
Pryor Mixed Use Development
Traffic Impact Study
Lees Summit, Missouri

June 13th, 2023



Prepared by:



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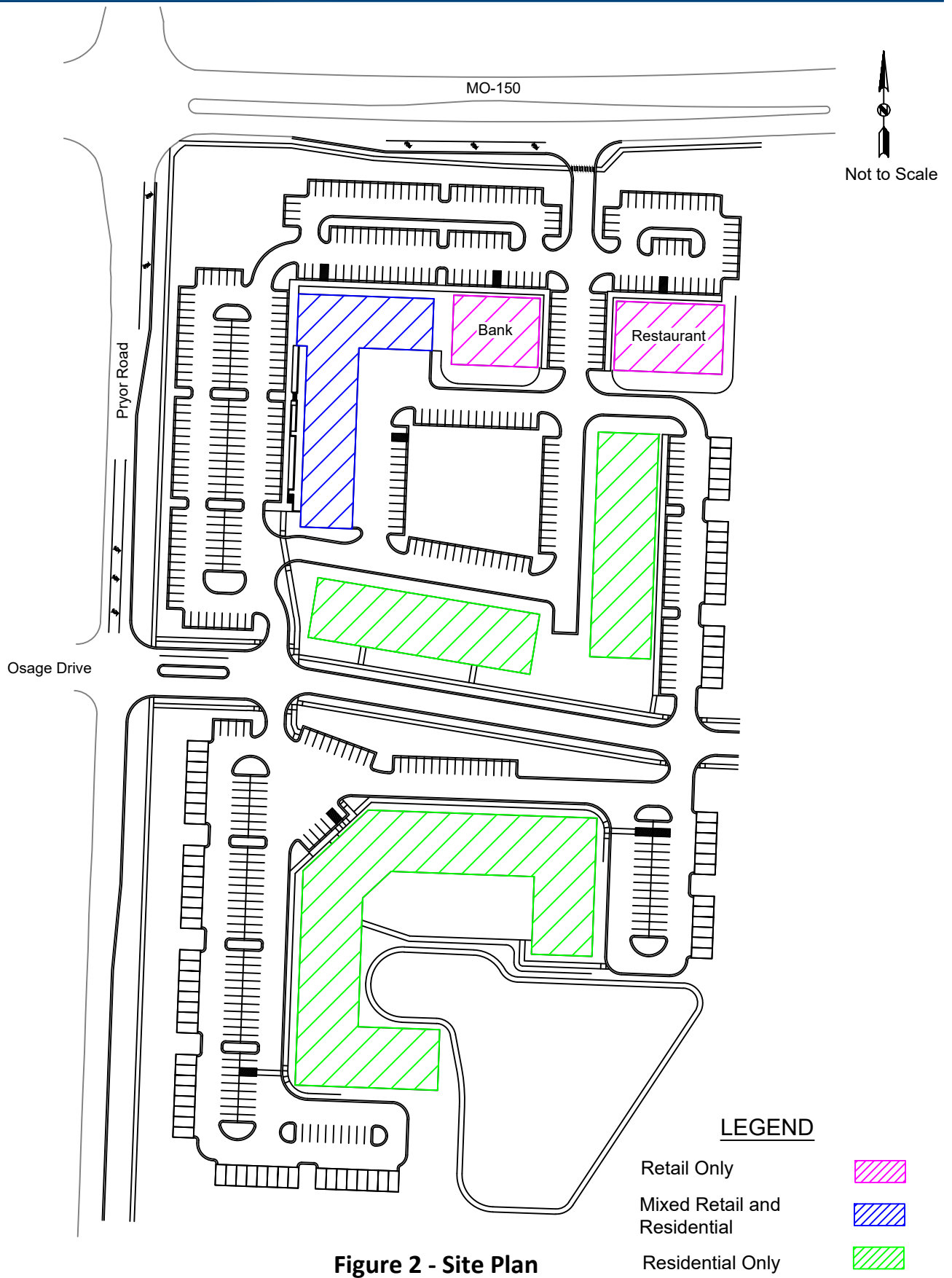


Figure 2 - Site Plan

EXISTING CONDITIONS

The site is in Lee's Summit, Missouri, in the southeast quadrant of the intersection of MO-150 and Pryor Road. The current land use of the planned development is undeveloped with low density residential surrounding the site.

Street Network and Traffic Control

The development is bordered on the north by MO-150 and on the west by Pryor Road.

MO-150 is a four-lane east-west median divided highway with a posted speed limit of 45 miles per hour (mph).

Pryor Road is a two-lane north-south major arterial roadway with a posted speed limit of 35 mph. The intersection of MO-150 and Pryor Road is signalized with left-turn lanes on all approaches, a southbound right-turn lane, a northbound right-turn lane, and an eastbound right-turn lane.

Osage Drive (existing access into the Summit Homes development on the west side of Pryor Road) is a two-lane collector roadway, and the intersection is a stop-controlled with Osage Drive stopping. This intersection is located approximately 600 feet south of MO-150.

Cass Jackson Road (County Line Road) is a two-lane east west minor arterial roadway with a posted speed limit of 35 mph. The intersection of Pryor Road and Cass Jackson Road is a stop-controlled t-intersection with Pryor Road stopping and is located approximately one mile south of MO-150.

Traffic Volumes

Intersections counted for analysis in this study were:

- MO-150 and Pryor Road
- Pryor Road and Cass Jackson Road

The turning movement traffic counts were completed on Tuesday, January 17th, 2023, for the peak volume time periods. Morning traffic counts were conducted from 7:00 AM until 9:00 AM and afternoon traffic counts were from 4:00 PM until 6:00 PM. The morning peak period was determined to be from 7:15 AM until 8:15 AM and the afternoon peak period was determined to be from 4:30 PM until 5:30 PM.

Trips from the approved *Summit Homes MO Route 150 and Pryor Road Traffic Impact Study* by Olsson Engineers (October 2018) were added to the traffic counts to create an existing traffic scenario as all the phases of the Summit Homes development are not yet completed.

Existing traffic volumes with the Summit Homes development are shown on Figure 3. Traffic counts and the previous study counts are included in the Appendix.

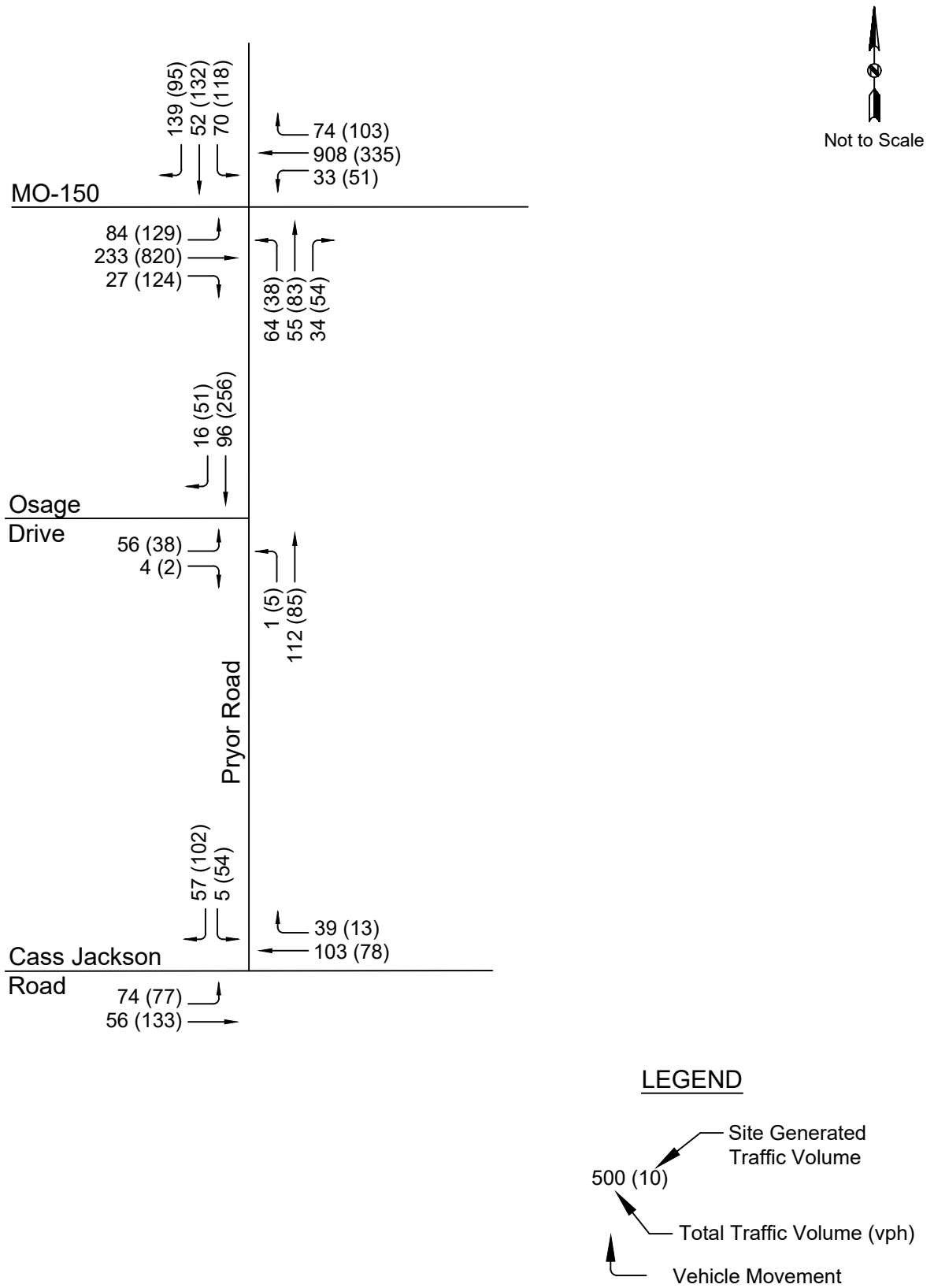


Figure 3 - Existing Traffic Volumes

PROPOSED CONDITIONS

The Pryor Mixed Use development will be constructed in one phase and will consist of 280 multifamily housing units, 22,500 square feet of retail, a 5,000 square feet bank, and a 4,500 square feet restaurant.

Access Plan

The Pryor Mixed Use development site will be accessed by two entrances. One access will be through the construction of an east leg of Osage Drive and Pryor Road. The Osage Drive access will be a full access point and will be stop controlled with the Osage Drive stopping.

The site will be accessed via MO-150 by a right-in/right-out (RIRO) access 520 feet east of the MO-150 and Pryor Road intersection.

A future connection of Osage Drive to the east will be stubbed out with the construction of this development.

Sight Distance

Sight distance was measured at the proposed accesses using the methodology recommended by the American Association of State Highway and Transportation Engineers (AASHTO).

The posted speed limit along MO-150 at the proposed access point is 45 mph and for that speed AASHTO requires a minimum intersection sight distance of 500 feet and a stopping sight distance of 360 feet. Based on field measurements at the proposed access point on MO-150, the available intersection sight distance will be in excess of 500 feet and the measured stopping sight distance will be in excess of 360 feet.

The posted speed limit at Pryor Road and Osage Drive is 35 mph and for that speed AASHTO requires a minimum intersection sight distance of 390 feet and a stopping sight distance of 250 feet. The measured intersection sight distance and stopping sight distance was in excess of 400 feet and is adequate.

Crash Analysis

Crashes at the study intersections were analyzed over a three-year period (2020-2022) from City of Lee's Summit Police Department data to identify existing crash patterns. There were a total of 24 crashes reported during the crash study time period at MO-150 and Pryor Road—with 10 injury and no fatal crashes.

Based on the analysis of the crashes, there were five angle, two head on, five ran-off-road, eight rear-end, two sideswipe, and one object crash. The majority of the crashes were due to distracted driving and running red lights or following too closely. The other causes ranged from falling asleep at the wheel, turning too wide, DUI, and a trash can blowing into the road.

The Pryor Road and Osage Drive intersection and the Pryor Road and Cass Jackson Road intersection had no crashes reported during the study period.

No correctable crash patterns emerged as a result of the study and no recommendations are made to alter the study intersections based on crash data.

Detailed crash summaries are included in the Appendix.

Throat Length Analysis

The throat length for the north entrance into the site from MO-150 was compared to MoDOT’s turning lane guidelines requirements for medium traffic volume driveways. MoDOT requires a minimum throat length of 60 feet for drives with 150-400 peak hour trips and the proposed throat is approximately 105 feet, which meets MoDOT’s requirements.

The throat length for the proposed entrance into the site from Pryor Road was compared to City of Lee’s Summit *Access Management Code*, March 2018 requirements for drives adjacent to arterial roadways based on vehicles per hour. Lee’s Summit requires 125 feet minimum drive throat length on arterial roadways with projected two-way peak hour volumes between 100 and 400 vehicles per hour (vph). The proposed throat length at Osage Drive is 150 feet, which exceeds the City’s requirements.

Trip Generation

The expected trip generation for the development was estimated using the 11th Edition of the Trip Generation Handbook published by the Institute of Transportation Engineers. The trip generation was based on Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 AM along with Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 PM criteria.

Estimates for the expected trips generated by the development are provided in Table 1.

Table 1 – Trip Generation					
ITE Land Use Code	Units	A.M.		P.M.	
		Trips In (vph)	Trips Out (vph)	Trips In (vph)	Trips Out (vph)
220- Multifamily Housing (Low-Rise)	280 dwelling units	26	84	89	52
822- Strip Retail Plaza	22,500 sq ft	29	20	69	69
912 – Drive-In Bank	5,000 sq ft	25	25	53	52
932- High-Turnover (Sit-Down) Restaurant	4,500 sq ft	29	23	19	12
TOTAL		109	152	230	185

Trip Distribution

The trip distribution pattern was determined for the site based on the existing directional traffic pattern of the peak period and based on a general analysis of the surrounding area. The detailed distribution patterns can be found in the appendix. Based on the existing traffic patterns, the type of development, location of nearby schools, and the metropolitan population centers, the new trips were assigned onto the roadway network, as shown below for the morning and afternoon periods.

Trip distribution during the morning peak period:

- 15% to/from the north
- 5% to/from the south
- 55% to/25% from the east
- 25% to/55% from the west

Trip distribution during the afternoon peak period:

- 20% to/from the north
- 5% to/from the south
- 25% to/50% from the east
- 50% to/25% from the west

Existing Plus Site Traffic Volumes

The expected development site-generated traffic volumes were added to the existing traffic scenario. The volumes are shown on Figures 4 and 5.

Future Traffic Volumes

Future traffic volumes were generated at a rate of 2% annual growth over a twenty-year period. The calculated traffic volumes were added to the existing plus site traffic. The volumes for the future morning and afternoon peak hours are shown on Figure 6.

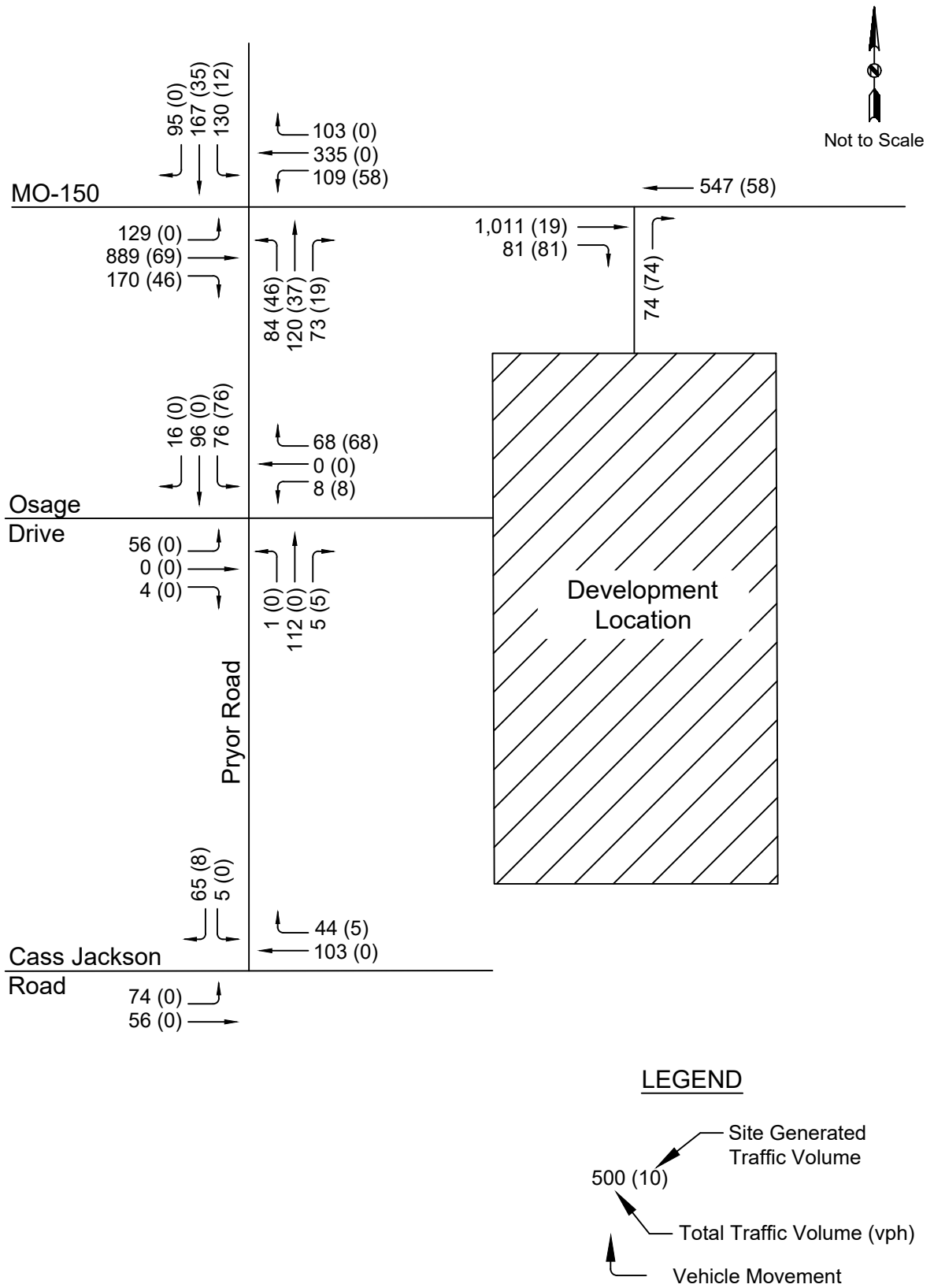


Figure 5 - Existing plus Site PM Volumes

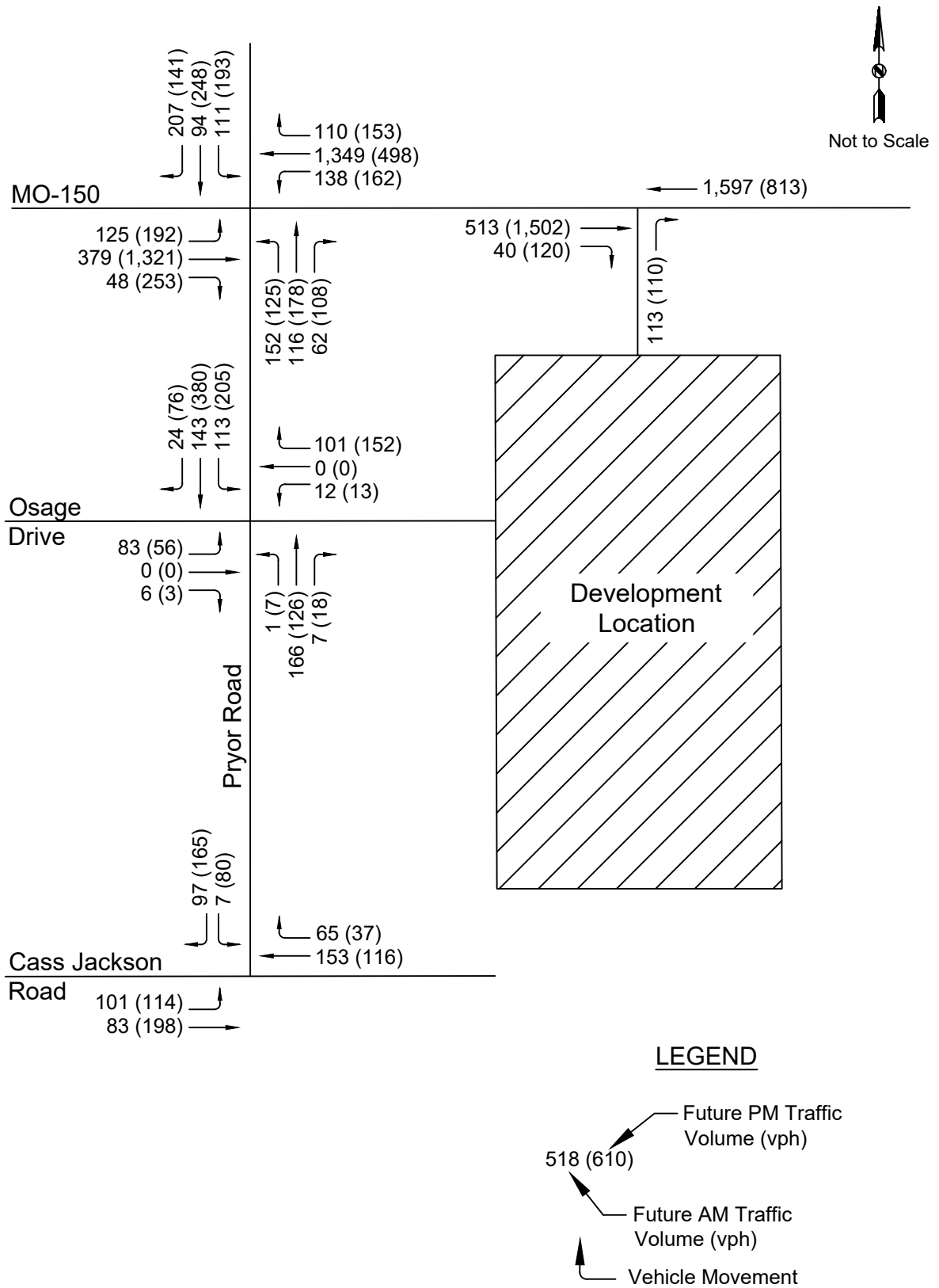


Figure 6 - Future AM & PM Volumes

Signal Warrant Study

It may be considered justified to install a traffic signal at a location if one or more of the traffic signal warrants listed in the 2009 MUTCD is met. The traffic signal warrants are:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossing
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network
- Warrant 9: Intersection Near at Grade Crossing

Warrants 3 and 7 were evaluated at the analysis intersections as part of this study at the Pryor Road and Osage Drive intersection and at the Pryor Road and Cass Jackson Road intersection.

