) (veh/h)	1431						786	
v/c	0.01						0.02	
95% queue length	0.03						0.07	
Control Delay (s/veh)	7.5						9.7	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.7		
Approach LOS	--	--				A		

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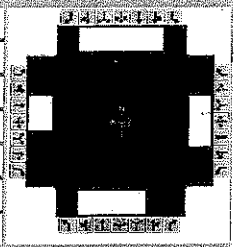
HCS+™ Version 5.6

Generated: 9/17/2014 5:23 PM

HCS 2010 Signalized Intersection Results Summary

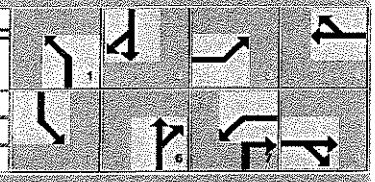
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Hour	PHF	0.98
Intersection	US 17/92 & Horatio Ave	Analysis Year	2014	Analysis Period	1> 17:00
File Name	4568 - US 1792 & Horatio - Existing PM - new counts.xus				
Project Description	PM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	42	365	7	356	361	94	44	1170	695	462	768	18

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.4	15.7	77.8	6.4	9.7	43.3
Yellow	4.5	4.5	4.5	4.0	4.1	4.1
Red	2.4	2.3	2.4	2.7	2.3	3.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.1	50.4	29.1	66.5	13.3	84.7	35.8	107.2
Change Period, ($Y+R_c$), s	6.7	7.1	6.4	7.1	6.9	6.9	6.8	6.9
Max Allow Headway (*MAH*), s	4.1	4.1	5.1	4.1	4.0	0.0	4.1	0.0
Queue Clearance Time (g_s), s	6.8	41.3	22.4	46.4	6.9		28.5	
Green Extension Time (g_e), s	0.0	2.0	0.3	3.0	0.1	0.0	0.5	0.0
Phase Call Probability	0.91	1.00	1.00	1.00	0.92		1.00	
Max Out Probability	0.05	0.43	1.00	0.03	0.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	43	380		363	443		45	1194	661	471	536	266
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1894		1757	1844		1810	1791	1594	1757	1881	1858
Queue Service Time (g_s), s	4.8	39.3		20.4	44.4		4.9	61.1	70.5	26.5	16.6	16.6
Cycle Queue Clearance Time (g_c), s	4.8	39.3		20.4	44.4		4.9	61.1	70.5	26.5	16.6	16.6
Green Ratio (*g/C*)	0.03	0.22		0.11	0.30		0.03	0.39	0.50	0.14	0.50	0.50
Capacity (*c*), veh/h	56	410		399	548		58	1393	801	509	1886	931
Volume-to-Capacity Ratio (*X*)	0.760	0.925		0.911	0.809		0.775	0.857	0.825	0.926	0.284	0.285
Available Capacity (c_a), veh/h	118	462		415	598		168	1393	801	539	1886	931
Back of Queue (*Q*), veh/ln (95th percentile)	4.5	29.5		16.0	29.8		4.7	37.3	38.2	19.6	12.3	12.3
Queue Storage Ratio (*RQ*) (95th percentile)	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	96.1	76.8		87.6	65.1		96.1	56.0	42.3	84.5	29.0	29.0
Incremental Delay (d_2), s/veh	18.7	23.2		23.9	7.6		19.4	7.0	9.5	21.6	0.4	0.8
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	114.7	99.9		111.5	72.6		115.5	63.0	51.8	106.0	29.4	29.8
Level of Service (LOS)	F	F		F	E		F	E	D	F	C	C
Approach Delay, s/veh / LOS	101.4	F		90.2	F		60.3	E		57.8	E	
Intersection Delay, s/veh / LOS	69.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.4	C	3.1	C	2.9	C	2.3	B
Bicycle LOS Score / LOS	1.2	A	1.8	A	2.1	B	1.2	A

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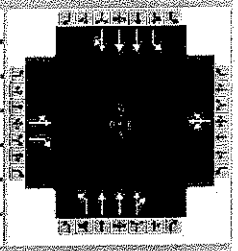
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Period	PHF	0.95
Intersection	US 17/92 & Packwood Ave	Analysis Year	2014	Analysis Period	1> 17:00
File Name	4568 - US 1792 & Packwood - Existing PM.xus				
Project Description	PM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	55	17	138	40	23	36	2269	67	74	1317	16

Signal Information												
Cycle, s	200.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	4.4	0.7	127.7	25.7	13.5	0.0		
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.6	0.0	4.6	4.0	4.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	0.0	2.0	3.4	3.4	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		20.9		33.1	11.0	134.3	11.7	135.0
Change Period, ($Y+R_c$), s		7.4		7.4	6.6	6.6	6.5	6.6
Max Allow Headway (*MAH*), s		5.1		5.3	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		13.0		24.6	3.5		5.0	
Green Extension Time (g_e), s		0.5		1.0	0.1	0.0	0.3	0.0
Phase Call Probability		1.00		1.00	0.88		0.99	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		100	0		207		38	1644	815	78	935	465
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1789	1519		1805		1810	1881	1852	1810	1881	1871
Queue Service Time (g_s), s		11.0	0.0		22.6		1.5	56.1	56.8	3.0	23.7	23.7
Cycle Queue Clearance Time (g_c), s		11.0	0.0		22.6		1.5	56.1	56.8	3.0	23.7	23.7
Green Ratio (*g/C*)		0.07	0.07		0.13		0.66	0.64	0.64	0.66	0.64	0.64
Capacity (*c*), veh/h		121	103		232		277	2402	1183	132	2416	1202
Volume-to-Capacity Ratio (*X*)		0.826	0.000		0.895		0.137	0.684	0.689	0.589	0.387	0.387
Available Capacity (c_a), veh/h		533	452		385		774	2402	1183	624	2416	1202
Back of Queue (Q), veh/ln (95th percentile)		9.7	0.0		17.5		1.1	33.2	33.7	4.3	15.8	15.9
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		92.1	0.0		85.9		13.5	23.2	23.3	30.2	17.0	17.0
Incremental Delay (d_2), s/veh		17.7	0.0		17.6		0.2	1.6	3.3	4.1	0.5	0.9
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		109.8	0.0		103.4		13.7	24.8	26.6	34.3	17.5	18.0
Level of Service (LOS)		F			F		B	C	C	C	B	B
Approach Delay, s/veh / LOS	109.8	F		103.4	F		25.2	C		18.5	B	
Intersection Delay, s/veh / LOS	28.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.1	B	2.3	B
Bicycle LOS Score / LOS	0.7	A	0.8	A	1.9	A	1.3	A

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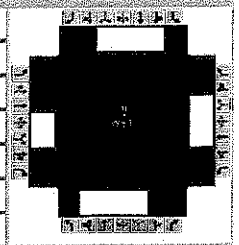
HCS 2010 Signalized Intersection Results Summary

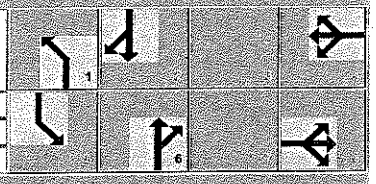
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Period	PHF	1.00
Intersection	US 17/92 & Maitland Ave/M	Analysis Year	2014	Analysis Period	1> 17:00
File Name	4568 - US 1792 & Maitland-Manor - Existing PM.xus				
Project Description	PM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	22	11	195	27	12	8	274	2436	24	25	1455	15

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.8	22.3	125.2	6.2	6.1	0.0
Yellow	4.8	4.8	4.8	4.4	4.4	0.0
Red	2.0	2.1	2.0	3.6	3.6	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		9.0	2.0	4.0	2.0	4.0
Phase Duration, s		14.1		14.2	39.7	161.2	10.6	132.0
Change Period, ($Y+R_c$), s		8.0		8.0	6.9	6.8	6.8	6.8
Max Allow Headway (*MAH*), s		4.1		4.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		5.5		4.9	31.8		4.7	
Green Extension Time (g_e), s		0.1		0.1	1.0	0.0	0.1	0.0
Phase Call Probability		0.86		0.89	1.00		0.75	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		33	3	27	12	0	274	1641	818	25	981	488
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1839	1594	1810	1900	1610	1810	1881	1872	1810	1881	1872
Queue Service Time (g_s), s		3.5	0.4	2.9	1.2	0.0	29.8	35.3	35.4	2.7	26.4	26.4
Cycle Queue Clearance Time (g_c), s		3.5	0.4	2.9	1.2	0.0	29.8	35.3	35.4	2.7	26.4	26.4
Green Ratio (*g/C*)		0.03	0.03	0.03	0.03	0.03	0.16	0.77	0.77	0.02	0.63	0.63
Capacity (*c*), veh/h		56	48	56	59	50	297	2904	1445	34	2356	1172
Volume-to-Capacity Ratio (*X*)		0.593	0.062	0.481	0.204	0.000	0.923	0.565	0.566	0.736	0.416	0.416
Available Capacity (c_a), veh/h		439	381	244	257	217	768	2904	1445	542	2356	1172
Back of Queue (*Q*), veh/ln (95th percentile)		3.3	0.3	2.7	1.2	0.0	21.2	20.0	20.4	2.8	17.3	17.5
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		95.8	94.2	95.3	94.5	0.0	82.3	9.2	9.2	97.6	18.9	18.9
Incremental Delay (d_2), s/veh		9.7	0.5	6.3	1.7	0.0	11.7	0.8	1.6	26.2	0.5	1.1
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		105.4	94.7	101.6	96.2	0.0	94.0	10.0	10.9	123.8	19.5	20.0
Level of Service (LOS)		F	F	F	F		F	B	B	F	B	C
Approach Delay, s/veh / LOS	104.5	F		99.9	F		18.7	B		21.4	C	
Intersection Delay, s/veh / LOS	21.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.4	B	2.5	B
Bicycle LOS Score / LOS	0.5	A	0.6	A	2.0	A	1.3	A

