



July 26, 2023

Mr. Garrett Fugate  
Christie Development Associates, LLC  
7217 W. 110<sup>th</sup> Street  
Overland Park, KS 66210

Re: Arborwalk Lot #5 TIS Addendum – Lee’s Summit, MO

Dear Mr. Fugate:

In response to your request, Priority Engineers, Inc. has completed an analysis of the Arborwalk Development to consider the impacts of only the Day Care opening and the convenience store and quick lubrication vehicle shop being developed at some time in the future. This report will document that analysis and serve as an Addendum to the approved March 20, 2023 traffic impact study.

The approved site plan is shown in Figure A. The proposed driveway onto Arboridge Drive will be constructed to serve the Day Care Center. The right-in/right-out driveway onto Missouri Route 150 will be constructed with the right turn lane, as shown in Figure A, but will terminate at the property line until development of the convenience store and quick lubrication vehicle shop.

## TRIP GENERATION

The vehicle trips generated by the proposed development were estimated using the Institute of Transportation Engineers’ Trip Generation Manual, 11<sup>th</sup> Edition. The estimated AM and PM peak hour traffic volumes associated with the Day Care use is shown in Table 1.

| Table 1: Trip Generation |           |       |            |           |           |            |           |           |
|--------------------------|-----------|-------|------------|-----------|-----------|------------|-----------|-----------|
| Land Use                 | Intensity | Daily | AM Peak    |           |           | PM Peak    |           |           |
|                          |           |       | Total      | In        | Out       | Total      | In        | Out       |
| Day Care Center          | 10,000 SF | 476   | 110        | 58        | 52        | 111        | 52        | 59        |
| <b>Total Trips</b>       |           |       | <b>110</b> | <b>58</b> | <b>52</b> | <b>111</b> | <b>52</b> | <b>59</b> |

## TRIP DISTRIBUTION

The trips generated by the Day Care were distributed as outlined in the approved study with trips being distributed onto the existing street system approximately as follows:

- 10 percent to/from the north on SW Pryor Road
- 10 percent to/from the south on SW Pryor Road
- 5 percent to/from the north on SW Arborlake Drive
- 5 percent to/from the south on SW Stoney Creek Drive
- 10 percent to/from the north on SW Arboridge Drive
- 30 percent to/from the west on Missouri Route 150
- 30 percent to/from the east on Missouri Route 150

The proposed development trips were added to the existing and approved development volumes (which are shown in Figures 7 and 8 of the approved study) and are shown in Figure B and C.

## LEVEL OF SERVICE AND VOLUME/CAPACITY ANALYSIS

Capacity analysis was used to quantify the impacts of the increased traffic on the intersections studied. The methodology outlined in the Highway Capacity Manual, 7<sup>th</sup> Edition, was used as a basis to perform the analysis for this study. The 6<sup>th</sup> Edition of the HCM was used in the approved study. Capacity analysis defines the quality of traffic operation for an intersection using a grading system called Level of Service (LOS). The LOS is defined in terms of average vehicle delay. Levels of service A through F have been established with A representing the best and F the worst.

| Table 2: Level of Service Definitions |                           |                         |
|---------------------------------------|---------------------------|-------------------------|
| Level of Service                      | Unsignalized Intersection | Signalized Intersection |
| A                                     | < 10 Seconds              | < 10 Seconds            |
| B                                     | < 15 Seconds              | < 20 Seconds            |
| C                                     | < 25 Seconds              | < 35 Seconds            |
| D                                     | < 35 Seconds              | < 55 Seconds            |
| E                                     | < 50 Seconds              | < 80 Seconds            |
| F                                     | ≥ 50 Seconds              | ≥ 80 Seconds            |

The study intersections were evaluated using Synchro, an analysis package based in part on Highway Capacity Manual methods. The analysis reports are included in this memo. Signal timing at the intersection of SW Pryor Road and Missouri Route 150 and SW Arborlake Drive / SW Stoney Creek Drive and Missouri Route 150 was based upon observed cycle lengths with optimized splits.

The levels of service, lane configuration, and queue lengths for the existing plus approved development plus the day care trips are shown in Figures D and E.

Both existing Signalized intersections continue to have an overall level of service of C or better in both peak hours. The intersection of SW Arboridge and Missouri Route 150 was assumed to remain unsignalized. In the AM Peak Hour, the southbound left turn movement at this intersection has a level of service F with a one vehicle design queue. In the PM Peak Hour, both the north and southbound left turn movements experience a level of service F with a 40' design queue for the southbound left, and less than one

vehicle design queue for the northbound. All other movements at this intersection will operate at a level of service of B or better with minimal queueing.

## **SIGNAL WARRANT ANALYSIS**

The intersection of SW Arboridge and Missouri Route 150 was evaluated for a signalization. EPG section 902.3.4 (Warrant 2, Four Hour Vehicular Volumes) was applied to this intersection. Since the posted speed limit is 45 MPH, the 70% factor is appropriate to consider. The maximum point on the curve is a major street volume of 1,000 VPH with a minor street volume of 80 VPH.

Current traffic count data at this intersection was collected between the hours of 7 and 9 AM and 4 and 6 PM with the Peak Hours found to be 7:15 to 8:15 and 4:30 to 5:30. While the current ITE trip generation manual has hourly trip data, there is significant variance between the Trip Generation Manual's anticipated Peak of the Adjacent Street and the hourly predicted volumes. For this reason, the Peak Hour of the Adjacent Street trip generation was applied to both AM and PM hours counted. The resulting anticipated traffic volumes are shown in Figures F and G of Appendix 1. The seventy percent factor, only three of the four hours are met. Without applying the 70% factor, none of the four hours are met. If this intersection was to remain unsignalized, the southbound left turning movement, would have average delays of 55.9 seconds in the AM Peak Hour and 80.7 seconds in the PM Peak Hour.

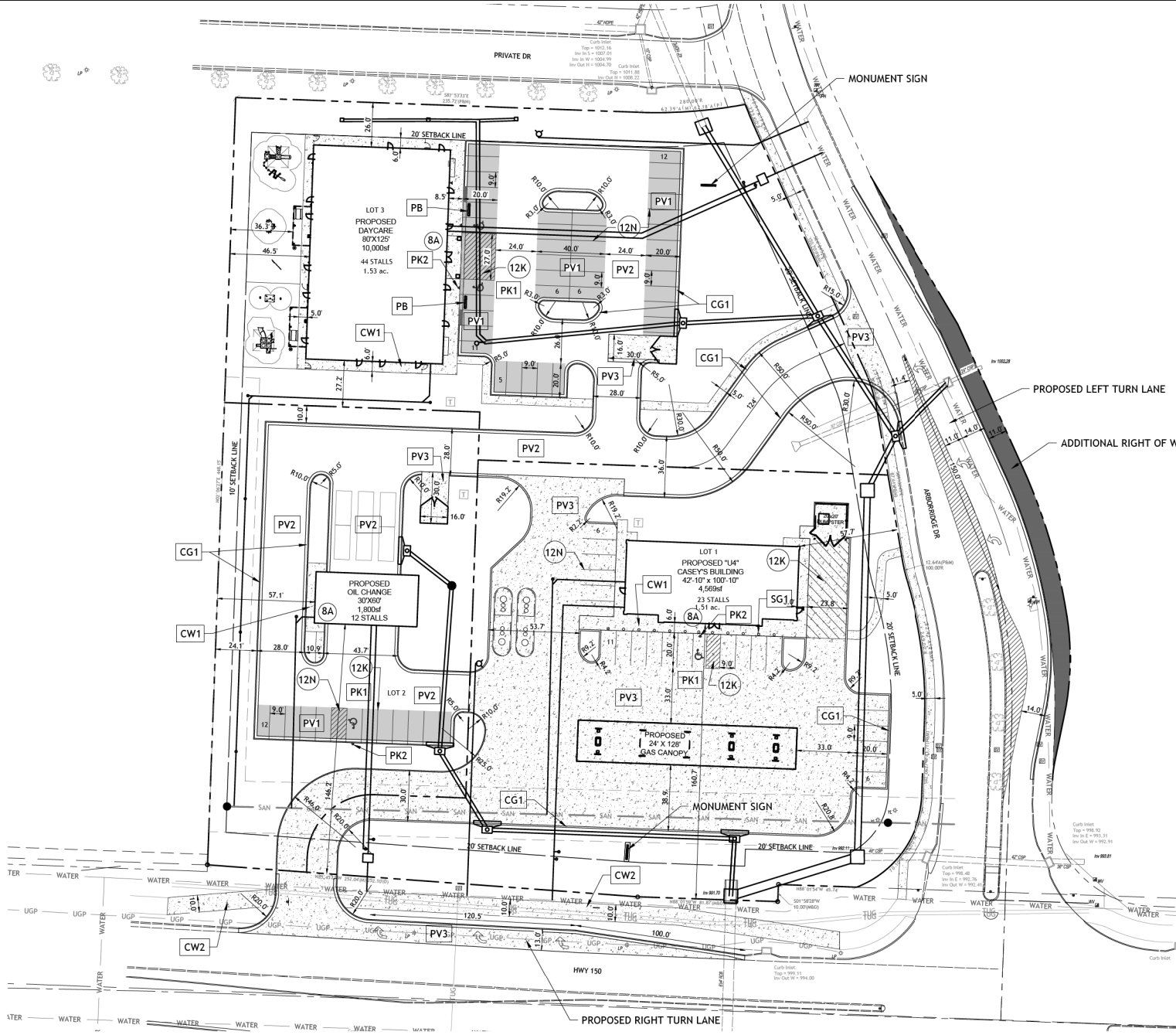
Due to the delay in the construction of the convenience store and the quick lubrication vehicle shop, it is recommended that the intersection of SW Arboridge and Missouri Route 150 remain unsignalized until the next lot of this development, or other nearby development, is constructed.

Sincerely,

PRIORITY ENGINEERS, INC.