Warrant 3: Peak Hour

The peak hour warrant is satisfied if either of the two following conditions are met:

A: This condition is satisfied if any of the following conditions are met for a period of one hour during an average day:

1. The total stopped time delay experience by the traffic on one minor-street approach (one direction only) controlled by a stop sign equals or exceeds: 4 vehicles-hours for a one-lane approach or five vehicle hours for a two-land approach and
2. The volume on the same minor-street approach (one directions only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes and
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

(Condition A is not being examined in this study)

B: The peak hour warrant is satisfied if the vehicles per hour on both approaches of the major street and the vehicles on the higher volume approach of the minor street for one hour fall above the 2009 MUTCD Warrant 3 curve.

Warrant 7: Crash Experience

The crash experience warrant is met if all of the three following conditions are met:

A: The crash experience warrant is met if alternatives and enforcement has failed to reduce crash frequency over a satisfactory trial period.

B: The crash experience warrant is met five or more correctable crashes have occurred within a 12- month period.

C: For each of any eight hours of an average day, the vehicles per hour given are 80 percent of Condition A in Table 4C-1 or the vehicles per hour in are 80 percent of Condition B in Table 4C-1 or 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours.

Analysis

Based on traffic signal warrant analysis, a traffic signal is not warranted at either study intersection for the existing, existing plus site, or future traffic volumes. The raw data and graphs from the 2009 MUTCD are included in the Appendix.

Left and Right-Turn Lane Warrants

The need for a right-turn lane at the site entrance on MO-150 was evaluated using MoDOT's turning lane guidelines for four-lane roadways for the existing plus site condition. The existing plus site traffic volumes during the afternoon peak hour are expected to warrant a right-turn lane during peak periods for the MO-150 access.

The need for right and left-turn lanes into the site at Osage Drive was evaluated using the City of Lee's Summit *Access Management Code*, March 2018 turning lane guidelines as part of this study for the existing plus site and future condition.

Left-Turn Warrant

Left-turn lane guidelines per City of Lees Summit *Access Management Code*:

16.1.B. Left-turn lanes shall be provided on all arterial streets at the intersection with other arterial and collector streets. Left-turn lanes shall be provided on minor arterial streets at the intersection with any local street or driveway where the left-turn volume is at least 20 vehicles in any hour. On major arterial streets, left-turn lanes shall be at the intersection with all connectors (an exception may be granted for a singular, existing, residential lot).

16.1.H. The minimum length of left-turn lane should be 250 feet plus taper on an arterial street intersecting another arterial street and 200 feet plus taper on an arterial street at other locations. The minimum length of left-turn lane on collectors should be 150 feet plus taper. The minimum length of left-turn lane on connectors should meet the driveway throat length requirements.

Left-turn lanes will be required southbound on Pryor Road at Osage Drive as Pryor Road is classified as an arterial roadway.

Right-Turn Warrant

Right-turn lane guidelines per City of Lees Summit *Access Management Code*:

16.2.A. Required on arterial streets at each intersecting street or driveway where the right-turn volume on the major arterial street is or is projected to be at least 30 vehicles in any hour, or the right-turn volume on the minor arterial street is or is projected to be at least 60 vehicles in any hour. Minimum length should be 250 feet plus the taper on a major arterial at the intersection of another arterial street or 200 feet plus the taper on a minor arterial at the intersection with another arterial street or on a major arterial at the intersection of a collector and 150 feet plus the taper at other locations along arterial streets.

The traffic volumes are not expected to meet the right-turning volume criteria northbound at Osage Drive as the volumes are projected to be less than 30 vehicles even during future conditions.

The raw analysis data is included in the Appendix.

CAPACITY

The capacity analysis for the study intersections was completed using the methodology outlined in the Highway Capacity Manual, 6th Edition. The volume and capacity analysis was completed using Trafficware SYNCHRO software (latest version). The criteria for determining Level of Service (LOS) for signalized and unsignalized study intersections and access points are based on the average vehicle delay and is outlined in Table 2 below. Level of Service is defined as the measure of the quality of traffic flow and is graded from “A” to “F”—with “A” being the best situation and “F” being the worst.

Table 2 – Intersection Level of Service		
Level of Service (LOS)	Average Control Delay (sec/veh)	
	Unsignalized	Signalized
A	< 10	< 10
B	< 15	< 20
C	< 25	< 35
D	< 35	< 55
E	< 50	< 80
F	≥ 50	≥ 80

Existing Conditions

MO-150 and Pryor Road

The analysis was completed using the existing MoDOT supplied traffic signal timings.

All approaches operate at a LOS D or above for the morning and afternoon peak periods, with the exception of the southbound right-turn movement during the morning peak period, which operates at a LOS E. The north and southbound right and left-turn queues exceed the turn-lane storage capacity. The east and westbound turning queues have sufficient capacity for queuing vehicles. The overall LOS for the intersection is a LOS C during the morning and afternoon peak period.

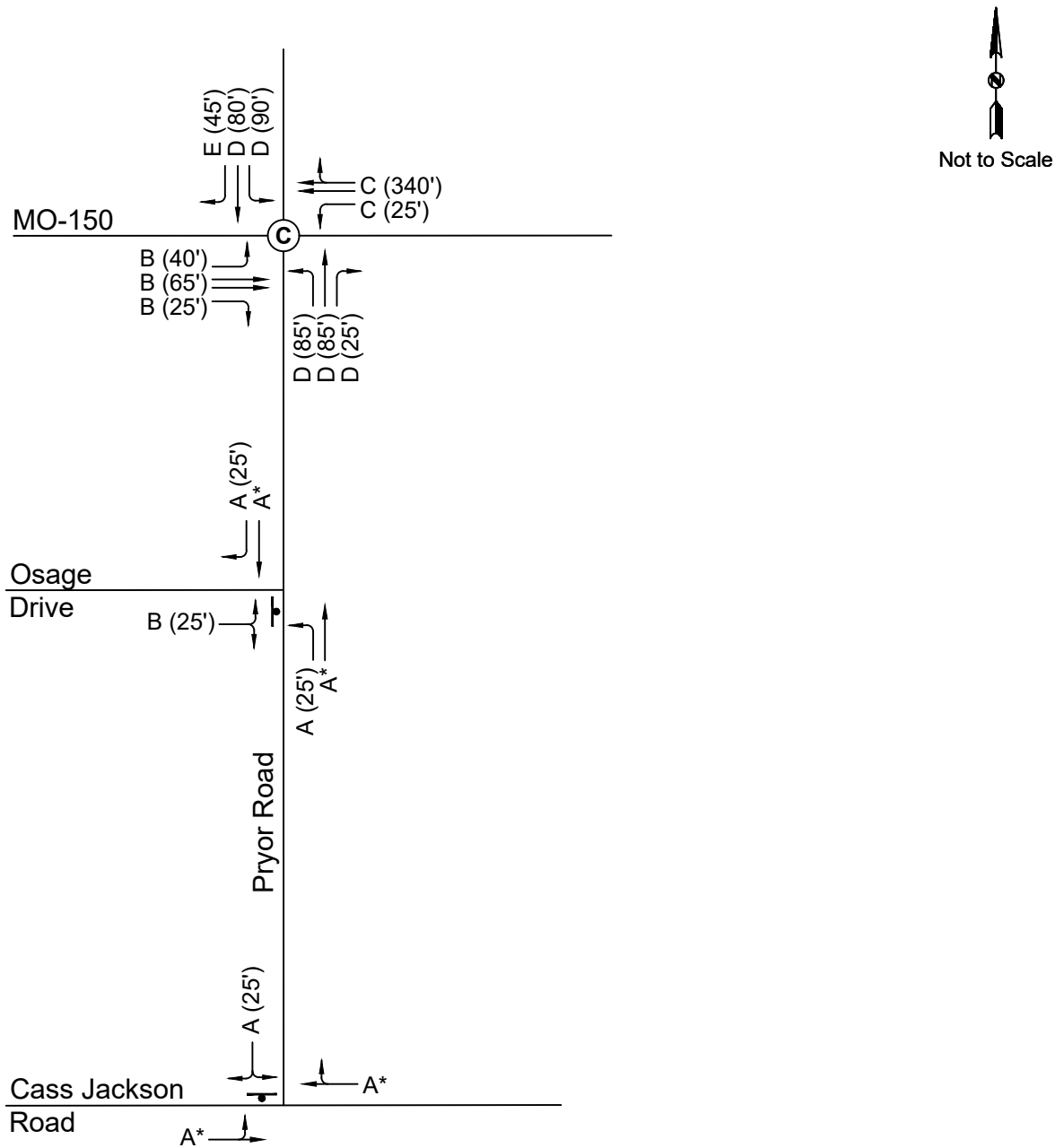
Pryor Road and Osage Drive

All approaches operate at a LOS B or above for the morning and afternoon peak periods and the intersection has sufficient capacity for queuing vehicles.

Pryor Road and Cass Jackson Road

All approaches operate at a LOS B or above for the morning and afternoon peak periods and the intersection has sufficient capacity for queuing vehicles.

The results of the existing conditions analysis are shown for the morning and afternoon peak hours along with lane configuration and queue lengths on Figures 7 and 8.



LEGEND



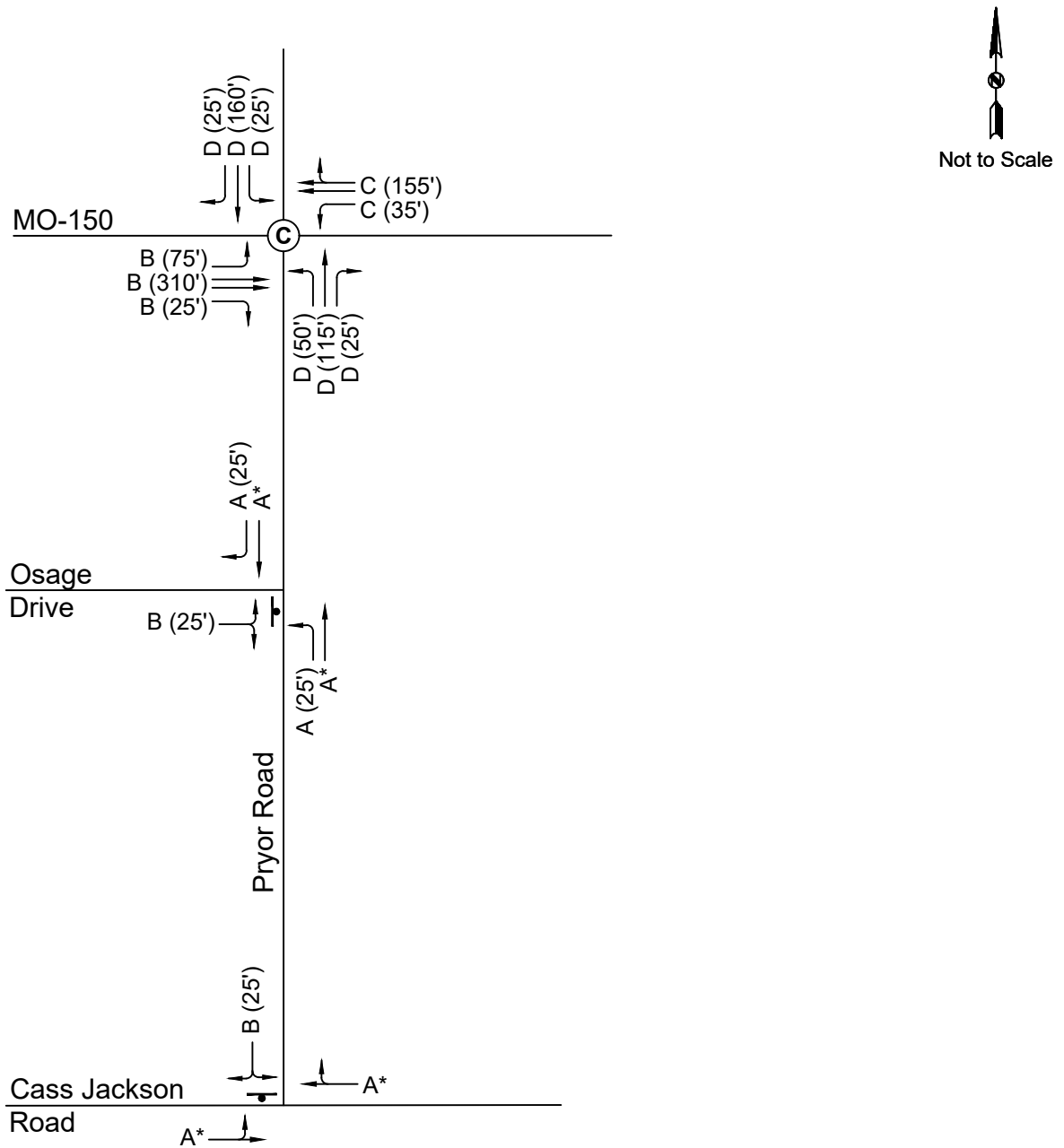
-  Lane Configuration
- A Movement Level of Service
-  Signalized Intersection Level of Service
- (XX') Required Storage Length
- * Capacity Per Demand

Figure 7 - Existing AM Level of Service



LEGEND



-  Lane Configuration
- A Movement Level of Service
-  Signalized Intersection Level of Service
- (XX') Required Storage Length
- * Capacity Per Demand

Figure 8 - Existing PM Level of Service

Existing Plus Site Conditions

MO-150 and Pryor Road

Signal timings were optimized to account for the additional traffic.

There is no significant change in the operations of this intersection from the existing conditions. All approaches (except the southbound right-turn during the morning peak period) continue to operate at a LOS D or better for the morning and afternoon peak periods and the east and westbound movements have sufficient capacity for queuing vehicles.

MO-150 and RIRO Access

The analysis was completed with an eastbound right-turn lane per MoDOT's turn lane criteria.

The through movements of MO-150 are not stop-controlled therefore operate in a free-flow condition. All approaches operate at a LOS B or better and will sufficient capacity for queueing vehicles.

Pryor Road and Osage Drive

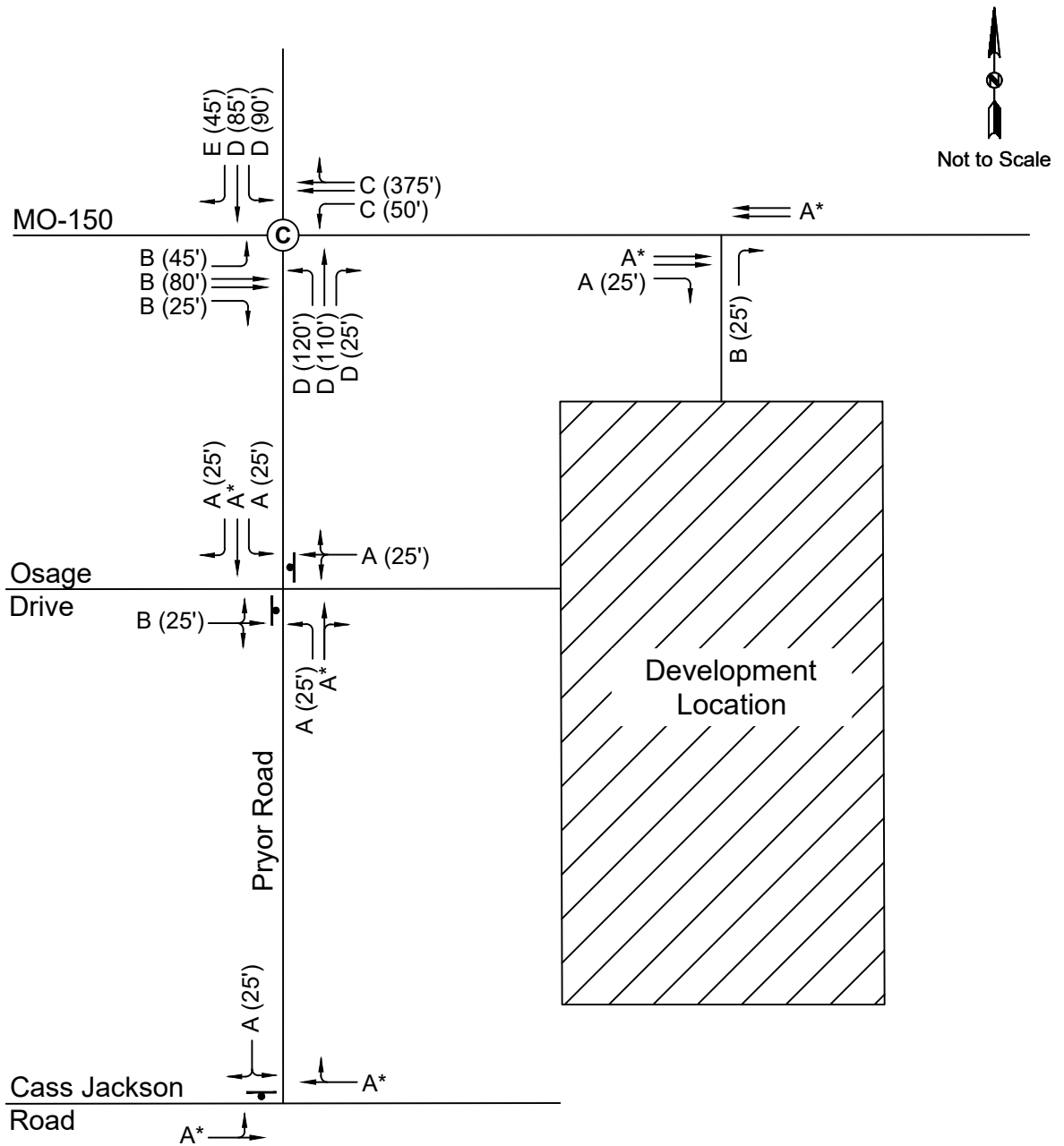
The analysis was completed with southbound left-turn lane per City of Lee's Summit turn lane criteria.

All approaches operate at a LOS C or better for the morning and afternoon peak periods and the intersection has sufficient capacity for queuing vehicles.

Pryor Road and Cass Jackson Road

There are no significant changes in the operations expected from the existing conditions. The approaches continue to operate at a LOS C or better for the morning and afternoon peak periods and the intersection has sufficient capacity for queuing vehicles.

The results of the existing plus site analysis for the morning and afternoon peak hour conditions along with lane configuration and queue lengths are shown on Figures 8 and 9.



