

# TRANSPORTATION ANALYSIS

US 19 and Spring Hill Drive - NEC

*Prepared for:*

Brightwork Real Estate



**Palm Traffic**  
Engineering + Planning

# Transportation Analysis

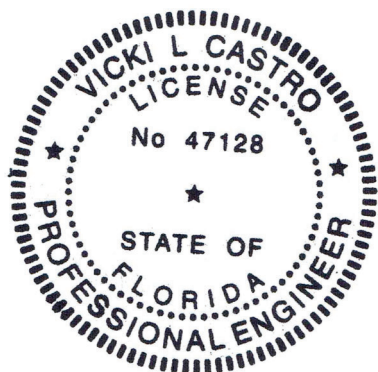
## US 19 and Spring Hill Drive - NEC

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*Prepared for:*  
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Conceptual Site Plan  
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## INTRODUCTION

The purpose of this report is to provide the Transportation Analysis for the proposed development of the property located east of US 19 and north of Spring Hill Drive in Hernando County, Florida, as shown in Figure 1.

## PROJECT DESCRIPTION

The property is currently vacant. The proposed project will consist of an approximate 5,537 square foot convenience market with 20 gasoline fueling positions and a mix of commercial uses on six (6) or seven (7) outparcels. The out parcels exact uses are unknown at this time, but the following represent a potential mix of uses:

- 2,500 square foot Fast Food Restaurant with Drive-Through
- 5,000 square foot Medical/Dental Office
- 5,000 square foot Medical/Dental Office
- 6,000 square foot High Turnover Restaurant
- 7,000 square foot Strip Retail Plaza.

Eight scenarios of access layouts are being evaluated in this report.

### Scenario 1:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19
- Two (2) full accesses to Pinehurst Drive.

### Scenario 2:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19.

### Scenario 3:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19

- Two (2) right-in/right-out accesses to Pinehurst Drive.

Scenario 4:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19
- Two (2) left-in/right-in/right-out accesses to Pinehurst Drive.

Scenario 5:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19
- Connection to the frontage road to the north.

Scenario 6:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19
- Two (2) left-in/right-in/right-out accesses to Pinehurst Drive
- Connection to the frontage road to the north.

Scenario 7:

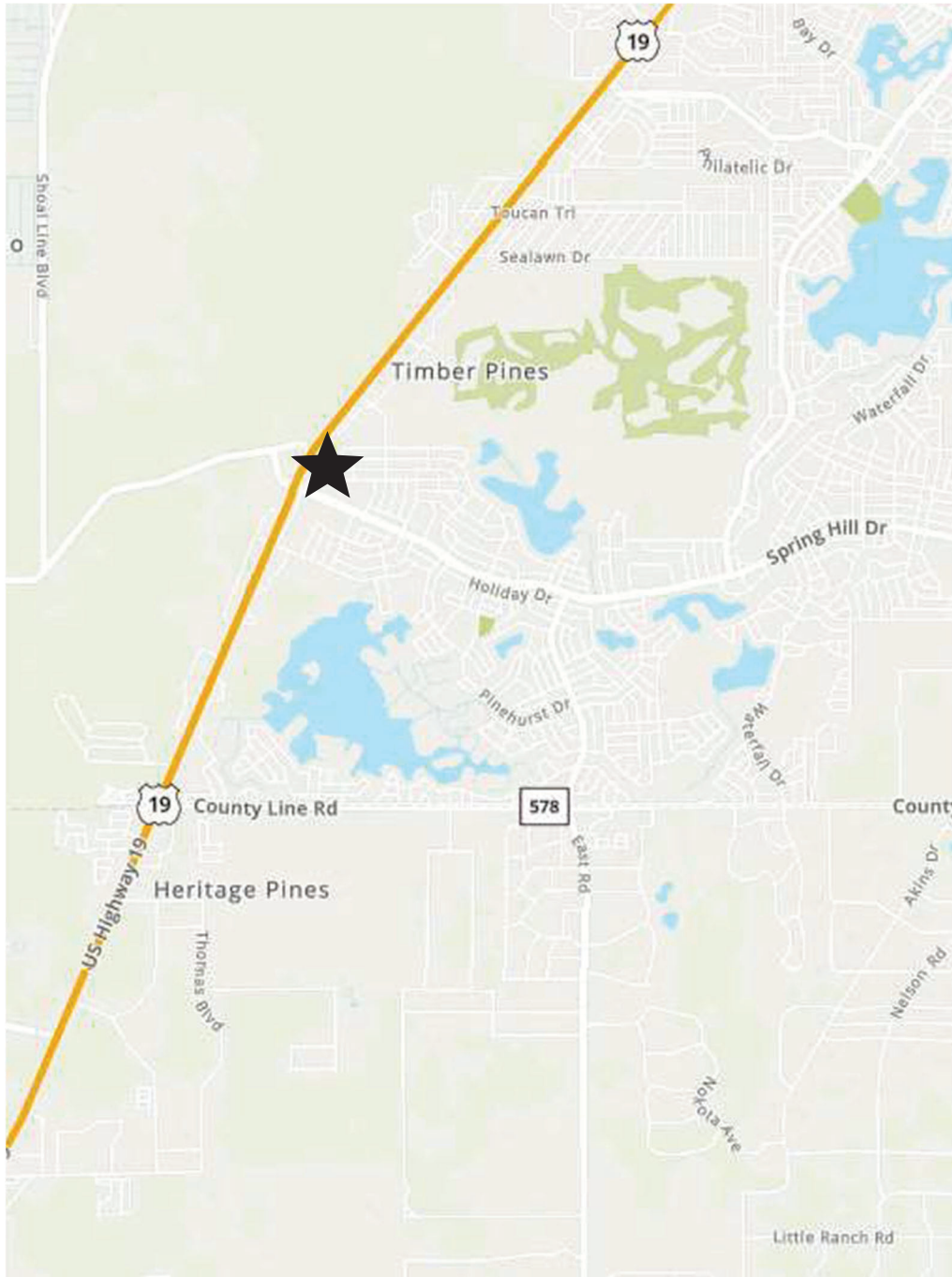
- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19
- Two (2) full accesses to Pinehurst Drive
- Connection to the frontage road to the north.

Scenario 8:

- One (1) right-in/right-out access to US 19
- One (1) left-in/left-out/right-in/right-out access to US 19
- Two (2) right-in/right-out accesses to Pinehurst Drive
- Connection to the frontage road to the north.

A conceptual site plan is included in the Appendix of this report.

**Figure 1. Project Location**





## **ESTIMATED DAILY PROJECT TRAFFIC**

The trip rates utilized in this report were obtained from the latest computerized version of OTISS which utilizes the Institute of Transportation Engineers (ITE) Trip Generation, 11<sup>th</sup> Edition, 2021, as its database. Based on these trip rates, it is estimated that the proposed project will attract approximately 9,468 daily trip ends, as shown in Table 1.

Studies contained in the ITE Trip Generation, 11<sup>th</sup> Edition, indicate that a percentage of the project trips already exist on the adjacent roadways - passerby capture. Therefore, the new daily trip ends attracted to the proposed project would be 3,269 trip ends, as shown in Table 1.

## **ESTIMATED AM PROJECT TRAFFIC**

Again, based on data contained in the ITE Trip Generation, 11<sup>th</sup> Edition, the proposed project would attract approximately 850 trip ends during the AM peak hour with 440 inbound and 410 outbound, as shown in Table 2.

As previously stated, studies contained in the ITE Trip Generation, 11<sup>th</sup> Edition, indicate that a percentage of the project trips already exist on the adjacent roadways - passerby capture. Therefore, the new AM peak hour trip ends attracted to the proposed project would be 282 trip ends with 155 inbound and 127 outbound, as shown in Table 2.

## **ESTIMATED PM PROJECT TRAFFIC**

Again, based on data contained in the ITE Trip Generation, 11<sup>th</sup> Edition, the proposed project would attract approximately 769 trip ends during the PM peak hour with 385 inbound and 384 outbound, as shown in Table 3.

As previously stated, studies contained in the ITE Trip Generation, 11<sup>th</sup> Edition, indicate that a percentage of the projects trips already exist on the adjacent roadways - passerby capture. Therefore, the new PM peak hour trip ends attracted to the proposed project would be 272 trip ends with 133 inbound and 139 outbound, as shown in Table 3.

**Table 1. Estimated Daily Project Traffic**

| <u>Land Use</u>      | <u>ITE LUC</u> | <u>Size</u> | <u>Daily Trip Ends (1)</u> | <u>Passerby Capture (1)</u> | <u>New Daily Trip Ends</u> |
|----------------------|----------------|-------------|----------------------------|-----------------------------|----------------------------|
| Conv Store/Gas       | 945            | 20 FP       | 6,915                      | 5,186                       | 1,729                      |
| Fast Food Restaurant | 934            | 2,500 SF    | 1,169                      | 585                         | 584                        |
| Medical Office       | 720            | 5,000 SF    | 180                        | 0                           | 180                        |
| Medical Office       | 720            | 5,000 SF    | 180                        | 0                           | 180                        |
| High Turnover Rest.  | 932            | 6,000 SF    | 643                        | 276                         | 367                        |
| Strip Retail Plaza   | 822            | 7,000 SF    | <u>381</u>                 | <u>152</u>                  | <u>229</u>                 |
|                      |                | Total       | 9,468                      | 6,199                       | 3,269                      |

(1) Source: ITE Trip Generation, 11th Edition, 2021.

**Table 2. AM Peak Hour Project Traffic**

| <u>Land Use</u>      | <u>ITE LUC</u> | <u>Size</u> | <u>AM Peak Hour Trip Ends (1)</u> |            |              | <u>Passerby Capture (1)</u> |            |              | <u>New AM Peak Hour Trip Ends</u> |            |              |
|----------------------|----------------|-------------|-----------------------------------|------------|--------------|-----------------------------|------------|--------------|-----------------------------------|------------|--------------|
|                      |                |             | <u>In</u>                         | <u>Out</u> | <u>Total</u> | <u>In</u>                   | <u>Out</u> | <u>Total</u> | <u>In</u>                         | <u>Out</u> | <u>Total</u> |
| Conv Store/Gas       | 945            | 20 FP       | 316                               | 316        | 632          | 240                         | 240        | 480          | 76                                | 76         | 152          |
| Fast Food Restaurant | 934            | 2,500 SF    | 57                                | 55         | 112          | 28                          | 28         | 56           | 29                                | 27         | 56           |
| Medical Office       | 720            | 5,000 SF    | 13                                | 3          | 16           | 0                           | 0          | 0            | 13                                | 3          | 16           |
| Medical Office       | 720            | 5,000 SF    | 13                                | 3          | 16           | 0                           | 0          | 0            | 13                                | 3          | 16           |
| High Turnover Rest.  | 932            | 6,000 SF    | 31                                | 26         | 57           | 13                          | 12         | 25           | 18                                | 14         | 32           |
| Strip Retail Plaza   | 822            | 7,000 SF    | <u>10</u>                         | <u>7</u>   | <u>17</u>    | <u>4</u>                    | <u>3</u>   | <u>7</u>     | <u>6</u>                          | <u>4</u>   | <u>10</u>    |
| Total                |                |             | 440                               | 410        | 850          | 285                         | 283        | 568          | 155                               | 127        | 282          |

(1) Source: ITE Trip Generation, 11th Edition, 2021.

**Table 3. PM Peak Hour Project Traffic**

| <u>Land Use</u>      | <u>ITE LUC</u> | <u>Size</u> | <u>PM Peak Hour Trip Ends (1)</u> |            |              | <u>Passerby Capture (1)</u> |            |              | <u>New PM Peak Hour Trip Ends</u> |            |              |
|----------------------|----------------|-------------|-----------------------------------|------------|--------------|-----------------------------|------------|--------------|-----------------------------------|------------|--------------|
|                      |                |             | <u>In</u>                         | <u>Out</u> | <u>Total</u> | <u>In</u>                   | <u>Out</u> | <u>Total</u> | <u>In</u>                         | <u>Out</u> | <u>Total</u> |
| Conv Store/Gas       | 945            | 20 FP       | 269                               | 269        | 538          | 202                         | 202        | 404          | 67                                | 67         | 134          |
| Fast Food Restaurant | 934            | 2,500 SF    | 43                                | 40         | 83           | 24                          | 22         | 46           | 19                                | 18         | 37           |
| Medical Office       | 720            | 5,000 SF    | 5                                 | 12         | 17           | 0                           | 0          | 0            | 5                                 | 12         | 17           |
| Medical Office       | 720            | 5,000 SF    | 5                                 | 12         | 17           | 0                           | 0          | 0            | 5                                 | 12         | 17           |
| High Turnover Rest.  | 932            | 6,000 SF    | 33                                | 21         | 54           | 14                          | 9          | 23           | 19                                | 12         | 31           |
| Strip Retail Plaza   | 822            | 7,000 SF    | <u>30</u>                         | <u>30</u>  | <u>60</u>    | <u>12</u>                   | <u>12</u>  | <u>24</u>    | <u>18</u>                         | <u>18</u>  | <u>36</u>    |
| Total                |                |             | 385                               | 384        | 769          | 252                         | 245        | 497          | 133                               | 139        | 272          |

(1) Source: ITE Trip Generation, 11th Edition, 2021.

## **PROJECT TRIP DISTRIBUTION/ASSIGNMENT**

The following distribution of the new AM and PM peak hour trip ends was based on the existing traffic and development patterns with hand assignment to the local network:

- 25% to and from the north (via US 19)
- 25% to and from the south (via US 19)
- 40% to and from the east (via Spring Hill Drive)
- 10% to and from the west (via Osowaw Boulevard).

Table 4 shows the distribution of the new AM and PM peak hour project trip ends. Figure 2 and Figure 3 illustrate the AM and PM peak hour trip ends for Access Scenario 1, respectively. Figure 4 and Figure 5 illustrate the AM and PM peak hour trip ends for Access Scenario 2, respectively. Figure 6 and Figure 7 illustrate the AM and PM peak hour trip ends for Access Scenario 3, respectively. Figure 8 and Figure 9 illustrate the AM and PM peak hour trip ends for Access Scenario 4, respectively. Figure 10 and Figure 11 illustrate the AM and PM peak hour trip ends for Access Scenario 5, respectively. Figure 12 and Figure 13 illustrate the AM and PM peak hour trip ends for Access Scenario 6, respectively. Figure 14 and Figure 15 illustrate the AM and PM peak hour trip ends for Access Scenario 7, respectively. Figure 16 and Figure 17 illustrate the AM and PM peak hour trip ends for Access Scenario 8, respectively.

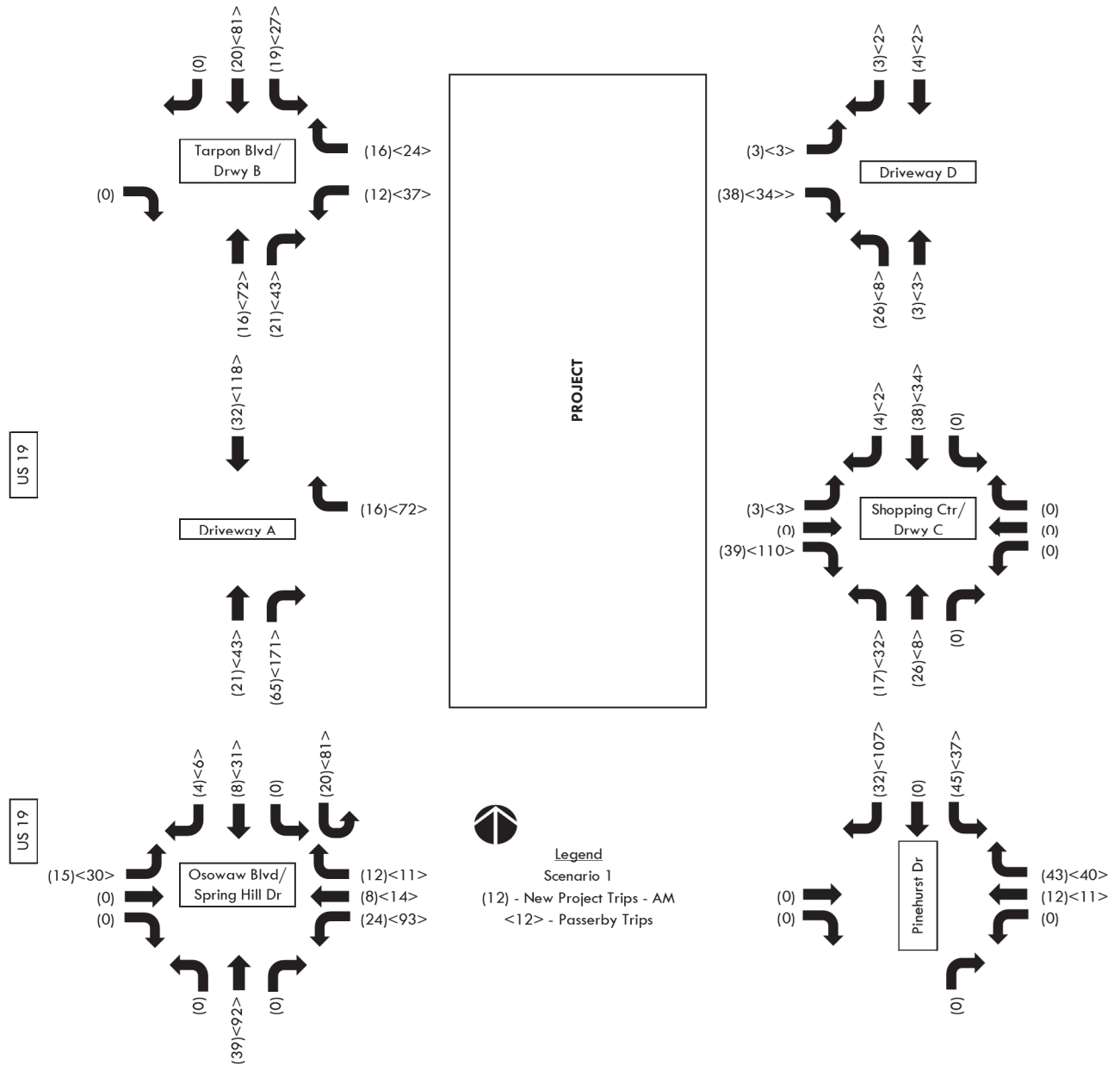
## **BUDGETED IMPROVEMENTS**

According to the FDOT Work Program and the Hernando County Capital Improvement Program, there are no capacity adding projects budgeted within the vicinity of the project.

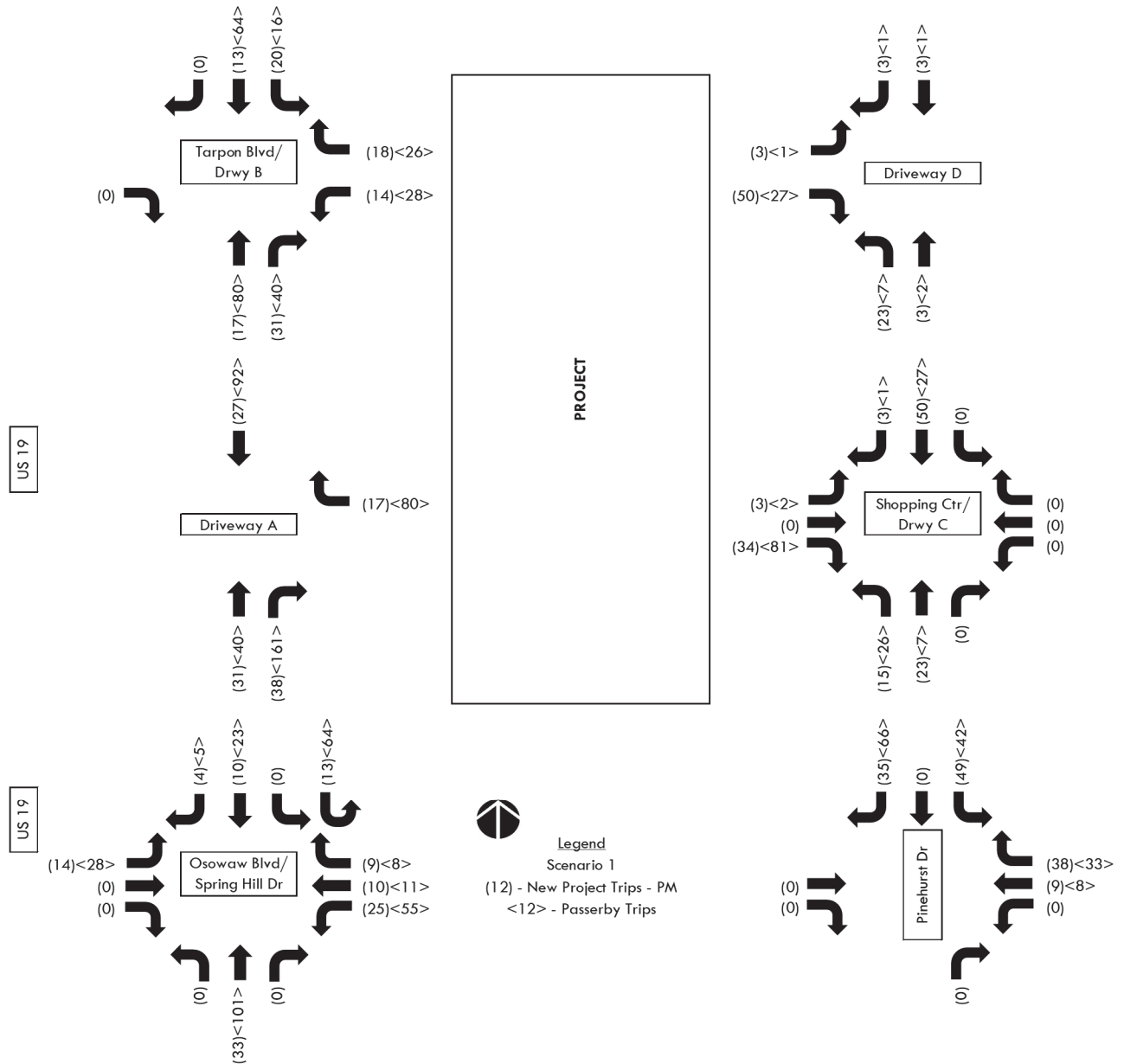
**Table 4. Estimated New Peak Hour Project Traffic Distribution**

| Time<br>Period | North (25%) |     | South (25%) |     | East (40%) |     | West (10%) |     | Total |     |
|----------------|-------------|-----|-------------|-----|------------|-----|------------|-----|-------|-----|
|                | In          | Out | In          | Out | In         | Out | In         | Out | In    | Out |
| AM             | 39          | 32  | 39          | 32  | 62         | 51  | 15         | 12  | 155   | 127 |
| PM             | 33          | 35  | 33          | 35  | 53         | 55  | 14         | 14  | 133   | 139 |

**Figure 2. Scenario 1 – Project Traffic – AM Peak Hour**



**Figure 3. Scenario 1 – Project Traffic – PM Peak Hour**





**Figure 4. Scenario 2 – Project Traffic – AM Peak Hour**

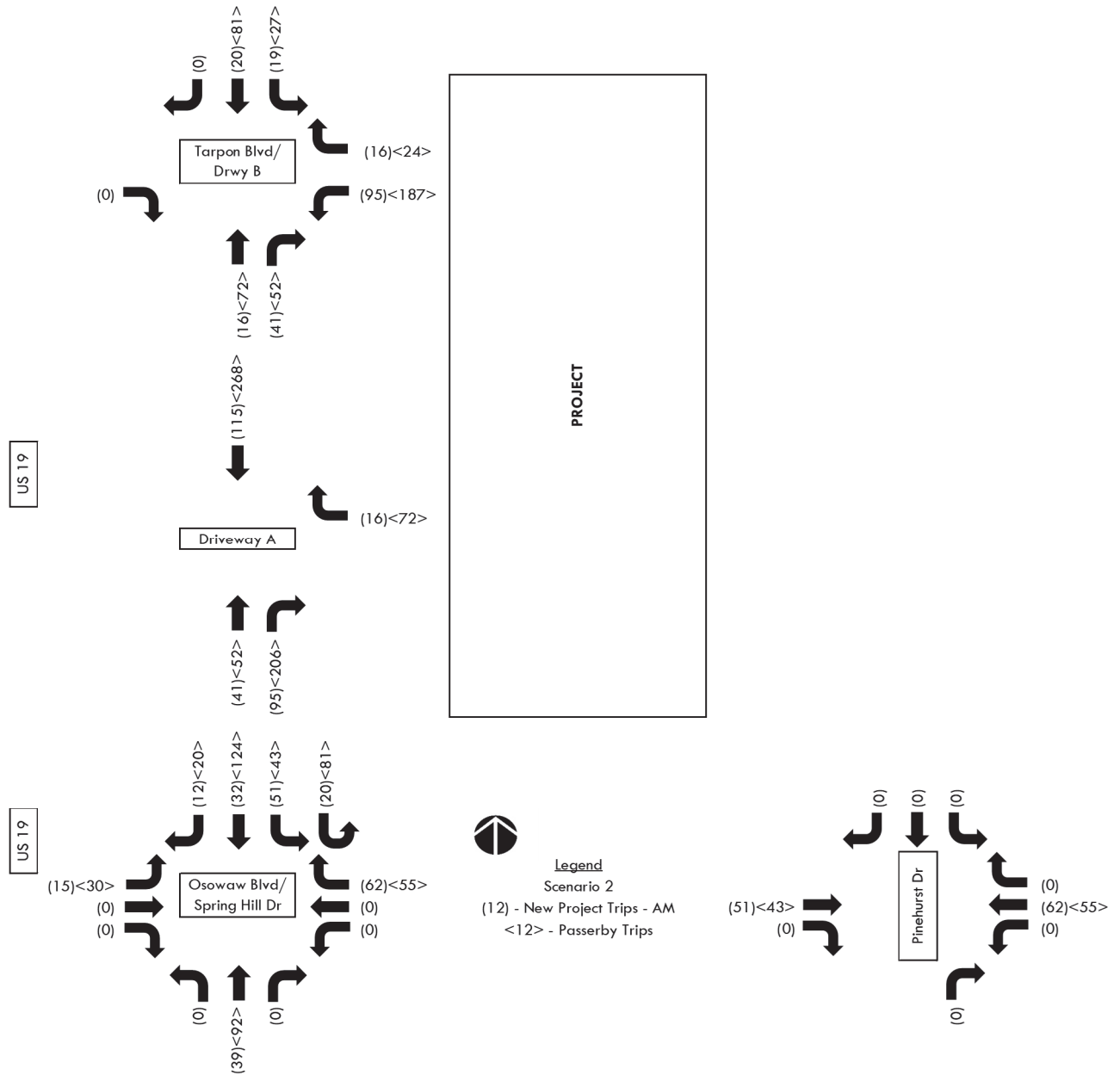
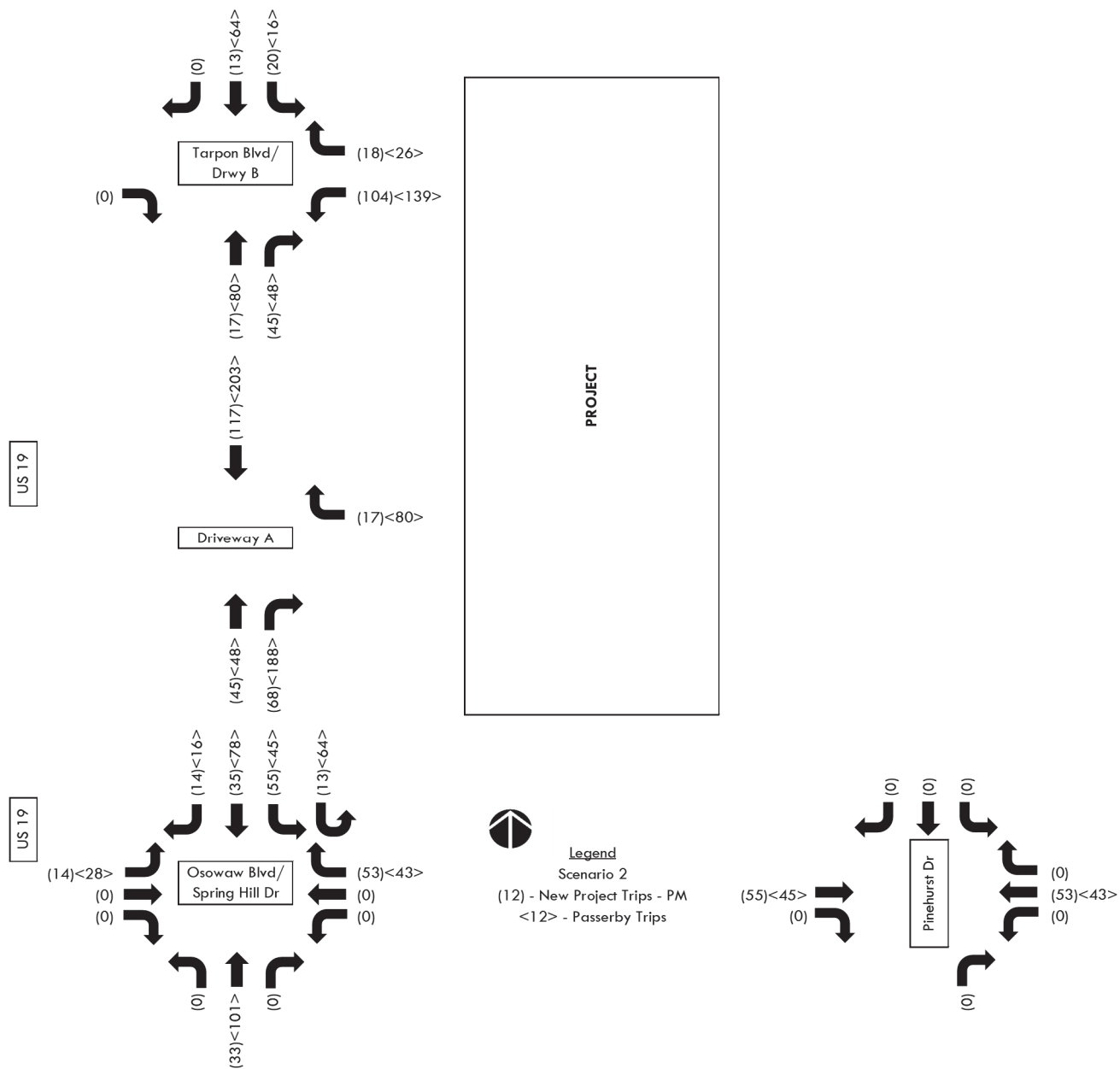


Figure 5. Scenario 2 – Project Traffic – PM Peak Hour



**Figure 6. Scenario 3 – Project Traffic – AM Peak Hour**

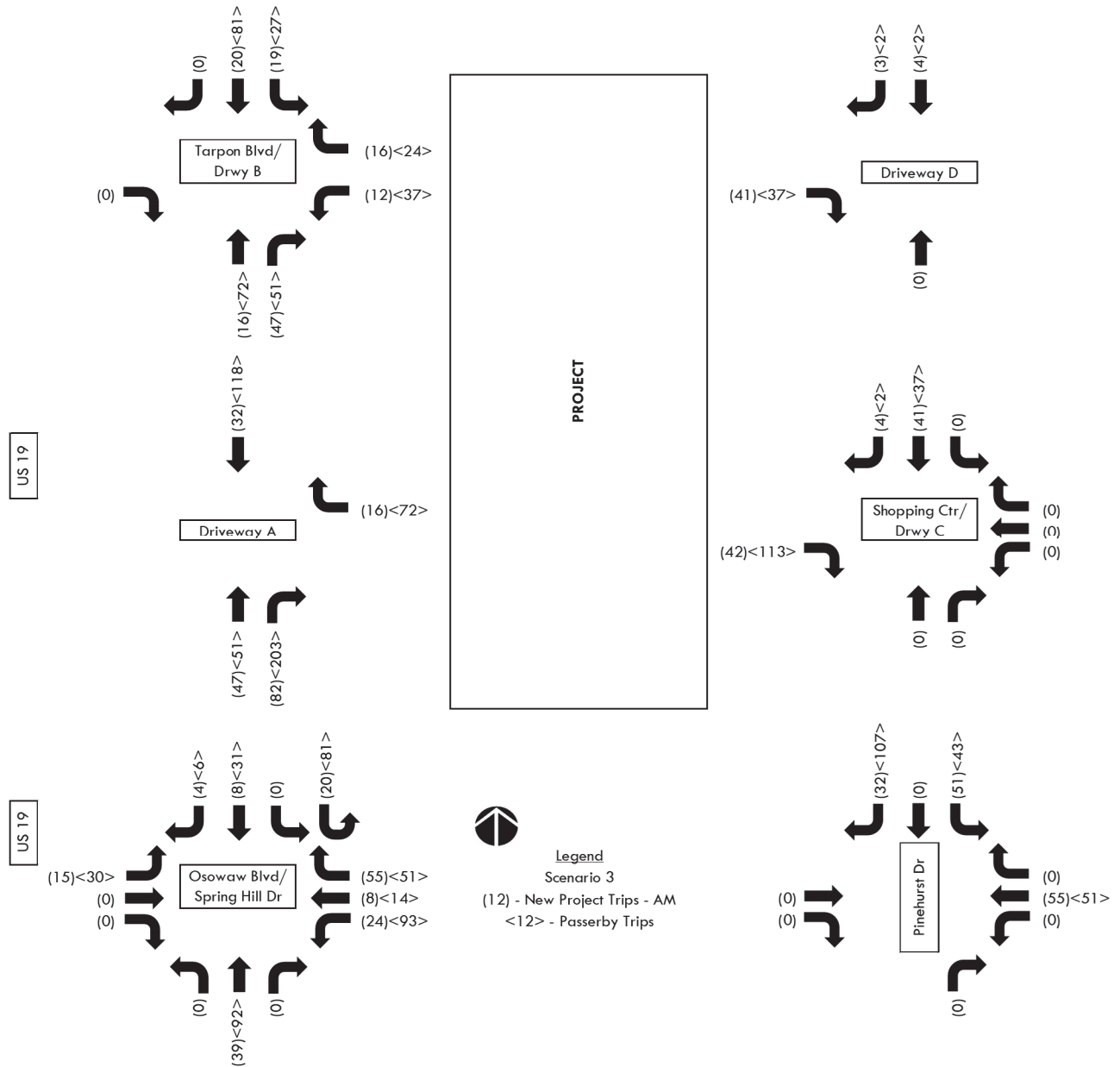
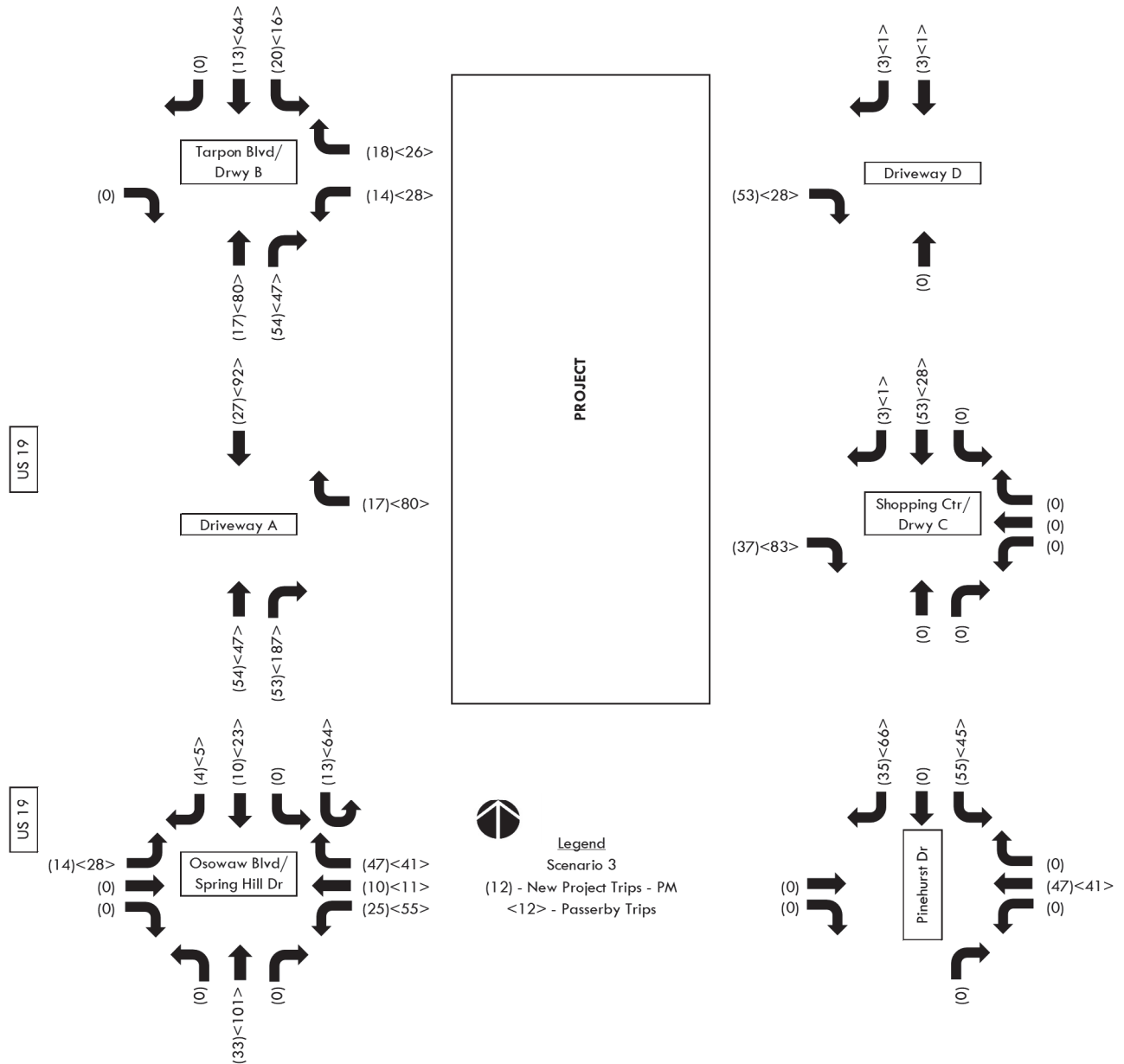
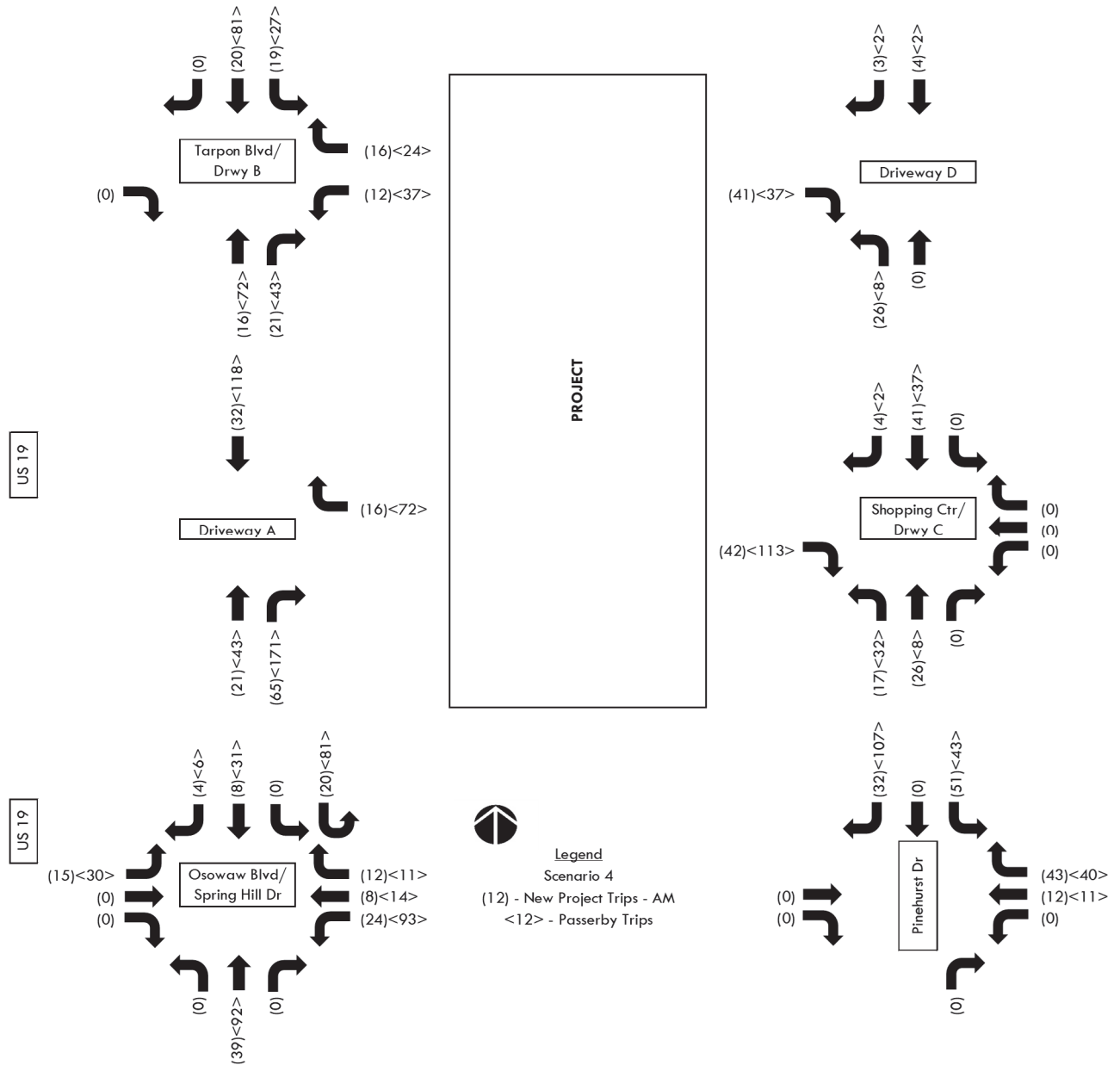