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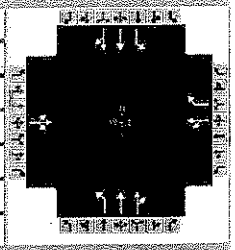
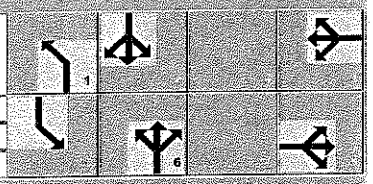
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Hour	PHF	0.86
Intersection	Maitland Ave & Horatio Ave	Analysis Year	2014	Analysis Period	1> 8:00
File Name	4568 - Maitland Ave & Horatio - Existing PM.xus				
Project Description	PM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	17	50	9	16	27	327	6	458	32	295	435	6

Signal Information										
Cycle, s	100.0	Reference Phase	2							
Offset, s	0	Reference Point	End	Green	0.9	5.5	42.4	25.3	0.0	0.0
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	3.7	0.0	0.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.3	2.1	3.9	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		8.0		7.0	1.1	4.0	1.1	4.0
Phase Duration, s		32.9		32.9	6.9	48.5	18.6	60.2
Change Period, ($Y+R_c$), s		7.6		7.6	6.0	6.1	6.3	6.1
Max Allow Headway (*MAH*), s		3.4		3.4	3.1	0.0	3.1	0.0
Queue Clearance Time (g_s), s		5.6		24.6	2.2		12.1	
Green Extension Time (g_e), s		1.2		0.7	0.0	0.0	0.2	0.0
Phase Call Probability		1.00		1.00	0.18		1.00	
Max Out Probability		0.00		0.27	0.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		86			50	370	7	286	281	343	257	256
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1764			1686	1594	1810	1900	1860	1810	1900	1891
Queue Service Time (g_s), s		0.0			0.0	22.6	0.2	10.2	10.2	10.1	7.2	7.2
Cycle Queue Clearance Time (g_c), s		3.6			2.0	22.6	0.2	10.2	10.2	10.1	7.2	7.2
Green Ratio (*g/C*)		0.25			0.25	0.25	0.43	0.42	0.42	0.57	0.54	0.54
Capacity (*c*), veh/h		490			476	403	470	805	788	571	1029	1024
Volume-to-Capacity Ratio (*X*)		0.176			0.105	0.918	0.015	0.355	0.356	0.601	0.250	0.250
Available Capacity (c_a), veh/h		579			560	485	728	805	788	616	1029	1024
Back of Queue (*Q*), veh/ln (95th percentile)		3.0			1.7	16.1	0.2	8.1	8.0	7.0	5.4	5.4
Queue Storage Ratio (*RQ*) (95th percentile)		0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		29.3			28.7	36.4	16.2	19.5	19.5	12.8	12.2	12.2
Incremental Delay (d_2), s/veh		0.1			0.0	18.7	0.0	1.2	1.3	0.9	0.6	0.6
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		29.3			28.7	55.0	16.2	20.8	20.8	13.7	12.7	12.7
Level of Service (LOS)		C			C	E	B	C	C	B	B	B
Approach Delay, s/veh / LOS	29.3	C		51.9	D		20.7	C		13.1	B	
Intersection Delay, s/veh / LOS	24.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.3	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	1.2	A	1.0	A	1.2	A

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Existing

Site Information

Intersection	Maitland Blvd & Packwood Ave
Jurisdiction	City of Maitland
Analysis Year	2014

Project Description 4568

East/West Street: Packwood Ave | North/South Street: Maitland Ave

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	17	12	7	4	8	94
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	18	13	7	4	8	104
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	1
Configuration	LTR			LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	4	356	15	168	358	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	4	395	16	186	397	8
Percent Heavy Vehicles	0	1	0	1	0	
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LT	L		TR	L		TR
v (veh/h)	18	4	4		411	186		405
C (m) (veh/h)	1490	1609	383		721	372		814
v/c	0.01	0.00	0.01		0.57	0.50		0.50
95% queue length	0.04	0.01	0.03		3.64	2.69		2.82
Control Delay (s/veh)	7.4	7.2	14.5		16.4	24.0		13.7
LOS	A	A	B		C	C		B
Approach Delay (s/veh)	--	--	16.4			16.9		
Approach LOS	--	--	C			C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Existing

Site Information

Intersection	Horatio Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2014

Project Description 4568

East/West Street: Horatio Ave

North/South Street: Independence Ln

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		456	5	5	452	
Peak-Hour Factor, PHF	0.86	0.90	0.90	0.90	0.90	0.86
Hourly Flow Rate, HFR (veh/h)	0	506	5	5	502	0
Percent Heavy Vehicles	8	--	--	1	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2		18			
Peak-Hour Factor, PHF	0.90	0.83	0.90	0.86	0.83	0.86
Hourly Flow Rate, HFR (veh/h)	2	0	20	0	0	0
Percent Heavy Vehicles	0	1	0	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		5		22				
C (m) (veh/h)		1059		515				
v/c		0.00		0.04				
95% queue length		0.01		0.13				
Control Delay (s/veh)		8.4		12.3				
LOS		A		B				
Approach Delay (s/veh)	--	--	12.3					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Existing

Site Information

Intersection	Packwood Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2014

Project Description 4568

East/West Street: Packwood Ave | North/South Street: Independence Ln

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	7	181			85	3
Peak-Hour Factor, PHF	0.85	0.85	0.83	0.83	0.85	0.85
Hourly Flow Rate, HFR (veh/h)	8	212	0	0	99	3
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				13		19
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.85	0.83	0.85
Hourly Flow Rate, HFR (veh/h)	0	0	0	15	0	22
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	8						37	
C (m) (veh/h)	1503						815	
v/c	0.01						0.05	
95% queue length	0.02						0.14	
Control Delay (s/veh)	7.4						9.6	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.6		
Approach LOS	--	--				A		

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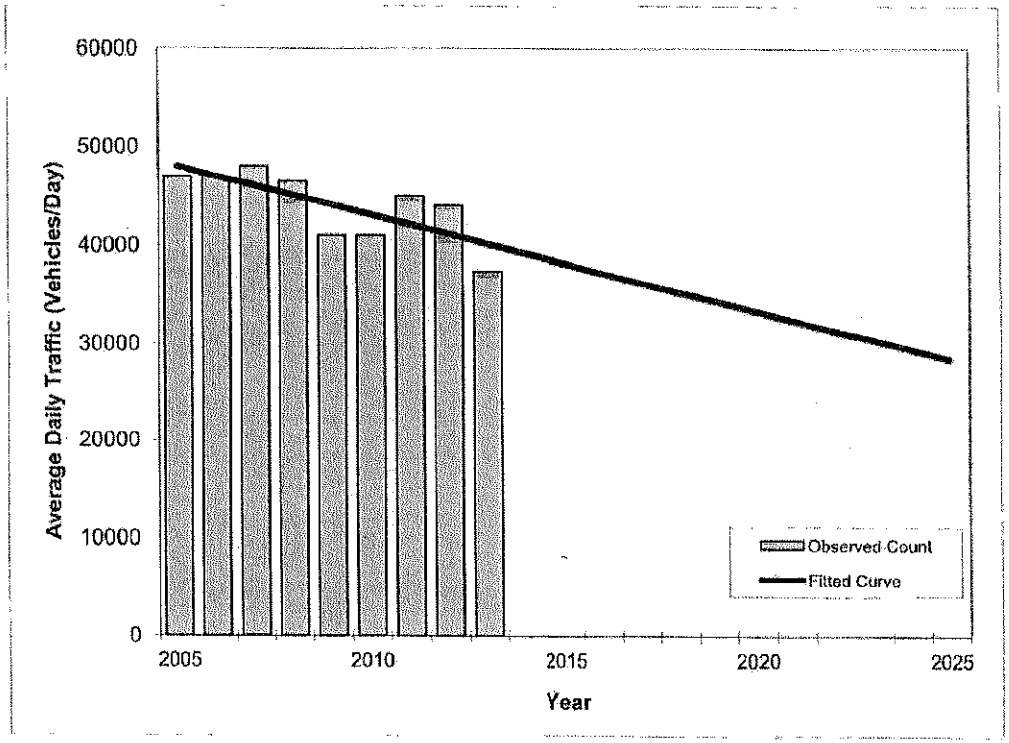
APPENDIX D