LEGEND


-  Lane Configuration
- A** Movement Level of Service
- (A)** Signalized Intersection Level of Service
- (XX')** Required Storage Length
- *** Capacity Per Demand

Figure 9 - Existing plus Site AM Level of Service

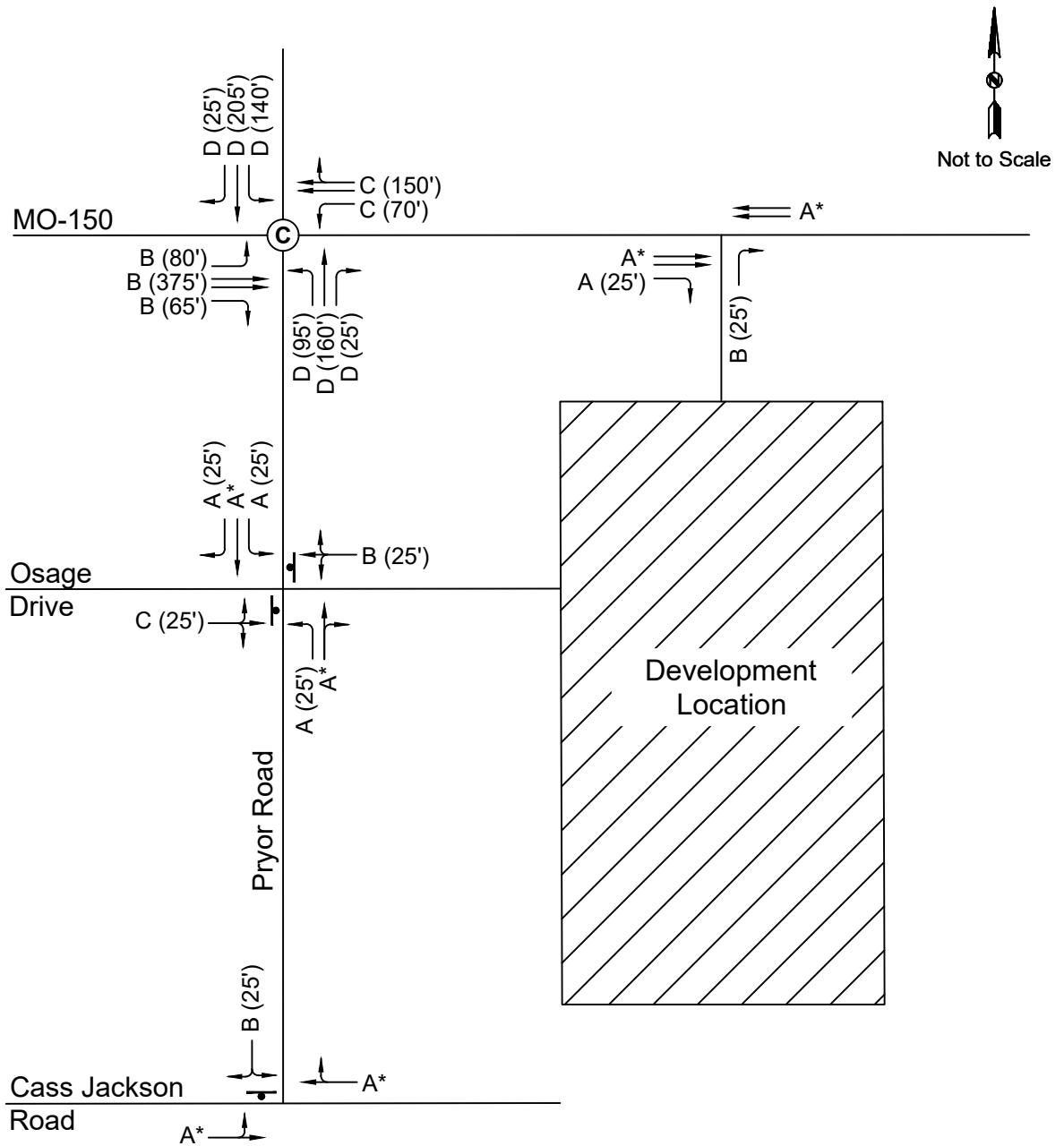


Figure 10 - Existing plus Site PM Level of Service

Future Conditions

Future analysis is intended to provide a high-level overview of increases in trips as other developments occur and provide recommendations for reserving right-of-way for future expansion. Signal timings of intersection movements were optimized to account for the additional traffic.

MO-150 and Pryor Road

With current lane configurations: The future additional traffic is expected to cause multiple movements to drop to a LOS E and LOS F for both the morning and afternoon peak period and a majority of the turning queues will exceed turn bay storage capacity.

With increased roadway capacity (additional lanes): All approaches are expected to operate at a LOS D or better and the intersection will have sufficient capacity for queuing vehicles. Long range planning should consider adding additional through lanes or increasing storage length. The improvements to MO-150 and Pryor Road would require additional right-of-way through the corridor.

MO-150 and Access

All approaches operate at a LOS C or better for the morning and afternoon peak periods and the intersection has sufficient capacity for queuing vehicles.

Pryor Road and Osage Drive

The increase in traffic volumes will cause the eastbound movement to drop from a LOS C to a LOS F during the afternoon peak period. The storage length is adequate for this movement, and the intersection does not warrant a signal at this time, which limits the recommended improvements. There are alternative routes available during the peak periods—as this drive accesses the residential section of the development most of these trips would be vehicles that are familiar with peak hour characteristics and know to take an alternative route during the afternoon peak period.

Pryor Road and Cass Jackson Road

All approaches operate at a LOS C or better for the morning and afternoon peak periods and the intersection has sufficient capacity for queuing vehicles.

The results of the future analysis is shown for the morning and afternoon peak hour conditions along with lane configuration and queue lengths on Figures 10 and 11.

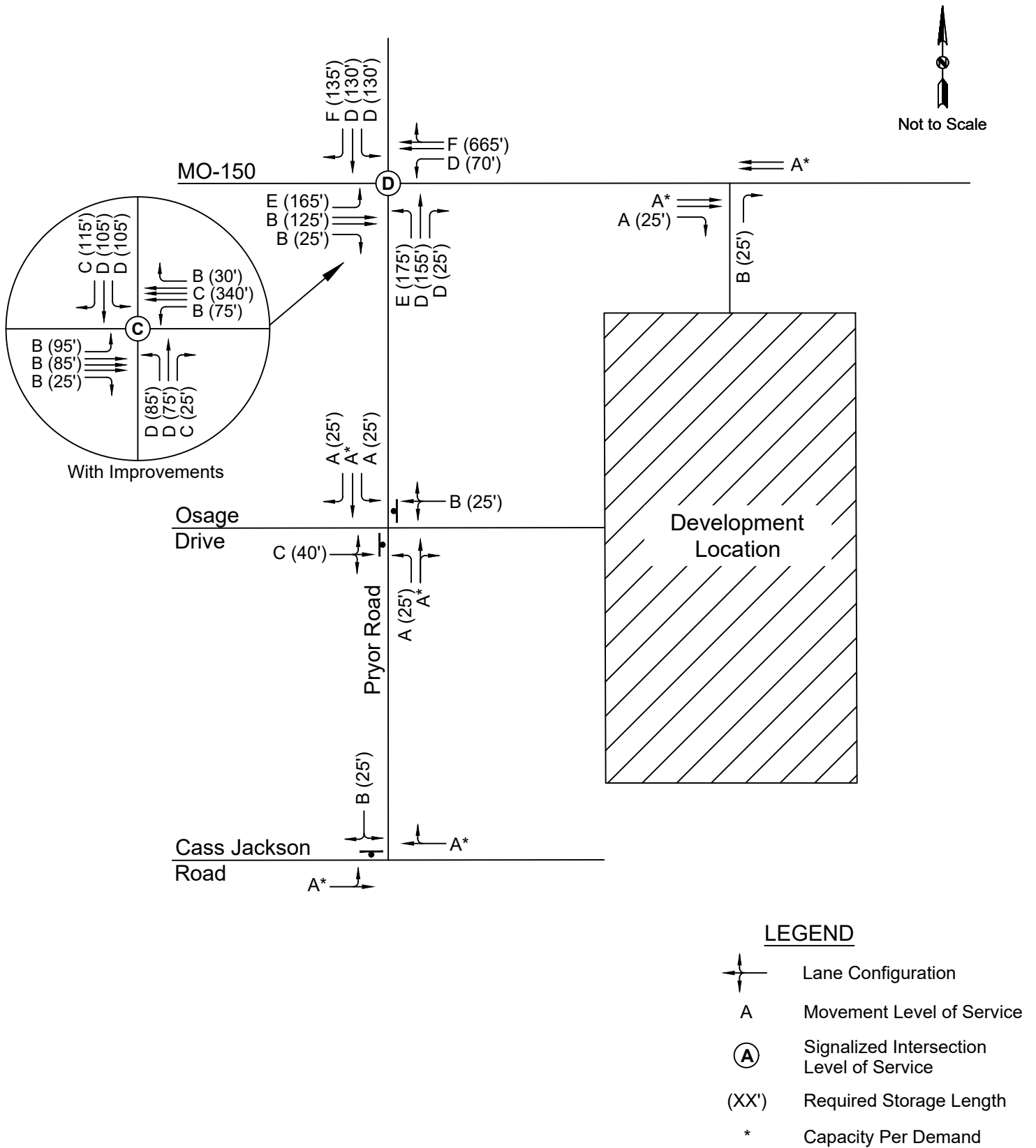


Figure 11 - Future AM Level of Service

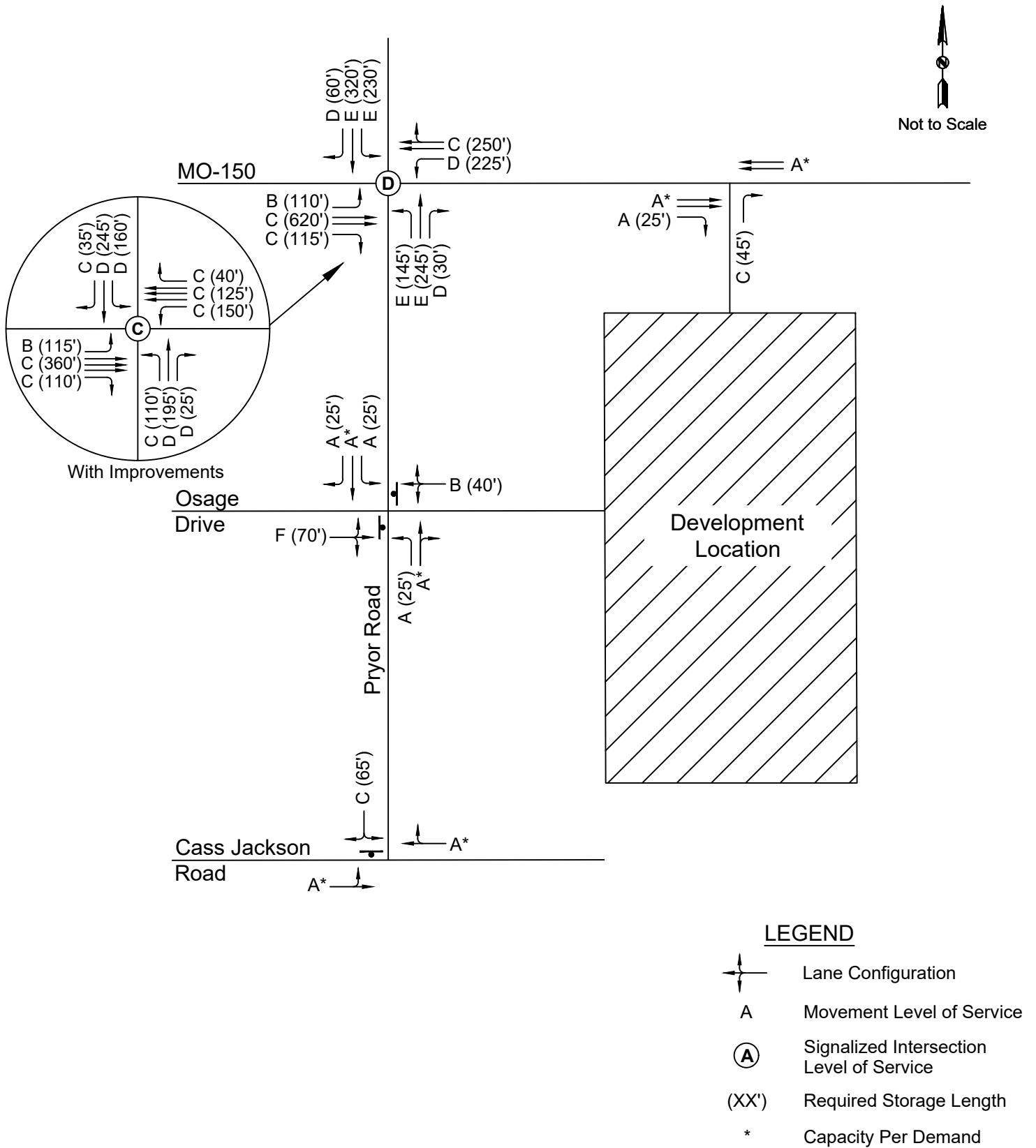


Figure 12 - Future PM Level of Service

RECOMMENDATIONS

This study documents the findings of the traffic analysis of the expected traffic for the Pryor Mixed Use development in Lees Summit, Missouri. The study includes an analysis of the existing conditions, existing plus site conditions, and future conditions.

- Install an eastbound right-turn lane (200 feet plus taper) at the RIRO intersection of MO-150 and site access.
- Extend the existing northbound right-turn lane (200 feet plus taper) at the intersection of MO-150 and Pryor Road.
- Restripe the painted median on Pryor Road to create a southbound left-turn lane (200 feet plus taper) at the intersection of Pryor Road and Osage Drive.
- Reserve right-of-way for potential improvements to the MO-150 and Pryor Road intersection.
- Adjust signal timings at MO-150 and Pryor Road. Update traffic signal equipment to a northbound four-section head and APS equipment for new crosswalks.
- The need for future roadway improvements should be reevaluated as additional development occurs and a study for long-term improvements along MO-150 should be considered.

APPENDIX

MO 150 & Pryor Road
AM

Time	Eastbound				Westbound				Northbound				Southbound				Int. Total
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
7:00	23	43	2	68	4	207	17	228	12	14	4	30	14	5	26	45	371
7:15	18	52	3	73	4	236	14	254	15	15	6	36	16	16	35	67	430
7:30	23	44	4	71	8	293	25	326	19	16	8	43	14	8	41	63	503
7:45	16	74	8	98	8	183	18	209	16	12	8	36	20	20	41	81	424
8:00	27	63	12	102	13	196	17	226	14	12	12	38	20	8	22	50	416
8:15	20	66	4	90	16	179	16	211	19	18	5	42	15	3	23	41	384
8:30	19	66	3	88	8	137	17	162	28	16	7	51	2	11	20	33	334
8:45	13	60	7	80	10	137	11	158	31	13	11	55	16	13	23	52	345
Total	159	468	43	670	71	1568	135	1774	154	116	61	331	117	84	231	432	3207

Time	Eastbound				PHF	Westbound				PHF	Northbound				PHF	Southbound				PHF	Int. Total
	EB Left	EB Thru	EB Right	EB Total		WB Left	WB Thru	WB Right	WB Total		NB Left	NB Thru	NB Right	NB Total		SB Left	SB Thru	SB Right	SB Total		
7:15	18	52	3	73	0.84	4	236	14	254	0.78	15	15	6	36	0.89	16	16	35	67	0.81	430
7:30	23	44	4	71		8	293	25	326		19	16	8	43		14	8	41	63		503
7:45	16	74	8	98		8	183	18	209		16	12	8	36		20	20	41	81		424
8:00	27	63	12	102		13	196	17	226		14	12	12	38		20	8	22	50		416
Total	84	233	27	344		33	908	74	1015		64	55	34	153		70	52	139	261		1773

Pryor Road and Cass Jackson Road
AM

Time	Eastbound				Westbound				Northbound				Southbound				Int. Total
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
7:00	15	13	0	28	0	21	6	27	0	1	0	1	0	0	4	4	60
7:15	24	18	0	42	0	21	14	35	0	0	0	0	1	0	16	17	94
7:30	21	12	0	33	0	27	10	37	0	0	0	0	1	0	10	11	81
7:45	12	14	0	26	0	26	8	34	0	0	0	0	3	0	24	27	87
8:00	17	12	0	29	0	29	7	36	0	0	0	0	0	0	7	7	72
8:15	10	14	0	24	0	24	2	26	0	0	0	0	1	0	10	11	61
8:30	18	33	0	51	0	6	9	15	0	0	0	0	1	0	13	14	80
8:45	13	16	0	29	0	11	7	18	0	0	0	0	4	0	15	19	66
Total	130	132	0	262	0	165	63	228	0	1	0	1	11	0	99	110	601

Time	Eastbound				PHF	Westbound				PHF	Northbound				PHF	Southbound				PHF	Int. Total
	EB Left	EB Thru	EB Right	EB Total		WB Left	WB Thru	WB Right	WB Total		NB Left	NB Thru	NB Right	NB Total		SB Left	SB Thru	SB Right	SB Total		
7:15	24	18	0	42	0.77	0	21	14	35	0.96	0	0	0	0	#DIV/0!	1	0	16	17	0.57	94
7:30	21	12	0	33		0	27	10	37		0	0	0	0		1	0	10	11		81
7:45	12	14	0	26		0	26	8	34		0	0	0	0		3	0	24	27		87
8:00	17	12	0	29		0	29	7	36		0	0	0	0		0	0	7	7		72
Total	74	56	0	130		0	103	39	142		0	0	0	0		5	0	57	62		334

MO 150 & Pryor Road
PM

Time	Eastbound				Westbound				Northbound				Southbound				Int. Total
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
4:00 PM	24	188	40	252	18	95	21	134	7	13	6	26	26	23	20	69	481
4:15 PM	29	200	26	255	8	90	26	124	8	24	11	43	30	33	32	95	517
4:30 PM	34	223	30	287	8	92	18	118	5	30	14	49	33	28	22	83	537
4:45 PM	35	207	25	267	19	88	28	135	10	16	7	33	26	28	20	74	509
5:00 PM	27	174	39	240	12	78	29	119	11	17	17	45	28	33	22	83	487
5:15 PM	33	216	30	279	12	77	28	117	12	20	16	48	31	43	31	105	549
5:30 PM	37	178	26	241	18	101	32	151	12	18	15	45	30	23	28	81	518
5:45 PM	30	119	25	174	11	74	18	103	4	10	9	23	37	19	15	71	371
Total	249	1505	241	1995	106	695	200	1001	69	148	95	312	241	230	190	661	3969

Time	Eastbound				PHF	Westbound				PHF	Northbound				PHF	Southbound				PHF	Int. Total
	EB Left	EB Thru	EB Right	EB Total		WB Left	WB Thru	WB Right	WB Total		NB Left	NB Thru	NB Right	NB Total		SB Left	SB Thru	SB Right	SB Total		
4:30 PM	34	223	30	287	0.93	8	92	18	118	0.91	5	30	14	49	0.89	33	28	22	83	0.82	537
4:45 PM	35	207	25	267		19	88	28	135		10	16	7	33		26	28	20	74		509
5:00 PM	27	174	39	240		12	78	29	119		11	17	17	45		28	33	22	83		487
5:15 PM	33	216	30	279		12	77	28	117		12	20	16	48		31	43	31	105		549
Total	129	820	124	1073		51	335	103	489		38	83	54	175		118	132	95	345		2082