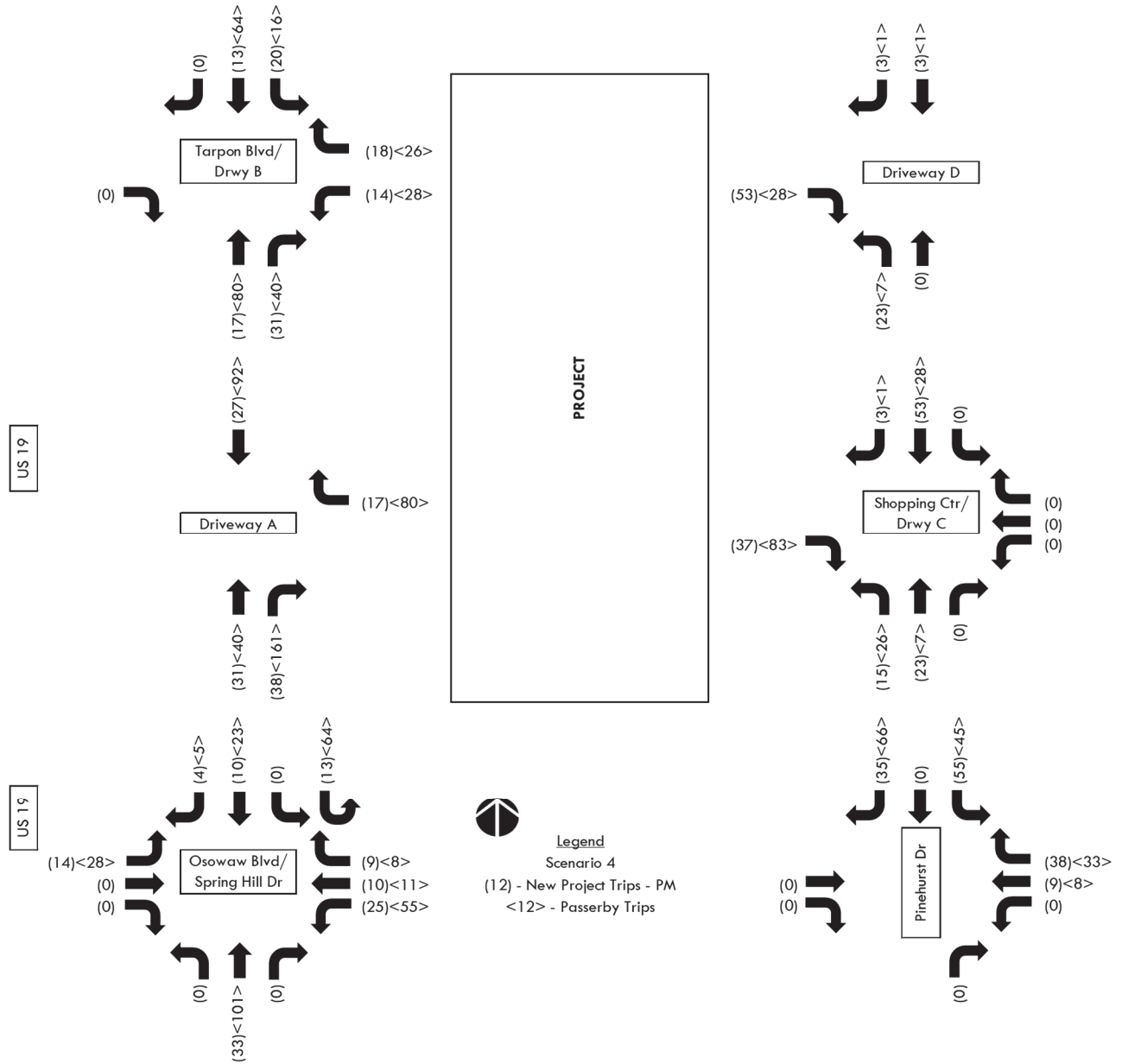
Figure 7. Scenario 3 – Project Traffic – PM Peak Hour



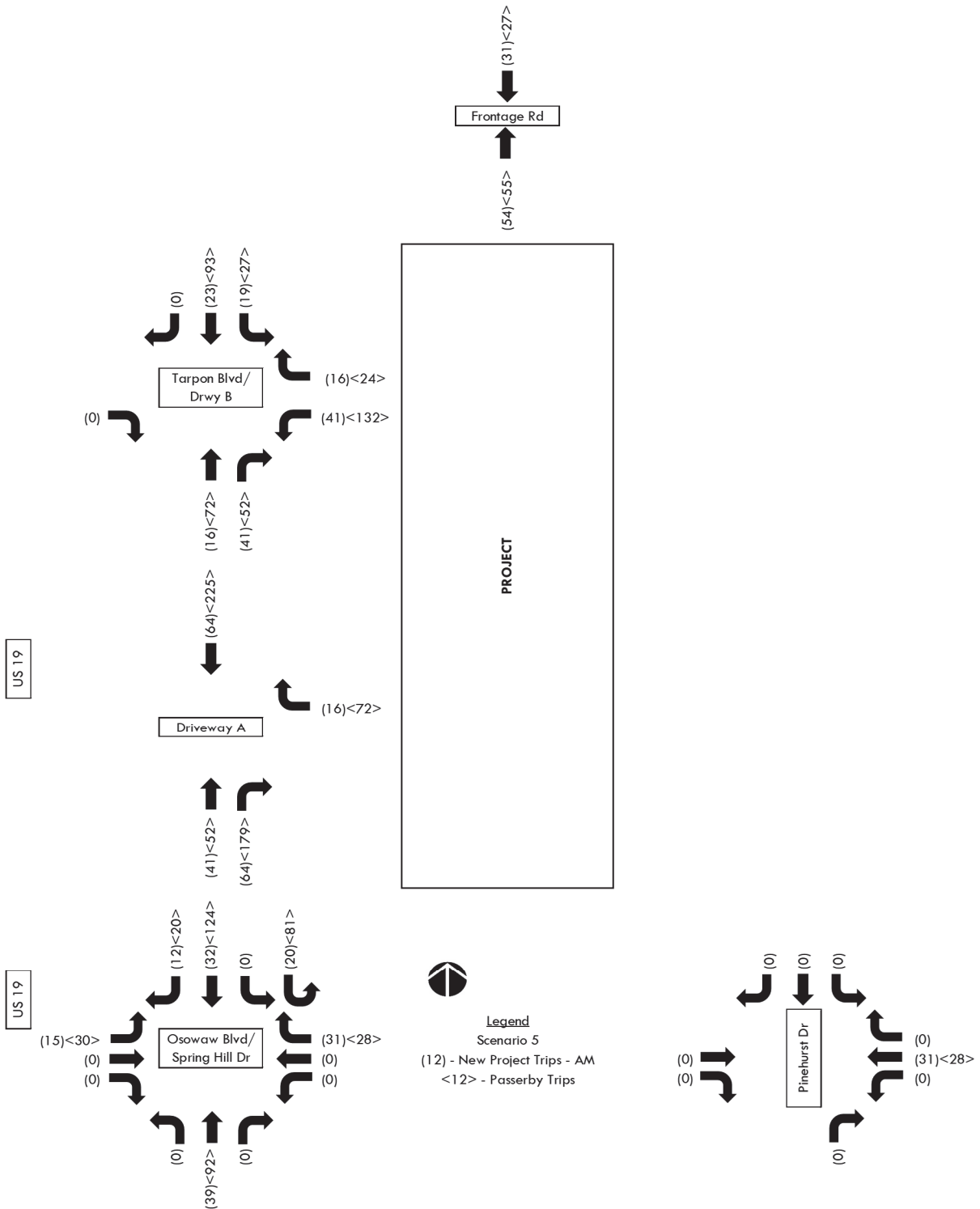
**Figure 8. Scenario 4 – Project Traffic – AM Peak Hour**



**Figure 9. Scenario 4 – Project Traffic – PM Peak Hour**



**Figure 10. Scenario 5 – Project Traffic – AM Peak Hour**



**Figure 11. Scenario 5 – Project Traffic – PM Peak Hour**

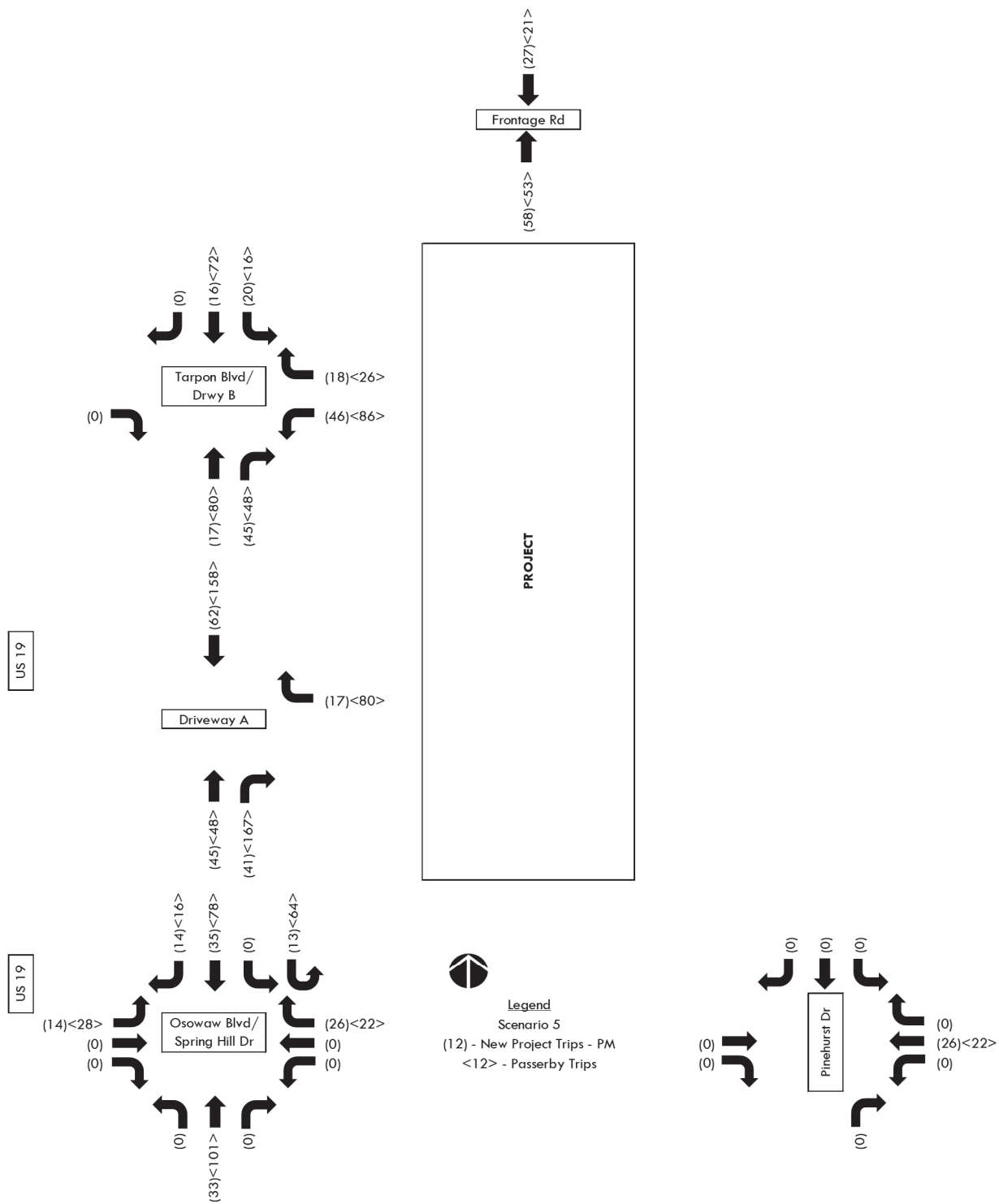
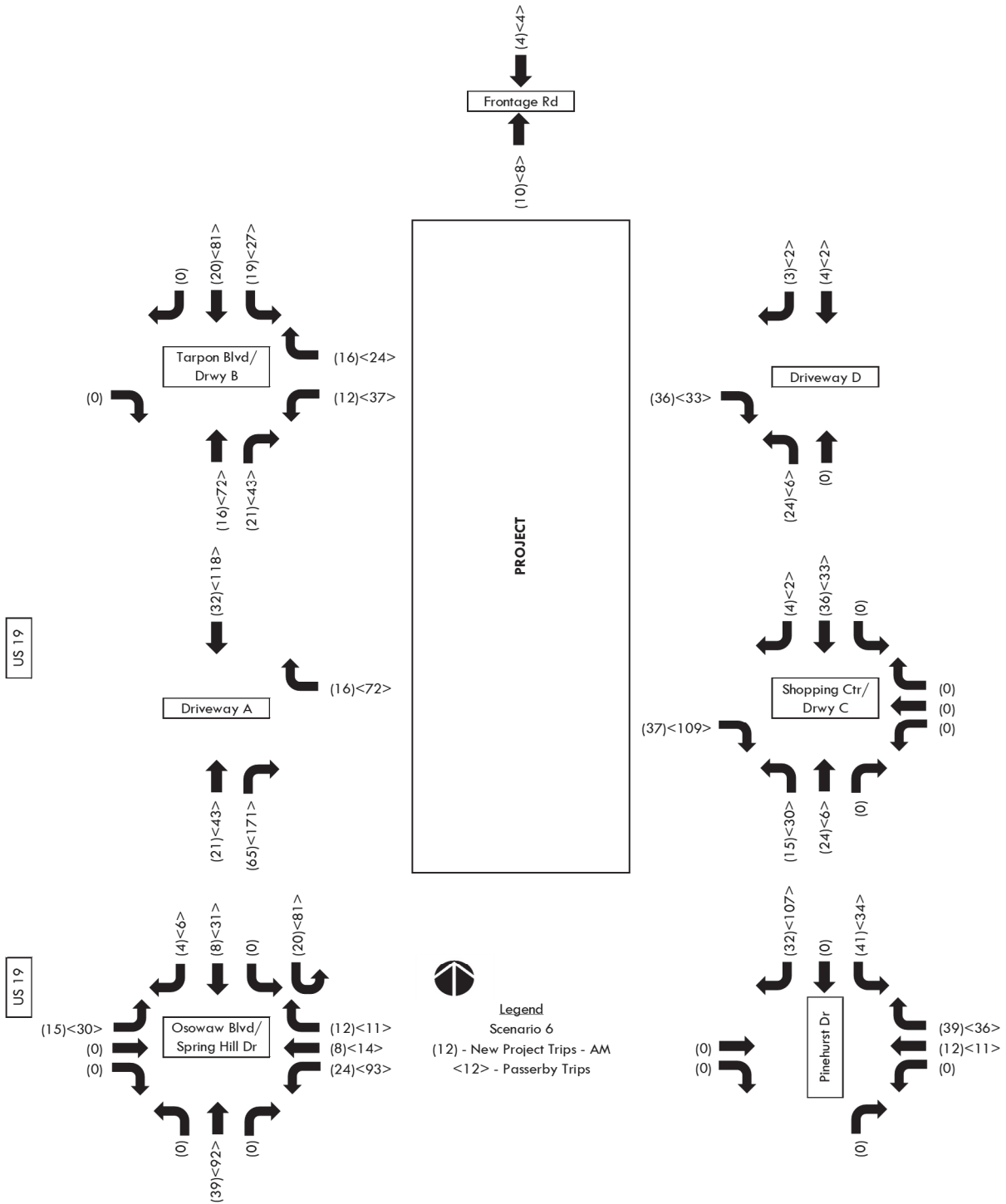
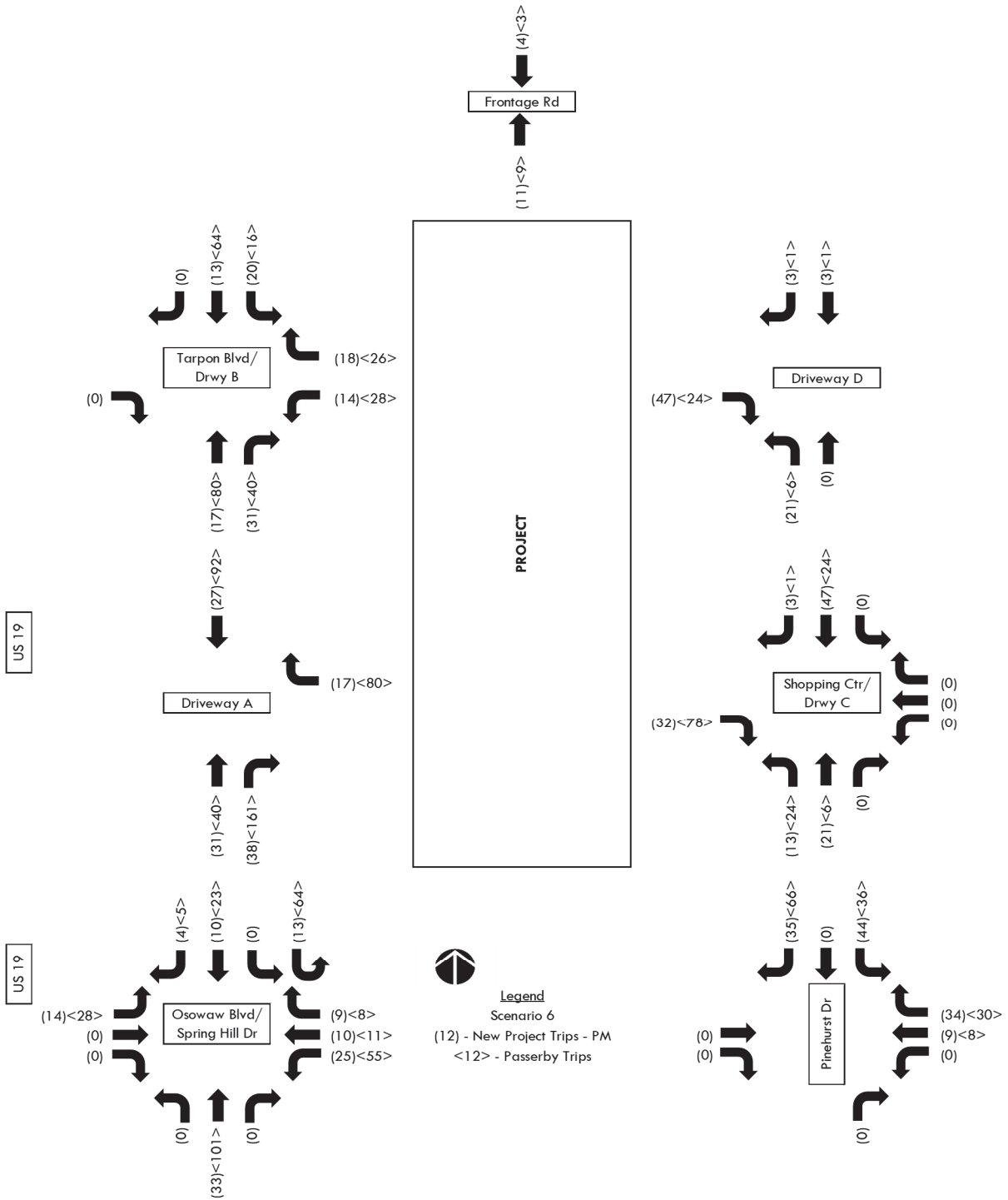




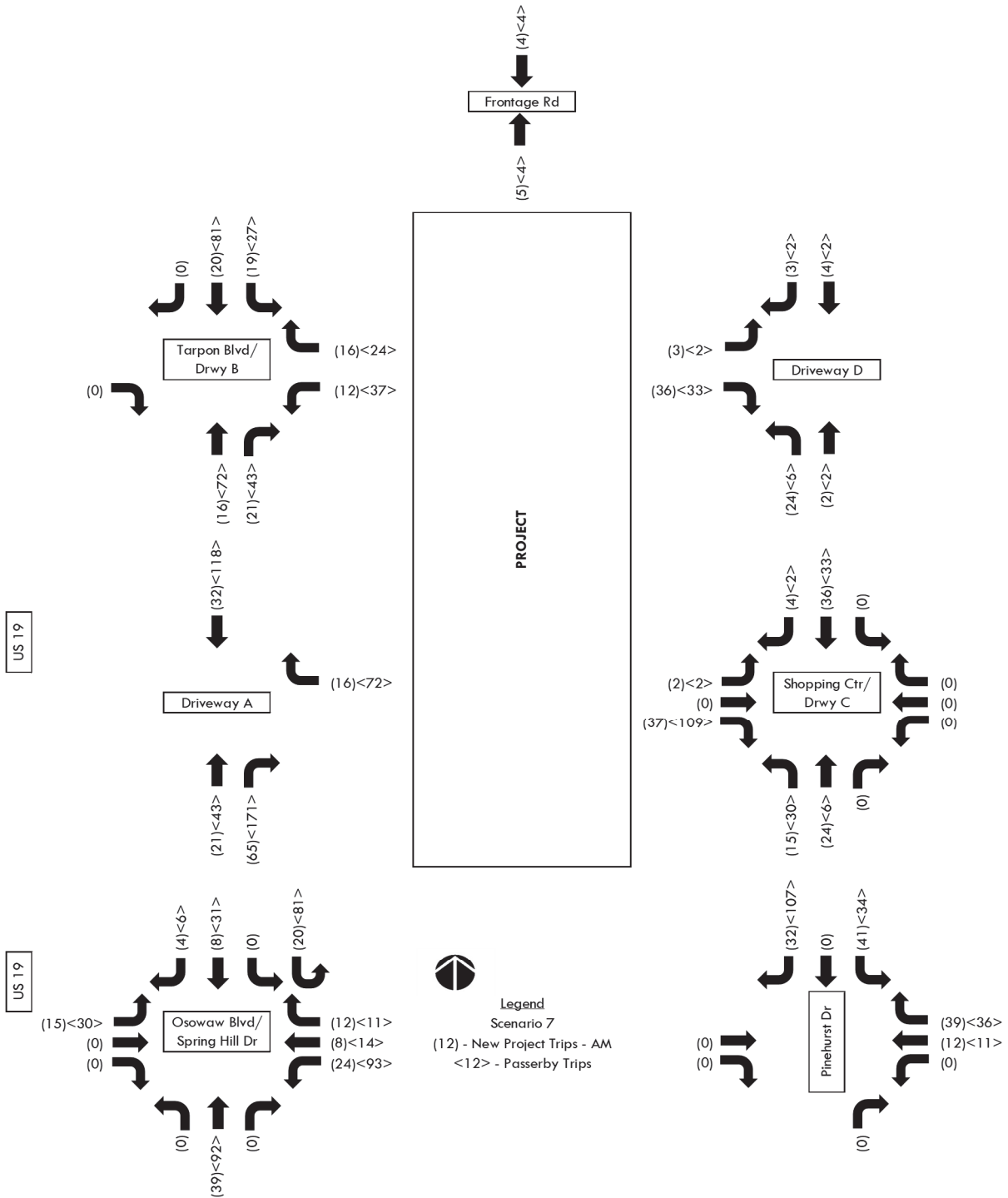
Figure 12. Scenario 6 – Project Traffic – AM Peak Hour



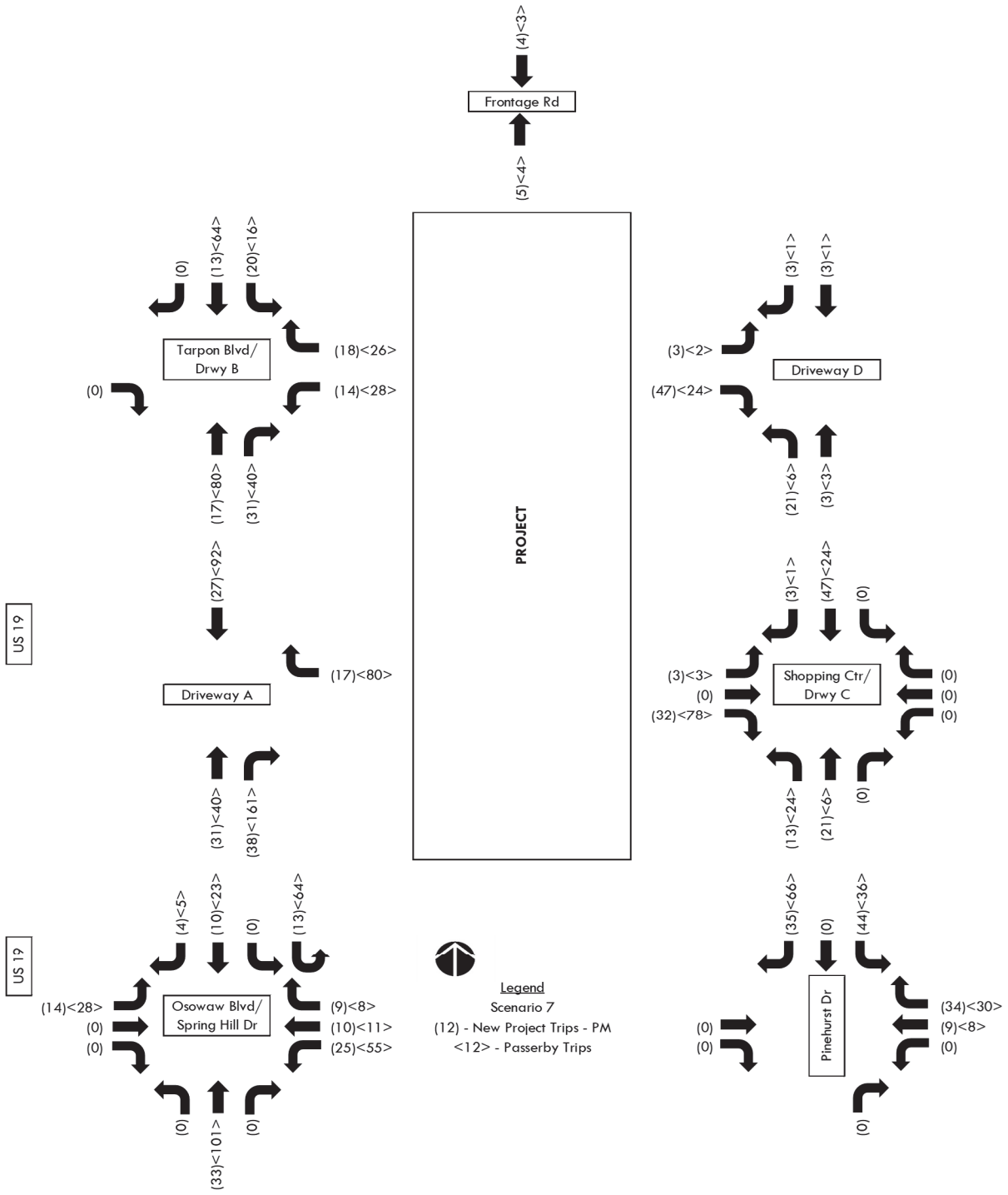
**Figure 13. Scenario 6 – Project Traffic – PM Peak Hour**



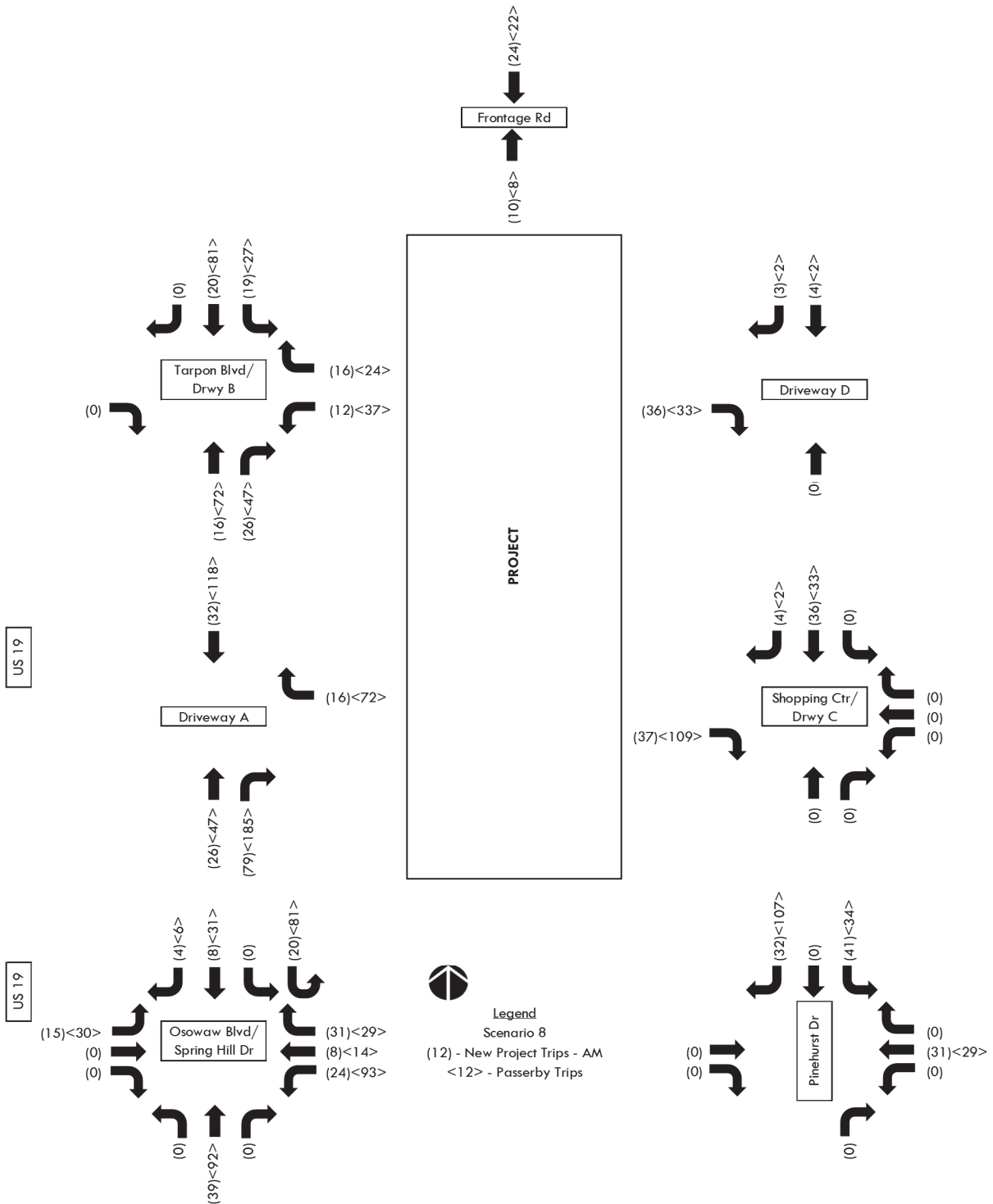
**Figure 14. Scenario 7 – Project Traffic – AM Peak Hour**



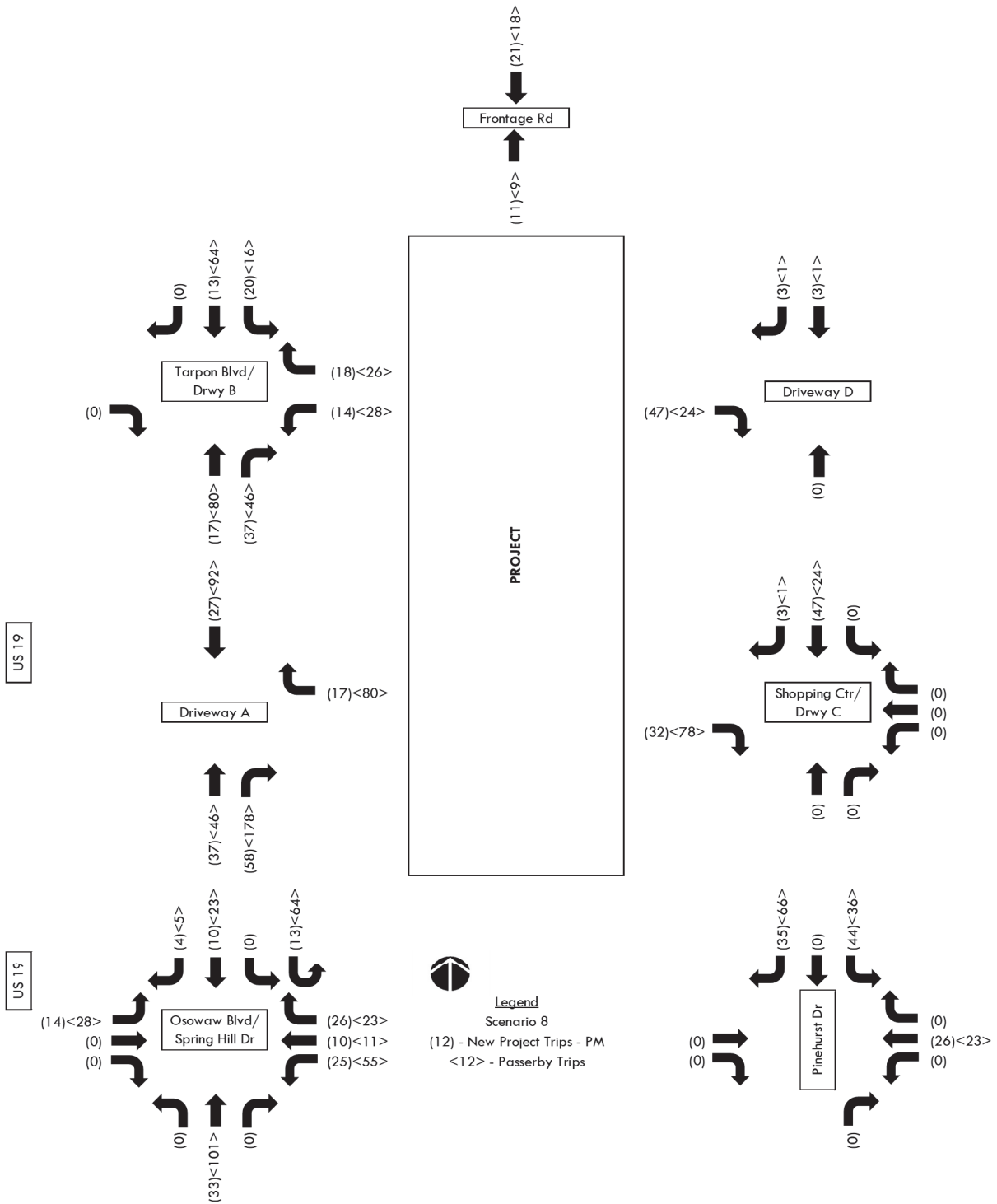
**Figure 15. Scenario 7 – Project Traffic – PM Peak Hour**



**Figure 16. Scenario 8 – Project Traffic – AM Peak Hour**



**Figure 17. Scenario 8 – Project Traffic – PM Peak Hour**



## **STUDY AREA**

The study area for this analysis was determined to include all major road network facilities in which the peak hour project traffic consumes 4.5 percent or more of the adopted level of service capacity of the roadway. Table 5 shows the Study Area Determination for the project. As shown in the table, the project traffic does not consume more than 4.5 percent of the peak hour capacity on any of the adjacent links except for Pinehurst Drive. Therefore, only the adjacent links will be included in the study area:

## **ADJACENT ROADWAYS**

As stated previously, the site is located east of US 19 and north of Spring Hill Drive. US 19 is a six-lane divided roadway. Spring Hill Drive is a four (4) lane divided roadway. Pinehurst Drive is a two (2) lane undivided roadway. According to the FDOT Work Program and Hernando County Capital Improvement Plan, there are no other programmed capacity improvements in the vicinity of the project.

## **BUILDOUT**

It is anticipated the project will have a 2023 buildout date.

**Table 5. Study Area Determination**

| <u>Roadway</u> | <u>From</u>    | <u>To</u>      | <u>Lanes</u> | <u>Peak Hour<br/>Two-Way<br/>Capacity (1)</u> | <u>PM<br/>Peak Hour<br/>Project<br/>Traffic</u> | <u>Percent<br/>Consumed</u> |
|----------------|----------------|----------------|--------------|---|---|-----------------------------|
| US 19          | Applegate Dr   | Spring Hill Dr | 6LD          | 5,390   | 68  | 1.3%                        |
|                | Spring Hill Dr | Trenton Ave    | 6LD          | 5,390   | 90  | 1.7%                        |
| Spring Hill Dr | US 19          | Pinehurst Dr   | 4LD          | 3,222   | 37  | 1.1%                        |
|                | Pinehurst Dr   | Kenlake Ave    | 4LD          | 3,222   | 96  | 3.0%                        |
| Pinehurst Dr   | Spring Hill Dr | Project        | 2LU          | 1,197   | 115   | 9.6%                        |

(1) Source: FDOT Generalized Level of Service Tables.

Local 4LD:  $3,580 \times 0.90 = 3,222$

Local 2LU:  $1,330 \times 0.90 = 1,197$



## BACKGROUND TRAFFIC

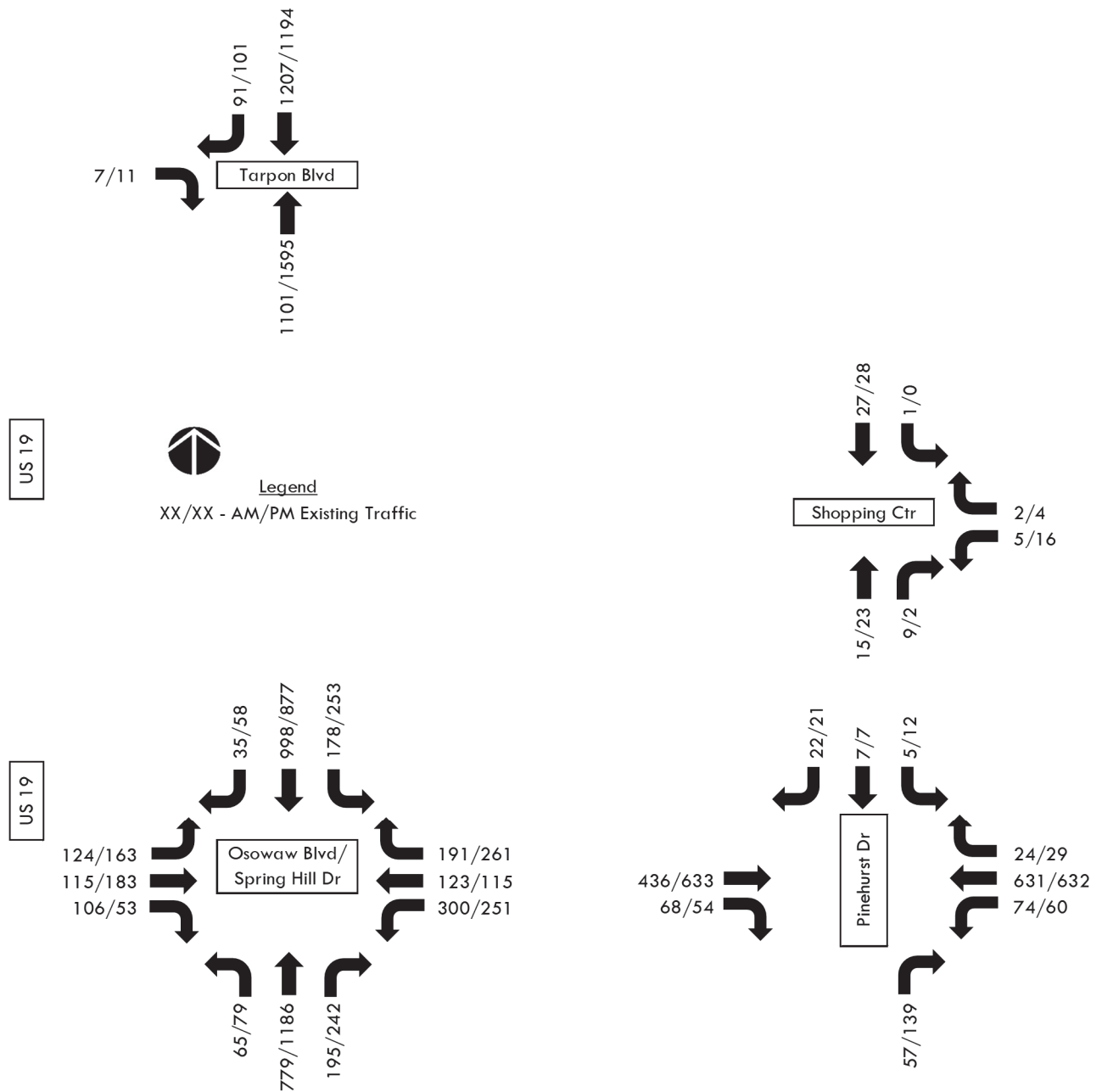
The following methodology was utilized to estimate the existing volumes within the study area:

1. PALM TRAFFIC conducted AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hour turning movement counts at the following intersections:
  - US 19 and Spring Hill Drive/Osowaw Boulevard
  - US 19 and Tarpon Boulevard
  - Spring Hill Drive and Pinehurst Drive
  - Pinehurst Drive and Spring Hill Commons Driveway.

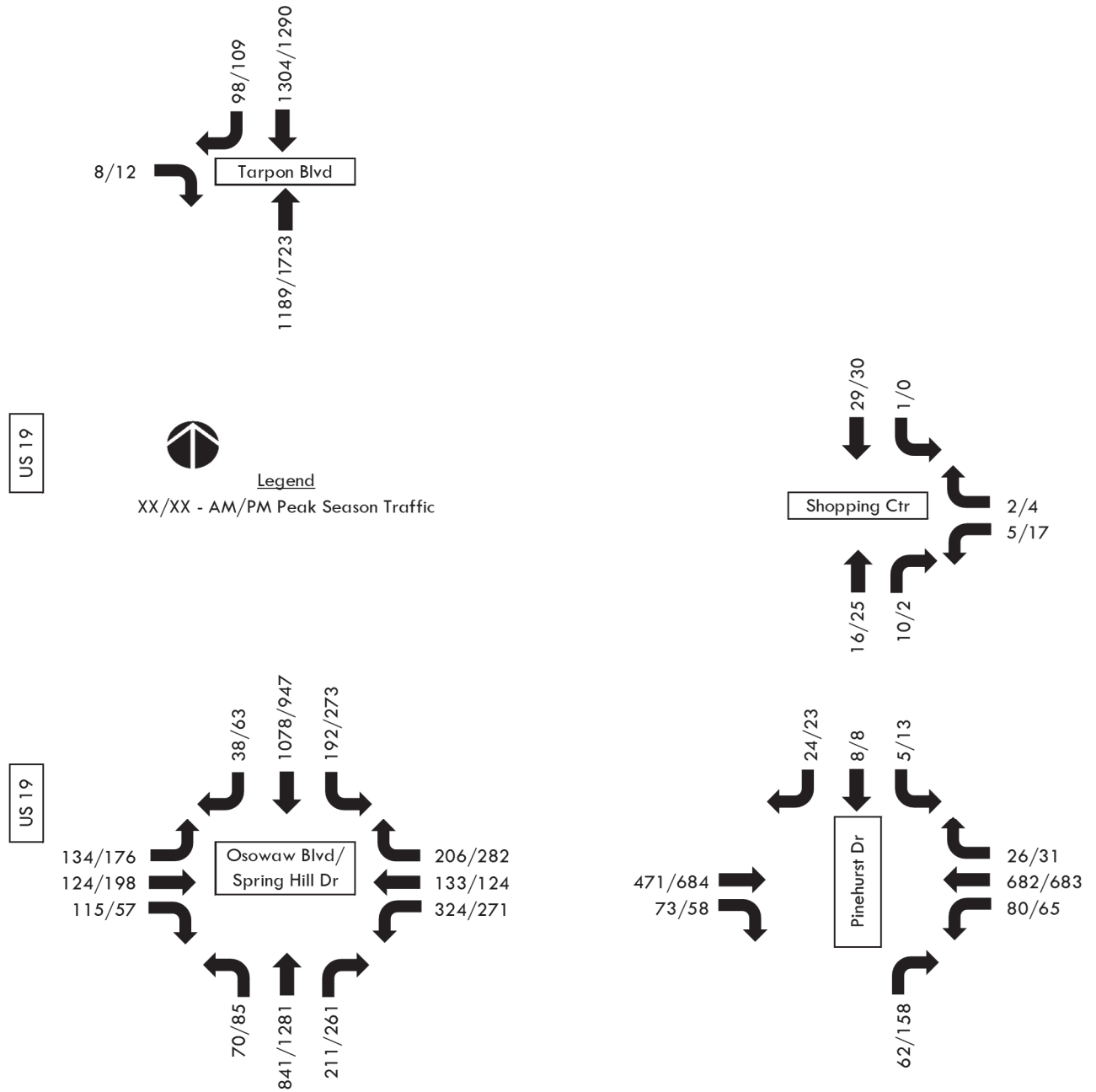
Figure 18 illustrates the existing traffic for the AM and PM peak hours.

