

**MEMO****DATE** 10/14/2020**PROJECT** West Pryor Village Traffic Impact Study

**TO** Mr. Michael Park, P.E., PTOE  
 City Traffic Engineer  
 City of Lee's Summit – Public Works  
 220 SE Green Street  
 Lee's Summit, MO 64063

**FROM** Lisa VanDenBerg, P.E.

**SUBJECT** New West Pryor Village Site Plan Effects from Previous 2018 Traffic Impact Study

MEC completed an updated analysis comparing the trips generated by the previous site plan update completed September 2018 with the new 2020 proposed site plan. Both site plans are attached to this memo for reference. The larger changes between the site plans are the conversion of the single-family homes to townhouses, the reconfiguration of the apartment from one to two buildings (although about same number of units), the addition of more restaurants and small pockets of retail space and the change in some restaurants from sit-down to fast food.

The trips for the study site were generated using information from the data compiled by the Institute of Transportation Engineers (ITE) in their report Trip Generation Manual, 10<sup>th</sup> Edition, which contains updated trip generation data and equations. A full breakdown of trips generated for both site plans are attached as part of the Appendix of this memo. Below, in Table 1, shows the total trips generated by each site plan as well as the difference of trips generated by each site plan. As can be seen, the number of trips generated between the two site plans is fewer daily trips but more trips occurring during the peak hour. This is primarily because of the restaurant uses that are typically visited during the peak hours and not frequented as much throughout the day. There is a 5.5% overall decrease in daily trips generated, an increase of 25% of trips during the morning peak hour, and an increase of 19% during the evening peak hour.

*Table 1 - Trips Generated by Site Plan and Comparison*

|                                                       | Daily  | AM Total | PM Total | AM<br>Enter | AM<br>Exit | PM<br>Enter | PM<br>Exit |
|-------------------------------------------------------|--------|----------|----------|-------------|------------|-------------|------------|
| <b>2018 Site Plan</b>                                 | 21,084 | 1,307    | 1,781    | 678         | 629        | 988         | 793        |
| <b>2020 New Site Plan</b>                             | 19,939 | 1,632    | 2,107    | 884         | 749        | 1,190       | 939        |
| <b>Difference between<br/>2018 and 2020 Site Plan</b> | -1,145 | 325      | 326      | 206         | 120        | 202         | 146        |

While these peak hour trips are distributed between many access drives, an analysis of the impact of these additional trips was completed to ensure that acceptable levels of operation are still attained. Table 2 below shows the existing levels of service (LOS) prior to any improvements, as well as the LOS for the complete development (final design) for both the September 2018 site plan update as well as the LOS for the new 2020 site plan.

The updated traffic volumes based on the different scenarios were input into the proposed Synchro files. The signal timings were not adjusted for a direct comparison as to how the traffic volumes impact operations. As expected, the LOS does not change much between the 2018 and 2020 site plans. No signalized intersection has a LOS lower than C, which is still acceptable per the City of Lee's Summit's "Level of Service Policy." The right-in, right-out would function at LOS C during the PM peak hour instead of LOS B. Black Twig Lane and Chipman Road, an unsignalized intersection, does still have a LOS B during the AM peak hour and LOS E during the PM peak hour. The signalized intersection at Lowenstein Drive would experience an overall LOS C during the PM peak hour but at 28.6 seconds of delay, this is well within the lower range of LOS C.

*Table 2 - 2018 and 2020 Final Development LOS Comparison*

| Intersection                                      | 2018<br>Existing<br>AM<br>LOS | 2018<br>Existing<br>PM<br>LOS | Final Design<br>AM LOS<br>(2018) | Final Design<br>PM LOS<br>(2018) | Final Design<br>AM LOS<br>(New-2020) | Final Design<br>PM LOS<br>(New-2020) |
|---------------------------------------------------|-------------------------------|-------------------------------|----------------------------------|----------------------------------|--------------------------------------|--------------------------------------|
| <b>I-470 South Terminal</b>                       | B                             | B                             | B                                | C                                | B                                    | C                                    |
| <b>Summit Woods</b>                               |                               |                               |                                  |                                  |                                      |                                      |
| <b>Crossing</b>                                   | A                             | B                             | B                                | C                                | B                                    | C                                    |
| <b>Right-In, Right-Out</b>                        | N/A                           | N/A                           | B*                               | B*                               | B*                                   | C*                                   |
| <b>Lowenstein Drive</b>                           | B/C*                          | D/E*                          | B                                | B                                | B                                    | C                                    |
| <b>Chipman Road &amp;<br/>Pryor Road</b>          | C                             | C                             | C                                | C                                | C                                    | C                                    |
| <b>Black Twig Lane &amp;<br/>Lowenstein Drive</b> | A*                            | A*                            | A/B*                             | A/B*                             | B/B*                                 | B/B*                                 |
| <b>Black Twig Lane &amp;<br/>Chipman Road</b>     | B*                            | C*                            | B*                               | E*                               | B*                                   | E*                                   |

When considering the movement LOS, there are more slight changes. Exhibit 3 from the previous report is attached to this memo with the movement LOS for the final development included in red for comparison. This exhibit also shows a change in expected 95%-ile queue lengths where it had previously been reported. While there are slight changes in some, overall, the movement LOS remain the same. As stated in the last memorandum, it is important to note, that the priority is given to the Pryor Road corridor over the intersecting side roads that provide access to the development. Adjustments in signal timings can result in a better movement LOS to the side roads, while a slight decline would be seen for movements on Pryor Road. Overall, the intersection LOS would remain nearly the same if these adjustments were to be made.

Traffic volumes at the intersection of Black Twig Lane and Chipman Road were checked against criteria for consideration of traffic signal installation. The intersection would not meet signal

warrant criteria for any of the three volume-based warrants in the Manual on Uniform Traffic Control Devices (MUTCD).

Volumes for the intersection of Black Twig Lane and Lowenstein Drive were checked against the criteria for potential placement of a multi-way stop condition using guidelines in the MUTCD. The volume-based criteria were unsatisfied. Therefore, the side street stop control condition should be used.

Figures 4 and Figure 5 of the appendix detail the distribution of trips for both the 2018 Site Plan and the 2020 Site Plan at the two Black Twig intersections. Figure 6 shows the difference in the number of trips between these two site plans for both the Black Twig/Lowenstein intersection and the Black Twig/Chipman intersection.

As the LOS are expected to stay at acceptable levels, the previous study's recommendations hold true. As roadway and intersection construction has been completed based on the recommendations, further improvements to the access drives along Pryor Road and along Lowenstein Drive are not suggested at this time.



MIXED USE - TO BE DETERMINED

- 1) SURFACE PARKING IS SHOWN IN PLAN
- 2) APARTMENT PARKING OF 300 PLUS IS PROVIDED BY PARKING DECK UNDER APARTMENTS ( PARKING DECK NOT SHOWN )

**STREETS OF WEST PRYOR - DEVELOPMENT PLAN**  
**SK-77\_9/25/20**

PARCEL 1: RESTAURANT ( PARCEL 67,758 SQFT = 1.56 ACRES)  
- 5,549 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SURFACE PARKING & PATIO

PARCEL 2: RESTAURANT ( PARCEL 71,216 SQFT = 1.63 ACRES )  
- 3,200 (SOUTH PAD) SQFT FULL SERVICE DINE-IN RESTAURANT WITH SURFACE PARKING & PATIO

PARCEL 3: RESTAURANT ( PARCEL 76,395 SQFT = 1.75 ACRES )  
 - 2,503 SQFT RESTAURANT WITH DRIVE THRU, PATIO AND SURFACE PARKING  
 - 2,403 SQFT TENANT WITH SURFACE PARKING  
 - 2,003 SQFT TENANT WITH PATIO AND SURFACE PARKING

PARCEL 4: DRIVE THRU RESTAURANT ( PARCEL 33,424 SQFT = .77 ACRES )  
- 706 SQFT DRIVE UP RESTAURANT WITH SURFACE PARKING

PARCEL 5: MEDICAL ( PARCEL 32,821 SQFT = .75 ACRES )  
- 6,500 SQFT MEDICAL WITH SURFACE PARKING

PARCEL 6: GROCERY STORE ( PARCEL 311,668 SQFT = 7.15 ACRES )  
- 63,119 SQFT GROCERY STORE WITH SURFACE PARKING

**PARCEL 7: SENIOR LUXURY APARTMENT COMPLEX ( PARCEL 666,437 SQFT = 10.01 ACRES )**  
**- 165 UNIT AGE RESTRICTED APARTMENTS WITH SURFACE PARKING & COURTYARD**

**PARCEL 8: APARTMENTS WITH CLUBHOUSE & RETAIL/RESTAURANT ( PARCEL 268,862 SQFT = 6.17 ACRES )**  
- MULTI STORY APARTMENTS WITH UNDERGROUND PARKING DECK (PARKING DECK NOT SHOWN), CLUBHOUSE AND POOL  
- 250 UNITS  
- 15,000 SQFT RETAIL/ RESTAURANT & SURFACE PARKING

**PARCEL 9A: MULTI-TENANT BUILDING ( PARCEL 71,401 SQFT = 1.64 ACRES )**  
**- 4,000 SQFT RESTAURANT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING**  
**- 4,000 SQFT RETAIL COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING**

PARCEL 9B: RESTAURANT ( PARCEL 48,528 SQFT = 1.11 ACRES )  
- 4,000 SQFT BUILDING WITH SITE FEATURES & SURFACE PARKING

PARCEL 10: MULTI-TENANT BUILDING ( PARCEL145,724 SQFT = 3.35 ACRES )  
 - 6,500 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING  
 - 1,600 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING  
 - 4,600 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING

**PARCEL 11: FREE STANDING RESTAURANT ( PARCEL 111,008 SQFT = 2.55 ACRES )**  
**- 7,500 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SITE FEATURES & SURFACE PARKING**

PARCEL 12: FREE STANDING RESTAURANT ( PARCEL 108,275 SQFT = 2.49 ACRES )  
- 7,500 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SITE FEATURES & SURFACE PARKING

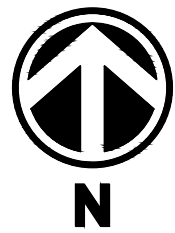
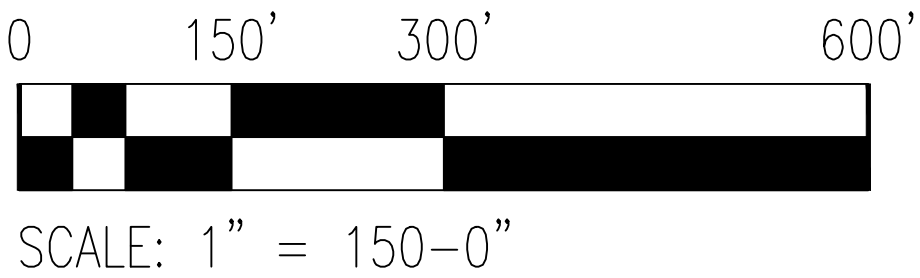
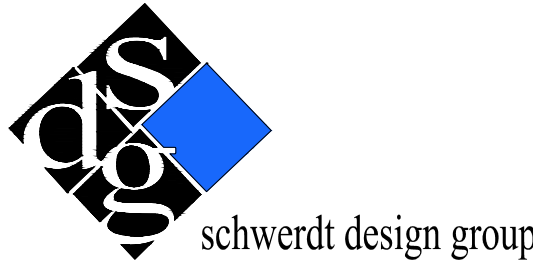
PARCEL 13: RESTAURANT ( PARCEL 81,134 SQFT = 1.86 ACRES )  
- 7,000 SQFT RESTAURANT WITH SURFACE PARKING

PARCEL 14: RESTAURANT ( PARCEL 106,702 SQFT = 2.44 ACRES )  
- RESTAURANT WITH BALL COURTS AND SURFACE PARKING

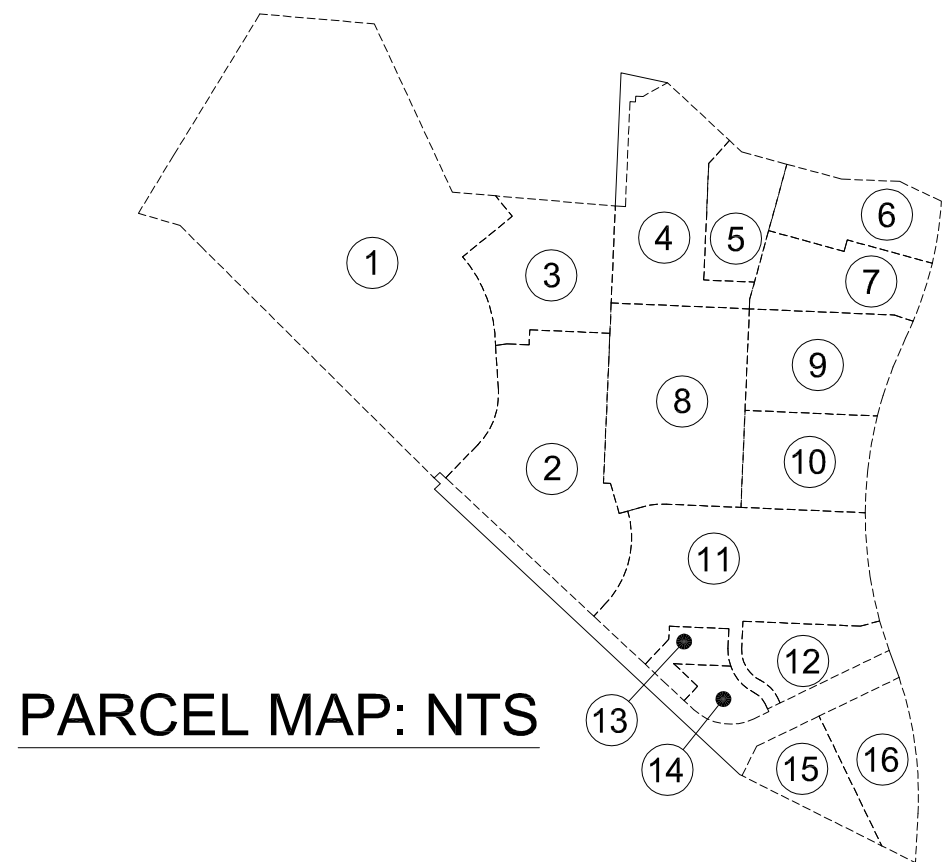
PARCEL 14A: RESTAURANT BALL COURTS ( PARCEL 102,110 SQFT = 2.35 ACRES )  
- BALL COURTS FOR PARCEL 14 RESTAURANT WITH SURFACE PARKING

PARCEL 15: POND/ WATER FEATURE ( PARCEL 44,366 SQFT = 1.02 ACRES )  
- WATER FEATURE

PARCEL 16: SINGLE FAMILY RESIDENTIAL ( PARCEL 1,051,916 SQFT = 24.1 ACRES )  
- SINGLE FAMILY LOTS SURROUNDING WATER FEATURE



## 2020 Proposed Site Plan



PARCEL MAP: NTS

PLAN NOTES:

**STREETS OF WEST PRYOR - DEVELOPMENT PLAN  
SK-31\_9/13/18**

**PARCEL 1:** SINGLE FAMILY RESIDENTIAL ( PARCEL 1,051,916 SQFT = 24.1 ACRES )  
- SINGLE FAMILY LOTS SURROUNDING WATER FEATURE

**PARCEL 2:** SENIOR LUXURY APARTMENT COMPLEX ( PARCEL 297,278 SQFT = 6.8 ACRES )  
- 165 UNIT AGE RESTRICTED APARTMENTS WITH SURFACE PARKING & COURTYARD