Kristin L. Skinner, P.E., PTOE  
President



SM Engineering  
**SAVE**  
 5507 High Meadow Circle  
 Manhattan Kansas, 66503  
 smcivilengr@gmail.com  
 785.341.9747

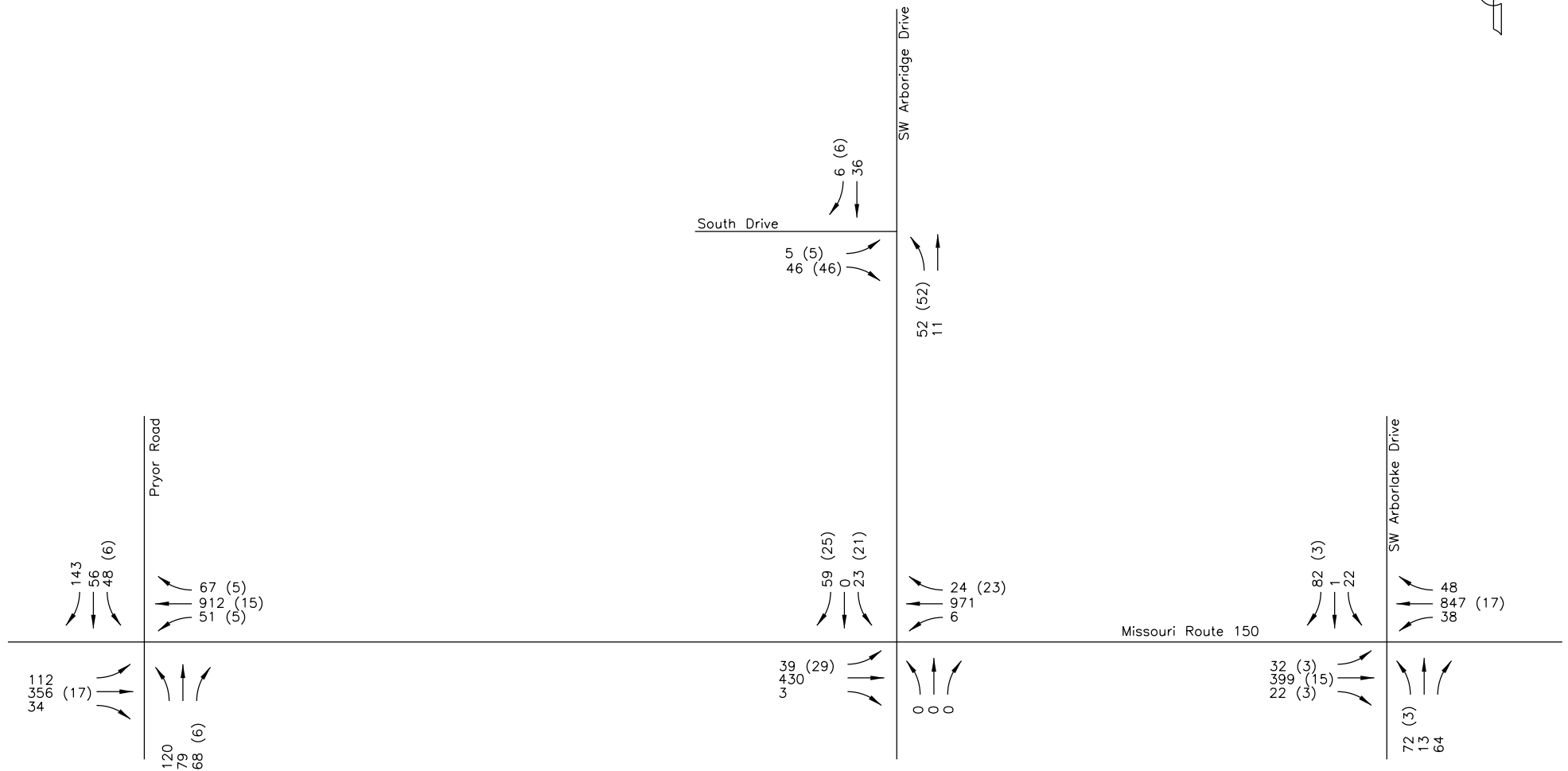


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 ENGINEERS  
 PO Box 563  
 Garden City, MO 64747  
 816.738.4400

Site Plan

Arborwalk  
 Lee's Summit, MO

No Scale  
 Figure A



LEGEND

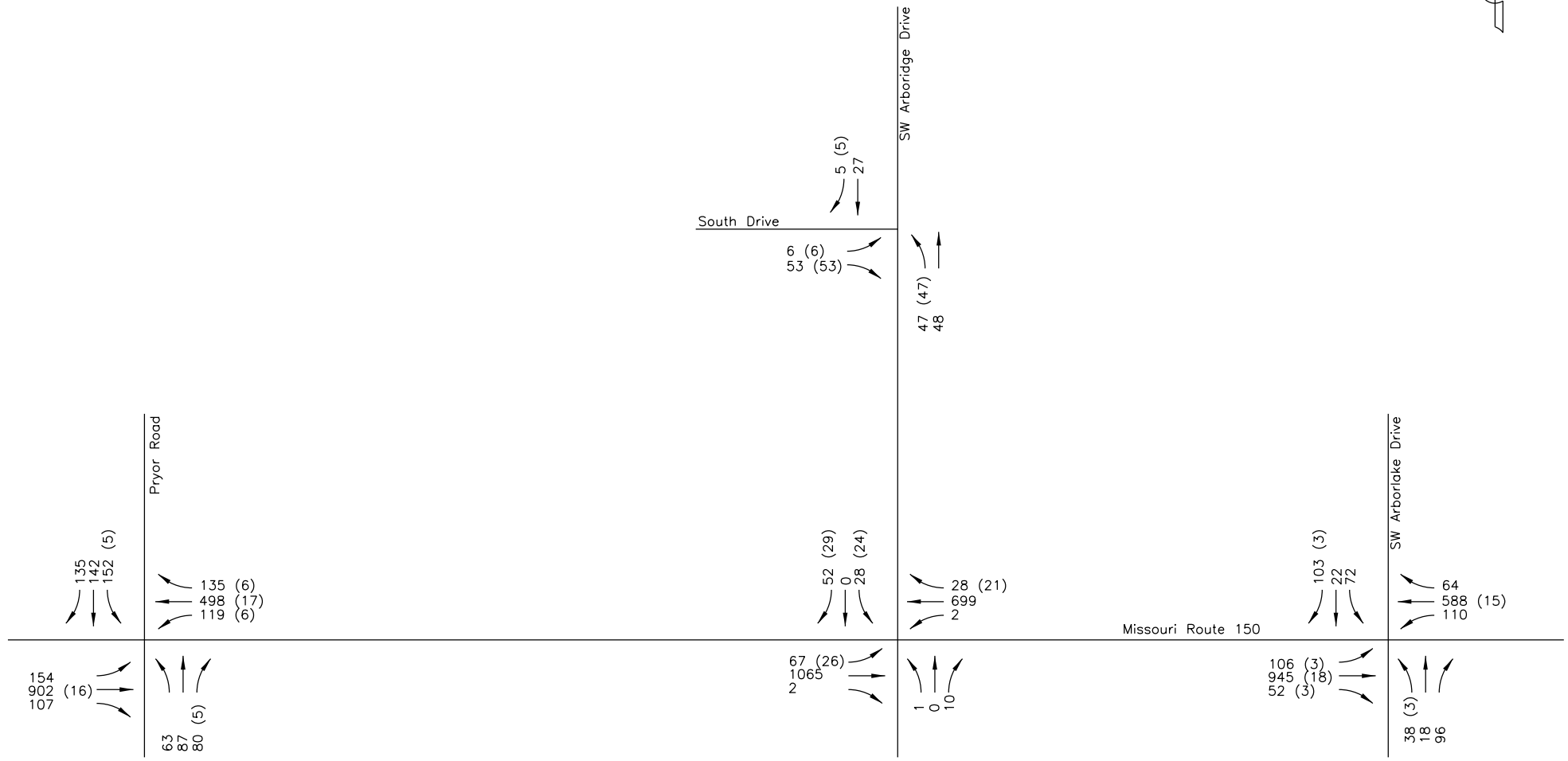
 Total Volume (Site Generated)[Pass-By]

Existing + Approved + Day Care  
AM Peak Hour  
Traffic Volumes

Arborwalk  
Lee's Summit, MO

No Scale

Figure B



LEGEND

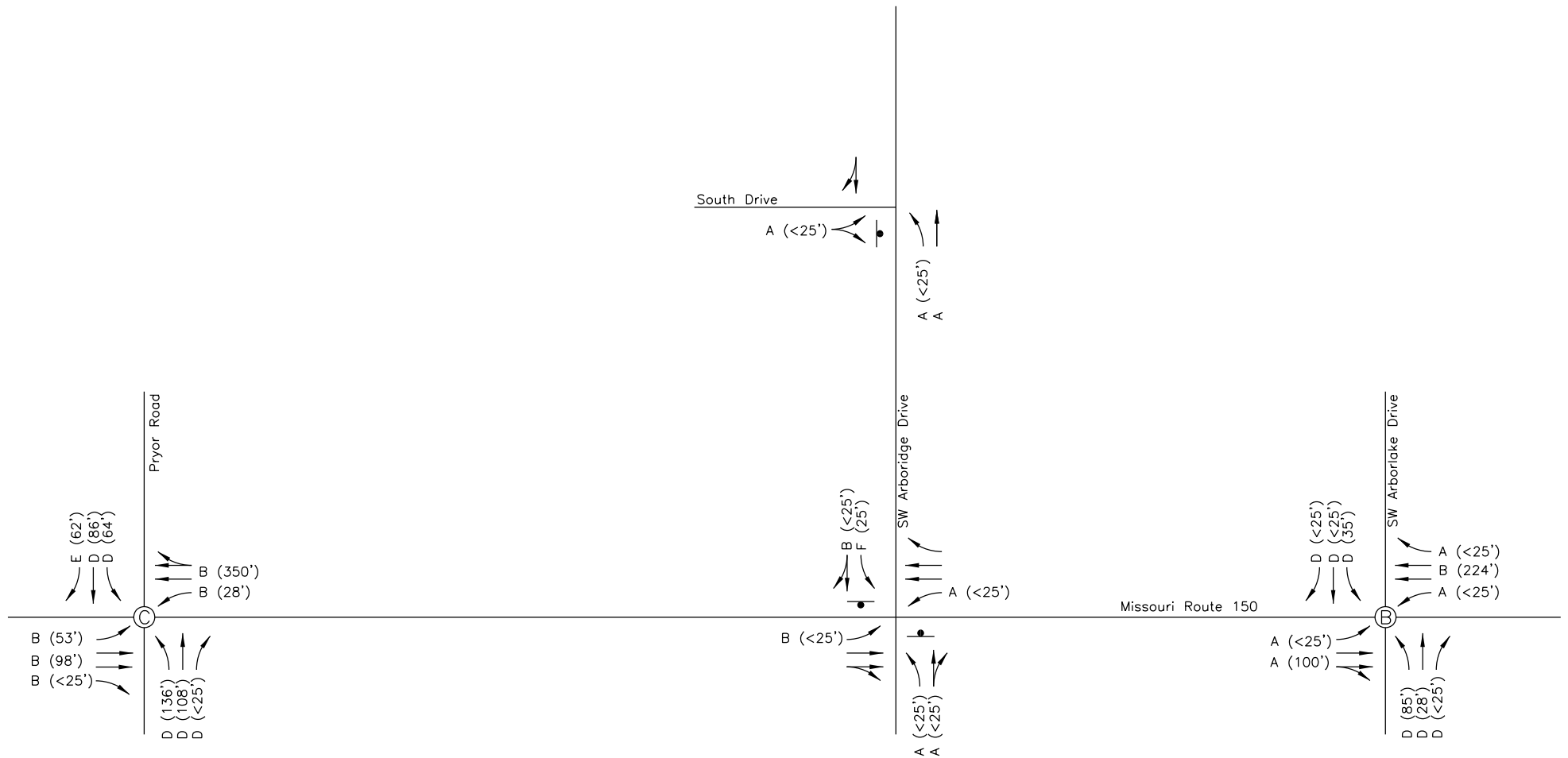
 Total Volume (Site Generated) [Pass-By]