2. The turning movement counts were adjusted to the peak season based on the FDOT Peak Season Adjustment Factors for Hernando County of 1.08. Figure 19 illustrates the peak season traffic for the AM and PM peak hours.
3. Based on FDOT historical traffic counts on US 19 in the area, there has been approximately a 1.23 percent annual growth rate over the past 10 years. Therefore, an annual growth rate of 1.5 percent per year was used to determine the background traffic in the buildout year of 2023. Figure 20 illustrates the background traffic. Figure 21 and Figure 22 illustrate the AM and PM background plus project traffic for Access Scenario 1, respectively. Figure 23 and Figure 24 illustrate the AM and PM background plus project traffic for Access Scenario 2, respectively. Figure 25 and Figure 26 illustrate the AM and PM background plus project traffic for Access Scenario 3, respectively. Figure 27 and Figure 28 illustrate the AM and PM background plus project traffic for Access Scenario 4, respectively. Figure 29 and Figure 30 illustrate the AM and PM background plus project traffic for Access Scenario 5, respectively. Figure 31 and Figure 32 illustrate the AM and PM background plus project traffic for Access Scenario 6, respectively. Figure 33 and Figure 34 illustrate the AM and PM background plus project traffic for Access Scenario 7, respectively. Figure 35 and Figure 36 illustrate the AM and PM background plus project traffic for Access Scenario 8, respectively.

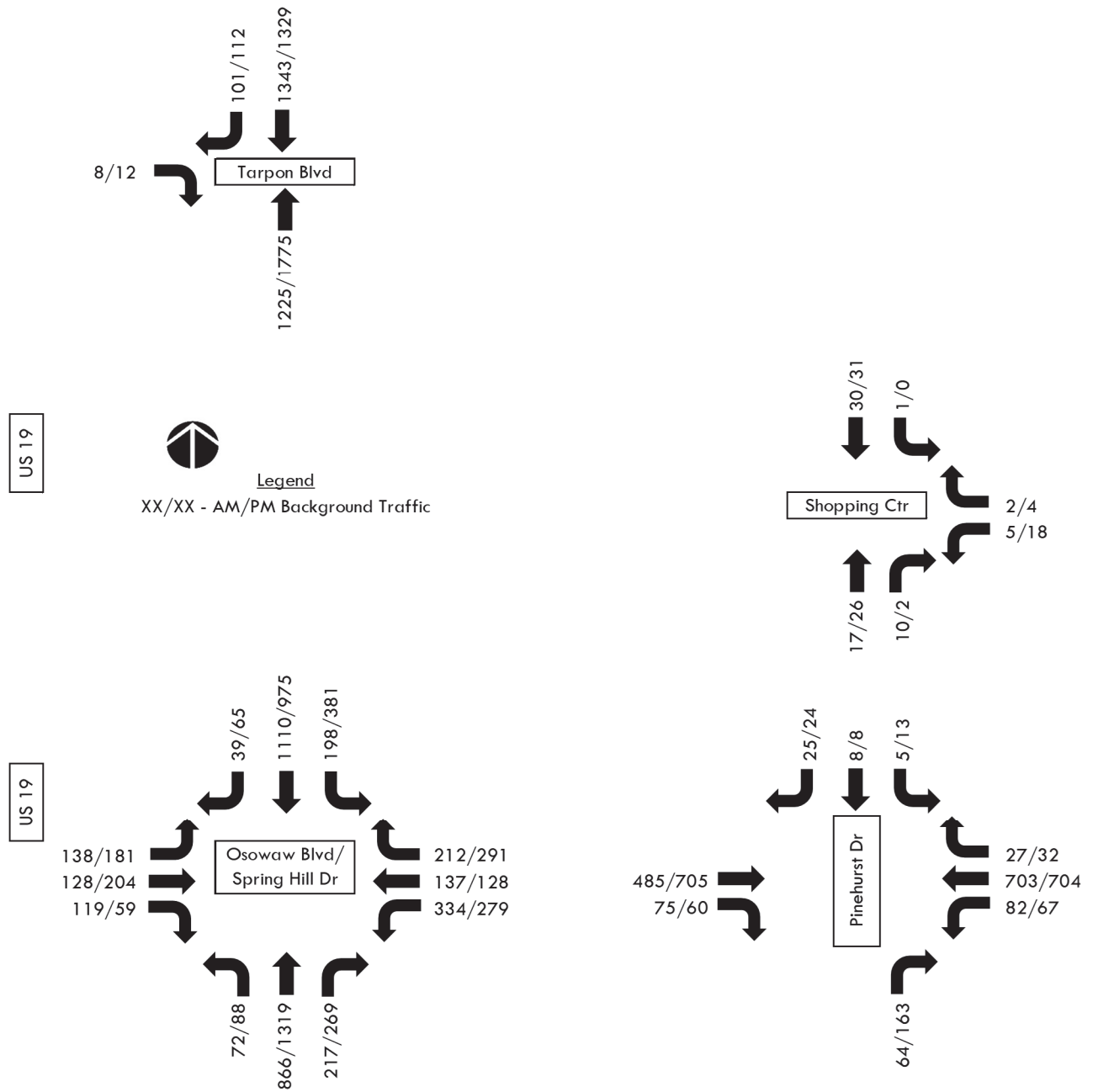
**Figure 18. Existing Traffic**



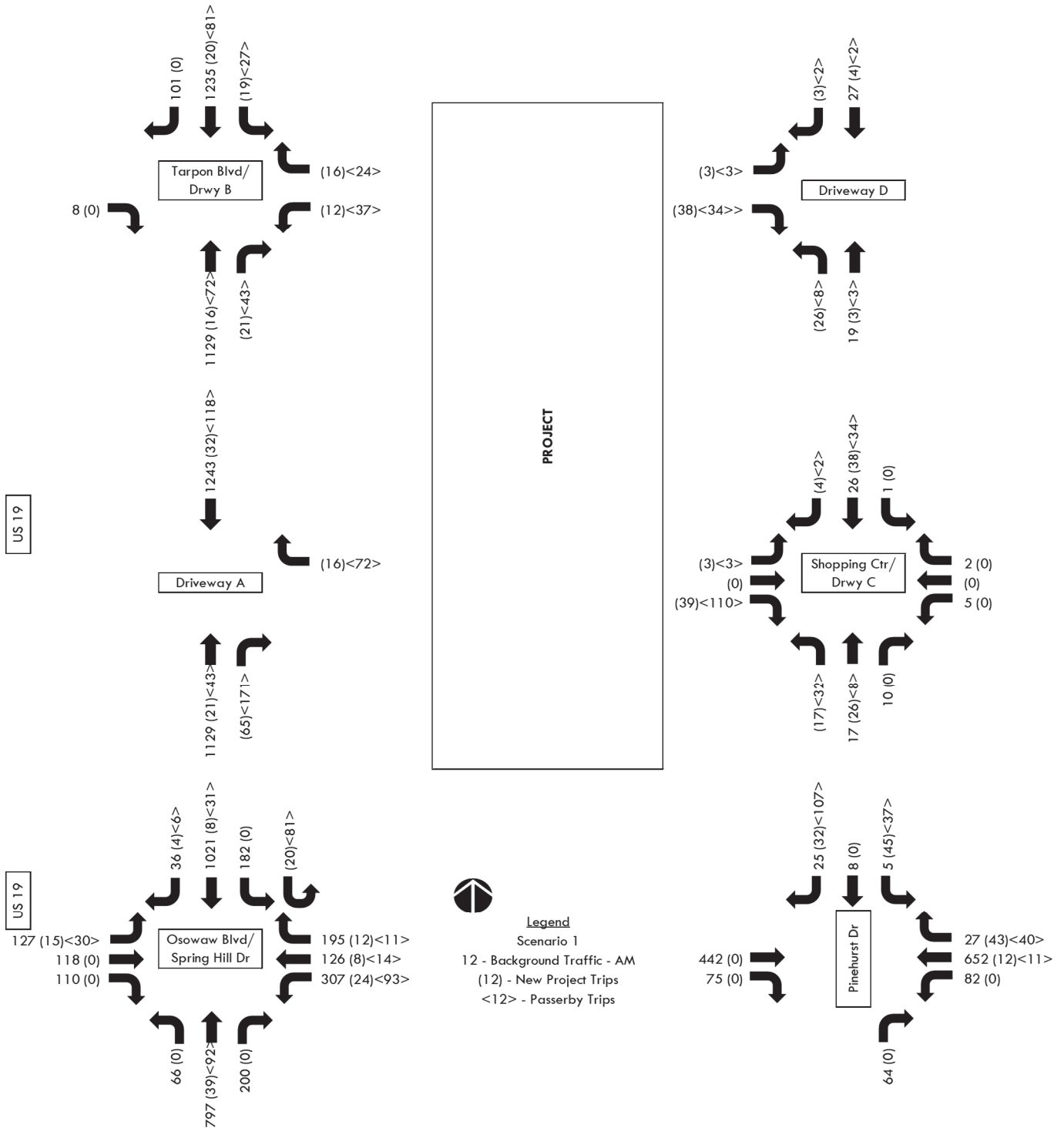
**Figure 19. Peak Season Traffic**



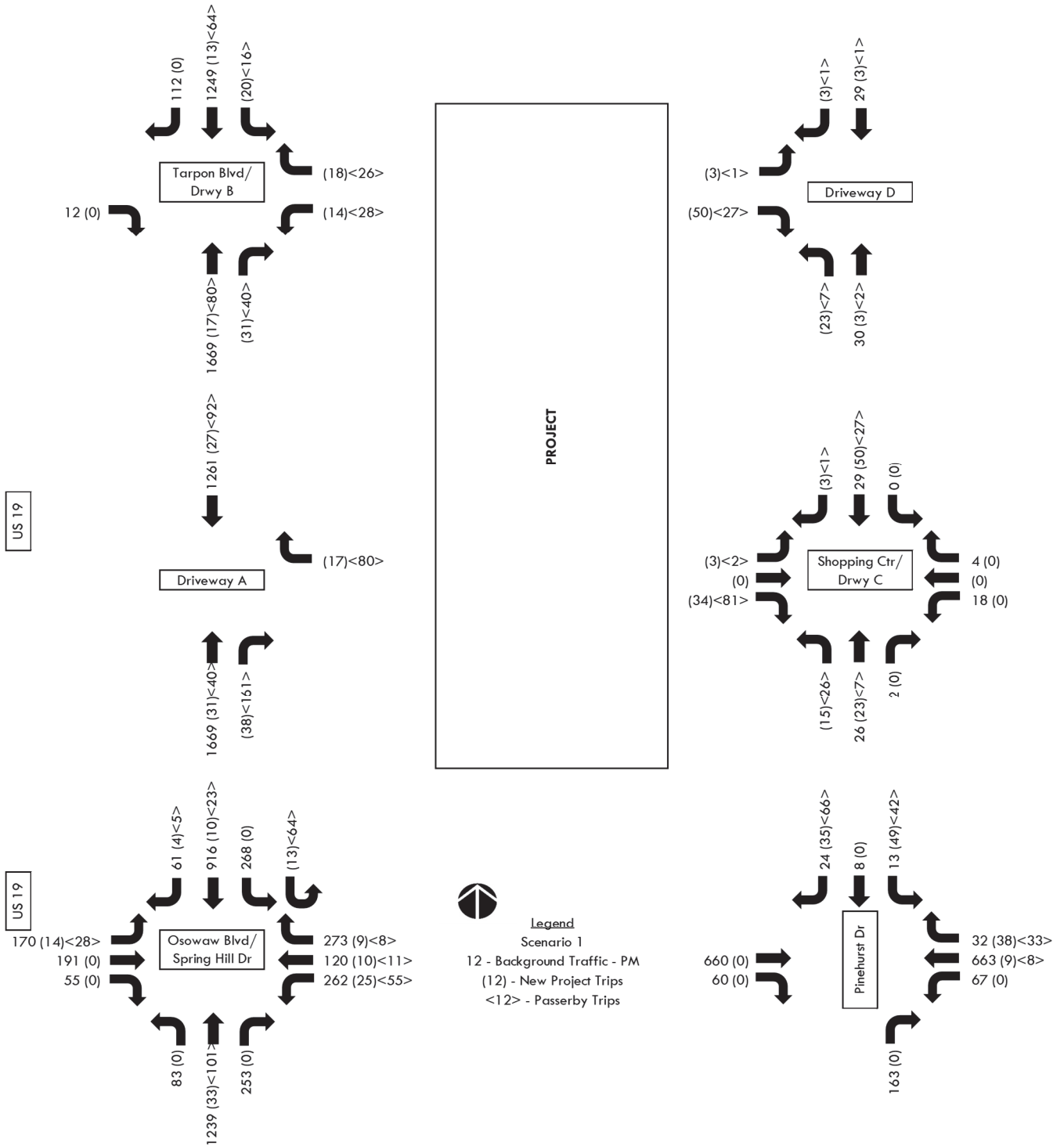
**Figure 20. Background Traffic**



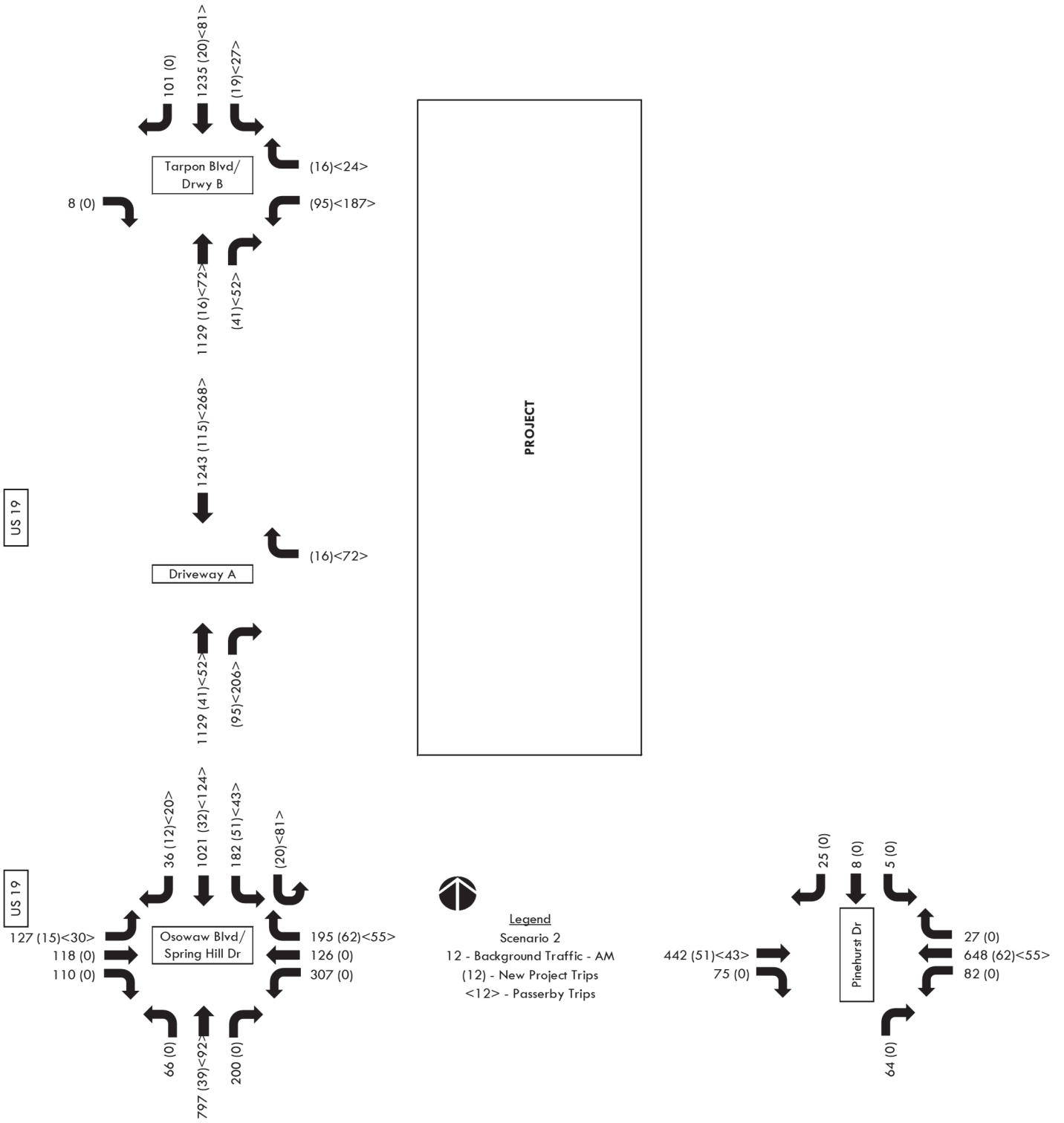
**Figure 21. Scenario 1 – Background Plus Project Traffic – AM Peak Hour**



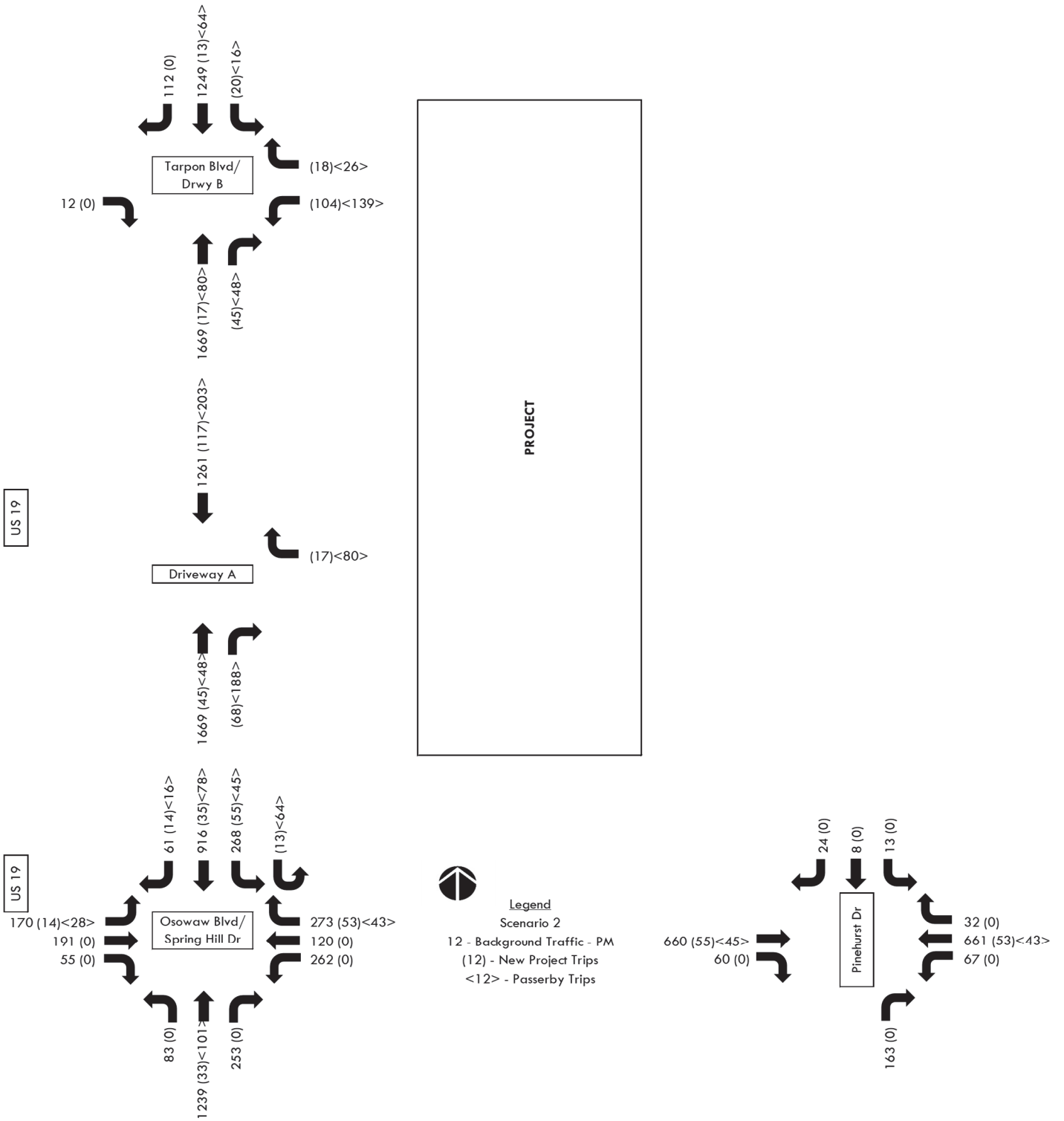
**Figure 22. Scenario 1 – Background Plus Project Traffic – PM Peak Hour**



**Figure 23. Scenario 2 – Background Plus Project Traffic – AM Peak Hour**

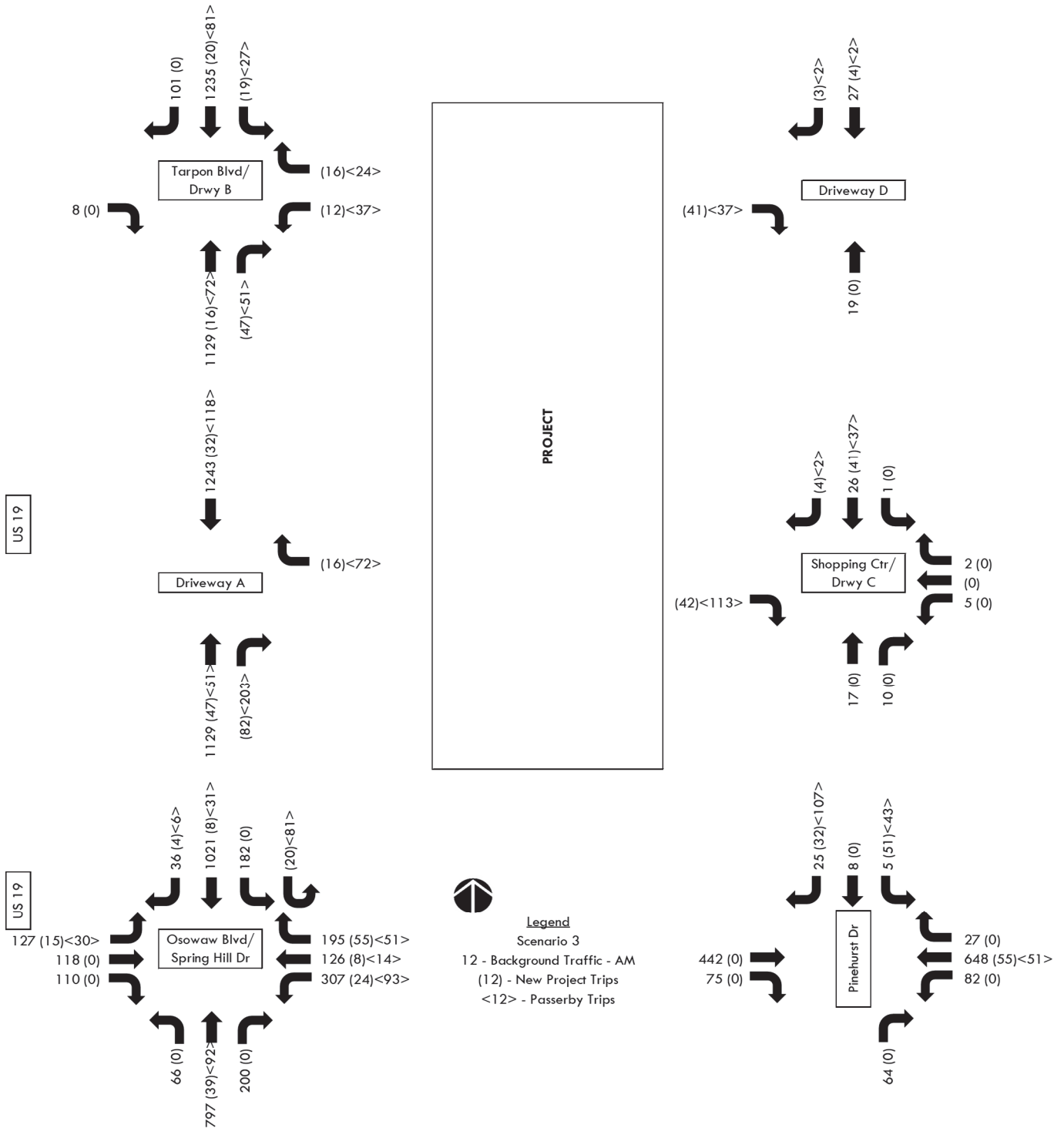


**Figure 24. Scenario 2 – Background Plus Project Traffic – PM Peak Hour**

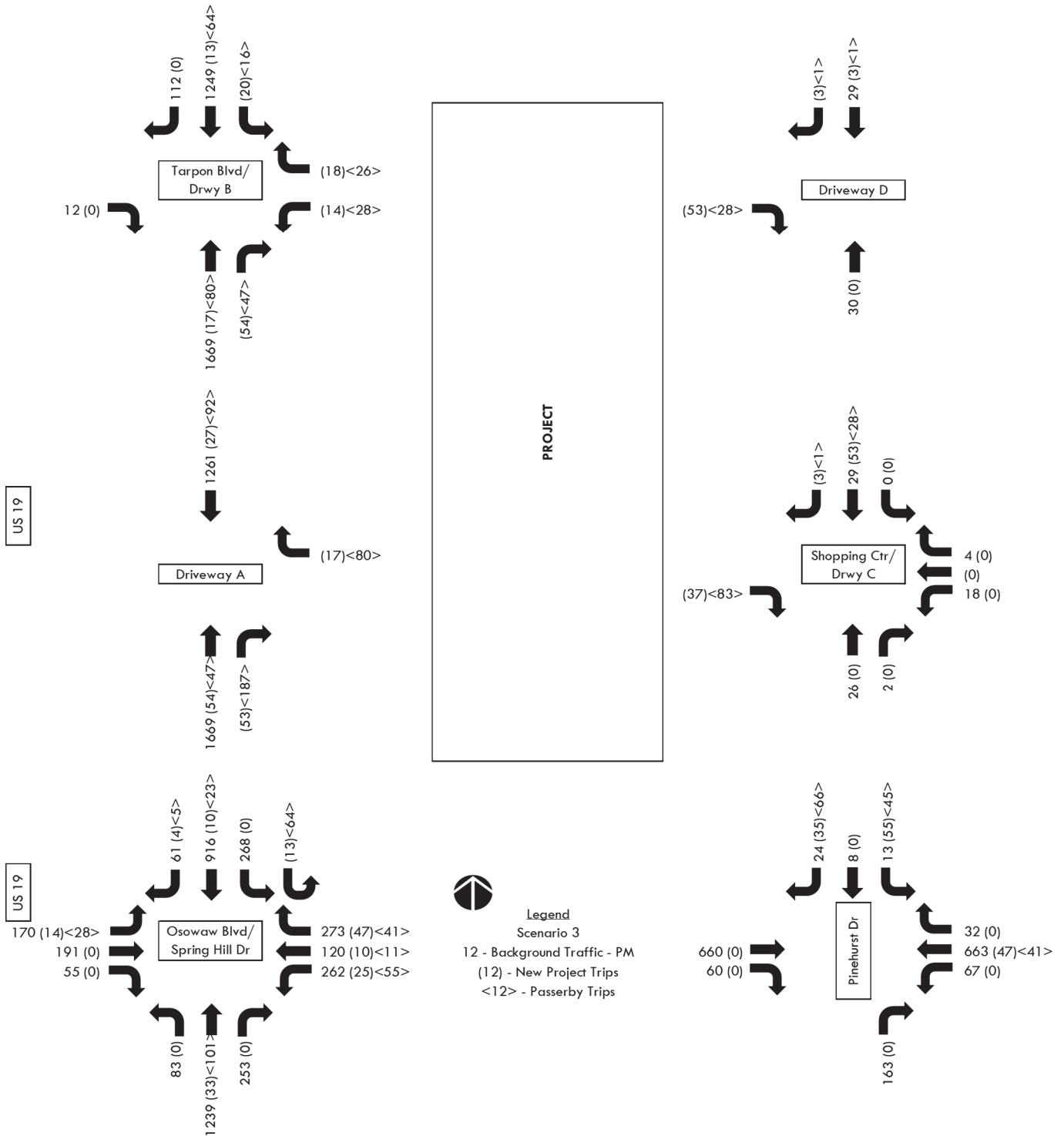




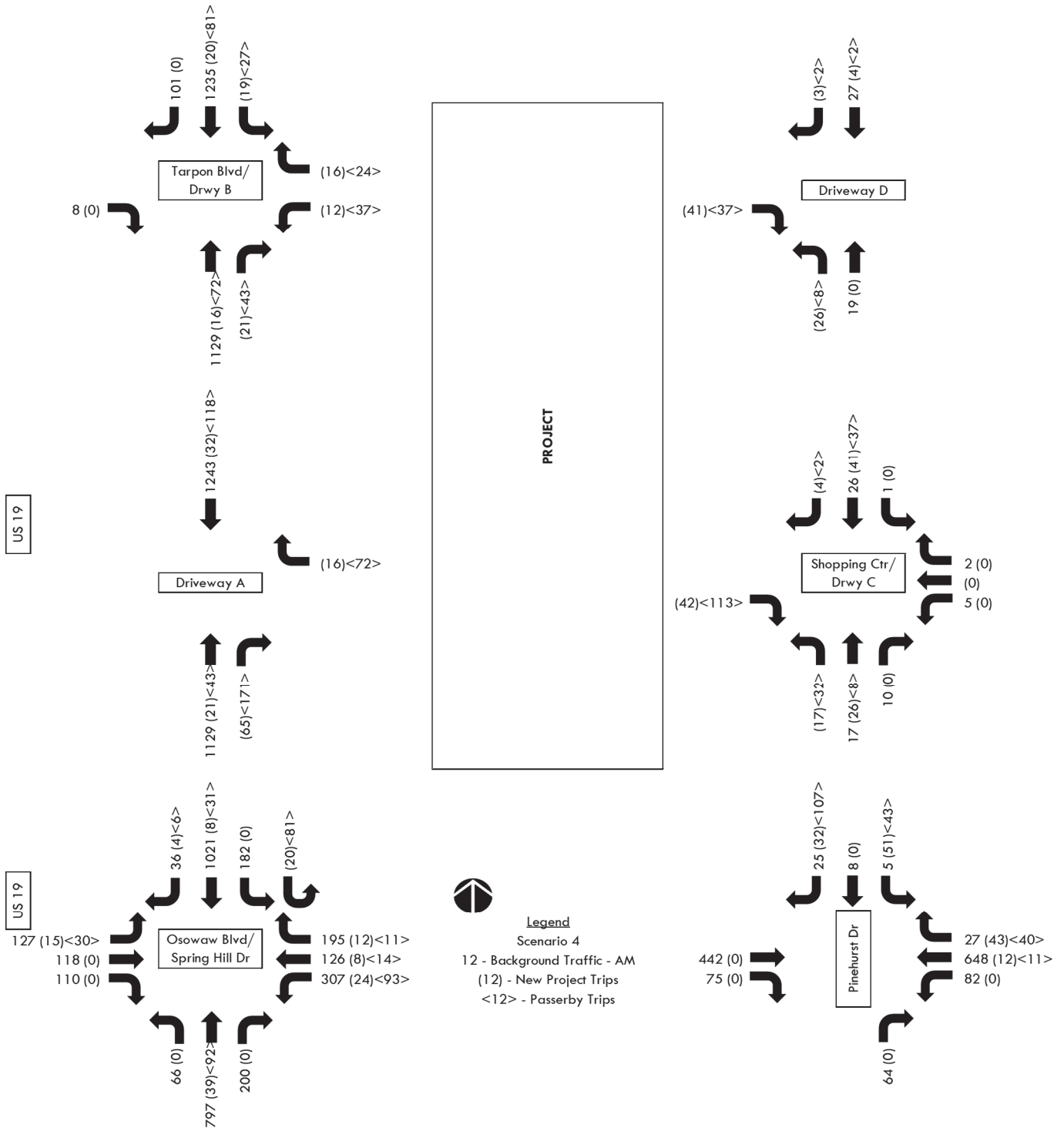
**Figure 25. Scenario 3 – Background Plus Project Traffic – AM Peak Hour**



**Figure 26. Scenario 3 – Background Plus Project Traffic – PM Peak Hour**



**Figure 27. Scenario 4 – Background Plus Project Traffic – AM Peak Hour**



**Figure 28. Scenario 4 – Background Plus Project Traffic – PM Peak Hour**

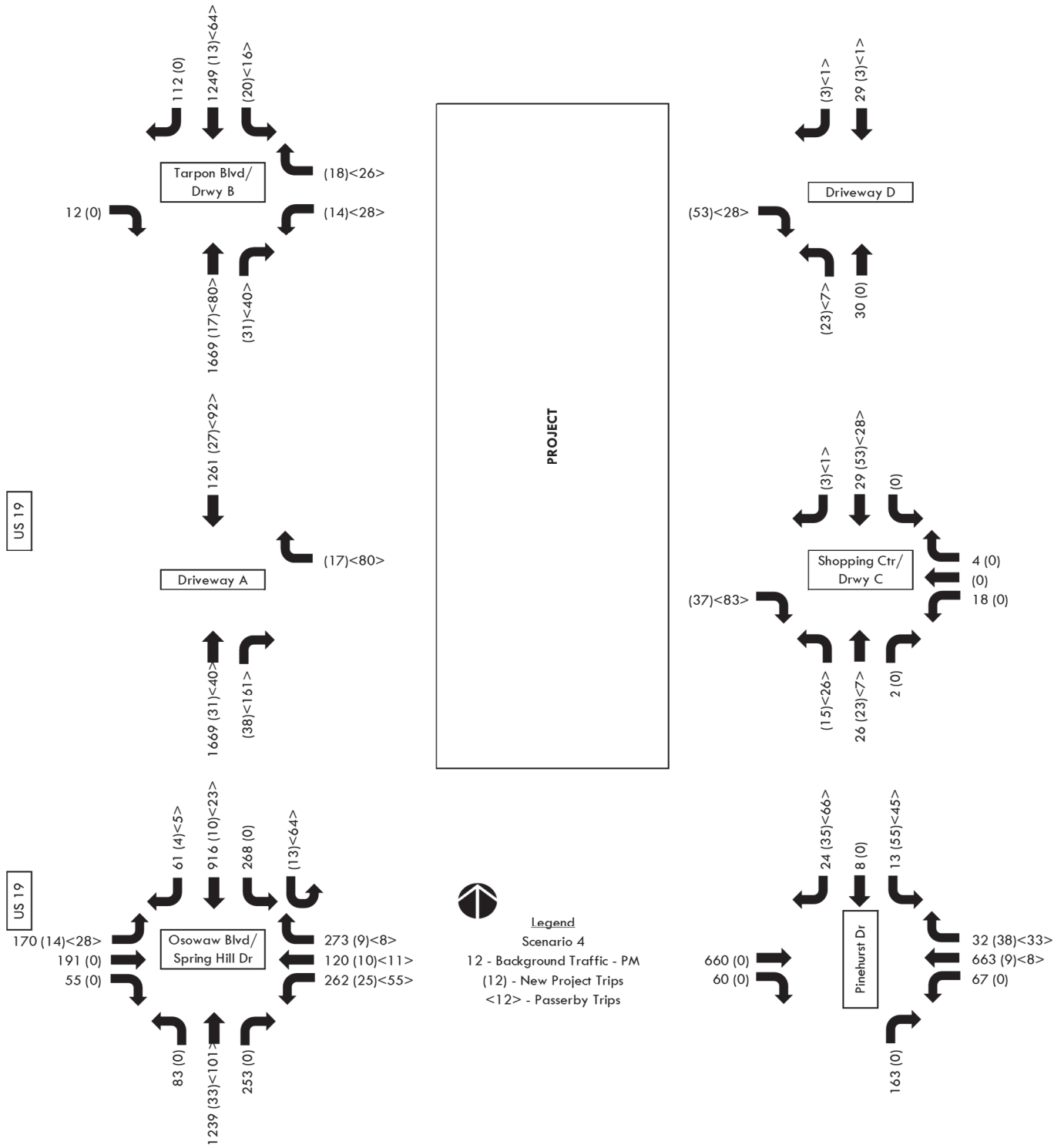
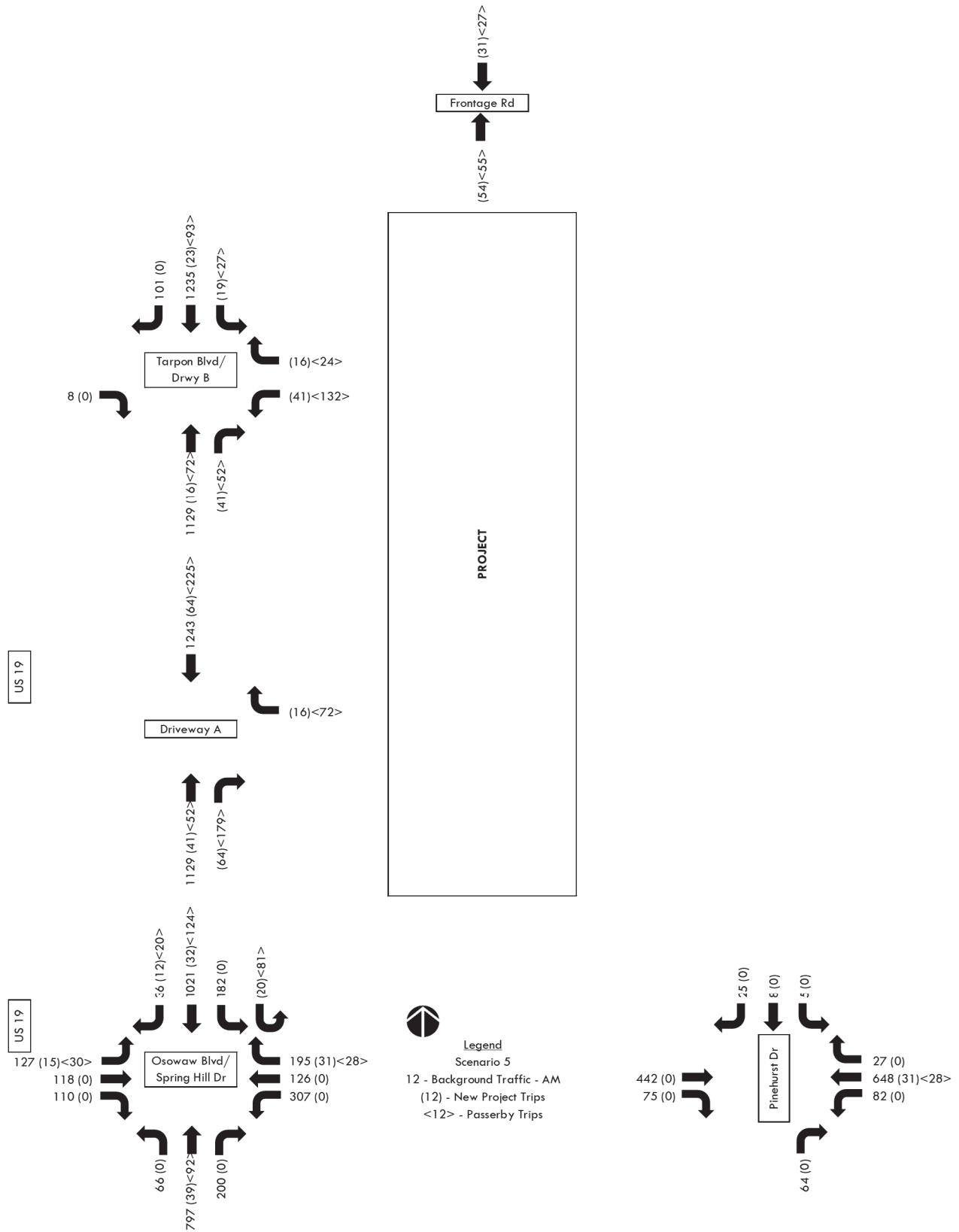
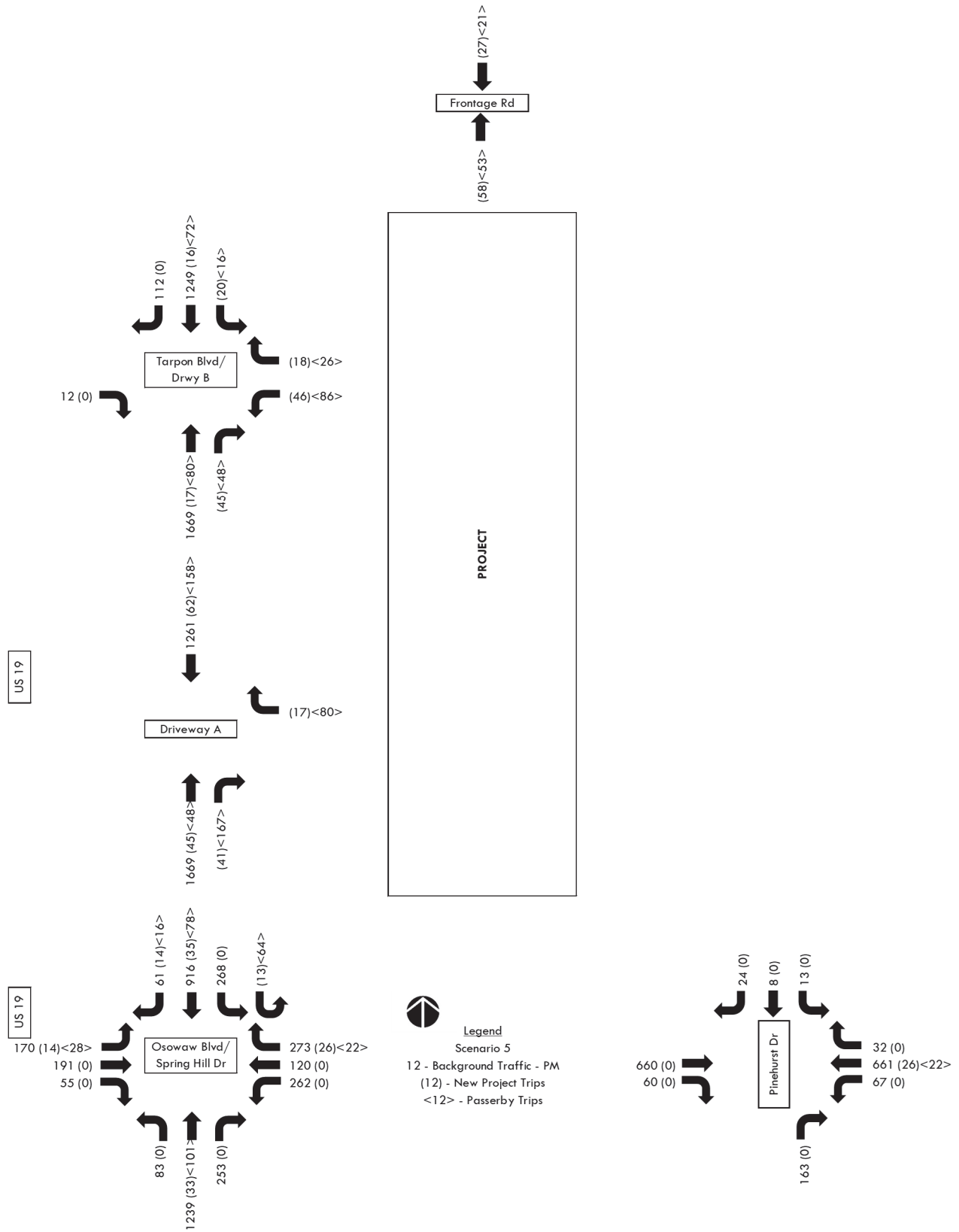