**PARCEL 3:** BALL COURTS ( PARCEL 164,385 SQFT = 3.8 ACRES )  
- SITE IMPROVEMENTS LIMITED TO COURTS/ PARKING & SERVICE STRUCTURE

**PARCEL 4:** HOTEL ( PARCEL 190,712 SQFT = 4.37 ACRES )  
- HOTEL WITH AMENITIES AND POOL & SURFACE PARKING

**PARCEL 5:** FREE STANDING RESTAURANT ( PARCEL 81,134 SQFT = 1.86 ACRES )  
- 7,500 SQFT RESTAURANT WITH SURFACE PARKING

**PARCEL 6:** FREE STANDING RESTAURANT ( PARCEL 108,277 SQFT = 2.48 ACRES )  
- 7,500 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SITE FEATURES & SURFACE PARKING

**PARCEL 7:** FREE STANDING RESTAURANT ( PARCEL 111,006 SQFT = 2.54 ACRES )  
- 7,500 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SITE FEATURES & SURFACE PARKING

**PARCEL 8:** APARTMENTS WITH CLUBHOUSE & RETAIL/RESTAURANT ( PARCEL 302,051 SQFT = 6.9 ACRES )  
- MULTI STORY APARTMENTS WITH UNDERGROUND PARKING DECK (PARKING DECK NOT SHOWN), CLUBHOUSE AND POOL  
- 250 UNITS  
- 15,000 SQFT RETAIL/ RESTAURANT & SURFACE PARKING

**PARCEL 9:** MULTI-TENANT BUILDING ( PARCEL 145,738 SQFT = 3.34 ACRES )  
- 6,500 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING  
- 3,000 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING

**PARCEL 10:** MULTI-TENANT BUILDING ( PARCEL 119,926 SQFT = 2.8 ACRES )  
- 3,500 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING  
- 4,000 SQFT COMMON WALL BUILDING WITH SITE FEATURES & SURFACE PARKING

**PARCEL 11:** GROCERY STORE ( PARCEL 311,566 SQFT = 7.1 ACRES )  
- 63,119 SQFT GROCERY STORE WITH SURFACE PARKING

**PARCEL 12:** RESTAURANT ( PARCEL 76,395 SQFT = 1.8 ACRES )  
5,500 SQFT RESTAURANT WITH DRIVE THRU AND SURFACE PARKING

**PARCEL 13:** MEDICAL ( PARCEL 32,914 SQFT = .75 ACRES )  
- 6,500 SQFT MEDICAL WITH SURFACE PARKING

**PARCEL 14:** DRIVE THRU RESTAURANT ( PARCEL 33,421 SQFT = .76 ACRES )  
- 706 SQFT DRIVE UP RESTAURANT WITH SURFACE PARKING

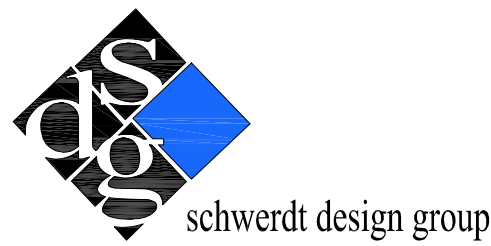
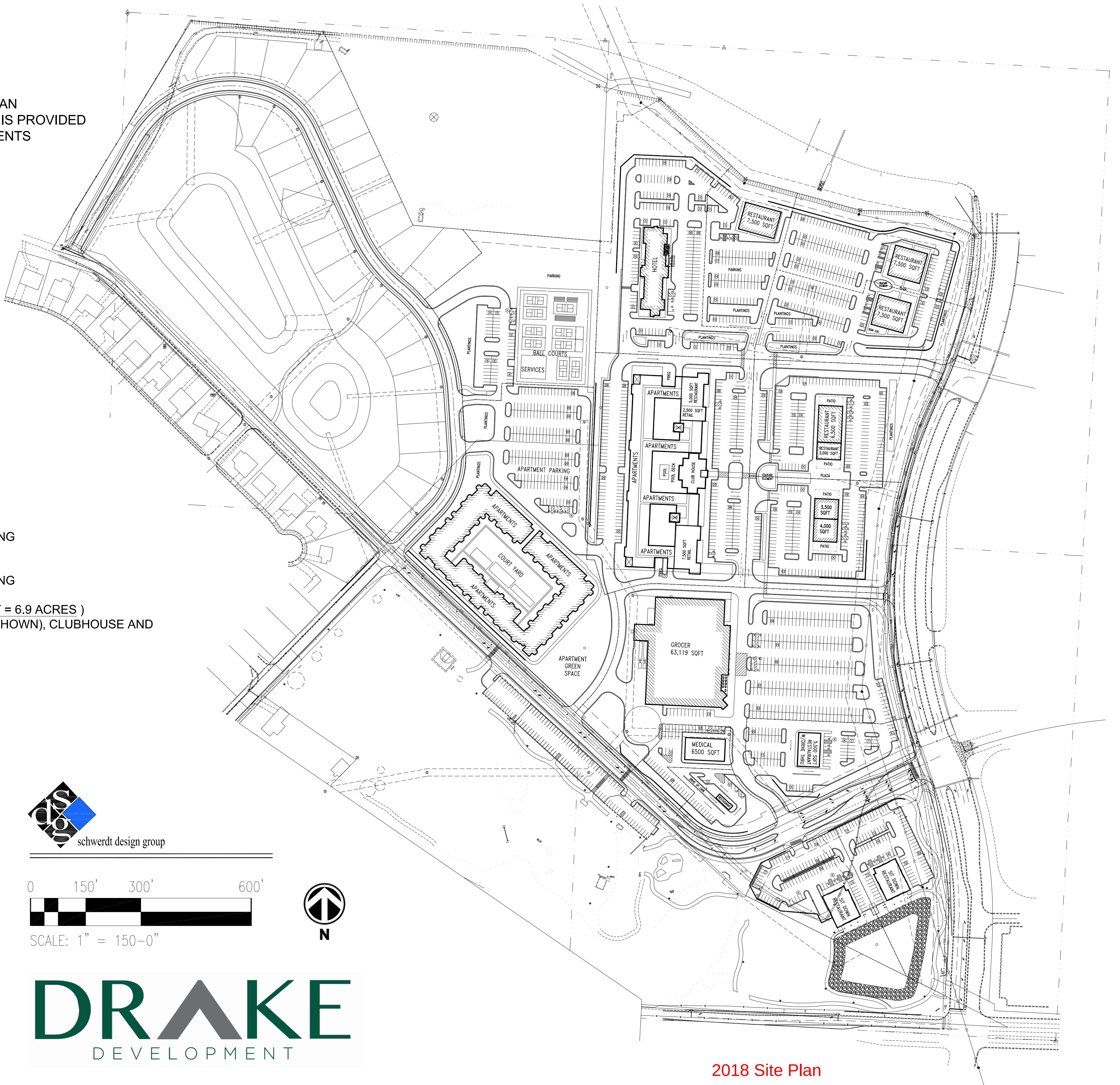
**PARCEL 15:** RESTAURANT ( PARCEL 73,910 SQFT = 1.7 ACRES )  
- 6,500 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SURFACE PARKING

**PARCEL 16:** RESTAURANT ( PARCEL 103,695 SQFT = 2.4 ACRES )  
- 6,500 SQFT FULL SERVICE DINE-IN RESTAURANT WITH SURFACE PARKING

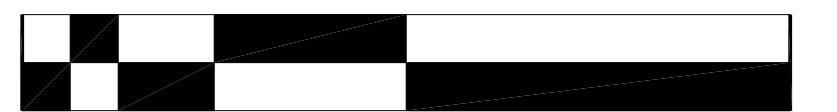
SETBACK & HEIGHT RESTRICTIONS:  
MIXED USE - TO BE DETERMINED

PARKING NOTES:

- 1) SURFACE PARKING IS SHOWN IN PLAN
- 2) APARTMENT PARKING OF 300 PLUS IS PROVIDED BY PARKING DECK UNDER APARTMENTS ( PARKING DECK NOT SHOWN )



0 150' 300' 600'



SCALE: 1" = 150'-0"



**DRAKE**  
DEVELOPMENT

**Trip Generation - 10th Edition - October 2020**

| Parcel<br>(#)          | Building Use<br>(text)         | Phase 1 or<br>2 | Dwelling<br>Units<br>(#) | Building Size<br>Sq Ft<br>(sq ft) | ITE Land<br>Use Code<br>(#) | Comments<br>(text)                                   | Trip Ends        |                     |                     |                     |                    |                     |                    |
|------------------------|--------------------------------|-----------------|--------------------------|-----------------------------------|-----------------------------|------------------------------------------------------|------------------|---------------------|---------------------|---------------------|--------------------|---------------------|--------------------|
|                        |                                |                 |                          |                                   |                             |                                                      | Daily<br>(trips) | AM Total<br>(trips) | PM Total<br>(trips) | AM Enter<br>(trips) | AM Exit<br>(trips) | PM Enter<br>(trips) | PM Exit<br>(trips) |
| 1                      | Sit down Restaurant            | 1               |                          | 6,500                             | 932                         | High Turnover (Sit-Down) Restaurant                  | 729              |                     | 64                  |                     |                    | 39                  | 24                 |
| 2                      | Fast food restaurant           | 1               |                          | 3,200                             | 934                         | Fast-Food Restaurant with Drive-Through Window       | 1,507            | 129                 | 105                 | 66                  | 63                 | 54                  | 50                 |
| 3                      | Fast food restaurant           | 1               |                          | 4,650                             | 934                         | Fast-Food Restaurant with Drive-Through Window       | 2,190            | 187                 | 152                 | 95                  | 92                 | 79                  | 73                 |
| 3                      | Retail                         | 1               |                          | 2,260                             | 820                         | Shopping Center                                      | 457              | 153                 | 33                  | 95                  | 58                 | 16                  | 17                 |
| 4                      | Drive Through Only Restaurant  | 1               |                          | 710                               | 935                         | Fast-Food Restaurant Drive-Through No Indoor Seating | 326              | 24                  | 30                  | 12                  | 12                 | 15                  | 15                 |
| 5                      | Medical                        | 1               |                          | 6,500                             | 630                         | Clinic                                               | 248              | 24                  | 21                  | 19                  | 5                  | 6                   | 15                 |
| 6                      | Grocery                        | 1               |                          | 63,500                            | 850                         | Peak Hour of Adjacent Street Used                    | 5,714            | 243                 | 557                 | 146                 | 97                 | 284                 | 273                |
| 7 (Plat 2 Replat Lot2) | Apartments                     | 4               | 184                      |                                   | 221                         | Multifamily Housing (Mid-Rise)                       | 1001             | 62                  | 80                  | 16                  | 46                 | 49                  | 31                 |
| 8                      | Apartments & Clubhouse         | 3               | 237                      |                                   | 220                         | Peak Hour of Adjacent Street Used                    | 1751             | 108                 | 127                 | 25                  | 83                 | 80                  | 47                 |
| 8                      | Retail                         | 3               |                          | 6,000                             | 820                         | Shopping Center                                      | 887              | 155                 | 68                  | 96                  | 59                 | 33                  | 35                 |
| 8                      | Dine-in Restaurant             | 3               |                          | 11,000                            | 932                         | High Turnover (Sit-Down) Restaurant                  | 1,234            | 109                 | 107                 | 60                  | 49                 | 67                  | 41                 |
| 8                      | Office                         | 3               |                          | 2,000                             | 715                         | Single Tenant Office Building                        | 23               | 4                   | 3                   | 3                   | 1                  | 0                   | 3                  |
| 8                      | Fitness                        | 3               |                          | 3,500                             | 492                         | Health/Fitness Club                                  |                  | 5                   | 12                  | 3                   | 2                  | 7                   | 5                  |
| 9                      | Sit down Restaurant            | 3               |                          | 8,000                             | 932                         | High Turnover (Sit-Down) Restaurant                  | 897              |                     | 78                  |                     |                    | 48                  | 30                 |
| 9                      | Retail                         | 3               |                          | 4,000                             | 820                         | Shopping Center                                      | 674              | 154                 | 50                  | 95                  | 58                 | 24                  | 26                 |
| 10                     | Sit down Restaurant            | 3               |                          | 11,250                            | 932                         | High Turnover (Sit-Down) Restaurant                  | 1,262            |                     | 110                 |                     |                    | 68                  | 42                 |
| 10                     | Retail                         | 3               |                          | 1,600                             | 820                         | Shopping Center                                      | 361              | 153                 | 25                  | 95                  | 58                 | 12                  | 13                 |
| 11                     | Sit down Restaurant            | 2               |                          | 8,500                             | 932                         | High Turnover (Sit-Down) Restaurant                  | 954              |                     | 83                  |                     |                    | 51                  | 32                 |
| 12                     | Sit down Restaurant            | 2               |                          | 8,500                             | 932                         | High Turnover (Sit-Down) Restaurant                  | 954              |                     | 83                  |                     |                    | 51                  | 32                 |
| 13                     | Sit down Restaurant            | 2               |                          | 7,500                             | 932                         | High Turnover (Sit-Down) Restaurant                  | 841              |                     | 73                  |                     |                    | 45                  | 28                 |
| 14                     | Sit down Restaurant w/ courts* | 2               |                          | 11,500                            | 932                         | High Turnover (Sit-Down) Restaurant                  | 1,290            |                     | 112                 |                     |                    | 84                  | 51                 |
| Plat 2 Lot 3           | Hotel                          | Tract C         | 88                       |                                   | 310                         | Hotel                                                | 1262             | 84                  | 82                  | 50                  | 34                 | 44                  | 38                 |
| Plat 2 Lot 1           | Townhomes                      | 5               | 83                       |                                   | 220                         | Multifamily Housing (Low-Rise)                       | 587              | 40                  | 50                  | 9                   | 31                 | 32                  | 19                 |
|                        |                                |                 |                          |                                   |                             |                                                      |                  |                     |                     |                     |                    |                     |                    |
|                        |                                |                 |                          |                                   |                             |                                                      |                  |                     |                     |                     |                    |                     |                    |
|                        |                                |                 |                          |                                   |                             |                                                      |                  |                     |                     |                     |                    |                     |                    |
|                        | Total                          |                 | 0                        |                                   |                             |                                                      | 19,939           | 1,632               | 2,107               | 884                 | 749                | 1,190               | 939                |

\* This restaurant includes athletic/activity courts. An extra 20% trips was added to the generated trips to account for busier than normal activity.