Trends Analysis Charts

TRAFFIC TRENDS

US 17/92 -- 0.098 miles north of CR 427 (Maitland Ave)

County:	Orange
Station #:	5130
Highway:	US 17/92



Year	Traffic (ADT/AADT) Count*	Trend**
2005	47000	48000
2006	47000	47000
2007	48000	46100
2008	46500	45100
2009	41000	44100
2010	41000	43100
2011	45000	42200
2012	44000	41200
2013	37500	40200
2016 Opening Year Trend		
2016	N/A	37300
2018 Mid-Year Trend		
2018	N/A	35300
2020 Design Year Trend		
2020	N/A	33400
TRANPLAN Forecasts/Trends		

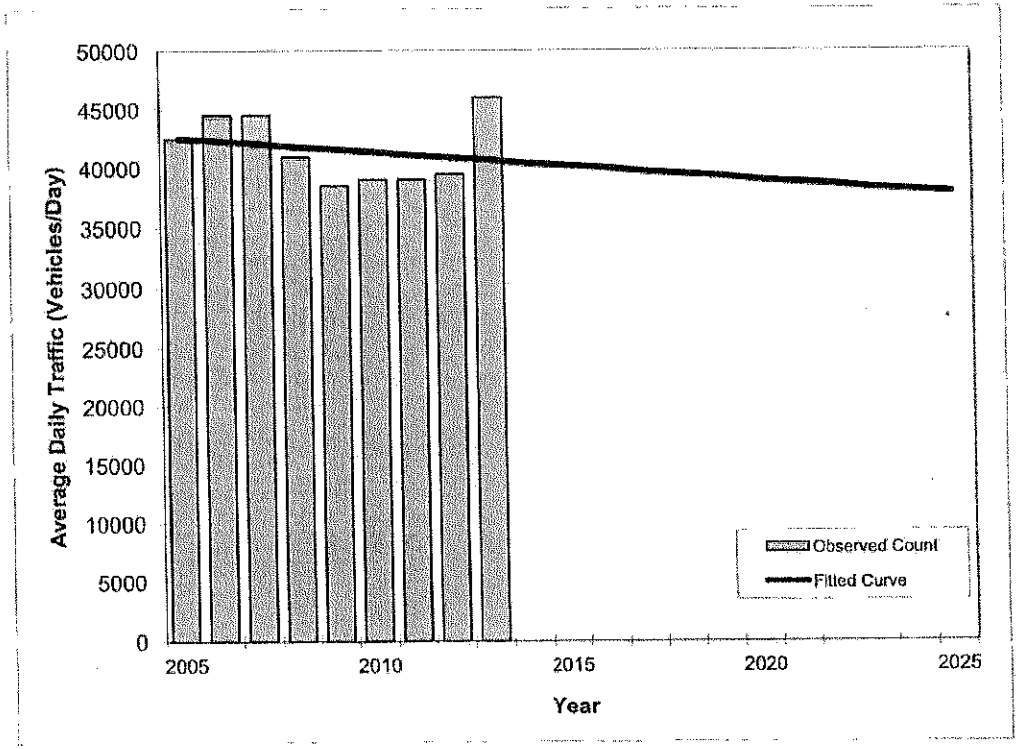
*Axle-Adjusted

** Annual Trend Increase:	-975
Trend R-squared:	56.3%
Trend Annual Historic Growth Rate:	-2.03%
Trend Growth Rate (2013 to Design Year):	-2.42%
Printed:	16-Sep-14
Straight Line Growth Option	

TRAFFIC TRENDS

US 17/92 -- 0.322 miles north of CR 427 (Maitland Ave)

County:	Orange
Station #:	5131
Highway:	US 17/92



Year	Traffic (ADT/AADT) Count*	Trend**
2005	42500	42500
2006	44500	42300
2007	44500	42100
2008	41000	41800
2009	38500	41600
2010	39000	41400
2011	39000	41100
2012	39500	40900
2013	46000	40700
2016 Opening Year Trend		
2016	N/A	40000
2018 Mid-Year Trend		
2018	N/A	39500
2020 Design Year Trend		
2020	N/A	39000
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

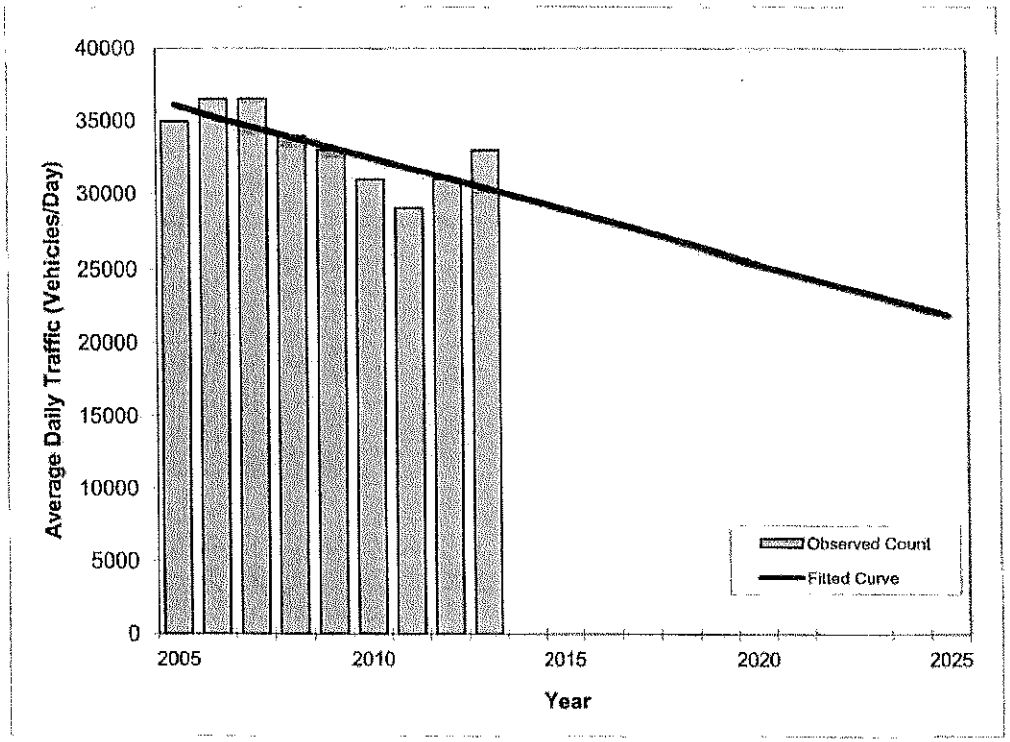
** Annual Trend Increase:	-233
Trend R-squared:	5.0%
Trend Annual Historic Growth Rate:	-0.53%
Trend Growth Rate (2013 to Design Year):	-0.60%
Printed:	16-Sep-14

Straight Line Growth Option

TRAFFIC TRENDS

US 17/92 -- 0.545 miles north of CR 427 (Maitland Ave)

County:	Orange
Station #:	5132
Highway:	US 17/92



Year	Traffic (ADT/AADT) Count*	Trend**
2005	35000	36100
2006	36500	35300
2007	36500	34600
2008	34000	33900
2009	33000	33200
2010	31000	32500
2011	29000	31800
2012	31000	31100
2013	33000	30400
2016 Opening Year Trend		
2016	N/A	28300
2018 Mid-Year Trend		
2018	N/A	26800
2020 Design Year Trend		
2020	N/A	25400
TRANPLAN Forecasts/Trends		