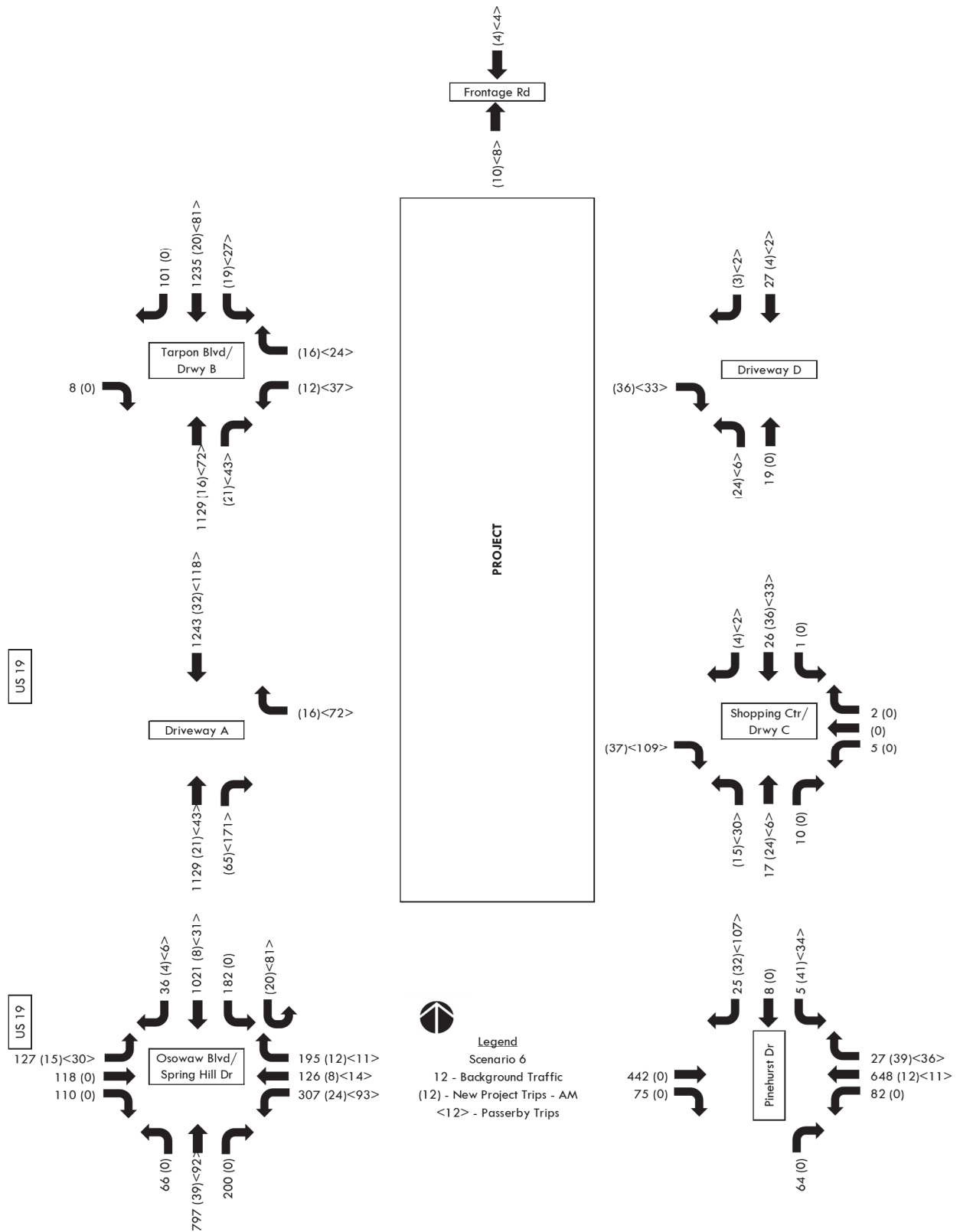
Figure 29. Scenario 5 – Background Plus Project Traffic – AM Peak Hour



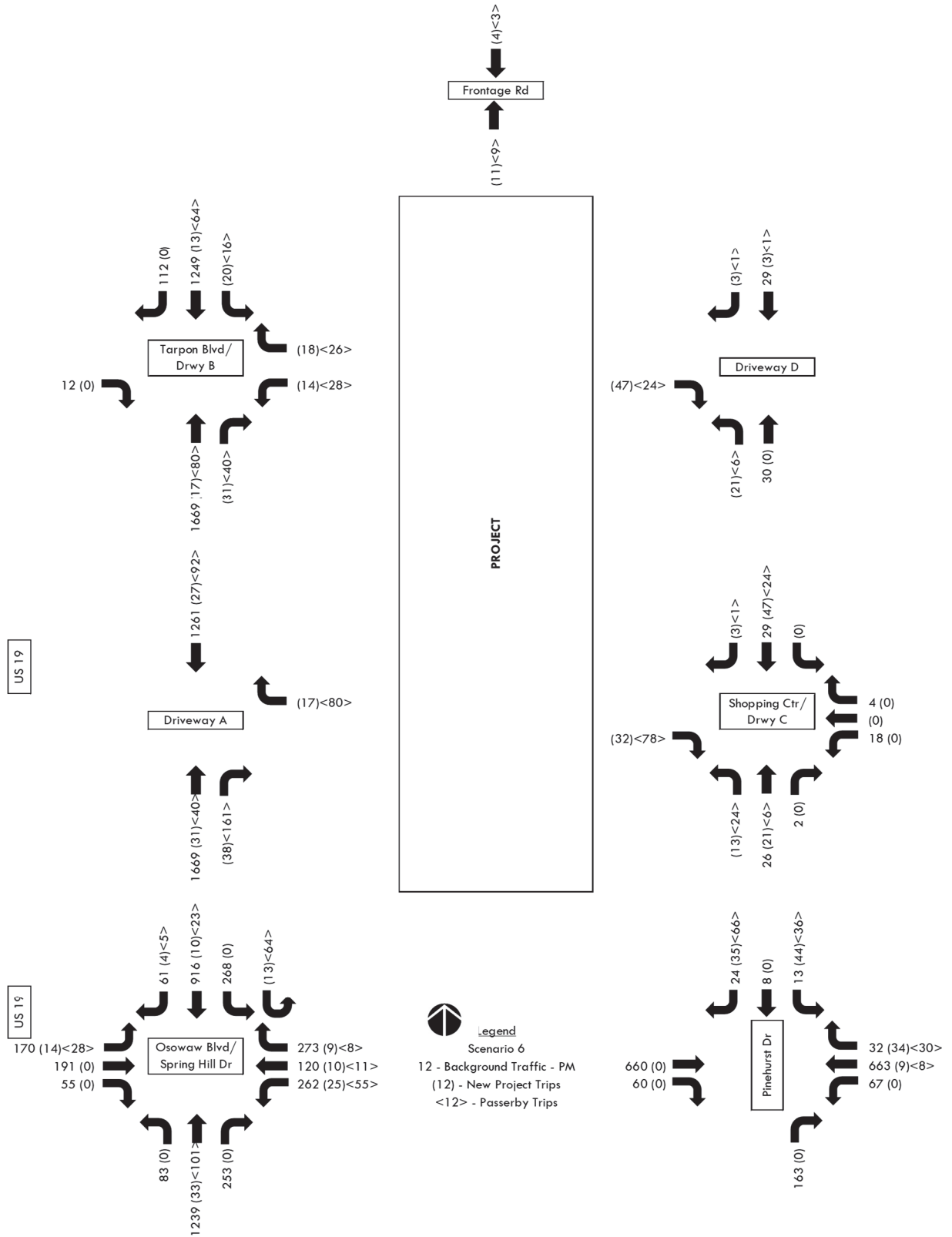
**Figure 30. Scenario 5 – Background Plus Project Traffic – PM Peak Hour**



**Figure 31. Scenario 6 – Background Plus Project Traffic – AM Peak Hour**

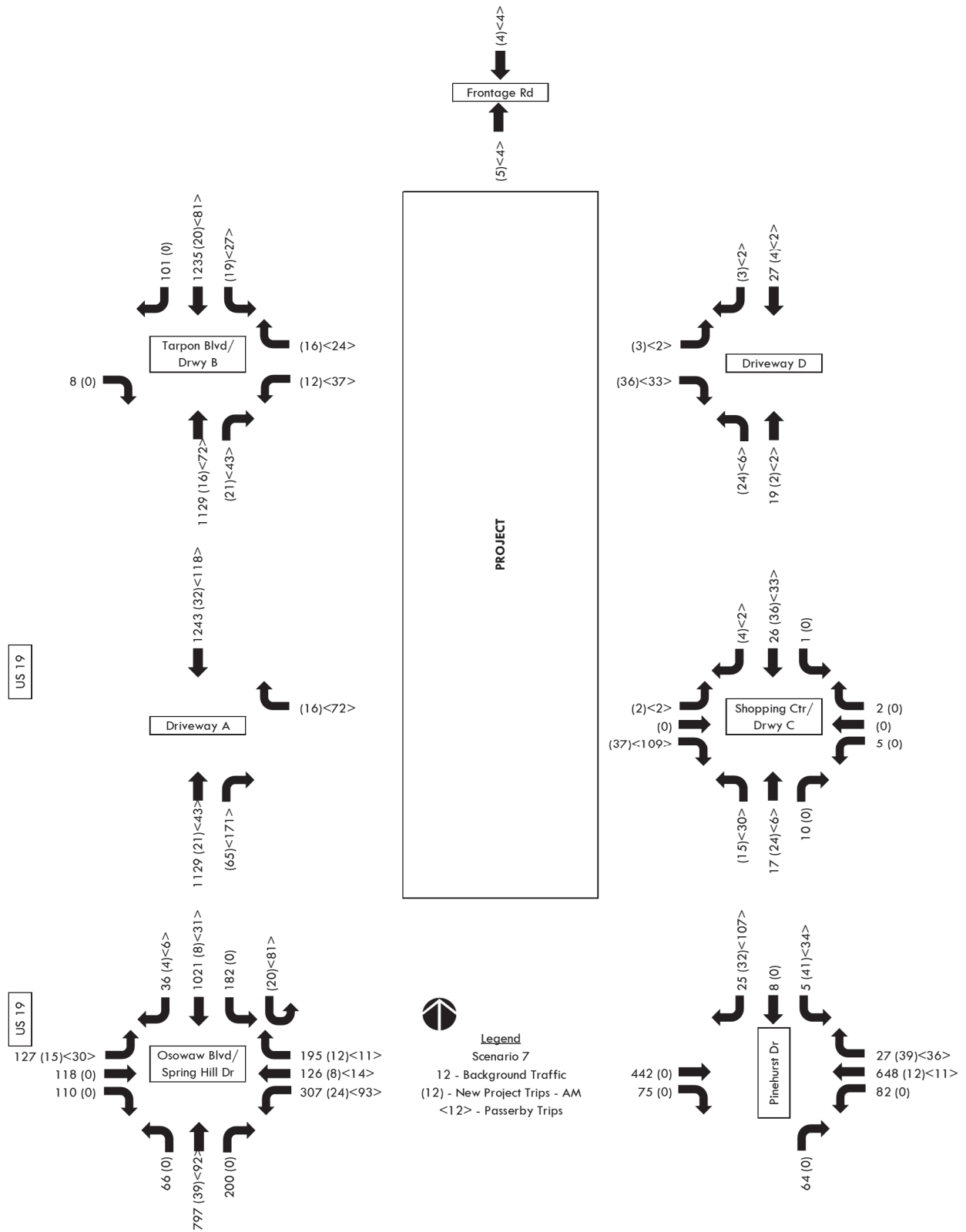


**Figure 32. Scenario 6 – Background Plus Project Traffic – PM Peak Hour**

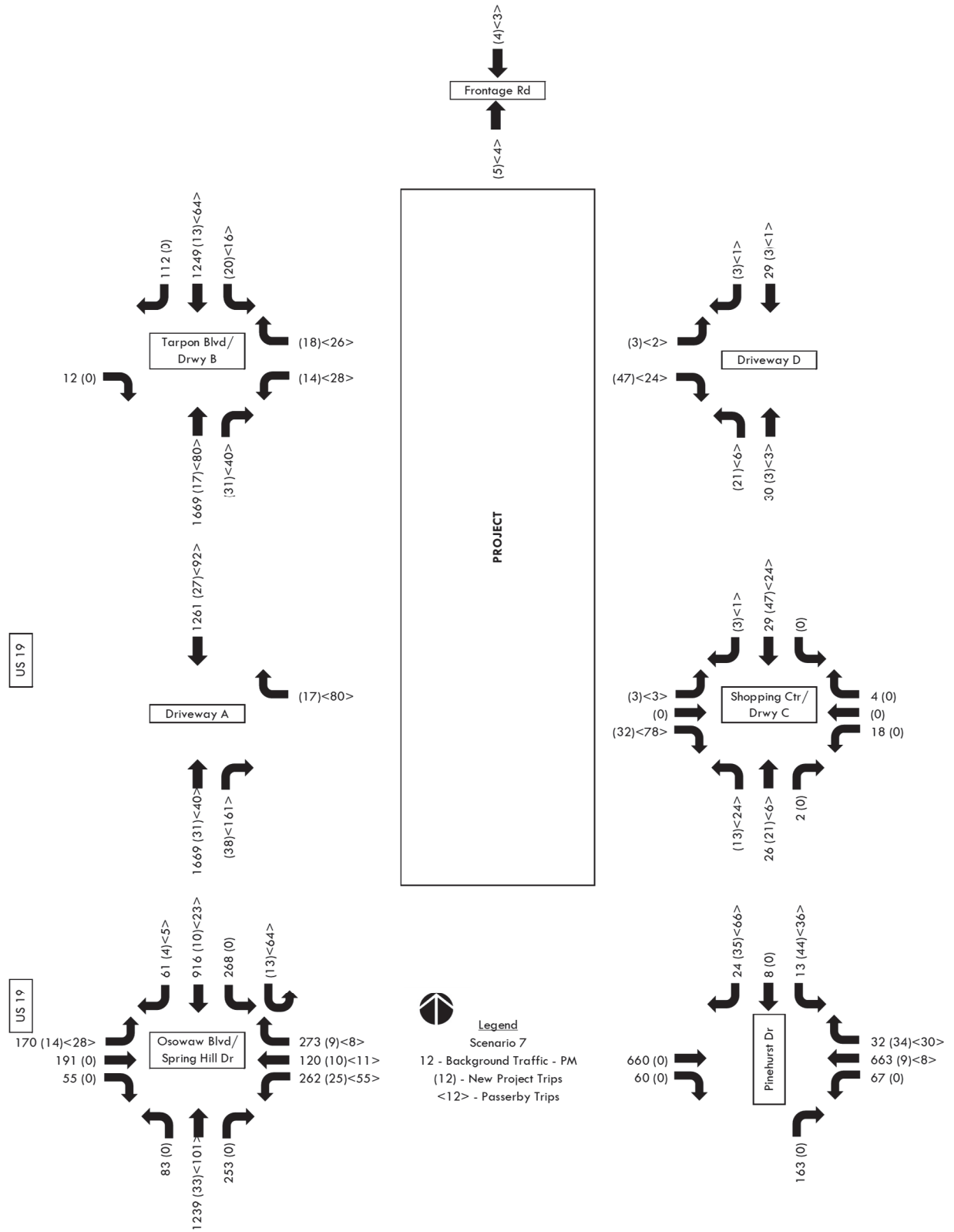




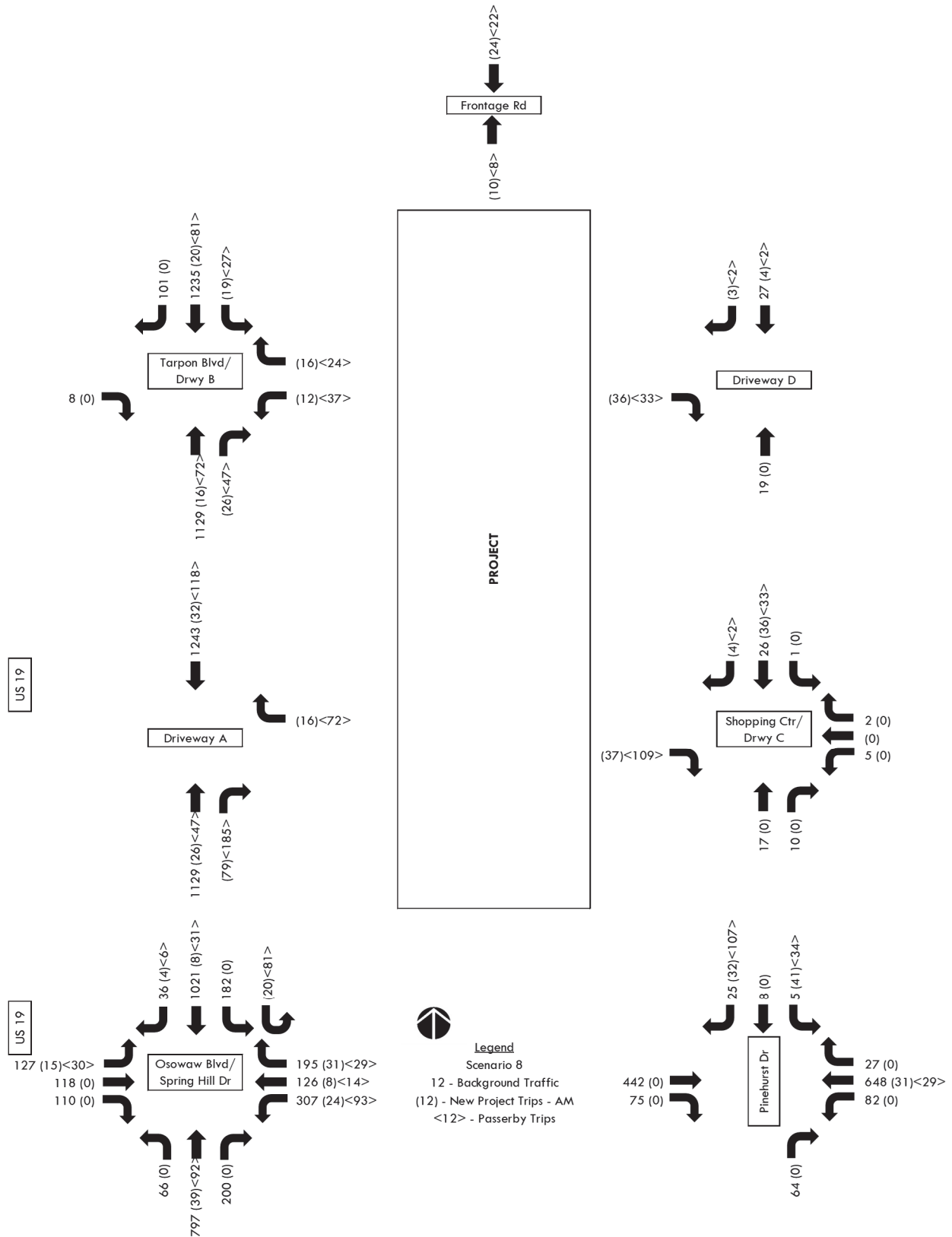
**Figure 33. Scenario 7 – Background Plus Project Traffic – AM Peak Hour**



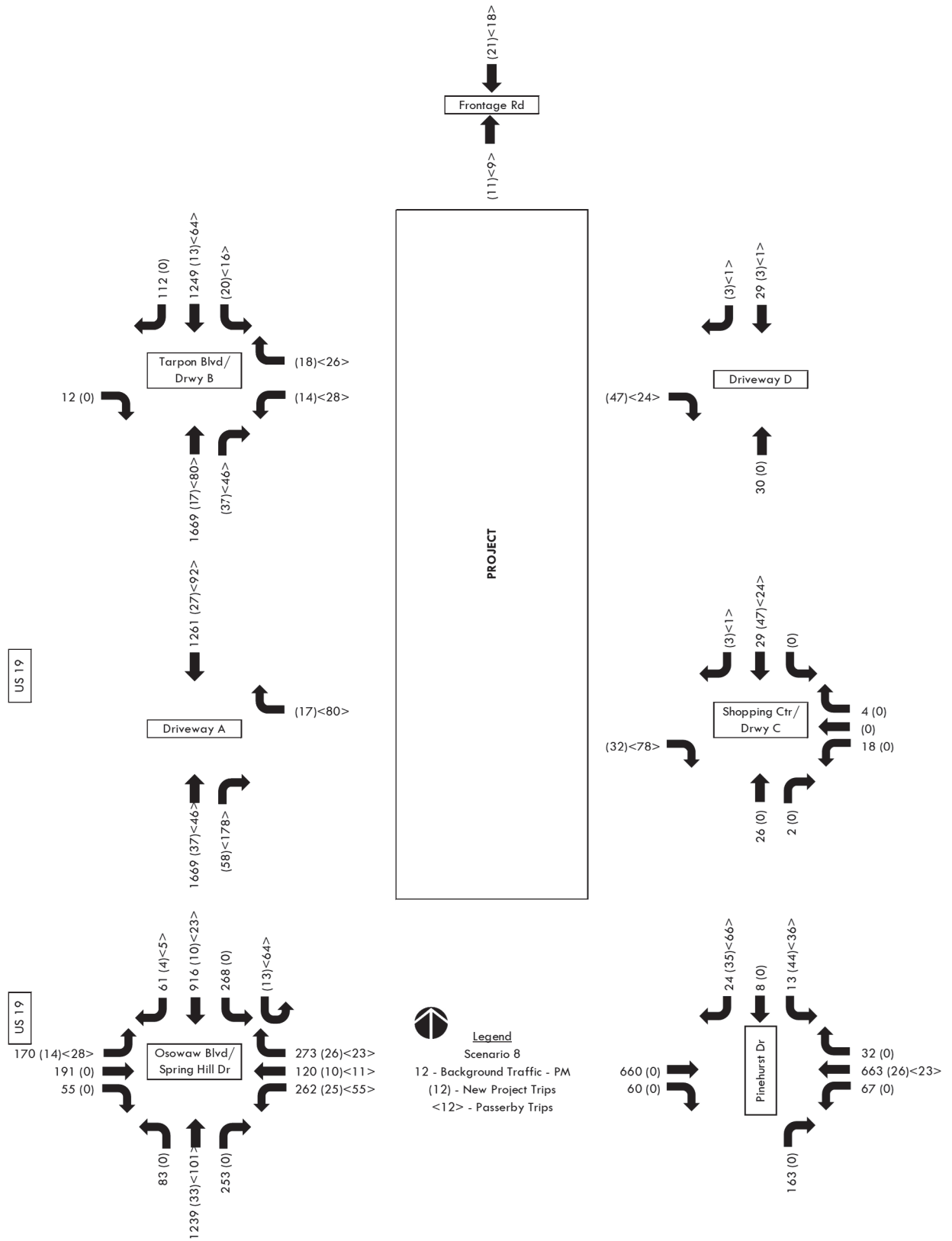
**Figure 34. Scenario 7 – Background Plus Project Traffic – PM Peak Hour**



**Figure 35. Scenario 8 – Background Plus Project Traffic – AM Peak Hour**



**Figure 36. Scenario 8 – Background Plus Project Traffic – PM Peak Hour**



## INTERSECTION ANALYSIS

Intersection analysis was conducted for the AM and PM peak hours at the following intersections:

- US 19 and Osowaw Boulevard/Spring Hill Drive
- US 19 and Tarpon Boulevard/Driveway B
- Spring Hill Drive and Pinehurst Drive.

The analysis was based on SYNCHRO with the proposed project traffic. Table 6, Table 7, Table 8, Table 9, Table 10, Table 11, Table 12 and Table 13 summarize the signalized intersection analysis results for Scenarios 1, 2, 3, 4, 5, 6, 7 and 8 respectively. The results are also described in the following paragraphs:

### US 19 and Osowaw Boulevard/Spring Hill Drive

Signalized intersection analysis indicates that all the individual movements should operate with a volume to capacity (v/c) ratio less than 1.0 during the AM and PM peak hours with background plus project traffic for all six scenarios.

### US 19 and Tarpon Boulevard/Driveway B

The intersection is unsignalized. Unsignalized intersection analysis indicates that all movements should operate with a v/c ratio less than 1.0 during the background plus project traffic during the AM and PM peak hours for Scenario 1, 3, 4, 6, 7 and 8. The intersection has one or two movements with v/c ratios greater than 1.0 for Scenarios 2 and 5.

### Spring Hill Drive and Pinehurst Drive

The intersection is unsignalized. Unsignalized intersection analysis indicates that all the individual movements should operate with a v/c ratio less than 1.0 during the AM and PM peak hours with background plus project traffic for all six scenarios.

**Table 6. Estimated Intersection Volume to Capacity – Scenario 1**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour<br/>Background Plus<br/>Project Traffic</u> |                |              | <u>PM Peak Hour<br/>Background Plus<br/>Project Traffic</u> |                |              |
|---|-----------------|---|----------------|--------------|---|----------------|--------------|
|   |                 | <u>Left</u>   | <u>Through</u> | <u>Right</u> | <u>Left</u>   | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58  | 0.42           | 0.34         | 0.64  | 0.58           | 0.19         |
|   | WB              | 0.86  | 0.58           | 0.54         | 0.79  | 0.61           | 0.83         |
|   | NB              | 0.54  | 0.47           | 0.27         | 0.64  | 0.70           | 0.33         |
|   | SB              | 0.70  | 0.46           | 0.06         | 0.80  | 0.43           | 0.09         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -   | -              | 0.03         | -   | -              | 0.04         |
|   | WB              | 0.44  | -              | 0.12         | 0.96  | -              | 0.20         |
|   | NB              | -   | *              | *            | -   | *              | *            |
|   | SB              | 0.18  | *              | *            | 0.28  | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -   | *              | *            | -   | *              | *            |
|   | WB              | 0.09  | *              | *            | 0.08  | *              | *            |
|   | NB              | -   | -              | 0.09         | -   | -              | 0.28         |
|   | SB              | 0.68  | *              | *            | 0.72  | 0.72           | 0.72         |

\* Free flow movement

**Table 7. Estimated Intersection Volume to Capacity – Scenario 2**

| <u>Intersection</u>                     | <u>Movement</u> | <u>Peak Season Plus<br/>AM Peak Hour Traffic</u> |                |              | <u>Peak Season Plus<br/>PM Peak Hour Traffic</u> |                |              |
|---|-----------------|--|----------------|--------------|--|----------------|--------------|
|   |                 | <u>Left</u>                                      | <u>Through</u> | <u>Right</u> | <u>Left</u>                                      | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58   | 0.40           | 0.33         | 0.64   | 0.39           | 0.15         |
|   | WB              | 0.73   | 0.56           | 0.80         | 0.69   | 0.41           | 0.94         |
|   | NB              | 0.54   | 0.47           | 0.27         | 0.65   | 0.78           | 0.36         |
|   | SB              | 0.80   | 0.49           | 0.08         | 0.96   | 0.50           | 0.12         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -  | -              | 0.03         | -  | -              | 0.04         |
|   | WB              | 2.54   | -              | 0.12         | 5.56   | -              | 0.20         |
|   | NB              | -  | *              | *            | -  | *              | *            |
|   | SB              | 0.19   | *              | *            | 0.29   | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -  | *              | *            | -  | *              | *            |
|   | WB              | 0.09   | *              | *            | 0.09   | *              | *            |
|   | NB              | -  | -              | 0.10         | -  | -              | 0.30         |
|   | SB              | 0.10   | 0.10           | 0.10         | 0.15   | 0.15           | 0.15         |

\* Free flow movement

**Table 8. Estimated Intersection Volume to Capacity – Scenario 3**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour</u><br><u>Background Plus</u><br><u>Project Traffic</u> |                |              | <u>PM Peak Hour</u><br><u>Background Plus</u><br><u>Project Traffic</u> |                |              |
|---|-----------------|---|----------------|--------------|---|----------------|--------------|
|   |                 | <u>Left</u>   | <u>Through</u> | <u>Right</u> | <u>Left</u>   | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58  | 0.41           | 0.34         | 0.64  | 0.45           | 0.17         |
|   | WB              | 0.86  | 0.58           | 0.73         | 0.79  | 0.50           | 0.94         |
|   | NB              | 0.54  | 0.47           | 0.27         | 0.65  | 0.75           | 0.35         |
|   | SB              | 0.70  | 0.46           | 0.06         | 0.80  | 0.45           | 0.10         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -   | -              | 0.03         | -   | -              | 0.04         |
|   | WB              | 0.44  | -              | 0.12         | 0.96  | -              | 0.20         |
|   | NB              | -   | *              | *            | -   | *              | *            |
|   | SB              | 0.19  | *              | *            | 0.29  | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -   | *              | *            | -   | *              | *            |
|   | WB              | 0.09  | *              | *            | 0.08  | *              | *            |
|   | NB              | -   | -              | 0.09         | -   | -              | 0.28         |
|   | SB              | 0.75  | 0.75           | 0.75         | 0.78  | 0.78           | 0.78         |

\* Free flow movement



**Table 9. Estimated Intersection Volume to Capacity – Scenario 4**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour</u><br>Background Plus<br><u>Project Traffic</u> |                |              | <u>PM Peak Hour</u><br>Background Plus<br><u>Project Traffic</u> |                |              |
|---|-----------------|--|----------------|--------------|--|----------------|--------------|
|   |                 | <u>Left</u>  | <u>Through</u> | <u>Right</u> | <u>Left</u>  | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.59   | 0.42           | 0.34         | 0.64   | 0.58           | 0.19         |
|   | WB              | 0.86   | 0.61           | 0.55         | 0.79   | 0.61           | 0.83         |
|   | NB              | 0.55   | 0.48           | 0.27         | 0.64   | 0.70           | 0.33         |
|   | SB              | 0.71   | 0.46           | 0.06         | 0.80   | 0.43           | 0.09         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -  | -              | 0.03         | -  | -              | 0.04         |
|   | WB              | 0.56   | -              | 0.13         | 0.96   | -              | 0.20         |
|   | NB              | -  | *              | *            | -  | *              | *            |
|   | SB              | 0.22   | *              | *            | 0.28   | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -  | *              | *            | -  | *              | *            |
|   | WB              | 0.09   | *              | *            | 0.08   | *              | *            |
|   | NB              | -  | -              | 0.09         | -  | -              | 0.28         |
|   | SB              | 0.80   | 0.80           | 0.80         | 0.76   | 0.76           | 0.76         |

\* Free flow movement

**Table 10. Estimated Intersection Volume to Capacity – Scenario 5**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour<br/>Background Plus<br/>Project Traffic</u> |                |              | <u>PM Peak Hour<br/>Background Plus<br/>Project Traffic</u> |                |              |
|---|-----------------|---|----------------|--------------|---|----------------|--------------|
|   |                 | <u>Left</u>   | <u>Through</u> | <u>Right</u> | <u>Left</u>   | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58  | 0.43           | 0.34         | 0.64  | 0.48           | 0.17         |
|   | WB              | 0.73  | 0.59           | 0.67         | 0.69  | 0.51           | 0.91         |
|   | NB              | 0.53  | 0.44           | 0.26         | 0.65  | 0.71           | 0.33         |
|   | SB              | 0.70  | 0.48           | 0.08         | 0.80  | 0.47           | 0.12         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -   | -              | 0.03         | -   | -              | 0.04         |
|   | WB              | 1.57  | -              | 0.12         | 3.02  | -              | 0.20         |
|   | NB              | -   | *              | *            | -   | *              | *            |
|   | SB              | 0.19  | *              | *            | 0.29  | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -   | *              | *            | -   | *              | *            |
|   | WB              | 0.09  | *              | *            | 0.08  | *              | *            |
|   | NB              | -   | -              | 0.09         | -   | -              | 0.28         |
|   | SB              | 0.10  | 0.10           | 0.10         | 0.13  | 0.13           | 0.13         |

\* Free flow movement

**Table 11. Estimated Intersection Volume to Capacity – Scenario 6**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour</u><br>Background Plus<br><u>Project Traffic</u> |                |              | <u>PM Peak Hour</u><br>Background Plus<br><u>Project Traffic</u> |                |              |
|---|-----------------|--|----------------|--------------|--|----------------|--------------|
|   |                 | <u>Left</u>  | <u>Through</u> | <u>Right</u> | <u>Left</u>  | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58   | 0.42           | 0.34         | 0.64   | 0.58           | 0.19         |
|   | WB              | 0.86   | 0.58           | 0.54         | 0.79   | 0.61           | 0.83         |
|   | NB              | 0.54   | 0.45           | 0.26         | 0.64   | 0.70           | 0.33         |
|   | SB              | 0.64   | 0.46           | 0.06         | 0.80   | 0.43           | 0.09         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -  | -              | 0.03         | -  | -              | 0.04         |
|   | WB              | 0.44   | -              | 0.12         | 0.96   | -              | 0.20         |
|   | NB              | -  | *              | *            | -  | *              | *            |
|   | SB              | 0.18   | *              | *            | 0.28   | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -  | *              | *            | -  | *              | *            |
|   | WB              | 0.09   | *              | *            | 0.08   | *              | *            |
|   | NB              | -  | -              | 0.09         | -  | -              | 0.28         |
|   | SB              | 0.65   | 0.65           | 0.65         | 0.67   | 0.67           | 0.67         |

\* Free flow movement

**Table 12. Estimated Intersection Volume to Capacity – Scenario 7**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour</u><br><u>Background Plus</u><br><u>Project Traffic</u> |                |              | <u>PM Peak Hour</u><br><u>Background Plus</u><br><u>Project Traffic</u> |                |              |
|---|-----------------|---|----------------|--------------|---|----------------|--------------|
|   |                 | <u>Left</u>   | <u>Through</u> | <u>Right</u> | <u>Left</u>   | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58  | 0.42           | 0.34         | 0.64  | 0.58           | 0.19         |
|   | WB              | 0.86  | 0.58           | 0.54         | 0.79  | 0.61           | 0.83         |
|   | NB              | 0.54  | 0.47           | 0.27         | 0.64  | 0.70           | 0.33         |
|   | SB              | 0.70  | 0.46           | 0.06         | 0.80  | 0.43           | 0.09         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -   | -              | 0.03         | -   | -              | 0.04         |
|   | WB              | 0.44  | -              | 0.12         | 0.96  | -              | 0.20         |
|   | NB              | -   | *              | *            | -   | *              | *            |
|   | SB              | 0.18  | *              | *            | 0.28  | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -   | *              | *            | -   | *              | *            |
|   | WB              | 0.09  | *              | *            | 0.08  | *              | *            |
|   | NB              | -   | -              | 0.09         | -   | -              | 0.28         |
|   | SB              | 0.65  | 0.65           | 0.65         | 0.67  | 0.67           | 0.67         |

\* Free flow movement

**Table 13. Estimated Intersection Volume to Capacity – Scenario 8**

| <u>Intersection</u>                     | <u>Movement</u> | <u>AM Peak Hour</u><br><u>Background Plus</u><br><u>Project Traffic</u> |                |              | <u>PM Peak Hour</u><br><u>Background Plus</u><br><u>Project Traffic</u> |                |              |
|---|-----------------|---|----------------|--------------|---|----------------|--------------|
|   |                 | <u>Left</u>   | <u>Through</u> | <u>Right</u> | <u>Left</u>   | <u>Through</u> | <u>Right</u> |
| US 19 and<br>Osowaw Blvd/Spring Hill Dr | EB              | 0.58  | 0.42           | 0.34         | 0.64  | 0.53           | 0.18         |
|   | WB              | 0.86  | 0.58           | 0.62         | 0.79  | 0.58           | 0.90         |
|   | NB              | 0.54  | 0.47           | 0.27         | 0.65  | 0.71           | 0.34         |
|   | SB              | 0.70  | 0.46           | 0.06         | 0.80  | 0.43           | 0.09         |
| US 19 and<br>Tarpon Blvd/Driveway B     | EB              | -   | -              | 0.03         | -   | -              | 0.04         |
|   | WB              | 0.44  | -              | 0.12         | 0.96  | -              | 0.38         |
|   | NB              | -   | *              | *            | -   | *              | *            |
|   | SB              | 0.19  | *              | *            | 0.28  | *              | *            |
| Spring Hill Dr and<br>Pinehurst Dr      | EB              | -   | *              | *            | -   | *              | *            |
|   | WB              | 0.09  | *              | *            | 0.08  | *              | *            |
|   | NB              | -   | -              | 0.09         | -   | -              | 0.28         |
|   | SB              | 0.64  | 0.64           | 0.64         | 0.66  | 0.66           | 0.66         |

\* Free flow movement

## **ACCESS ANALYSIS**

Until a final access scenario is agreed to, a analysis of the turn lane requirements are premature. Once an access scenario has been agreed to, a full analysis of the turn lane warrants can be completed.

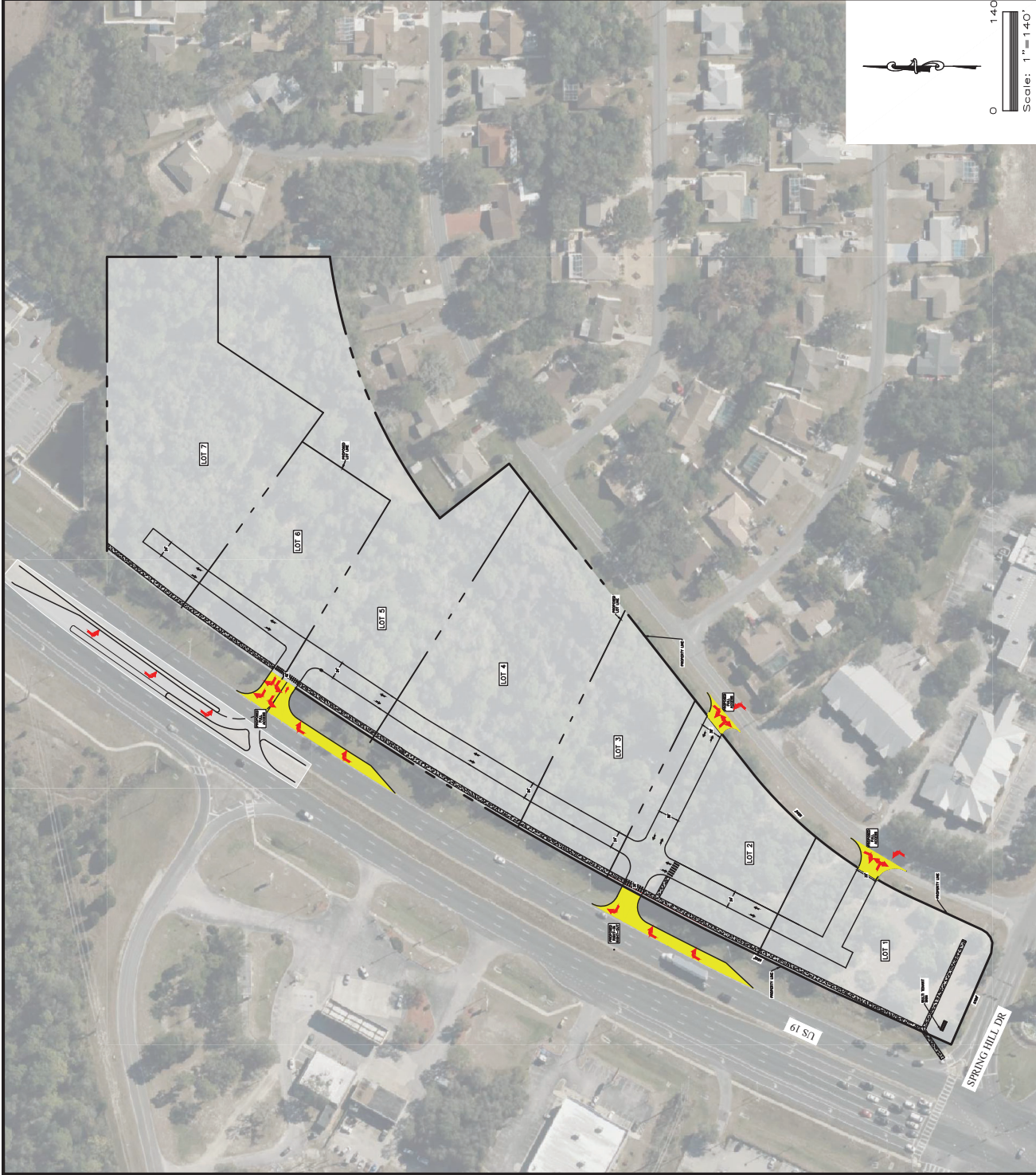
## CONCLUSION

Based on the above Transportation Analysis, the proposed project will consist of an approximate 5,537 square foot convenience market with 20 gasoline fueling positions and four (4) outparcels located east of US 19 and north of Spring Hill Drive. The connections to Pinehurst Drive is critical for the safe and functional operation of the commercial property as they relieve the need to make a left onto US 19, particularly during the peak hours. As seen in the scenarios without the connections to Pinehurst Drive, Scenarios 2 and 5, the westbound left at Driveway B/Tarpon Boulevard exceed 100 left turns per hour which creates a safety issue given the volumes on US 19. The connection of the frontage road to the north (shown in scenarios 5, 6, 7 and 8) help provide a relief to the traffic on US 19 and Spring Hill Drive, if the connection is possible. The best access configuration is one that includes access to Pinehurst Drive and the frontage road. This allows for the greatest movement of traffic to the adjacent roadway network and reduces the volumes on the already heavy movements on US 19 and Spring Hill Drive. As a result, it is our recommendation that Scenario 7 provides the best operations with the least impact to the community.