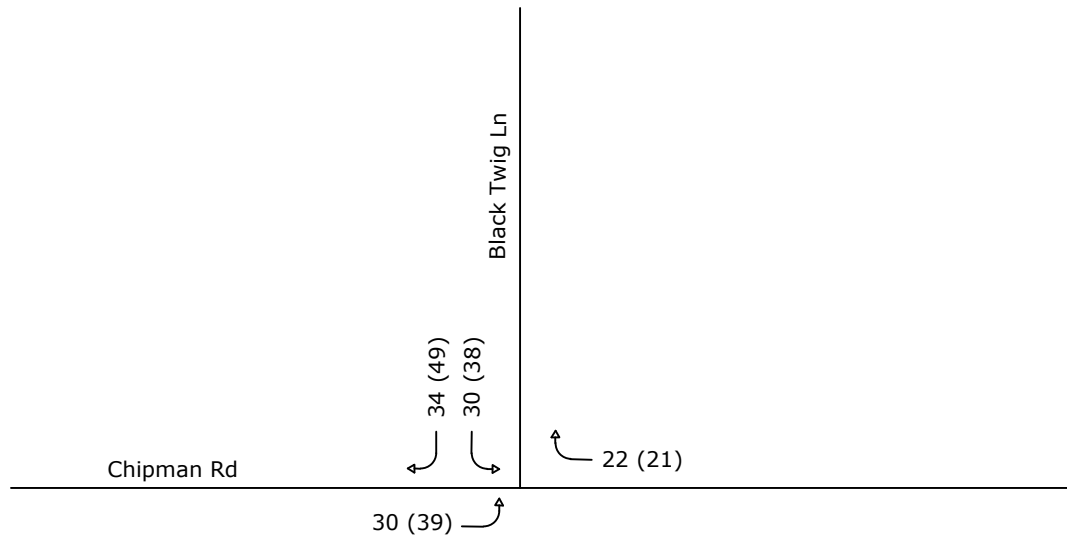
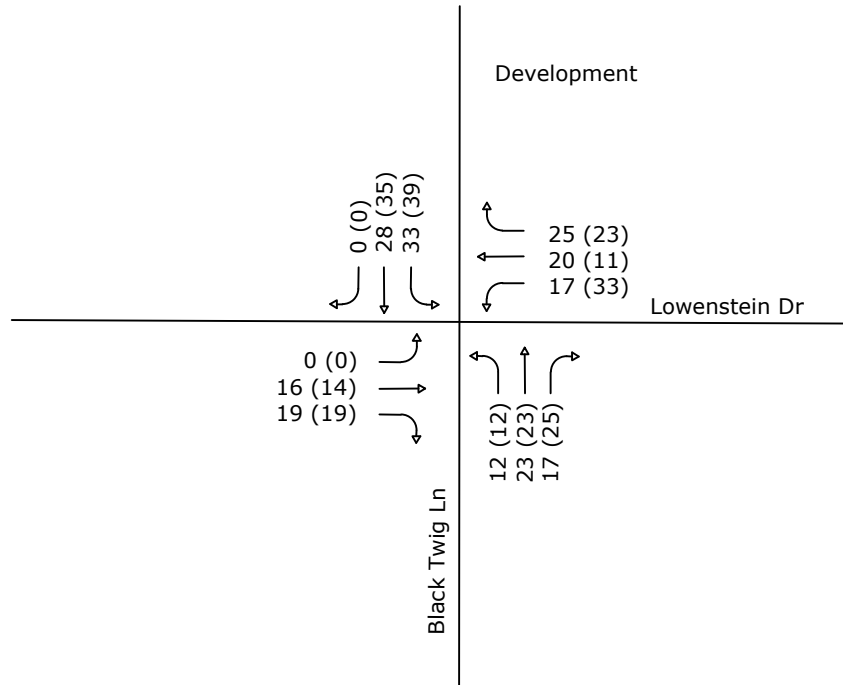
|                                                      | Daily  | AM Total | PM Total | AM Enter | AM Exit | PM Enter | PM Exit |
|------------------------------------------------------|--------|----------|----------|----------|---------|----------|---------|
| Original Study Site                                  | 19,334 | 1,339    | 1,741    | 655      | 684     | 968      | 773     |
| 2018 Updated Site Plan                               | 21,084 | 1,307    | 1,781    | 678      | 629     | 988      | 793     |
| 2020 Updated Site Plan                               | 19,939 | 1,632    | 2,107    | 884      | 749     | 1,190    | 939     |
| Difference between 2018 Update and 2020 Updated Site | -1,145 | 325      | 326      | 206      | 120     | 202      | 146     |

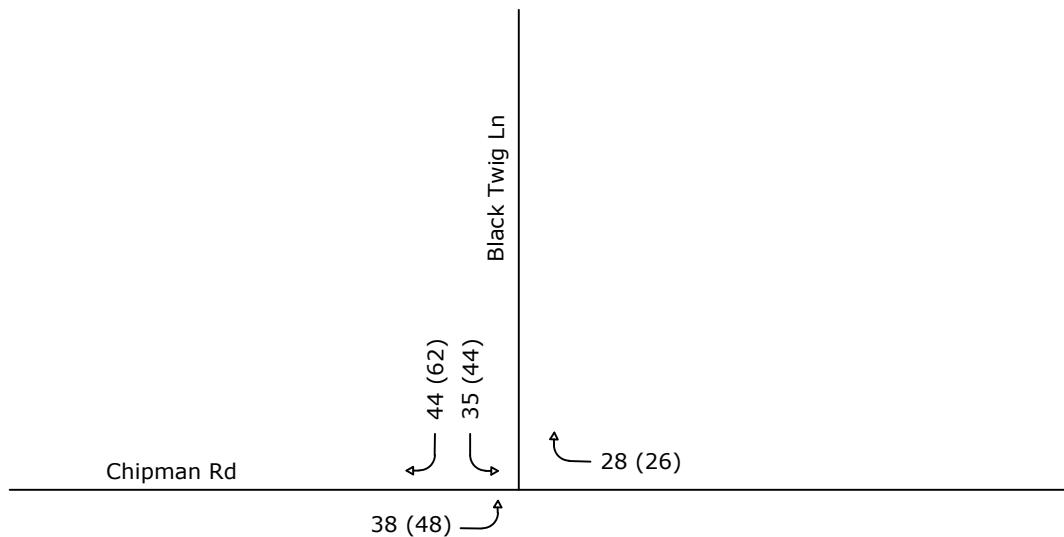
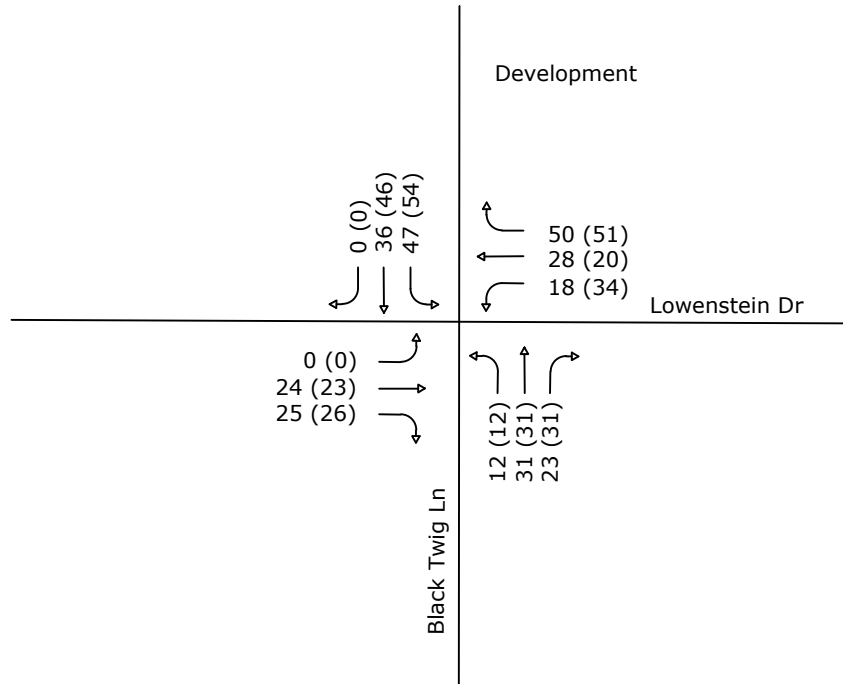
**Trip Generation - 10th Edition - October 2018 Site Plan**

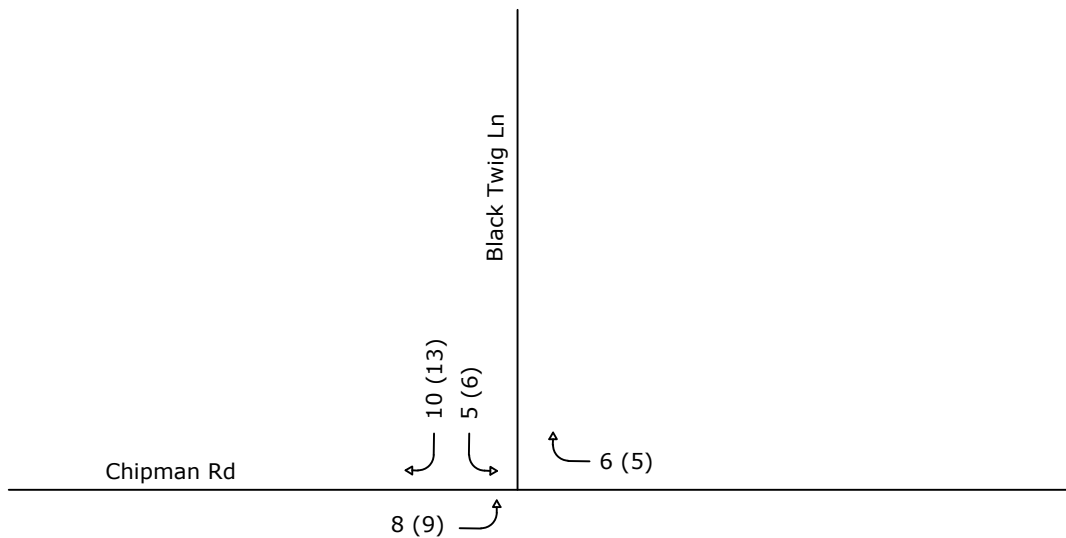
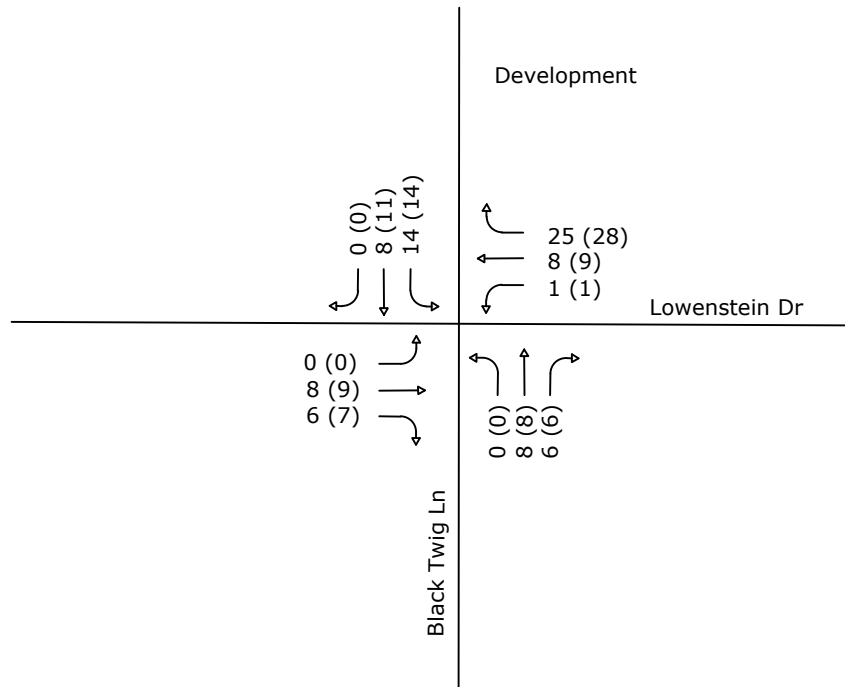
|        |                          |              |                |          |                     |                   |                 |                                              | Trip Ends |          |          |          |         |          |         |
|--------|--------------------------|--------------|----------------|----------|---------------------|-------------------|-----------------|----------------------------------------------|-----------|----------|----------|----------|---------|----------|---------|
| Parcel | Building Use             | Phase 1 or 2 | Dwelling Units |          | Building Size Sq Ft | ITE Land Use Code | ITE Page Number | Comments                                     | Daily     | AM Total | PM Total | Am Enter | Am Exit | PM Enter | PM Exit |
| (#)    | (text)                   |              | (#)            |          | (sq ft)             | (#)               | (#)             | (text)                                       | (trips)   | (trips)  | (trips)  | (trips)  | (trips) | (trips)  | (trips) |
| 1      | Single Family Homes      | 5            | 29             | 29       |                     | 210               | 296             | Single Family Detached Housing               | 333       | 25       | 31       | 6        | 19      | 20       | 11      |
| 2      | Senior Luxury Apartments | 4            | 182            | 165.0    |                     | 221               | 332             | Peak Hour of Adjacent Street Used            | 987       | 61       | 79       | 15       | 47      | 48       | 31      |
| 3      | Ball Courts              | 4            | 9              | 9.0      |                     |                   |                 |                                              | 273       | 15       | 38       | 8        | 8       | 19       | 19      |
| 4      | Hotel                    | 2            | 130            |          |                     | 310               | 613             | Hotel                                        | 1041      | 60       | 71       | 35       | 24      | 36       | 35      |
| 5      | Restaurant               | 2            |                |          | 7,500.0             | 932               | 1885            | High Turnover (sit-down) restaurant          | 841       | 75       | 73       | 41       | 34      | 45       | 28      |
| 6      | Restaurant               | 2            |                |          | 7,500.0             | 932               | 1885            | High Turnover (sit-down) restaurant          | 841       |          | 73       |          |         | 45       | 28      |
| 7      | Dine-in Restaurant       | 3            |                |          | 7500                | 932               | 1865            | High Turnover (Sit-Down) Restaurant          | 841       |          | 73       |          |         | 45       | 28      |
| 9      | Dine-in Restaurant       | 3            |                | 9,500.0  | 9500                | 932               | 1865            | High Turnover (Sit-Down) Restaurant          | 1,066     | 94       | 93       | 52       | 42      | 58       | 35      |
| 8      | Retail                   | 3            |                | 10,000.0 | 10000               | 820               | 1561            | Shopping Center                              | 1,256     | 157      | 99       | 97       | 60      | 47       | 51      |
| 8      | Dine-in Restaurant       | 3            |                | 5,000.0  | 5000                | 932               | 1865            | High Turnover (Sit-Down) Restaurant          | 561       | 50       | 49       | 27       | 22      | 30       | 19      |
| 8      | Apartments & Clubhouse   | 3            | 275            | 250.0    |                     | 220               | 332             | Peak Hour of Adjacent Street Used            | 2038      | 125      | 145      | 29       | 96      | 92       | 54      |
| 11     | Grocery                  | 1            |                | 63,119.0 | 63119               | 850               | 1645            | Peak Hour of Adjacent Street Used            | 5,687     | 241      | 555      | 145      | 96      | 283      | 272     |
| 13     | Medical/Retail           | 1            |                | 6,500.0  | 6500                | 820               | 1561            | Shopping Center                              | 937       | 155      | 72       | 96       | 59      | 35       | 37      |
| 12     | Fast food restaurant     | 1            |                |          | 5500                | 934               | 1912            | Fast-Food Restaurant with Drive-Through Wind | 2,590     | 221      | 180      | 113      | 108     | 93       | 86      |
| 15     | Sit down Restaurant      | 1            |                | 6,500.0  | 6500                | 932               | 1865            | High Turnover (Sit-Down) Restaurant          | 729       |          | 64       |          |         | 39       | 24      |
| 16     | Sit down Restaurant      | 1            |                | 6500     | 6500                | 932               | 1865            | High Turnover (Sit-Down) Restaurant          | 729       |          | 64       |          |         | 39       | 24      |
| 14     | Fast food restaurant     | 1            |                | 706      | 706                 | 934               | 1912            | Fast-Food Restaurant with Drive-Through Wind | 332       | 28       | 23       | 14       | 14      | 12       | 11      |
|        |                          |              |                |          |                     |                   |                 |                                              |           |          |          |          |         |          |         |
|        |                          |              |                |          |                     |                   |                 |                                              |           |          |          |          |         |          |         |
|        |                          |              |                |          |                     |                   |                 |                                              |           |          |          |          |         |          |         |
|        | Total                    |              |                |          |                     |                   |                 |                                              | 21,084    | 1,307    | 1,781    | 678      | 629     | 988      | 793     |
|        |                          |              |                |          |                     |                   |                 |                                              |           |          |          |          |         |          |         |

|                    |        |       |       |     |     |     |     |
|--------------------|--------|-------|-------|-----|-----|-----|-----|
| Phase 1            | 11,005 | 646   | 957   | 368 | 278 | 502 | 455 |
| Phase 2            | 2,723  | 134   | 218   | 76  | 58  | 127 | 91  |
| Phase 3            | 5,762  | 426   | 459   | 205 | 220 | 272 | 187 |
| Phase 4            | 1,260  | 76    | 116   | 22  | 54  | 67  | 50  |
| Phase 5            | 333    | 25    | 31    | 6   | 19  | 20  | 11  |
| Total              | 21,084 | 1,307 | 1,781 | 678 | 629 | 988 | 793 |
| Phase 4+5 Combined | 1,593  | 102   | 147   | 29  | 73  | 86  | 61  |