Pryor Road and Cass Jackson Road
PM

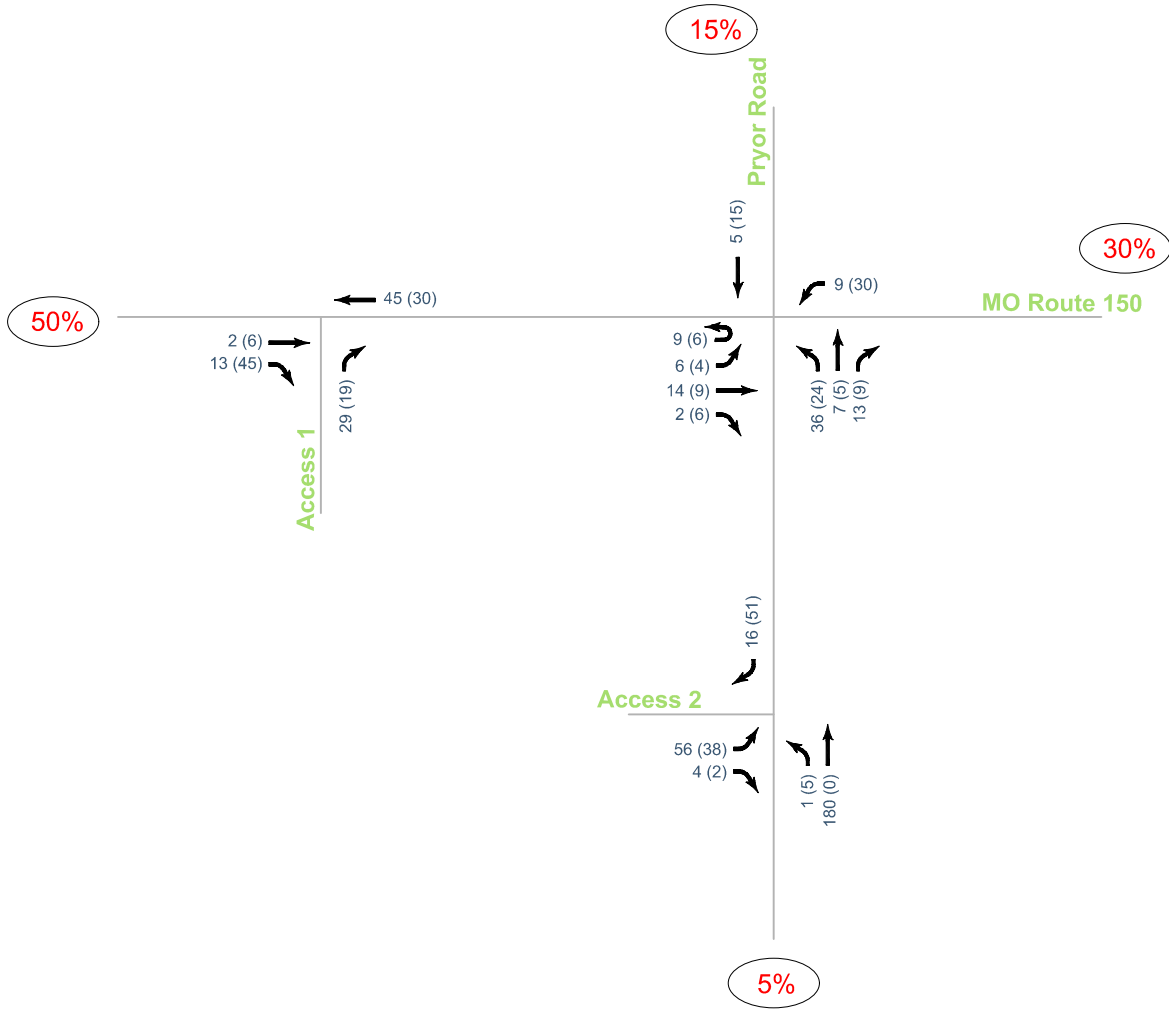
Time	Eastbound				Westbound				Northbound				Southbound				Int. Total
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
4:00 PM	10	30	0	40	0	26	2	28	0	0	0	0	7	0	23	30	98
4:15 PM	13	31	0	44	0	21	1	22	0	0	0	0	17	0	15	32	98
4:30 PM	23	32	0	55	0	20	4	24	0	0	0	0	19	0	22	41	120
4:45 PM	15	32	0	47	0	18	2	20	0	0	0	0	11	0	30	41	108
5:00 PM	19	22	0	41	0	21	5	26	0	0	0	0	14	0	15	29	96
5:15 PM	20	47	0	67	0	19	2	21	0	0	0	0	10	0	35	45	133
5:30 PM	12	19	0	31	0	17	3	20	0	0	0	0	7	0	25	32	83
5:45 PM	19	23	0	42	0	25	1	26	0	0	0	0	20	0	22	42	110
Total	131	236	0	367	0	167	20	187	0	0	0	0	105	0	187	292	846

Time	Eastbound				PHF	Westbound				PHF	Northbound				PHF	Southbound				PHF	Int. Total
	EB Left	EB Thru	EB Right	EB Total		WB Left	WB Thru	WB Right	WB Total		NB Left	NB Thru	NB Right	NB Total		SB Left	SB Thru	SB Right	SB Total		
4:30 PM	23	32	0	55	0.78	0	20	4	24	0.88	0	0	0	0	#DIV/0!	19	0	22	41	0.87	120
4:45 PM	15	32	0	47		0	18	2	20		0	0	0	0		11	0	30	41		108
5:00 PM	19	22	0	41		0	21	5	26		0	0	0	0		14	0	15	29		96
5:15 PM	20	47	0	67		0	19	2	21		0	0	0	0		10	0	35	45		133
Total	77	133	0	210		0	78	13	91		0	0	0	0		54	0	102	156		457

FIGURE 6

Proposed Development Trip Distribution

Allera Residential Development
Lee's Summit, MO



LEGEND

AM (PM) AM (PM) Peak Hour Development Trips

XX% To/From Trip Distribution Percentages



olsson

150 & Pryor Site Trip Generation

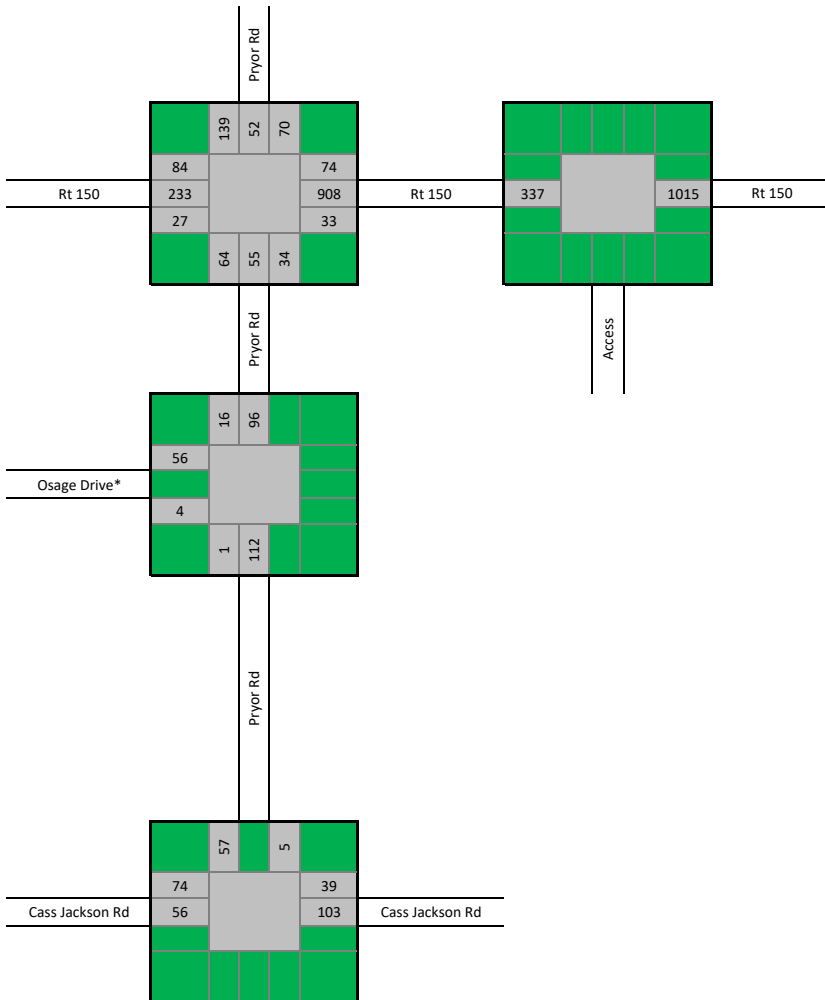
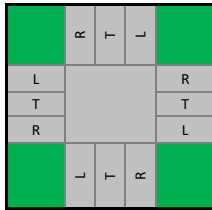
ITE Trip Generation Manual - 11th Edition

Highlighted text indicates trips used in Synchro and Warrant Analysis

Land Use	ITE Code	Size	Units	Equation	Trips (Eq.)	Av. Rate	Trips (Av. Rate)	In%	Out%	Trips In	Trips Out
Multifamily Housing (Low-Rise) (Weekday)	220	280	Dwelling Units	$T=6.41(X)+75.31$	1870	6.74	1887	50%	50%	935	935
Strip Retail Plaza (Weekday)	822	22.5	1000 Sq Ft	$T=42.20(X)+229.68$	1179	54.45	1225	50%	50%	590	589
Drive-In Bank (Weekday)	912	5	1000 Sq Ft	n/a	n/a	100.35	502	50%	50%	251	251
High-Turnover (Sit-Down) Restaurant	932	4.5	1000 Sq Ft	n/a	n/a	107.2	482	50%	50%	241	241
										2017	2016
Multifamily Housing (Low-Rise) (AM)	220	280	Dwelling Units	$T=0.31(X)+22.85$	110	0.4	112	24%	76%	26	84
Strip Retail Plaza (AM)	822	22.5	1000 Sq. Ft.	$\ln(T)=0.66\ln(X)+1.84$	49	2.36	53	60%	40%	29	20
Drive-In Bank (AM)	912	5	1000 Sq Ft	n/a	n/a	9.95	50	50%	50%	25	25
High-Turnover (Sit-Down) Restaurant	932	4.5	1000 Sq Ft	n/a	n/a	11.61	52	55%	45%	29	23
										109	152
Multifamily Housing (Low-Rise) (PM)	220	280	Dwelling Units	$T=0.43(X)+20.55$	141	0.51	143	63%	37%	89	52
Strip Retail Plaza (PM)	822	22.5	1000 Sq Ft	$\ln(T)=0.71\ln(X)+2.72$	138	6.59	148	50%	50%	69	69
Drive-In Bank (PM)	912	5	1000 Sq Ft	n/a	n/a	21.01	105	50%	50%	53	52
High-Turnover (Sit-Down) Restaurant	932	4.5	1000 Sq Ft	n/a	n/a	6.81	31	61%	39%	19	12
										230	185

Existing AM Peak Hour Traffic

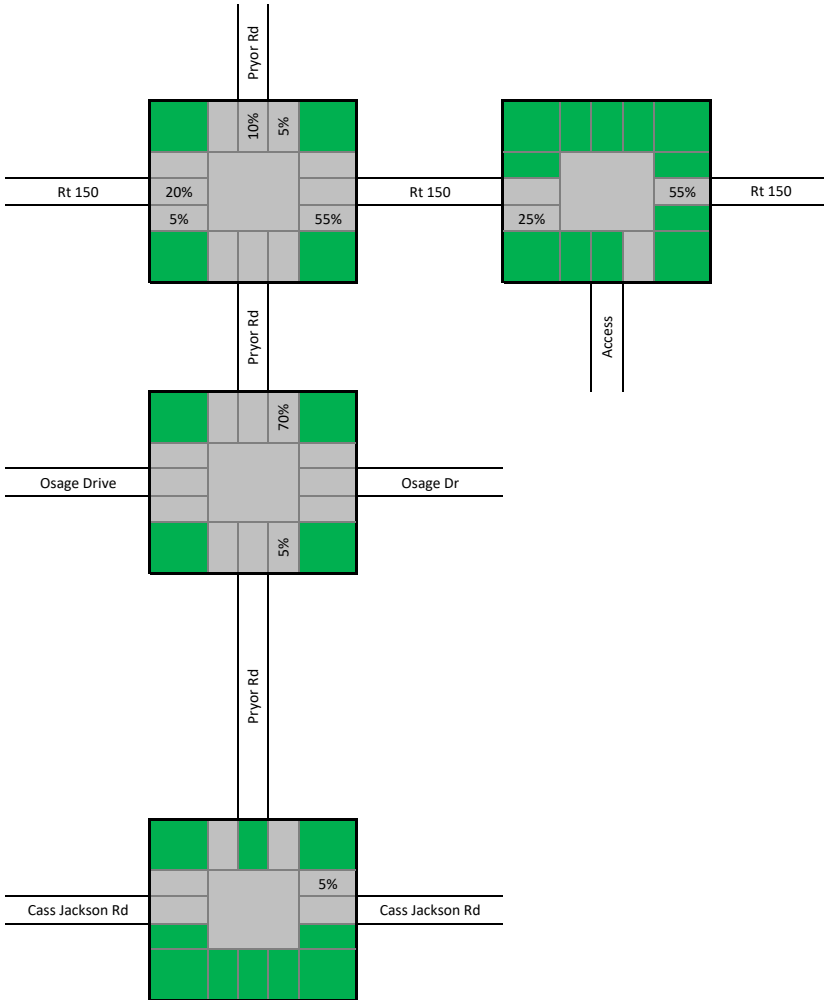
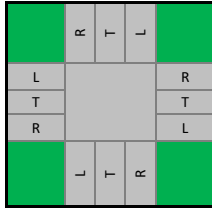
Legend



*Notes - As the Osage Drive development is not yet completed the total trips from the 2016 TIS were used to determine a full-build out condition

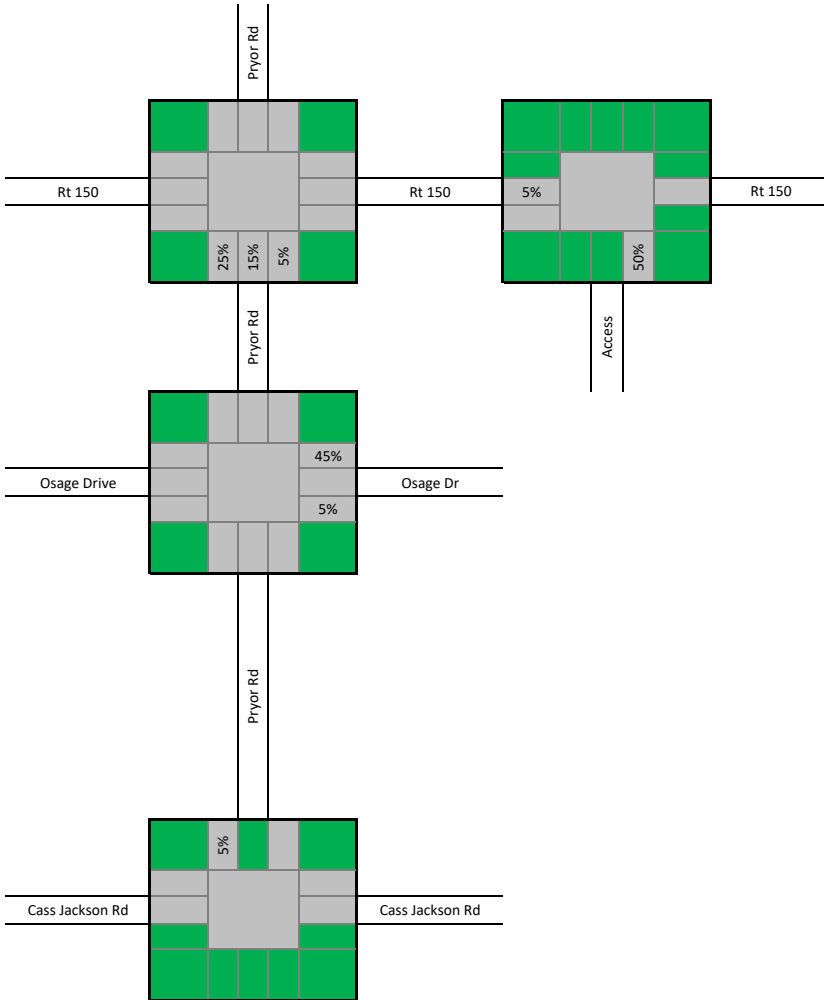
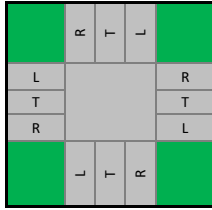
AM Distribution In

Legend



AM Distribution Out

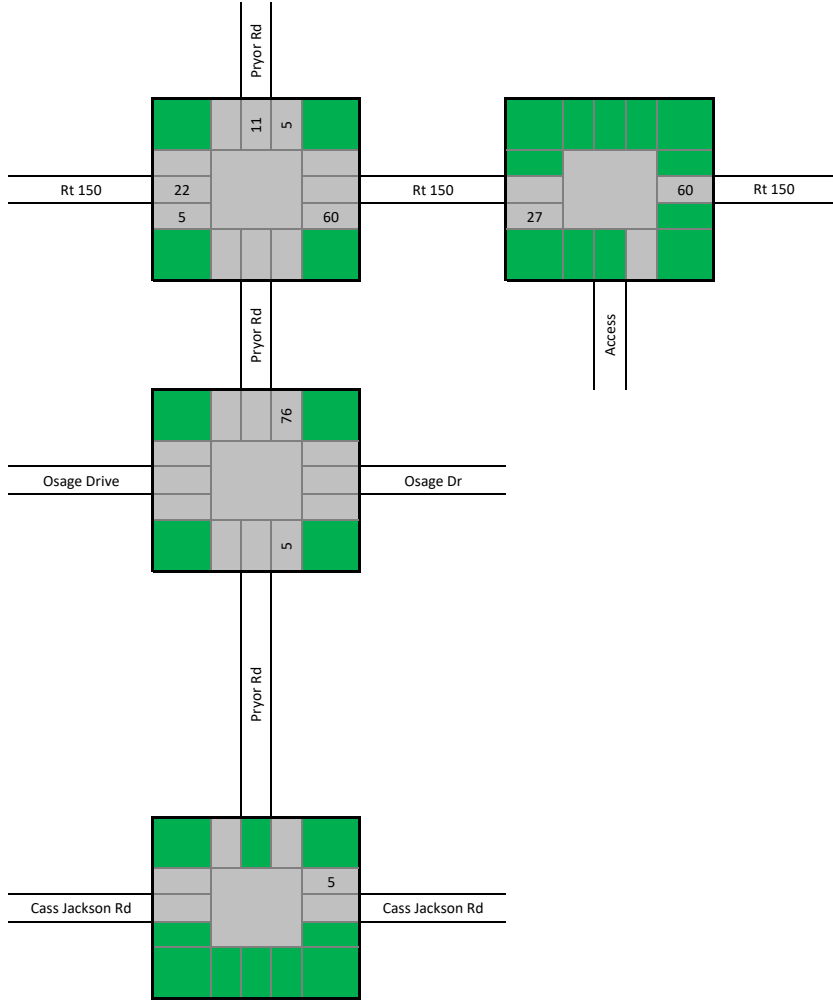
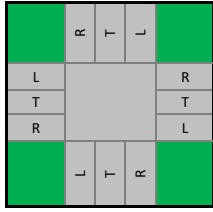
Legend



AM Trips In

Trips 109

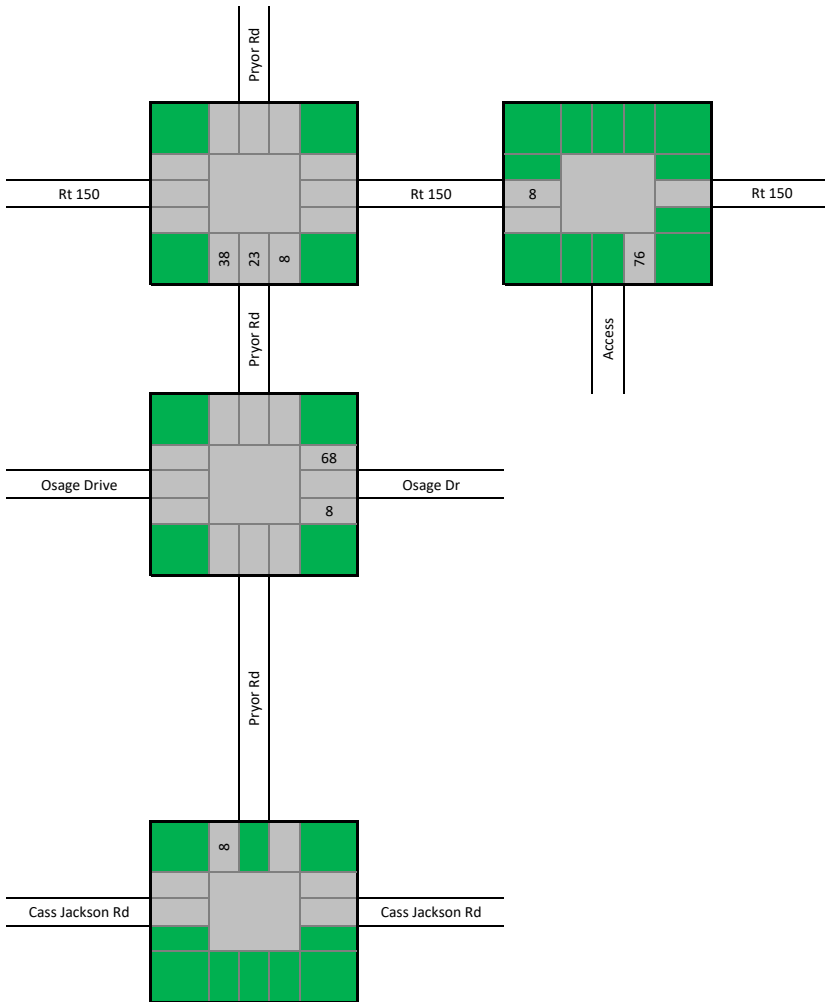
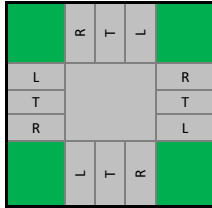
Legend