# **APPENDIX**



**APPENDIX**  
CONCEPTUAL SITE PLAN



**GENERAL SITE NOTES:**

1. SHIRTS SHOULD BE SEPARATE FROM THE RESTROOMS FROM THE PUBLIC.
2. WALLS SHALL BE PAINTED IN A LIGHT COLOR.
3. WALLS SHALL BE PAINTED IN A LIGHT COLOR.
4. WALLS SHALL BE PAINTED IN A LIGHT COLOR.
5. WALLS SHALL BE PAINTED IN A LIGHT COLOR.
6. THERE SHALL BE NO OBSTRUCTION OF SITE EXPOSURE BY LANDSCAPE MATERIAL AND PLANTINGS.
7. THE AREA IN THE FIELD OR BASE A CERTIFICATE OF OCCUPANCY FOR A PROJECT.
8. EQUAL TO OR GREATER THAN THE HIGHEST POINT ON THE NEAREST ADJACENT PARCEL.
9. SOLID MASONRY WALLS AND GATES SHALL TO BE GREATER THAN THE HIGHEST POINT ON THE NEAREST ADJACENT PARCEL.
10. EQUIPMENT SHALL BE STORED IN AN ENCLOSED AREA WITH A ROOF.
11. THE FIRE DEPT. DOUBLE CHECK ASSEMBLY SHALL BE PAINTED TO MATCH ADJACENT WALL.
12. ALL EXTERNAL LIGHTING SHALL BE LOCATED AND DESIGNED TO PREVENT LIGHT FROM BEING SHOWN TO THE NEIGHBORHOOD.
13. CONDITIONS MAY EXIST THAT COULD BE THE RESULT OF THE DEVELOPMENT OF THE SITE AS SHOWN. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
14. BE ADVISED THAT THE SITE IS LOCATED IN AN AREA THAT IS SUBJECT TO FLOODING. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
15. STORMWATER MANAGEMENT SHALL BE SPANNED ON THE SHOWN AREAS. CONCEPTUAL AND BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
16. INSURE NOTES HAVE BEEN PERFORMED TO DETERMINE THE OCCUPANCY OF THE AREA SHOWN SHOWN.
17. THE SHOWN IS NOT INTENDED TO BE USED AS A CONSTRUCTION DOCUMENT, AND SHOULD NOT BE USED IN ANY MANNER TO BE USED FOR CONSTRUCTION PURPOSES.

**PROPOSED LEGEND**

- PROPERTY LINE
- BUILDING SETBACK LINE
- LANDSCAPE BUFFER
- PARKING COUNT

Bowman Consulting Group, Ltd.  
 1410 N. Woodshore Blvd.  
 Tampa, FL 33607  
 Phone: (813) 474-7424  
 www.bowmanconsulting.com

CONCEPTUAL DESIGN  
 HERNANDO COUNTY QSR  
 US 19 & SPRING HILL DR  
 SPRING HILL, FL 34606

**Bowman CONSULTING**  
 Certificate of Authorization License No. 30462  
 BCG BCG MS  
 DESIGN CONSULTING  
 01/03/2017-01/01/2021  
 SCALE 1" = 140'  
 VERSION 11D

**APPENDIX**  
TRIP GENERATION

**PERIOD SETTING**

**Analysis Name :** Daily  
**Project Name :** US 19 and Spring Hill Dr - Rev Uses V2 **No :**  
**Date:** 8/3/2022 **City:**  
**State/Province:** **Zip/Postal Code:**  
**Country:** **Client Name:**  
**Analyst's Name:** **Edition:** Trip Generation Manual, 11th Ed

| Land Use  | Independent Variable      | Size              | Time Period | Method            | Entry                      | Exit                       | Total               |
|---|---------------------------|-------------------|-------------|-------------------|----------------------------|----------------------------|---------------------|
| 945 - Convenience Store/Gas Station - GFA (5.5-10k) (General Urban/Suburban)    | Vehicle Fueling Positions | 20 <sup>(0)</sup> | Weekday     | Average<br>345.75 | 3458 <sup>(1)</sup><br>50% | 3457 <sup>(1)</sup><br>50% | 6915 <sup>(1)</sup> |
| 934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)   | 1000 Sq. Ft. GFA          | 2.5               | Weekday     | Average<br>467.48 | 585<br>50%                 | 584<br>50%                 | 1169                |
| 720 - Medical-Dental Office Building - Stand-Alone (General Urban/Suburban)     | 1000 Sq. Ft. GFA          | 5                 | Weekday     | Average<br>36     | 90<br>50%                  | 90<br>50%                  | 180                 |
| 720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban) | 1000 Sq. Ft. GFA          | 5                 | Weekday     | Average<br>36     | 90<br>50%                  | 90<br>50%                  | 180                 |
| 932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)              | 1000 Sq. Ft. GFA          | 6                 | Weekday     | Average<br>107.2  | 322<br>50%                 | 321<br>50%                 | 643                 |
| 822 - Strip Retail Plaza (&lt;40k) - 2 (General Urban/Suburban)                 | 1000 Sq. Ft. GLA          | 7 <sup>(0)</sup>  | Weekday     | Average<br>54.45  | 191 <sup>(1)</sup><br>50%  | 190 <sup>(1)</sup><br>50%  | 381 <sup>(1)</sup>  |

<sup>(0)</sup> indicates size out of range.  
<sup>(1)</sup> indicates small sample size, use carefully.

**TRAFFIC REDUCTIONS**

| Land Use   | Entry Reduction | Adjusted Entry | Exit Reduction | Adjusted Exit |
|--|-----------------|----------------|----------------|---------------|
| 945 - Convenience Store/Gas Station                  | 0 %             | 3458           | 0 %            | 3457          |
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 %             | 585            | 0 %            | 584           |
| 720 - Medical-Dental Office Building                 | 0 %             | 90             | 0 %            | 90            |
| 720 - Medical-Dental Office Building - 1             | 0 %             | 90             | 0 %            | 90            |
| 932 - High-Turnover (Sit-Down) Restaurant            | 0 %             | 322            | 0 %            | 321           |
| 822 - Strip Retail Plaza (&lt;40k) - 2               | 0 %             | 191            | 0 %            | 190           |

**INTERNAL TRIPS**

|  |      |                       |   |                       |                  |
|--|------|-----------------------|---|-----------------------|------------------|
| <b>945 - Convenience Store/Gas Station</b> |      |                       | <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |                       |                  |
| <b>Exit</b>                                | 3457 | Demand Exit: 0 % (0)  | Balanced: 0   | Demand Entry: 0 % (0) | <b>Entry</b> 585 |
| <b>Entry</b>                               | 3458 | Demand Entry: 0 % (0) | Balanced: 0   | Demand Exit: 0 % (0)  | <b>Exit</b> 584  |
| <b>945 - Convenience Store/Gas Station</b> |      |                       | <b>720 - Medical-Dental Office Building</b>                 |                       |                  |
| <b>Exit</b>                                | 3457 | Demand Exit: 0 % (0)  | Balanced: 0   | Demand Entry: 0 % (0) | <b>Entry</b> 90  |
| <b>Entry</b>                               | 3458 | Demand Entry: 0 % (0) | Balanced: 0   | Demand Exit: 0 % (0)  | <b>Exit</b> 90   |
| <b>945 - Convenience Store/Gas Station</b> |      |                       | <b>720 - Medical-Dental Office Building - 1</b>             |                       |                  |

|   |                       |                |   |                  |
|---|-----------------------|----------------|---|------------------|
| <b>Exit</b> 3457  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 90  |
| <b>Entry</b> 3458   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 90   |
| <b>945 - Convenience Store/Gas Station</b>                  |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>  |                  |
| <b>Exit</b> 3457  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 322 |
| <b>Entry</b> 3458   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 321  |
| <b>945 - Convenience Store/Gas Station</b>                  |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;40k) - 2</b> |                  |
| <b>Exit</b> 3457  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 191 |
| <b>Entry</b> 3458   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 190  |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |                       |                | <b>720 - Medical-Dental Office Building</b>       |                  |
| <b>Exit</b> 584   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 90  |
| <b>Entry</b> 585  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 90   |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |                       |                | <b>720 - Medical-Dental Office Building - 1</b>   |                  |
| <b>Exit</b> 584   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 90  |
| <b>Entry</b> 585  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 90   |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>  |                  |
| <b>Exit</b> 584   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 322 |
| <b>Entry</b> 585  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 321  |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;40k) - 2</b> |                  |
| <b>Exit</b> 584   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 191 |
| <b>Entry</b> 585  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 190  |
| <b>720 - Medical-Dental Office Building</b>                 |                       |                | <b>720 - Medical-Dental Office Building - 1</b>   |                  |
| <b>Exit</b> 90  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 90  |
| <b>Entry</b> 90   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 90   |
| <b>720 - Medical-Dental Office Building</b>                 |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>  |                  |
| <b>Exit</b> 90  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 322 |
| <b>Entry</b> 90   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 321  |
| <b>720 - Medical-Dental Office Building</b>                 |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;40k) - 2</b> |                  |
| <b>Exit</b> 90  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 191 |
| <b>Entry</b> 90   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 190  |
| <b>720 - Medical-Dental Office Building - 1</b>             |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>  |                  |
| <b>Exit</b> 90  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 322 |
| <b>Entry</b> 90   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 321  |
| <b>720 - Medical-Dental Office Building - 1</b>             |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;40k) - 2</b> |                  |
| <b>Exit</b> 90  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 191 |
| <b>Entry</b> 90   | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 190  |
| <b>932 - High-Turnover (Sit-Down) Restaurant</b>            |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;40k) - 2</b> |                  |
| <b>Exit</b> 321   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                             | <b>Entry</b> 191 |
| <b>Entry</b> 322  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                              | <b>Exit</b> 190  |
| <b>945 - Convenience Store/Gas Station</b>                  |                       |                |   |                  |

|              | Total Trips        | Internal Trips                                       |                                      |  |   |  | Total         | External Trips     |
|--------------|--------------------|--|--------------------------------------|--|---|--|---------------|--------------------|
|              |                    | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;it;40k) - 2 |               |                    |
| Entry        | 3458 (100%)        | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 3458 (100%)        |
| Exit         | 3457 (100%)        | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 3457 (100%)        |
| <b>Total</b> | <b>6915 (100%)</b> | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>6915 (100%)</b> |

**934 - Fast-Food Restaurant with Drive-Through Window**

|              | Total Trips        | Internal Trips                      |                                      |  |   |  | Total         | External Trips     |
|--------------|--------------------|-------------------------------------|--------------------------------------|--|---|--|---------------|--------------------|
|              |                    | 945 - Convenience Store/Gas Station | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;it;40k) - 2 |               |                    |
| Entry        | 585 (100%)         | 0 (0%)                              | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 585 (100%)         |
| Exit         | 584 (100%)         | 0 (0%)                              | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 584 (100%)         |
| <b>Total</b> | <b>1169 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>1169 (100%)</b> |

**720 - Medical-Dental Office Building**

|              | Total Trips       | Internal Trips                      |  |  |   |  | Total         | External Trips    |
|--------------|-------------------|-------------------------------------|--|--|---|--|---------------|-------------------|
|              |                   | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;it;40k) - 2 |               |                   |
| Entry        | 90 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 90 (100%)         |
| Exit         | 90 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 90 (100%)         |
| <b>Total</b> | <b>180 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>180 (100%)</b> |

**720 - Medical-Dental Office Building - 1**

|              | Total Trips       | Internal Trips                      |  |                                      |   |  | Total         | External Trips    |
|--------------|-------------------|-------------------------------------|--|--------------------------------------|---|--|---------------|-------------------|
|              |                   | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;it;40k) - 2 |               |                   |
| Entry        | 90 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 90 (100%)         |
| Exit         | 90 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 90 (100%)         |
| <b>Total</b> | <b>180 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>180 (100%)</b> |

**932 - High-Turnover (Sit-Down) Restaurant**

|              | Total Trips       | Internal Trips                      |  |                                      |  |  | Total         | External Trips    |
|--------------|-------------------|-------------------------------------|--|--------------------------------------|--|--|---------------|-------------------|
|              |                   | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 822 - Strip Retail Plaza (&amp;it;40k) - 2 |               |                   |
| Entry        | 322 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                     | 0 (0%)        | 322 (100%)        |
| Exit         | 321 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                     | 0 (0%)        | 321 (100%)        |
| <b>Total</b> | <b>643 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>643 (100%)</b> |

**822 - Strip Retail Plaza (&amp;it;40k) - 2**

|              | Total Trips       | Internal Trips                      |  |                                      |  |   | Total         | External Trips    |
|--------------|-------------------|-------------------------------------|--|--------------------------------------|--|---|---------------|-------------------|
|              |                   | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant |               |                   |
| Entry        | 191 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)        | 191 (100%)        |
| Exit         | 190 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)        | 190 (100%)        |
| <b>Total</b> | <b>381 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b> | <b>381 (100%)</b> |

EXTERNAL TRIPS

| Land Use   | External Trips | Pass-by% | Pass-by Trips | Non-pass-by Trips |
|--|----------------|----------|---------------|-------------------|
| 945 - Convenience Store/Gas Station                  | 6915           | 75       | 5186          | 1729              |
| 934 - Fast-Food Restaurant with Drive-Through Window | 1169           | 50       | 585           | 584               |
| 720 - Medical-Dental Office Building                 | 180            | 0        | 0             | 180               |
| 720 - Medical-Dental Office Building - 1             | 180            | 0        | 0             | 180               |
| 932 - High-Turnover (Sit-Down) Restaurant            | 643            | 43       | 276           | 367               |
| 822 - Strip Retail Plaza (&lt;lt;40k) - 2            | 381            | 40       | 152           | 229               |

#### ITE DEVIATION DETAILS

##### Weekday

|                |   |
|----------------|---|
| Landuse        | No deviations from ITE.   |
| Methods        | 720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban)<br>The chosen method (Average) is not recommended by ITE. ITE recommends LIN based on the criterion.  |
| External Trips | 945 - Convenience Store/Gas Station - GFA (5,5-10k) (General Urban/Suburban)<br>ITE does not recommend a particular pass-by% for this case.<br><br>934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)<br>ITE does not recommend a particular pass-by% for this case.<br><br>720 - Medical-Dental Office Building - Stand-Alone (General Urban/Suburban)<br>ITE does not recommend a particular pass-by% for this case.<br><br>720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban)<br>ITE does not recommend a particular pass-by% for this case.<br><br>932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)<br>ITE does not recommend a particular pass-by% for this case.<br><br>822 - Strip Retail Plaza (&lt;lt;40k) - 2 (General Urban/Suburban)<br>ITE does not recommend a particular pass-by% for this case. |

#### SUMMARY

|   |      |
|---|------|
| Total Entering                            | 4736 |
| Total Exiting                             | 4732 |
| Total Entering Reduction                  | 0    |
| Total Exiting Reduction                   | 0    |
| Total Entering Internal Capture Reduction | 0    |
| Total Exiting Internal Capture Reduction  | 0    |
| Total Entering Pass-by Reduction          | 3100 |
| Total Exiting Pass-by Reduction           | 3099 |
| Total Entering Non-Pass-by Trips          | 1636 |
| Total Exiting Non-Pass-by Trips           | 1633 |

**PERIOD SETTING**

**Analysis Name :** AM Peak Hour  
**Project Name :** US 19 and Spring Hill Dr - Rev Uses V2      **No :**  
**Date:** 8/3/2022      **City:**  
**State/Province:**      **Zip/Postal Code:**  
**Country:**      **Client Name:**  
**Analyst's Name:**      **Edition:** Trip Generation Manual, 11th Ed

| Land Use  | Independent Variable      | Size             | Time Period  | Method  | Entry                    | Exit                    | Total             |
|---|---------------------------|------------------|--|---|--------------------------|-------------------------|-------------------|
| 945 - Convenience Store/Gas Station - GFA (5.5-10k) (General Urban/Suburban)    | Vehicle Fueling Positions | 20               | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Average 31.6                                  | 316<br>50%               | 316<br>50%              | 632               |
| 934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)   | 1000 Sq. Ft. GFA          | 2.5              | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Average 44.61                                 | 57<br>51%                | 55<br>49%               | 112               |
| 720 - Medical-Dental Office Building - Stand-Alone (General Urban/Suburban)     | 1000 Sq. Ft. GFA          | 5                | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Best Fit (LOG)<br>$\ln(T) = 0.9\ln(X) + 1.34$ | 13<br>81%                | 3<br>19%                | 16                |
| 720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban) | 1000 Sq. Ft. GFA          | 5                | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Best Fit (LOG)<br>$\ln(T) = 0.9\ln(X) + 1.34$ | 13<br>81%                | 3<br>19%                | 16                |
| 932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)              | 1000 Sq. Ft. GFA          | 6                | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Average 9.57                                  | 31<br>54%                | 26<br>46%               | 57                |
| 822 - Strip Retail Plaza (&lt;lt;40k) - 2 (General Urban/Suburban)              | 1000 Sq. Ft. GLA          | 7 <sup>(0)</sup> | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Average 2.36                                  | 10 <sup>(1)</sup><br>59% | 7 <sup>(1)</sup><br>41% | 17 <sup>(1)</sup> |

(0) indicates size out of range.  
 (1) indicates small sample size, use carefully.

**TRAFFIC REDUCTIONS**

| Land Use   | Entry Reduction | Adjusted Entry | Exit Reduction | Adjusted Exit |
|--|-----------------|----------------|----------------|---------------|
| 945 - Convenience Store/Gas Station                  | 0 %             | 316            | 0 %            | 316           |
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 %             | 57             | 0 %            | 55            |
| 720 - Medical-Dental Office Building                 | 0 %             | 13             | 0 %            | 3             |
| 720 - Medical-Dental Office Building - 1             | 0 %             | 13             | 0 %            | 3             |
| 932 - High-Turnover (Sit-Down) Restaurant            | 0 %             | 31             | 0 %            | 26            |
| 822 - Strip Retail Plaza (&lt;lt;40k) - 2            | 0 %             | 10             | 0 %            | 7             |

**INTERNAL TRIPS**

|  |     |                      |   |                       |                 |
|--|-----|----------------------|---|-----------------------|-----------------|
| <b>945 - Convenience Store/Gas Station</b> |     |                      | <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |                       |                 |
| <b>Exit</b>                                | 316 | Demand Exit: 0 % (0) | Balanced:   | Demand Entry: 0 % (0) | <b>Entry</b> 57 |



|   |     |                       |                |   |                 |
|---|-----|-----------------------|----------------|---|-----------------|
|   |     |                       | 0              |   |                 |
| <b>Entry</b>  | 316 | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 55  |
| <b>945 - Convenience Store/Gas Station</b>                  |     |                       |                | <b>720 - Medical-Dental Office Building</b>             |                 |
| <b>Exit</b>   | 316 | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 13 |
| <b>Entry</b>  | 316 | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 3   |
| <b>945 - Convenience Store/Gas Station</b>                  |     |                       |                | <b>720 - Medical-Dental Office Building - 1</b>         |                 |
| <b>Exit</b>   | 316 | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 13 |
| <b>Entry</b>  | 316 | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 3   |
| <b>945 - Convenience Store/Gas Station</b>                  |     |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>        |                 |
| <b>Exit</b>   | 316 | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 31 |
| <b>Entry</b>  | 316 | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 26  |
| <b>945 - Convenience Store/Gas Station</b>                  |     |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;lt;lt;40k) - 2</b> |                 |
| <b>Exit</b>   | 316 | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 10 |
| <b>Entry</b>  | 316 | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 7   |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |     |                       |                | <b>720 - Medical-Dental Office Building</b>             |                 |
| <b>Exit</b>   | 55  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 13 |
| <b>Entry</b>  | 57  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 3   |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |     |                       |                | <b>720 - Medical-Dental Office Building - 1</b>         |                 |
| <b>Exit</b>   | 55  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 13 |
| <b>Entry</b>  | 57  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 3   |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |     |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>        |                 |
| <b>Exit</b>   | 55  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 31 |
| <b>Entry</b>  | 57  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 26  |
| <b>934 - Fast-Food Restaurant with Drive-Through Window</b> |     |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;lt;lt;40k) - 2</b> |                 |
| <b>Exit</b>   | 55  | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 10 |
| <b>Entry</b>  | 57  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 7   |
| <b>720 - Medical-Dental Office Building</b>                 |     |                       |                | <b>720 - Medical-Dental Office Building - 1</b>         |                 |
| <b>Exit</b>   | 3   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 13 |
| <b>Entry</b>  | 13  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 3   |
| <b>720 - Medical-Dental Office Building</b>                 |     |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>        |                 |
| <b>Exit</b>   | 3   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 31 |
| <b>Entry</b>  | 13  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 26  |
| <b>720 - Medical-Dental Office Building</b>                 |     |                       |                | <b>822 - Strip Retail Plaza (&amp;lt;lt;lt;40k) - 2</b> |                 |
| <b>Exit</b>   | 3   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 10 |
| <b>Entry</b>  | 13  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 7   |
| <b>720 - Medical-Dental Office Building - 1</b>             |     |                       |                | <b>932 - High-Turnover (Sit-Down) Restaurant</b>        |                 |
| <b>Exit</b>   | 3   | Demand Exit: 0 % (0)  | Balanced:<br>0 | Demand Entry: 0 % (0)                                   | <b>Entry</b> 31 |
| <b>Entry</b>  | 13  | Demand Entry: 0 % (0) | Balanced:<br>0 | Demand Exit: 0 % (0)                                    | <b>Exit</b> 26  |

**720 - Medical-Dental Office Building - 1**

Exit 3 Demand Exit: 0 % (0)  
 Entry 13 Demand Entry: 0 % (0)

Balanced:  
0  
 Balanced:  
0

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

Demand Entry: 0 % (0) Entry 10  
 Demand Exit: 0 % (0) Exit 7

**932 - High-Turnover (Sit-Down) Restaurant**

Exit 26 Demand Exit: 0 % (0)  
 Entry 31 Demand Entry: 0 % (0)

Balanced:  
0  
 Balanced:  
0

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

Demand Entry: 0 % (0) Entry 10  
 Demand Exit: 0 % (0) Exit 7

**945 - Convenience Store/Gas Station**

|              | Total Trips       | Internal Trips                                       |                                      |  |   |  | Total         | External Trips    |
|--------------|-------------------|--|--------------------------------------|--|---|--|---------------|-------------------|
|              |                   | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;lt;40k) - 2 |               |                   |
| Entry        | 316 (100%)        | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 316 (100%)        |
| Exit         | 316 (100%)        | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 316 (100%)        |
| <b>Total</b> | <b>632 (100%)</b> | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>632 (100%)</b> |

**934 - Fast-Food Restaurant with Drive-Through Window**

|              | Total Trips       | Internal Trips                      |                                      |  |   |  | Total         | External Trips    |
|--------------|-------------------|-------------------------------------|--------------------------------------|--|---|--|---------------|-------------------|
|              |                   | 945 - Convenience Store/Gas Station | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;lt;40k) - 2 |               |                   |
| Entry        | 57 (100%)         | 0 (0%)                              | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 57 (100%)         |
| Exit         | 55 (100%)         | 0 (0%)                              | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 55 (100%)         |
| <b>Total</b> | <b>112 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>112 (100%)</b> |

**720 - Medical-Dental Office Building**

|              | Total Trips      | Internal Trips                      |  |  |   |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--|--|---|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;lt;40k) - 2 |               |                  |
| Entry        | 13 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 13 (100%)        |
| Exit         | 3 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 3 (100%)         |
| <b>Total</b> | <b>16 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>16 (100%)</b> |

**720 - Medical-Dental Office Building - 1**

|              | Total Trips      | Internal Trips                      |  |                                      |   |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--|--------------------------------------|---|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&amp;lt;40k) - 2 |               |                  |
| Entry        | 13 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 13 (100%)        |
| Exit         | 3 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                    | 0 (0%)                                     | 0 (0%)        | 3 (100%)         |
| <b>Total</b> | <b>16 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                             | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>16 (100%)</b> |

**932 - High-Turnover (Sit-Down) Restaurant**

|              | Total Trips      | Internal Trips                      |  |                                      |  |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--|--------------------------------------|--|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 822 - Strip Retail Plaza (&amp;lt;40k) - 2 |               |                  |
| Entry        | 31 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                     | 0 (0%)        | 31 (100%)        |
| Exit         | 26 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                     | 0 (0%)        | 26 (100%)        |
| <b>Total</b> | <b>57 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                              | <b>0 (0%)</b> | <b>57 (100%)</b> |

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

| Total Trips | Internal Trips | External Trips |
|-------------|----------------|----------------|
|             |                |                |

|              |           | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | Total  |           |
|--------------|-----------|-------------------------------------|--|--------------------------------------|--|---|--------|-----------|
| <b>Entry</b> | 10 (100%) | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%) | 10 (100%) |
| <b>Exit</b>  | 7 (100%)  | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%) | 7 (100%)  |
| <b>Total</b> | 17 (100%) | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%) | 17 (100%) |

### EXTERNAL TRIPS

| Land Use   | External Trips | Pass-by% | Pass-by Trips | Non-pass-by Trips |
|--|----------------|----------|---------------|-------------------|
| 945 - Convenience Store/Gas Station                  | 632            | 76       | 480           | 152               |
| 934 - Fast-Food Restaurant with Drive-Through Window | 112            | 50       | 56            | 56                |
| 720 - Medical-Dental Office Building                 | 16             | 0        | 0             | 16                |
| 720 - Medical-Dental Office Building - 1             | 16             | 0        | 0             | 16                |
| 932 - High-Turnover (Sit-Down) Restaurant            | 57             | 43       | 25            | 32                |
| 822 - Strip Retail Plaza (&lt;lt;40k) - 2            | 17             | 40       | 7             | 10                |

### ITE DEVIATION DETAILS

#### Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 945 - Convenience Store/Gas Station - GFA (5.5-10k) (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

720 - Medical-Dental Office Building - Stand-Alone (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

822 - Strip Retail Plaza (&lt;lt;40k) - 2 (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

### SUMMARY

|  |     |
|--|-----|
| <b>Total Entering</b>                            | 440 |
| <b>Total Exiting</b>                             | 410 |
| <b>Total Entering Reduction</b>                  | 0   |
| <b>Total Exiting Reduction</b>                   | 0   |
| <b>Total Entering Internal Capture Reduction</b> | 0   |
| <b>Total Exiting Internal Capture Reduction</b>  | 0   |
| <b>Total Entering Pass-by Reduction</b>          | 285 |
| <b>Total Exiting Pass-by Reduction</b>           | 283 |
| <b>Total Entering Non-Pass-by Trips</b>          | 155 |
| <b>Total Exiting Non-Pass-by Trips</b>           | 127 |

### PERIOD SETTING

|                        |  |   |
|------------------------|--|---|
| <b>Analysis Name :</b> | PM Peak Hour                           |   |
| <b>Project Name :</b>  | US 19 and Spring Hill Dr - Rev Uses V2 | <b>No :</b>                                     |
| <b>Date:</b>           | 8/3/2022                               | <b>City:</b>                                    |
| <b>State/Province:</b> |  | <b>Zip/Postal Code:</b>                         |
| <b>Country:</b>        |  | <b>Client Name:</b>                             |
| <b>Analyst's Name:</b> |  | <b>Edition:</b> Trip Generation Manual, 11th Ed |

| Land Use  | Independent Variable      | Size | Time Period  | Method   | Entry      | Exit       | Total |
|---|---------------------------|------|--|--|------------|------------|-------|
| 945 - Convenience Store/Gas Station - GFA (5.5-10k) (General Urban/Suburban)    | Vehicle Fueling Positions | 20   | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Average<br>26.9                                | 269<br>50% | 269<br>50% | 538   |
| 934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)   | 1000 Sq. Ft. GFA          | 2.5  | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Average<br>33.03                               | 43<br>52%  | 40<br>48%  | 83    |
| 720 - Medical-Dental Office Building - Stand-Alone (General Urban/Suburban)     | 1000 Sq. Ft. GFA          | 5    | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LIN)<br>$T = 4.07(X) + -3.17$        | 5<br>29%   | 12<br>71%  | 17    |
| 720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban) | 1000 Sq. Ft. GFA          | 5    | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LIN)<br>$T = 4.07(X) + -3.17$        | 5<br>29%   | 12<br>71%  | 17    |
| 932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)              | 1000 Sq. Ft. GFA          | 6    | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Average<br>9.05                                | 33<br>61%  | 21<br>39%  | 54    |
| 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2 (General Urban/Suburban)           | 1000 Sq. Ft. GLA          | 7    | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LOG)<br>$\ln(T) = 0.71\ln(X) + 2.72$ | 30<br>50%  | 30<br>50%  | 60    |

### TRAFFIC REDUCTIONS

| Land Use   | Entry Reduction | Adjusted Entry | Exit Reduction | Adjusted Exit |
|--|-----------------|----------------|----------------|---------------|
| 945 - Convenience Store/Gas Station                  | 0 %             | 269            | 0 %            | 269           |
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 %             | 43             | 0 %            | 40            |
| 720 - Medical-Dental Office Building                 | 0 %             | 5              | 0 %            | 12            |
| 720 - Medical-Dental Office Building - 1             | 0 %             | 5              | 0 %            | 12            |
| 932 - High-Turnover (Sit-Down) Restaurant            | 0 %             | 33             | 0 %            | 21            |
| 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2         | 0 %             | 30             | 0 %            | 30            |

### INTERNAL TRIPS

|  |           |   |           |  |                     |
|--|-----------|---|-----------|--|---------------------|
| <b>945 - Convenience Store/Gas Station</b><br><br>Exit 269    Demand Exit: 0 % (0)<br>Entry 269    Demand Entry: 0 % (0) | Balanced: | 0 | Balanced: | <b>934 - Fast-Food Restaurant with Drive-Through Window</b><br><br>Demand Entry: 0 % (0)<br>Demand Exit: 0 % (0) | Entry 43<br>Exit 40 |
|--|-----------|---|-----------|--|---------------------|

0

**945 - Convenience Store/Gas Station**

Exit 269 Demand Exit: 0 % (0)

Entry 269 Demand Entry: 0 % (0)

**945 - Convenience Store/Gas Station**

Exit 269 Demand Exit: 0 % (0)

Entry 269 Demand Entry: 0 % (0)

**945 - Convenience Store/Gas Station**

Exit 269 Demand Exit: 0 % (0)

Entry 269 Demand Entry: 0 % (0)

**945 - Convenience Store/Gas Station**

Exit 269 Demand Exit: 0 % (0)

Entry 269 Demand Entry: 0 % (0)

**934 - Fast-Food Restaurant with Drive-Through Window**

Exit 40 Demand Exit: 0 % (0)

Entry 43 Demand Entry: 0 % (0)

**934 - Fast-Food Restaurant with Drive-Through Window**

Exit 40 Demand Exit: 0 % (0)

Entry 43 Demand Entry: 0 % (0)

**934 - Fast-Food Restaurant with Drive-Through Window**

Exit 40 Demand Exit: 0 % (0)

Entry 43 Demand Entry: 0 % (0)

**934 - Fast-Food Restaurant with Drive-Through Window**

Exit 40 Demand Exit: 0 % (0)

Entry 43 Demand Entry: 0 % (0)

**720 - Medical-Dental Office Building**

Exit 12 Demand Exit: 0 % (0)

Entry 5 Demand Entry: 0 % (0)

**720 - Medical-Dental Office Building**

Exit 12 Demand Exit: 0 % (0)

Entry 5 Demand Entry: 0 % (0)

**720 - Medical-Dental Office Building**

Exit 12 Demand Exit: 0 % (0)

Entry 5 Demand Entry: 0 % (0)

**720 - Medical-Dental Office Building - 1**

Exit 12 Demand Exit: 0 % (0)

Entry 5 Demand Entry: 0 % (0)

**720 - Medical-Dental Office Building - 1**

**720 - Medical-Dental Office Building**

Demand Entry: 0 % (0) Entry 5

Demand Exit: 0 % (0) Exit 12

**720 - Medical-Dental Office Building - 1**

Demand Entry: 0 % (0) Entry 5

Demand Exit: 0 % (0) Exit 12

**932 - High-Turnover (Sit-Down) Restaurant**

Demand Entry: 0 % (0) Entry 33

Demand Exit: 0 % (0) Exit 21

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

Demand Entry: 0 % (0) Entry 30

Demand Exit: 0 % (0) Exit 30

**720 - Medical-Dental Office Building**

Demand Entry: 0 % (0) Entry 5

Demand Exit: 0 % (0) Exit 12

**720 - Medical-Dental Office Building - 1**

Demand Entry: 0 % (0) Entry 5

Demand Exit: 0 % (0) Exit 12

**932 - High-Turnover (Sit-Down) Restaurant**

Demand Entry: 0 % (0) Entry 33

Demand Exit: 0 % (0) Exit 21

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

Demand Entry: 0 % (0) Entry 30

Demand Exit: 0 % (0) Exit 30

**720 - Medical-Dental Office Building - 1**

Demand Entry: 0 % (0) Entry 5

Demand Exit: 0 % (0) Exit 12

**932 - High-Turnover (Sit-Down) Restaurant**

Demand Entry: 0 % (0) Entry 33

Demand Exit: 0 % (0) Exit 21

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

Demand Entry: 0 % (0) Entry 30

Demand Exit: 0 % (0) Exit 30

**932 - High-Turnover (Sit-Down) Restaurant**

Demand Entry: 0 % (0) Entry 33

Demand Exit: 0 % (0) Exit 21

**822 - Strip Retail Plaza (&amp;lt;40k) - 2**

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Balanced: 0

Exit 12 Demand Exit: 0 % (0) Balanced: 0 Demand Entry: 0 % (0) Entry 30

Entry 5 Demand Entry: 0 % (0) Balanced: 0 Demand Exit: 0 % (0) Exit 30

**932 - High-Turnover (Sit-Down) Restaurant**

**822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2**

Exit 21 Demand Exit: 0 % (0) Balanced: 0 Demand Entry: 0 % (0) Entry 30

Entry 33 Demand Entry: 0 % (0) Balanced: 0 Demand Exit: 0 % (0) Exit 30

**945 - Convenience Store/Gas Station**

|              | Total Trips       | Internal Trips                                       |                                      |  |   |  | Total         | External Trips    |
|--------------|-------------------|--|--------------------------------------|--|---|--|---------------|-------------------|
|              |                   | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2 |               |                   |
| Entry        | 269 (100%)        | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 269 (100%)        |
| Exit         | 269 (100%)        | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 269 (100%)        |
| <b>Total</b> | <b>538 (100%)</b> | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                                | <b>0 (0%)</b> | <b>538 (100%)</b> |

**934 - Fast-Food Restaurant with Drive-Through Window**

|              | Total Trips      | Internal Trips                      |                                      |  |   |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--------------------------------------|--|---|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2 |               |                  |
| Entry        | 43 (100%)        | 0 (0%)                              | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 43 (100%)        |
| Exit         | 40 (100%)        | 0 (0%)                              | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 40 (100%)        |
| <b>Total</b> | <b>83 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                                | <b>0 (0%)</b> | <b>83 (100%)</b> |

**720 - Medical-Dental Office Building**

|              | Total Trips      | Internal Trips                      |  |  |   |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--|--|---|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building - 1 | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2 |               |                  |
| Entry        | 5 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 5 (100%)         |
| Exit         | 12 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                                   | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 12 (100%)        |
| <b>Total</b> | <b>17 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                            | <b>0 (0%)</b>                             | <b>0 (0%)</b>                                | <b>0 (0%)</b> | <b>17 (100%)</b> |

**720 - Medical-Dental Office Building - 1**

|              | Total Trips      | Internal Trips                      |  |                                      |   |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--|--------------------------------------|---|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 932 - High-Turnover (Sit-Down) Restaurant | 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2 |               |                  |
| Entry        | 5 (100%)         | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 5 (100%)         |
| Exit         | 12 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                    | 0 (0%)                                       | 0 (0%)        | 12 (100%)        |
| <b>Total</b> | <b>17 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                             | <b>0 (0%)</b>                                | <b>0 (0%)</b> | <b>17 (100%)</b> |

**932 - High-Turnover (Sit-Down) Restaurant**

|              | Total Trips      | Internal Trips                      |  |                                      |  |  | Total         | External Trips   |
|--------------|------------------|-------------------------------------|--|--------------------------------------|--|--|---------------|------------------|
|              |                  | 945 - Convenience Store/Gas Station | 934 - Fast-Food Restaurant with Drive-Through Window | 720 - Medical-Dental Office Building | 720 - Medical-Dental Office Building - 1 | 822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2 |               |                  |
| Entry        | 33 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                       | 0 (0%)        | 33 (100%)        |
| Exit         | 21 (100%)        | 0 (0%)                              | 0 (0%)   | 0 (0%)                               | 0 (0%)                                   | 0 (0%)                                       | 0 (0%)        | 21 (100%)        |
| <b>Total</b> | <b>54 (100%)</b> | <b>0 (0%)</b>                       | <b>0 (0%)</b>  | <b>0 (0%)</b>                        | <b>0 (0%)</b>                            | <b>0 (0%)</b>                                | <b>0 (0%)</b> | <b>54 (100%)</b> |

**822 - Strip Retail Plaza (&lt;lt;lt;40k) - 2**

| Total Trips | Internal Trips    |                 |                |                |                           | Total | External Trips |
|-------------|-------------------|-----------------|----------------|----------------|---------------------------|-------|----------------|
|             | 945 - Convenience | 934 - Fast-Food | 720 - Medical- | 720 - Medical- | 932 - High-Turnover (Sit- |       |                |

|              |           | Store/Gas Station | Restaurant with Drive-Through Window | Dental Office Building | Dental Office Building - 1 | Down) Restaurant |        |           |
|--------------|-----------|-------------------|--------------------------------------|------------------------|----------------------------|------------------|--------|-----------|
| <b>Entry</b> | 30 (100%) | 0 (0%)            | 0 (0%)                               | 0 (0%)                 | 0 (0%)                     | 0 (0%)           | 0 (0%) | 30 (100%) |
| <b>Exit</b>  | 30 (100%) | 0 (0%)            | 0 (0%)                               | 0 (0%)                 | 0 (0%)                     | 0 (0%)           | 0 (0%) | 30 (100%) |
| <b>Total</b> | 60 (100%) | 0 (0%)            | 0 (0%)                               | 0 (0%)                 | 0 (0%)                     | 0 (0%)           | 0 (0%) | 60 (100%) |

### EXTERNAL TRIPS

| Land Use   | External Trips | Pass-by% | Pass-by Trips | Non-pass-by Trips |
|--|----------------|----------|---------------|-------------------|
| 945 - Convenience Store/Gas Station                  | 538            | 75       | 404           | 134               |
| 934 - Fast-Food Restaurant with Drive-Through Window | 83             | 55       | 46            | 37                |
| 720 - Medical-Dental Office Building                 | 17             | 0        | 0             | 17                |
| 720 - Medical-Dental Office Building - 1             | 17             | 0        | 0             | 17                |
| 932 - High-Turnover (Sit-Down) Restaurant            | 54             | 43       | 23            | 31                |
| 822 - Strip Retail Plaza (&lt;40k) - 2               | 60             | 40       | 24            | 36                |

### ITE DEVIATION DETAILS

**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 945 - Convenience Store/Gas Station - GFA (5.5-10k) (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

934 - Fast-Food Restaurant with Drive-Through Window (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

720 - Medical-Dental Office Building - Stand-Alone (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

720 - Medical-Dental Office Building - 1 - Stand-Alone (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

932 - High-Turnover (Sit-Down) Restaurant (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

822 - Strip Retail Plaza (&lt;40k) - 2 (General Urban/Suburban)  
ITE does not recommend a particular pass-by% for this case.