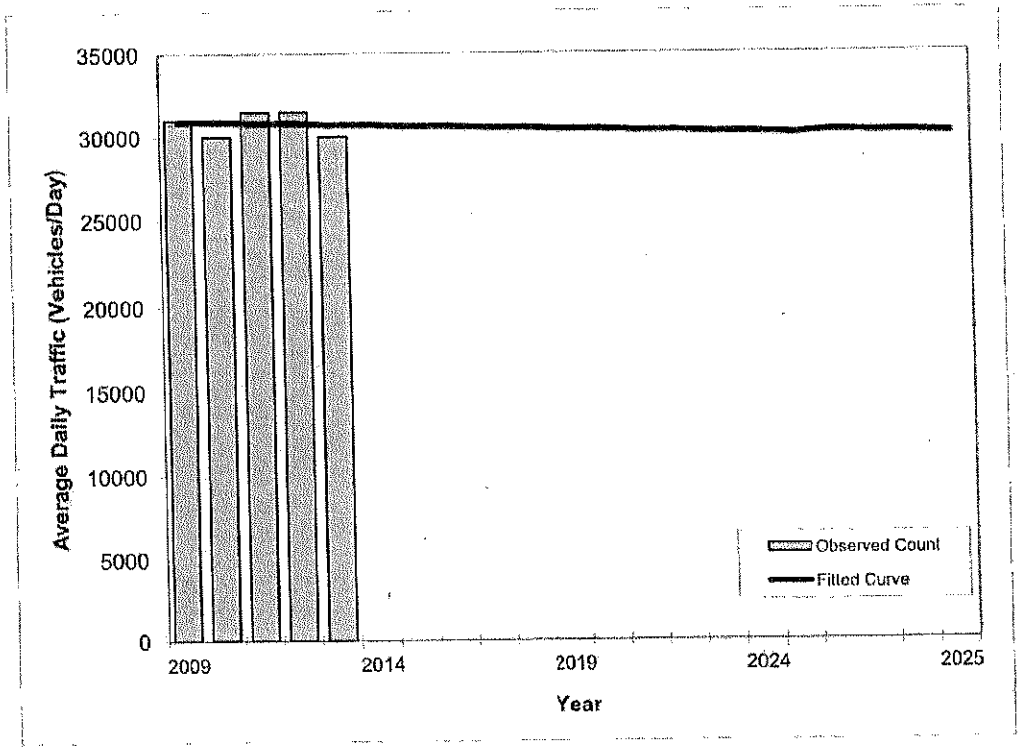
*Axle-Adjusted

** Annual Trend Increase:	-708
Trend R-squared:	56.7%
Trend Annual Historic Growth Rate:	-1.97%
Trend Growth Rate (2013 to Design Year):	-2.35%
Printed:	16-Sep-14
Straight Line Growth Option	

TRAFFIC TRENDS

Horatio Avenue -- US 17/92 to Thistle Lane

County:	Orange
Station #:	7051
Highway:	Horatio Avenue



Year	Traffic (ADT/AADT) Count*	Trend**
2009	31000	30900
2010	30000	30900
2011	31500	30800
2012	31500	30800
2013	30000	30700
2016 Opening Year Trend		
2016	N/A	30600
2018 Mid-Year Trend		
2018	N/A	30500
2020 Design Year Trend		
2020	N/A	30400
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

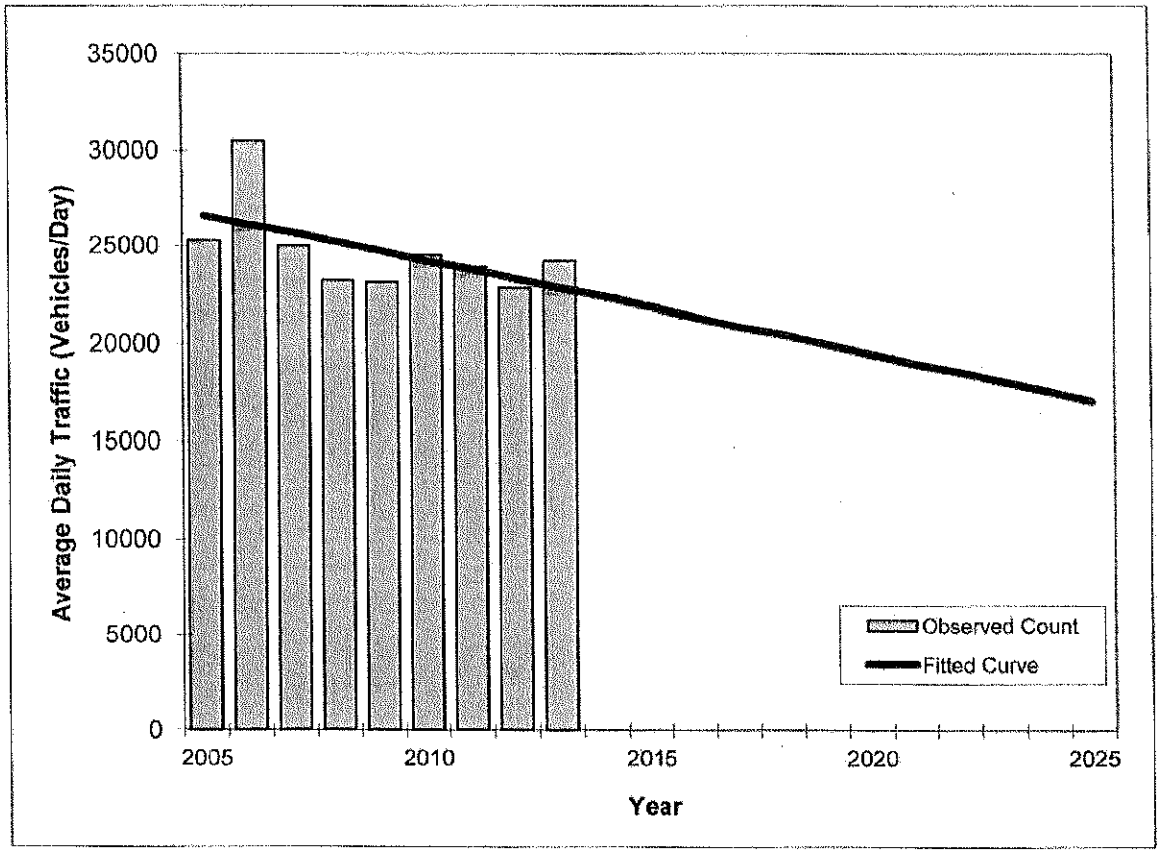
** Annual Trend Increase:	-50
Trend R-squared:	1.1%
Trend Annual Historic Growth Rate:	-0.16%
Trend Growth Rate (2013 to Design Year):	-0.14%
Printed:	16-Sep-14

Straight Line Growth Option

TRAFFIC TRENDS

Maitland Avenue -- Seminole County Line to Orlando Ave (US 17-92)

County:	Orange
Station #:	6063
Highway:	Maitland Avenue



Year	Traffic (ADT/AADT) Count*	Trend**
2005	25300	26600
2006	30500	26100
2007	25000	25700
2008	23200	25200
2009	23100	24700
2010	24500	24200
2011	23900	23800
2012	22800	23300
2013	24200	22800
2016 Opening Year Trend		
2016	N/A	21400
2018 Mid-Year Trend		
2018	N/A	20500
2020 Design Year Trend		
2020	N/A	19500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	-473
Trend R-squared:	30.9%
Trend Annual Historic Growth Rate:	-1.79%
Trend Growth Rate (2013 to Design Year):	-2.07%
Printed:	18-Sep-14

Straight Line Growth Option

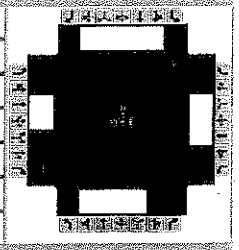
APPENDIX E

Projected

HCS Capacity Worksheets

HCS 2010 Signalized Intersection Results Summary

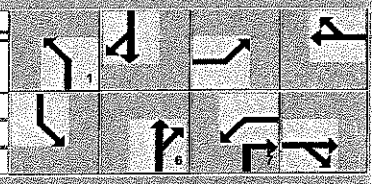
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Hour	PHF	0.95
Intersection	US 17/92 & Horatio Ave	Analysis Year	2016	Analysis Period	1> 8:00
File Name	4568 - US 1792 & Horatio - Projected AM - new counts.xus				
Project Description	AM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	26	336	7	806	520	82	42	616	334	267	1330	32