Phasings  
6: W Pryor Rd & I-470 Ramp

2020 Site Plan Update  
AM Peak

| Lane Group            | EBL   | EBT  | EBR  | WBL | WBT | WBR | NBL | NBT   | NBR   | SBL  | SBT   | SBR |
|-----------------------|-------|------|------|-----|-----|-----|-----|-------|-------|------|-------|-----|
| Lane Configurations   |       |      |      |     |     |     |     |       |       |      |       |     |
| Traffic Volume (vph)  | 14    | 212  | 408  | 0   | 0   | 0   | 0   | 602   | 513   | 0    | 481   | 0   |
| Future Volume (vph)   | 14    | 212  | 408  | 0   | 0   | 0   | 0   | 602   | 513   | 0    | 481   | 0   |
| Satd. Flow (prot)     | 1770  | 3539 | 2787 | 0   | 0   | 0   | 0   | 6408  | 1583  | 1863 | 3539  | 0   |
| Flt Permitted         | 0.950 |      |      |     |     |     |     |       |       |      |       |     |
| Satd. Flow (perm)     | 1770  | 3539 | 2787 | 0   | 0   | 0   | 0   | 6408  | 1583  | 1863 | 3539  | 0   |
| Satd. Flow (RTOR)     |       |      | 439  |     |     |     |     |       | 510   |      |       |     |
| Lane Group Flow (vph) | 15    | 228  | 439  | 0   | 0   | 0   | 0   | 647   | 552   | 0    | 517   | 0   |
| Turn Type             | Prot  | NA   | Perm |     |     |     |     | NA    | Perm  | Prot | NA    |     |
| Protected Phases      | 7     | 4    |      |     |     |     |     | 2     |       | 1    | 6     |     |
| Permitted Phases      |       |      | 4    |     |     |     |     |       | 2     |      |       |     |
| Total Split (s)       | 48.0  | 48.0 | 48.0 |     |     |     |     | 75.5  | 75.5  | 11.5 | 87.0  |     |
| Total Lost Time (s)   | 5.6   | 5.6  | 5.6  |     |     |     |     | 5.5   | 5.5   | 5.5  | 5.5   |     |
| Act Effct Green (s)   | 11.5  | 15.8 | 15.8 |     |     |     |     | 108.1 | 108.1 |      | 108.1 |     |
| Actuated g/C Ratio    | 0.09  | 0.12 | 0.12 |     |     |     |     | 0.80  | 0.80  |      | 0.80  |     |
| v/c Ratio             | 0.10  | 0.55 | 0.62 |     |     |     |     | 0.13  | 0.40  |      | 0.18  |     |
| Control Delay         | 54.0  | 60.8 | 8.5  |     |     |     |     | 0.6   | 0.8   |      | 3.6   |     |
| Queue Delay           | 0.0   | 0.0  | 0.0  |     |     |     |     | 0.0   | 0.2   |      | 0.0   |     |
| Total Delay           | 54.0  | 60.8 | 8.5  |     |     |     |     | 0.6   | 1.0   |      | 3.6   |     |
| LOS                   | D     | E    | A    |     |     |     |     | A     | A     |      | A     |     |
| Approach Delay        |       | 27.0 |      |     |     |     |     | 0.8   |       |      | 3.6   |     |
| Approach LOS          |       | C    |      |     |     |     |     | A     |       |      | A     |     |

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 29 (21%), Referenced to phase 2:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 8.8

Intersection LOS: A

Intersection Capacity Utilization 46.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: W Pryor Rd & I-470 Ramp



# Phasings

## 9: W Pryor Rd & Summit Crossing

2020 Site Plan Update

AM Peak

|                       |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)  | 215                                                                               | 34                                                                                | 37                                                                                | 2                                                                                 | 45                                                                                | 50                                                                                | 88                                                                                  | 904                                                                                 | 12                                                                                  | 84                                                                                  | 654                                                                                 | 148                                                                                 |
| Future Volume (vph)   | 215                                                                               | 34                                                                                | 37                                                                                | 2                                                                                 | 45                                                                                | 50                                                                                | 88                                                                                  | 904                                                                                 | 12                                                                                  | 84                                                                                  | 654                                                                                 | 148                                                                                 |
| Satd. Flow (prot)     | 3433                                                                              | 1717                                                                              | 0                                                                                 | 1770                                                                              | 1716                                                                              | 0                                                                                 | 1770                                                                                | 3539                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted         | 0.950                                                                             |                                                                                   |                                                                                   | 0.704                                                                             |                                                                                   |                                                                                   | 0.318                                                                               |                                                                                     |                                                                                     | 0.197                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 3433                                                                              | 1717                                                                              | 0                                                                                 | 1311                                                                              | 1716                                                                              | 0                                                                                 | 592                                                                                 | 3539                                                                                | 1583                                                                                | 367                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)     |                                                                                   | 40                                                                                |                                                                                   |                                                                                   | 52                                                                                |                                                                                   |                                                                                     |                                                                                     | 162                                                                                 |                                                                                     |                                                                                     | 164                                                                                 |
| Lane Group Flow (vph) | 244                                                                               | 81                                                                                | 0                                                                                 | 2                                                                                 | 108                                                                               | 0                                                                                 | 100                                                                                 | 1027                                                                                | 14                                                                                  | 95                                                                                  | 743                                                                                 | 168                                                                                 |
| Turn Type             | Prot                                                                              | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Total Split (s)       | 22.0                                                                              | 43.0                                                                              |                                                                                   | 43.0                                                                              | 64.0                                                                              |                                                                                   | 13.0                                                                                | 38.0                                                                                | 38.0                                                                                | 11.0                                                                                | 36.0                                                                                | 36.0                                                                                |
| Total Lost Time (s)   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Act Effct Green (s)   | 14.2                                                                              | 28.1                                                                              |                                                                                   | 16.3                                                                              | 10.3                                                                              |                                                                                   | 87.4                                                                                | 79.1                                                                                | 79.1                                                                                | 89.6                                                                                | 80.3                                                                                | 80.3                                                                                |
| Actuated g/C Ratio    | 0.11                                                                              | 0.21                                                                              |                                                                                   | 0.12                                                                              | 0.08                                                                              |                                                                                   | 0.65                                                                                | 0.59                                                                                | 0.59                                                                                | 0.66                                                                                | 0.59                                                                                | 0.59                                                                                |
| v/c Ratio             | 0.68                                                                              | 0.21                                                                              |                                                                                   | 0.01                                                                              | 0.60                                                                              |                                                                                   | 0.22                                                                                | 0.50                                                                                | 0.01                                                                                | 0.28                                                                                | 0.35                                                                                | 0.17                                                                                |
| Control Delay         | 67.9                                                                              | 25.3                                                                              |                                                                                   | 37.5                                                                              | 46.0                                                                              |                                                                                   | 7.1                                                                                 | 13.7                                                                                | 0.0                                                                                 | 9.5                                                                                 | 14.5                                                                                | 2.1                                                                                 |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay           | 67.9                                                                              | 25.3                                                                              |                                                                                   | 37.5                                                                              | 46.0                                                                              |                                                                                   | 7.1                                                                                 | 13.7                                                                                | 0.0                                                                                 | 9.5                                                                                 | 14.5                                                                                | 2.1                                                                                 |
| LOS                   | E                                                                                 | C                                                                                 |                                                                                   | D                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay        |                                                                                   | 57.3                                                                              |                                                                                   |                                                                                   | 45.8                                                                              |                                                                                   |                                                                                     | 13.0                                                                                |                                                                                     |                                                                                     | 11.9                                                                                |                                                                                     |
| Approach LOS          |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 31 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 19.6

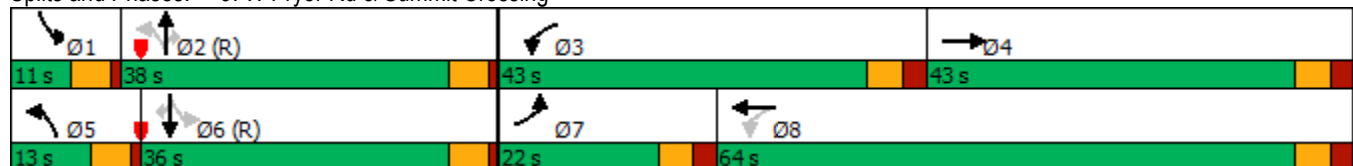
Intersection LOS: B

Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15

### Splits and Phases: 9: W Pryor Rd & Summit Crossing



Phasings  
11: Lowenstein Rd & W Pryor Rd

2020 Site Plan Update  
AM Peak

|                       |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)  | 316                                                                               | 33                                                                                | 81                                                                                | 17                                                                                | 28                                                                                | 12                                                                                | 264                                                                                 | 690                                                                                 | 27                                                                                  | 12                                                                                  | 402                                                                                 | 176                                                                                 |
| Future Volume (vph)   | 316                                                                               | 33                                                                                | 81                                                                                | 17                                                                                | 28                                                                                | 12                                                                                | 264                                                                                 | 690                                                                                 | 27                                                                                  | 12                                                                                  | 402                                                                                 | 176                                                                                 |
| Satd. Flow (prot)     | 3433                                                                              | 1665                                                                              | 0                                                                                 | 1770                                                                              | 1781                                                                              | 0                                                                                 | 1770                                                                                | 3539                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted         | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.419                                                                               |                                                                                     |                                                                                     | 0.361                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 3433                                                                              | 1665                                                                              | 0                                                                                 | 1770                                                                              | 1781                                                                              | 0                                                                                 | 780                                                                                 | 3539                                                                                | 1583                                                                                | 672                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)     |                                                                                   | 90                                                                                |                                                                                   |                                                                                   | 13                                                                                |                                                                                   |                                                                                     |                                                                                     | 170                                                                                 |                                                                                     |                                                                                     | 222                                                                                 |
| Lane Group Flow (vph) | 351                                                                               | 127                                                                               | 0                                                                                 | 19                                                                                | 44                                                                                | 0                                                                                 | 293                                                                                 | 767                                                                                 | 30                                                                                  | 13                                                                                  | 447                                                                                 | 196                                                                                 |
| Turn Type             | Prot                                                                              | NA                                                                                |                                                                                   | Prot                                                                              | NA                                                                                |                                                                                   | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Total Split (s)       | 29.0                                                                              | 51.5                                                                              |                                                                                   | 14.0                                                                              | 36.5                                                                              |                                                                                   | 26.0                                                                                | 55.5                                                                                | 55.5                                                                                | 14.0                                                                                | 43.5                                                                                | 43.5                                                                                |
| Total Lost Time (s)   | 6.0                                                                               | 5.5                                                                               |                                                                                   | 6.0                                                                               | 5.5                                                                               |                                                                                   | 6.5                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 6.5                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Act Effct Green (s)   | 18.8                                                                              | 25.1                                                                              |                                                                                   | 6.9                                                                               | 8.1                                                                               |                                                                                   | 92.4                                                                                | 88.7                                                                                | 88.7                                                                                | 77.5                                                                                | 72.8                                                                                | 72.8                                                                                |
| Actuated g/C Ratio    | 0.14                                                                              | 0.19                                                                              |                                                                                   | 0.05                                                                              | 0.06                                                                              |                                                                                   | 0.68                                                                                | 0.66                                                                                | 0.66                                                                                | 0.57                                                                                | 0.54                                                                                | 0.54                                                                                |
| v/c Ratio             | 0.73                                                                              | 0.33                                                                              |                                                                                   | 0.21                                                                              | 0.37                                                                              |                                                                                   | 0.46                                                                                | 0.33                                                                                | 0.03                                                                                | 0.03                                                                                | 0.23                                                                                | 0.21                                                                                |
| Control Delay         | 64.9                                                                              | 18.6                                                                              |                                                                                   | 66.5                                                                              | 54.6                                                                              |                                                                                   | 5.4                                                                                 | 6.1                                                                                 | 0.0                                                                                 | 8.0                                                                                 | 11.2                                                                                | 4.2                                                                                 |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay           | 64.9                                                                              | 18.6                                                                              |                                                                                   | 66.5                                                                              | 54.6                                                                              |                                                                                   | 5.4                                                                                 | 6.1                                                                                 | 0.0                                                                                 | 8.0                                                                                 | 11.2                                                                                | 4.2                                                                                 |
| LOS                   | E                                                                                 | B                                                                                 |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay        |                                                                                   | 52.6                                                                              |                                                                                   |                                                                                   | 58.2                                                                              |                                                                                   |                                                                                     | 5.8                                                                                 |                                                                                     |                                                                                     | 9.1                                                                                 |                                                                                     |
| Approach LOS          |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 52 (39%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 17.9

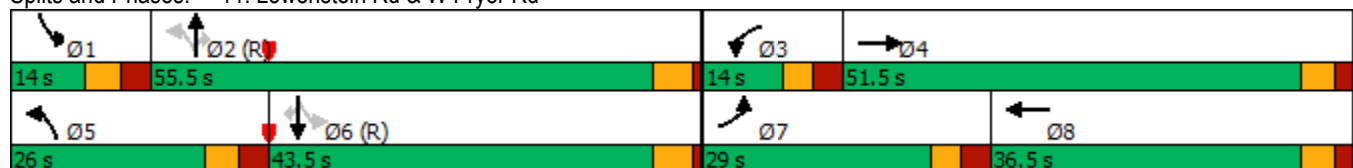
Intersection LOS: B

Intersection Capacity Utilization 55.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Lowenstein Rd & W Pryor Rd