AM Trips Out

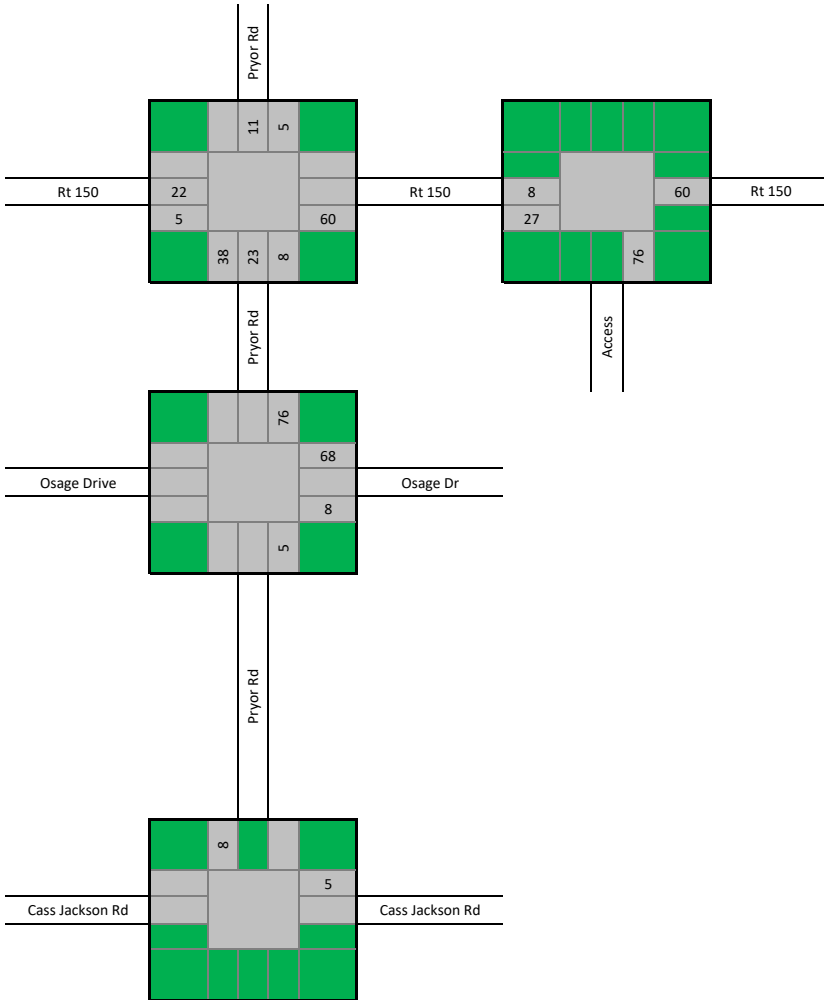
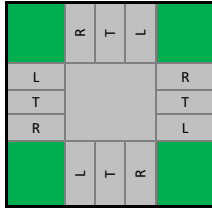
**Trips
152**

Legend



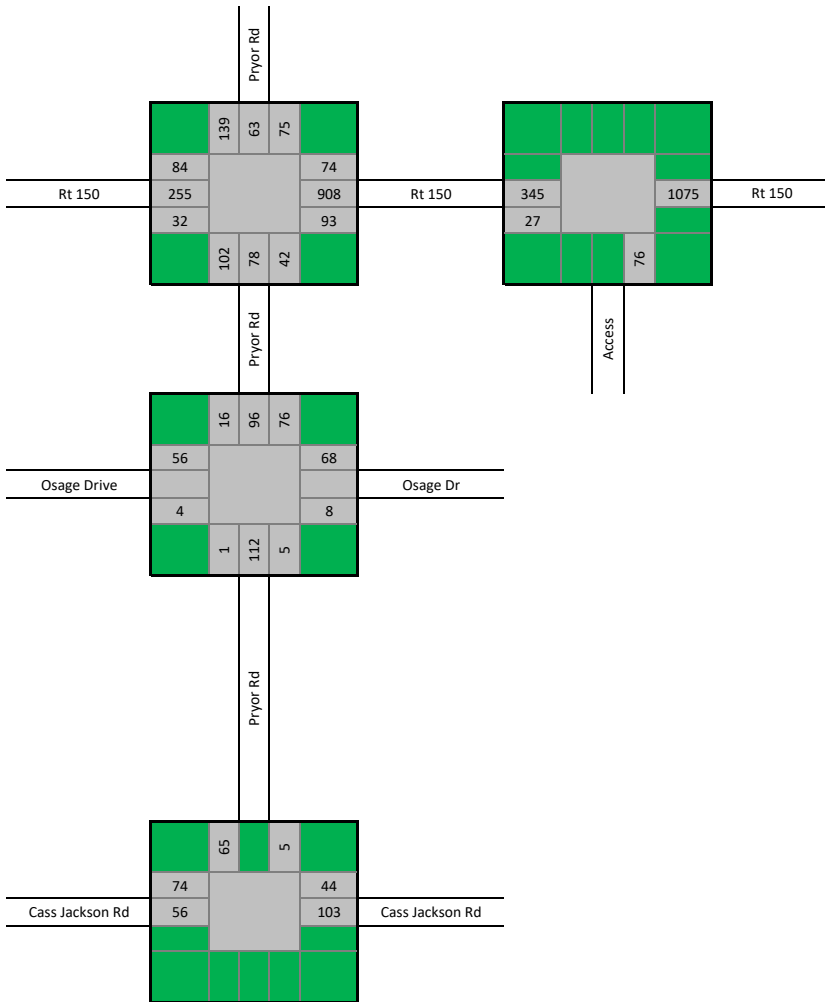
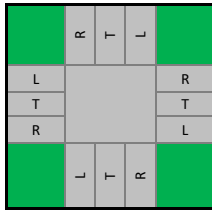
AM Total Trips

Legend



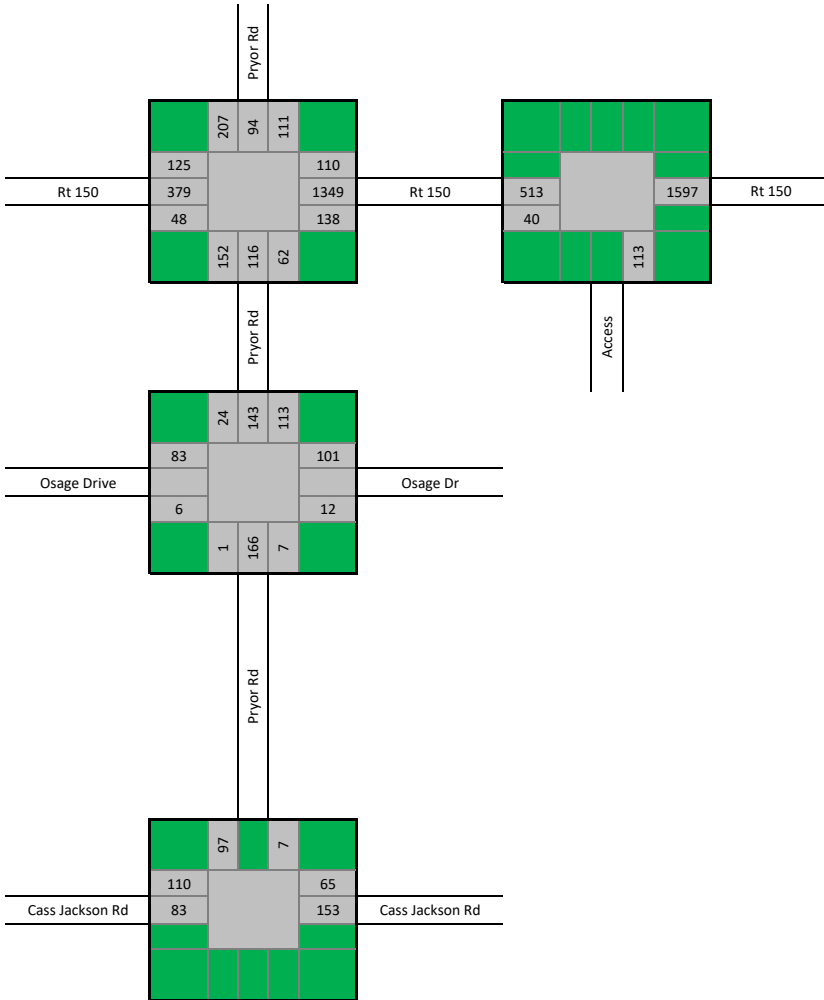
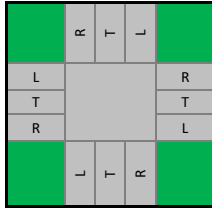
AM Existing plus Site

Legend



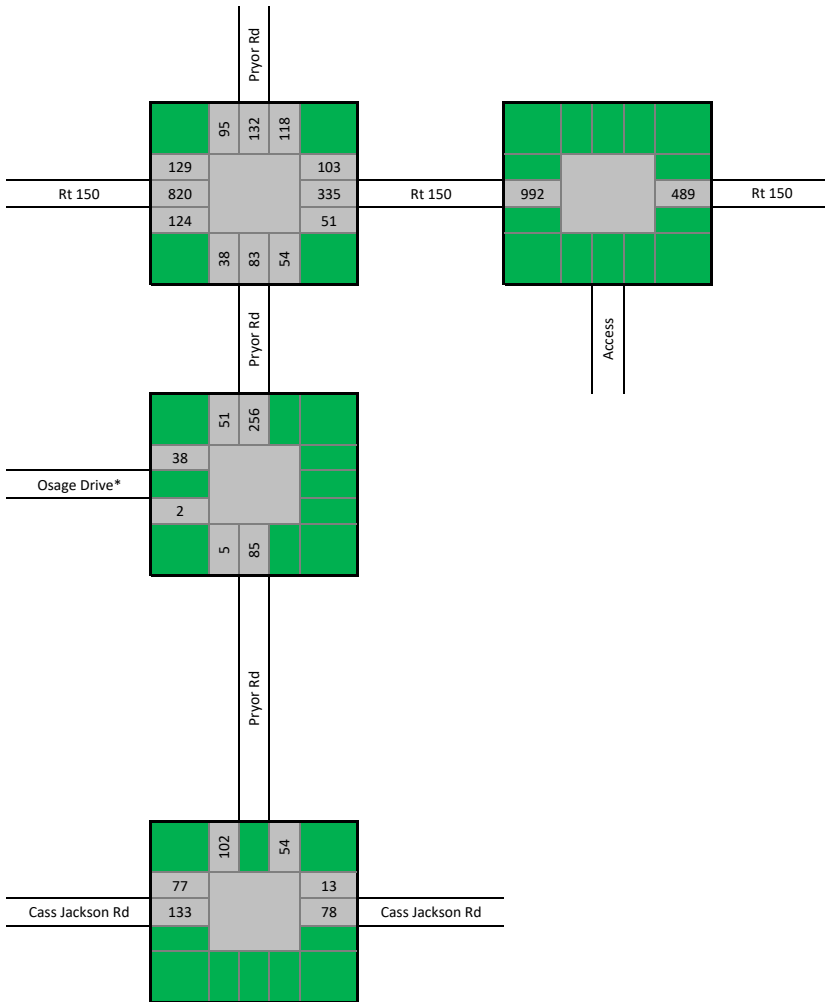
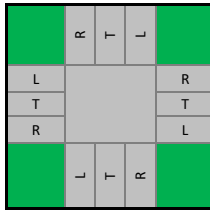
AM Future

Legend



Existing PM Peak Hour Traffic

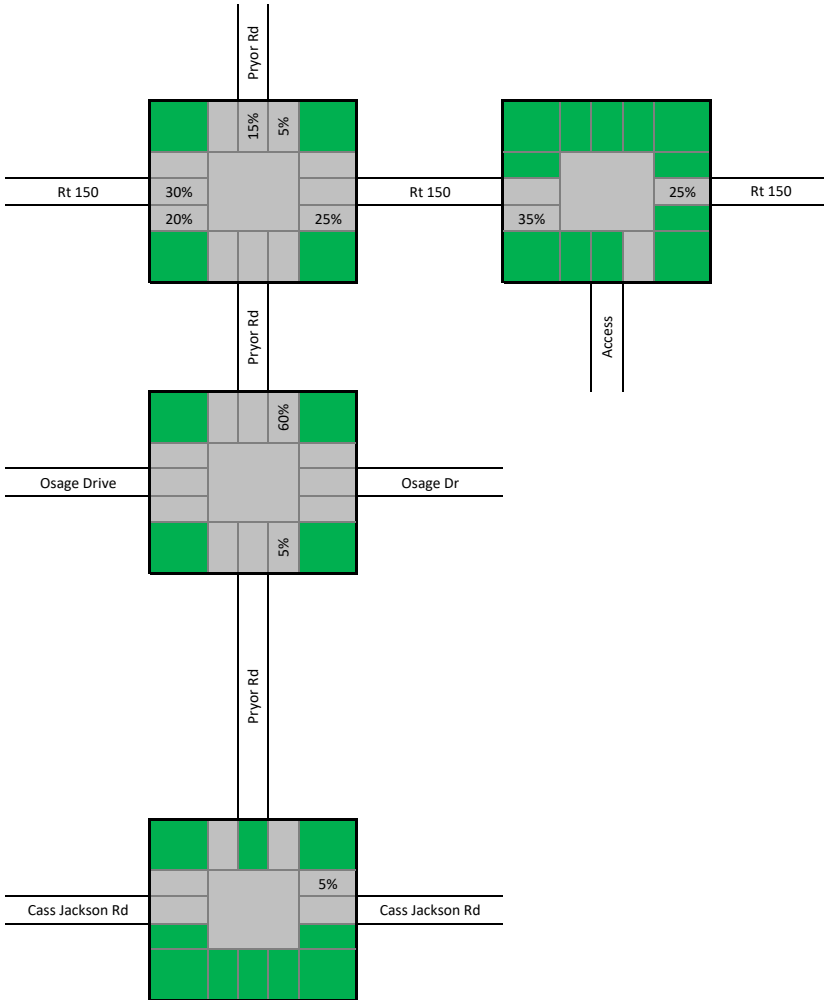
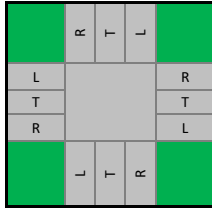
Legend



*Notes - As the Osage Drive development is not yet completed the total trips from the 2016 TIS were used to determine a full-build out condition

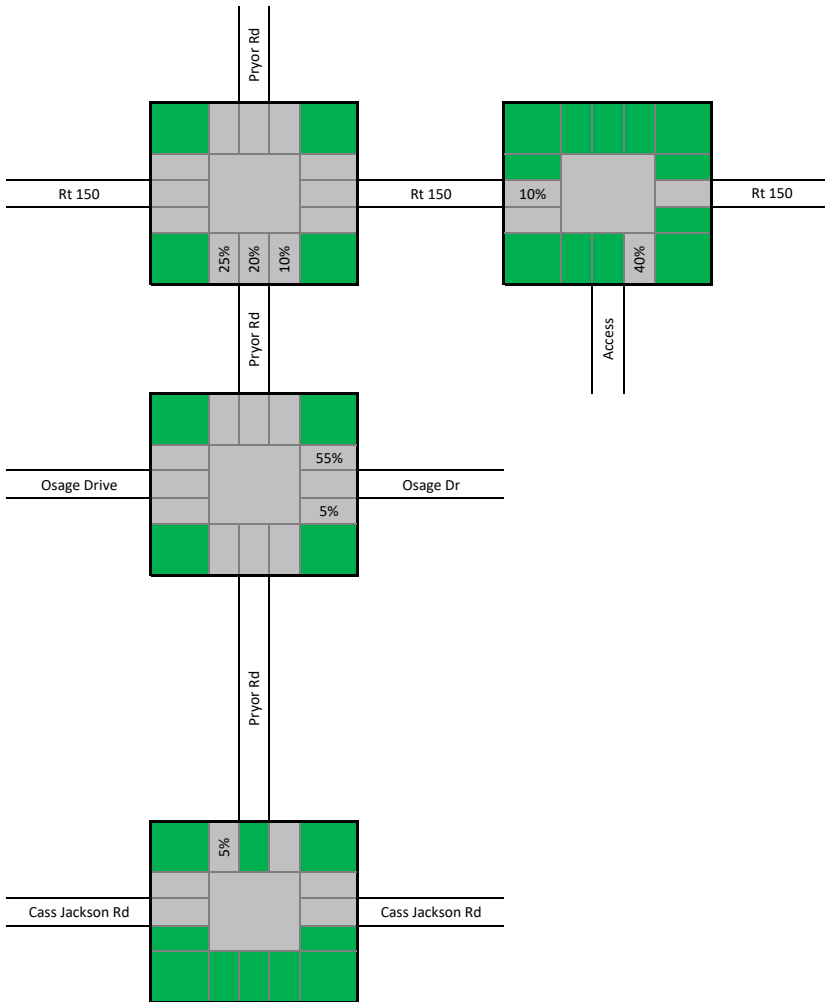
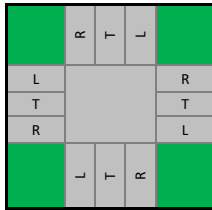
PM Distribution In

Legend



PM Distribution Out

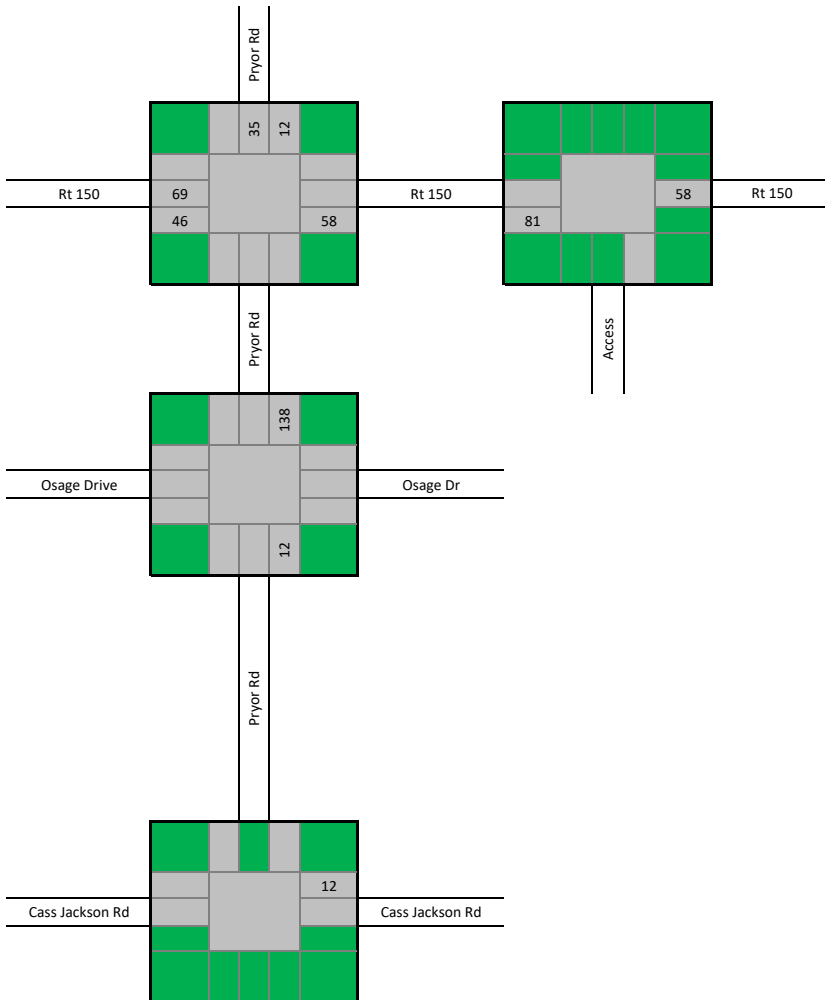
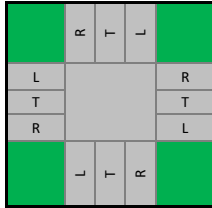
Legend