Signal Information			
Cycle, s	160.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.1	3.0	46.9	4.9	26.0	33.2
Yellow	4.5	4.5	4.5	4.0	4.1	4.1
Red	2.4	2.3	2.4	2.7	2.3	3.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	11.6	40.3	44.0	72.7	12.0	53.8	21.9	63.6
Change Period, ($Y+R_c$), s	6.7	7.1	6.4	7.1	6.9	6.9	6.8	6.9
Max Allow Headway (*MAH*), s	4.1	4.1	5.1	4.1	4.0	0.0	4.1	0.0
Queue Clearance Time (g_s), s	4.4	32.0	39.6	50.7	6.0		14.9	
Green Extension Time (g_e), s	0.0	1.3	0.0	3.7	0.0	0.0	0.2	0.0
Phase Call Probability	0.70	1.00	1.00	1.00	0.86		1.00	
Max Out Probability	0.02	1.00	1.00	0.09	0.36		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	27	359		848	626		44	648	292	281	960	474
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1876		1740	1839		1774	1773	1533	1723	1881	1857
Queue Service Time (g_s), s	2.4	30.0		37.6	48.7		4.0	25.3	17.7	12.9	35.4	35.4
Cycle Queue Clearance Time (g_c), s	2.4	30.0		37.6	48.7		4.0	25.3	17.7	12.9	35.4	35.4
Green Ratio (*g/C*)	0.03	0.21		0.23	0.41		0.03	0.29	0.53	0.09	0.35	0.35
Capacity (*c*), veh/h	56	390		818	754		57	1039	809	325	1333	658
Volume-to-Capacity Ratio (*X*)	0.491	0.921		1.038	0.830		0.775	0.624	0.360	0.865	0.720	0.720
Available Capacity (c_a), veh/h	128	409		818	773		119	1039	809	363	1333	658
Back of Queue (*Q*), veh/ln (95th percentile)	2.2	23.7		29.4	31.5		3.8	17.0	10.8	10.6	23.7	24.2
Queue Storage Ratio (*RQ*) (95th percentile)	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	76.3	62.1		61.2	42.2		76.9	49.0	22.0	71.4	44.8	44.8
Incremental Delay (d_2), s/veh	6.6	25.3		41.6	7.5		19.7	2.8	1.2	17.7	3.4	6.7
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	82.9	87.4		102.8	49.7		96.5	51.8	23.3	89.2	48.1	51.4
Level of Service (LOS)	F	F		F	D		F	D	C	F	D	D
Approach Delay, s/veh / LOS	87.1	F		80.3	F		45.3	D		55.8	E	
Intersection Delay, s/veh / LOS	64.1						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.4	C	3.1	C	2.9	C	2.3	B
Bicycle LOS Score / LOS	1.1	A	2.9	C	1.3	A	1.4	A

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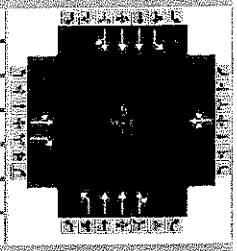
HCS 2010 Signalized Intersection Results Summary

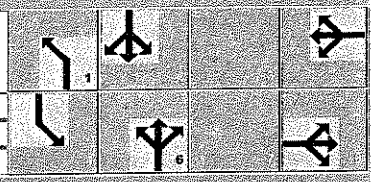
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Period	PHF	0.94
Intersection	US 17/92 & Packwood Ave	Analysis Year	2016	Analysis Period	1> 8:00
File Name	4568 - US 1792 & Packwood - Projected AM.xus				
Project Description	AM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	19	21	21	105	31	15	78	1051	26	29	2371	25

Signal Information			
Cycle, s	160.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.7	1.2	105.1	15.9	6.1	0.0
Yellow	4.5	0.0	4.6	4.0	4.0	0.0
Red	2.0	0.0	2.0	3.4	3.4	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		13.5		23.3	11.5	112.9	10.2	111.7
Change Period, ($Y+R_c$), s		7.4		7.4	6.6	6.6	6.5	6.6
Max Allow Headway (*MAH*), s		5.2		5.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		5.6		15.5	4.4		2.9	
Green Extension Time (g_e), s		0.2		0.4	0.2	0.0	0.1	0.0
Phase Call Probability		0.88		1.00	0.97		0.75	
Max Out Probability		0.00		0.35	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		43	4		154		83	766	379	31	1699	848
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1856	1548		1796		1810	1845	1822	1810	1863	1853
Queue Service Time (g_s), s		3.6	0.4		13.5		2.4	14.1	14.1	0.9	46.0	46.3
Cycle Queue Clearance Time (g_c), s		3.6	0.4		13.5		2.4	14.1	14.1	0.9	46.0	46.3
Green Ratio (*g/C*)		0.04	0.04		0.10		0.69	0.66	0.66	0.68	0.66	0.66
Capacity (*c*), veh/h		71	59		179		147	2452	1211	369	2447	1217
Volume-to-Capacity Ratio (*X*)		0.599	0.072		0.864		0.565	0.312	0.313	0.084	0.694	0.696
Available Capacity (c_a), veh/h		340	283		254		505	2452	1211	741	2447	1217
Back of Queue (*Q*), veh/ln (95th percentile)		3.5	0.3		11.8		4.1	9.6	9.7	0.6	26.4	27.1
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		75.7	74.2		71.0		26.2	11.4	11.4	9.1	17.3	17.4
Incremental Delay (d_2), s/veh		11.0	0.7		21.6		3.4	0.3	0.7	0.1	1.7	3.3
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		86.7	74.9		92.6		29.5	11.7	12.0	9.2	19.0	20.7
Level of Service (LOS)		F	E		F		C	B	B	A	B	C
Approach Delay, s/veh / LOS	85.6	F		92.6	F		13.0	B		19.4	B	
Intersection Delay, s/veh / LOS	21.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.1	B	2.3	B
Bicycle LOS Score / LOS	0.6	A	0.7	A	1.2	A	1.9	A

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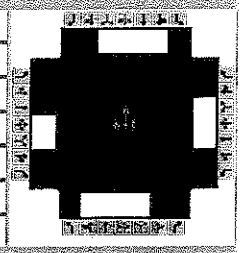
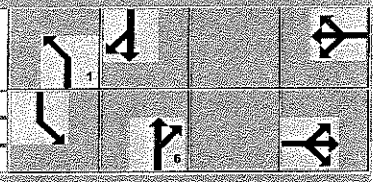
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Period	PHF	0.94
Intersection	US 17/92 & Maitland Ave/M	Analysis Year	2016	Analysis Period	1> 8:00
File Name	4568 - US 1792 & Maitland-Manor - Projected AM.xus				
Project Description	AM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	7	5	350	19	10	10	163	1233	5	17	2478	13

Signal Information											
Cycle, s	160.0	Reference Phase	2								
Offset, s	0	Reference Point	End	Green	2.8	8.1	79.5	5.4	27.8	0.0	
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.8	4.8	4.8	4.4	4.4	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.1	2.0	3.6	3.6	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		9.0	2.0	4.0	2.0	4.0
Phase Duration, s		35.8		13.4	24.5	101.3	9.6	86.3
Change Period, ($Y+R_c$), s		8.0		8.0	6.9	6.8	6.8	6.8
Max Allow Headway (*MAH*), s		4.4		4.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		26.7		3.7	17.1		3.6	
Green Extension Time (g_e), s		1.0		0.1	0.6	0.0	0.0	0.0
Phase Call Probability		1.00		0.77	1.00		0.55	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		13	239	20	11	2	173	879	438	18	1767	883
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1846	1519	1810	1881	1610	1810	1827	1823	1810	1863	1858
Queue Service Time (g_s), s		0.9	24.7	1.7	0.9	0.2	15.1	20.7	20.7	1.6	72.6	72.9
Cycle Queue Clearance Time (g_c), s		0.9	24.7	1.7	0.9	0.2	15.1	20.7	20.7	1.6	72.6	72.9
Green Ratio (*g/C*)		0.17	0.17	0.03	0.03	0.03	0.11	0.59	0.59	0.02	0.50	0.50
Capacity (*c*), veh/h		320	263	61	63	54	200	2158	1077	31	1851	923
Volume-to-Capacity Ratio (*X*)		0.040	0.908	0.332	0.168	0.039	0.869	0.407	0.407	0.579	0.955	0.956
Available Capacity (c_a), veh/h		676	556	362	376	322	542	2158	1077	521	1851	923
Back of Queue (*Q*), veh/ln (95th percentile)		0.8	15.7	1.6	0.8	0.2	12.0	13.6	13.8	1.6	44.9	47.3
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		55.0	64.9	75.5	75.1	74.8	70.0	17.7	17.7	78.0	38.5	38.6
Incremental Delay (d_2), s/veh		0.1	11.5	3.1	1.2	0.3	10.9	0.6	1.1	15.8	12.6	20.8
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		55.1	76.3	78.7	76.4	75.1	80.9	18.2	18.8	93.8	51.1	59.3
Level of Service (LOS)		E	E	E	E	E	F	B	B	F	D	E
Approach Delay, s/veh / LOS	75.3	E		77.7	E		25.7	C		54.1	D	
Intersection Delay, s/veh / LOS	46.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.4	B	2.5	B
Bicycle LOS Score / LOS	0.9	A	0.5	A	1.3	A	2.0	A

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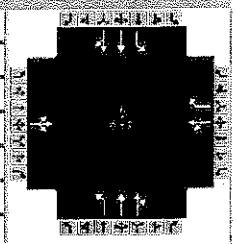
HCS 2010 Signalized Intersection Results Summary

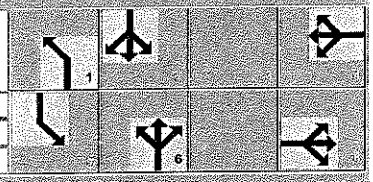
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Hour	PHF	0.86
Intersection	Maitland Ave & Horatio Ave	Analysis Year	2016	Analysis Period	1> 8:00
File Name	4568 - Maitland Ave & Horatio - Projected AM.xus				
Project Description	AM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	16	18	7	33	38	471	4	222	12	309	468	9