Phasings  
18: Chipman Rd & W Pryor Rd

2020 Site Plan Update  
AM Peak

|                       |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)  | 131                                                                               | 247                                                                               | 83                                                                                | 84                                                                                | 87                                                                                | 89                                                                                | 36                                                                                  | 731                                                                                 | 127                                                                                 | 75                                                                                  | 348                                                                                 | 75                                                                                  |
| Future Volume (vph)   | 131                                                                               | 247                                                                               | 83                                                                                | 84                                                                                | 87                                                                                | 89                                                                                | 36                                                                                  | 731                                                                                 | 127                                                                                 | 75                                                                                  | 348                                                                                 | 75                                                                                  |
| Satd. Flow (prot)     | 1770                                                                              | 3405                                                                              | 0                                                                                 | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                                | 3461                                                                                | 0                                                                                   | 1770                                                                                | 3444                                                                                | 0                                                                                   |
| Flt Permitted         | 0.666                                                                             |                                                                                   |                                                                                   | 0.292                                                                             |                                                                                   |                                                                                   | 0.476                                                                               |                                                                                     |                                                                                     | 0.228                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 1241                                                                              | 3405                                                                              | 0                                                                                 | 544                                                                               | 3539                                                                              | 1583                                                                              | 887                                                                                 | 3461                                                                                | 0                                                                                   | 425                                                                                 | 3444                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)     |                                                                                   | 32                                                                                |                                                                                   |                                                                                   |                                                                                   | 113                                                                               |                                                                                     | 18                                                                                  |                                                                                     |                                                                                     | 25                                                                                  |                                                                                     |
| Lane Group Flow (vph) | 144                                                                               | 362                                                                               | 0                                                                                 | 92                                                                                | 96                                                                                | 98                                                                                | 40                                                                                  | 943                                                                                 | 0                                                                                   | 82                                                                                  | 464                                                                                 | 0                                                                                   |
| Turn Type             | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                               | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Total Split (s)       | 17.0                                                                              | 38.0                                                                              |                                                                                   | 17.0                                                                              | 38.0                                                                              | 38.0                                                                              | 13.0                                                                                | 63.0                                                                                |                                                                                     | 17.0                                                                                | 67.0                                                                                |                                                                                     |
| Total Lost Time (s)   | 6.0                                                                               | 5.0                                                                               |                                                                                   | 6.0                                                                               | 5.0                                                                               | 5.0                                                                               | 6.0                                                                                 | 5.0                                                                                 |                                                                                     | 6.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Act Effct Green (s)   | 28.2                                                                              | 18.5                                                                              |                                                                                   | 26.8                                                                              | 17.8                                                                              | 17.8                                                                              | 82.4                                                                                | 76.7                                                                                |                                                                                     | 85.8                                                                                | 80.2                                                                                |                                                                                     |
| Actuated g/C Ratio    | 0.21                                                                              | 0.14                                                                              |                                                                                   | 0.20                                                                              | 0.13                                                                              | 0.13                                                                              | 0.61                                                                                | 0.57                                                                                |                                                                                     | 0.64                                                                                | 0.59                                                                                |                                                                                     |
| v/c Ratio             | 0.48                                                                              | 0.73                                                                              |                                                                                   | 0.46                                                                              | 0.21                                                                              | 0.32                                                                              | 0.07                                                                                | 0.48                                                                                |                                                                                     | 0.24                                                                                | 0.23                                                                                |                                                                                     |
| Control Delay         | 46.5                                                                              | 59.6                                                                              |                                                                                   | 46.9                                                                              | 51.9                                                                              | 8.9                                                                               | 9.6                                                                                 | 18.8                                                                                |                                                                                     | 17.8                                                                                | 14.8                                                                                |                                                                                     |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay           | 46.5                                                                              | 59.6                                                                              |                                                                                   | 46.9                                                                              | 51.9                                                                              | 8.9                                                                               | 9.6                                                                                 | 18.8                                                                                |                                                                                     | 17.8                                                                                | 14.8                                                                                |                                                                                     |
| LOS                   | D                                                                                 | E                                                                                 |                                                                                   | D                                                                                 | D                                                                                 | A                                                                                 | A                                                                                   | B                                                                                   |                                                                                     | B                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay        |                                                                                   | 55.9                                                                              |                                                                                   |                                                                                   | 35.5                                                                              |                                                                                   |                                                                                     | 18.4                                                                                |                                                                                     |                                                                                     | 15.2                                                                                |                                                                                     |
| Approach LOS          |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |

Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 1 (1%), Referenced to phase 2:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 27.9

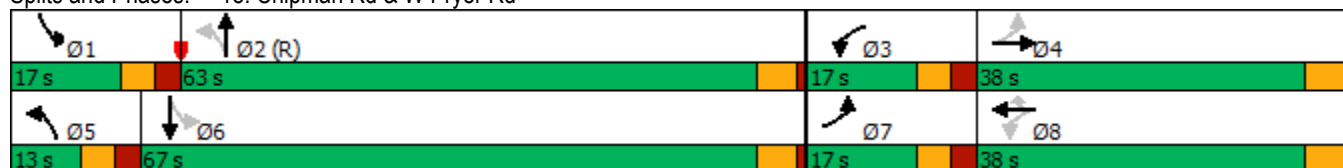
Intersection LOS: C

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 18: Chipman Rd & W Pryor Rd



| Intersection             |        |        |        |      |      |      |
|--------------------------|--------|--------|--------|------|------|------|
| Int Delay, s/veh         | 0.8    |        |        |      |      |      |
| Movement                 | EBL    | EBR    | NBL    | NBT  | SBT  | SBR  |
| Lane Configurations      |        | ↗      |        | ↗    | ↗    | ↗    |
| Traffic Vol, veh/h       | 0      | 137    | 0      | 1004 | 468  | 252  |
| Future Vol, veh/h        | 0      | 137    | 0      | 1004 | 468  | 252  |
| 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      | -      | -    | -    | 0    |
| 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                | 0      | 149    | 0      | 1091 | 509  | 274  |
| Major/Minor              | Minor2 | Major1 | Major2 |      |      |      |
| Conflicting Flow All     | -      | 255    | -      | 0    | -    | 0    |
| Stage 1                  | -      | -      | -      | -    | -    | -    |
| Stage 2                  | -      | -      | -      | -    | -    | -    |
| Critical Hdwy            | -      | 6.94   | -      | -    | -    | -    |
| Critical Hdwy Stg 1      | -      | -      | -      | -    | -    | -    |
| Critical Hdwy Stg 2      | -      | -      | -      | -    | -    | -    |
| Follow-up Hdwy           | -      | 3.32   | -      | -    | -    | -    |
| Pot Cap-1 Maneuver       | 0      | 744    | 0      | -    | -    | -    |
| Stage 1                  | 0      | -      | 0      | -    | -    | -    |
| Stage 2                  | 0      | -      | 0      | -    | -    | -    |
| Platoon blocked, %       |        |        |        | -    | -    | -    |
| Mov Cap-1 Maneuver       | -      | 744    | -      | -    | -    | -    |
| Mov Cap-2 Maneuver       | -      | -      | -      | -    | -    | -    |
| Stage 1                  | -      | -      | -      | -    | -    | -    |
| Stage 2                  | -      | -      | -      | -    | -    | -    |
| Approach                 | EB     | NB     | SB     |      |      |      |
| HCM Control Delay, s     | 11     | 0      | 0      |      |      |      |
| HCM LOS                  | B      |        |        |      |      |      |
| Minor Lane/Major Mvmt    | NBT    | EBLn1  | SBT    | SBR  |      |      |
| Capacity (veh/h)         | -      | 744    | -      | -    |      |      |
| HCM Lane V/C Ratio       | -      | 0.2    | -      | -    |      |      |
| HCM Control Delay (s)    | -      | 11     | -      | -    |      |      |
| HCM Lane LOS             | -      | B      | -      | -    |      |      |
| HCM 95th %tile Q(veh)    | -      | 0.7    | -      | -    |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | SEL  | SET  | SER  | NWL  | NWT  | NWR  | NEL  | NET  | NER  | SWL  | SWT  | SWR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 0    | 32   | 25   | 21   | 31   | 50   | 12   | 31   | 33   | 47   | 36   | 0    |
| Future Vol, veh/h        | 0    | 32   | 25   | 21   | 31   | 50   | 12   | 31   | 33   | 47   | 36   | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 63   | 63   | 63   | 63   | 63   | 63   | 63   | 63   | 63   | 63   | 63   | 63   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 51   | 40   | 33   | 49   | 79   | 19   | 49   | 52   | 75   | 57   | 0    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 128    | 0 | 0 | 91     | 0 | 0 | 254    | 265   | 71    | 277    | 246   | 89    |
| Stage 1              | -      | - | - | -      | - | - | 71     | 71    | -     | 155    | 155   | -     |
| Stage 2              | -      | - | - | -      | - | - | 183    | 194   | -     | 122    | 91    | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1458   | - | - | 1504   | - | - | 699    | 640   | 991   | 675    | 656   | 969   |
| Stage 1              | -      | - | - | -      | - | - | 939    | 836   | -     | 847    | 769   | -     |
| Stage 2              | -      | - | - | -      | - | - | 819    | 740   | -     | 882    | 820   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1458   | - | - | 1504   | - | - | 640    | 625   | 991   | 590    | 640   | 969   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 640    | 625   | -     | 590    | 640   | -     |
| Stage 1              | -      | - | - | -      | - | - | 939    | 836   | -     | 847    | 751   | -     |
| Stage 2              | -      | - | - | -      | - | - | 739    | 722   | -     | 786    | 820   | -     |

| Approach             | SE | NW  | NE   | SW   |
|----------------------|----|-----|------|------|
| HCM Control Delay, s | 0  | 1.5 | 10.7 | 12.5 |
| HCM LOS              |    |     | B    | B    |

| Minor Lane/Major Mvmt | NELn1 | NWL   | NWT | NWR | SEL  | SET | SERSWLn1 |
|-----------------------|-------|-------|-----|-----|------|-----|----------|
| Capacity (veh/h)      | 748   | 1504  | -   | -   | 1458 | -   | 611      |
| HCM Lane V/C Ratio    | 0.161 | 0.022 | -   | -   | -    | -   | 0.216    |
| HCM Control Delay (s) | 10.7  | 7.4   | 0   | -   | 0    | -   | 12.5     |
| HCM Lane LOS          | B     | A     | A   | -   | A    | -   | B        |
| HCM 95th %tile Q(veh) | 0.6   | 0.1   | -   | -   | 0    | -   | 0.8      |

| Intersection             |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 2.4                                                                               |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR  | SBL                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |      |  |  |
| Traffic Vol, veh/h       | 45                                                                                | 281                                                                               | 154                                                                               | 31   | 44                                                                                | 38                                                                                |
| Future Vol, veh/h        | 45                                                                                | 281                                                                               | 154                                                                               | 31   | 44                                                                                | 38                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | None                                                                              | -                                                                                 | None | -                                                                                 | None                                                                              |
| Storage Length           | 0                                                                                 | -                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | 0                                                                                 | -    | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 87                                                                                | 87                                                                                | 87                                                                                | 87   | 87                                                                                | 87                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 52                                                                                | 323                                                                               | 177                                                                               | 36   | 51                                                                                | 44                                                                                |
| Major/Minor              | Major1                                                                            | Major2                                                                            | Minor2                                                                            |      |                                                                                   |                                                                                   |
| Conflicting Flow All     | 213                                                                               | 0                                                                                 | -                                                                                 | 0    | 622                                                                               | 195                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -    | 195                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -    | 427                                                                               | -                                                                                 |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | -    | 6.42                                                                              | 6.22                                                                              |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -    | 5.42                                                                              | -                                                                                 |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -    | 5.42                                                                              | -                                                                                 |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | -    | 3.518                                                                             | 3.318                                                                             |
| Pot Cap-1 Maneuver       | 1357                                                                              | -                                                                                 | -                                                                                 | -    | 450                                                                               | 846                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -    | 838                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -    | 658                                                                               | -                                                                                 |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | -    |                                                                                   |                                                                                   |
| Mov Cap-1 Maneuver       | 1357                                                                              | -                                                                                 | -                                                                                 | -    | 433                                                                               | 846                                                                               |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -    | 433                                                                               | -                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -    | 806                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -    | 658                                                                               | -                                                                                 |
| Approach                 | EB                                                                                | WB                                                                                |                                                                                   | SB   |                                                                                   |                                                                                   |
| HCM Control Delay, s     | 1.1                                                                               | 0                                                                                 |                                                                                   | 12.7 |                                                                                   |                                                                                   |
| HCM LOS                  |                                                                                   |                                                                                   |                                                                                   | B    |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt    | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR  | SBLn1                                                                             |                                                                                   |
| Capacity (veh/h)         | 1357                                                                              | -                                                                                 | -                                                                                 | -    | 560                                                                               |                                                                                   |
| HCM Lane V/C Ratio       | 0.038                                                                             | -                                                                                 | -                                                                                 | -    | 0.168                                                                             |                                                                                   |
| HCM Control Delay (s)    | 7.8                                                                               | -                                                                                 | -                                                                                 | -    | 12.7                                                                              |                                                                                   |
| HCM Lane LOS             | A                                                                                 | -                                                                                 | -                                                                                 | -    | B                                                                                 |                                                                                   |
| HCM 95th %tile Q(veh)    | 0.1                                                                               | -                                                                                 | -                                                                                 | -    | 0.6                                                                               |                                                                                   |

## Intersection: 3: W Pryor Rd &amp; Rt-In, Rt-Out

| Movement              | EB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 68  |
| Average Queue (ft)    | 30  |
| 95th Queue (ft)       | 52  |
| Link Distance (ft)    | 389 |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

## Intersection: 6: W Pryor Rd &amp; I-470 Ramp

| Movement              | EB  | EB  | EB  | EB  | EB  | NB  | NB  | NB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | T   | R   | R   | T   | T   | T   | T   | R   | T   | T   |
| Maximum Queue (ft)    | 55  | 204 | 164 | 235 | 67  | 76  | 70  | 43  | 43  | 135 | 110 | 187 |
| Average Queue (ft)    | 15  | 123 | 54  | 93  | 31  | 20  | 15  | 7   | 9   | 47  | 36  | 60  |
| 95th Queue (ft)       | 43  | 190 | 142 | 165 | 55  | 61  | 49  | 28  | 31  | 105 | 87  | 131 |
| Link Distance (ft)    |     | 235 | 235 |     |     | 172 | 172 | 172 | 172 |     | 276 | 276 |
| Upstream Blk Time (%) |     | 0   |     | 1   |     |     |     |     |     | 0   |     |     |
| Queuing Penalty (veh) |     | 0   |     | 0   |     |     |     |     |     | 0   |     |     |
| Storage Bay Dist (ft) | 200 |     |     | 400 | 400 |     |     |     |     | 311 |     |     |
| Storage Blk Time (%)  |     | 0   |     | 1   |     |     |     |     |     | 0   |     |     |
| Queuing Penalty (veh) |     | 0   |     | 1   |     |     |     |     |     | 0   |     |     |

## Intersection: 9: W Pryor Rd &amp; Summit Crossing

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | L   | TR  | L   | TR  | L   | T   | T   | R   | L   | T   | T   |
| Maximum Queue (ft)    | 201 | 236 | 204 | 10  | 143 | 97  | 155 | 226 | 15  | 102 | 168 | 260 |
| Average Queue (ft)    | 68  | 153 | 51  | 0   | 70  | 39  | 52  | 94  | 1   | 43  | 67  | 134 |
| 95th Queue (ft)       | 175 | 219 | 120 | 5   | 130 | 80  | 115 | 184 | 8   | 84  | 144 | 233 |
| Link Distance (ft)    |     |     | 729 |     | 280 |     | 460 | 460 |     |     | 208 | 208 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |     |     | 0   | 1   |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |     |     | 0   | 4   |
| Storage Bay Dist (ft) | 210 | 210 |     | 200 |     | 150 |     |     | 150 | 300 |     |     |
| Storage Blk Time (%)  | 0   | 1   | 0   |     |     |     | 0   | 2   |     |     | 0   |     |
| Queuing Penalty (veh) | 0   | 1   | 0   |     |     |     | 0   | 0   |     |     | 0   |     |

## Intersection: 9: W Pryor Rd &amp; Summit Crossing

| Movement              | SB  | B2  |
|-----------------------|-----|-----|
| Directions Served     | R   | T   |
| Maximum Queue (ft)    | 67  | 6   |
| Average Queue (ft)    | 31  | 0   |
| 95th Queue (ft)       | 59  | 4   |
| Link Distance (ft)    | 208 | 172 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