Existing + Approved + Day Care  
PM Peak Hour  
Traffic Volumes

Arborwalk  
Lee's Summit, MO

No Scale

Figure C



Existing + Approved + Day Care  
AM Peak Hour  
Lane Configuration &  
Levels of Service

Arborwalk  
Lee's Summit, MO

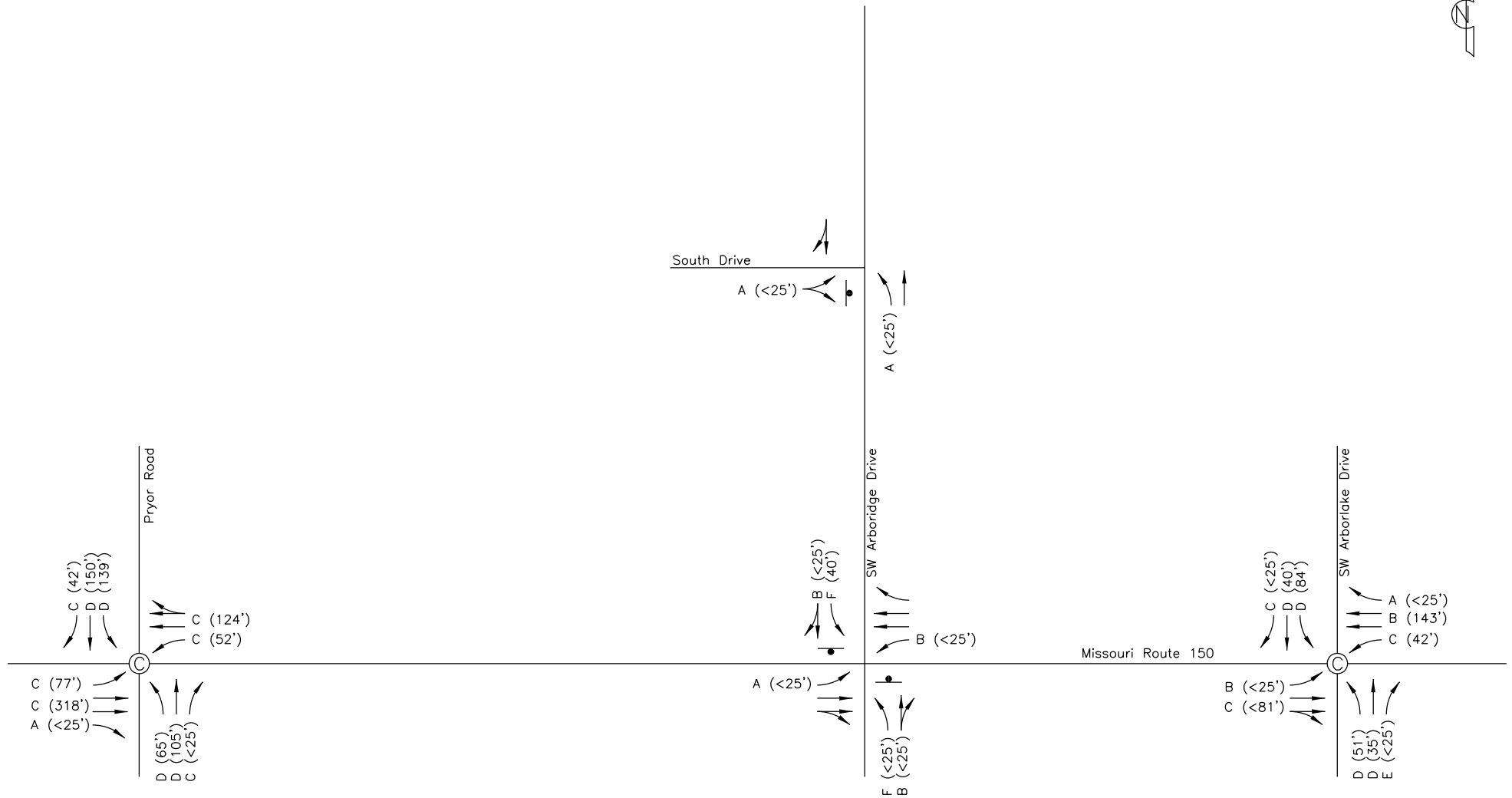
No Scale

Figure D



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Existing + Approved + Day Care  
PM Peak Hour  
Lane Configuration &  
Levels of Service

Arborwalk  
Lee's Summit, MO

No Scale

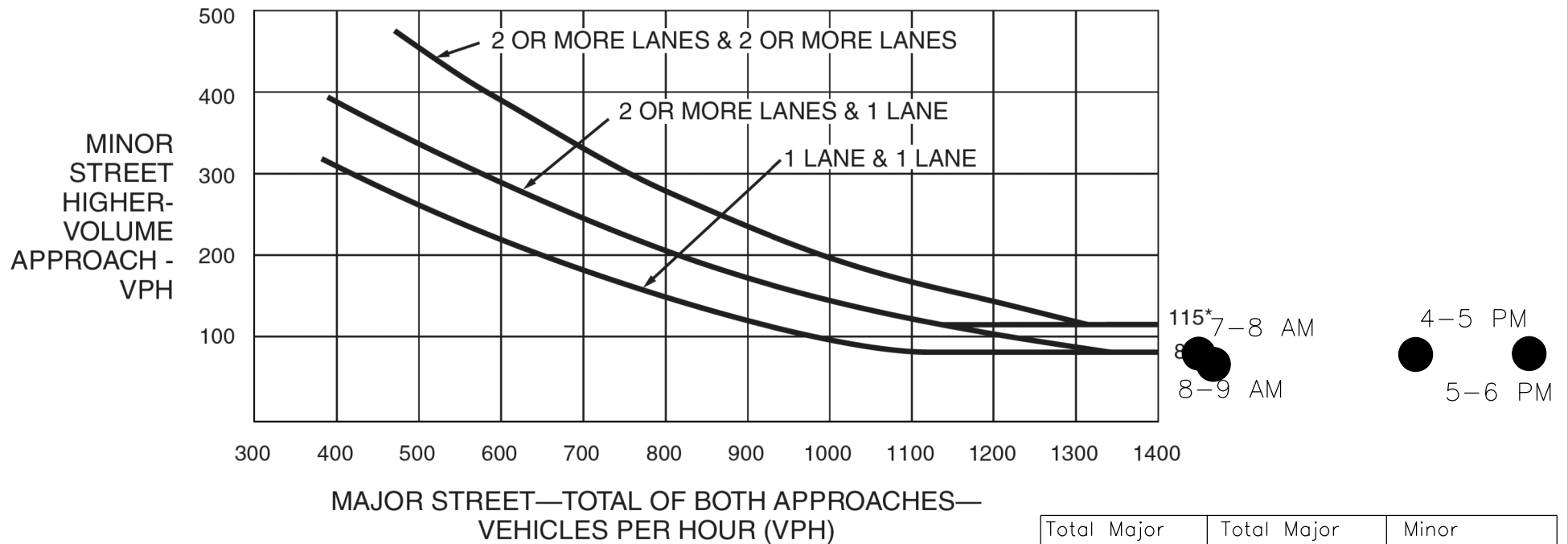
Figure E



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**Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume**



\*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

| Total Major Street Volume | Total Major Street Volume | Minor Street Volume |
|---------------------------|---------------------------|---------------------|
| 7-8 AM                    | 1449                      | 82                  |
| 8-9 AM                    | 1467                      | 69                  |
| 4-5 PM                    | 1713                      | 81                  |
| 5-6 PM                    | 1851                      | 82                  |

4- Hour  
Signal Warrant Analysis

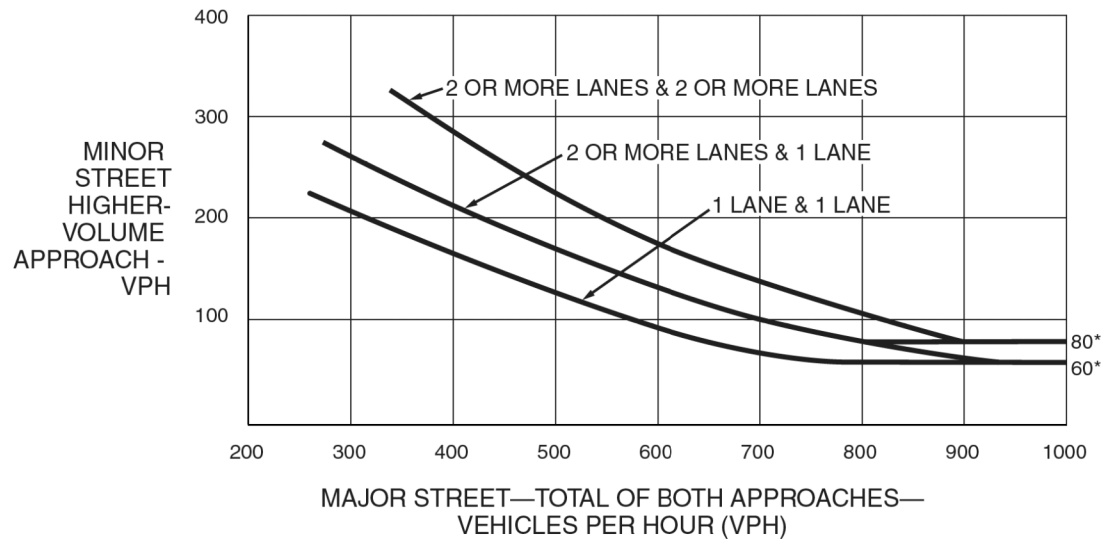
Arborwalk  
Lee's Summit, MO

No Scale

Figure F

**Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



\*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

7-8 AM 4-5 PM  
8-9 AM 5-6 PM

| Total Major Street Volume | Total Major Street Volume | Minor Street Volume |
|---------------------------|---------------------------|---------------------|
| 7-8 AM                    | 1449                      | 82                  |
| 8-9 AM                    | 1467                      | 69                  |
| 4-5 PM                    | 1713                      | 81                  |
| 5-6 PM                    | 1851                      | 82                  |