Signal Information			
Cycle, s	80.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.5	4.9	19.9	28.7	0.0	0.0
Yellow	4.0	4.0	4.0	3.7	0.0	0.0
Red	2.0	2.3	2.1	3.9	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		8.0		7.0	1.1	4.0	1.1	4.0
Phase Duration, s		36.3		36.3	6.5	26.0	17.7	37.2
Change Period, (Y+R_c), s		7.6		7.6	6.0	6.1	6.3	6.1
Max Allow Headway (*MAH*), s		3.4		3.4	3.1	0.0	3.1	0.0
Queue Clearance Time (g_s), s		3.2		28.2	2.2		13.4	
Green Extension Time (g_e), s		1.7		0.5	0.0	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.10		1.00	
Max Out Probability		0.00		1.00	0.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		43			83	540	5	133	133	359	278	277
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1639			1656	1594	1810	1900	1879	1792	1712	1700
Queue Service Time (g_s), s		0.0			0.0	26.2	0.2	4.5	4.6	11.4	9.5	9.5
Cycle Queue Clearance Time (g_c), s		1.2			2.3	26.2	0.2	4.5	4.6	11.4	9.5	9.5
Green Ratio (*g/C*)		0.36			0.36	0.36	0.25	0.25	0.25	0.42	0.39	0.39
Capacity (*c*), veh/h		653			661	572	313	473	467	559	665	661
Volume-to-Capacity Ratio (*X*)		0.066			0.125	0.943	0.015	0.282	0.284	0.642	0.418	0.419
Available Capacity (c_a), veh/h		687			695	606	566	473	467	559	665	661
Back of Queue (*Q*), veh/ln (95th percentile)		0.9			1.8	18.7	0.1	3.9	3.8	8.3	6.9	6.9
Queue Storage Ratio (*RQ*) (95th percentile)		0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		16.8			17.2	24.8	22.3	24.3	24.3	17.6	17.9	17.9
Incremental Delay (d_2), s/veh		0.0			0.0	22.2	0.0	1.5	1.5	2.0	1.9	1.9
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		16.8			17.2	47.0	22.3	25.8	25.8	19.6	19.8	19.8
Level of Service (LOS)		B			B	D	C	C	C	B	B	B
Approach Delay, s/veh / LOS	16.8	B		43.1	D		25.7	C		19.7	B	
Intersection Delay, s/veh / LOS	28.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.3	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	1.5	A	0.7	A	1.2	A

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MJA	Intersection	Maitland Blvd & Packwood Ave
Agency/Co.	TPD	Jurisdiction	City of Maitland
Date Performed	9/17/2014	Analysis Year	2016
Analysis Time Period	AM Peak Hour - Projected		

Project Description 4568	
East/West Street: Packwood Ave	North/South Street: Maitland Ave
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	8	4	5	18	6	60
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	9	4	6	21	7	72
Percent Heavy Vehicles	12	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	1
Configuration	LTR			LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	9	174	12	87	365	11
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	10	209	14	104	439	13
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LT	L		TR	L		TR
v (veh/h)	9	21	10		223	104		452
C (m) (veh/h)	1458	1623	343		747	592		805
v/c	0.01	0.01	0.03		0.30	0.18		0.56
95% queue length	0.02	0.04	0.09		1.25	0.63		3.55
Control Delay (s/veh)	7.5	7.2	15.8		11.9	12.4		15.0
LOS	A	A	C		B	B		C
Approach Delay (s/veh)	--	--	12.0			14.5		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Projected

Site Information

Intersection	Horatio Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Horatio Ave

Intersection Orientation: East-West

North/South Street: Independence Ln

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		332	9	7	599	
Peak-Hour Factor, PHF	0.86	0.99	0.99	0.99	0.99	0.86
Hourly Flow Rate, HFR (veh/h)	0	335	9	7	605	0
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	16		17			
Peak-Hour Factor, PHF	0.99	0.83	0.99	0.86	0.83	0.86
Hourly Flow Rate, HFR (veh/h)	16	0	17	0	0	0
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		7		33				
C (m) (veh/h)		1226		407				
v/c		0.01		0.08				
95% queue length		0.02		0.26				
Control Delay (s/veh)		8.0		14.6				
LOS		A		B				
Approach Delay (s/veh)	--	--	14.6					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Projected

Site Information

Intersection	Packwood Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Packwood Ave

North/South Street: Independence Ln

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	18	96			99	20
Peak-Hour Factor, PHF	0.86	0.86	0.83	0.83	0.86	0.86
Hourly Flow Rate, HFR (veh/h)	20	111	0	0	115	23
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				12		19
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.86	0.83	0.86
Hourly Flow Rate, HFR (veh/h)	0	0	0	13	0	22
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	20						35	
C (m) (veh/h)	1410						832	
v/c	0.01						0.04	
95% queue length	0.04						0.13	
Control Delay (s/veh)	7.6						9.5	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.5		
Approach LOS	--	--				A		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Projected

Site Information

Intersection	Site Access at Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Site Access 1 | North/South Street: Independence Ln

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		3	18	3	13	
Peak-Hour Factor, PHF	0.99	0.95	0.95	0.95	0.95	0.86
Hourly Flow Rate, HFR (veh/h)	0	3	18	3	13	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				13		30
Peak-Hour Factor, PHF	0.86	0.99	0.99	0.95	0.99	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	0	13	0	31
Percent Heavy Vehicles	8	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		3		44				
C (m) (veh/h)		1608		1046				
v/c		0.00		0.04				
95% queue length		0.01		0.13				
Control Delay (s/veh)		7.2		8.6				
LOS		A		A				
Approach Delay (s/veh)	--	--	8.6					
Approach LOS	--	--	A					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MJA	Intersection	Site Access at Horatio Ave
Agency/Co.	TPD	Jurisdiction	City of Maitland
Date Performed	9/17/2014	Analysis Year	2016
Analysis Time Period	AM Peak Hour - Projected		

Project Description 4568

East/West Street: Horatio Avenue | North/South Street: Site Access 2

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		349	3			
Peak-Hour Factor, PHF	0.86	0.95	0.95	0.95	0.99	0.95
Hourly Flow Rate, HFR (veh/h)	0	367	3	0	0	0
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	0	0
Configuration			TR			
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			16			
Peak-Hour Factor, PHF	0.99	0.95	0.95	0.95	0.95	0.86
Hourly Flow Rate, HFR (veh/h)	0	0	16	0	0	0
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					16			
C (m) (veh/h)					651			
v/c					0.02			
95% queue length					0.08			
Control Delay (s/veh)					10.7			
LOS					B			
Approach Delay (s/veh)	--	--	10.7					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	AM Peak Hour - Projected

Site Information

Intersection	Site Access at US 17/92
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Site Access 3 | North/South Street: Site Access 3

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)					1473	15
Peak-Hour Factor, PHF	0.99	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	1550	15
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	0	0	0	2	0
Configuration					T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			29			
Peak-Hour Factor, PHF	0.86	0.95	0.95	0.95	0.99	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	30	0	0	0
Percent Heavy Vehicles	8	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								30
C (m) (veh/h)								397
v/c								0.08
95% queue length								0.24
Control Delay (s/veh)								14.8
LOS								B
Approach Delay (s/veh)	--	--				14.8		
Approach LOS	--	--				B		

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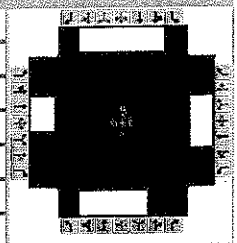
HCS+™ Version 5.6 Generated: 9/22/2014 3:30 PM

HCS 2010 Signalized Intersection Results Summary

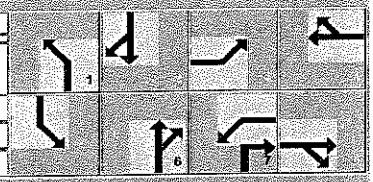
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Hour	PHF	0.98
Intersection	US 17/92 & Horatio Ave	Analysis Year	2016	Analysis Period	1> 17:00
File Name	4568 - US 1792 & Horatio - Projected PM - new counts.xus				
Project Description	PM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	65	387	7	383	368	96	45	1193	709	471	798	18