PM Trips In

**Trips
230**

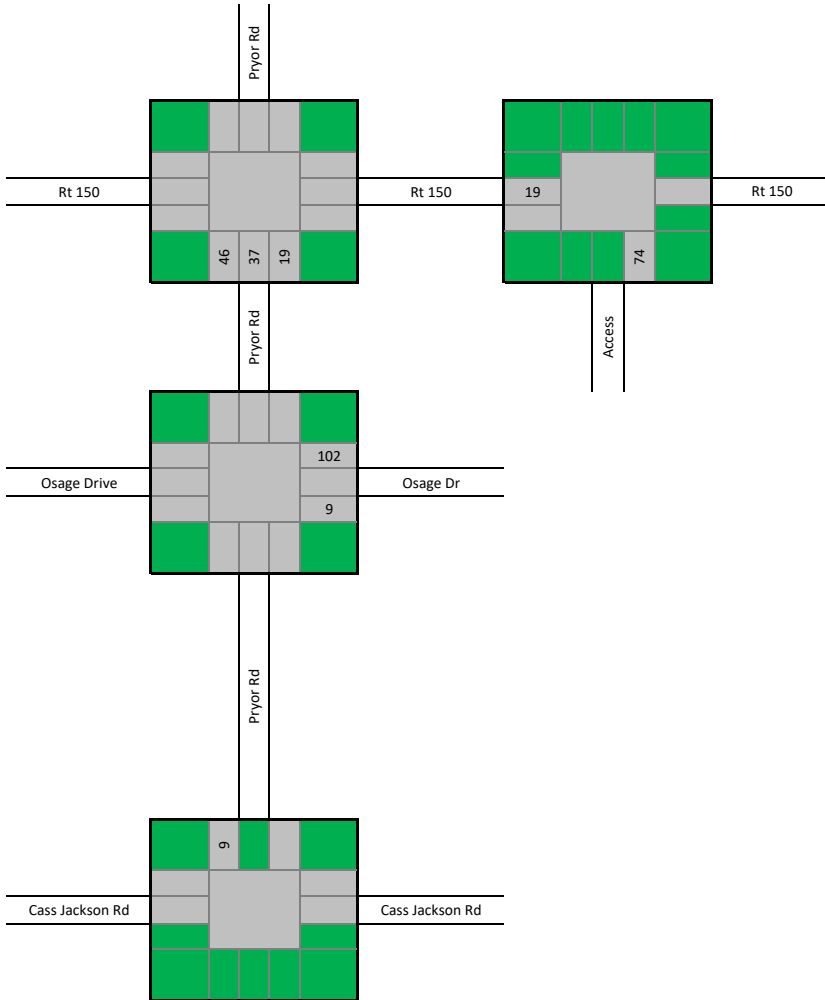
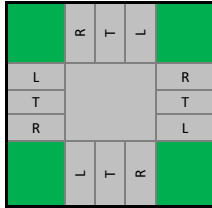
Legend



PM Trips Out

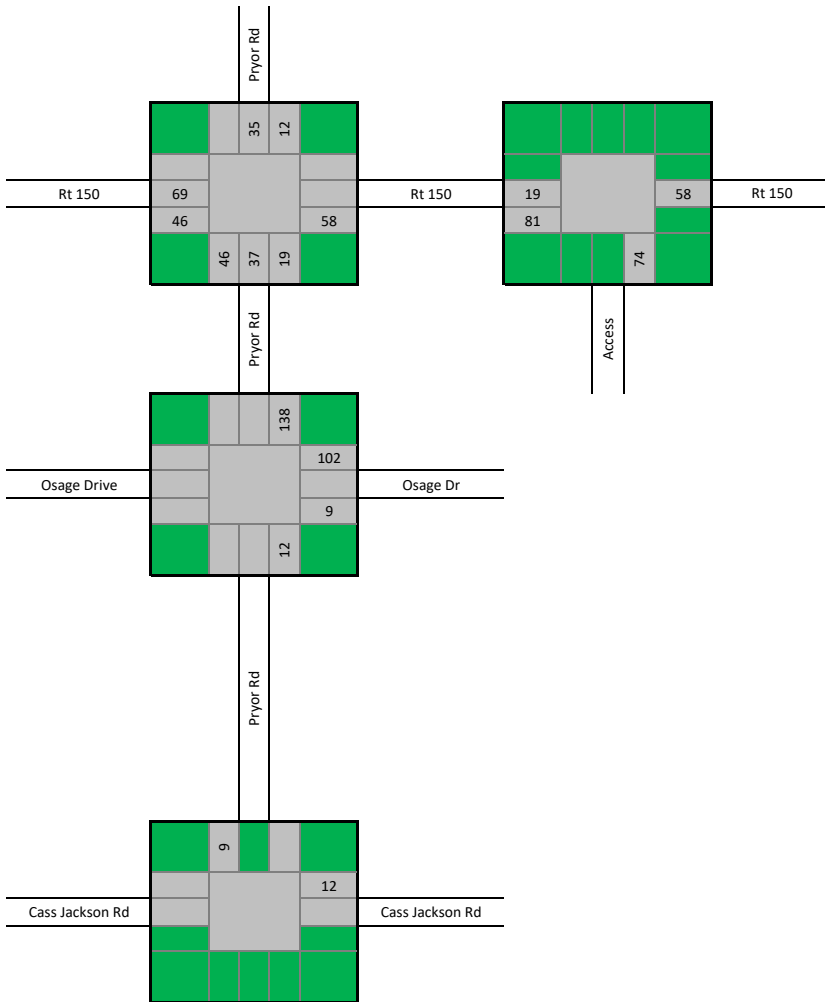
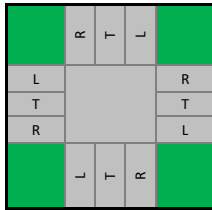
**Trips
185**

Legend



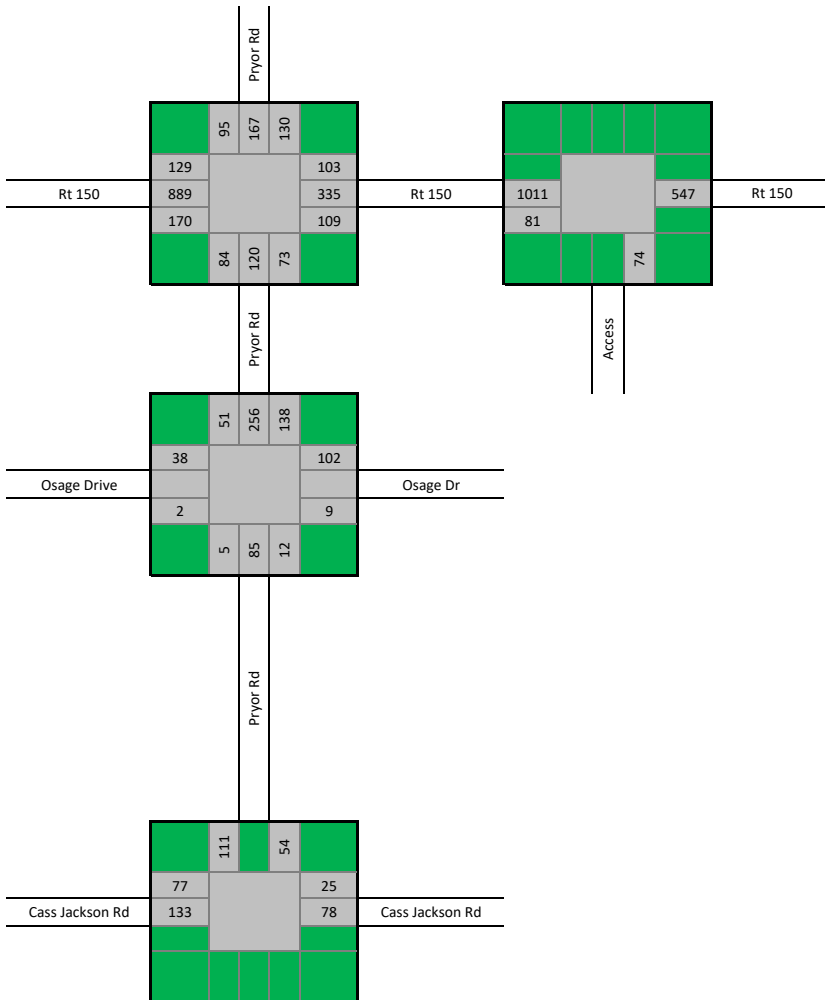
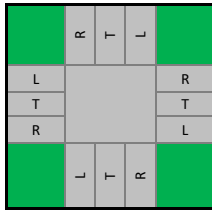
PM Total Trips

Legend



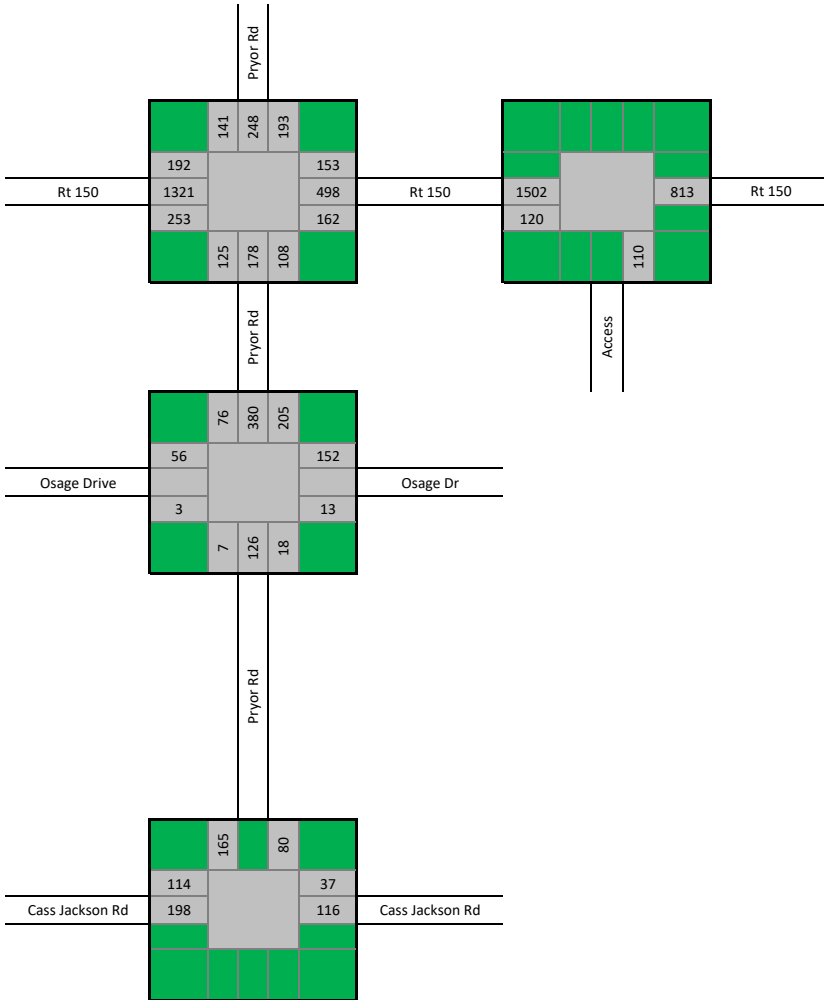
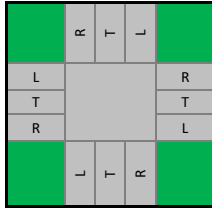
PM Existing plus Site

Legend



PM Future

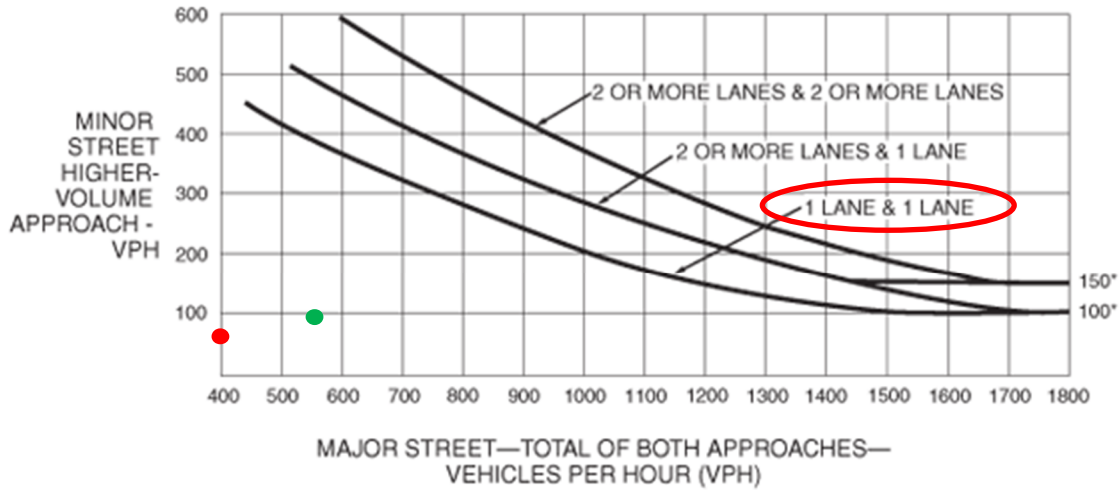
Legend



EXISTING PLUS SITE

Pryor Road and Osage Drive - AM & PM

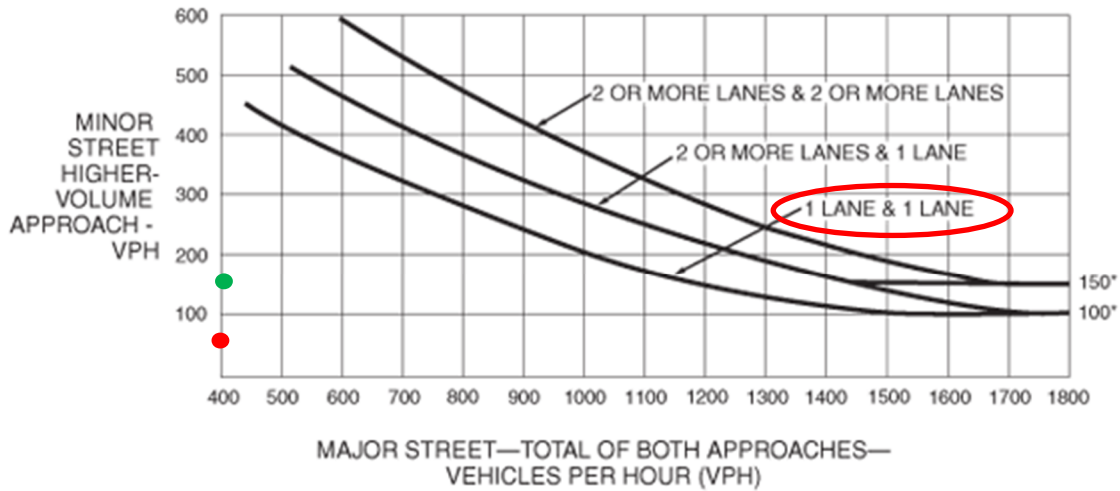
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Cass Jackson and Pryor Road - AM & PM

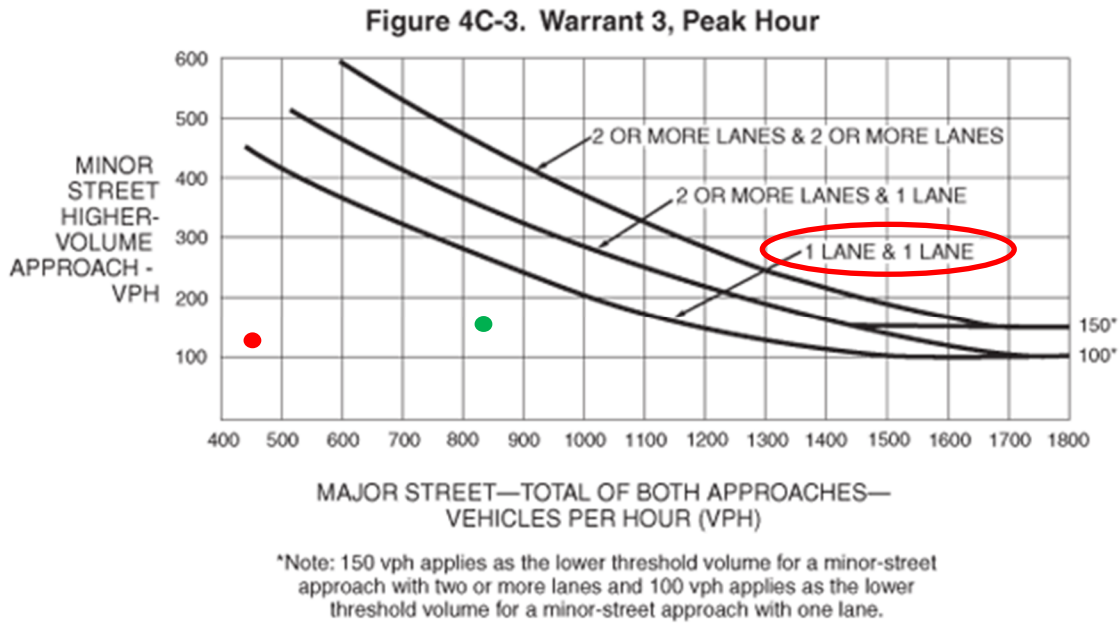
Figure 4C-3. Warrant 3, Peak Hour



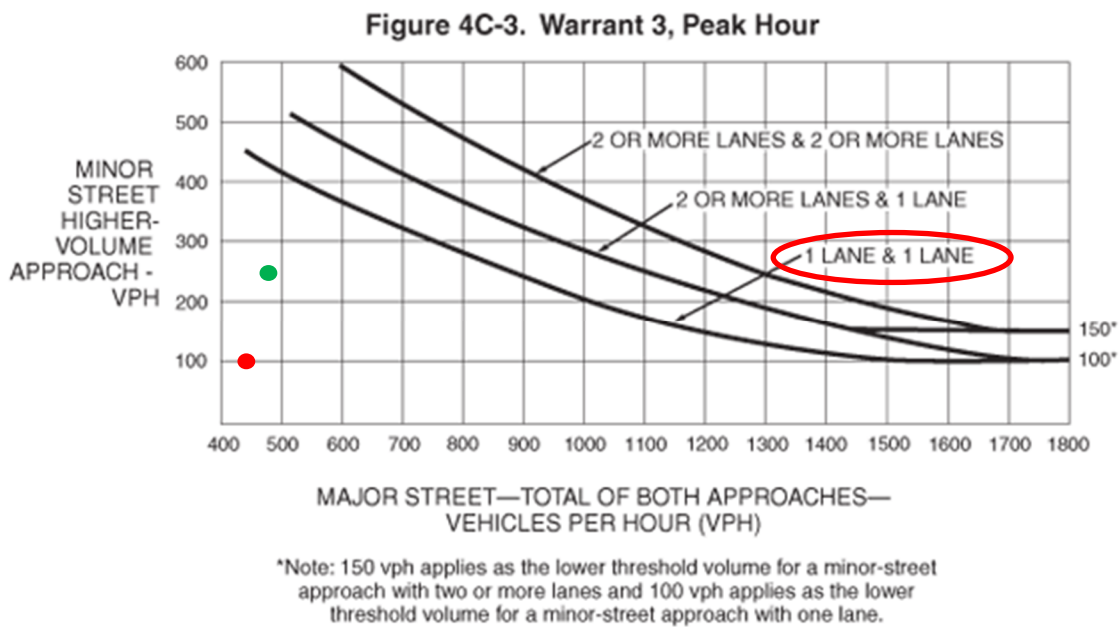
*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE