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4- Hour  
Signal Warrant Analysis  
(70% Factor)

Arborwalk  
Lee's Summit, MO

No Scale

Figure G

# 1: Pryor Road & Missouri Route 150

Existing + Approved + Day Care AM Peak Hour

|                         |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Group Flow (vph)   | 122                                                                               | 387                                                                               | 37                                                                                | 55                                                                                | 1064                                                                              | 130                                                                               | 86                                                                                 | 74                                                                                  | 52                                                                                  | 61                                                                                  | 155                                                                                 |
| v/c Ratio               | 0.37                                                                              | 0.19                                                                              | 0.03                                                                              | 0.09                                                                              | 0.57                                                                              | 0.51                                                                              | 0.33                                                                               | 0.22                                                                                | 0.27                                                                                | 0.40                                                                                | 0.57                                                                                |
| Control Delay (s/veh)   | 9.9                                                                               | 11.3                                                                              | 0.0                                                                               | 7.4                                                                               | 18.5                                                                              | 44.6                                                                              | 48.5                                                                               | 1.5                                                                                 | 39.5                                                                                | 56.5                                                                                | 16.4                                                                                |
| 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 (s/veh)     | 9.9                                                                               | 11.3                                                                              | 0.0                                                                               | 7.4                                                                               | 18.5                                                                              | 44.6                                                                              | 48.5                                                                               | 1.5                                                                                 | 39.5                                                                                | 56.5                                                                                | 16.4                                                                                |
| Queue Length 50th (ft)  | 27                                                                                | 65                                                                                | 0                                                                                 | 12                                                                                | 248                                                                               | 79                                                                                | 58                                                                                 | 0                                                                                   | 30                                                                                  | 42                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 53                                                                                | 98                                                                                | 0                                                                                 | 28                                                                                | 350                                                                               | 136                                                                               | 108                                                                                | 1                                                                                   | 64                                                                                  | 86                                                                                  | 62                                                                                  |
| Internal Link Dist (ft) | 1541                                                                              |                                                                                   |                                                                                   | 1744                                                                              |                                                                                   |                                                                                   | 1778                                                                               |                                                                                     |                                                                                     | 1399                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   | 100                                                                               | 200                                                                               |                                                                                   | 50                                                                                |                                                                                    | 50                                                                                  | 45                                                                                  |                                                                                     | 50                                                                                  |
| Base Capacity (vph)     | 371                                                                               | 1972                                                                              | 988                                                                               | 572                                                                               | 1844                                                                              | 253                                                                               | 373                                                                                | 426                                                                                 | 187                                                                                 | 299                                                                                 | 386                                                                                 |
| 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       | 0.33                                                                              | 0.20                                                                              | 0.04                                                                              | 0.10                                                                              | 0.58                                                                              | 0.51                                                                              | 0.23                                                                               | 0.17                                                                                | 0.28                                                                                | 0.20                                                                                | 0.40                                                                                |
| Intersection Summary    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# 1: Pryor Road & Missouri Route 150

Existing + Approved + Day Care AM Peak Hour

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 112                                                                               | 356                                                                               | 34                                                                                | 51                                                                                | 912                                                                               | 67                                                                                | 120                                                                                | 79                                                                                  | 68                                                                                  | 48                                                                                  | 56                                                                                  | 143                                                                                 |
| Future Volume (veh/h)        | 112                                                                               | 356                                                                               | 34                                                                                | 51                                                                                | 912                                                                               | 67                                                                                | 120                                                                                | 79                                                                                  | 68                                                                                  | 48                                                                                  | 56                                                                                  | 143                                                                                 |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Width 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                                                                                |
| 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                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1870                                                                              | 1767                                                                              | 1856                                                                              | 1767                                                                              | 1811                                                                              | 1856                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1841                                                                                | 1856                                                                                |
| Adj Flow Rate, veh/h         | 122                                                                               | 387                                                                               | 37                                                                                | 55                                                                                | 991                                                                               | 73                                                                                | 130                                                                                | 86                                                                                  | 74                                                                                  | 52                                                                                  | 61                                                                                  | 155                                                                                 |
| Peak Hour Factor             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 9                                                                                 | 3                                                                                 | 9                                                                                 | 6                                                                                 | 3                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 4                                                                                   | 3                                                                                   |
| Cap, veh/h                   | 332                                                                               | 1876                                                                              | 879                                                                               | 580                                                                               | 1779                                                                              | 131                                                                               | 304                                                                                | 300                                                                                 | 254                                                                                 | 269                                                                                 | 215                                                                                 | 184                                                                                 |
| Arrive On Green              | 0.05                                                                              | 0.56                                                                              | 0.56                                                                              | 0.04                                                                              | 0.55                                                                              | 0.55                                                                              | 0.08                                                                               | 0.16                                                                                | 0.16                                                                                | 0.04                                                                                | 0.12                                                                                | 0.12                                                                                |
| Sat Flow, veh/h              | 1781                                                                              | 3357                                                                              | 1572                                                                              | 1682                                                                              | 3249                                                                              | 239                                                                               | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 1841                                                                                | 1572                                                                                |
| Grp Volume(v), veh/h         | 122                                                                               | 387                                                                               | 37                                                                                | 55                                                                                | 525                                                                               | 539                                                                               | 130                                                                                | 86                                                                                  | 74                                                                                  | 52                                                                                  | 61                                                                                  | 155                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 1781                                                                              | 1678                                                                              | 1572                                                                              | 1682                                                                              | 1721                                                                              | 1768                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 1841                                                                                | 1572                                                                                |
| Q Serve(g_s), s              | 3.4                                                                               | 6.6                                                                               | 1.2                                                                               | 1.6                                                                               | 22.7                                                                              | 22.7                                                                              | 7.2                                                                                | 4.6                                                                                 | 4.7                                                                                 | 2.9                                                                                 | 3.5                                                                                 | 11.1                                                                                |
| Cycle Q Clear(g_c), s        | 3.4                                                                               | 6.6                                                                               | 1.2                                                                               | 1.6                                                                               | 22.7                                                                              | 22.7                                                                              | 7.2                                                                                | 4.6                                                                                 | 4.7                                                                                 | 2.9                                                                                 | 3.5                                                                                 | 11.1                                                                                |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.14                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 332                                                                               | 1876                                                                              | 879                                                                               | 580                                                                               | 942                                                                               | 968                                                                               | 304                                                                                | 300                                                                                 | 254                                                                                 | 269                                                                                 | 215                                                                                 | 184                                                                                 |
| V/C Ratio(X)                 | 0.37                                                                              | 0.21                                                                              | 0.04                                                                              | 0.09                                                                              | 0.56                                                                              | 0.56                                                                              | 0.43                                                                               | 0.29                                                                                | 0.29                                                                                | 0.19                                                                                | 0.28                                                                                | 0.84                                                                                |
| Avail Cap(c_a), veh/h        | 419                                                                               | 1876                                                                              | 879                                                                               | 592                                                                               | 942                                                                               | 968                                                                               | 304                                                                                | 359                                                                                 | 305                                                                                 | 284                                                                                 | 289                                                                                 | 247                                                                                 |
| 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     | 13.0                                                                              | 12.6                                                                              | 11.4                                                                              | 10.4                                                                              | 16.9                                                                              | 16.9                                                                              | 39.2                                                                               | 42.3                                                                                | 42.4                                                                                | 42.4                                                                                | 46.2                                                                                | 49.5                                                                                |
| Incr Delay (d2), s/veh       | 0.7                                                                               | 0.2                                                                               | 0.1                                                                               | 0.1                                                                               | 2.4                                                                               | 2.3                                                                               | 1.0                                                                                | 0.5                                                                                 | 0.6                                                                                 | 0.3                                                                                 | 0.7                                                                                 | 17.5                                                                                |
| Initial Q Delay(d3), s/veh   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 1.4                                                                               | 2.5                                                                               | 0.4                                                                               | 0.6                                                                               | 8.8                                                                               | 9.0                                                                               | 3.1                                                                                | 2.1                                                                                 | 1.8                                                                                 | 1.3                                                                                 | 1.6                                                                                 | 5.1                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d), s/veh        | 13.7                                                                              | 12.8                                                                              | 11.5                                                                              | 10.5                                                                              | 19.2                                                                              | 19.2                                                                              | 40.2                                                                               | 42.9                                                                                | 43.0                                                                                | 42.7                                                                                | 46.9                                                                                | 67.1                                                                                |
| LnGrp LOS                    | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | D                                                                                  | D                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   | E                                                                                   |
| Approach Vol, veh/h          | 546                                                                               |                                                                                   |                                                                                   |                                                                                   | 1119                                                                              |                                                                                   |                                                                                    |                                                                                     | 290                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 12.9                                                                              |                                                                                   |                                                                                   |                                                                                   | 18.8                                                                              |                                                                                   |                                                                                    |                                                                                     | 41.7                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 11.4                                                                              | 68.7                                                                              | 15.0                                                                              | 19.4                                                                              | 10.1                                                                              | 70.0                                                                              | 10.0                                                                               | 24.3                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 11.0                                                                              | 58.0                                                                              | 9.0                                                                               | 18.0                                                                              | 5.0                                                                               | 64.0                                                                              | 5.0                                                                                | 22.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 5.4                                                                               | 24.7                                                                              | 9.2                                                                               | 13.1                                                                              | 3.6                                                                               | 8.6                                                                               | 4.9                                                                                | 6.7                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.1                                                                               | 7.4                                                                               | 0.0                                                                               | 0.3                                                                               | 0.0                                                                               | 3.0                                                                               | 0.0                                                                                | 0.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th Control Delay, s/veh | 25.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th LOS                  | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## 2: SW Arboridge Drive & Missouri Route 150