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.5	14.5	76.1	9.2	7.7	45.2
Yellow	4.5	4.5	4.5	4.0	4.1	4.1
Red	2.4	2.3	2.4	2.7	2.3	3.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	15.9	52.3	30.0	66.3	13.4	83.0	34.7	104.3
Change Period, ($Y+R_c$), s	6.7	7.1	6.4	7.1	6.9	6.9	6.8	6.9
Max Allow Headway (*MAH*), s	4.1	4.1	5.1	4.1	4.0	0.0	4.1	0.0
Queue Clearance Time (g_s), s	9.4	43.7	24.1	47.7	7.0		29.3	
Green Extension Time (g_e), s	0.0	1.4	0.0	2.9	0.0	0.0	0.0	0.0
Phase Call Probability	0.97	1.00	1.00	1.00	0.92		1.00	
Max Out Probability	1.00	0.97	1.00	0.09	0.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h	66	402		391	452		46	1217	674	481	557	276
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1894		1757	1844		1810	1791	1594	1757	1881	1859
Queue Service Time (g_s), s	7.4	41.7		22.1	45.7		5.0	63.8	73.6	27.3	17.8	17.9
Cycle Queue Clearance Time (g_c), s	7.4	41.7		22.1	45.7		5.0	63.8	73.6	27.3	17.8	17.9
Green Ratio (*g/C*)	0.05	0.23		0.12	0.30		0.03	0.38	0.50	0.14	0.49	0.49
Capacity (*c*), veh/h	82	428		415	546		59	1363	795	491	1833	905
Volume-to-Capacity Ratio (*X*)	0.811	0.940		0.942	0.828		0.777	0.893	0.849	0.979	0.304	0.305
Available Capacity (c_a), veh/h	118	454		415	571		143	1363	795	491	1833	905
Back of Queue (*Q*), veh/ln (95th percentile)	7.1	31.6		17.5	30.8		4.8	39.2	39.9	21.1	13.1	13.1
Queue Storage Ratio (*RQ*) (95th percentile)	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	94.5	76.1		87.5	65.6		96.0	58.1	43.6	85.7	30.9	30.9
Incremental Delay (d_2), s/veh	23.3	27.1		30.2	9.5		19.3	9.3	10.9	35.1	0.4	0.9
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	117.9	103.2		117.7	75.1		115.3	67.4	54.5	120.8	31.3	31.8
Level of Service (LOS)	F	F		F	E		F	E	D	F	C	C
Approach Delay, s/veh / LOS	105.3	F		94.9	F		64.1	E		64.1	E	
Intersection Delay, s/veh / LOS	74.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.4	C	3.1	C	2.9	C	2.3	B
Bicycle LOS Score / LOS	1.3	A	1.9	A	2.1	B	1.2	A

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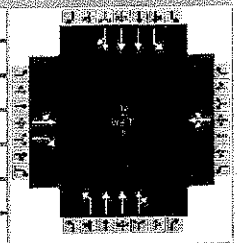
HCS 2010 Signalized Intersection Results Summary

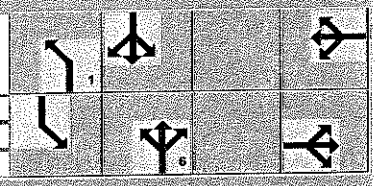
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Period	PHF	0.95
Intersection	US 17/92 & Packwood Ave	Analysis Year	2014	Analysis Period	1> 17:00
File Name	4568 - US 1792 & Packwood - Projected PM.xus				
Project Description	PM Peak Hour - Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	41	56	18	141	41	24	78	2306	68	75	1368	16

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.3	0.2	126.5	26.3	13.8	0.0
Yellow	4.5	0.0	4.6	4.0	4.0	0.0
Red	2.0	0.0	2.0	3.4	3.4	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		21.2		33.7	12.0	133.4	11.8	133.1
Change Period, ($Y+R_c$), s		7.4		7.4	6.6	6.6	6.5	6.6
Max Allow Headway (*MAH*), s		5.1		5.3	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		13.3		25.2	5.2		5.1	
Green Extension Time (g_e), s		0.6		1.0	0.3	0.0	0.3	0.0
Phase Call Probability		1.00		1.00	0.99		0.99	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		102	1		213		82	1670	829	79	971	483
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1789	1519		1805		1810	1881	1852	1810	1881	1872
Queue Service Time (g_s), s		11.3	0.1		23.2		3.2	58.5	59.3	3.1	25.6	25.6
Cycle Queue Clearance Time (g_c), s		11.3	0.1		23.2		3.2	58.5	59.3	3.1	25.6	25.6
Green Ratio (*g/C*)		0.07	0.07		0.13		0.66	0.63	0.63	0.66	0.63	0.63
Capacity (*c*), veh/h		123	105		237		273	2384	1174	128	2380	1184
Volume-to-Capacity Ratio (*X*)		0.828	0.010		0.898		0.301	0.700	0.706	0.619	0.408	0.408
Available Capacity (c_a), veh/h		527	448		384		753	2384	1174	610	2380	1184
Back of Queue (*Q*), veh/ln (95th percentile)		9.9	0.1		17.9		2.5	34.5	35.2	4.8	16.9	17.0
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		91.9	86.7		85.6		14.2	24.1	24.3	34.1	18.2	18.2
Incremental Delay (d_2), s/veh		17.6	0.1		18.2		0.6	1.7	3.6	4.8	0.5	1.0
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		109.5	86.8		103.8		14.8	25.9	27.9	38.9	18.7	19.2
Level of Service (LOS)		F	F		F		B	C	C	D	B	B
Approach Delay, s/veh / LOS	109.3	F		103.8	F		26.2	C		19.9	B	
Intersection Delay, s/veh / LOS	29.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.1	B	2.3	B
Bicycle LOS Score / LOS	0.7	A	0.8	A	1.9	A	1.3	A

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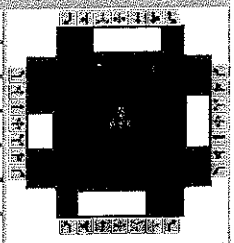
HCS 2010 Signalized Intersection Results Summary

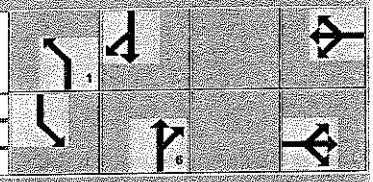
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	AM Peak Period	PHF	1.00
Intersection	US 17/92 & Maitland Ave/M	Analysis Year	2016	Analysis Period	1> 17:00
File Name	4568 - US 1792 & Maitland-Manor - Projected PM.xus				
Project Description	AM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	22	13	207	28	15	8	289	2518	25	26	1509	15

Signal Information			
Cycle, s	200.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.8	23.9	103.5	6.4	26.0	0.0
Yellow	4.8	4.8	4.8	4.4	4.4	0.0
Red	2.0	2.1	2.0	3.6	3.6	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		11.0		9.0	2.0	4.0	2.0	4.0
Phase Duration, s		34.0		14.4	41.4	141.1	10.6	110.3
Change Period, ($Y+R_c$), s		8.0		8.0	6.9	6.8	6.8	6.8
Max Allow Headway (*MAH*), s		4.2		4.2	4.1	0.0	4.1	0.0
Queue Clearance Time (g_s), s		28.0		5.0	33.5		4.9	
Green Extension Time (g_e), s		0.1		0.1	1.0	0.0	0.1	0.0
Phase Call Probability		0.92		0.91	1.00		0.76	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		35	11	28	15	0	289	1696	846	26	1017	506
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1842	1594	1810	1900	1610	1810	1881	1872	1810	1881	1872
Queue Service Time (g_s), s		3.4	1.2	3.0	1.5	0.0	31.5	54.0	54.3	2.9	35.8	35.8
Cycle Queue Clearance Time (g_c), s		3.4	1.2	3.0	1.5	0.0	31.5	54.0	54.3	2.9	35.8	35.8
Green Ratio (*g/C*)		0.13	0.13	0.03	0.03	0.03	0.17	0.67	0.67	0.02	0.52	0.52
Capacity (*c*), veh/h		240	207	58	60	51	312	2525	1256	35	1946	968
Volume-to-Capacity Ratio (*X*)		0.146	0.053	0.487	0.248	0.000	0.926	0.672	0.674	0.752	0.523	0.523
Available Capacity (c_a), veh/h		439	380	244	257	217	585	2525	1256	360	1946	968
Back of Queue (*Q*), veh/ln (95th percentile)		2.9	0.9	2.8	1.5	0.0	22.2	31.5	32.1	2.9	23.3	23.6
Queue Storage Ratio (*RQ*) (95th percentile)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		77.1	76.2	95.2	94.5	0.0	81.5	19.7	19.7	97.6	31.9	31.9
Incremental Delay (d_2), s/veh		0.3	0.1	6.2	2.1	0.0	11.6	1.4	2.9	27.4	1.0	2.0
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		77.4	76.3	101.5	96.6	0.0	93.1	21.1	22.7	125.0	32.9	34.0
Level of Service (LOS)		E	E	F	F		F	C	C	F	C	C
Approach Delay, s/veh / LOS	77.2	E		99.8	F		28.9	C		34.8	C	
Intersection Delay, s/veh / LOS	32.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.3	C	3.3	C	2.4	B	2.6	B
Bicycle LOS Score / LOS	0.6	A	0.6	A	2.0	B	1.3	A

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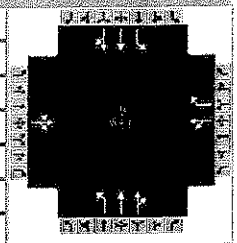
HCS 2010 Signalized Intersection Results Summary