## Intersection: 11: Lowenstein Rd &amp; W Pryor Rd

| Movement              | EB  | EB  | EB  | B12 | WB  | WB  | NB  | NB  | NB  | NB  | B4  | B4  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | L   | TR  | T   | L   | TR  | L   | T   | T   | R   | T   | T   |
| Maximum Queue (ft)    | 77  | 73  | 142 | 46  | 54  | 86  | 144 | 216 | 191 | 65  | 31  | 30  |
| Average Queue (ft)    | 43  | 60  | 83  | 3   | 14  | 30  | 79  | 51  | 59  | 4   | 2   | 1   |
| 95th Queue (ft)       | 72  | 80  | 139 | 22  | 43  | 69  | 134 | 147 | 143 | 32  | 21  | 15  |
| Link Distance (ft)    |     |     | 73  | 379 | 162 | 162 |     | 145 | 145 |     | 448 | 448 |
| Upstream Blk Time (%) | 1   | 9   | 16  |     |     |     | 1   | 1   | 1   | 0   |     |     |
| Queuing Penalty (veh) | 0   | 0   | 18  |     |     |     | 0   | 5   | 3   | 0   |     |     |
| Storage Bay Dist (ft) | 150 | 150 |     |     |     |     | 200 |     |     | 150 |     |     |
| Storage Blk Time (%)  | 1   | 9   | 16  |     |     |     | 1   | 1   | 1   | 0   |     |     |
| Queuing Penalty (veh) | 1   | 10  | 49  |     |     |     | 3   | 3   | 0   | 0   |     |     |

## Intersection: 11: Lowenstein Rd &amp; W Pryor Rd

| Movement              | SB  | SB  | SB  | SB |
|-----------------------|-----|-----|-----|----|
| Directions Served     | L   | T   | T   | R  |
| Maximum Queue (ft)    | 43  | 145 | 166 | 99 |
| Average Queue (ft)    | 9   | 52  | 62  | 33 |
| 95th Queue (ft)       | 31  | 120 | 135 | 76 |
| Link Distance (ft)    |     | 481 | 481 |    |
| Upstream Blk Time (%) |     |     |     |    |
| Queuing Penalty (veh) |     |     |     |    |
| Storage Bay Dist (ft) | 215 |     | 450 |    |
| Storage Blk Time (%)  |     |     |     |    |
| Queuing Penalty (veh) |     |     |     |    |

## Intersection: 16: Black Twig Rd &amp; Lowenstein Rd

| Movement              | NW   | NE  | SW  |
|-----------------------|------|-----|-----|
| Directions Served     | LTR  | LTR | LTR |
| Maximum Queue (ft)    | 34   | 61  | 64  |
| Average Queue (ft)    | 2    | 32  | 31  |
| 95th Queue (ft)       | 15   | 52  | 53  |
| Link Distance (ft)    | 1258 | 794 | 150 |
| Upstream Blk Time (%) |      |     |     |
| Queuing Penalty (veh) |      |     |     |
| Storage Bay Dist (ft) |      |     |     |
| Storage Blk Time (%)  |      |     |     |
| Queuing Penalty (veh) |      |     |     |

## Intersection: 18: Chipman Rd &amp; W Pryor Rd

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | WB  | NB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | TR  | L   | T   | T   | R   | L   | T   | TR  | L   | T   |
| Maximum Queue (ft)    | 164 | 213 | 221 | 148 | 139 | 79  | 98  | 100 | 303 | 289 | 87  | 115 |
| Average Queue (ft)    | 87  | 101 | 117 | 59  | 56  | 22  | 38  | 22  | 147 | 143 | 28  | 36  |
| 95th Queue (ft)       | 154 | 166 | 193 | 116 | 109 | 62  | 74  | 65  | 250 | 241 | 66  | 91  |
| Link Distance (ft)    |     | 567 | 567 |     | 777 | 777 |     |     | 304 | 304 |     | 448 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     | 0   | 0   |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     | 0   | 0   |     |     |
| Storage Bay Dist (ft) | 200 |     |     | 200 |     |     | 170 | 170 |     |     | 260 |     |
| Storage Blk Time (%)  | 0   | 0   |     | 0   | 0   |     |     |     | 5   |     |     |     |
| Queuing Penalty (veh) | 0   | 1   |     | 0   | 0   |     |     |     | 2   |     |     |     |

## Intersection: 18: Chipman Rd &amp; W Pryor Rd

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | TR  |
| Maximum Queue (ft)    | 138 |
| Average Queue (ft)    | 54  |
| 95th Queue (ft)       | 115 |
| Link Distance (ft)    | 448 |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

## Intersection: 21: Chipman Rd &amp; Black Twig Rd

| Movement              | EB  | SB  |
|-----------------------|-----|-----|
| Directions Served     | L   | LR  |
| Maximum Queue (ft)    | 40  | 69  |
| Average Queue (ft)    | 7   | 23  |
| 95th Queue (ft)       | 29  | 47  |
| Link Distance (ft)    | 483 | 556 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

## Network Summary

Network wide Queuing Penalty: 101

Phasings  
6: I-470 Ramp

2020 Site Plan Update  
PM Peak

|                       |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |  |                                                                                   |                                                                                   |                                                                                   |                                                                                    |  |  |  |  |  |
| Traffic Volume (vph)  | 20                                                                                | 132                                                                               | 729                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 585                                                                                 | 465                                                                                 | 4                                                                                   | 874                                                                                 | 0                                                                                   |
| Future Volume (vph)   | 20                                                                                | 132                                                                               | 729                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 585                                                                                 | 465                                                                                 | 4                                                                                   | 874                                                                                 | 0                                                                                   |
| Satd. Flow (prot)     | 1770                                                                              | 3539                                                                              | 2787                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 6408                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 0                                                                                   |
| Flt Permitted         | 0.950                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | 0.950                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 1770                                                                              | 3539                                                                              | 2787                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 6408                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)     |                                                                                   |                                                                                   | 178                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 489                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Group Flow (vph) | 21                                                                                | 139                                                                               | 767                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 616                                                                                 | 489                                                                                 | 4                                                                                   | 920                                                                                 | 0                                                                                   |
| Turn Type             | Prot                                                                              | NA                                                                                | Perm                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | NA                                                                                  | Perm                                                                                | Prot                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Total Split (s)       | 53.0                                                                              | 53.0                                                                              | 53.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 54.0                                                                                | 54.0                                                                                | 13.0                                                                                | 67.0                                                                                |                                                                                     |
| Total Lost Time (s)   | 5.6                                                                               | 5.6                                                                               | 5.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 5.5                                                                                 | 5.5                                                                                 | 5.5                                                                                 | 5.5                                                                                 |                                                                                     |
| Act Effct Green (s)   | 21.0                                                                              | 35.7                                                                              | 35.7                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 70.8                                                                                | 70.8                                                                                | 6.1                                                                                 | 73.2                                                                                |                                                                                     |
| Actuated g/C Ratio    | 0.18                                                                              | 0.30                                                                              | 0.30                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.59                                                                                | 0.59                                                                                | 0.05                                                                                | 0.61                                                                                |                                                                                     |
| v/c Ratio             | 0.07                                                                              | 0.13                                                                              | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.16                                                                                | 0.43                                                                                | 0.04                                                                                | 0.43                                                                                |                                                                                     |
| Control Delay         | 32.6                                                                              | 29.3                                                                              | 35.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 5.5                                                                                 | 1.4                                                                                 | 55.0                                                                                | 14.2                                                                                |                                                                                     |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 0.0                                                                                 | 0.3                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay           | 32.6                                                                              | 29.3                                                                              | 35.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 5.5                                                                                 | 1.7                                                                                 | 55.0                                                                                | 14.2                                                                                |                                                                                     |
| LOS                   | C                                                                                 | C                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    | A                                                                                   | A                                                                                   | D                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay        |                                                                                   | 34.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | 3.9                                                                                 |                                                                                     |                                                                                     | 14.4                                                                                |                                                                                     |
| Approach LOS          |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 1 (1%), Referenced to phase 2:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.8

Intersection LOS: B

Intersection Capacity Utilization 58.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: I-470 Ramp



Phasings  
9: Pryor Rd & Summit Woods Crossing

2020 Site Plan Update  
PM Peak

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|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)  | 151                                                                               | 32                                                                                | 55                                                                                | 140                                                                               | 55                                                                                | 234                                                                               | 68                                                                                  | 659                                                                                 | 85                                                                                  | 327                                                                                 | 1097                                                                                | 190                                                                                 |
| Future Volume (vph)   | 151                                                                               | 32                                                                                | 55                                                                                | 140                                                                               | 55                                                                                | 234                                                                               | 68                                                                                  | 659                                                                                 | 85                                                                                  | 327                                                                                 | 1097                                                                                | 190                                                                                 |
| Satd. Flow (prot)     | 3433                                                                              | 1688                                                                              | 0                                                                                 | 1770                                                                              | 1637                                                                              | 0                                                                                 | 1770                                                                                | 3539                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted         | 0.950                                                                             |                                                                                   |                                                                                   | 0.694                                                                             |                                                                                   |                                                                                   | 0.230                                                                               |                                                                                     |                                                                                     | 0.114                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 3433                                                                              | 1688                                                                              | 0                                                                                 | 1293                                                                              | 1637                                                                              | 0                                                                                 | 428                                                                                 | 3539                                                                                | 1583                                                                                | 212                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)     |                                                                                   | 61                                                                                |                                                                                   |                                                                                   | 185                                                                               |                                                                                   |                                                                                     |                                                                                     | 182                                                                                 |                                                                                     |                                                                                     | 182                                                                                 |
| Lane Group Flow (vph) | 168                                                                               | 97                                                                                | 0                                                                                 | 156                                                                               | 321                                                                               | 0                                                                                 | 76                                                                                  | 732                                                                                 | 94                                                                                  | 363                                                                                 | 1219                                                                                | 211                                                                                 |
| Turn Type             | Prot                                                                              | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Total Split (s)       | 32.5                                                                              | 63.5                                                                              |                                                                                   | 12.0                                                                              | 43.0                                                                              |                                                                                   | 11.0                                                                                | 31.5                                                                                | 31.5                                                                                | 13.0                                                                                | 33.5                                                                                | 33.5                                                                                |
| Total Lost Time (s)   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Act Effct Green (s)   | 11.2                                                                              | 22.0                                                                              |                                                                                   | 22.8                                                                              | 16.8                                                                              |                                                                                   | 37.8                                                                                | 30.0                                                                                | 30.0                                                                                | 75.0                                                                                | 64.4                                                                                | 64.4                                                                                |
| Actuated g/C Ratio    | 0.09                                                                              | 0.18                                                                              |                                                                                   | 0.19                                                                              | 0.14                                                                              |                                                                                   | 0.32                                                                                | 0.25                                                                                | 0.25                                                                                | 0.62                                                                                | 0.54                                                                                | 0.54                                                                                |
| v/c Ratio             | 0.53                                                                              | 0.27                                                                              |                                                                                   | 0.58                                                                              | 0.83                                                                              |                                                                                   | 0.34                                                                                | 0.83                                                                                | 0.18                                                                                | 0.56                                                                                | 0.64                                                                                | 0.23                                                                                |
| Control Delay         | 57.5                                                                              | 17.3                                                                              |                                                                                   | 44.4                                                                              | 37.8                                                                              |                                                                                   | 19.6                                                                                | 55.7                                                                                | 3.5                                                                                 | 28.7                                                                                | 19.3                                                                                | 3.1                                                                                 |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay           | 57.5                                                                              | 17.3                                                                              |                                                                                   | 44.4                                                                              | 37.8                                                                              |                                                                                   | 19.6                                                                                | 55.7                                                                                | 3.5                                                                                 | 28.7                                                                                | 19.3                                                                                | 3.1                                                                                 |
| LOS                   | E                                                                                 | B                                                                                 |                                                                                   | D                                                                                 | D                                                                                 |                                                                                   | B                                                                                   | E                                                                                   | A                                                                                   | C                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay        |                                                                                   | 42.7                                                                              |                                                                                   |                                                                                   | 39.9                                                                              |                                                                                   |                                                                                     | 47.2                                                                                |                                                                                     |                                                                                     | 19.3                                                                                |                                                                                     |
| Approach LOS          |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 31.3

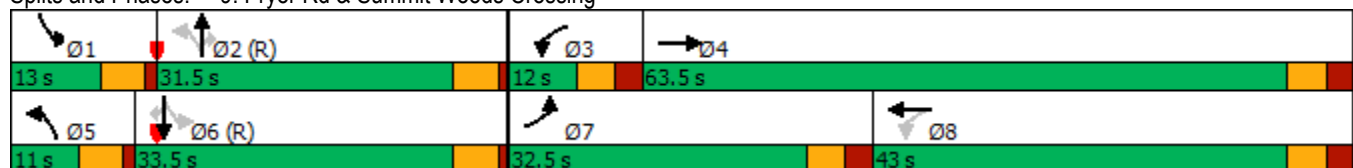
Intersection LOS: C

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Pryor Rd & Summit Woods Crossing



# Phasings

## 11: Lowenstein Rd & Pryor Rd

2020 Site Plan Update  
PM Peak

|                       |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)  | 214                                                                               | 80                                                                                | 175                                                                               | 63                                                                                | 51                                                                                | 34                                                                                | 244                                                                                 | 580                                                                                 | 42                                                                                  | 56                                                                                  | 825                                                                                 | 193                                                                                 |
| Future Volume (vph)   | 214                                                                               | 80                                                                                | 175                                                                               | 63                                                                                | 51                                                                                | 34                                                                                | 244                                                                                 | 580                                                                                 | 42                                                                                  | 56                                                                                  | 825                                                                                 | 193                                                                                 |
| Satd. Flow (prot)     | 3433                                                                              | 1671                                                                              | 0                                                                                 | 1770                                                                              | 1751                                                                              | 0                                                                                 | 1770                                                                                | 3539                                                                                | 1583                                                                                | 1770                                                                                | 3539                                                                                | 1583                                                                                |
| Flt Permitted         | 0.950                                                                             |                                                                                   |                                                                                   | 0.950                                                                             |                                                                                   |                                                                                   | 0.185                                                                               |                                                                                     |                                                                                     | 0.415                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 3433                                                                              | 1671                                                                              | 0                                                                                 | 1770                                                                              | 1751                                                                              | 0                                                                                 | 345                                                                                 | 3539                                                                                | 1583                                                                                | 773                                                                                 | 3539                                                                                | 1583                                                                                |
| Satd. Flow (RTOR)     |                                                                                   | 92                                                                                |                                                                                   |                                                                                   | 28                                                                                |                                                                                   |                                                                                     |                                                                                     | 136                                                                                 |                                                                                     |                                                                                     | 195                                                                                 |
| Lane Group Flow (vph) | 230                                                                               | 274                                                                               | 0                                                                                 | 68                                                                                | 92                                                                                | 0                                                                                 | 262                                                                                 | 624                                                                                 | 45                                                                                  | 60                                                                                  | 887                                                                                 | 208                                                                                 |
| Turn Type             | Prot                                                                              | NA                                                                                |                                                                                   | Prot                                                                              | NA                                                                                |                                                                                   | pm+pt                                                                               | NA                                                                                  | Perm                                                                                | pm+pt                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Total Split (s)       | 16.0                                                                              | 39.5                                                                              |                                                                                   | 14.0                                                                              | 37.5                                                                              |                                                                                   | 21.0                                                                                | 53.9                                                                                | 53.9                                                                                | 12.6                                                                                | 45.5                                                                                | 45.5                                                                                |
| Total Lost Time (s)   | 6.0                                                                               | 5.5                                                                               |                                                                                   | 6.0                                                                               | 5.5                                                                               |                                                                                   | 6.5                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 6.5                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Act Effect Green (s)  | 10.0                                                                              | 21.5                                                                              |                                                                                   | 7.6                                                                               | 16.7                                                                              |                                                                                   | 75.3                                                                                | 65.5                                                                                | 65.5                                                                                | 59.7                                                                                | 53.9                                                                                | 53.9                                                                                |
| Actuated g/C Ratio    | 0.08                                                                              | 0.18                                                                              |                                                                                   | 0.06                                                                              | 0.14                                                                              |                                                                                   | 0.63                                                                                | 0.55                                                                                | 0.55                                                                                | 0.50                                                                                | 0.45                                                                                | 0.45                                                                                |
| v/c Ratio             | 0.80                                                                              | 0.73                                                                              |                                                                                   | 0.60                                                                              | 0.34                                                                              |                                                                                   | 0.64                                                                                | 0.32                                                                                | 0.05                                                                                | 0.14                                                                                | 0.56                                                                                | 0.25                                                                                |
| Control Delay         | 75.3                                                                              | 42.4                                                                              |                                                                                   | 76.9                                                                              | 33.7                                                                              |                                                                                   | 35.5                                                                                | 19.0                                                                                | 1.4                                                                                 | 8.4                                                                                 | 15.9                                                                                | 1.4                                                                                 |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay           | 75.3                                                                              | 42.4                                                                              |                                                                                   | 76.9                                                                              | 33.7                                                                              |                                                                                   | 35.5                                                                                | 19.0                                                                                | 1.4                                                                                 | 8.4                                                                                 | 15.9                                                                                | 1.4                                                                                 |
| LOS                   | E                                                                                 | D                                                                                 |                                                                                   | E                                                                                 | C                                                                                 |                                                                                   | D                                                                                   | B                                                                                   | A                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay        |                                                                                   | 57.4                                                                              |                                                                                   |                                                                                   | 52.0                                                                              |                                                                                   |                                                                                     | 22.8                                                                                |                                                                                     |                                                                                     | 12.9                                                                                |                                                                                     |
| Approach LOS          |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 115 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 26.7