Existing + Approved + Day Care AM Peak Hour

| Intersection             |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 1.6                                                                               |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |  |  |  |      |  |  |      |
| Traffic Vol, veh/h       | 39                                                                                | 430                                                                               | 3    | 6                                                                                 | 971                                                                               | 24                                                                                | 0                                                                                 | 0                                                                                 | 0    | 23                                                                                  | 0                                                                                   | 59   |
| Future Vol, veh/h        | 39                                                                                | 430                                                                               | 3    | 6                                                                                 | 971                                                                               | 24                                                                                | 0                                                                                 | 0                                                                                 | 0    | 23                                                                                  | 0                                                                                   | 59   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                   | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop                                                                                | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None | -                                                                                   | -                                                                                   | None |
| Storage Length           | 175                                                                               | -                                                                                 | -    | 250                                                                               | -                                                                                 | 160                                                                               | 200                                                                               | -                                                                                 | -    | 200                                                                                 | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                   | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                   | 0                                                                                   | -    |
| Peak Hour Factor         | 92                                                                                | 92                                                                                | 92   | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92   | 92                                                                                  | 92                                                                                  | 92   |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                   | 2                                                                                   | 2    |
| Mvmt Flow                | 42                                                                                | 467                                                                               | 3    | 7                                                                                 | 1055                                                                              | 26                                                                                | 0                                                                                 | 0                                                                                 | 0    | 25                                                                                  | 0                                                                                   | 64   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 1082   | 0 | 0 | 471    | 0 | 0 | 1095   | 1648 | 235  | 1387   | 1624 | 528  |
| Stage 1              | -      | - | - | -      | - | - | 554    | 554  | -    | 1068   | 1068 | -    |
| Stage 2              | -      | - | - | -      | - | - | 541    | 1095 | -    | 318    | 555  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 641    | - | - | 1087   | - | - | 168    | 98   | 766  | 102    | 102  | 495  |
| Stage 1              | -      | - | - | -      | - | - | 484    | 512  | -    | 237    | 296  | -    |
| Stage 2              | -      | - | - | -      | - | - | 493    | 288  | -    | 667    | 511  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 641    | - | - | 1087   | - | - | 136    | 91   | 766  | 95     | 94   | 495  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 136    | 91   | -    | 95     | 94   | -    |
| Stage 1              | -      | - | - | -      | - | - | 452    | 478  | -    | 235    | 294  | -    |
| Stage 2              | -      | - | - | -      | - | - | 427    | 286  | -    | 623    | 477  | -    |

| Approach               | EB   |  |  | WB   |  |  | NB |  |  | SB   |  |  |
|------------------------|------|--|--|------|--|--|----|--|--|------|--|--|
| HCM Control Delay, s/v | 0.91 |  |  | 0.05 |  |  | 0  |  |  | 25.3 |  |  |
| HCM LOS                |      |  |  |      |  |  | A  |  |  | D    |  |  |

| Minor Lane/Major Mvmt     | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 | SBLn2 |
|---------------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|-------|
| Capacity (veh/h)          | -     | -     | 641   | -   | -   | 1087  | -   | -   | 95    | 495   |
| HCM Lane V/C Ratio        | -     | -     | 0.066 | -   | -   | 0.006 | -   | -   | 0.263 | 0.13  |
| HCM Control Delay (s/veh) | 0     | 0     | 11    | -   | -   | 8.3   | -   | -   | 55.9  | 13.3  |
| HCM Lane LOS              | A     | A     | B     | -   | -   | A     | -   | -   | F     | B     |
| HCM 95th %tile Q(veh)     | -     | -     | 0.2   | -   | -   | 0     | -   | -   | 1     | 0.4   |

### 3: SW Stoney Creek Drive/SW Arborwalk Drive & Missouri Route 150

Post 150 Approved + Day Care AM Peak Hour



| Lane Group              | EBL  | EBT  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 35   | 458  | 41   | 921  | 52   | 78   | 14   | 70   | 24   | 1    | 89   |
| v/c Ratio               | 0.08 | 0.20 | 0.06 | 0.39 | 0.04 | 0.45 | 0.07 | 0.22 | 0.15 | 0.01 | 0.35 |
| Control Delay (s/veh)   | 5.2  | 8.4  | 4.9  | 10.1 | 0.0  | 45.6 | 42.7 | 1.6  | 36.7 | 44.0 | 3.8  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay (s/veh)     | 5.2  | 8.4  | 4.9  | 10.1 | 0.0  | 45.6 | 42.7 | 1.6  | 36.7 | 44.0 | 3.8  |
| Queue Length 50th (ft)  | 6    | 66   | 7    | 160  | 0    | 44   | 8    | 0    | 13   | 1    | 0    |
| Queue Length 95th (ft)  | 15   | 100  | 17   | 224  | 0    | 85   | 28   | 0    | 35   | 6    | 0    |
| Internal Link Dist (ft) |      | 1340 |      | 3250 |      |      | 205  |      |      | 235  |      |
| Turn Bay Length (ft)    | 200  |      | 200  |      | 200  | 30   |      | 100  | 200  |      | 200  |
| Base Capacity (vph)     | 402  | 2253 | 664  | 2348 | 1091 | 172  | 353  | 433  | 159  | 180  | 433  |
| 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       | 0.09 | 0.20 | 0.06 | 0.39 | 0.05 | 0.45 | 0.04 | 0.16 | 0.15 | 0.01 | 0.21 |
| Intersection Summary    |      |      |      |      |      |      |      |      |      |      |      |

### 3: SW Stoney Creek Drive/SW Arborwalk Drive & Missouri Route 160

Post 150 Approved + Day Care AM Peak Hour

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 32                                                                                | 399                                                                               | 22                                                                                | 38                                                                                | 847                                                                               | 48                                                                                | 72                                                                                 | 13                                                                                  | 64                                                                                  | 22                                                                                  | 1                                                                                   | 82                                                                                  |
| Future Volume (veh/h)        | 32                                                                                | 399                                                                               | 22                                                                                | 38                                                                                | 847                                                                               | 48                                                                                | 72                                                                                 | 13                                                                                  | 64                                                                                  | 22                                                                                  | 1                                                                                   | 82                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Width 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                                                                                |
| 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       | 1752                                                                              | 1752                                                                              | 1870                                                                              | 1781                                                                              | 1811                                                                              | 1796                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 418                                                                                 | 1870                                                                                |
| Adj Flow Rate, veh/h         | 35                                                                                | 434                                                                               | 24                                                                                | 41                                                                                | 921                                                                               | 52                                                                                | 78                                                                                 | 14                                                                                  | 70                                                                                  | 24                                                                                  | 1                                                                                   | 89                                                                                  |
| Peak Hour Factor             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %         | 10                                                                                | 10                                                                                | 2                                                                                 | 8                                                                                 | 6                                                                                 | 7                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 100                                                                                 | 2                                                                                   |
| Cap, veh/h                   | 371                                                                               | 1924                                                                              | 106                                                                               | 607                                                                               | 2074                                                                              | 917                                                                               | 258                                                                                | 191                                                                                 | 161                                                                                 | 215                                                                                 | 32                                                                                  | 121                                                                                 |
| Arrive On Green              | 0.03                                                                              | 0.60                                                                              | 0.60                                                                              | 0.03                                                                              | 0.60                                                                              | 0.60                                                                              | 0.05                                                                               | 0.10                                                                                | 0.10                                                                                | 0.02                                                                                | 0.08                                                                                | 0.08                                                                                |
| Sat Flow, veh/h              | 1668                                                                              | 3207                                                                              | 177                                                                               | 1697                                                                              | 3441                                                                              | 1522                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 418                                                                                 | 1585                                                                                |
| Grp Volume(v), veh/h         | 35                                                                                | 225                                                                               | 233                                                                               | 41                                                                                | 921                                                                               | 52                                                                                | 78                                                                                 | 14                                                                                  | 70                                                                                  | 24                                                                                  | 1                                                                                   | 89                                                                                  |
| Grp Sat Flow(s),veh/h/ln     | 1668                                                                              | 1664                                                                              | 1720                                                                              | 1697                                                                              | 1721                                                                              | 1522                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 418                                                                                 | 1585                                                                                |
| Q Serve(g_s), s              | 0.8                                                                               | 6.2                                                                               | 6.3                                                                               | 0.9                                                                               | 14.5                                                                              | 1.4                                                                               | 4.0                                                                                | 0.7                                                                                 | 4.1                                                                                 | 1.2                                                                                 | 0.2                                                                                 | 5.5                                                                                 |
| Cycle Q Clear(g_c), s        | 0.8                                                                               | 6.2                                                                               | 6.3                                                                               | 0.9                                                                               | 14.5                                                                              | 1.4                                                                               | 4.0                                                                                | 0.7                                                                                 | 4.1                                                                                 | 1.2                                                                                 | 0.2                                                                                 | 5.5                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.10                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 371                                                                               | 998                                                                               | 1032                                                                              | 607                                                                               | 2074                                                                              | 917                                                                               | 258                                                                                | 191                                                                                 | 161                                                                                 | 215                                                                                 | 32                                                                                  | 121                                                                                 |
| V/C Ratio(X)                 | 0.09                                                                              | 0.23                                                                              | 0.23                                                                              | 0.07                                                                              | 0.44                                                                              | 0.06                                                                              | 0.30                                                                               | 0.07                                                                                | 0.43                                                                                | 0.11                                                                                | 0.03                                                                                | 0.74                                                                                |
| Avail Cap(c_a), veh/h        | 403                                                                               | 998                                                                               | 1032                                                                              | 634                                                                               | 2074                                                                              | 917                                                                               | 258                                                                                | 355                                                                                 | 301                                                                                 | 261                                                                                 | 79                                                                                  | 301                                                                                 |
| 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     | 8.0                                                                               | 9.3                                                                               | 9.3                                                                               | 7.1                                                                               | 10.8                                                                              | 8.2                                                                               | 39.9                                                                               | 40.6                                                                                | 42.2                                                                                | 41.0                                                                                | 42.8                                                                                | 45.2                                                                                |
| Incr Delay (d2), s/veh       | 0.1                                                                               | 0.5                                                                               | 0.5                                                                               | 0.0                                                                               | 0.7                                                                               | 0.1                                                                               | 0.7                                                                                | 0.2                                                                                 | 1.8                                                                                 | 0.2                                                                                 | 0.4                                                                                 | 8.4                                                                                 |
| Initial Q Delay(d3), s/veh   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.2                                                                               | 2.1                                                                               | 2.2                                                                               | 0.3                                                                               | 4.9                                                                               | 0.5                                                                               | 1.8                                                                                | 0.3                                                                                 | 1.7                                                                                 | 0.5                                                                                 | 0.0                                                                                 | 2.4                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d), s/veh        | 8.1                                                                               | 9.8                                                                               | 9.8                                                                               | 7.1                                                                               | 11.5                                                                              | 8.3                                                                               | 40.6                                                                               | 40.8                                                                                | 44.0                                                                                | 41.2                                                                                | 43.2                                                                                | 53.6                                                                                |
| LnGrp LOS                    | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | B                                                                                 | A                                                                                 | D                                                                                  | D                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   |
| Approach Vol, veh/h          |                                                                                   | 493                                                                               |                                                                                   |                                                                                   | 1014                                                                              |                                                                                   |                                                                                    | 162                                                                                 |                                                                                     |                                                                                     | 114                                                                                 |                                                                                     |
| Approach Delay, s/veh        |                                                                                   | 9.7                                                                               |                                                                                   |                                                                                   | 11.1                                                                              |                                                                                   |                                                                                    | 42.1                                                                                |                                                                                     |                                                                                     | 50.9                                                                                |                                                                                     |
| Approach LOS                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                    | D                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 9.1                                                                               | 66.3                                                                              | 11.0                                                                              | 13.6                                                                              | 9.4                                                                               | 66.0                                                                              | 8.4                                                                                | 16.2                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 5.0                                                                               | 47.0                                                                              | 5.0                                                                               | 19.0                                                                              | 5.0                                                                               | 47.0                                                                              | 5.0                                                                                | 19.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+l1), s | 2.8                                                                               | 16.5                                                                              | 6.0                                                                               | 7.5                                                                               | 2.9                                                                               | 8.3                                                                               | 3.2                                                                                | 6.1                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 6.9                                                                               | 0.0                                                                               | 0.2                                                                               | 0.0                                                                               | 2.6                                                                               | 0.0                                                                                | 0.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th Control Delay, s/veh |                                                                                   |                                                                                   | 16.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th LOS                  |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# 14: SW Arboridge Drive & South Drive