### SUMMARY

|  |     |
|--|-----|
| <b>Total Entering</b>                            | 385 |
| <b>Total Exiting</b>                             | 384 |
| <b>Total Entering Reduction</b>                  | 0   |
| <b>Total Exiting Reduction</b>                   | 0   |
| <b>Total Entering Internal Capture Reduction</b> | 0   |
| <b>Total Exiting Internal Capture Reduction</b>  | 0   |
| <b>Total Entering Pass-by Reduction</b>          | 252 |
| <b>Total Exiting Pass-by Reduction</b>           | 245 |
| <b>Total Entering Non-Pass-by Trips</b>          | 133 |
| <b>Total Exiting Non-Pass-by Trips</b>           | 139 |

**APPENDIX**  
PASSERBY CAPTURE RATES



**Vehicle Pass-By Rates by Land Use**

Source: ITE Trip Generation Manual, 11th Edition

| Land Use Code                                | 945                                    |                   |             |              |                  |   |              |           |                             |        |
|--|--|-------------------|-------------|--------------|------------------|---|--------------|-----------|-----------------------------|--------|
| Land Use                                     | Convenience Store/Gas Station          |                   |             |              |                  |   |              |           |                             |        |
| Setting                                      | General Urban/Suburban                 |                   |             |              |                  |   |              |           |                             |        |
| Time Period                                  | Weekday AM Peak Period                 |                   |             |              |                  |   |              |           |                             |        |
| # Data Sites                                 | 16 Sites with between 2 and 8 VFP      |                   |             |              |                  | 28 Sites with between 9 and 20 VFP      |              |           |                             |        |
| Average Pass-By Rate                         | 60% for Sites with between 2 and 8 VFP |                   |             |              |                  | 76% for Sites with between 9 and 20 VFP |              |           |                             |        |
| Pass-By Characteristics for Individual Sites |  |                   |             |              |                  |   |              |           |                             |        |
| GFA (000)                                    | VFP                                    | State or Province | Survey Year | # Interviews | Pass-By Trip (%) | Non-Pass-By Trips                       |              |           | Adj Street Peak Hour Volume | Source |
|  |  |                   |             |              |                  | Primary (%)                             | Diverted (%) | Total (%) |                             |        |
| 2  | 8                                      | Maryland          | 1992        | 46           | 87               | 13                                      | 0            | 13        | 2235                        | 25     |
| 2.1  | 6                                      | Maryland          | 1992        | 26           | 58               | 23                                      | 19           | 42        | 2080                        | 25     |
| 2.1  | 6                                      | Maryland          | 1992        | 26           | 58               | 23                                      | 19           | 42        | 2080                        | 25     |
| 2.2  | 8                                      | Maryland          | 1992        | 31           | 47               | 34                                      | 19           | 53        | 1785                        | 25     |
| 2.2  | < 8                                    | Indiana           | 1993        | 79           | 56               | 6                                       | 38           | 44        | 635                         | 2      |
| 2.2  | 8                                      | Maryland          | 1992        | 35           | 78               | 9                                       | 13           | 22        | 7080                        | 25     |
| 2.3  | 6                                      | Maryland          | 1992        | 37           | 32               | 41                                      | 27           | 68        | 2080                        | 25     |
| 2.3  | < 8                                    | Kentucky          | 1993        | 58           | 64               | 5                                       | 31           | 36        | 1255                        | 2      |
| 2.3  | 6                                      | Maryland          | 1992        | 37           | 32               | 41                                      | 27           | 68        | 2080                        | 25     |
| 2.4  | < 8                                    | Kentucky          | 1993        | —            | 48               | 17                                      | 35           | 52        | 1210                        | 2      |
| 2.6  | < 8                                    | Kentucky          | 1993        | —            | 72               | 15                                      | 13           | 28        | 940                         | 2      |
| 2.8  | < 8                                    | Kentucky          | 1993        | —            | 54               | 11                                      | 35           | 46        | 1240                        | 2      |
| 3  | < 8                                    | Indiana           | 1993        | 62           | 74               | 10                                      | 16           | 26        | 790                         | 2      |
| 3.6  | < 8                                    | Kentucky          | 1993        | 49           | 67               | 4                                       | 29           | 33        | 1985                        | 2      |
| 3.7  | < 8                                    | Kentucky          | 1993        | 49           | 66               | 16                                      | 18           | 34        | 990                         | 2      |
| 4.694  | 12                                     | Maryland          | 2000        | —            | 72               | —                                       | —            | 28        | 2440                        | 30     |
| 4.694  | 12                                     | Maryland          | 2000        | —            | 78               | —                                       | —            | 22        | 1561                        | 30     |
| 4.694  | 12                                     | Maryland          | 2000        | —            | 79               | —                                       | —            | 21        | 2764                        | 30     |
| 4.848  | 12                                     | Virginia          | 2000        | —            | 55               | —                                       | —            | 45        | 1398                        | 30     |
| 5.06   | 12                                     | Pennsylvania      | 2000        | —            | 84               | —                                       | —            | 16        | 3219                        | 30     |
| 5.242  | 12                                     | Virginia          | 2000        | —            | 74               | —                                       | —            | 26        | 1160                        | 30     |
| 5.242  | 12                                     | Virginia          | 2000        | —            | 71               | —                                       | —            | 29        | 548                         | 30     |
| 5.488  | 12                                     | Delaware          | 2000        | —            | 80               | —                                       | —            | 20        | —                           | 30     |
| 5.5  | 12                                     | Pennsylvania      | 2000        | —            | 85               | —                                       | —            | 15        | 2975                        | 30     |
| 4.2  | < 8                                    | Kentucky          | 1993        | 47           | 62               | 19                                      | 19           | 38        | 1705                        | 2      |
| 4.694  | 16                                     | Maryland          | 2000        | —            | 90               | —                                       | —            | 10        | 2278                        | 30     |
| 4.694  | 16                                     | Delaware          | 2000        | —            | 74               | —                                       | —            | 26        | 2185                        | 30     |
| 4.694  | 16                                     | Delaware          | 2000        | —            | 58               | —                                       | —            | 42        | 962                         | 30     |
| 4.694  | 16                                     | Delaware          | 2000        | —            | 84               | —                                       | —            | 16        | 2956                        | 30     |
| 4.694  | 16                                     | New Jersey        | 2000        | —            | 79               | —                                       | —            | 21        | 1859                        | 30     |
| 4.694  | 20                                     | Delaware          | 2000        | —            | 84               | —                                       | —            | 16        | 3864                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 68               | —                                       | —            | 32        | 2106                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 85               | —                                       | —            | 15        | 2676                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 75               | —                                       | —            | 25        | 3244                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 71               | —                                       | —            | 29        | 1663                        | 30     |
| 4.993  | 16                                     | Pennsylvania      | 2000        | —            | 75               | —                                       | —            | 25        | 1991                        | 30     |
| 5.094  | 16                                     | New Jersey        | 2000        | —            | 86               | —                                       | —            | 14        | 1260                        | 30     |
| 5.5  | 16                                     | Pennsylvania      | 2000        | —            | 82               | —                                       | —            | 18        | 1570                        | 30     |
| 5.543  | 16                                     | Pennsylvania      | 2000        | —            | 84               | —                                       | —            | 16        | 1933                        | 30     |
| 5.565  | 16                                     | Pennsylvania      | 2000        | —            | 77               | —                                       | —            | 23        | 2262                        | 30     |
| 5.565  | 16                                     | Pennsylvania      | 2000        | —            | 68               | —                                       | —            | 32        | 2854                        | 30     |
| 5.565  | 16                                     | New Jersey        | 2000        | —            | 58               | —                                       | —            | 42        | 1253                        | 30     |
| 5.565  | 16                                     | New Jersey        | 2000        | —            | 79               | —                                       | —            | 21        | 1928                        | 30     |
| 5.565  | 16                                     | New Jersey        | 2000        | ---          | 84               | ---                                     | ---          | 16        | 1953                        | 30     |

**Vehicle Pass-By Rates by Land Use**

Source: ITE Trip Generation Manual, 11th Edition

| Land Use Code                                | 945                                    |                   |             |              |                  |   |              |           |                             |        |
|--|--|-------------------|-------------|--------------|------------------|---|--------------|-----------|-----------------------------|--------|
| Land Use                                     | Convenience Store/Gas Station          |                   |             |              |                  |   |              |           |                             |        |
| Setting                                      | General Urban/Suburban                 |                   |             |              |                  |   |              |           |                             |        |
| Time Period                                  | Weekday PM Peak Period                 |                   |             |              |                  |   |              |           |                             |        |
| # Data Sites                                 | 12 Sites with between 2 and 8 VFP      |                   |             |              |                  | 28 Sites with between 9 and 20 VFP      |              |           |                             |        |
| Average Pass-By Rate                         | 56% for Sites with between 2 and 8 VFP |                   |             |              |                  | 75% for Sites with between 9 and 20 VFP |              |           |                             |        |
| Pass-By Characteristics for Individual Sites |  |                   |             |              |                  |   |              |           |                             |        |
| GFA (000)                                    | VFP                                    | State or Province | Survey Year | # Interviews | Pass-By Trip (%) | Non-Pass-By Trips                       |              |           | Adj Street Peak Hour Volume | Source |
|  |  |                   |             |              |                  | Primary (%)                             | Diverted (%) | Total (%) |                             |        |
| 2.1  | 8                                      | Maryland          | 1992        | 31           | 52               | 13                                      | 35           | 48        | 1785                        | 25     |
| 2.1  | 6                                      | Maryland          | 1992        | 30           | 53               | 20                                      | 27           | 47        | 1060                        | 25     |
| 2.2  | < 8                                    | Indiana           | 1993        | 115          | 48               | 16                                      | 36           | 52        | 820                         | 2      |
| 2.3  | < 8                                    | Kentucky          | 1993        | 67           | 57               | 16                                      | 27           | 43        | 1954                        | 2      |
| 2.3  | 6                                      | Maryland          | 1992        | 55           | 40               | 11                                      | 49           | 60        | 2760                        | 25     |
| 2.4  | < 8                                    | Kentucky          | 1993        | —            | 58               | 13                                      | 29           | 42        | 2655                        | 2      |
| 2.6  | < 8                                    | Kentucky          | 1993        | 68           | 67               | 15                                      | 18           | 33        | 950                         | 2      |
| 2.8  | < 8                                    | Kentucky          | 1993        | —            | 62               | 11                                      | 27           | 38        | 2875                        | 2      |
| 3  | < 8                                    | Indiana           | 1993        | 80           | 65               | 15                                      | 20           | 35        | 1165                        | 2      |
| 3.6  | < 8                                    | Kentucky          | 1993        | 60           | 56               | 17                                      | 27           | 44        | 2505                        | 2      |
| 3.7  | < 8                                    | Kentucky          | 1993        | 70           | 61               | 16                                      | 23           | 39        | 2175                        | 2      |
| 4.2  | < 8                                    | Kentucky          | 1993        | 61           | 58               | 26                                      | 16           | 42        | 2300                        | 2      |
| 4.694  | 12                                     | Maryland          | 2000        | —            | 78               | —                                       | —            | 22        | 3549                        | 30     |
| 4.694  | 12                                     | Maryland          | 2000        | —            | 67               | —                                       | —            | 33        | 2272                        | 30     |
| 4.694  | 12                                     | Maryland          | 2000        | —            | 66               | —                                       | —            | 34        | 3514                        | 30     |
| 4.848  | 12                                     | Virginia          | 2000        | —            | 71               | —                                       | —            | 29        | 2350                        | 30     |
| 5.06   | 12                                     | Pennsylvania      | 2000        | —            | 91               | —                                       | —            | 9         | 4181                        | 30     |
| 5.242  | 12                                     | Virginia          | 2000        | —            | 70               | —                                       | —            | 30        | 2445                        | 30     |
| 5.242  | 12                                     | Virginia          | 2000        | —            | 56               | —                                       | —            | 44        | 950                         | 30     |
| 5.488  | 12                                     | Delaware          | 2000        | —            | 73               | —                                       | —            | 27        | —                           | 30     |
| 5.5  | 12                                     | Pennsylvania      | 2000        | —            | 84               | —                                       | —            | 16        | 4025                        | 30     |
| 4.694  | 16                                     | Maryland          | 2000        | —            | 89               | —                                       | —            | 11        | 2755                        | 30     |
| 4.694  | 16                                     | Delaware          | 2000        | —            | 73               | —                                       | —            | 27        | 1858                        | 30     |
| 4.694  | 16                                     | Delaware          | 2000        | —            | 59               | —                                       | —            | 41        | 1344                        | 30     |
| 4.694  | 16                                     | Delaware          | 2000        | —            | 72               | —                                       | —            | 28        | 3434                        | 30     |
| 4.694  | 16                                     | New Jersey        | 2000        | —            | 81               | —                                       | —            | 19        | 1734                        | 30     |
| 4.694  | 20                                     | Delaware          | 2000        | —            | 76               | —                                       | —            | 24        | 1616                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 67               | —                                       | —            | 33        | 2.954                       | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 78               | —                                       | —            | 22        | 3086                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 83               | —                                       | —            | 17        | 4143                        | 30     |
| 4.848  | 16                                     | Virginia          | 2000        | —            | 73               | —                                       | —            | 27        | 2534                        | 30     |
| 4.993  | 16                                     | Pennsylvania      | 2000        | —            | 72               | —                                       | —            | 28        | 2917                        | 30     |
| 5.094  | 16                                     | New Jersey        | 2000        | —            | 86               | —                                       | —            | 14        | 1730                        | 30     |
| 5.5  | 16                                     | Pennsylvania      | 2000        | —            | 90               | —                                       | —            | 10        | 2616                        | 30     |
| 5.543  | 16                                     | Pennsylvania      | 2000        | —            | 87               | —                                       | —            | 13        | 2363                        | 30     |
| 5.565  | 16                                     | Pennsylvania      | 2000        | —            | 81               | —                                       | —            | 19        | 2770                        | 30     |
| 5.565  | 16                                     | Pennsylvania      | 2000        | —            | 76               | —                                       | —            | 24        | 3362                        | 30     |
| 5.565  | 16                                     | New Jersey        | 2000        | —            | 61               | —                                       | —            | 39        | 1713                        | 30     |
| 5.565  | 16                                     | New Jersey        | 2000        | —            | 86               | —                                       | —            | 14        | 1721                        | 30     |
| 5.565  | 16                                     | New Jersey        | 2000        | ---          | 81               | ---                                     | ---          | 19        | 2227                        | 30     |

## Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

|                      |  |
|----------------------|--|
| Land Use Code        | 934  |
| Land Use             | Fast-Food Restaurant with Drive-Through Window |
| Setting              | General Urban/Suburban                         |
| Time Period          | Weekday AM Peak Period                         |
| # Data Sites         | 5  |
| Average Pass-By Rate | 50%  |

### Pass-By Characteristics for Individual Sites

| GFA (000) | State or Province | Survey Year | # Interviews | Pass-By Trip (%) | Non-Pass-By Trips |              |           | Adj Street Peak Hour Volume | Source |
|-----------|-------------------|-------------|--------------|------------------|-------------------|--------------|-----------|-----------------------------|--------|
|           |                   |             |              |                  | Primary (%)       | Diverted (%) | Total (%) |                             |        |
| 1.4       | Kentucky          | 1993        | —            | 62               | 22                | 16           | 38        | 1407                        | 2      |
| 3         | Kentucky          | 1993        | —            | 43               | 14                | 43           | 57        | 2903                        | 2      |
| 3.3       | --                | 1996        | —            | 68               | —                 | —            | 32        | —                           | 21     |
| 3.6       | Kentucky          | 1993        | —            | 32               | 47                | 21           | 68        | 437                         | 2      |
| 4.2       | Indiana           | 1993        | —            | 46               | 23                | 31           | 54        | 1049                        | 2      |

## Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

|                      |  |
|----------------------|--|
| Land Use Code        | 934  |
| Land Use             | Fast-Food Restaurant with Drive-Through Window |
| Setting              | General Urban/Suburban                         |
| Time Period          | Weekday PM Peak Period                         |
| # Data Sites         | 11   |
| Average Pass-By Rate | 55%  |

### Pass-By Characteristics for Individual Sites

| GFA (000) | State or Province | Survey Year | # Interviews | Pass-By Trip (%) | Non-Pass-By Trips |              |           | Adj Street Peak Hour Volume | Source |
|-----------|-------------------|-------------|--------------|------------------|-------------------|--------------|-----------|-----------------------------|--------|
|           |                   |             |              |                  | Primary (%)       | Diverted (%) | Total (%) |                             |        |
| 1.3       | Kentucky          | 1993        | —            | 68               | 22                | 10           | 32        | 2055                        | 2      |
| 1.9       | Kentucky          | 1993        | 33           | 67               | 24                | 9            | 33        | 2447                        | 2      |
| 2.8       | Florida           | 1995        | 47           | 66               | —                 | —            | 34        | —                           | 30     |
| 2.9       | Florida           | 1996        | 271          | 41               | 41                | 18           | 59        | —                           | 30     |
| 3         | Kentucky          | 1993        | —            | 31               | 31                | 38           | 69        | 4250                        | 2      |
| 3.1       | Florida           | 1995        | 28           | 71               | —                 | —            | 29        | —                           | 30     |
| 3.1       | Florida           | 1996        | 29           | 38               | —                 | —            | 62        | —                           | 30     |
| 3.2       | Florida           | 1996        | 202          | 40               | 39                | 21           | 60        | —                           | 30     |
| 3.3       | —                 | 1996        | —            | 62               | —                 | —            | 38        | —                           | 21     |
| 4.2       | Indiana           | 1993        | —            | 56               | 25                | 19           | 44        | 1632                        | 2      |
| 4.3       | Florida           | 1994        | 304          | 62               | —                 | —            | 38        | —                           | 30     |

## Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

|                      |                                     |
|----------------------|-------------------------------------|
| Land Use Code        | 932                                 |
| Land Use             | High-Turnover (Sit-Down) Restaurant |
| Setting              | General Urban/Suburban              |
| Time Period          | Weekday PM Peak Period              |
| # Data Sites         | 12                                  |
| Average Pass-By Rate | 43%                                 |

### Pass-By Characteristics for Individual Sites

| GFA (000) | State or Province | Survey Year | # Interviews | Pass-By Trip (%) | Non-Pass-By Trips |              |           | Adj Street Peak Hour Volume | Source |
|-----------|-------------------|-------------|--------------|------------------|-------------------|--------------|-----------|-----------------------------|--------|
|           |                   |             |              |                  | Primary (%)       | Diverted (%) | Total (%) |                             |        |
| 2.9       | Kentucky          | 1993        | 41           | 37               | 27                | 36           | 63        | 3935                        | 2      |
| 3.1       | Kentucky          | 1993        | 21           | 38               | 29                | 33           | 62        | 2580                        | 2      |
| 4.6       | Florida           | 1992        | 276          | 63               | —                 | —            | 37        | —                           | 30     |
| 5         | Florida           | 1992        | 65           | 58               | —                 | —            | 42        | —                           | 30     |
| 5.3       | Kentucky          | 1993        | 24           | 50               | 37                | 13           | 50        | 1615                        | 2      |
| 5.7       | Florida           | 1994        | 308          | 57               | —                 | —            | 43        | —                           | 30     |
| 5.8       | Florida           | 1992        | 150          | 32               | —                 | —            | 68        | —                           | 30     |
| 6.2       | Florida           | 1995        | 521          | 46               | 43                | 11           | 54        | —                           | 30     |
| 7.1       | Indiana           | 1993        | —            | 23               | 23                | 54           | 77        | 1565                        | 2      |
| 8         | Florida           | 1995        | 664          | 40               | 39                | 21           | 60        | —                           | 30     |
| 11        | Florida           | 1996        | 267          | 38               | 43                | 19           | 62        | —                           | 30     |
| 12        | Florida           | 1996        | 317          | 29               | 51                | 20           | 71        | —                           | 30     |

## Vehicle Pass-By Rates by Land Use

Source: ITE Trip Generation Manual, 11th Edition

|                      |                            |
|----------------------|----------------------------|
| Land Use Code        | 821                        |
| Land Use             | Shopping Plaza (40 - 150k) |
| Setting              | General Urban/Suburban     |
| Time Period          | Weekday PM Peak Period     |
| # Data Sites         | 15                         |
| Average Pass-By Rate | 40%                        |

### Pass-By Characteristics for Individual Sites

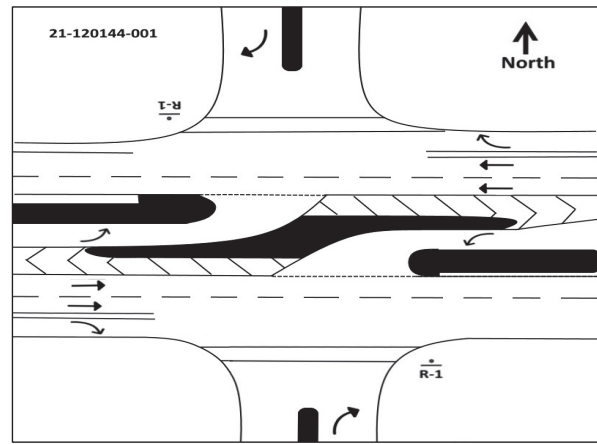
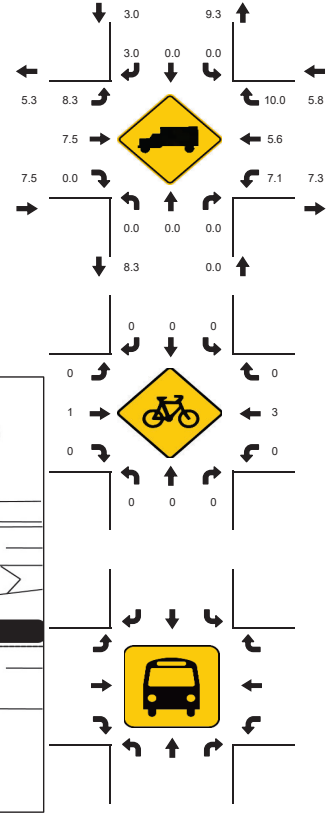
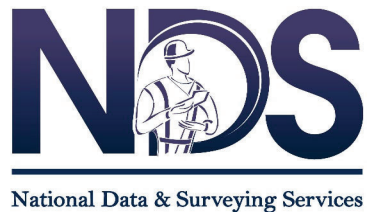
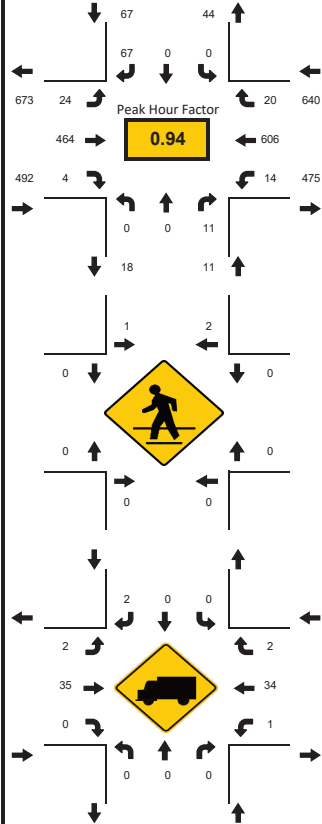
| GLA (000) | State or Province | Survey Year | # Interviews | Pass-By Trip (%) | Non-Pass-By Trips |              |           | Adj Street Peak Hour Volume | Source |
|-----------|-------------------|-------------|--------------|------------------|-------------------|--------------|-----------|-----------------------------|--------|
|           |                   |             |              |                  | Primary (%)       | Diverted (%) | Total (%) |                             |        |
| 45        | Florida           | 1992        | 844          | 56               | 24                | 20           | 44        | —                           | 30     |
| 50        | Florida           | 1992        | 555          | 41               | 41                | 18           | 59        | —                           | 30     |
| 52        | Florida           | 1995        | 665          | 42               | 33                | 25           | 58        | —                           | 30     |
| 53        | Florida           | 1993        | 162          | 59               | —                 | —            | 41        | —                           | 30     |
| 57.23     | Kentucky          | 1993        | 247          | 31               | 53                | 16           | 69        | 2659                        | 34     |
| 60        | Florida           | 1995        | 1583         | 40               | 38                | 22           | 60        | —                           | 30     |
| 69.4      | Kentucky          | 1993        | 109          | 25               | 42                | 33           | 75        | 1559                        | 34     |
| 77        | Florida           | 1992        | 365          | 46               | —                 | —            | 54        | —                           | 30     |
| 78        | Florida           | 1991        | 702          | 55               | 23                | 22           | 45        | —                           | 30     |
| 82        | Florida           | 1992        | 336          | 34               | —                 | —            | 66        | —                           | 30     |
| 92.857    | Kentucky          | 1993        | 133          | 22               | 50                | 28           | 78        | 3555                        | 34     |
| 100.888   | Kentucky          | 1993        | 281          | 28               | 50                | 22           | 72        | 2111                        | 34     |
| 121.54    | Kentucky          | 1993        | 210          | 53               | 30                | 17           | 47        | 2636                        | 34     |
| 144       | New Jersey        | 1990        | 176          | 32               | 44                | 24           | 68        | —                           | 24     |
| 146.8     | Kentucky          | 1993        | —            | 36               | 39                | 25           | 64        | —                           | 34     |

**APPENDIX**  
TURNING MOVEMENT COUNTS

LOCATION: Lexington Dr & SR 43  
 CITY/STATE: Parrish, FL

PROJECT ID: 21-120144-001  
 DATE: Thu, Apr 22, 2021

Peak-Hour: 08:00 AM - 09:00 AM  
 Peak 15-Minute: 08:45 AM - 09:00 AM



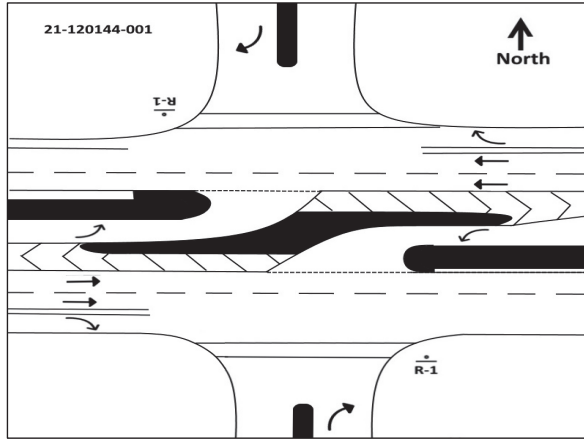
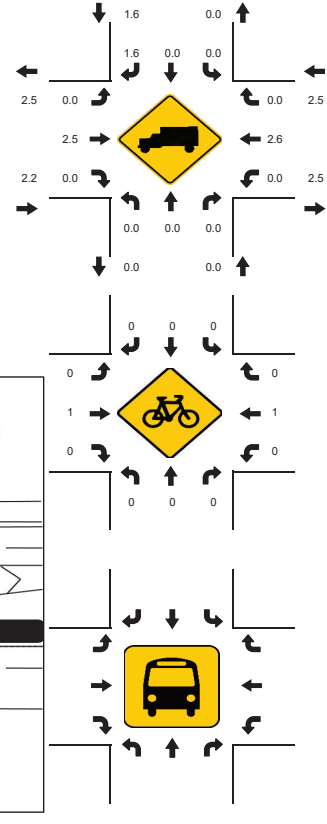
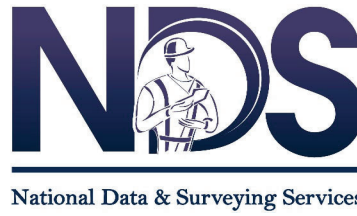
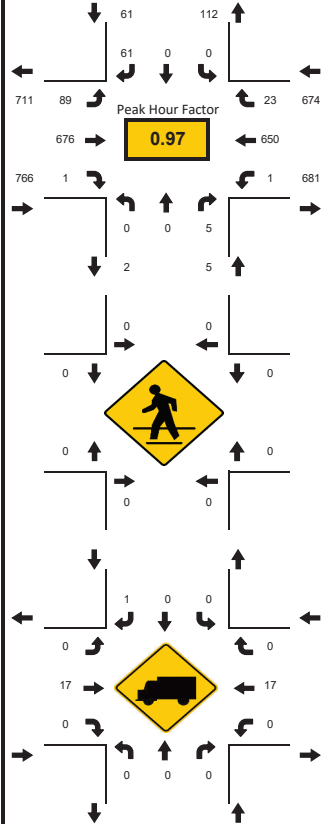
| 15-Min Count Period Beginning At | Lexington Dr Northbound |      |     |   |    | Lexington Dr Southbound |      |     |   |    | SR 43 Eastbound  |      |     |   |    | SR 43 Westbound  |      |     |   |    | Total        | Hourly Total |
|----------------------------------|-------------------------|------|-----|---|----|-------------------------|------|-----|---|----|------------------|------|-----|---|----|------------------|------|-----|---|----|--------------|--------------|
|                                  | Left                    | Thru | Rgt | U | R* | Left                    | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* |              |              |
| 07:00 AM                         | 0                       | 0    | 1   | 0 |    | 0                       | 0    | 23  | 0 |    | 3                | 99   | 3   | 0 |    | 2                | 130  | 3   | 0 |    | 264          | 1148         |
| 07:15 AM                         | 0                       | 0    | 2   | 0 |    | 0                       | 0    | 26  | 0 |    | 5                | 102  | 3   | 0 |    | 2                | 144  | 1   | 0 |    | 285          | 1170         |
| 07:30 AM                         | 0                       | 0    | 0   | 0 |    | 0                       | 0    | 26  | 0 |    | 4                | 103  | 1   | 0 |    | 1                | 153  | 5   | 0 |    | 293          | 1176         |
| 07:45 AM                         | 0                       | 0    | 3   | 0 |    | 0                       | 0    | 18  | 0 |    | 5                | 133  | 1   | 0 |    | 1                | 142  | 3   | 0 |    | 306          | 1194         |
| 08:00 AM                         | 0                       | 0    | 3   | 0 |    | 0                       | 0    | 17  | 0 |    | 2                | 112  | 3   | 0 |    | 4                | 142  | 2   | 1 |    | 286          | 1210         |
| 08:15 AM                         | 0                       | 0    | 3   | 0 |    | 0                       | 0    | 15  | 0 |    | 4                | 124  | 0   | 1 |    | 1                | 135  | 7   | 1 |    | 291          | 924          |
| 08:30 AM                         | 0                       | 0    | 3   | 0 |    | 0                       | 0    | 15  | 0 |    | 9                | 110  | 1   | 0 |    | 2                | 164  | 5   | 2 |    | 311          | 633          |
| 08:45 AM                         | 0                       | 0    | 2   | 0 |    | 0                       | 0    | 20  | 0 |    | 8                | 118  | 0   | 0 |    | 1                | 165  | 6   | 2 |    | 322          | 322          |
| <b>Peak 15-Min Flowrates</b>     | <b>Northbound</b>       |      |     |   |    | <b>Southbound</b>       |      |     |   |    | <b>Eastbound</b> |      |     |   |    | <b>Westbound</b> |      |     |   |    | <b>Total</b> |              |
| All Vehicles                     | 0                       | 0    | 12  | 0 |    | 0                       | 0    | 80  | 0 |    | 36               | 496  | 12  | 4 |    | 16               | 660  | 28  | 8 |    | 1352         |              |
| Heavy Trucks                     | 0                       | 0    | 0   | 0 |    | 0                       | 0    | 4   | 0 |    | 4                | 52   | 0   | 0 |    | 4                | 44   | 4   | 0 |    | 112          |              |
| Pedestrians                      | 0                       | 0    | 0   | 0 |    | 0                       | 0    | 8   | 0 |    | 0                | 0    | 0   | 0 |    | 0                | 0    | 0   | 0 |    | 8            |              |
| Bicycles                         | 0                       | 0    | 0   | 0 |    | 0                       | 0    | 0   | 0 |    | 0                | 4    | 0   | 0 |    | 0                | 8    | 0   | 0 |    | 12           |              |
| Buses                            |                         |      |     |   |    |                         |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |
| Stopped Buses                    |                         |      |     |   |    |                         |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |



LOCATION: Lexington Dr & SR 43  
 CITY/STATE: Parrish, FL

PROJECT ID: 21-120144-001  
 DATE: Thu, Apr 22, 2021

Peak-Hour: 05:00 PM - 06:00 PM  
 Peak 15-Minute: 05:15 PM - 05:30 PM



| 15-Min Count Period Beginning At | Lexington Dr Northbound |      |     |   |    | Lexington Dr Southbound |      |     |   |    | SR 43 Eastbound  |      |     |   |    | SR 43 Westbound  |      |     |   |    | Total        | Hourly Total |
|----------------------------------|-------------------------|------|-----|---|----|-------------------------|------|-----|---|----|------------------|------|-----|---|----|------------------|------|-----|---|----|--------------|--------------|
|                                  | Left                    | Thru | Rgt | U | R* | Left                    | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* |              |              |
| 04:00 PM                         | 0                       | 0    | 2   | 0 | 0  | 0                       | 0    | 10  | 0 | 0  | 22               | 154  | 1   | 1 | 0  | 0                | 164  | 4   | 0 | 0  | 358          | 1430         |
| 04:15 PM                         | 0                       | 0    | 1   | 0 | 0  | 0                       | 0    | 14  | 0 | 0  | 22               | 151  | 1   | 0 | 0  | 0                | 157  | 5   | 0 | 0  | 351          | 1434         |
| 04:30 PM                         | 0                       | 0    | 3   | 0 | 0  | 0                       | 0    | 20  | 0 | 0  | 25               | 159  | 0   | 0 | 0  | 0                | 150  | 6   | 0 | 0  | 363          | 1471         |
| 04:45 PM                         | 0                       | 0    | 0   | 0 | 0  | 0                       | 0    | 15  | 0 | 0  | 10               | 149  | 0   | 0 | 0  | 0                | 172  | 12  | 0 | 0  | 358          | 1481         |
| 05:00 PM                         | 0                       | 0    | 0   | 0 | 0  | 0                       | 0    | 9   | 0 | 0  | 16               | 184  | 0   | 0 | 0  | 0                | 147  | 6   | 0 | 0  | 362          | 1506         |
| 05:15 PM                         | 0                       | 0    | 2   | 0 | 0  | 0                       | 0    | 15  | 0 | 0  | 29               | 186  | 0   | 0 | 0  | 0                | 154  | 2   | 0 | 0  | 388          | 1144         |
| 05:30 PM                         | 0                       | 0    | 2   | 0 | 0  | 0                       | 0    | 20  | 0 | 0  | 19               | 155  | 1   | 2 | 0  | 0                | 162  | 11  | 1 | 0  | 373          | 756          |
| 05:45 PM                         | 0                       | 0    | 1   | 0 | 0  | 0                       | 0    | 17  | 0 | 0  | 23               | 151  | 0   | 0 | 0  | 0                | 187  | 4   | 0 | 0  | 383          | 383          |
| <b>Peak 15-Min Flowrates</b>     | <b>Northbound</b>       |      |     |   |    | <b>Southbound</b>       |      |     |   |    | <b>Eastbound</b> |      |     |   |    | <b>Westbound</b> |      |     |   |    | <b>Total</b> |              |
| All Vehicles                     | 0                       | 0    | 8   | 0 | 0  | 0                       | 0    | 80  | 0 | 0  | 116              | 744  | 4   | 8 | 0  | 0                | 748  | 44  | 4 | 0  | 1756         |              |
| Heavy Trucks                     | 0                       | 0    | 0   | 0 | 0  | 0                       | 0    | 4   | 0 | 0  | 0                | 20   | 0   | 0 | 0  | 0                | 24   | 0   | 0 | 0  | 48           |              |
| Pedestrians                      | 0                       | 0    | 0   | 0 | 0  | 0                       | 0    | 0   | 0 | 0  | 0                | 0    | 0   | 0 | 0  | 0                | 0    | 0   | 0 | 0  | 0            |              |
| Bicycles                         | 0                       | 0    | 0   | 0 | 0  | 0                       | 0    | 0   | 0 | 0  | 0                | 4    | 0   | 0 | 0  | 0                | 4    | 0   | 0 | 0  | 8            |              |
| Buses                            |                         |      |     |   |    |                         |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |
| Stopped Buses                    |                         |      |     |   |    |                         |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |

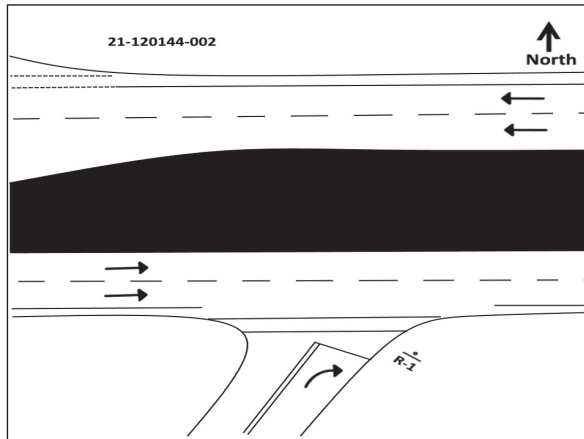
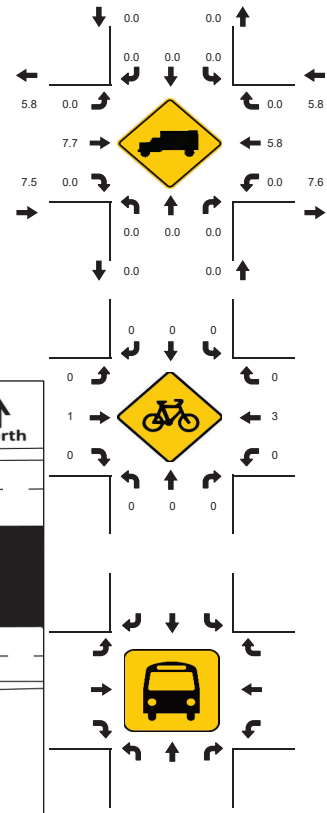
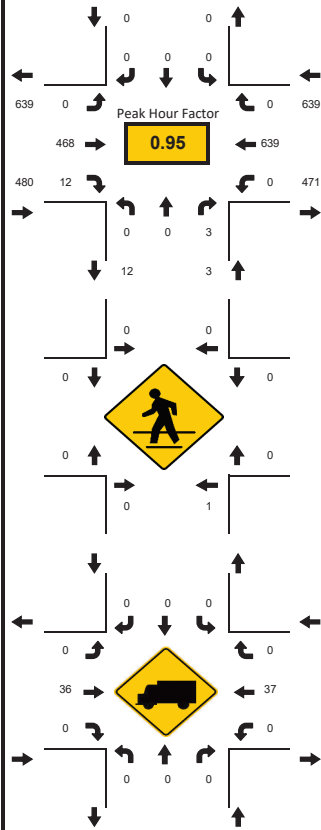
LOCATION: Oxford Rd & SR 43  
 CITY/STATE: Parrish, FL

PROJECT ID: 21-120144-002  
 DATE: Thu, Apr 22, 2021

Peak-Hour: 08:00 AM - 09:00 AM  
 Peak 15-Minute: 08:45 AM - 09:00 AM



National Data & Surveying Services



| 15-Min Count Period Beginning At | Oxford Rd Northbound |      |     |   |    | Oxford Rd Southbound |      |     |   |    | SR 43 Eastbound  |      |     |   |    | SR 43 Westbound  |      |     |   |    | Total        | Hourly Total |
|----------------------------------|----------------------|------|-----|---|----|----------------------|------|-----|---|----|------------------|------|-----|---|----|------------------|------|-----|---|----|--------------|--------------|
|                                  | Left                 | Thru | Rgt | U | R* | Left                 | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* |              |              |
| 07:00 AM                         | 0                    | 0    | 1   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 96   | 1   | 0 | 0  | 0                | 134  | 0   | 0 | 0  | 232          | 1029         |
| 07:15 AM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 99   | 1   | 0 | 0  | 0                | 152  | 0   | 0 | 0  | 252          | 1061         |
| 07:30 AM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 104  | 1   | 0 | 0  | 0                | 152  | 0   | 0 | 0  | 257          | 1079         |
| 07:45 AM                         | 0                    | 0    | 1   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 134  | 6   | 0 | 0  | 0                | 147  | 0   | 0 | 0  | 288          | 1114         |
| 08:00 AM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 113  | 5   | 0 | 0  | 0                | 146  | 0   | 0 | 0  | 264          | 1122         |
| 08:15 AM                         | 0                    | 0    | 1   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 114  | 6   | 0 | 0  | 0                | 149  | 0   | 0 | 0  | 270          | 858          |
| 08:30 AM                         | 0                    | 0    | 2   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 123  | 0   | 0 | 0  | 0                | 167  | 0   | 0 | 0  | 292          | 588          |
| 08:45 AM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 118  | 1   | 0 | 0  | 0                | 177  | 0   | 0 | 0  | 296          | 296          |
| <b>Peak 15-Min Flowrates</b>     | <b>Northbound</b>    |      |     |   |    | <b>Southbound</b>    |      |     |   |    | <b>Eastbound</b> |      |     |   |    | <b>Westbound</b> |      |     |   |    | <b>Total</b> |              |
| All Vehicles                     | 0                    | 0    | 8   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 492  | 24  | 0 | 0  | 0                | 708  | 0   | 0 | 0  | 1232         |              |
| Heavy Trucks                     | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 56   | 0   | 0 | 0  | 0                | 40   | 0   | 0 | 0  | 96           |              |
| Pedestrians                      |                      | 4    |     |   |    |                      |      | 0   |   |    |                  | 0    |     |   |    |                  | 0    |     |   |    | 4            |              |
| Bicycles                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 4    | 0   | 0 | 0  | 0                | 8    | 0   | 0 | 0  | 12           |              |
| Buses                            |                      |      |     |   |    |                      |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |
| Stopped Buses                    |                      |      |     |   |    |                      |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |

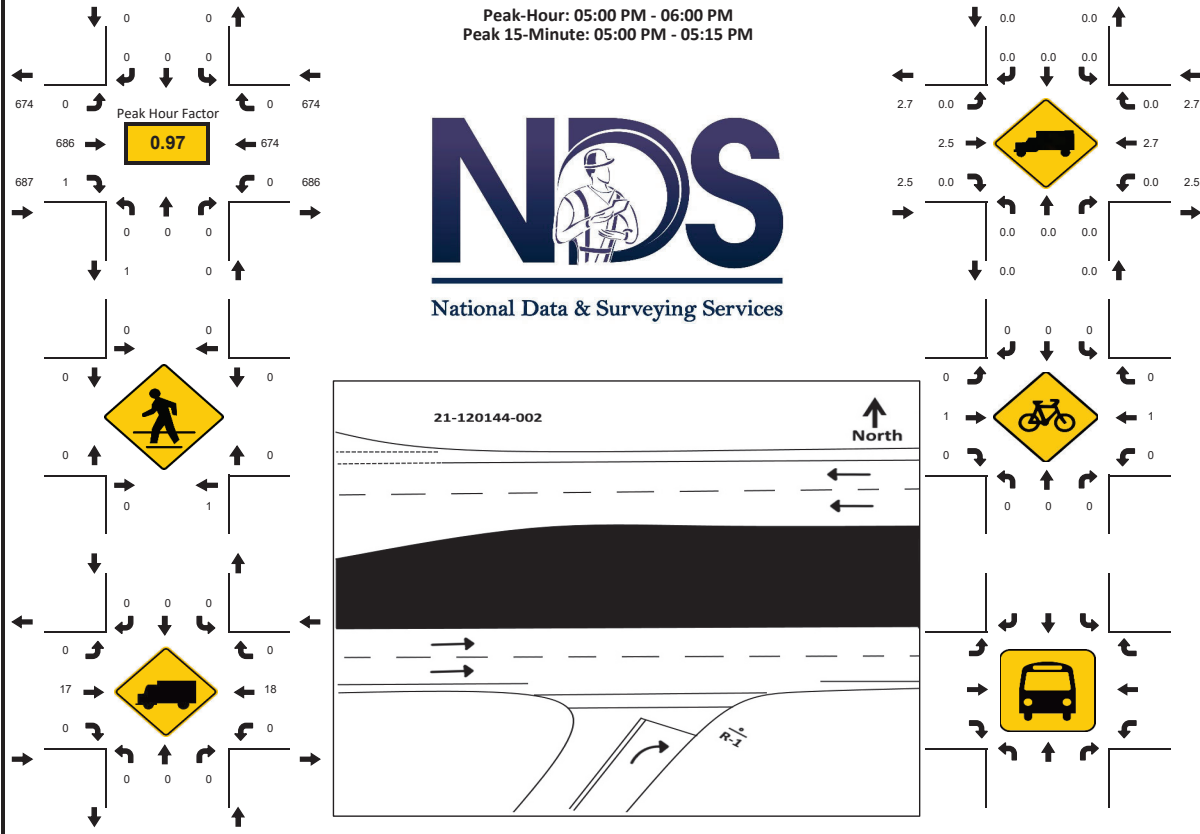
LOCATION: Oxford Rd & SR 43  
 CITY/STATE: Parrish, FL