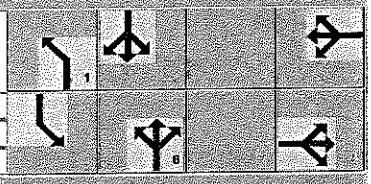
General Information				Intersection Information	
Agency	TPD			Duration, h	0.25
Analyst	MJA	Analysis Date	Sep 17, 2014	Area Type	Other
Jurisdiction	City of Maitland	Time Period	PM Peak Hour	PHF	0.86
Intersection	Maitland Ave & Horatio Ave	Analysis Year	2016	Analysis Period	1> 8:00
File Name	4568 - Maitland Ave & Horatio - Projected PM.xus				
Project Description	PM Peak Hour - Projected				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	17	51	9	16	28	349	6	467	33	321	444	6

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.9	6.5	39.9	26.8	0.0	0.0
Yellow	4.0	4.0	4.0	3.7	0.0	0.0
Red	2.0	2.3	2.1	3.9	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		8		4	1	6	5	2
Case Number		8.0		7.0	1.1	4.0	1.1	4.0
Phase Duration, s		34.4		34.4	6.9	46.0	19.6	58.8
Change Period, ($Y+R_c$), s		7.6		7.6	6.0	6.1	6.3	6.1
Max Allow Headway (*MAH*), s		3.4		3.4	3.1	0.0	3.1	0.0
Queue Clearance Time (g_s), s		5.6		26.2	2.2		13.6	
Green Extension Time (g_e), s		1.2		0.6	0.0	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.18		1.00	
Max Out Probability		0.00		0.64	0.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (*v*), veh/h		87			51	395	7	292	286	373	262	261
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1764			1689	1594	1810	1900	1859	1810	1900	1891
Queue Service Time (g_s), s		0.0			0.0	24.2	0.2	10.9	10.9	11.6	7.6	7.6
Cycle Queue Clearance Time (g_c), s		3.6			2.0	24.2	0.2	10.9	10.9	11.6	7.6	7.6
Green Ratio (*g/C*)		0.27			0.27	0.27	0.41	0.40	0.40	0.55	0.53	0.53
Capacity (*c*), veh/h		516			501	427	444	758	742	559	1000	996
Volume-to-Capacity Ratio (*X*)		0.169			0.102	0.927	0.016	0.385	0.386	0.667	0.262	0.262
Available Capacity (c_a), veh/h		579			561	485	675	758	742	559	1000	996
Back of Queue (*Q*), veh/ln (95th percentile)		3.0			1.7	17.3	0.2	8.6	8.5	8.3	5.8	5.8
Queue Storage Ratio (*RQ*) (95th percentile)		0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh		28.1			27.6	35.7	17.6	21.3	21.3	14.1	13.0	13.0
Incremental Delay (d_2), s/veh		0.1			0.0	21.4	0.0	1.5	1.5	2.5	0.6	0.6
Initial Queue Delay (d_3), s/veh		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		28.2			27.6	57.0	17.6	22.8	22.9	16.6	13.6	13.6
Level of Service (LOS)		C			C	E	B	C	C	B	B	B
Approach Delay, s/veh / LOS	28.2	C		53.7	D		22.8	C		14.9	B	
Intersection Delay, s/veh / LOS	26.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.8	C	2.8	C	2.3	B	2.1	B
Bicycle LOS Score / LOS	0.6	A	1.2	A	1.0	A	1.2	A

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Projected

Site Information

Intersection	Maitland Blvd & Packwood Ave
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Packwood Ave | North/South Street: Maitland Ave

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	17	12	7	16	8	96
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	18	13	7	17	8	106
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	1
Configuration	LTR			LT		R
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	4	363	30	171	365	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR (veh/h)	4	403	33	190	405	8
Percent Heavy Vehicles	0	1	0	1	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LT	L		TR	L		TR
v (veh/h)	18	17	4		436	190		413
C (m) (veh/h)	1488	1609	348		701	325		782
v/c	0.01	0.01	0.01		0.62	0.58		0.53
95% queue length	0.04	0.03	0.03		4.36	3.50		3.14
Control Delay (s/veh)	7.4	7.3	15.5		18.2	30.5		14.6
LOS	A	A	C		C	D		B
Approach Delay (s/veh)	--	--	18.2			19.6		
Approach LOS	--	--	C			C		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Projected

Site Information

Intersection	Horatio Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Horatio Ave

North/South Street: Independence Ln

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		465	15	5	461	
Peak-Hour Factor, PHF	0.86	0.90	0.90	0.90	0.90	0.86
Hourly Flow Rate, HFR (veh/h)	0	516	16	5	512	0
Percent Heavy Vehicles	8	--	--	1	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	17		40			
Peak-Hour Factor, PHF	0.90	0.83	0.90	0.86	0.83	0.86
Hourly Flow Rate, HFR (veh/h)	18	0	44	0	0	0
Percent Heavy Vehicles	0	1	0	0	1	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		5		62				
C (m) (veh/h)		1041		414				
v/c		0.00		0.15				
95% queue length		0.01		0.52				
Control Delay (s/veh)		8.5		15.2				
LOS		A		C				
Approach Delay (s/veh)	--	--	15.2					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Projected

Site Information

Intersection	Packwood Ave & Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Packwood Ave | North/South Street: Independence Ln

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	23	184			87	44
Peak-Hour Factor, PHF	0.85	0.85	0.83	0.83	0.85	0.85
Hourly Flow Rate, HFR (veh/h)	27	216	0	0	102	51
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				14		31
Peak-Hour Factor, PHF	0.83	0.83	0.83	0.85	0.83	0.85
Hourly Flow Rate, HFR (veh/h)	0	0	0	16	0	36
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	27						52	
C (m) (veh/h)	1440						794	
v/c	0.02						0.07	
95% queue length	0.06						0.21	
Control Delay (s/veh)	7.5						9.9	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.9		
Approach LOS	--	--				A		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	MJA
Agency/Co.	TPD
Date Performed	9/17/2014
Analysis Time Period	PM Peak Hour - Projected

Site Information

Intersection	Site Access at Independence Ln
Jurisdiction	City of Maitland
Analysis Year	2016

Project Description 4568

East/West Street: Site Access 1 | North/South Street: Independence Ln

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		20	57	10	10	
Peak-Hour Factor, PHF	0.99	0.95	0.95	0.95	0.95	0.86
Hourly Flow Rate, HFR (veh/h)	0	21	60	10	10	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				13		37
Peak-Hour Factor, PHF	0.86	0.99	0.99	0.95	0.99	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	0	13	0	38
Percent Heavy Vehicles	8	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		10		51				
C (m) (veh/h)		1529		995				
v/c		0.01		0.05				
95% queue length		0.02		0.16				
Control Delay (s/veh)		7.4		8.8				
LOS		A		A				
Approach Delay (s/veh)	--	--	8.8					
Approach LOS	--	--	A					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MJA	Intersection	Site Access at Horatio Ave
Agency/Co.	TPD	Jurisdiction	City of Maitland
Date Performed	9/17/2014	Analysis Year	2016
Analysis Time Period	PM Peak Hour - Projected		

Project Description 4568

East/West Street: Horatio Avenue	North/South Street: Site Access 2
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		503	12			
Peak-Hour Factor, PHF	0.86	0.95	0.95	0.95	0.99	0.95
Hourly Flow Rate, HFR (veh/h)	0	529	12	0	0	0
Percent Heavy Vehicles	8	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	0	0
Configuration			TR			
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			17			
Peak-Hour Factor, PHF	0.99	0.95	0.95	0.95	0.95	0.86
Hourly Flow Rate, HFR (veh/h)	0	0	17	0	0	0
Percent Heavy Vehicles	0	1	14	0	1	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration					R			
v (veh/h)					17			
C (m) (veh/h)					523			
v/c					0.03			
95% queue length					0.10			
Control Delay (s/veh)					12.1			
LOS					B			
Approach Delay (s/veh)	--	--	12.1					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MJA	Intersection	Site Access at US 17/92
Agency/Co.	TPD	Jurisdiction	City of Maitland
Date Performed	9/17/2014	Analysis Year	2016
Analysis Time Period	PM Peak Hour - Projected		

Project Description 4568	
East/West Street: Site Access 3	North/South Street: Site Access 3
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)					951	40
Peak-Hour Factor, PHF	0.99	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	1001	42
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	0	0	0	2	0
Configuration					T	TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)			32			
Peak-Hour Factor, PHF	0.86	0.95	0.95	0.95	0.99	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	33	0	0	0
Percent Heavy Vehicles	8	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	1	0	0	0
Configuration			R			

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration								R
v (veh/h)								33
C (m) (veh/h)								559
v/c								0.06
95% queue length								0.19
Control Delay (s/veh)								11.8
LOS								B
Approach Delay (s/veh)	--	--				11.8		
Approach LOS	--	--				B		

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