Existing + Approved + Day Care AM Peak Hour

| Intersection              |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|---------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh          | 5.3                                                                               |        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                  | EBL                                                                               | EBR    | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations       |  |        |  |  |  |  |
| Traffic Vol, veh/h        | 5                                                                                 | 46     | 52                                                                                | 11                                                                                | 36                                                                                | 6                                                                                 |
| Future Vol, veh/h         | 5                                                                                 | 46     | 52                                                                                | 11                                                                                | 36                                                                                | 6                                                                                 |
| 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                                                                                 | -      | 150                                                                               | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, #  | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                  | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor          | 92                                                                                | 92     | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                |
| Heavy Vehicles, %         | 2                                                                                 | 2      | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                 | 5                                                                                 | 50     | 57                                                                                | 12                                                                                | 39                                                                                | 7                                                                                 |
| Major/Minor               | Minor2                                                                            | Major1 |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   |
| Conflicting Flow All      | 167                                                                               | 42     | 46                                                                                | 0                                                                                 | -                                                                                 | 0                                                                                 |
| Stage 1                   | 42                                                                                | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 2                   | 125                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| 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        | 823                                                                               | 1028   | 1562                                                                              | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 1                   | 980                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 2                   | 901                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Platoon blocked, %        |                                                                                   |        |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-1 Maneuver        | 793                                                                               | 1028   | 1562                                                                              | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-2 Maneuver        | 793                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 1                   | 945                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 2                   | 901                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Approach                  | EB                                                                                | NB     |                                                                                   | SB                                                                                |                                                                                   |                                                                                   |
| HCM Control Delay, s/v    | 8.81                                                                              | 6.1    |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |
| HCM LOS                   | A                                                                                 |        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt     | NBL                                                                               | NBT    | EBLn1                                                                             | SBT                                                                               | SBR                                                                               |                                                                                   |
| Capacity (veh/h)          | 1562                                                                              | -      | 999                                                                               | -                                                                                 | -                                                                                 |                                                                                   |
| HCM Lane V/C Ratio        | 0.036                                                                             | -      | 0.055                                                                             | -                                                                                 | -                                                                                 |                                                                                   |
| HCM Control Delay (s/veh) | 7.4                                                                               | -      | 8.8                                                                               | -                                                                                 | -                                                                                 |                                                                                   |
| HCM Lane LOS              | A                                                                                 | -      | A                                                                                 | -                                                                                 | -                                                                                 |                                                                                   |
| HCM 95th %tile Q(veh)     | 0.1                                                                               | -      | 0.2                                                                               | -                                                                                 | -                                                                                 |                                                                                   |

# 1: Pryor Road & Missouri Route 150

Existing + Approved + Day Care PM Peak Hour

|                         |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group              | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Group Flow (vph)   | 167                                                                               | 980                                                                               | 116                                                                               | 129                                                                               | 688                                                                               | 68                                                                                | 95                                                                                 | 87                                                                                  | 165                                                                                 | 154                                                                                 | 147                                                                                 |
| v/c Ratio               | 0.38                                                                              | 0.57                                                                              | 0.13                                                                              | 0.43                                                                              | 0.42                                                                              | 0.28                                                                              | 0.48                                                                               | 0.27                                                                                | 0.52                                                                                | 0.49                                                                                | 0.37                                                                                |
| Control Delay (s/veh)   | 14.6                                                                              | 20.7                                                                              | 1.3                                                                               | 13.8                                                                              | 10.5                                                                              | 31.0                                                                              | 50.0                                                                               | 2.2                                                                                 | 35.8                                                                                | 44.3                                                                                | 7.3                                                                                 |
| 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 (s/veh)     | 14.6                                                                              | 20.7                                                                              | 1.3                                                                               | 13.8                                                                              | 10.5                                                                              | 31.0                                                                              | 50.0                                                                               | 2.2                                                                                 | 35.8                                                                                | 44.3                                                                                | 7.3                                                                                 |
| Queue Length 50th (ft)  | 44                                                                                | 230                                                                               | 0                                                                                 | 11                                                                                | 55                                                                                | 32                                                                                | 58                                                                                 | 0                                                                                   | 83                                                                                  | 93                                                                                  | 0                                                                                   |
| Queue Length 95th (ft)  | 77                                                                                | 318                                                                               | 13                                                                                | 52                                                                                | 124                                                                               | 65                                                                                | 105                                                                                | 0                                                                                   | 139                                                                                 | 150                                                                                 | 42                                                                                  |
| Internal Link Dist (ft) | 1541                                                                              |                                                                                   |                                                                                   | 1744                                                                              |                                                                                   |                                                                                   | 1778                                                                               |                                                                                     |                                                                                     | 1399                                                                                |                                                                                     |
| Turn Bay Length (ft)    | 225                                                                               |                                                                                   | 100                                                                               | 200                                                                               |                                                                                   | 50                                                                                |                                                                                    | 50                                                                                  | 45                                                                                  |                                                                                     | 50                                                                                  |
| Base Capacity (vph)     | 472                                                                               | 1714                                                                              | 851                                                                               | 333                                                                               | 1621                                                                              | 240                                                                               | 335                                                                                | 419                                                                                 | 314                                                                                 | 409                                                                                 | 469                                                                                 |
| 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       | 0.35                                                                              | 0.57                                                                              | 0.14                                                                              | 0.39                                                                              | 0.42                                                                              | 0.28                                                                              | 0.28                                                                               | 0.21                                                                                | 0.53                                                                                | 0.38                                                                                | 0.31                                                                                |
| Intersection Summary    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# 1: Pryor Road & Missouri Route 150

Existing + Approved + Day Care PM Peak Hour

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |  |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 154                                                                               | 902                                                                               | 107                                                                               | 119                                                                               | 498                                                                               | 135                                                                               | 63                                                                                 | 87                                                                                  | 80                                                                                  | 152                                                                                 | 142                                                                                 | 135                                                                                 |
| Future Volume (veh/h)        | 154                                                                               | 902                                                                               | 107                                                                               | 119                                                                               | 498                                                                               | 135                                                                               | 63                                                                                 | 87                                                                                  | 80                                                                                  | 152                                                                                 | 142                                                                                 | 135                                                                                 |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Width 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                                                                                |
| 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                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1841                                                                              | 1870                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1841                                                                                |
| Adj Flow Rate, veh/h         | 167                                                                               | 980                                                                               | 116                                                                               | 129                                                                               | 541                                                                               | 147                                                                               | 68                                                                                 | 95                                                                                  | 87                                                                                  | 165                                                                                 | 154                                                                                 | 147                                                                                 |
| Peak Hour Factor             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 4                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 4                                                                                   |
| Cap, veh/h                   | 618                                                                               | 1421                                                                              | 634                                                                               | 504                                                                               | 1061                                                                              | 287                                                                               | 197                                                                                | 139                                                                                 | 118                                                                                 | 262                                                                                 | 220                                                                                 | 184                                                                                 |
| Arrive On Green              | 0.21                                                                              | 0.40                                                                              | 0.40                                                                              | 0.20                                                                              | 0.39                                                                              | 0.39                                                                              | 0.05                                                                               | 0.07                                                                                | 0.07                                                                                | 0.09                                                                                | 0.12                                                                                | 0.12                                                                                |
| Sat Flow, veh/h              | 1781                                                                              | 3554                                                                              | 1585                                                                              | 1781                                                                              | 2721                                                                              | 736                                                                               | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 1870                                                                                | 1560                                                                                |
| Grp Volume(v), veh/h         | 167                                                                               | 980                                                                               | 116                                                                               | 129                                                                               | 347                                                                               | 341                                                                               | 68                                                                                 | 95                                                                                  | 87                                                                                  | 165                                                                                 | 154                                                                                 | 147                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 1781                                                                              | 1777                                                                              | 1585                                                                              | 1781                                                                              | 1749                                                                              | 1708                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 1870                                                                                | 1560                                                                                |
| Q Serve(g_s), s              | 0.0                                                                               | 22.8                                                                              | 3.1                                                                               | 0.0                                                                               | 15.1                                                                              | 15.2                                                                              | 3.5                                                                                | 5.0                                                                                 | 3.5                                                                                 | 8.5                                                                                 | 7.9                                                                                 | 5.9                                                                                 |
| Cycle Q Clear(g_c), s        | 0.0                                                                               | 22.8                                                                              | 3.1                                                                               | 0.0                                                                               | 15.1                                                                              | 15.2                                                                              | 3.5                                                                                | 5.0                                                                                 | 3.5                                                                                 | 8.5                                                                                 | 7.9                                                                                 | 5.9                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.43                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 618                                                                               | 1421                                                                              | 634                                                                               | 504                                                                               | 682                                                                               | 666                                                                               | 197                                                                                | 139                                                                                 | 118                                                                                 | 262                                                                                 | 220                                                                                 | 184                                                                                 |
| V/C Ratio(X)                 | 0.27                                                                              | 0.69                                                                              | 0.18                                                                              | 0.26                                                                              | 0.51                                                                              | 0.51                                                                              | 0.35                                                                               | 0.68                                                                                | 0.74                                                                                | 0.63                                                                                | 0.70                                                                                | 0.80                                                                                |
| Avail Cap(c_a), veh/h        | 618                                                                               | 1421                                                                              | 634                                                                               | 504                                                                               | 682                                                                               | 666                                                                               | 203                                                                                | 337                                                                                 | 285                                                                                 | 262                                                                                 | 411                                                                                 | 343                                                                                 |
| 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     | 19.9                                                                              | 24.9                                                                              | 8.2                                                                               | 27.1                                                                              | 23.2                                                                              | 23.2                                                                              | 40.2                                                                               | 45.1                                                                                | 19.0                                                                                | 38.3                                                                                | 42.4                                                                                | 17.7                                                                                |
| Incr Delay (d2), s/veh       | 0.2                                                                               | 2.8                                                                               | 0.6                                                                               | 0.3                                                                               | 2.7                                                                               | 2.8                                                                               | 1.0                                                                                | 5.8                                                                                 | 8.7                                                                                 | 4.8                                                                                 | 4.0                                                                                 | 7.8                                                                                 |
| 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     | 2.7                                                                               | 9.9                                                                               | 1.7                                                                               | 2.5                                                                               | 6.3                                                                               | 6.2                                                                               | 1.5                                                                                | 2.4                                                                                 | 2.3                                                                                 | 4.0                                                                                 | 3.8                                                                                 | 3.7                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d), s/veh        | 20.1                                                                              | 27.6                                                                              | 8.8                                                                               | 27.4                                                                              | 25.9                                                                              | 26.0                                                                              | 41.3                                                                               | 51.0                                                                                | 27.7                                                                                | 43.1                                                                                | 46.4                                                                                | 25.5                                                                                |
| LnGrp LOS                    | C                                                                                 | C                                                                                 | A                                                                                 | C                                                                                 | C                                                                                 | C                                                                                 | D                                                                                  | D                                                                                   | C                                                                                   | D                                                                                   | D                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 1263                                                                              |                                                                                   |                                                                                   |                                                                                   | 817                                                                               |                                                                                   |                                                                                    |                                                                                     | 250                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 24.9                                                                              |                                                                                   |                                                                                   |                                                                                   | 26.2                                                                              |                                                                                   |                                                                                    |                                                                                     | 40.2                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 26.6                                                                              | 45.0                                                                              | 10.7                                                                              | 17.8                                                                              | 25.6                                                                              | 46.0                                                                              | 15.0                                                                               | 13.4                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 10.0                                                                              | 39.0                                                                              | 5.0                                                                               | 22.0                                                                              | 9.0                                                                               | 40.0                                                                              | 9.0                                                                                | 18.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 2.0                                                                               | 17.2                                                                              | 5.5                                                                               | 9.9                                                                               | 2.0                                                                               | 24.8                                                                              | 10.5                                                                               | 7.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.3                                                                               | 3.9                                                                               | 0.0                                                                               | 1.0                                                                               | 0.2                                                                               | 6.6                                                                               | 0.0                                                                                | 0.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th Control Delay, s/veh | 28.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th LOS                  | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## 2: SW Arboridge Drive & Missouri Route 150