PROJECT ID: 21-120144-002  
 DATE: Thu, Apr 22, 2021

Peak-Hour: 05:00 PM - 06:00 PM  
 Peak 15-Minute: 05:00 PM - 05:15 PM



National Data & Surveying Services



| 15-Min Count Period Beginning At | Oxford Rd Northbound |      |     |   |    | Oxford Rd Southbound |      |     |   |    | SR 43 Eastbound  |      |     |   |    | SR 43 Westbound  |      |     |   |    | Total        | Hourly Total |
|----------------------------------|----------------------|------|-----|---|----|----------------------|------|-----|---|----|------------------|------|-----|---|----|------------------|------|-----|---|----|--------------|--------------|
|                                  | Left                 | Thru | Rgt | U | R* | Left                 | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* |              |              |
| 04:00 PM                         | 0                    | 0    | 3   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 152  | 1   | 0 | 0  | 0                | 171  | 0   | 0 | 0  | 327          | 1290         |
| 04:15 PM                         | 0                    | 0    | 2   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 158  | 0   | 0 | 0  | 0                | 156  | 0   | 0 | 0  | 316          | 1313         |
| 04:30 PM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 159  | 1   | 0 | 0  | 0                | 165  | 0   | 0 | 0  | 325          | 1344         |
| 04:45 PM                         | 0                    | 0    | 1   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 146  | 0   | 0 | 0  | 0                | 175  | 0   | 0 | 0  | 322          | 1348         |
| 05:00 PM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 192  | 0   | 0 | 0  | 0                | 158  | 0   | 0 | 0  | 350          | 1361         |
| 05:15 PM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 185  | 0   | 0 | 0  | 0                | 162  | 0   | 0 | 0  | 347          | 1011         |
| 05:30 PM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 158  | 0   | 0 | 0  | 0                | 171  | 0   | 0 | 0  | 329          | 664          |
| 05:45 PM                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 151  | 1   | 0 | 0  | 0                | 183  | 0   | 0 | 0  | 335          | 335          |
| <b>Peak 15-Min Flowrates</b>     | <b>Northbound</b>    |      |     |   |    | <b>Southbound</b>    |      |     |   |    | <b>Eastbound</b> |      |     |   |    | <b>Westbound</b> |      |     |   |    | <b>Total</b> |              |
| All Vehicles                     | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 768  | 4   | 0 | 0  | 0                | 732  | 0   | 0 | 0  | 1504         |              |
| Heavy Trucks                     | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 20   | 0   | 0 | 0  | 0                | 28   | 0   | 0 | 0  | 48           |              |
| Pedestrians                      |                      | 4    |     |   |    |                      | 0    |     |   |    |                  | 0    |     |   |    |                  | 0    |     |   |    | 4            |              |
| Bicycles                         | 0                    | 0    | 0   | 0 | 0  | 0                    | 0    | 0   | 0 | 0  | 0                | 4    | 0   | 0 | 0  | 0                | 4    | 0   | 0 | 0  | 8            |              |
| Buses                            |                      |      |     |   |    |                      |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |
| Stopped Buses                    |                      |      |     |   |    |                      |      |     |   |    |                  |      |     |   |    |                  |      |     |   |    |              |              |

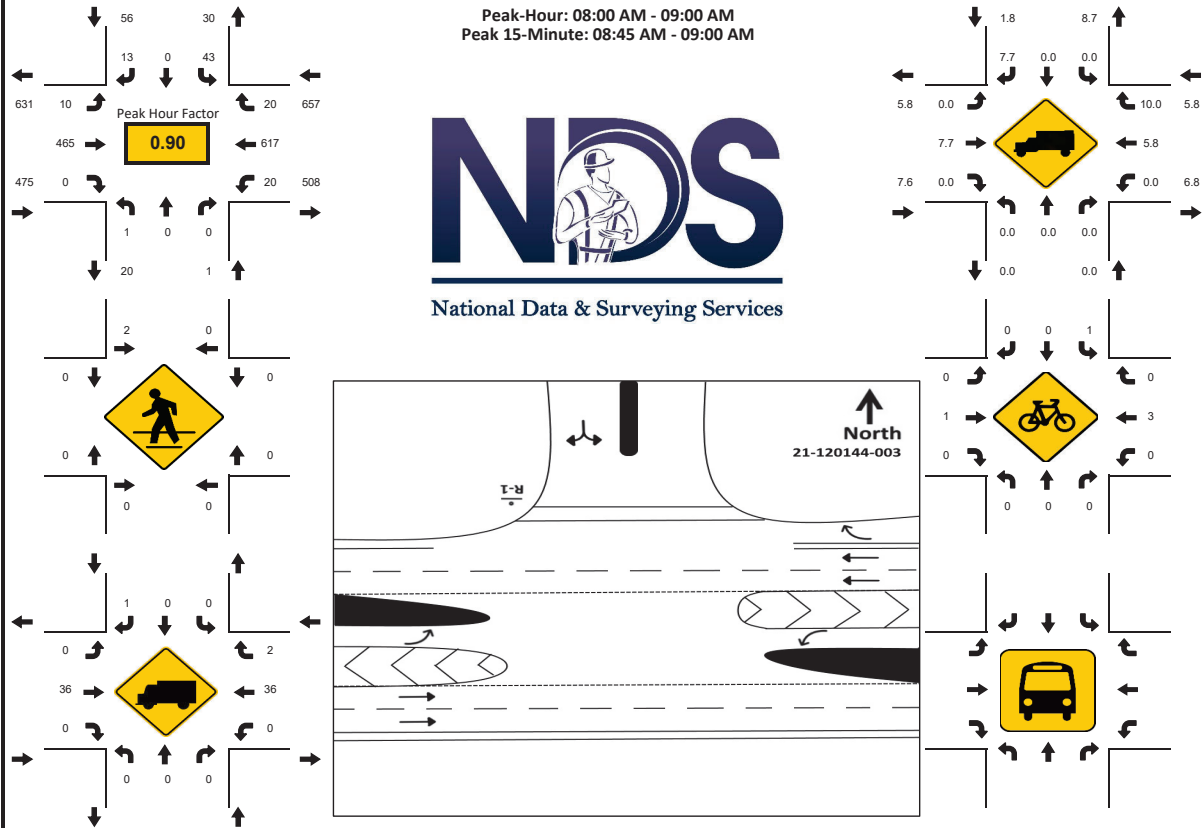
LOCATION: 116th Ave E & SR 43  
 CITY/STATE: Parrish, FL

PROJECT ID: 21-120144-003  
 DATE: Thu, Apr 22, 2021

Peak-Hour: 08:00 AM - 09:00 AM  
 Peak 15-Minute: 08:45 AM - 09:00 AM



National Data & Surveying Services

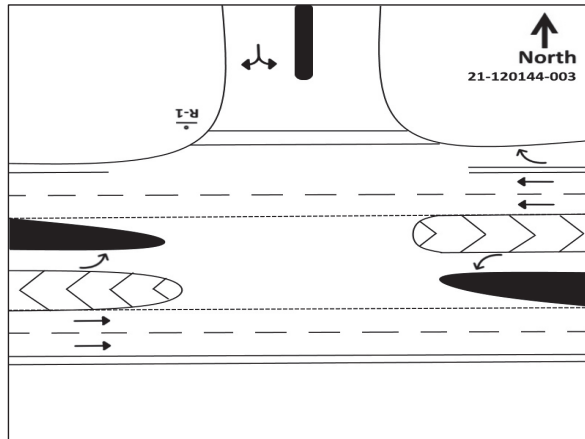
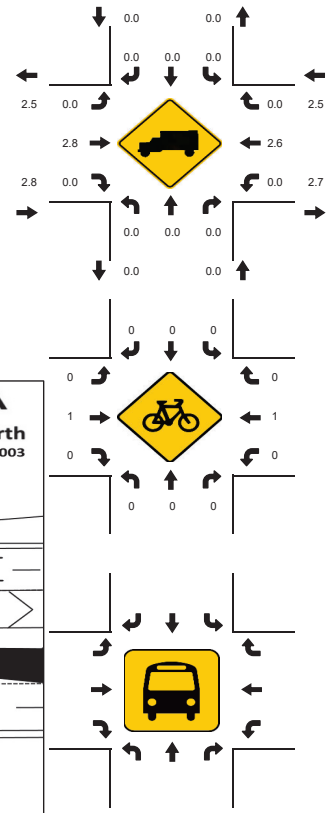
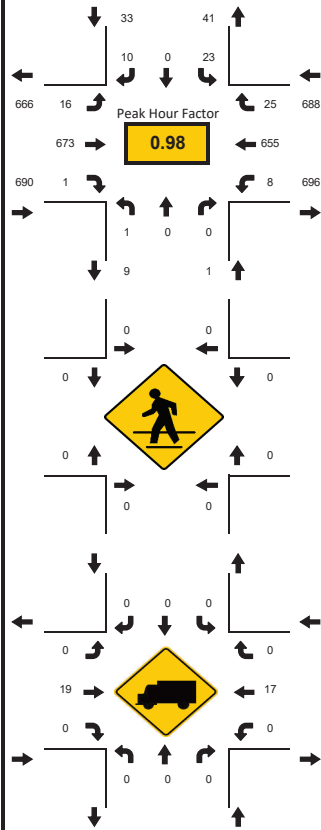
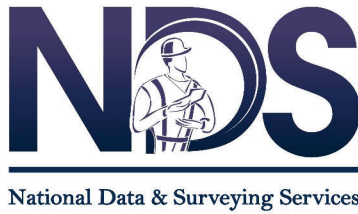


| 15-Min Count Period Beginning At | 116th Ave E Northbound |      |     |   |    | 116th Ave E Southbound |      |     |   |    | SR 43 Eastbound |      |     |   |    | SR 43 Westbound |      |     |    |    | Total | Hourly Total |
|----------------------------------|------------------------|------|-----|---|----|------------------------|------|-----|---|----|-----------------|------|-----|---|----|-----------------|------|-----|----|----|-------|--------------|
|                                  | Left                   | Thru | Rgt | U | R* | Left                   | Thru | Rgt | U | R* | Left            | Thru | Rgt | U | R* | Left            | Thru | Rgt | U  | R* |       |              |
| 07:00 AM                         | 0                      | 0    | 0   | 0 | 0  | 21                     | 0    | 4   | 0 | 0  | 1               | 95   | 0   | 0 | 0  | 0               | 136  | 1   | 3  | 0  | 261   | 1079         |
| 07:15 AM                         | 0                      | 0    | 0   | 0 | 0  | 7                      | 0    | 5   | 0 | 0  | 0               | 96   | 0   | 2 | 0  | 0               | 142  | 6   | 0  | 0  | 258   | 1098         |
| 07:30 AM                         | 0                      | 0    | 1   | 0 | 0  | 6                      | 0    | 4   | 0 | 0  | 0               | 108  | 0   | 0 | 0  | 0               | 150  | 2   | 2  | 0  | 273   | 1125         |
| 07:45 AM                         | 0                      | 0    | 0   | 0 | 0  | 11                     | 0    | 4   | 0 | 0  | 1               | 129  | 0   | 0 | 0  | 0               | 136  | 4   | 2  | 0  | 287   | 1146         |
| 08:00 AM                         | 1                      | 0    | 0   | 0 | 0  | 17                     | 0    | 5   | 0 | 0  | 0               | 114  | 0   | 2 | 0  | 0               | 140  | 1   | 0  | 0  | 280   | 1189         |
| 08:15 AM                         | 0                      | 0    | 0   | 0 | 0  | 6                      | 0    | 1   | 0 | 0  | 2               | 113  | 0   | 1 | 0  | 0               | 153  | 8   | 1  | 0  | 285   | 909          |
| 08:30 AM                         | 0                      | 0    | 0   | 0 | 0  | 9                      | 0    | 4   | 0 | 0  | 0               | 112  | 0   | 2 | 0  | 0               | 160  | 6   | 1  | 0  | 294   | 624          |
| 08:45 AM                         | 0                      | 0    | 0   | 0 | 0  | 11                     | 0    | 3   | 0 | 0  | 1               | 126  | 0   | 2 | 0  | 0               | 164  | 5   | 18 | 0  | 330   | 330          |
| Peak 15-Min Flowrates            | Northbound             |      |     |   |    | Southbound             |      |     |   |    | Eastbound       |      |     |   |    | Westbound       |      |     |    |    | Total |              |
| All Vehicles                     | 4                      | 0    | 0   | 0 | 0  | 68                     | 0    | 20  | 0 | 0  | 8               | 504  | 0   | 8 | 0  | 0               | 656  | 32  | 72 | 0  | 1372  |              |
| Heavy Trucks                     | 0                      | 0    | 0   | 0 | 0  | 0                      | 0    | 4   | 0 | 0  | 0               | 52   | 0   | 0 | 0  | 0               | 40   | 4   | 0  | 0  | 100   |              |
| Pedestrians                      | 0                      | 0    | 0   | 0 | 0  | 0                      | 0    | 8   | 0 | 0  | 0               | 0    | 0   | 0 | 0  | 0               | 0    | 0   | 0  | 0  | 8     |              |
| Bicycles                         | 0                      | 0    | 0   | 0 | 0  | 4                      | 0    | 0   | 0 | 0  | 0               | 4    | 0   | 0 | 0  | 0               | 8    | 0   | 0  | 0  | 16    |              |
| Buses                            |                        |      |     |   |    |                        |      |     |   |    |                 |      |     |   |    |                 |      |     |    |    |       |              |
| Stopped Buses                    |                        |      |     |   |    |                        |      |     |   |    |                 |      |     |   |    |                 |      |     |    |    |       |              |

LOCATION: 116th Ave E & SR 43  
 CITY/STATE: Parrish, FL

PROJECT ID: 21-120144-003  
 DATE: Thu, Apr 22, 2021

Peak-Hour: 05:00 PM - 06:00 PM  
 Peak 15-Minute: 05:15 PM - 05:30 PM



| 15-Min Count Period Beginning At | 116th Ave E Northbound |      |     |   |    | 116th Ave E Southbound |      |     |   |    | SR 43 Eastbound  |      |     |   |    | SR 43 Westbound  |      |     |    |    | Total        | Hourly Total |
|----------------------------------|------------------------|------|-----|---|----|------------------------|------|-----|---|----|------------------|------|-----|---|----|------------------|------|-----|----|----|--------------|--------------|
|                                  | Left                   | Thru | Rgt | U | R* | Left                   | Thru | Rgt | U | R* | Left             | Thru | Rgt | U | R* | Left             | Thru | Rgt | U  | R* |              |              |
| 04:00 PM                         | 0                      | 0    | 0   | 0 | 0  | 4                      | 0    | 3   | 0 | 0  | 4                | 153  | 0   | 2 | 0  | 0                | 168  | 4   | 0  | 0  | 338          | 1332         |
| 04:15 PM                         | 0                      | 0    | 0   | 0 | 0  | 2                      | 0    | 2   | 0 | 0  | 0                | 151  | 0   | 3 | 0  | 0                | 153  | 7   | 2  | 0  | 320          | 1351         |
| 04:30 PM                         | 0                      | 0    | 0   | 0 | 0  | 5                      | 0    | 3   | 0 | 0  | 1                | 155  | 0   | 2 | 0  | 0                | 154  | 9   | 4  | 0  | 333          | 1390         |
| 04:45 PM                         | 0                      | 0    | 0   | 0 | 0  | 7                      | 0    | 1   | 0 | 0  | 0                | 149  | 0   | 0 | 0  | 0                | 182  | 1   | 1  | 0  | 341          | 1406         |
| 05:00 PM                         | 0                      | 0    | 0   | 0 | 0  | 9                      | 0    | 1   | 0 | 0  | 1                | 187  | 0   | 1 | 0  | 0                | 151  | 6   | 1  | 0  | 357          | 1412         |
| 05:15 PM                         | 0                      | 0    | 0   | 0 | 0  | 6                      | 0    | 1   | 0 | 0  | 3                | 187  | 0   | 2 | 0  | 0                | 154  | 6   | 0  | 0  | 359          | 1055         |
| 05:30 PM                         | 1                      | 0    | 0   | 0 | 0  | 6                      | 0    | 3   | 0 | 0  | 5                | 151  | 0   | 1 | 0  | 0                | 170  | 7   | 5  | 0  | 349          | 696          |
| 05:45 PM                         | 0                      | 0    | 0   | 0 | 0  | 2                      | 0    | 5   | 0 | 0  | 3                | 148  | 1   | 0 | 0  | 0                | 180  | 6   | 2  | 0  | 347          | 347          |
| <b>Peak 15-Min Flowrates</b>     | <b>Northbound</b>      |      |     |   |    | <b>Southbound</b>      |      |     |   |    | <b>Eastbound</b> |      |     |   |    | <b>Westbound</b> |      |     |    |    | <b>Total</b> |              |
| All Vehicles                     | 4                      | 0    | 0   | 0 | 0  | 36                     | 0    | 20  | 0 | 0  | 20               | 748  | 4   | 8 | 0  | 0                | 720  | 28  | 20 | 0  | 1608         |              |
| Heavy Trucks                     | 0                      | 0    | 0   | 0 | 0  | 0                      | 0    | 0   | 0 | 0  | 0                | 28   | 0   | 0 | 0  | 0                | 24   | 0   | 0  | 0  | 52           |              |
| Pedestrians                      | 0                      | 0    | 0   | 0 | 0  | 0                      | 0    | 0   | 0 | 0  | 0                | 0    | 0   | 0 | 0  | 0                | 0    | 0   | 0  | 0  | 0            |              |
| Bicycles                         | 0                      | 0    | 0   | 0 | 0  | 0                      | 0    | 0   | 0 | 0  | 0                | 4    | 0   | 0 | 0  | 0                | 4    | 0   | 0  | 0  | 8            |              |
| Buses                            |                        |      |     |   |    |                        |      |     |   |    |                  |      |     |   |    |                  |      |     |    |    |              |              |
| Stopped Buses                    |                        |      |     |   |    |                        |      |     |   |    |                  |      |     |   |    |                  |      |     |    |    |              |              |

# **APPENDIX**

## **FDOT PEAK SEASON ADJUSTMENT FACTORS**

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL  
 CATEGORY: 1300 MANATEE COUNTYWIDE

| WEEK | DATES                   | SF   | MOCF: 0.93<br>PSCF |
|------|-------------------------|------|--------------------|
| 1    | 01/01/2019 - 01/05/2019 | 0.99 | 1.06               |
| 2    | 01/06/2019 - 01/12/2019 | 0.99 | 1.06               |
| 3    | 01/13/2019 - 01/19/2019 | 0.99 | 1.06               |
| 4    | 01/20/2019 - 01/26/2019 | 0.97 | 1.04               |
| 5    | 01/27/2019 - 02/02/2019 | 0.96 | 1.03               |
| * 6  | 02/03/2019 - 02/09/2019 | 0.94 | 1.01               |
| * 7  | 02/10/2019 - 02/16/2019 | 0.93 | 1.00               |
| * 8  | 02/17/2019 - 02/23/2019 | 0.92 | 0.99               |
| * 9  | 02/24/2019 - 03/02/2019 | 0.92 | 0.99               |
| *10  | 03/03/2019 - 03/09/2019 | 0.91 | 0.98               |
| *11  | 03/10/2019 - 03/16/2019 | 0.90 | 0.97               |
| *12  | 03/17/2019 - 03/23/2019 | 0.91 | 0.98               |
| *13  | 03/24/2019 - 03/30/2019 | 0.92 | 0.99               |
| *14  | 03/31/2019 - 04/06/2019 | 0.92 | 0.99               |
| *15  | 04/07/2019 - 04/13/2019 | 0.93 | 1.00               |
| *16  | 04/14/2019 - 04/20/2019 | 0.93 | 1.00               |
| *17  | 04/21/2019 - 04/27/2019 | 0.95 | 1.02               |
| *18  | 04/28/2019 - 05/04/2019 | 0.96 | 1.03               |
| 19   | 05/05/2019 - 05/11/2019 | 0.97 | 1.04               |
| 20   | 05/12/2019 - 05/18/2019 | 0.98 | 1.05               |
| 21   | 05/19/2019 - 05/25/2019 | 1.00 | 1.08               |
| 22   | 05/26/2019 - 06/01/2019 | 1.02 | 1.10               |
| 23   | 06/02/2019 - 06/08/2019 | 1.04 | 1.12               |
| 24   | 06/09/2019 - 06/15/2019 | 1.06 | 1.14               |
| 25   | 06/16/2019 - 06/22/2019 | 1.08 | 1.16               |
| 26   | 06/23/2019 - 06/29/2019 | 1.09 | 1.17               |
| 27   | 06/30/2019 - 07/06/2019 | 1.11 | 1.19               |
| 28   | 07/07/2019 - 07/13/2019 | 1.12 | 1.20               |
| 29   | 07/14/2019 - 07/20/2019 | 1.13 | 1.22               |
| 30   | 07/21/2019 - 07/27/2019 | 1.12 | 1.20               |
| 31   | 07/28/2019 - 08/03/2019 | 1.11 | 1.19               |
| 32   | 08/04/2019 - 08/10/2019 | 1.10 | 1.18               |
| 33   | 08/11/2019 - 08/17/2019 | 1.09 | 1.17               |
| 34   | 08/18/2019 - 08/24/2019 | 1.09 | 1.17               |
| 35   | 08/25/2019 - 08/31/2019 | 1.09 | 1.17               |
| 36   | 09/01/2019 - 09/07/2019 | 1.08 | 1.16               |
| 37   | 09/08/2019 - 09/14/2019 | 1.08 | 1.16               |
| 38   | 09/15/2019 - 09/21/2019 | 1.08 | 1.16               |
| 39   | 09/22/2019 - 09/28/2019 | 1.06 | 1.14               |
| 40   | 09/29/2019 - 10/05/2019 | 1.04 | 1.12               |
| 41   | 10/06/2019 - 10/12/2019 | 1.03 | 1.11               |
| 42   | 10/13/2019 - 10/19/2019 | 1.01 | 1.09               |
| 43   | 10/20/2019 - 10/26/2019 | 1.00 | 1.08               |
| 44   | 10/27/2019 - 11/02/2019 | 1.00 | 1.08               |
| 45   | 11/03/2019 - 11/09/2019 | 1.00 | 1.08               |
| 46   | 11/10/2019 - 11/16/2019 | 0.99 | 1.06               |
| 47   | 11/17/2019 - 11/23/2019 | 0.99 | 1.06               |
| 48   | 11/24/2019 - 11/30/2019 | 0.99 | 1.06               |
| 49   | 12/01/2019 - 12/07/2019 | 0.99 | 1.06               |
| 50   | 12/08/2019 - 12/14/2019 | 0.99 | 1.06               |
| 51   | 12/15/2019 - 12/21/2019 | 0.99 | 1.06               |
| 52   | 12/22/2019 - 12/28/2019 | 0.99 | 1.06               |
| 53   | 12/29/2019 - 12/31/2019 | 0.99 | 1.06               |

\* PEAK SEASON

14-FEB-2020 15:39:19

830UPD

1\_1300\_PKSEASON.TXT

**APPENDIX**  
FDOT HISTORICAL COUNTS



FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2020 HISTORICAL AADT REPORT

COUNTY: 08 - HERNANDO

SITE: 2013 - CR 574/SPRINGHILL DR, EAST OF US 19 (HPMS)

| YEAR | AADT    | DIRECTION 1 | DIRECTION 2 | *K FACTOR | D FACTOR | T FACTOR |
|------|---------|-------------|-------------|-----------|----------|----------|
| 2020 | 18400 C | E 8900      | W 9500      | 9.00      | 54.30    | 3.50     |
| 2019 | 22500 X | 0           | 0           | 9.00      | 54.30    | 5.50     |
| 2018 | 22000 X | 0           | 0           | 9.00      | 54.40    | 6.40     |
| 2017 | 21500 X | 0           | 0           | 9.00      | 55.60    | 6.70     |
| 2016 | 20500 E | 0           | 0           | 9.00      | 54.80    | 4.70     |
| 2015 | 19600 E |             |             | 9.00      | 55.00    | 3.80     |
| 2014 | 19500 S | E 9700      | W 9800      | 9.00      | 56.00    | 3.00     |
| 2013 | 19700 F | E 9800      | W 9900      | 9.00      | 56.80    | 3.00     |
| 2012 | 19900 C | E 9900      | W 10000     | 9.00      | 55.00    | 3.00     |
| 2011 | 24000 S | E 11000     | W 13000     | 9.00      | 55.00    | 1.80     |
| 2010 | 24000 F | E 11000     | W 13000     | 9.74      | 54.68    | 1.80     |
| 2009 | 24000 C | E 11000     | W 13000     | 9.60      | 55.47    | 1.80     |
| 2008 | 18200 C | E 8200      | W 10000     | 9.72      | 54.99    | 4.80     |

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN  
 \*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2020 HISTORICAL AADT REPORT

COUNTY: 08 - HERNANDO

SITE: 0036 - SR 55/US 19, N OF SPRING HILL DRIVE

| YEAR | AADT    | DIRECTION 1 | DIRECTION 2 | *K FACTOR | D FACTOR | T FACTOR |
|------|---------|-------------|-------------|-----------|----------|----------|
| 2020 | 45500 C | N 23000     | S 22500     | 9.00      | 54.30    | 4.10     |
| 2019 | 43000 C | N 22000     | S 21000     | 9.00      | 54.30    | 3.50     |
| 2018 | 43000 C | N 22000     | S 21000     | 9.00      | 54.40    | 3.40     |
| 2017 | 46000 F | N 23000     | S 23000     | 9.00      | 55.60    | 3.90     |
| 2016 | 43000 C | N 21500     | S 21500     | 9.00      | 54.80    | 3.90     |
| 2015 | 41000 C | N 20500     | S 20500     | 9.00      | 55.00    | 3.90     |
| 2014 | 39500 C | N 20000     | S 19500     | 9.00      | 56.00    | 3.70     |
| 2013 | 39500 C | N 20000     | S 19500     | 9.00      | 57.90    | 3.80     |
| 2012 | 40500 F | N 21000     | S 19500     | 9.00      | 55.00    | 3.50     |
| 2011 | 40500 C | N 21000     | S 19500     | 9.00      | 55.00    | 3.50     |
| 2010 | 39000 C | N 20000     | S 19000     | 9.74      | 54.68    | 3.30     |
| 2009 | 39000 C | N 20000     | S 19000     | 9.60      | 55.47    | 3.30     |
| 2008 | 35000 C | N 17500     | S 17500     | 9.72      | 54.99    | 3.90     |
| 2007 | 36000 C | N 17500     | S 18500     | 9.34      | 56.51    | 4.50     |
| 2006 | 43500 C | N 22000     | S 21500     | 9.54      | 55.83    | 5.40     |
| 2005 | 41500 C | N 21000     | S 20500     | 9.60      | 54.50    | 5.80     |

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN  
 \*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

# **APPENDIX**

## **FDOT GENERALIZED LEVEL OF SERVICE HANDBOOK TABLES**

TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's Urbanized Areas<sup>1</sup>

January 2020

| INTERRUPTED FLOW FACILITIES   |           |                      |                       |                    |       | UNINTERRUPTED FLOW FACILITIES  |           |                      |                    |        |        |
|---|-----------|----------------------|-----------------------|--------------------|-------|--|-----------|----------------------|--------------------|--------|--------|
| <b>STATE SIGNALIZED ARTERIALS</b>   |           |                      |                       |                    |       | <b>FREEWAYS</b>  |           |                      |                    |        |        |
| <b>Class I (40 mph or higher posted speed limit)</b>  |           |                      |                       |                    |       | <b>Core Urbanized</b>  |           |                      |                    |        |        |
| Lanes   | Median    | B                    | C                     | D                  | E     | Lanes  | B         | C                    | D                  | E      |        |
| 2   | Undivided | *                    | 1,510                 | 1,600              | **    | 4  | 4,050     | 5,640                | 6,800              | 7,420  |        |
| 4   | Divided   | *                    | 3,420                 | 3,580              | **    | 6  | 5,960     | 8,310                | 10,220             | 11,150 |        |
| 6   | Divided   | *                    | 5,250                 | 5,390              | **    | 8  | 7,840     | 10,960               | 13,620             | 14,850 |        |
| 8   | Divided   | *                    | 7,090                 | 7,210              | **    | 10   | 9,800     | 13,510               | 17,040             | 18,580 |        |
|   |           |                      |                       |                    |       | 12   | 11,600    | 16,350               | 20,930             | 23,200 |        |
| <b>Class II (35 mph or slower posted speed limit)</b>   |           |                      |                       |                    |       | <b>Urbanized</b>   |           |                      |                    |        |        |
| Lanes   | Median    | B                    | C                     | D                  | E     | Lanes  | B         | C                    | D                  | E      |        |
| 2   | Undivided | *                    | 660                   | 1,330              | 1,410 | 4  | 4,130     | 5,640                | 7,070              | 7,690  |        |
| 4   | Divided   | *                    | 1,310                 | 2,920              | 3,040 | 6  | 6,200     | 8,450                | 10,510             | 11,530 |        |
| 6   | Divided   | *                    | 2,090                 | 4,500              | 4,590 | 8  | 8,270     | 11,270               | 13,960             | 15,380 |        |
| 8   | Divided   | *                    | 2,880                 | 6,060              | 6,130 | 10   | 10,350    | 14,110               | 17,310             | 19,220 |        |
| <b>Non-State Signalized Roadway Adjustments</b><br>(Alter corresponding state volumes by the indicated percent.)  |           |                      |                       |                    |       | <b>Freeway Adjustments</b>   |           |                      |                    |        |        |
| Non-State Signalized Roadways - 10%   |           |                      |                       |                    |       | Auxiliary Lanes Present in Both Directions + 1,800   |           |                      |                    |        |        |
|   |           |                      |                       |                    |       | Ramp Metering + 5%   |           |                      |                    |        |        |
| <b>Median &amp; Turn Lane Adjustments</b>   |           |                      |                       |                    |       | <b>UNINTERRUPTED FLOW HIGHWAYS</b>   |           |                      |                    |        |        |
| Lanes   | Median    | Exclusive Left Lanes | Exclusive Right Lanes | Adjustment Factors |       | Lanes  | Median    | B                    | C                  | D      | E      |
| 2   | Divided   | Yes                  | No                    | +5%                |       | 2  | Undivided | 1,050                | 1,620              | 2,180  | 2,930  |
| 2   | Undivided | No                   | No                    | -20%               |       | 4  | Divided   | 3,270                | 4,730              | 5,960  | 6,780  |
| Multi   | Undivided | Yes                  | No                    | -5%                |       | 6  | Divided   | 4,910                | 7,090              | 8,950  | 10,180 |
| Multi   | Undivided | No                   | No                    | -25%               |       | <b>Uninterrupted Flow Highway Adjustments</b>  |           |                      |                    |        |        |
| -   | -         | -                    | Yes                   | + 5%               |       | Lanes  | Median    | Exclusive left lanes | Adjustment factors |        |        |
| <b>One-Way Facility Adjustment</b><br>Multiply the corresponding two-directional volumes in this table by 0.6   |           |                      |                       |                    |       | 2  | Divided   | Yes                  | +5%                |        |        |
|   |           |                      |                       |                    |       | Multi  | Undivided | Yes                  | -5%                |        |        |
|   |           |                      |                       |                    |       | Multi  | Undivided | No                   | -25%               |        |        |
| <b>BICYCLE MODE<sup>2</sup></b><br>(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)    |           |                      |                       |                    |       | <sup>1</sup> Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual. |           |                      |                    |        |        |
| Paved Shoulder/Bicycle Lane Coverage  |           |                      |                       |                    |       | <sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.   |           |                      |                    |        |        |
|   |           | B                    | C                     | D                  | E     | <sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.   |           |                      |                    |        |        |
| 0-49%   | *         | 260                  | 680                   | 1,770              |       | * Cannot be achieved using table input value defaults.   |           |                      |                    |        |        |
| 50-84%  | 190       | 600                  | 1,770                 | >1,770             |       | ** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.  |           |                      |                    |        |        |
| 85-100%   | 830       | 1,700                | >1,770                | **                 |       | <i>Source:</i><br>Florida Department of Transportation<br>Systems Implementation Office<br><a href="https://www.fdot.gov/planning/systems/">https://www.fdot.gov/planning/systems/</a>   |           |                      |                    |        |        |
| <b>PEDESTRIAN MODE<sup>2</sup></b><br>(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.) |           |                      |                       |                    |       |  |           |                      |                    |        |        |
| Sidewalk Coverage   |           |                      |                       |                    |       |  |           |                      |                    |        |        |
|   | B         | C                    | D                     | E                  |       |  |           |                      |                    |        |        |
| 0-49%   | *         | *                    | 250                   | 850                |       |  |           |                      |                    |        |        |
| 50-84%  | *         | 150                  | 780                   | 1,420              |       |  |           |                      |                    |        |        |
| 85-100%   | 340       | 960                  | 1,560                 | >1,770             |       |  |           |                      |                    |        |        |
| <b>BUS MODE (Scheduled Fixed Route)<sup>3</sup></b><br>(Buses in peak hour in peak direction)   |           |                      |                       |                    |       |  |           |                      |                    |        |        |
| Sidewalk Coverage   |           |                      |                       |                    |       |  |           |                      |                    |        |        |
|   | B         | C                    | D                     | E                  |       |  |           |                      |                    |        |        |
| 0-84%   | > 5       | ≥ 4                  | ≥ 3                   | ≥ 2                |       |  |           |                      |                    |        |        |
| 85-100%   | > 4       | ≥ 3                  | ≥ 2                   | ≥ 1                |       |  |           |                      |                    |        |        |

**TABLE 4**  
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's  
Urbanized Areas

January 2020

| INPUT VALUE ASSUMPTIONS                | Uninterrupted Flow Facilities |          |               |            | Interrupted Flow Facilities |         |                 |           |           |           |
|--|-------------------------------|----------|---------------|------------|-----------------------------|---------|-----------------|-----------|-----------|-----------|
|  | Freeways                      |          | Core Freeways |            | Highways                    |         | State Arterials |           | Class I   |           |
|  | Class I                       | Class II | Bicycle       | Pedestrian |                             |         |                 |           |           |           |
| <b>ROADWAY CHARACTERISTICS</b>         |                               |          |               |            |                             |         |                 |           |           |           |
| Area type (urban, rural)               | urban                         | urban    |               |            |                             |         |                 |           |           |           |
| Number of through lanes (both dir.)    | 4-10                          | 4-12     | 2             | 4-6        | 2                           | 4-8     | 2               | 4-8       | 4         | 4         |
| Posted speed (mph)                     | 70                            | 65       | 50            | 50         | 45                          | 50      | 30              | 30        | 45        | 45        |
| Free flow speed (mph)                  | 75                            | 70       | 55            | 55         | 50                          | 55      | 35              | 35        | 50        | 50        |
| Auxiliary Lanes (n,y)                  | n                             | n        |               |            |                             |         |                 |           |           |           |
| Median (d, twlt, n, nr, r)             |                               |          |               | d          | n                           | r       | n               | r         | r         | r         |
| Terrain (l,r)                          | l                             | l        | l             | l          | l                           | l       | l               | l         | l         | l         |
| % no passing zone                      |                               |          | 80            |            |                             |         |                 |           |           |           |
| Exclusive left turn lane impact (n, y) |                               |          | [n]           | y          | y                           | y       | y               | y         | y         | y         |
| Exclusive right turn lanes (n, y)      |                               |          |               |            | n                           | n       | n               | n         | n         | n         |
| Facility length (mi)                   | 3                             | 3        | 5             | 5          | 2                           | 2       | 1.9             | 1.8       | 2         | 2         |
| <b>TRAFFIC CHARACTERISTICS</b>         |                               |          |               |            |                             |         |                 |           |           |           |
| Planning analysis hour factor (K)      | 0.090                         | 0.085    | 0.090         | 0.090      | 0.090                       | 0.090   | 0.090           | 0.090     | 0.090     | 0.090     |
| Directional distribution factor (D)    | 0.55                          | 0.55     | 0.55          | 0.55       | 0.550                       | 0.560   | 0.565           | 0.560     | 0.565     | 0.565     |
| Peak hour factor (PHF)                 | 0.95                          | 0.95     | 0.95          | 0.95       | 1.000                       | 1.000   | 1.000           | 1.000     | 1.000     | 1.000     |
| Base saturation flow rate (pcphpl)     | 2,400                         | 2,400    | 1,700         | 2,200      | 1,950                       | 1,950   | 1,950           | 1,950     | 1,950     | 1,950     |
| Heavy vehicle percent                  | 4.0                           | 4.0      | 2.0           | 2.0        | 1.0                         | 1.0     | 1.0             | 1.0       | 2.5       | 2.0       |
| Speed Adjustment Factor (SAF)          | 0.975                         | 0.975    |               | 0.975      |                             |         |                 |           |           |           |
| Capacity Adjustment Factor (CAF)       | 0.968                         | 0.968    |               | 0.968      |                             |         |                 |           |           |           |
| % left turns                           |                               |          |               |            | 12                          | 12      | 12              | 12        | 12        | 12        |
| % right turns                          |                               |          |               |            | 12                          | 12      | 12              | 12        | 12        | 12        |
| <b>CONTROL CHARACTERISTICS</b>         |                               |          |               |            |                             |         |                 |           |           |           |
| Number of signals                      |                               |          |               |            | 4                           | 4       | 10              | 10        | 4         | 6         |
| Arrival type (1-6)                     |                               |          |               |            | 3                           | 3       | 4               | 4         | 4         | 4         |
| Signal type (a, c, p)                  |                               |          |               |            | c                           | c       | c               | c         | c         | c         |
| Cycle length (C)                       |                               |          |               |            | 120                         | 150     | 120             | 120       | 120       | 120       |
| Effective green ratio (g/C)            |                               |          |               |            | 0.44                        | 0.45    | 0.44            | 0.44      | 0.44      | 0.44      |
| <b>MULTIMODAL CHARACTERISTICS</b>      |                               |          |               |            |                             |         |                 |           |           |           |
| Paved shoulder/bicycle lane (n, y)     |                               |          |               |            |                             |         |                 |           | n, 50%, y | n         |
| Outside lane width (n, t, w)           |                               |          |               |            |                             |         |                 |           | t         | t         |
| Pavement condition (d, t, u)           |                               |          |               |            |                             |         |                 |           | t         |           |
| On-street parking (n, y)               |                               |          |               |            |                             |         |                 |           |           |           |
| Sidewalk (n, y)                        |                               |          |               |            |                             |         |                 |           |           | n, 50%, y |
| Sidewalk/roadway separation(a, t, w)   |                               |          |               |            |                             |         |                 |           |           | t         |
| Sidewalk protective barrier (n, y)     |                               |          |               |            |                             |         |                 |           |           | n         |
| <b>LEVEL OF SERVICE THRESHOLDS</b>     |                               |          |               |            |                             |         |                 |           |           |           |
| Level of Service                       | Freeways                      | Highways |               | Arterials  |                             | Bicycle | Ped             | Bus       |           |           |
|  | Density                       | Two-Lane | Multilane     | Class I    | Class II                    | Score   | Score           | Buses/hr. |           |           |
|  |                               | %ffs     | Density       |            |                             |         |                 |           | ats       | ats       |
| B                                      | ≤ 17                          | > 83.3   | ≤ 17          | > 31 mph   | > 22 mph                    | ≤ 2.75  | ≤ 2.75          | ≤ 6       |           |           |
| C                                      | ≤ 24                          | > 75.0   | ≤ 24          | > 23 mph   | > 17 mph                    | ≤ 3.50  | ≤ 3.50          | ≤ 4       |           |           |
| D                                      | ≤ 31                          | > 66.7   | ≤ 31          | > 18 mph   | > 13 mph                    | ≤ 4.25  | ≤ 4.25          | < 3       |           |           |
| E                                      | ≤ 39                          | > 58.3   | ≤ 35          | > 15 mph   | > 10 mph                    | ≤ 5.00  | ≤ 5.00          | < 2       |           |           |

% ffs = Percent free flow speed ats = Average travel speed

**APPENDIX**  
SIGNAL TIMINGS



## Hernando County, FL

2 - Commercial Wy @ Spring Hill Dr - 192.168.150.79 - Econolite Type - ASC3

## Controller Timing Plan (MM)2-1

## Plan 1

| Phase          | 1    | 2   | 3    | 4   | 5    | 6   | 7    | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
|----------------|------|-----|------|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Direction      | NBLT | SB  | EBLT | WB  | SBLT | NB  | WBLT | EB  |     |     |     |     |     |     |     |     |
| Min Green      | 5    | 20  | 5    | 10  | 5    | 20  | 5    | 10  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| BK Min Green   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| CS Min Green   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Delay Green    | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Walk           | 0    | 7   | 0    | 0   | 0    | 0   | 0    | 7   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Walk 2         | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Walk Max       | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ped Clear      | 0    | 50  | 0    | 0   | 0    | 0   | 0    | 35  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ped Clear 2    | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ped Clear Max  | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ped CO         | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Vehicle Ext    | 3.0  | 4.0 | 4.0  | 3.0 | 3.5  | 4.0 | 4.0  | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Vehicle Ext 2  | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Max 1          | 35   | 60  | 15   | 35  | 35   | 35  | 15   | 35  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Max 2          | 15   | 50  | 15   | 20  | 15   | 50  | 15   | 20  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Max 3          | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| DYM Max        | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| DYM Stp        | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yellow         | 5.6  | 5.6 | 4.5  | 4.5 | 5.6  | 5.6 | 4.5  | 4.5 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Red Clear      | 2.6  | 2.6 | 3.5  | 3.5 | 2.6  | 2.6 | 3.5  | 3.5 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Red Max        | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Revert     | 2.0  | 2.0 | 2.0  | 2.0 | 2.0  | 2.0 | 2.0  | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| ACT B4         | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| SEC/ACT        | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Max Int        | 30   | 30  | 30   | 30  | 30   | 30  | 30   | 30  | 30  | 30  | 30  | 30  | 0   | 0   | 0   | 0   |
| Time B4        | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cars Wt        | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| STPT Duc       | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Time To Reduce | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Min Gap        | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