Intersection LOS: C

Intersection Capacity Utilization 75.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 11: Lowenstein Rd & Pryor Rd

|                                                                                        |                                                                                            |                                                                                        |                                                                                          |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 12.6 s                                                                                 | 53.9 s                                                                                     | 14 s                                                                                   | 39.5 s                                                                                   |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 21 s                                                                                   | 45.5 s                                                                                     | 16 s                                                                                   | 37.5 s                                                                                   |

Phasings  
18: Chipman Rd & Pryor Rd

2020 Site Plan Update  
PM Peak

|                       |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group            | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations   |  |  |                                                                                   |  |  |  |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)  | 120                                                                               | 221                                                                               | 55                                                                                | 268                                                                               | 206                                                                               | 150                                                                               | 73                                                                                  | 625                                                                                 | 180                                                                                 | 213                                                                                 | 745                                                                                 | 141                                                                                 |
| Future Volume (vph)   | 120                                                                               | 221                                                                               | 55                                                                                | 268                                                                               | 206                                                                               | 150                                                                               | 73                                                                                  | 625                                                                                 | 180                                                                                 | 213                                                                                 | 745                                                                                 | 141                                                                                 |
| Satd. Flow (prot)     | 1770                                                                              | 3423                                                                              | 0                                                                                 | 1770                                                                              | 3539                                                                              | 1583                                                                              | 1770                                                                                | 3411                                                                                | 0                                                                                   | 1770                                                                                | 3441                                                                                | 0                                                                                   |
| Flt Permitted         | 0.616                                                                             |                                                                                   |                                                                                   | 0.275                                                                             |                                                                                   |                                                                                   | 0.252                                                                               |                                                                                     |                                                                                     | 0.199                                                                               |                                                                                     |                                                                                     |
| Satd. Flow (perm)     | 1145                                                                              | 3423                                                                              | 0                                                                                 | 512                                                                               | 3539                                                                              | 1561                                                                              | 469                                                                                 | 3411                                                                                | 0                                                                                   | 371                                                                                 | 3441                                                                                | 0                                                                                   |
| Satd. Flow (RTOR)     |                                                                                   | 24                                                                                |                                                                                   |                                                                                   |                                                                                   | 182                                                                               |                                                                                     | 32                                                                                  |                                                                                     |                                                                                     | 22                                                                                  |                                                                                     |
| Lane Group Flow (vph) | 126                                                                               | 291                                                                               | 0                                                                                 | 282                                                                               | 217                                                                               | 158                                                                               | 77                                                                                  | 847                                                                                 | 0                                                                                   | 224                                                                                 | 932                                                                                 | 0                                                                                   |
| Turn Type             | pm+pt                                                                             | NA                                                                                |                                                                                   | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                               | NA                                                                                  |                                                                                     | pm+pt                                                                               | NA                                                                                  |                                                                                     |
| Protected Phases      | 7                                                                                 | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 5                                                                                   | 2                                                                                   |                                                                                     | 1                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases      | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Total Split (s)       | 12.0                                                                              | 32.0                                                                              |                                                                                   | 23.0                                                                              | 43.0                                                                              | 43.0                                                                              | 12.0                                                                                | 42.0                                                                                |                                                                                     | 23.0                                                                                | 53.0                                                                                |                                                                                     |
| Total Lost Time (s)   | 6.0                                                                               | 5.0                                                                               |                                                                                   | 6.0                                                                               | 5.0                                                                               | 5.0                                                                               | 6.0                                                                                 | 5.0                                                                                 |                                                                                     | 6.0                                                                                 | 5.0                                                                                 |                                                                                     |
| Act Effct Green (s)   | 19.7                                                                              | 14.7                                                                              |                                                                                   | 36.3                                                                              | 25.3                                                                              | 25.3                                                                              | 58.7                                                                                | 51.9                                                                                |                                                                                     | 71.5                                                                                | 61.3                                                                                |                                                                                     |
| Actuated g/C Ratio    | 0.16                                                                              | 0.12                                                                              |                                                                                   | 0.30                                                                              | 0.21                                                                              | 0.21                                                                              | 0.49                                                                                | 0.43                                                                                |                                                                                     | 0.60                                                                                | 0.51                                                                                |                                                                                     |
| v/c Ratio             | 0.58                                                                              | 0.66                                                                              |                                                                                   | 0.86                                                                              | 0.29                                                                              | 0.33                                                                              | 0.25                                                                                | 0.57                                                                                |                                                                                     | 0.57                                                                                | 0.53                                                                                |                                                                                     |
| Control Delay         | 45.7                                                                              | 53.2                                                                              |                                                                                   | 59.7                                                                              | 40.1                                                                              | 5.3                                                                               | 14.2                                                                                | 28.0                                                                                |                                                                                     | 30.9                                                                                | 11.8                                                                                |                                                                                     |
| Queue Delay           | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |                                                                                     | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |
| Total Delay           | 45.7                                                                              | 53.2                                                                              |                                                                                   | 59.7                                                                              | 40.1                                                                              | 5.3                                                                               | 14.2                                                                                | 28.0                                                                                |                                                                                     | 30.9                                                                                | 11.8                                                                                |                                                                                     |
| LOS                   | D                                                                                 | D                                                                                 |                                                                                   | E                                                                                 | D                                                                                 | A                                                                                 | B                                                                                   | C                                                                                   |                                                                                     | C                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay        |                                                                                   | 50.9                                                                              |                                                                                   |                                                                                   | 40.1                                                                              |                                                                                   |                                                                                     | 26.8                                                                                |                                                                                     |                                                                                     | 15.5                                                                                |                                                                                     |
| Approach LOS          |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 8 (7%), Referenced to phase 2:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 28.6

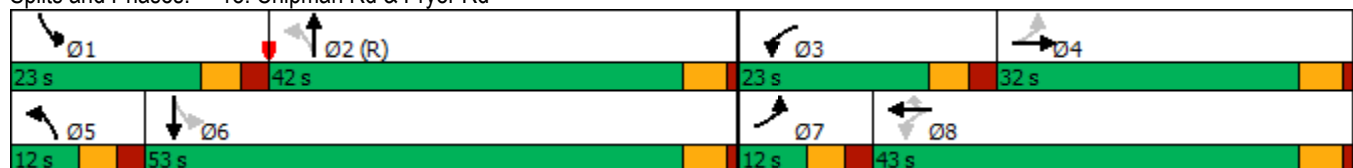
Intersection LOS: C

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Chipman Rd & Pryor Rd



| Intersection             |           |        |      |        |      |      |
|--------------------------|-----------|--------|------|--------|------|------|
| Int Delay, s/veh         | 1.1       |        |      |        |      |      |
| Movement                 | EBL       | EBR    | NBL  | NBT    | SBT  | SBR  |
| Lane Configurations      |           | ↗      |      | ↗      | ↗    | ↗    |
| Traffic Vol, veh/h       | 0         | 166    | 0    | 817    | 919  | 370  |
| Future Vol, veh/h        | 0         | 166    | 0    | 817    | 919  | 370  |
| 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                | 0         | 180    | 0    | 888    | 999  | 402  |
| Major/Minor              | Minor2    | Major1 |      | Major2 |      |      |
| Conflicting Flow All     | -         | 500    | -    | 0      | -    | 0    |
| Stage 1                  | -         | -      | -    | -      | -    | -    |
| Stage 2                  | -         | -      | -    | -      | -    | -    |
| Critical Hdwy            | -         | 6.94   | -    | -      | -    | -    |
| Critical Hdwy Stg 1      | -         | -      | -    | -      | -    | -    |
| Critical Hdwy Stg 2      | -         | -      | -    | -      | -    | -    |
| Follow-up Hdwy           | -         | 3.32   | -    | -      | -    | -    |
| Pot Cap-1 Maneuver       | 0         | 516    | 0    | -      | -    | -    |
| Stage 1                  | 0         | -      | 0    | -      | -    | -    |
| Stage 2                  | 0         | -      | 0    | -      | -    | -    |
| Platoon blocked, %       |           |        |      | -      | -    | -    |
| Mov Cap-1 Maneuver       | -         | 516    | -    | -      | -    | -    |
| Mov Cap-2 Maneuver       | -         | -      | -    | -      | -    | -    |
| Stage 1                  | -         | -      | -    | -      | -    | -    |
| Stage 2                  | -         | -      | -    | -      | -    | -    |
| Approach                 | EB        | NB     |      | SB     |      |      |
| HCM Control Delay, s     | 15.7      | 0      |      | 0      |      |      |
| HCM LOS                  | C         |        |      |        |      |      |
| Minor Lane/Major Mvmt    | NBT EBLn1 |        | SBT  | SBR    |      |      |
| Capacity (veh/h)         | - 516     |        | -    | -      |      |      |
| HCM Lane V/C Ratio       | - 0.35    |        | -    | -      |      |      |
| HCM Control Delay (s)    | - 15.7    |        | -    | -      |      |      |
| HCM Lane LOS             | - C       |        | -    | -      |      |      |
| HCM 95th %tile Q(veh)    | - 1.6     |        | -    | -      |      |      |

| Intersection             |        |                                                                                   |      |        |                                                                                   |      |          |                                                                                   |       |        |                                                                                     |       |  |
|--------------------------|--------|-----------------------------------------------------------------------------------|------|--------|-----------------------------------------------------------------------------------|------|----------|-----------------------------------------------------------------------------------|-------|--------|-------------------------------------------------------------------------------------|-------|--|
| Int Delay, s/veh         | 6.4    |                                                                                   |      |        |                                                                                   |      |          |                                                                                   |       |        |                                                                                     |       |  |
| Movement                 | SEL    | SET                                                                               | SER  | NWL    | NWT                                                                               | NWR  | NEL      | NET                                                                               | NER   | SWL    | SWT                                                                                 | SWR   |  |
| Lane Configurations      |        |  |      |        |  |      |          |  |       |        |  |       |  |
| Traffic Vol, veh/h       | 0      | 38                                                                                | 26   | 56     | 40                                                                                | 51   | 12       | 31                                                                                | 41    | 54     | 46                                                                                  | 0     |  |
| Future Vol, veh/h        | 0      | 38                                                                                | 26   | 56     | 40                                                                                | 51   | 12       | 31                                                                                | 41    | 54     | 46                                                                                  | 0     |  |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0    | 0      | 0                                                                                 | 0    | 0        | 0                                                                                 | 0     | 0      | 0                                                                                   | 0     |  |
| Sign Control             | Free   | Free                                                                              | Free | Free   | Free                                                                              | Free | Stop     | Stop                                                                              | Stop  | Stop   | Stop                                                                                | Stop  |  |
| RT Channelized           | -      | -                                                                                 | None | -      | -                                                                                 | None | -        | -                                                                                 | None  | -      | -                                                                                   | None  |  |
| Storage Length           | -      | -                                                                                 | -    | -      | -                                                                                 | -    | -        | -                                                                                 | -     | -      | -                                                                                   | -     |  |
| Veh in Median Storage, # | -      | 0                                                                                 | -    | -      | 0                                                                                 | -    | -        | 0                                                                                 | -     | -      | 0                                                                                   | -     |  |
| Grade, %                 | -      | 0                                                                                 | -    | -      | 0                                                                                 | -    | -        | 0                                                                                 | -     | -      | 0                                                                                   | -     |  |
| Peak Hour Factor         | 91     | 91                                                                                | 91   | 91     | 91                                                                                | 91   | 91       | 91                                                                                | 91    | 91     | 91                                                                                  | 91    |  |
| Heavy Vehicles, %        | 2      | 2                                                                                 | 2    | 2      | 2                                                                                 | 2    | 2        | 2                                                                                 | 2     | 2      | 2                                                                                   | 2     |  |
| Mvmt Flow                | 0      | 42                                                                                | 29   | 62     | 44                                                                                | 56   | 13       | 34                                                                                | 45    | 59     | 51                                                                                  | 0     |  |
|                          |        |                                                                                   |      |        |                                                                                   |      |          |                                                                                   |       |        |                                                                                     |       |  |
| Major/Minor              | Major1 |                                                                                   |      | Major2 |                                                                                   |      | Minor1   |                                                                                   |       | Minor2 |                                                                                     |       |  |
| Conflicting Flow All     | 100    | 0                                                                                 | 0    | 71     | 0                                                                                 | 0    | 279      | 281                                                                               | 57    | 292    | 267                                                                                 | 72    |  |
| Stage 1                  | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 57       | 57                                                                                | -     | 196    | 196                                                                                 | -     |  |
| Stage 2                  | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 222      | 224                                                                               | -     | 96     | 71                                                                                  | -     |  |
| Critical Hdwy            | 4.12   | -                                                                                 | -    | 4.12   | -                                                                                 | -    | 7.12     | 6.52                                                                              | 6.22  | 7.12   | 6.52                                                                                | 6.22  |  |
| Critical Hdwy Stg 1      | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 6.12     | 5.52                                                                              | -     | 6.12   | 5.52                                                                                | -     |  |
| Critical Hdwy Stg 2      | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 6.12     | 5.52                                                                              | -     | 6.12   | 5.52                                                                                | -     |  |
| Follow-up Hdwy           | 2.218  | -                                                                                 | -    | 2.218  | -                                                                                 | -    | 3.518    | 4.018                                                                             | 3.318 | 3.518  | 4.018                                                                               | 3.318 |  |
| Pot Cap-1 Maneuver       | 1493   | -                                                                                 | -    | 1529   | -                                                                                 | -    | 673      | 627                                                                               | 1009  | 660    | 639                                                                                 | 990   |  |
| Stage 1                  | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 955      | 847                                                                               | -     | 806    | 739                                                                                 | -     |  |
| Stage 2                  | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 780      | 718                                                                               | -     | 911    | 836                                                                                 | -     |  |
| Platoon blocked, %       |        | -                                                                                 | -    |        | -                                                                                 | -    |          |                                                                                   |       |        |                                                                                     |       |  |
| Mov Cap-1 Maneuver       | 1493   | -                                                                                 | -    | 1529   | -                                                                                 | -    | 610      | 600                                                                               | 1009  | 583    | 612                                                                                 | 990   |  |
| Mov Cap-2 Maneuver       | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 610      | 600                                                                               | -     | 583    | 612                                                                                 | -     |  |
| Stage 1                  | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 955      | 847                                                                               | -     | 806    | 707                                                                                 | -     |  |
| Stage 2                  | -      | -                                                                                 | -    | -      | -                                                                                 | -    | 693      | 687                                                                               | -     | 835    | 836                                                                                 | -     |  |
|                          |        |                                                                                   |      |        |                                                                                   |      |          |                                                                                   |       |        |                                                                                     |       |  |
| Approach                 | SE     |                                                                                   |      | NW     |                                                                                   |      | NE       |                                                                                   |       | SW     |                                                                                     |       |  |
| HCM Control Delay, s     | 0      |                                                                                   |      | 2.8    |                                                                                   |      | 10.5     |                                                                                   |       | 12.4   |                                                                                     |       |  |
| HCM LOS                  |        |                                                                                   |      |        |                                                                                   |      | B        |                                                                                   |       | B      |                                                                                     |       |  |
|                          |        |                                                                                   |      |        |                                                                                   |      |          |                                                                                   |       |        |                                                                                     |       |  |
| Minor Lane/Major Mvmt    | NELn1  | NWL                                                                               | NWT  | NWR    | SEL                                                                               | SET  | SERSWLn1 |                                                                                   |       |        |                                                                                     |       |  |
| Capacity (veh/h)         | 750    | 1529                                                                              | -    | -      | 1493                                                                              | -    | -        | 596                                                                               |       |        |                                                                                     |       |  |
| HCM Lane V/C Ratio       | 0.123  | 0.04                                                                              | -    | -      | -                                                                                 | -    | -        | 0.184                                                                             |       |        |                                                                                     |       |  |
| HCM Control Delay (s)    | 10.5   | 7.5                                                                               | 0    | -      | 0                                                                                 | -    | -        | 12.4                                                                              |       |        |                                                                                     |       |  |
| HCM Lane LOS             | B      | A                                                                                 | A    | -      | A                                                                                 | -    | -        | B                                                                                 |       |        |                                                                                     |       |  |
| HCM 95th %tile Q(veh)    | 0.4    | 0.1                                                                               | -    | -      | 0                                                                                 | -    | -        | 0.7                                                                               |       |        |                                                                                     |       |  |