Existing + Approved + Day Care PM Peak Hour

| Intersection              |                                                                                   |                                                                                   |       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |                                                                                     |      |
|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh          | 1.9                                                                               |                                                                                   |       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                     |                                                                                     |      |
| Movement                  | EBL                                                                               | EBT                                                                               | EBR   | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                               | NBT                                                                               | NBR  | SBL                                                                                 | SBT                                                                                 | SBR  |
| Lane Configurations       |  |  |       |  |  |  |  |  |      |  |  |      |
| Traffic Vol, veh/h        | 67                                                                                | 1065                                                                              | 2     | 2                                                                                 | 699                                                                               | 28                                                                                | 1                                                                                 | 0                                                                                 | 10   | 28                                                                                  | 0                                                                                   | 52   |
| Future Vol, veh/h         | 67                                                                                | 1065                                                                              | 2     | 2                                                                                 | 699                                                                               | 28                                                                                | 1                                                                                 | 0                                                                                 | 10   | 28                                                                                  | 0                                                                                   | 52   |
| Conflicting Peds, #/hr    | 0                                                                                 | 0                                                                                 | 0     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                   | 0                                                                                   | 0    |
| Sign Control              | Free                                                                              | Free                                                                              | Free  | Free                                                                              | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              | Stop | Stop                                                                                | Stop                                                                                | Stop |
| RT Channelized            | -                                                                                 | -                                                                                 | None  | -                                                                                 | -                                                                                 | None                                                                              | -                                                                                 | -                                                                                 | None | -                                                                                   | -                                                                                   | None |
| Storage Length            | 175                                                                               | -                                                                                 | -     | 250                                                                               | -                                                                                 | 160                                                                               | 200                                                                               | -                                                                                 | -    | 200                                                                                 | -                                                                                   | -    |
| Veh in Median Storage, #  | -                                                                                 | 0                                                                                 | -     | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                   | 0                                                                                   | -    |
| Grade, %                  | -                                                                                 | 0                                                                                 | -     | -                                                                                 | 0                                                                                 | -                                                                                 | -                                                                                 | 0                                                                                 | -    | -                                                                                   | 0                                                                                   | -    |
| Peak Hour Factor          | 92                                                                                | 92                                                                                | 92    | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                | 92   | 92                                                                                  | 92                                                                                  | 92   |
| Heavy Vehicles, %         | 2                                                                                 | 2                                                                                 | 2     | 2                                                                                 | 5                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                   | 2                                                                                   | 2    |
| Mvmt Flow                 | 73                                                                                | 1158                                                                              | 2     | 2                                                                                 | 760                                                                               | 30                                                                                | 1                                                                                 | 0                                                                                 | 11   | 30                                                                                  | 0                                                                                   | 57   |
| Major/Minor               | Major1                                                                            |                                                                                   |       | Major2                                                                            |                                                                                   |                                                                                   | Minor1                                                                            |                                                                                   |      | Minor2                                                                              |                                                                                     |      |
| Conflicting Flow All      | 790                                                                               | 0                                                                                 | 0     | 1160                                                                              | 0                                                                                 | 0                                                                                 | 1689                                                                              | 2099                                                                              | 580  | 1489                                                                                | 2070                                                                                | 380  |
| Stage 1                   | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 1304                                                                              | 1304                                                                              | -    | 764                                                                                 | 764                                                                                 | -    |
| Stage 2                   | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 384                                                                               | 795                                                                               | -    | 724                                                                                 | 1305                                                                                | -    |
| Critical Hdwy             | 4.14                                                                              | -                                                                                 | -     | 4.14                                                                              | -                                                                                 | -                                                                                 | 7.54                                                                              | 6.54                                                                              | 6.94 | 7.54                                                                                | 6.54                                                                                | 6.94 |
| Critical Hdwy Stg 1       | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -    | 6.54                                                                                | 5.54                                                                                | -    |
| Critical Hdwy Stg 2       | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 6.54                                                                              | 5.54                                                                              | -    | 6.54                                                                                | 5.54                                                                                | -    |
| Follow-up Hdwy            | 2.22                                                                              | -                                                                                 | -     | 2.22                                                                              | -                                                                                 | -                                                                                 | 3.52                                                                              | 4.02                                                                              | 3.32 | 3.52                                                                                | 4.02                                                                                | 3.32 |
| Pot Cap-1 Maneuver        | 826                                                                               | -                                                                                 | -     | 598                                                                               | -                                                                                 | -                                                                                 | 61                                                                                | 51                                                                                | 458  | 86                                                                                  | 54                                                                                  | 618  |
| Stage 1                   | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 169                                                                               | 229                                                                               | -    | 362                                                                                 | 411                                                                                 | -    |
| Stage 2                   | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 610                                                                               | 398                                                                               | -    | 383                                                                                 | 228                                                                                 | -    |
| Platoon blocked, %        | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -    | -                                                                                   | -                                                                                   | -    |
| Mov Cap-1 Maneuver        | 826                                                                               | -                                                                                 | -     | 598                                                                               | -                                                                                 | -                                                                                 | 50                                                                                | 47                                                                                | 458  | 76                                                                                  | 49                                                                                  | 618  |
| Mov Cap-2 Maneuver        | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 50                                                                                | 47                                                                                | -    | 76                                                                                  | 49                                                                                  | -    |
| Stage 1                   | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 154                                                                               | 208                                                                               | -    | 361                                                                                 | 409                                                                                 | -    |
| Stage 2                   | -                                                                                 | -                                                                                 | -     | -                                                                                 | -                                                                                 | -                                                                                 | 553                                                                               | 396                                                                               | -    | 341                                                                                 | 208                                                                                 | -    |
| Approach                  | EB                                                                                |                                                                                   |       | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                   |      | SB                                                                                  |                                                                                     |      |
| HCM Control Delay, s/v    | 0.58                                                                              |                                                                                   |       | 0.03                                                                              |                                                                                   |                                                                                   | 18.99                                                                             |                                                                                   |      | 35.65                                                                               |                                                                                     |      |
| HCM LOS                   |                                                                                   |                                                                                   |       |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |      | E                                                                                   |                                                                                     |      |
| Minor Lane/Major Mvmt     | NBLn1                                                                             |                                                                                   | NBLn2 | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR  | SBLn1                                                                               | SBLn2                                                                               |      |
| Capacity (veh/h)          | 50                                                                                |                                                                                   | 458   | 826                                                                               | -                                                                                 | -                                                                                 | 598                                                                               | -                                                                                 | -    | 76                                                                                  | 618                                                                                 |      |
| HCM Lane V/C Ratio        | 0.022                                                                             |                                                                                   | 0.024 | 0.088                                                                             | -                                                                                 | -                                                                                 | 0.004                                                                             | -                                                                                 | -    | 0.399                                                                               | 0.091                                                                               |      |
| HCM Control Delay (s/veh) | 78.3                                                                              |                                                                                   | 13.1  | 9.8                                                                               | -                                                                                 | -                                                                                 | 11                                                                                | -                                                                                 | -    | 80.7                                                                                | 11.4                                                                                |      |
| HCM Lane LOS              | F                                                                                 |                                                                                   | B     | A                                                                                 | -                                                                                 | -                                                                                 | B                                                                                 | -                                                                                 | -    | F                                                                                   | B                                                                                   |      |
| HCM 95th %tile Q(veh)     | 0.1                                                                               |                                                                                   | 0.1   | 0.3                                                                               | -                                                                                 | -                                                                                 | 0                                                                                 | -                                                                                 | -    | 1.6                                                                                 | 0.3                                                                                 |      |

### 3: SW Stoney Creek Drive/SW Arborwalk Drive & Missouri Route 150

Post 150 Approved + Day Care PM Peak Hour



| Lane Group              | EBL  | EBT  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 115  | 1084 | 120  | 639  | 70   | 41   | 20   | 104  | 78   | 24   | 112  |
| v/c Ratio               | 0.22 | 0.53 | 0.31 | 0.30 | 0.06 | 0.24 | 0.15 | 0.39 | 0.44 | 0.14 | 0.38 |
| Control Delay (s/veh)   | 4.3  | 5.0  | 10.4 | 10.7 | 0.1  | 37.7 | 45.8 | 5.9  | 44.1 | 44.7 | 5.9  |
| 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 (s/veh)     | 4.3  | 5.0  | 10.4 | 10.7 | 0.1  | 37.7 | 45.8 | 5.9  | 44.1 | 44.7 | 5.9  |
| Queue Length 50th (ft)  | 12   | 68   | 21   | 102  | 0    | 22   | 12   | 0    | 43   | 15   | 0    |
| Queue Length 95th (ft)  | 21   | 81   | 42   | 143  | 0    | 51   | 35   | 13   | 84   | 40   | 18   |
| Internal Link Dist (ft) | 1340 |      | 3250 |      | 205  |      | 235  |      |      |      |      |
| Turn Bay Length (ft)    | 200  | 200  |      | 200  |      | 30   | 100  |      | 200  | 200  |      |
| Base Capacity (vph)     | 514  | 2017 | 379  | 2095 | 1020 | 170  | 335  | 419  | 177  | 322  | 419  |
| 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       | 0.22 | 0.54 | 0.32 | 0.31 | 0.07 | 0.24 | 0.06 | 0.25 | 0.44 | 0.07 | 0.27 |