Pryor Road and Osage Drive - AM & PM

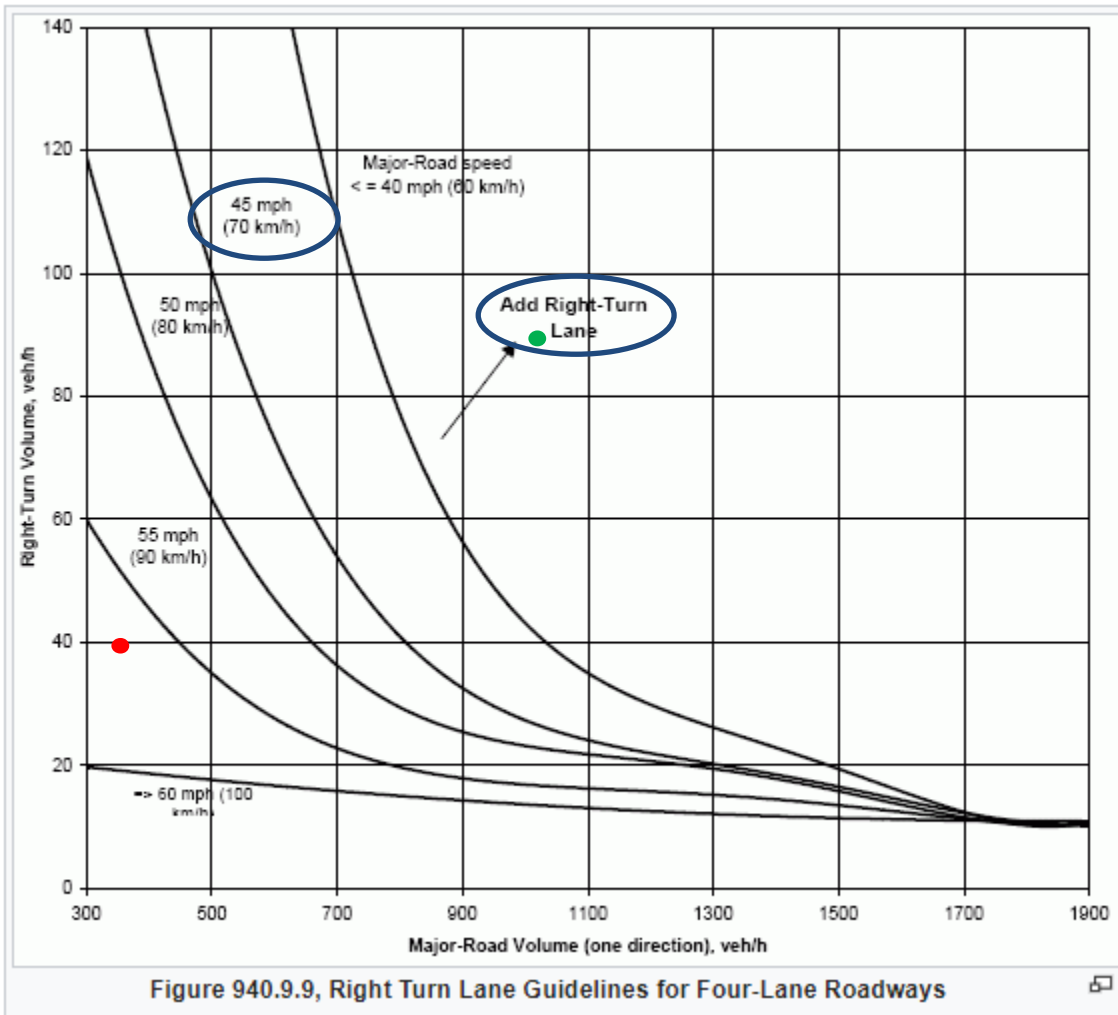


Cass Jackson and Pryor Road - AM & PM



EXISTING PLUS SITE

MO-150 & Access - AM & PM



1. Advancing Volume (veh/hr) - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the right turning vehicle.
2. Right Turning Volume (veh/hr) - The right turning volume is the number of advancing vehicles turning right.
3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

Crash Summaries (Previous 3 Years)

ID	Year	Intersection	Type of Crash	PDO/Injury/Fatality
9052	2020	MO-150 and Pryor Road	Head On	Injury
8966	2020	MO-150 and Pryor Road	Right Angle	Injury
8663	2020	MO-150 and Pryor Road	Sideswipe	PDO
8551	2020	MO-150 and Pryor Road	Ran off road	Injury
8351	2020	MO-150 and Pryor Road	Ran off road	PDO
8216	2020	MO-150 and Pryor Road	Rear End	PDO
5382	2020	MO-150 and Pryor Road	Rear End	PDO
4126	2020	MO-150 and Pryor Road	Sideswipe	PDO
2117	2020	MO-150 and Pryor Road	Head On	Injury
2068	2020	MO-150 and Pryor Road	Rear End	PDO
1813	2020	MO-150 and Pryor Road	Angle	Injury
8541	2021	MO-150 and Pryor Road	Rear End	PDO
8176	2021	MO-150 and Pryor Road	Angle	Injury
7887	2021	MO-150 and Pryor Road	Rear End	PDO
5450	2021	MO-150 and Pryor Road	Rear End	Injury
4324	2021	MO-150 and Pryor Road	Ran off road	Injury
4012	2021	MO-150 and Pryor Road	Rear End	PDO
3928	2021	MO-150 and Pryor Road	Not listed	PDO
1579	2021	MO-150 and Pryor Road	Object	PDO
9736	2022	MO-150 and Pryor Road	Rear End	PDO
8045	2022	MO-150 and Pryor Road	Angle	Injury
7796	2022	MO-150 and Pryor Road	Angle	Injury
3095	2022	MO-150 and Pryor Road	Ran off road	PDO
1355	2022	MO-150 and Pryor Road	Ran off road	PDO

Queues

3: Pryor Road/Pryor Rd & MO-150

Existing AM


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	277	32	42	1259	72	62	38	86	64	172
v/c Ratio	0.36	0.12	0.03	0.06	0.64	0.36	0.39	0.14	0.42	0.39	0.58
Control Delay	10.0	9.9	0.0	6.9	18.9	42.4	55.0	1.0	44.0	54.4	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	9.9	0.0	6.9	18.9	42.4	55.0	1.0	44.0	54.4	15.5
Queue Length 50th (ft)	21	45	0	9	309	43	43	0	52	44	0
Queue Length 95th (ft)	40	65	0	19	337	83	85	0	87	79	45
Internal Link Dist (ft)		1341			474		637			465	
Turn Bay Length (ft)	200		100	200		35		35	50		50
Base Capacity (vph)	327	2235	1055	695	1969	200	321	400	207	328	421
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.12	0.03	0.06	0.64	0.36	0.19	0.10	0.42	0.20	0.41

Intersection Summary

HCM 6th Signalized Intersection Summary
 3: Pryor Road/Pryor Rd & MO-150

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	233	27	33	908	74	64	55	34	70	52	139
Future Volume (veh/h)	84	233	27	33	908	74	64	55	34	70	52	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	277	32	42	1164	95	72	62	38	86	64	172
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	1996	890	683	1836	150	258	222	188	277	238	201
Arrive On Green	0.04	0.56	0.56	0.03	0.55	0.55	0.05	0.12	0.12	0.06	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3327	271	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	100	277	32	42	621	638	72	62	38	86	64	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1822	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.7	4.2	1.0	1.1	27.3	27.3	4.0	3.4	2.5	4.7	3.5	12.0
Cycle Q Clear(g_c), s	2.7	4.2	1.0	1.1	27.3	27.3	4.0	3.4	2.5	4.7	3.5	12.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	1996	890	683	981	1005	258	222	188	277	238	201
V/C Ratio(X)	0.36	0.14	0.04	0.06	0.63	0.63	0.28	0.28	0.20	0.31	0.27	0.85
Avail Cap(c_a), veh/h	369	1996	890	709	981	1005	271	302	256	282	309	262
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	11.8	11.1	10.1	17.5	17.5	41.0	45.5	45.0	40.6	44.7	48.4
Incr Delay (d2), s/veh	0.8	0.1	0.1	0.0	3.1	3.1	0.6	0.7	0.5	0.6	0.6	18.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.7	0.4	0.4	10.9	11.2	1.8	1.6	1.0	2.1	1.7	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	11.9	11.2	10.1	20.6	20.5	41.6	46.1	45.6	41.2	45.3	67.1
LnGrp LOS	B	B	B	B	C	C	D	D	D	D	D	E
Approach Vol, veh/h		409			1301			172			322	
Approach Delay, s/veh		12.6			20.2			44.1			55.9	
Approach LOS		B			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	69.2	12.7	19.9	10.4	70.3	11.8	20.8				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 11	* 58	* 6.6	* 18	* 5.3	* 64	* 6.2	* 19				
Max Q Clear Time (g_c+I1), s	4.7	29.3	6.7	5.4	3.1	6.2	6.0	14.0				
Green Ext Time (p_c), s	0.1	9.1	0.0	0.3	0.0	2.1	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay					25.9							
HCM 6th LOS					C							
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th TWSC
5: Cass Jackson Rd & Pryor Road

Existing AM

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	74	56	103	39	5	57
Future Vol, veh/h	74	56	103	39	5	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	96	96	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	73	107	41	9	100

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	148	0	-	0	393 128
Stage 1	-	-	-	-	128 -
Stage 2	-	-	-	-	265 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1434	-	-	-	611 922
Stage 1	-	-	-	-	898 -
Stage 2	-	-	-	-	779 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1434	-	-	-	568 922
Mov Cap-2 Maneuver	-	-	-	-	568 -
Stage 1	-	-	-	-	835 -
Stage 2	-	-	-	-	779 -

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	878
HCM Lane V/C Ratio	0.067	-	-	-	0.124
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

HCM 6th TWSC
8: Pryor Road & Osage Drive

Existing AM

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	Y
Traffic Vol, veh/h	56	4	1	112	96	16
Future Vol, veh/h	56	4	1	112	96	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	89	89	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	4	1	126	119	20

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	247	119	139	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	741	933	1445	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	740	933	1445	-	-	-
Mov Cap-2 Maneuver	740	-	-	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1445	-	750	-	-
HCM Lane V/C Ratio	0.001	-	0.087	-	-
HCM Control Delay (s)	7.5	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Queues

3: Pryor Road/Pryor Rd & MO-150

Existing PM


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	139	882	133	56	481	43	93	61	144	161	116
v/c Ratio	0.26	0.49	0.15	0.17	0.30	0.19	0.49	0.17	0.43	0.43	0.26
Control Delay	11.1	20.3	0.6	11.3	18.2	31.6	55.3	1.1	35.1	43.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	20.3	0.6	11.3	18.2	31.6	55.3	1.1	35.1	43.5	4.2
Queue Length 50th (ft)	38	215	0	15	97	22	62	0	79	104	0
Queue Length 95th (ft)	75	307	3	35	155	50	115	0	121	156	14
Internal Link Dist (ft)		1341			474		637			465	
Turn Bay Length (ft)	200		100	200		35		35	50		50
Base Capacity (vph)	578	1783	901	361	1582	233	362	477	351	485	525
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.49	0.15	0.16	0.30	0.18	0.26	0.13	0.41	0.33	0.22

Intersection Summary

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	820	124	51	335	103	38	83	54	118	132	95
Future Volume (veh/h)	129	820	124	51	335	103	38	83	54	118	132	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	882	133	56	368	113	43	93	61	144	161	116
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	568	1867	833	350	1364	413	191	138	117	269	245	207
Arrive On Green	0.06	0.53	0.53	0.04	0.51	0.51	0.04	0.07	0.07	0.09	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	2687	814	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	139	882	133	56	242	239	43	93	61	144	161	116
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1724	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.6	15.3	4.2	1.4	7.6	7.7	2.2	4.7	3.6	7.1	8.0	6.7
Cycle Q Clear(g_c), s	3.6	15.3	4.2	1.4	7.6	7.7	2.2	4.7	3.6	7.1	8.0	6.7
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	568	1867	833	350	902	875	191	138	117	269	245	207
V/C Ratio(X)	0.24	0.47	0.16	0.16	0.27	0.27	0.23	0.67	0.52	0.53	0.66	0.56
Avail Cap(c_a), veh/h	690	1867	833	430	902	875	248	395	334	353	529	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	14.6	12.0	11.4	13.7	13.7	39.7	44.1	43.5	36.1	40.3	39.8
Incr Delay (d2), s/veh	0.2	0.9	0.4	0.2	0.7	0.8	0.6	5.6	3.6	1.6	3.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.1	1.5	0.5	2.9	2.9	1.0	2.4	1.5	3.2	3.8	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	15.5	12.4	11.6	14.4	14.5	40.3	49.6	47.1	37.7	43.3	42.1
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1154			537			197			421	
Approach Delay, s/veh		14.5			14.2			46.8			41.1	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	56.3	15.4	13.6	10.6	58.0	9.8	19.2				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 12	* 47	* 14	* 21	* 8.3	* 51	* 6.6	* 28				
Max Q Clear Time (g_c+I1), s	5.6	9.7	9.1	6.7	3.4	17.3	4.2	10.0				
Green Ext Time (p_c), s	0.2	2.8	0.1	0.5	0.0	8.0	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th TWSC
5: Cass Jackson Rd & Pryor Road

Existing PM

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	77	133	78	13	54	102
Future Vol, veh/h	77	133	78	13	54	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	88	88	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	171	89	15	62	117

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	104	0	-	0	466 97
Stage 1	-	-	-	-	97 -
Stage 2	-	-	-	-	369 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1488	-	-	-	555 959
Stage 1	-	-	-	-	927 -
Stage 2	-	-	-	-	699 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1488	-	-	-	514 959
Mov Cap-2 Maneuver	-	-	-	-	514 -
Stage 1	-	-	-	-	859 -
Stage 2	-	-	-	-	699 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1488	-	-	-	738
HCM Lane V/C Ratio	0.066	-	-	-	0.243
HCM Control Delay (s)	7.6	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

HCM 6th TWSC
8: Pryor Road & Osage Drive

Existing PM

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	Y
Traffic Vol, veh/h	38	2	5	85	256	51
Future Vol, veh/h	38	2	5	85	256	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	89	89	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	2	6	96	312	62

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	420	312	374	0	-	0
Stage 1	312	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	590	728	1184	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	587	728	1184	-	-	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1184	-	593	-	-
HCM Lane V/C Ratio	0.005	-	0.073	-	-
HCM Control Delay (s)	8.1	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Queues

3: Pryor Road/Pryor Rd & MO-150

Existing Plus Site AM


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	304	38	119	1259	115	88	47	93	78	172
v/c Ratio	0.40	0.16	0.04	0.18	0.69	0.44	0.36	0.14	0.41	0.46	0.57
Control Delay	12.5	13.7	0.1	8.7	22.7	41.4	50.1	0.8	41.4	57.0	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	13.7	0.1	8.7	22.7	41.4	50.1	0.8	41.4	57.0	15.1
Queue Length 50th (ft)	24	55	0	29	335	68	60	0	55	54	0
Queue Length 95th (ft)	45	79	0	48	371	118	110	0	89	92	45
Internal Link Dist (ft)		1341			474		637			465	
Turn Bay Length (ft)	200		100	200		35		35	50		50
Base Capacity (vph)	290	1899	918	656	1836	261	348	420	228	311	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.16	0.04	0.18	0.69	0.44	0.25	0.11	0.41	0.25	0.42

Intersection Summary

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Existing Plus Site AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	255	32	93	908	74	102	78	42	75	63	139
Future Volume (veh/h)	84	255	32	93	908	74	102	78	42	75	63	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	304	38	119	1164	95	115	88	47	93	78	172
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1863	831	646	1761	144	291	260	221	290	238	202
Arrive On Green	0.04	0.52	0.52	0.05	0.53	0.53	0.07	0.14	0.14	0.06	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3327	271	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	100	304	38	119	621	638	115	88	47	93	78	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1822	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.9	5.1	1.3	3.5	28.8	28.9	6.3	4.8	3.0	5.1	4.3	12.1
Cycle Q Clear(g_c), s	2.9	5.1	1.3	3.5	28.8	28.9	6.3	4.8	3.0	5.1	4.3	12.1
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1863	831	646	941	964	291	260	221	290	238	202
V/C Ratio(X)	0.38	0.16	0.05	0.18	0.66	0.66	0.40	0.34	0.21	0.32	0.33	0.85
Avail Cap(c_a), veh/h	349	1863	831	663	941	964	305	340	288	292	306	259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	14.1	13.2	11.3	19.4	19.4	39.2	44.3	43.5	39.8	45.3	48.7
Incr Delay (d2), s/veh	0.9	0.2	0.1	0.1	3.6	3.6	0.9	0.8	0.5	0.6	0.8	19.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.1	0.5	1.3	11.8	12.1	2.8	2.3	1.2	2.3	2.1	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	14.3	13.3	11.5	23.0	23.0	40.1	45.0	44.0	40.5	46.1	67.7
LnGrp LOS	B	B	B	B	C	C	D	D	D	D	D	E
Approach Vol, veh/h		442			1378			250			343	
Approach Delay, s/veh		14.8			22.0			42.6			55.4	
Approach LOS		B			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	67.0	13.1	22.3	12.1	66.4	14.5	20.9				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 11	* 56	* 6.9	* 21	* 6.5	* 60	* 9	* 19				
Max Q Clear Time (g_c+I1), s	4.9	30.9	7.1	6.8	5.5	7.1	8.3	14.1				
Green Ext Time (p_c), s	0.1	8.7	0.0	0.4	0.0	2.3	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				27.6								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th TWSC
5: Cass Jackson Rd & Pryor Road

Existing Plus Site AM

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	74	56	103	44	5	65
Future Vol, veh/h	74	56	103	44	5	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	96	96	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	73	107	46	9	114

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	153	0	-	0	395 130
Stage 1	-	-	-	-	130 -
Stage 2	-	-	-	-	265 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1428	-	-	-	610 920
Stage 1	-	-	-	-	896 -
Stage 2	-	-	-	-	779 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1428	-	-	-	567 920
Mov Cap-2 Maneuver	-	-	-	-	567 -
Stage 1	-	-	-	-	833 -
Stage 2	-	-	-	-	779 -

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1428	-	-	-	881
HCM Lane V/C Ratio	0.067	-	-	-	0.139
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

HCM 6th TWSC
6: Access & MO-150

Existing Plus Site AM

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	345	27	0	1075	0	76
Future Vol, veh/h	345	27	0	1075	0	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	78	78	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	411	32	0	1378	0	83

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	206
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	800
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	800
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	800	-	-	-
HCM Lane V/C Ratio	0.103	-	-	-
HCM Control Delay (s)	10	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th TWSC
8: Pryor Road & Osage Drive

Existing Plus Site AM

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	↗
Traffic Vol, veh/h	56	0	4	8	0	68	1	112	5	76	96	16
Future Vol, veh/h	56	0	4	8	0	68	1	112	5	76	96	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	200	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	0	4	9	0	74	1	126	6	94	119	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	475	441	119	450	458	129	139	0	0	132	0	0
Stage 1	307	307	-	131	131	-	-	-	-	-	-	-
Stage 2	168	134	-	319	327	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	500	510	933	519	499	921	1445	-	-	1453	-	-
Stage 1	703	661	-	873	788	-	-	-	-	-	-	-
Stage 2	834	785	-	693	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	437	476	933	491	466	921	1445	-	-	1453	-	-
Mov Cap-2 Maneuver	437	476	-	491	466	-	-	-	-	-	-	-
Stage 1	702	618	-	872	787	-	-	-	-	-	-	-
Stage 2	767	784	-	645	606	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	14.3		9.7		0.1		3.1			
HCM LOS	B		A							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1445	-	-	453	843	1453	-
HCM Lane V/C Ratio	0.001	-	-	0.144	0.098	0.065	-
HCM Control Delay (s)	7.5	-	-	14.3	9.7	7.6	-
HCM Lane LOS	A	-	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0.2	-

Queues

3: Pryor Road/Pryor Rd & MO-150

Existing Plus Site PM


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	139	956	183	120	481	94	135	82	159	204	116
v/c Ratio	0.26	0.57	0.22	0.38	0.29	0.40	0.59	0.25	0.52	0.71	0.31
Control Delay	11.9	24.3	5.7	13.9	17.3	37.0	58.2	1.8	39.0	59.7	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	24.3	5.7	13.9	17.3	37.0	58.2	1.8	39.0	59.7	4.9
Queue Length 50th (ft)	41	258	13	35	98	53	95	0	93	144	0
Queue Length 95th (ft)	79	371	59	69	149	94	159	0	136	201	14
Internal Link Dist (ft)		1341			474		637			465	
Turn Bay Length (ft)	200		100	200		35		35	50		50
Base Capacity (vph)	532	1671	826	358	1660	239	322	400	315	388	451
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.57	0.22	0.34	0.29	0.39	0.42	0.20	0.50	0.53	0.26

Intersection Summary

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Existing Plus Site PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	889	170	109	335	103	84	120	73	130	167	95
Future Volume (veh/h)	129	889	170	109	335	103	84	120	73	130	167	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	956	183	120	368	113	94	135	82	159	204	116
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	554	1812	808	320	1356	411	207	185	157	273	252	213
Arrive On Green	0.06	0.51	0.51	0.05	0.50	0.50	0.06	0.10	0.10	0.10	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	2687	814	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	139	956	183	120	242	239	94	135	82	159	204	116
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1724	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.0	19.4	6.9	3.5	8.4	8.6	5.0	7.5	5.3	8.5	11.4	7.4
Cycle Q Clear(g_c), s	4.0	19.4	6.9	3.5	8.4	8.6	5.0	7.5	5.3	8.5	11.4	7.4
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	554	1812	808	320	897	870	207	185	157	273	252	213
V/C Ratio(X)	0.25	0.53	0.23	0.38	0.27	0.28	0.45	0.73	0.52	0.58	0.81	0.54
Avail Cap(c_a), veh/h	593	1812	808	417	897	870	223	341	289	293	410	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	17.7	14.6	13.6	15.3	15.3	40.3	47.0	46.0	38.5	45.2	43.5
Incr Delay (d2), s/veh	0.2	1.1	0.7	0.7	0.7	0.8	1.6	5.4	2.7	2.6	6.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.0	2.6	1.3	3.3	3.3	2.3	3.7	2.2	3.9	5.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	18.8	15.3	14.3	16.0	16.1	41.9	52.4	48.7	41.0	51.4	45.6
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	D	D
Approach Vol, veh/h		1278			601			311			479	
Approach Delay, s/veh		17.5			15.7			48.2			46.5	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	61.0	16.8	17.1	12.1	61.6	13.0	20.9				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 8.3	* 54	* 12	* 20	* 11	* 51	* 7.6	* 24				
Max Q Clear Time (g_c+I1), s	6.0	10.6	10.5	9.5	5.5	21.4	7.0	13.4				
Green Ext Time (p_c), s	0.1	2.8	0.0	0.6	0.1	8.8	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				25.9								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th TWSC
5: Cass Jackson Rd & Pryor Road