| Intersection             |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 6.6                                                                               |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Movement                 | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR    | SBL                                                                               | SBR                                                                               |
| Lane Configurations      |  |  |  |        |  |  |
| Traffic Vol, veh/h       | 48                                                                                | 280                                                                               | 354                                                                               | 46     | 58                                                                                | 63                                                                                |
| Future Vol, veh/h        | 48                                                                                | 280                                                                               | 354                                                                               | 46     | 58                                                                                | 63                                                                                |
| Conflicting Peds, #/hr   | 245                                                                               | 0                                                                                 | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free                                                                              | Free                                                                              | Free   | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | None                                                                              | -                                                                                 | None   | -                                                                                 | None                                                                              |
| Storage Length           | 0                                                                                 | -                                                                                 | -                                                                                 | -      | 0                                                                                 | -                                                                                 |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | 0                                                                                 | -      | 0                                                                                 | -                                                                                 |
| Grade, %                 | -                                                                                 | 0                                                                                 | 0                                                                                 | -      | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 95                                                                                | 95                                                                                | 95                                                                                | 95     | 95                                                                                | 95                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2      | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 51                                                                                | 295                                                                               | 373                                                                               | 48     | 61                                                                                | 66                                                                                |
|                          |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Major/Minor              | Major1                                                                            | Major2                                                                            |                                                                                   | Minor2 |                                                                                   |                                                                                   |
| Conflicting Flow All     | 666                                                                               | 0                                                                                 | -                                                                                 | 0      | 1039                                                                              | 642                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -      | 642                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -      | 397                                                                               | -                                                                                 |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -                                                                                 | -      | 6.42                                                                              | 6.22                                                                              |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -                                                                                 | -      | 5.42                                                                              | -                                                                                 |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -                                                                                 | -      | 5.42                                                                              | -                                                                                 |
| Follow-up Hdwy           | 2.218                                                                             | -                                                                                 | -                                                                                 | -      | 3.518                                                                             | 3.318                                                                             |
| Pot Cap-1 Maneuver       | 923                                                                               | -                                                                                 | -                                                                                 | -      | 255                                                                               | 474                                                                               |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -      | 524                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -      | 679                                                                               | -                                                                                 |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -                                                                                 | -      |                                                                                   |                                                                                   |
| Mov Cap-1 Maneuver       | 735                                                                               | -                                                                                 | -                                                                                 | -      | 150                                                                               | 377                                                                               |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -                                                                                 | -      | 150                                                                               | -                                                                                 |
| Stage 1                  | -                                                                                 | -                                                                                 | -                                                                                 | -      | 388                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -                                                                                 | -                                                                                 | -      | 540                                                                               | -                                                                                 |
|                          |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Approach                 | EB                                                                                | WB                                                                                |                                                                                   | SB     |                                                                                   |                                                                                   |
| HCM Control Delay, s     | 1.5                                                                               | 0                                                                                 |                                                                                   | 42     |                                                                                   |                                                                                   |
| HCM LOS                  | E                                                                                 |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt    | EBL                                                                               | EBT                                                                               | WBT                                                                               | WBR    | SBLn1                                                                             |                                                                                   |
| Capacity (veh/h)         | 735                                                                               | -                                                                                 | -                                                                                 | -      | 219                                                                               |                                                                                   |
| HCM Lane V/C Ratio       | 0.069                                                                             | -                                                                                 | -                                                                                 | -      | 0.582                                                                             |                                                                                   |
| HCM Control Delay (s)    | 10.3                                                                              | -                                                                                 | -                                                                                 | -      | 42                                                                                |                                                                                   |
| HCM Lane LOS             | B                                                                                 | -                                                                                 | -                                                                                 | -      | E                                                                                 |                                                                                   |
| HCM 95th %tile Q(veh)    | 0.2                                                                               | -                                                                                 | -                                                                                 | -      | 3.2                                                                               |                                                                                   |

## Intersection: 3: Pryor Rd &amp; Rt-In, Rt-Out

| Movement              | EB  | SB  | SB  |
|-----------------------|-----|-----|-----|
| Directions Served     | R   | T   | T   |
| Maximum Queue (ft)    | 103 | 20  | 34  |
| Average Queue (ft)    | 44  | 1   | 2   |
| 95th Queue (ft)       | 80  | 18  | 28  |
| Link Distance (ft)    | 451 | 457 | 457 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     | 0   |
| Queuing Penalty (veh) |     |     | 0   |

## Intersection: 6: I-470 Ramp

| Movement              | EB  | EB  | EB  | EB  | EB  | NB  | NB  | NB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | T   | R   | R   | T   | T   | T   | T   | R   | L   | T   |
| Maximum Queue (ft)    | 61  | 150 | 107 | 261 | 253 | 71  | 63  | 84  | 121 | 120 | 34  | 265 |
| Average Queue (ft)    | 22  | 68  | 12  | 166 | 146 | 8   | 12  | 22  | 44  | 39  | 3   | 137 |
| 95th Queue (ft)       | 53  | 126 | 54  | 266 | 248 | 40  | 44  | 61  | 94  | 85  | 19  | 253 |
| Link Distance (ft)    |     | 241 | 241 |     |     | 175 | 175 | 175 | 175 |     |     | 276 |
| Upstream Blk Time (%) |     |     |     | 5   | 5   |     |     |     |     | 0   |     | 0   |
| Queuing Penalty (veh) |     |     |     | 0   | 0   |     |     |     |     | 0   |     | 0   |
| Storage Bay Dist (ft) | 200 |     |     | 400 | 400 |     |     |     |     | 311 | 550 |     |
| Storage Blk Time (%)  |     | 0   |     | 5   | 5   |     |     |     |     | 0   |     | 0   |
| Queuing Penalty (veh) |     | 0   |     | 4   | 3   |     |     |     |     | 0   |     | 0   |

## Intersection: 6: I-470 Ramp

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | T   |
| Maximum Queue (ft)    | 269 |
| Average Queue (ft)    | 138 |
| 95th Queue (ft)       | 254 |
| Link Distance (ft)    | 276 |
| Upstream Blk Time (%) | 1   |
| Queuing Penalty (veh) | 0   |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

## Intersection: 9: Pryor Rd &amp; Summit Woods Crossing

| Movement              | EB  | EB  | EB  | WB  | WB  | NB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | L   | TR  | L   | TR  | L   | T   | T   | R   | L   | T   | T   |
| Maximum Queue (ft)    | 153 | 197 | 153 | 230 | 295 | 114 | 344 | 410 | 200 | 216 | 310 | 315 |
| Average Queue (ft)    | 24  | 118 | 58  | 89  | 147 | 38  | 140 | 213 | 61  | 169 | 217 | 244 |
| 95th Queue (ft)       | 102 | 178 | 114 | 171 | 257 | 96  | 279 | 369 | 194 | 251 | 351 | 356 |
| Link Distance (ft)    |     |     | 523 |     | 280 |     | 457 | 457 |     |     | 216 | 216 |
| Upstream Blk Time (%) |     |     |     |     | 2   |     |     | 0   |     | 4   | 14  | 20  |
| Queuing Penalty (veh) |     |     |     |     | 0   |     |     | 0   |     | 0   | 111 | 161 |
| Storage Bay Dist (ft) | 210 | 210 |     | 150 |     | 150 |     |     | 150 | 300 |     |     |
| Storage Blk Time (%)  |     | 0   |     | 2   | 11  |     | 8   | 23  | 0   | 4   | 14  | 29  |
| Queuing Penalty (veh) |     | 0   |     | 6   | 15  |     | 6   | 19  | 0   | 24  | 45  | 55  |

## Intersection: 9: Pryor Rd &amp; Summit Woods Crossing

| Movement              | SB  | B2  | B2  |
|-----------------------|-----|-----|-----|
| Directions Served     | R   | T   | T   |
| Maximum Queue (ft)    | 200 | 222 | 248 |
| Average Queue (ft)    | 108 | 68  | 85  |
| 95th Queue (ft)       | 244 | 214 | 233 |
| Link Distance (ft)    |     | 175 | 175 |
| Upstream Blk Time (%) | 0   | 4   | 5   |
| Queuing Penalty (veh) | 0   | 31  | 39  |
| Storage Bay Dist (ft) | 150 |     |     |
| Storage Blk Time (%)  | 0   |     |     |
| Queuing Penalty (veh) | 0   |     |     |

## Intersection: 11: Lowenstein Rd &amp; Pryor Rd

| Movement              | EB  | EB  | EB  | B12 | WB  | WB  | NB  | NB  | NB  | NB  | B4  | B4  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | L   | TR  | T   | L   | TR  | L   | T   | T   | R   | T   | T   |
| Maximum Queue (ft)    | 66  | 75  | 145 | 100 | 134 | 138 | 145 | 216 | 224 | 145 | 126 | 131 |
| Average Queue (ft)    | 41  | 61  | 104 | 13  | 55  | 55  | 104 | 99  | 112 | 16  | 9   | 8   |
| 95th Queue (ft)       | 66  | 78  | 156 | 56  | 113 | 108 | 154 | 207 | 209 | 74  | 77  | 67  |
| Link Distance (ft)    |     |     | 71  | 423 | 162 | 162 |     | 145 | 145 |     | 447 | 447 |
| Upstream Blk Time (%) | 1   | 16  | 36  |     | 1   | 0   | 4   | 7   | 7   | 0   |     |     |
| Queuing Penalty (veh) | 0   | 0   | 47  |     | 0   | 0   | 0   | 30  | 30  | 0   |     |     |
| Storage Bay Dist (ft) | 150 | 150 |     |     |     |     | 200 |     |     | 150 |     |     |
| Storage Blk Time (%)  | 1   | 16  | 36  |     |     |     | 4   | 7   | 7   | 0   |     |     |
| Queuing Penalty (veh) | 1   | 41  | 76  |     |     |     | 12  | 16  | 3   | 0   |     |     |

## Intersection: 11: Lowenstein Rd &amp; Pryor Rd

| Movement              | SB  | SB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | L   | T   | T   | R   |
| Maximum Queue (ft)    | 164 | 345 | 379 | 215 |
| Average Queue (ft)    | 31  | 138 | 147 | 54  |
| 95th Queue (ft)       | 92  | 278 | 289 | 147 |
| Link Distance (ft)    |     | 481 | 481 |     |
| Upstream Blk Time (%) |     | 0   | 0   |     |
| Queuing Penalty (veh) |     | 1   | 1   |     |
| Storage Bay Dist (ft) | 215 |     |     | 150 |
| Storage Blk Time (%)  |     | 2   | 6   |     |
| Queuing Penalty (veh) |     | 1   | 11  |     |

## Intersection: 16: Black Twig Ln &amp; Lowenstein Rd

| Movement              | SE  | NW   | NE  | SW  |
|-----------------------|-----|------|-----|-----|
| Directions Served     | LTR | LTR  | LTR | LTR |
| Maximum Queue (ft)    | 4   | 40   | 57  | 75  |
| Average Queue (ft)    | 0   | 6    | 32  | 37  |
| 95th Queue (ft)       | 3   | 27   | 50  | 59  |
| Link Distance (ft)    | 835 | 1205 | 836 | 331 |
| Upstream Blk Time (%) |     |      |     |     |
| Queuing Penalty (veh) |     |      |     |     |
| Storage Bay Dist (ft) |     |      |     |     |
| Storage Blk Time (%)  |     |      |     |     |
| Queuing Penalty (veh) |     |      |     |     |

## Intersection: 18: Chipman Rd &amp; Pryor Rd

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | WB  | NB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | TR  | L   | T   | T   | R   | L   | T   | TR  | L   | T   |
| Maximum Queue (ft)    | 159 | 177 | 208 | 276 | 155 | 140 | 122 | 214 | 319 | 319 | 197 | 215 |
| Average Queue (ft)    | 77  | 86  | 98  | 149 | 75  | 53  | 48  | 51  | 197 | 217 | 80  | 84  |
| 95th Queue (ft)       | 135 | 142 | 167 | 240 | 136 | 113 | 87  | 132 | 301 | 336 | 162 | 169 |
| Link Distance (ft)    |     | 524 | 524 |     | 784 | 784 |     |     | 304 | 304 |     | 447 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     | 1   | 2   |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     | 0   | 0   |     |     |
| Storage Bay Dist (ft) | 200 |     |     | 200 |     |     | 170 | 170 |     |     | 260 |     |
| Storage Blk Time (%)  |     | 0   |     | 4   | 0   | 0   |     |     | 10  |     | 0   | 0   |
| Queuing Penalty (veh) |     | 0   |     | 4   | 0   | 0   |     |     | 7   |     | 0   | 0   |

## Intersection: 18: Chipman Rd &amp; Pryor Rd

| Movement              | SB  | B4  |
|-----------------------|-----|-----|
| Directions Served     | TR  | T   |
| Maximum Queue (ft)    | 233 | 8   |
| Average Queue (ft)    | 115 | 0   |
| 95th Queue (ft)       | 205 | 6   |
| Link Distance (ft)    | 447 | 145 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

## Intersection: 22: Chipman Rd &amp; Black Twig Rd

| Movement              | EB  | WB   | SB  |
|-----------------------|-----|------|-----|
| Directions Served     | L   | TR   | LR  |
| Maximum Queue (ft)    | 48  | 42   | 81  |
| Average Queue (ft)    | 16  | 2    | 36  |
| 95th Queue (ft)       | 43  | 18   | 69  |
| Link Distance (ft)    | 356 | 1735 | 531 |
| Upstream Blk Time (%) |     |      |     |
| Queuing Penalty (veh) |     |      |     |
| Storage Bay Dist (ft) |     |      |     |
| Storage Blk Time (%)  |     |      |     |
| Queuing Penalty (veh) |     |      |     |

## Network Summary

Network wide Queuing Penalty: 803