#### Intersection Summary

### 3: SW Stoney Creek Drive/SW Arborwalk Drive & Missouri Route 150

Post 150 Approved + Day Care PM Peak Hour

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 106                                                                               | 945                                                                               | 52                                                                                | 110                                                                               | 588                                                                               | 64                                                                                | 38                                                                                 | 18                                                                                  | 96                                                                                  | 72                                                                                  | 22                                                                                  | 103                                                                                 |
| Future Volume (veh/h)        | 106                                                                               | 945                                                                               | 52                                                                                | 110                                                                               | 588                                                                               | 64                                                                                | 38                                                                                 | 18                                                                                  | 96                                                                                  | 72                                                                                  | 22                                                                                  | 103                                                                                 |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Width 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                                                                                |
| 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                                                                              | 1841                                                                              | 1870                                                                              | 1870                                                                               | 1870                                                                                | 1870                                                                                | 1870                                                                                | 1811                                                                                | 1870                                                                                |
| Adj Flow Rate, veh/h         | 115                                                                               | 1027                                                                              | 57                                                                                | 120                                                                               | 639                                                                               | 70                                                                                | 41                                                                                 | 20                                                                                  | 104                                                                                 | 78                                                                                  | 24                                                                                  | 112                                                                                 |
| Peak Hour Factor             | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                               | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 4                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 2                                                                                   | 2                                                                                   | 6                                                                                   | 2                                                                                   |
| Cap, veh/h                   | 617                                                                               | 1506                                                                              | 84                                                                                | 537                                                                               | 1644                                                                              | 745                                                                               | 217                                                                                | 126                                                                                 | 107                                                                                 | 234                                                                                 | 151                                                                                 | 133                                                                                 |
| Arrive On Green              | 0.17                                                                              | 0.44                                                                              | 0.44                                                                              | 0.20                                                                              | 0.47                                                                              | 0.47                                                                              | 0.03                                                                               | 0.07                                                                                | 0.07                                                                                | 0.05                                                                                | 0.08                                                                                | 0.08                                                                                |
| Sat Flow, veh/h              | 1781                                                                              | 3423                                                                              | 190                                                                               | 1781                                                                              | 3497                                                                              | 1585                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 1811                                                                                | 1585                                                                                |
| Grp Volume(v), veh/h         | 115                                                                               | 533                                                                               | 551                                                                               | 120                                                                               | 639                                                                               | 70                                                                                | 41                                                                                 | 20                                                                                  | 104                                                                                 | 78                                                                                  | 24                                                                                  | 112                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 1781                                                                              | 1777                                                                              | 1836                                                                              | 1781                                                                              | 1749                                                                              | 1585                                                                              | 1781                                                                               | 1870                                                                                | 1585                                                                                | 1781                                                                                | 1811                                                                                | 1585                                                                                |
| Q Serve(g_s), s              | 0.0                                                                               | 24.0                                                                              | 24.0                                                                              | 0.0                                                                               | 11.8                                                                              | 1.7                                                                               | 2.1                                                                                | 1.0                                                                                 | 4.5                                                                                 | 4.0                                                                                 | 1.2                                                                                 | 4.5                                                                                 |
| Cycle Q Clear(g_c), s        | 0.0                                                                               | 24.0                                                                              | 24.0                                                                              | 0.0                                                                               | 11.8                                                                              | 1.7                                                                               | 2.1                                                                                | 1.0                                                                                 | 4.5                                                                                 | 4.0                                                                                 | 1.2                                                                                 | 4.5                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.10                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 617                                                                               | 782                                                                               | 808                                                                               | 537                                                                               | 1644                                                                              | 745                                                                               | 217                                                                                | 126                                                                                 | 107                                                                                 | 234                                                                                 | 151                                                                                 | 133                                                                                 |
| V/C Ratio(X)                 | 0.19                                                                              | 0.68                                                                              | 0.68                                                                              | 0.22                                                                              | 0.39                                                                              | 0.09                                                                              | 0.19                                                                               | 0.16                                                                                | 0.97                                                                                | 0.33                                                                                | 0.16                                                                                | 0.85                                                                                |
| Avail Cap(c_a), veh/h        | 617                                                                               | 782                                                                               | 808                                                                               | 537                                                                               | 1644                                                                              | 745                                                                               | 246                                                                                | 337                                                                                 | 285                                                                                 | 234                                                                                 | 326                                                                                 | 285                                                                                 |
| 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     | 15.2                                                                              | 22.4                                                                              | 22.4                                                                              | 23.2                                                                              | 17.2                                                                              | 7.4                                                                               | 41.3                                                                               | 43.9                                                                                | 21.9                                                                                | 40.7                                                                                | 42.6                                                                                | 19.0                                                                                |
| Incr Delay (d2), s/veh       | 0.1                                                                               | 4.8                                                                               | 4.6                                                                               | 0.2                                                                               | 0.7                                                                               | 0.3                                                                               | 0.4                                                                                | 0.6                                                                                 | 33.8                                                                                | 0.8                                                                                 | 0.5                                                                                 | 13.4                                                                                |
| Initial Q Delay(d3), s/veh   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 1.5                                                                               | 10.2                                                                              | 10.5                                                                              | 2.1                                                                               | 4.5                                                                               | 0.9                                                                               | 0.9                                                                                | 0.5                                                                                 | 3.5                                                                                 | 1.8                                                                                 | 0.6                                                                                 | 3.1                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d), s/veh        | 15.3                                                                              | 27.2                                                                              | 27.0                                                                              | 23.4                                                                              | 17.9                                                                              | 7.6                                                                               | 41.7                                                                               | 44.5                                                                                | 55.7                                                                                | 41.5                                                                                | 43.0                                                                                | 32.4                                                                                |
| LnGrp LOS                    | B                                                                                 | C                                                                                 | C                                                                                 | C                                                                                 | B                                                                                 | A                                                                                 | D                                                                                  | D                                                                                   | E                                                                                   | D                                                                                   | D                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 1199                                                                              |                                                                                   |                                                                                   | 829                                                                               |                                                                                   |                                                                                   | 165                                                                                |                                                                                     |                                                                                     | 214                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 26.0                                                                              |                                                                                   |                                                                                   | 17.8                                                                              |                                                                                   |                                                                                   | 50.9                                                                               |                                                                                     |                                                                                     | 36.9                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | D                                                                                  |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                  | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 23.2                                                                              | 53.0                                                                              | 9.4                                                                               | 14.4                                                                              | 26.2                                                                              | 50.0                                                                              | 11.0                                                                               | 12.8                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                                | 6.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 6.0                                                                               | 47.0                                                                              | 5.0                                                                               | 18.0                                                                              | 9.0                                                                               | 44.0                                                                              | 5.0                                                                                | 18.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 2.0                                                                               | 13.8                                                                              | 4.1                                                                               | 6.5                                                                               | 2.0                                                                               | 26.0                                                                              | 6.0                                                                                | 6.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.1                                                                               | 4.6                                                                               | 0.0                                                                               | 0.3                                                                               | 0.1                                                                               | 6.2                                                                               | 0.0                                                                                | 0.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th Control Delay, s/veh | 25.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 7th LOS                  | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# 14: SW Arboridge Drive & South Drive

Existing + Approved + Day Care PM Peak Hour

| Intersection              |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|---------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh          | 4.7                                                                               |        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                  | EBL                                                                               | EBR    | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
| Lane Configurations       |  |        |  |  |  |  |
| Traffic Vol, veh/h        | 6                                                                                 | 53     | 47                                                                                | 48                                                                                | 27                                                                                | 5                                                                                 |
| Future Vol, veh/h         | 6                                                                                 | 53     | 47                                                                                | 48                                                                                | 27                                                                                | 5                                                                                 |
| 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                                                                                 | -      | 150                                                                               | -                                                                                 | -                                                                                 | -                                                                                 |
| Veh in Median Storage, #  | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                  | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor          | 92                                                                                | 92     | 92                                                                                | 92                                                                                | 92                                                                                | 92                                                                                |
| Heavy Vehicles, %         | 2                                                                                 | 2      | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                 | 7                                                                                 | 58     | 51                                                                                | 52                                                                                | 29                                                                                | 5                                                                                 |
| Major/Minor               | Minor2                                                                            | Major1 |                                                                                   | Major2                                                                            |                                                                                   |                                                                                   |
| Conflicting Flow All      | 186                                                                               | 32     | 35                                                                                | 0                                                                                 | -                                                                                 | 0                                                                                 |
| Stage 1                   | 32                                                                                | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 2                   | 154                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| 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        | 803                                                                               | 1042   | 1577                                                                              | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 1                   | 990                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 2                   | 874                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Platoon blocked, %        |                                                                                   |        |                                                                                   | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-1 Maneuver        | 777                                                                               | 1042   | 1577                                                                              | -                                                                                 | -                                                                                 | -                                                                                 |
| Mov Cap-2 Maneuver        | 777                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 1                   | 958                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Stage 2                   | 874                                                                               | -      | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 |
| Approach                  | EB                                                                                | NB     |                                                                                   | SB                                                                                |                                                                                   |                                                                                   |
| HCM Control Delay, s/v    | 8.82                                                                              | 3.64   |                                                                                   | 0                                                                                 |                                                                                   |                                                                                   |
| HCM LOS                   | A                                                                                 |        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt     | NBL                                                                               | NBT    | EBLn1                                                                             | SBT                                                                               | SBR                                                                               |                                                                                   |
| Capacity (veh/h)          | 1577                                                                              | -      | 1007                                                                              | -                                                                                 | -                                                                                 |                                                                                   |
| HCM Lane V/C Ratio        | 0.032                                                                             | -      | 0.064                                                                             | -                                                                                 | -                                                                                 |                                                                                   |
| HCM Control Delay (s/veh) | 7.4                                                                               | -      | 8.8                                                                               | -                                                                                 | -                                                                                 |                                                                                   |
| HCM Lane LOS              | A                                                                                 | -      | A                                                                                 | -                                                                                 | -                                                                                 |                                                                                   |
| HCM 95th %tile Q(veh)     | 0.1                                                                               | -      | 0.2                                                                               | -                                                                                 | -                                                                                 |                                                                                   |