Existing Plus Site PM

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	77	133	78	25	54	111
Future Vol, veh/h	77	133	78	25	54	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	88	88	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	171	89	28	62	128

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	117	0	-	0	472 103
Stage 1	-	-	-	-	103 -
Stage 2	-	-	-	-	369 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1471	-	-	-	551 952
Stage 1	-	-	-	-	921 -
Stage 2	-	-	-	-	699 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1471	-	-	-	510 952
Mov Cap-2 Maneuver	-	-	-	-	510 -
Stage 1	-	-	-	-	853 -
Stage 2	-	-	-	-	699 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1471	-	-	-	742
HCM Lane V/C Ratio	0.067	-	-	-	0.256
HCM Control Delay (s)	7.6	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1

HCM 6th TWSC
6: Access & MO-150

Existing Plus Site PM

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1011	81	0	547	0	74
Future Vol, veh/h	1011	81	0	547	0	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1087	87	0	601	0	80

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	544
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	483
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	483
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	483	-	-	-
HCM Lane V/C Ratio	0.167	-	-	-
HCM Control Delay (s)	13.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-

HCM 6th TWSC
8: Pryor Road & Osage Drive

Existing Plus Site PM

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	↗
Traffic Vol, veh/h	38	0	2	9	0	102	5	85	12	138	256	51
Future Vol, veh/h	38	0	2	9	0	102	5	85	12	138	256	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	200	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	89	89	89	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	0	2	10	0	111	6	96	13	168	312	62

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	818	769	312	795	825	103	374	0	0	109	0	0
Stage 1	648	648	-	115	115	-	-	-	-	-	-	-
Stage 2	170	121	-	680	710	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	295	332	728	305	308	952	1184	-	-	1481	-	-
Stage 1	459	466	-	890	800	-	-	-	-	-	-	-
Stage 2	832	796	-	441	437	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	237	293	728	277	272	952	1184	-	-	1481	-	-
Mov Cap-2 Maneuver	237	293	-	277	272	-	-	-	-	-	-	-
Stage 1	457	413	-	886	796	-	-	-	-	-	-	-
Stage 2	731	792	-	390	388	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.8		10.3		0.4		2.4	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	245	795	1481	-
HCM Lane V/C Ratio	0.005	-	-	0.177	0.152	0.114	-
HCM Control Delay (s)	8.1	-	-	22.8	10.3	7.7	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.5	0.4	-

Queues

3: Pryor Road/Pryor Rd & MO-150

Future AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	149	451	57	177	1870	171	130	70	137	116	256
v/c Ratio	0.83	0.24	0.06	0.29	0.98	0.75	0.59	0.22	0.63	0.53	0.80
Control Delay	59.6	15.2	0.1	9.3	44.1	61.9	58.8	1.5	54.1	56.9	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	15.2	0.1	9.3	44.1	61.9	58.8	1.5	54.1	56.9	38.9
Queue Length 50th (ft)	59	90	0	45	685	110	93	0	86	82	74
Queue Length 95th (ft)	#162	122	0	69	664	175	155	0	128	127	135
Internal Link Dist (ft)		1341			474		637			465	
Turn Bay Length (ft)	200		100	200		35		35	50		50
Base Capacity (vph)	179	1894	917	609	1899	229	296	381	216	292	377
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.24	0.06	0.29	0.98	0.75	0.44	0.18	0.63	0.40	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Future AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	379	48	138	1349	110	152	116	62	111	94	207
Future Volume (veh/h)	125	379	48	138	1349	110	152	116	62	111	94	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	451	57	177	1729	141	171	130	70	137	116	256
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	1850	825	574	1735	140	240	287	243	247	282	239
Arrive On Green	0.06	0.52	0.52	0.06	0.52	0.52	0.05	0.15	0.15	0.05	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3330	268	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	149	451	57	177	913	957	171	130	70	137	116	256
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1822	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.9	8.4	2.1	5.5	60.8	62.5	5.7	7.6	4.7	5.4	6.7	18.1
Cycle Q Clear(g_c), s	5.9	8.4	2.1	5.5	60.8	62.5	5.7	7.6	4.7	5.4	6.7	18.1
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1850	825	574	925	949	240	287	243	247	282	239
V/C Ratio(X)	0.87	0.24	0.07	0.31	0.99	1.01	0.71	0.45	0.29	0.56	0.41	1.07
Avail Cap(c_a), veh/h	171	1850	825	588	925	949	240	287	243	247	282	239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	15.8	14.3	11.9	28.3	28.8	46.5	46.2	45.0	44.7	46.1	50.9
Incr Delay (d2), s/veh	34.9	0.3	0.2	0.3	26.5	31.3	9.4	1.1	0.6	2.7	1.0	78.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	3.5	0.8	2.1	30.1	32.8	2.8	3.6	1.9	1.4	3.2	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.1	16.1	14.5	12.2	54.8	60.1	55.9	47.3	45.6	47.4	47.1	129.2
LnGrp LOS	E	B	B	B	D	F	E	D	D	D	D	F
Approach Vol, veh/h		657			2047			371				509
Approach Delay, s/veh		28.0			53.6			51.0				88.5
Approach LOS		C			D			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	69.2	11.8	24.8	14.2	69.2	12.1	24.5				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 7.5	* 63	* 5.4	* 18	* 8.5	* 62	* 5.7	* 18				
Max Q Clear Time (g_c+I1), s	7.9	64.5	7.4	9.6	7.5	10.4	7.7	20.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	3.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	53.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
5: Cass Jackson Rd & Pryor Road

Future AM

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	110	83	153	65	7	97
Future Vol, veh/h	110	83	153	65	7	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	96	96	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	143	108	159	68	12	170
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	227	0	-	0	587	193
Stage 1	-	-	-	-	193	-
Stage 2	-	-	-	-	394	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1341	-	-	-	472	849
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1341	-	-	-	419	849
Mov Cap-2 Maneuver	-	-	-	-	419	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	681	-
Approach	EB	WB	SB			
HCM Control Delay, s	4.6	0	10.9			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1341	-	-	-	794	
HCM Lane V/C Ratio	0.107	-	-	-	0.23	
HCM Control Delay (s)	8	0	-	-	10.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.4	-	-	-	0.9	

HCM 6th TWSC
6: Access & MO-150

Future AM

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	513	40	0	1597	0	113
Future Vol, veh/h	513	40	0	1597	0	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	78	78	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	611	48	0	2047	0	123

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	306
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	690
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	690
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	690	-	-	-
HCM Lane V/C Ratio	0.178	-	-	-
HCM Control Delay (s)	11.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-

HCM 6th TWSC
8: Pryor Road & Osage Drive

Future AM

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	↗
Traffic Vol, veh/h	83	0	6	12	0	101	1	166	7	113	143	24
Future Vol, veh/h	83	0	6	12	0	101	1	166	7	113	143	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	200	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	90	0	7	13	0	110	1	187	8	140	177	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	705	654	177	669	680	191	207	0	0	195	0	0
Stage 1	457	457	-	193	193	-	-	-	-	-	-	-
Stage 2	248	197	-	476	487	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	351	386	866	371	373	851	1364	-	-	1378	-	-
Stage 1	583	568	-	809	741	-	-	-	-	-	-	-
Stage 2	756	738	-	570	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	282	346	866	339	335	851	1364	-	-	1378	-	-
Mov Cap-2 Maneuver	282	346	-	339	335	-	-	-	-	-	-	-
Stage 1	582	510	-	808	740	-	-	-	-	-	-	-
Stage 2	658	737	-	508	494	-	-	-	-	-	-	-

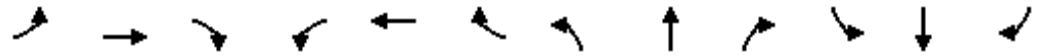
Approach	EB	WB	NB	SB
HCM Control Delay, s	23	10.9	0	3.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1364	-	-	295	733	1378	-
HCM Lane V/C Ratio	0.001	-	-	0.328	0.168	0.101	-
HCM Control Delay (s)	7.6	-	-	23	10.9	7.9	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	0.6	0.3	-

Queues

3: Pryor Road/Pryor Rd & MO-150

Future AM IMPROVED































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	149	451	57	177	1729	141	171	130	70	137	116	256
v/c Ratio	0.64	0.21	0.06	0.33	0.79	0.15	0.58	0.49	0.13	0.48	0.47	0.48
Control Delay	29.3	17.8	0.3	11.6	27.0	4.0	37.9	43.3	2.0	34.4	43.9	18.0
Queue Delay	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 Delay	29.3	17.8	0.3	11.6	27.0	4.0	37.9	43.3	2.0	34.4	43.9	18.0
Queue Length 50th (ft)	37	60	0	45	321	8	83	73	0	65	65	68
Queue Length 95th (ft)	94	84	0	74	338	28	138	127	11	101	105	114
Internal Link Dist (ft)		1341			474			637			465	
Turn Bay Length (ft)	200		100	200		100	200		100	200		200
Base Capacity (vph)	242	2184	951	552	2194	938	293	376	559	285	356	531
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.21	0.06	0.32	0.79	0.15	0.58	0.35	0.13	0.48	0.33	0.48

Intersection Summary

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Future AM IMPROVED

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	125	379	48	138	1349	110	152	116	62	111	94	207
Future Volume (veh/h)	125	379	48	138	1349	110	152	116	62	111	94	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	451	57	177	1729	141	171	130	70	137	116	0
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	2363	853	581	2408	849	252	185	274	234	163	
Arrive On Green	0.07	0.46	0.46	0.07	0.47	0.47	0.08	0.10	0.10	0.06	0.09	0.00
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	149	451	57	177	1729	141	171	130	70	137	116	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.8	4.5	1.5	4.5	23.6	4.0	6.6	5.9	3.3	5.6	5.3	0.0
Cycle Q Clear(g_c), s	3.8	4.5	1.5	4.5	23.6	4.0	6.6	5.9	3.3	5.6	5.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	2363	853	581	2408	849	252	185	274	234	163	
V/C Ratio(X)	0.60	0.19	0.07	0.30	0.72	0.17	0.68	0.70	0.26	0.59	0.71	
Avail Cap(c_a), veh/h	309	2363	853	628	2408	849	252	407	462	234	386	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.1	13.8	9.6	10.5	18.4	10.3	34.8	38.1	31.2	33.8	38.8	0.0
Incr Delay (d2), s/veh	2.3	0.2	0.2	0.3	1.9	0.4	7.2	4.8	0.5	3.7	5.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.7	0.5	1.6	8.5	1.4	3.7	2.9	1.3	2.8	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	14.0	9.8	10.8	20.3	10.7	42.0	42.9	31.7	37.5	44.4	0.0
LnGrp LOS	B	B	A	B	C	B	D	D	C	D	D	
Approach Vol, veh/h		657			2047			371			253	
Approach Delay, s/veh		14.9			18.8			40.4			40.7	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	47.9	12.0	15.0	13.2	47.1	13.0	14.0				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 8.7	* 41	* 5.6	* 19	* 8.8	* 40	* 6.6	* 18				
Max Q Clear Time (g_c+I1), s	5.8	25.6	7.6	7.9	6.5	6.5	8.6	7.3				
Green Ext Time (p_c), s	0.1	10.1	0.0	0.6	0.1	3.6	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Queues

3: Pryor Road/Pryor Rd & MO-150

Future PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	206	1420	272	178	715	140	200	121	235	302	172
v/c Ratio	0.49	0.87	0.33	0.89	0.46	0.80	0.76	0.34	0.85	0.88	0.41
Control Delay	15.6	36.0	10.1	68.9	23.2	67.0	68.1	5.9	63.4	74.3	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	36.0	10.1	68.9	23.2	67.0	68.1	5.9	63.4	74.3	12.1
Queue Length 50th (ft)	70	512	54	87	190	82	149	0	147	228	12
Queue Length 95th (ft)	109	620	115	#225	249	#141	#244	29	#226	#318	57
Internal Link Dist (ft)		1341			474		637			465	
Turn Bay Length (ft)	200		100	200		35		35	50		50
Base Capacity (vph)	443	1635	812	201	1545	176	282	369	276	360	430
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.87	0.33	0.89	0.46	0.80	0.71	0.33	0.85	0.84	0.40
























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Future PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	1321	253	162	498	153	125	178	108	193	248	141
Future Volume (veh/h)	192	1321	253	162	498	153	125	178	108	193	248	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	1420	272	178	547	168	140	200	121	235	302	172
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	1669	744	219	1233	377	183	257	218	275	337	286
Arrive On Green	0.08	0.47	0.47	0.07	0.46	0.46	0.06	0.14	0.14	0.10	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	1781	2680	820	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	206	1420	272	178	362	353	140	200	121	235	302	172
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1723	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.0	41.3	12.8	6.1	16.2	16.3	6.6	12.1	8.3	11.6	18.5	11.7
Cycle Q Clear(g_c), s	7.0	41.3	12.8	6.1	16.2	16.3	6.6	12.1	8.3	11.6	18.5	11.7
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	439	1669	744	219	818	793	183	257	218	275	337	286
V/C Ratio(X)	0.47	0.85	0.37	0.81	0.44	0.45	0.77	0.78	0.55	0.86	0.90	0.60
Avail Cap(c_a), veh/h	494	1669	744	237	818	793	183	288	244	275	368	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	27.4	19.9	25.4	21.4	21.4	44.3	48.7	47.1	41.2	46.8	44.1
Incr Delay (d2), s/veh	0.8	5.7	1.4	17.8	1.7	1.8	17.5	11.4	2.2	22.4	22.3	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	18.3	5.0	3.4	6.7	6.6	1.7	6.4	3.4	2.9	10.6	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	33.1	21.2	43.2	23.1	23.2	61.8	60.1	49.3	63.6	69.1	46.8
LnGrp LOS	B	C	C	D	C	C	E	E	D	E	E	D
Approach Vol, veh/h		1898			893			461			709	
Approach Delay, s/veh		29.6			27.2			57.8			61.9	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	60.5	18.0	22.5	14.8	61.6	13.0	27.5				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 13	* 51	* 12	* 18	* 9.3	* 55	* 6.6	* 23				
Max Q Clear Time (g_c+I1), s	9.0	18.3	13.6	14.1	8.1	43.3	8.6	20.5				
Green Ext Time (p_c), s	0.2	4.4	0.0	0.5	0.1	8.1	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			38.1									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th TWSC
5: Cass Jackson Rd & Pryor Road

Future PM

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	114	198	116	37	80	165
Future Vol, veh/h	114	198	116	37	80	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	88	88	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	146	254	132	42	92	190
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	174	0	-	0	699	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	546	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1403	-	-	-	406	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	580	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1403	-	-	-	357	893
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	580	-
Approach	EB	WB	SB			
HCM Control Delay, s	2.9	0	16.2			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1403	-	-	-	599	
HCM Lane V/C Ratio	0.104	-	-	-	0.47	
HCM Control Delay (s)	7.9	0	-	-	16.2	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.3	-	-	-	2.5	

HCM 6th TWSC
6: Access & MO-150

Future PM

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1502	120	0	813	0	110
Future Vol, veh/h	1502	120	0	813	0	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	91	91	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1615	129	0	893	0	120
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	808
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	324
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	324
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0	22.5			
HCM LOS						C
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	324	-	-	-		
HCM Lane V/C Ratio	0.369	-	-	-		
HCM Control Delay (s)	22.5	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	1.6	-	-	-		

HCM 6th TWSC
8: Pryor Road & Osage Drive

Future PM

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	↗
Traffic Vol, veh/h	56	0	3	13	0	152	7	126	18	205	380	76
Future Vol, veh/h	56	0	3	13	0	152	7	126	18	205	380	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	200	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	89	89	89	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	0	3	14	0	165	8	142	20	250	463	93

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1214	1141	463	1179	1224	152	556	0	0	162	0	0
Stage 1	963	963	-	168	168	-	-	-	-	-	-	-
Stage 2	251	178	-	1011	1056	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	158	201	599	167	179	894	1015	-	-	1417	-	-
Stage 1	307	334	-	834	759	-	-	-	-	-	-	-
Stage 2	753	752	-	289	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	111	164	599	143	146	894	1015	-	-	1417	-	-
Mov Cap-2 Maneuver	111	164	-	143	146	-	-	-	-	-	-	-
Stage 1	305	275	-	827	753	-	-	-	-	-	-	-
Stage 2	609	746	-	237	249	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	69		12.9		0.4		2.5	
HCM LOS	F		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1015	-	-	116	632	1417	-
HCM Lane V/C Ratio	0.008	-	-	0.553	0.284	0.176	-
HCM Control Delay (s)	8.6	-	-	69	12.9	8.1	-
HCM Lane LOS	A	-	-	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	2.6	1.2	0.6	-

Queues

3: Pryor Road/Pryor Rd & MO-150

Future PM IMPROVED



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	206	1420	272	178	547	168	140	200	121	235	302	172
v/c Ratio	0.44	0.78	0.40	0.70	0.31	0.25	0.60	0.67	0.30	0.70	0.81	0.37
Control Delay	16.1	31.7	10.5	34.7	24.2	4.2	36.4	49.7	3.2	37.6	54.4	6.8
Queue Delay	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 Delay	16.1	31.7	10.5	34.7	24.2	4.2	36.4	49.7	3.2	37.6	54.4	6.8
Queue Length 50th (ft)	68	297	40	58	94	0	62	118	0	111	180	0
Queue Length 95th (ft)	111	356	106	#150	125	38	108	191	12	158	245	33
Internal Link Dist (ft)		1341			474			637			465	
Turn Bay Length (ft)	200		100	200		100	200		100	200		200
Base Capacity (vph)	492	1828	684	267	1781	671	234	349	445	338	426	503
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.78	0.40	0.67	0.31	0.25	0.60	0.57	0.27	0.70	0.71	0.34






























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary

3: Pryor Road/Pryor Rd & MO-150

Future PM IMPROVED

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	192	1321	253	162	498	153	125	178	108	193	248	141
Future Volume (veh/h)	192	1321	253	162	498	153	125	178	108	193	248	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	1420	272	178	547	168	140	200	121	235	302	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.89	0.89	0.89	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	1916	595	265	1862	578	238	269	228	326	350	
Arrive On Green	0.09	0.38	0.38	0.08	0.36	0.36	0.07	0.14	0.14	0.11	0.19	0.00
Sat Flow, veh/h	1781	5106	1585	1781	5106	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	206	1420	272	178	547	168	140	200	121	235	302	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.6	22.3	12.0	5.7	7.1	7.0	6.2	9.5	6.5	10.4	14.5	0.0
Cycle Q Clear(g_c), s	6.6	22.3	12.0	5.7	7.1	7.0	6.2	9.5	6.5	10.4	14.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	457	1916	595	265	1862	578	238	269	228	326	350	
V/C Ratio(X)	0.45	0.74	0.46	0.67	0.29	0.29	0.59	0.74	0.53	0.72	0.86	
Avail Cap(c_a), veh/h	517	1916	595	317	1862	578	238	366	310	326	447	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	25.0	21.8	20.4	20.9	20.9	31.6	38.0	36.7	29.9	36.5	0.0
Incr Delay (d2), s/veh	0.7	2.6	2.5	4.2	0.4	1.3	3.8	5.4	1.9	7.6	13.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	9.1	4.7	2.4	2.7	2.7	2.8	4.6	2.6	5.1	7.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	27.6	24.3	24.6	21.3	22.2	35.4	43.3	38.6	37.6	49.7	0.0
LnGrp LOS	B	C	C	C	C	C	D	D	D	D	D	
Approach Vol, veh/h		1898			893			461			537	
Approach Delay, s/veh		26.0			22.1			39.7			44.4	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	40.4	17.0	19.7	14.4	41.4	13.0	23.7				
Change Period (Y+Rc), s	* 6.7	* 6.7	* 6.4	* 6.4	* 6.7	* 6.7	* 6.4	* 6.4				
Max Green Setting (Gmax), s	* 12	* 33	* 11	* 18	* 10	* 35	* 6.6	* 22				
Max Q Clear Time (g_c+I1), s	8.6	9.1	12.4	11.5	7.7	24.3	8.2	16.5				
Green Ext Time (p_c), s	0.2	4.0	0.0	0.8	0.1	7.3	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.