**APPENDIX**  
INTERSECTION ANALYSIS

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Future Volume (vph)     | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.8  | 11.8  | 21.2  | 20.2  | 20.2  | 10.2  | 57.3  | 57.3  | 17.4  | 67.5  | 67.5  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.15  | 0.14  | 0.14  | 0.07  | 0.41  | 0.41  | 0.12  | 0.48  | 0.48  |
| v/c Ratio               | 0.58  | 0.42  | 0.34  | 0.86  | 0.58  | 0.54  | 0.54  | 0.47  | 0.27  | 0.70  | 0.46  | 0.06  |
| Control Delay           | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| LOS                     | E     | E     | A     | E     | E     | B     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.2  |       |       | 55.4  |       |       | 29.9  |       |       | 33.9  |       |
| Approach LOS            |       | D     |       |       | E     |       |       | C     |       |       | C     |       |

### Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 38.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 73.4%  
 ICU Level of Service D  
 Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/10/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.7  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 52   | 0    | 42   | 0    | 1281 | 67   | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1348 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | 69   | 0      | 358  | 0 | -      | - | 265  | - | 0 |
| Stage 1              | 0      | 0 | -      | 127  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 326    | 58   | -      | 358  | - | -      | - | 265  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 117  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 127  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 305  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  | SB  |  |
|----------------------|------|--|------|--|----|--|-----|--|
| HCM Control Delay, s | 16.3 |  | 39.4 |  | 0  |  | 0.7 |  |
| HCM LOS              | C    |  | E    |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117   | 358   | 265   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 0.441 | 0.118 | 0.183 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | 58.1  | 16.4  | 21.6  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 1.9   | 0.4   | 0.7   | -   |

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/10/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.6  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 675  | 110  | 0    | 0    | 64   | 87   | 8    | 164  |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 675  | 110  | 0    | 0    | 64   | 87   | 8    | 164  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 711  | 116  | 0    | 0    | 67   | 92   | 8    | 173  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1174   | 1485 | 414  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 941    | 941  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 147    | 124  | 587  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 283    | 340  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 125    | 114  | 587  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 257    | 259  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 283    | 311  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 10.5 |  |  | 31.4 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 399   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.683 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 31.4  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 4.9   |

# Timings

## 1: US 19 & Spring Hill Dr

08/11/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Future Volume (vph)     | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 13.8  | 13.8  | 18.5  | 18.2  | 18.2  | 10.7  | 56.8  | 56.8  | 18.5  | 64.6  | 64.6  |
| Actuated g/C Ratio      | 0.10  | 0.10  | 0.10  | 0.13  | 0.13  | 0.13  | 0.08  | 0.41  | 0.41  | 0.13  | 0.46  | 0.46  |
| v/c Ratio               | 0.64  | 0.58  | 0.19  | 0.79  | 0.61  | 0.83  | 0.64  | 0.70  | 0.33  | 0.80  | 0.43  | 0.09  |
| Control Delay           | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | D     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 59.9  |       |       | 60.5  |       |       | 35.1  |       |       | 37.1  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |

### Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 42.9

Intersection LOS: D

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/11/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/11/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.1  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 44   | 0    | 46   | 0    | 1859 | 75   | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1934 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 135  | - | 0 |
| Stage 1              | 0      | 0 | -      | 49   | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 135  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 46   | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 49   | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 273  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB    |  | NB |  | SB  |  |
|----------------------|------|--|-------|--|----|--|-----|--|
| HCM Control Delay, s | 16.4 |  | 138.9 |  | 0  |  | 1.1 |  |
| HCM LOS              | C    |  | F     |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46    | 231   | 135   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 0.961 | 0.201 | 0.281 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 258.7 | 24.5  | 41.8  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 4     | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/11/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 680  | 103  | 0    | 0    | 163  | 104  | 8    | 125  |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 680  | 103  | 0    | 0    | 163  | 104  | 8    | 125  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 716  | 108  | 0    | 0    | 172  | 109  | 8    | 132  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1260   | 1670 | 412  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 912    | 912  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 127    | 95   | 589  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 295    | 351  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   |        | - | - | -      | - | - |        |   |      |        |      |      |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | ~ 86   | 87   | 589  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 237    | 237  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 295    | 322  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB | WB  | NB | SB   |
|----------------------|----|-----|----|------|
| HCM Control Delay, s | 0  | 0.8 | 13 | 38.2 |
| HCM LOS              |    |     | B  | E    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 346   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.721 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 38.2  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 5.4   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 307   | 126   | 312   | 66    | 928   | 200   | 377   | 1177  | 68    |
| Future Volume (vph)     | 172   | 118   | 110   | 307   | 126   | 312   | 66    | 928   | 200   | 377   | 1177  | 68    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 12.3  | 12.3  | 18.2  | 17.8  | 17.8  | 10.2  | 56.7  | 56.7  | 20.4  | 69.9  | 69.9  |
| Actuated g/C Ratio      | 0.09  | 0.09  | 0.09  | 0.13  | 0.13  | 0.13  | 0.07  | 0.40  | 0.40  | 0.15  | 0.50  | 0.50  |
| v/c Ratio               | 0.58  | 0.40  | 0.33  | 0.73  | 0.56  | 0.80  | 0.54  | 0.47  | 0.27  | 0.80  | 0.49  | 0.08  |
| Control Delay           | 68.5  | 63.6  | 2.5   | 68.1  | 66.3  | 32.2  | 77.6  | 32.8  | 3.8   | 70.1  | 26.0  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 63.6  | 2.5   | 68.1  | 66.3  | 32.2  | 77.6  | 32.8  | 3.8   | 70.1  | 26.0  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | C     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 48.9  |       |       | 52.8  |       |       | 30.4  |       |       | 35.1  |       |
| Approach LOS            |       | D     |       |       | D     |       |       | C     |       |       | D     |       |

### Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 38.4

Intersection LOS: D

Intersection Capacity Utilization 72.8%

ICU Level of Service C

Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/10/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 72.9 |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 282  | 0    | 40   | 0    | 1217 | 93   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 282  | 0    | 40   | 0    | 1217 | 93   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 297  | 0    | 42   | 0    | 1281 | 98   | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1379 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | ~69  | 0      | 358  | 0 | -      | - | 256  | - | 0 |
| Stage 1              | 0      | 0 | -      | ~127 | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 326    | ~58  | -      | 358  | - | -      | - | 256  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | ~117 | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | ~127 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 302  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   | WB       | NB | SB  |
|----------------------|------|----------|----|-----|
| HCM Control Delay, s | 16.3 | \$ 680.8 | 0  | 0.7 |
| HCM LOS              | C    | F        |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1  | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|--------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117    | 358   | 256   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 2.537  | 0.118 | 0.189 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | \$ 775 | 16.4  | 22.3  | -   |
| HCM Lane LOS          | -   | -   | C     | F      | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 26.7   | 0.4   | 0.7   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/10/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↓   |      | ↑    | ↑↓   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 536  | 75   | 82   | 765  | 27   | 0    | 0    | 64   | 5    | 8    | 25   |
| Future Vol, veh/h        | 0    | 536  | 75   | 82   | 765  | 27   | 0    | 0    | 64   | 5    | 8    | 25   |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 564  | 79   | 86   | 805  | 28   | 0    | 0    | 67   | 5    | 8    | 26   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 643    | 0 | 0 | -      | - | 322  | 1273   | 1634 | 417  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 991    | 991  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 282    | 643  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 938    | - | - | 0      | 0 | 674  | 124    | 100  | 585  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 264    | 322  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 701    | 467  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 938    | - | - | -      | - | 674  | 104    | 91   | 585  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 237    | 235  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 264    | 292  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 631    | 467  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.9 |  |  | 10.9 |  |  | 15.3 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 674   | -   | -   | 938   | -   | -   | 388   |
| HCM Lane V/C Ratio    | 0.1   | -   | -   | 0.092 | -   | -   | 0.103 |
| HCM Control Delay (s) | 10.9  | -   | -   | 9.2   | -   | -   | 15.3  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 0.3   |

Timings

1: US 19 & Spring Hill Dr

08/10/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↔↔    | ↑↑    | ↗     | ↔↔    | ↑     | ↗     | ↗     | ↑↑↑   | ↗     | ↔↔    | ↑↑↑   | ↗     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 262   | 120   | 369   | 83    | 1373  | 253   | 445   | 1029  | 91    |
| Future Volume (vph)     | 212   | 191   | 55    | 262   | 120   | 369   | 83    | 1373  | 253   | 445   | 1029  | 91    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 20.7  | 20.7  | 16.3  | 22.9  | 22.9  | 10.6  | 50.8  | 50.8  | 19.8  | 60.0  | 60.0  |
| Actuated g/C Ratio      | 0.10  | 0.15  | 0.15  | 0.12  | 0.16  | 0.16  | 0.08  | 0.36  | 0.36  | 0.14  | 0.43  | 0.43  |
| v/c Ratio               | 0.64  | 0.39  | 0.15  | 0.69  | 0.41  | 0.94  | 0.65  | 0.78  | 0.36  | 0.96  | 0.50  | 0.12  |
| Control Delay           | 69.1  | 57.2  | 0.9   | 68.5  | 58.2  | 61.7  | 84.7  | 43.4  | 4.8   | 92.3  | 30.2  | 0.3   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 57.2  | 0.9   | 68.5  | 58.2  | 61.7  | 84.7  | 43.4  | 4.8   | 92.3  | 30.2  | 0.3   |
| LOS                     | E     | E     | A     | E     | E     | E     | F     | D     | A     | F     | C     | A     |
| Approach Delay          |       | 55.9  |       |       | 63.5  |       |       | 39.7  |       |       | 46.1  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 47.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 82.0%  
 ICU Level of Service E  
 Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/10/2022

| Intersection             |       |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 154.5 |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL   | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |       |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0     | 0    | 12    | 243  | 0    | 44   | 0    | 1766 | 93   | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0     | 0    | 12    | 243  | 0    | 44   | 0    | 1766 | 93   | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0     | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop  | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -     | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -     | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -     | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -     | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95    | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2     | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0     | 0    | 13    | 256  | 0    | 46   | 0    | 1859 | 98   | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1957 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 131  | - | 0 |
| Stage 1              | 0      | 0 | -      | ~49  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 131  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | ~46  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | ~49  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 270  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   | WB        | NB | SB  |
|----------------------|------|-----------|----|-----|
| HCM Control Delay, s | 16.4 | \$ 1889.2 | 0  | 1.1 |
| HCM LOS              | C    | F         |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1  | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|--------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46     | 231   | 131   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 5.561  | 0.201 | 0.289 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 2226.9 | 24.5  | 43.3  | -   |
| HCM Lane LOS          | -   | -   | C     | F      | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 29.5   | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/10/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 760  | 60   | 67   | 757  | 32   | 0    | 0    | 163  | 13   | 8    | 24   |
| Future Vol, veh/h        | 0    | 760  | 60   | 67   | 757  | 32   | 0    | 0    | 163  | 13   | 8    | 24   |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 800  | 63   | 71   | 797  | 34   | 0    | 0    | 172  | 14   | 8    | 25   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 863    | 0 | 0 | -      | - | 432  | 1356   | 1819 | 416  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 956    | 956  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 400    | 863  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 775    | - | - | 0      | 0 | 572  | 108    | 77   | 585  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 277    | 335  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 597    | 370  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 775    | - | - | -      | - | 572  | 70     | 70   | 585  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 215    | 213  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 277    | 304  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 418    | 370  | -    |

| Approach             | EB | WB  | NB | SB |
|----------------------|----|-----|----|----|
| HCM Control Delay, s | 0  | 0.8 | 14 | 18 |
| HCM LOS              |    |     | B  | C  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 572   | -   | -   | 775   | -   | -   | 324   |
| HCM Lane V/C Ratio    | 0.3   | -   | -   | 0.091 | -   | -   | 0.146 |
| HCM Control Delay (s) | 14    | -   | -   | 10.1  | -   | -   | 18    |
| HCM Lane LOS          | B     | -   | -   | B     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 1.3   | -   | -   | 0.3   | -   | -   | 0.5   |

Timings

1: US 19 & Spring Hill Dr

08/10/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 424   | 148   | 301   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Future Volume (vph)     | 172   | 118   | 110   | 424   | 148   | 301   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.9  | 11.9  | 21.2  | 20.4  | 20.4  | 10.2  | 57.1  | 57.1  | 17.4  | 67.3  | 67.3  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.15  | 0.15  | 0.15  | 0.07  | 0.41  | 0.41  | 0.12  | 0.48  | 0.48  |
| v/c Ratio               | 0.58  | 0.41  | 0.34  | 0.86  | 0.58  | 0.73  | 0.54  | 0.47  | 0.27  | 0.70  | 0.46  | 0.06  |
| Control Delay           | 68.5  | 64.3  | 2.6   | 74.8  | 64.6  | 25.7  | 77.6  | 32.3  | 3.8   | 67.6  | 26.5  | 0.1   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 64.3  | 2.6   | 74.8  | 64.6  | 25.7  | 77.6  | 32.3  | 3.8   | 67.6  | 26.5  | 0.1   |
| LOS                     | E     | E     | A     | E     | E     | C     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.1  |       |       | 56.1  |       |       | 30.0  |       |       | 34.0  |       |
| Approach LOS            |       | D     |       |       | E     |       |       | C     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 39.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 73.4%  
 ICU Level of Service D  
 Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/10/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.6  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↕↕↕  | ↗    | ↘    | ↕↕↕  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 98   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 98   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 52   | 0    | 42   | 0    | 1281 | 103  | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1384 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | 69   | 0      | 358  | 0 | -      | - | 254  | - | 0 |
| Stage 1              | 0      | 0 | -      | 127  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 326    | 57   | -      | 358  | - | -      | - | 254  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 117  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 127  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 302  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  | SB  |  |  |
|----------------------|------|--|------|--|----|--|--|-----|--|--|
| HCM Control Delay, s | 16.3 |  | 39.4 |  | 0  |  |  | 0.7 |  |  |
| HCM LOS              | C    |  | E    |  |    |  |  |     |  |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117   | 358   | 254   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 0.441 | 0.118 | 0.191 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | 58.1  | 16.4  | 22.5  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 1.9   | 0.4   | 0.7   | -   |

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/10/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.8  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 754  | 27   | 0    | 0    | 64   | 99   | 8    | 164  |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 754  | 27   | 0    | 0    | 64   | 99   | 8    | 164  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 794  | 28   | 0    | 0    | 67   | 104  | 8    | 173  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1213   | 1524 | 411  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 980    | 980  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 138    | 117  | 590  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 268    | 326  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 117    | 107  | 590  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 244    | 251  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 268    | 299  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 10.5 |  |  | 38.3 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 379   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.753 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 38.3  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 6     |

Timings

1: US 19 & Spring Hill Dr

08/11/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 342   | 141   | 361   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Future Volume (vph)     | 212   | 191   | 55    | 342   | 141   | 361   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 17.8  | 17.8  | 18.5  | 22.2  | 22.2  | 10.6  | 52.8  | 52.8  | 18.5  | 60.6  | 60.6  |
| Actuated g/C Ratio      | 0.10  | 0.13  | 0.13  | 0.13  | 0.16  | 0.16  | 0.08  | 0.38  | 0.38  | 0.13  | 0.43  | 0.43  |
| v/c Ratio               | 0.64  | 0.45  | 0.17  | 0.79  | 0.50  | 0.94  | 0.65  | 0.75  | 0.35  | 0.80  | 0.45  | 0.10  |
| Control Delay           | 69.1  | 60.3  | 1.0   | 72.3  | 61.0  | 60.8  | 84.7  | 41.4  | 4.7   | 73.0  | 29.2  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 60.3  | 1.0   | 72.3  | 61.0  | 60.8  | 84.7  | 41.4  | 4.7   | 73.0  | 29.2  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | E     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 57.2  |       |       | 65.5  |       |       | 38.1  |       |       | 38.8  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 45.6  
 Intersection Capacity Utilization 81.5%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service D

# Timings

## 1: US 19 & Spring Hill Dr

08/11/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/11/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.1  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 101  | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 101  | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 44   | 0    | 46   | 0    | 1859 | 106  | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1965 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 130  | - | 0 |
| Stage 1              | 0      | 0 | -      | 49   | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 130  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 46   | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 49   | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 269  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB    |  | NB |  | SB  |  |
|----------------------|------|--|-------|--|----|--|-----|--|
| HCM Control Delay, s | 16.4 |  | 138.9 |  | 0  |  | 1.2 |  |
| HCM LOS              | C    |  | F     |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46    | 231   | 130   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 0.961 | 0.201 | 0.291 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 258.7 | 24.5  | 43.7  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 4     | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/11/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 751  | 32   | 0    | 0    | 163  | 113  | 8    | 125  |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 751  | 32   | 0    | 0    | 163  | 113  | 8    | 125  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 791  | 34   | 0    | 0    | 172  | 119  | 8    | 132  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1298   | 1708 | 413  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 950    | 950  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 119    | 90   | 588  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 280    | 337  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | ~ 81   | 82   | 588  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 228    | 231  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 280    | 309  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 13 |  |  | 45.8 |  |  |
| HCM LOS              |    |  |  |     |  |  | B  |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 331   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.782 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 45.8  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 6.3   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Future Volume (vph)     | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.8  | 11.8  | 21.2  | 20.2  | 20.2  | 10.2  | 57.3  | 57.3  | 17.4  | 67.5  | 67.5  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.15  | 0.14  | 0.14  | 0.07  | 0.41  | 0.41  | 0.12  | 0.48  | 0.48  |
| v/c Ratio               | 0.58  | 0.42  | 0.34  | 0.86  | 0.58  | 0.54  | 0.54  | 0.47  | 0.27  | 0.70  | 0.46  | 0.06  |
| Control Delay           | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| LOS                     | E     | E     | A     | E     | E     | B     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.2  |       |       | 55.4  |       |       | 29.9  |       |       | 33.9  |       |
| Approach LOS            |       | D     |       |       | E     |       |       | C     |       |       | C     |       |

### Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/10/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/10/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.7  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 52   | 0    | 42   | 0    | 1281 | 67   | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1348 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | 69   | 0      | 358  | 0 | -      | - | 265  | - | 0 |
| Stage 1              | 0      | 0 | -      | 127  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 326    | 58   | -      | 358  | - | -      | - | 265  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 117  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 127  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 305  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  | SB  |  |  |
|----------------------|------|--|------|--|----|--|--|-----|--|--|
| HCM Control Delay, s | 16.3 |  | 39.4 |  | 0  |  |  | 0.7 |  |  |
| HCM LOS              | C    |  | E    |  |    |  |  |     |  |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117   | 358   | 265   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 0.441 | 0.118 | 0.183 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | 58.1  | 16.4  | 21.6  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 1.9   | 0.4   | 0.7   | -   |

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/10/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.4  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 675  | 110  | 0    | 0    | 64   | 99   | 8    | 164  |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 675  | 110  | 0    | 0    | 64   | 99   | 8    | 164  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 711  | 116  | 0    | 0    | 67   | 104  | 8    | 173  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1174   | 1485 | 414  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 941    | 941  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 147    | 124  | 587  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 283    | 340  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 125    | 114  | 587  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 257    | 259  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 283    | 311  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 10.5 |  |  | 35.6 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 390   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.731 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 35.6  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 5.7   |

Timings

1: US 19 & Spring Hill Dr

08/11/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Future Volume (vph)     | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 13.8  | 13.8  | 18.5  | 18.2  | 18.2  | 10.7  | 56.8  | 56.8  | 18.5  | 64.6  | 64.6  |
| Actuated g/C Ratio      | 0.10  | 0.10  | 0.10  | 0.13  | 0.13  | 0.13  | 0.08  | 0.41  | 0.41  | 0.13  | 0.46  | 0.46  |
| v/c Ratio               | 0.64  | 0.58  | 0.19  | 0.79  | 0.61  | 0.83  | 0.64  | 0.70  | 0.33  | 0.80  | 0.43  | 0.09  |
| Control Delay           | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | D     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 59.9  |       |       | 60.5  |       |       | 35.1  |       |       | 37.1  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 42.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

08/11/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

08/11/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.1  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 44   | 0    | 46   | 0    | 1859 | 75   | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1934 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 135  | - | 0 |
| Stage 1              | 0      | 0 | -      | 49   | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 135  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 46   | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 49   | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 273  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB    |  | NB |  | SB  |  |
|----------------------|------|--|-------|--|----|--|-----|--|
| HCM Control Delay, s | 16.4 |  | 138.9 |  | 0  |  | 1.1 |  |
| HCM LOS              | C    |  | F     |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46    | 231   | 135   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 0.961 | 0.201 | 0.281 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 258.7 | 24.5  | 41.8  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 4     | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

08/11/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.7  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 680  | 103  | 0    | 0    | 163  | 113  | 8    | 125  |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 680  | 103  | 0    | 0    | 163  | 113  | 8    | 125  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 716  | 108  | 0    | 0    | 172  | 119  | 8    | 132  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1260   | 1670 | 412  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 912    | 912  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 127    | 95   | 589  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 295    | 351  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | ~ 86   | 87   | 589  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 237    | 237  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 295    | 322  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 13 |  |  | 42.6 |  |  |
| HCM LOS              |    |  |  |     |  |  | B  |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 340   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.762 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 42.6  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 6     |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↔↔    | ↑↑    | ↗     | ↔↔    | ↑     | ↗     | ↖     | ↑↑↑   | ↗     | ↔↔    | ↑↑↑   | ↗     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 307   | 126   | 254   | 66    | 928   | 200   | 283   | 1177  | 68    |
| Future Volume (vph)     | 172   | 118   | 110   | 307   | 126   | 254   | 66    | 928   | 200   | 283   | 1177  | 68    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.5  | 11.5  | 18.2  | 17.0  | 17.0  | 10.4  | 60.5  | 60.5  | 17.4  | 70.5  | 70.5  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.13  | 0.12  | 0.12  | 0.07  | 0.43  | 0.43  | 0.12  | 0.50  | 0.50  |
| v/c Ratio               | 0.58  | 0.43  | 0.34  | 0.73  | 0.59  | 0.67  | 0.53  | 0.44  | 0.26  | 0.70  | 0.48  | 0.08  |
| Control Delay           | 68.5  | 65.3  | 2.7   | 68.1  | 68.8  | 18.4  | 76.2  | 30.0  | 3.6   | 67.6  | 25.5  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 65.3  | 2.7   | 68.1  | 68.8  | 18.4  | 76.2  | 30.0  | 3.6   | 67.6  | 25.5  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | B     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.4  |       |       | 49.9  |       |       | 28.1  |       |       | 32.2  |       |
| Approach LOS            |       | D     |       |       | D     |       |       | C     |       |       | C     |       |

### Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 35.9  
 Intersection Capacity Utilization 71.0%  
 Analysis Period (min) 15

Intersection LOS: D  
 ICU Level of Service C

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

11/18/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 21.9 |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 173  | 0    | 40   | 0    | 1217 | 93   | 46   | 1351 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 173  | 0    | 40   | 0    | 1217 | 93   | 46   | 1351 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 182  | 0    | 42   | 0    | 1281 | 98   | 48   | 1422 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 711    | 1946 | -      | 641  | - | 0      | 0 | 1379 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 665  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 322    | ~69  | 0      | 358  | 0 | -      | - | 256  | - | 0 |
| Stage 1              | 0      | 0 | -      | ~127 | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 378  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 322    | ~57  | -      | 358  | - | -      | - | 256  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | ~116 | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | ~127 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 299  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   | WB    | NB | SB  |
|----------------------|------|-------|----|-----|
| HCM Control Delay, s | 16.5 | 295.6 | 0  | 0.7 |
| HCM LOS              | C    | F     |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 322   | 116   | 358   | 256   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 1.57  | 0.118 | 0.189 | -   |
| HCM Control Delay (s) | -   | -   | 16.5  | 360.1 | 16.4  | 22.3  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 13.4  | 0.4   | 0.7   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

11/18/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.4  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 707  | 27   | 0    | 0    | 64   | 5    | 8    | 25   |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 707  | 27   | 0    | 0    | 64   | 5    | 8    | 25   |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 744  | 28   | 0    | 0    | 67   | 5    | 8    | 26   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1163   | 1474 | 386  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 930    | 930  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 150    | 125  | 612  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 287    | 344  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 127    | 115  | 612  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 260    | 262  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 287    | 315  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB | WB  | NB   | SB   |
|----------------------|----|-----|------|------|
| HCM Control Delay, s | 0  | 0.9 | 10.5 | 14.5 |
| HCM LOS              |    |     | B    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 419   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.095 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 14.5  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 0.3   |

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 262   | 120   | 321   | 83    | 1373  | 253   | 345   | 1029  | 91    |
| Future Volume (vph)     | 212   | 191   | 55    | 262   | 120   | 321   | 83    | 1373  | 253   | 345   | 1029  | 91    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 16.5  | 16.5  | 16.3  | 18.7  | 18.7  | 10.6  | 56.3  | 56.3  | 18.5  | 64.1  | 64.1  |
| Actuated g/C Ratio      | 0.10  | 0.12  | 0.12  | 0.12  | 0.13  | 0.13  | 0.08  | 0.40  | 0.40  | 0.13  | 0.46  | 0.46  |
| v/c Ratio               | 0.64  | 0.48  | 0.17  | 0.69  | 0.51  | 0.91  | 0.65  | 0.71  | 0.33  | 0.80  | 0.47  | 0.12  |
| Control Delay           | 69.1  | 61.3  | 1.1   | 68.5  | 63.2  | 55.3  | 84.7  | 38.4  | 4.5   | 73.0  | 27.9  | 0.3   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 61.3  | 1.1   | 68.5  | 63.2  | 55.3  | 84.7  | 38.4  | 4.5   | 73.0  | 27.9  | 0.3   |
| LOS                     | E     | E     | A     | E     | E     | E     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 57.7  |       |       | 61.6  |       |       | 35.7  |       |       | 36.8  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |

### Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 42.6

Intersection LOS: D

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

11/18/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 43.2 |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 132  | 0    | 44   | 0    | 1766 | 93   | 36   | 1337 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 132  | 0    | 44   | 0    | 1766 | 93   | 36   | 1337 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 139  | 0    | 46   | 0    | 1859 | 98   | 38   | 1407 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 704    | 2498 | -      | 930  | - | 0      | 0 | 1957 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 639  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 325    | ~31  | 0      | 231  | 0 | -      | - | 131  | - | 0 |
| Stage 1              | 0      | 0 | -      | ~49  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 392  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 325    | ~23  | -      | 231  | - | -      | - | 131  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | ~46  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | ~49  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 267  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   | WB       | NB | SB  |
|----------------------|------|----------|----|-----|
| HCM Control Delay, s | 16.5 | \$ 829.2 | 0  | 1.1 |
| HCM LOS              | C    | F        |    |     |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1     | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-----------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 325   | 46        | 231   | 131   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 3.021     | 0.201 | 0.289 | -   |
| HCM Control Delay (s) | -   | -   | 16.5  | \$ 1097.4 | 24.5  | 43.3  | -   |
| HCM Lane LOS          | -   | -   | C     | F         | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 15.1      | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

11/18/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↓   |      | ↑    | ↑↓   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 709  | 32   | 0    | 0    | 163  | 13   | 8    | 24   |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 709  | 32   | 0    | 0    | 163  | 13   | 8    | 24   |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 746  | 34   | 0    | 0    | 172  | 14   | 8    | 25   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1253   | 1663 | 390  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 905    | 905  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 129    | 96   | 609  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 298    | 353  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | 87     | 88   | 609  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 239    | 238  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 298    | 323  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB | WB  | NB | SB   |
|----------------------|----|-----|----|------|
| HCM Control Delay, s | 0  | 0.8 | 13 | 16.8 |
| HCM LOS              |    |     | B  | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 353   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.134 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 16.8  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 0.5   |

Timings

1: US 19 & Spring Hill Dr

11/18/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↕↕   | ↖     | ↖↗    | ↕↕↕   | ↖     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 220   | 1060  | 46    |
| Future Volume (vph)     | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 220   | 1060  | 46    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.8  | 11.8  | 21.2  | 20.2  | 20.2  | 10.2  | 59.9  | 59.9  | 14.7  | 67.5  | 67.5  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.15  | 0.14  | 0.14  | 0.07  | 0.43  | 0.43  | 0.10  | 0.48  | 0.48  |
| v/c Ratio               | 0.58  | 0.42  | 0.34  | 0.86  | 0.58  | 0.54  | 0.54  | 0.45  | 0.26  | 0.64  | 0.46  | 0.06  |
| Control Delay           | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 30.1  | 3.5   | 68.2  | 26.3  | 0.1   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 30.1  | 3.5   | 68.2  | 26.3  | 0.1   |
| LOS                     | E     | E     | A     | E     | E     | B     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.2  |       |       | 55.4  |       |       | 28.2  |       |       | 32.4  |       |
| Approach LOS            |       | D     |       |       | E     |       |       | C     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 37.8  
 Intersection Capacity Utilization 72.1%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service C

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

11/18/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.7  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 52   | 0    | 42   | 0    | 1281 | 67   | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1348 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | 69   | 0      | 358  | 0 | -      | - | 265  | - | 0 |
| Stage 1              | 0      | 0 | -      | 127  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    | - | - |
| Mov Cap-1 Maneuver   | -      | - | 326    | 58   | -      | 358  | - | -      | - | 265  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 117  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 127  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 305  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  | SB  |  |  |
|----------------------|------|--|------|--|----|--|--|-----|--|--|
| HCM Control Delay, s | 16.3 |  | 39.4 |  | 0  |  |  | 0.7 |  |  |
| HCM LOS              | C    |  | E    |  |    |  |  |     |  |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117   | 358   | 265   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 0.441 | 0.118 | 0.183 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | 58.1  | 16.4  | 21.6  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 1.9   | 0.4   | 0.7   | -   |

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

11/18/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 671  | 102  | 0    | 0    | 64   | 80   | 8    | 164  |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 671  | 102  | 0    | 0    | 64   | 80   | 8    | 164  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 706  | 107  | 0    | 0    | 67   | 84   | 8    | 173  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1165   | 1476 | 407  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 932    | 932  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 149    | 125  | 593  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 287    | 343  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 127    | 115  | 593  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 260    | 261  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 287    | 314  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 10.5 |  |  | 28.5 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 410   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.647 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 28.5  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 4.4   |

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕↖↗   | ↖     | ↖↗    | ↕↖↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Future Volume (vph)     | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 13.8  | 13.8  | 18.5  | 18.2  | 18.2  | 10.7  | 56.8  | 56.8  | 18.5  | 64.6  | 64.6  |
| Actuated g/C Ratio      | 0.10  | 0.10  | 0.10  | 0.13  | 0.13  | 0.13  | 0.08  | 0.41  | 0.41  | 0.13  | 0.46  | 0.46  |
| v/c Ratio               | 0.64  | 0.58  | 0.19  | 0.79  | 0.61  | 0.83  | 0.64  | 0.70  | 0.33  | 0.80  | 0.43  | 0.09  |
| Control Delay           | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | D     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 59.9  |       |       | 60.5  |       |       | 35.1  |       |       | 37.1  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |

### Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 42.9

Intersection LOS: D

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

# Timings

## 1: US 19 & Spring Hill Dr

11/18/2022

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

11/18/2022

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.1  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 44   | 0    | 46   | 0    | 1859 | 75   | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1934 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 135  | - | 0 |
| Stage 1              | 0      | 0 | -      | 49   | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 135  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 46   | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 49   | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 273  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB    |  | NB |  | SB  |  |
|----------------------|------|--|-------|--|----|--|-----|--|
| HCM Control Delay, s | 16.4 |  | 138.9 |  | 0  |  | 1.1 |  |
| HCM LOS              | C    |  | F     |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46    | 231   | 135   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 0.961 | 0.201 | 0.281 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 258.7 | 24.5  | 41.8  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 4     | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

11/18/2022

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↔    |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 680  | 96   | 0    | 0    | 163  | 93   | 8    | 125  |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 680  | 96   | 0    | 0    | 163  | 93   | 8    | 125  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 716  | 101  | 0    | 0    | 172  | 98   | 8    | 132  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1257   | 1667 | 409  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 909    | 909  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 128    | 96   | 592  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 296    | 352  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | ~ 87   | 88   | 592  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 238    | 238  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 296    | 322  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 13 |  |  | 33.3 |  |  |
| HCM LOS              |    |  |  |     |  |  | B  |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 356   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.668 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 33.3  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 4.6   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↗    | ↑↑    | ↖     | ↖↗    | ↑     | ↖     | ↖     | ↑↑↑   | ↖     | ↖↗    | ↑↑↑   | ↖     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Future Volume (vph)     | 172   | 118   | 110   | 424   | 148   | 218   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)   | 181   | 124   | 116   | 446   | 156   | 229   | 69    | 977   | 211   | 298   | 1116  | 48    |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.8  | 11.8  | 21.2  | 20.2  | 20.2  | 10.2  | 57.3  | 57.3  | 17.4  | 67.5  | 67.5  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.15  | 0.14  | 0.14  | 0.07  | 0.41  | 0.41  | 0.12  | 0.48  | 0.48  |
| v/c Ratio               | 0.58  | 0.42  | 0.34  | 0.86  | 0.58  | 0.54  | 0.54  | 0.47  | 0.27  | 0.70  | 0.46  | 0.06  |
| Control Delay           | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 11.0  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| LOS                     | E     | E     | A     | E     | E     | B     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.2  |       |       | 55.4  |       |       | 29.9  |       |       | 33.9  |       |
| Approach LOS            |       | D     |       |       | E     |       |       | C     |       |       | C     |       |
| Queue Length 50th (ft)  | 82    | 57    | 0     | 205   | 135   | 0     | 61    | 234   | 0     | 136   | 252   | 0     |
| Queue Length 95th (ft)  | 120   | 88    | 0     | #282  | 207   | 74    | 113   | 316   | 44    | 180   | 327   | 0     |
| Internal Link Dist (ft) |       | 920   |       |       | 220   |       |       | 920   |       |       | 1100  |       |
| Turn Bay Length (ft)    | 400   |       | 150   |       |       |       | 500   |       | 550   | 350   |       | 545   |
| Base Capacity (vph)     | 416   | 429   | 395   | 539   | 294   | 445   | 151   | 2081  | 783   | 534   | 2451  | 848   |
| Starvation Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Storage Cap Reductn     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio       | 0.44  | 0.29  | 0.29  | 0.83  | 0.53  | 0.51  | 0.46  | 0.47  | 0.27  | 0.56  | 0.46  | 0.06  |

### Intersection Summary

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 73.4%

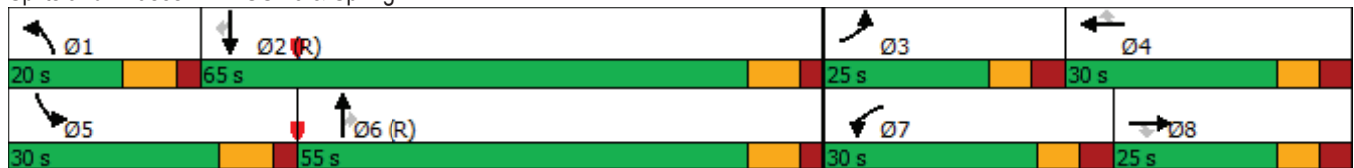
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

01/03/2023

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.7  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 64   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 52   | 0    | 42   | 0    | 1281 | 67   | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1348 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | 69   | 0      | 358  | 0 | -      | - | 265  | - | 0 |
| Stage 1              | 0      | 0 | -      | 127  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 326    | 58   | -      | 358  | - | -      | - | 265  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 117  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 127  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 305  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  | SB  |  |
|----------------------|------|--|------|--|----|--|-----|--|
| HCM Control Delay, s | 16.3 |  | 39.4 |  | 0  |  | 0.7 |  |
| HCM LOS              | C    |  | E    |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117   | 358   | 265   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 0.441 | 0.118 | 0.183 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | 58.1  | 16.4  | 21.6  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 1.9   | 0.4   | 0.7   | -   |

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

01/03/2023

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 671  | 102  | 0    | 0    | 64   | 80   | 8    | 164  |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 671  | 102  | 0    | 0    | 64   | 80   | 8    | 164  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 706  | 107  | 0    | 0    | 67   | 84   | 8    | 173  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1165   | 1476 | 407  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 932    | 932  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 149    | 125  | 593  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 287    | 343  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 127    | 115  | 593  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 260    | 261  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 287    | 314  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 10.5 |  |  | 28.5 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 410   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.647 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 28.5  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 4.4   |

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↖    | ↗↗    | ↖     | ↖↖    | ↗     | ↖     | ↖     | ↗↗↗   | ↖     | ↖↖    | ↗↗↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Future Volume (vph)     | 212   | 191   | 55    | 342   | 141   | 290   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)   | 223   | 201   | 58    | 360   | 148   | 305   | 87    | 1445  | 266   | 363   | 999   | 74    |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 13.8  | 13.8  | 18.5  | 18.2  | 18.2  | 10.7  | 56.8  | 56.8  | 18.5  | 64.6  | 64.6  |
| Actuated g/C Ratio      | 0.10  | 0.10  | 0.10  | 0.13  | 0.13  | 0.13  | 0.08  | 0.41  | 0.41  | 0.13  | 0.46  | 0.46  |
| v/c Ratio               | 0.64  | 0.58  | 0.19  | 0.79  | 0.61  | 0.83  | 0.64  | 0.70  | 0.33  | 0.80  | 0.43  | 0.09  |
| Control Delay           | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 66.7  | 1.4   | 72.3  | 68.7  | 42.6  | 84.1  | 37.8  | 4.5   | 72.8  | 26.8  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | D     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 59.9  |       |       | 60.5  |       |       | 35.1  |       |       | 37.1  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |
| Queue Length 50th (ft)  | 102   | 94    | 0     | 164   | 129   | 110   | 77    | 407   | 0     | 165   | 226   | 0     |
| Queue Length 95th (ft)  | 144   | 133   | 0     | 220   | 202   | #250  | 138   | 487   | 59    | 222   | 280   | 0     |
| Internal Link Dist (ft) |       | 920   |       |       | 220   |       |       | 920   |       |       | 1100  |       |
| Turn Bay Length (ft)    | 400   |       | 150   |       |       |       | 500   |       | 550   | 350   |       | 545   |
| Base Capacity (vph)     | 416   | 429   | 338   | 490   | 269   | 386   | 150   | 2063  | 800   | 486   | 2345  | 819   |
| Starvation Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Storage Cap Reductn     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio       | 0.54  | 0.47  | 0.17  | 0.73  | 0.55  | 0.79  | 0.58  | 0.70  | 0.33  | 0.75  | 0.43  | 0.09  |

### Intersection Summary

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 42.9

Intersection LOS: D

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

01/03/2023

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.1  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 42   | 0    | 44   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 44   | 0    | 46   | 0    | 1859 | 75   | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1934 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 135  | - | 0 |
| Stage 1              | 0      | 0 | -      | 49   | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 135  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 46   | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 49   | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 273  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB    |  | NB |  | SB  |  |
|----------------------|------|--|-------|--|----|--|-----|--|
| HCM Control Delay, s | 16.4 |  | 138.9 |  | 0  |  | 1.1 |  |
| HCM LOS              | C    |  | F     |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46    | 231   | 135   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 0.961 | 0.201 | 0.281 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 258.7 | 24.5  | 41.8  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 4     | 0.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

01/03/2023

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 680  | 96   | 0    | 0    | 163  | 93   | 8    | 124  |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 680  | 96   | 0    | 0    | 163  | 93   | 8    | 124  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 716  | 101  | 0    | 0    | 172  | 98   | 8    | 131  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1257   | 1667 | 409  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 909    | 909  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 128    | 96   | 592  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 296    | 352  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | ~ 87   | 88   | 592  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 238    | 238  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 296    | 322  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 13 |  |  | 33.3 |  |  |
| HCM LOS              |    |  |  |     |  |  | B  |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 355   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.667 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 33.3  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 4.6   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↖    | ↑↑    | ↗     | ↖↖    | ↑     | ↗     | ↖     | ↑↑↑   | ↗     | ↖↖    | ↑↑↑   | ↗     |
| Traffic Volume (vph)    | 172   | 118   | 110   | 424   | 148   | 255   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Future Volume (vph)     | 172   | 118   | 110   | 424   | 148   | 255   | 66    | 928   | 200   | 283   | 1060  | 46    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)   | 181   | 124   | 116   | 446   | 156   | 268   | 69    | 977   | 211   | 298   | 1116  | 48    |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 30.0  | 30.0  | 30.0  | 20.0  | 55.0  | 55.0  | 30.0  | 65.0  | 65.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 21.4% | 21.4% | 21.4% | 14.3% | 39.3% | 39.3% | 21.4% | 46.4% | 46.4% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 12.7  | 11.8  | 11.8  | 21.2  | 20.2  | 20.2  | 10.2  | 57.3  | 57.3  | 17.4  | 67.5  | 67.5  |
| Actuated g/C Ratio      | 0.09  | 0.08  | 0.08  | 0.15  | 0.14  | 0.14  | 0.07  | 0.41  | 0.41  | 0.12  | 0.48  | 0.48  |
| v/c Ratio               | 0.58  | 0.42  | 0.34  | 0.86  | 0.58  | 0.62  | 0.54  | 0.47  | 0.27  | 0.70  | 0.46  | 0.06  |
| Control Delay           | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 16.3  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 68.5  | 64.7  | 2.6   | 74.8  | 65.1  | 16.3  | 77.6  | 32.2  | 3.7   | 67.6  | 26.3  | 0.1   |
| LOS                     | E     | E     | A     | E     | E     | B     | E     | C     | A     | E     | C     | A     |
| Approach Delay          |       | 49.2  |       |       | 55.0  |       |       | 29.9  |       |       | 33.9  |       |
| Approach LOS            |       | D     |       |       | E     |       |       | C     |       |       | C     |       |
| Queue Length 50th (ft)  | 82    | 57    | 0     | 205   | 135   | 24    | 61    | 234   | 0     | 136   | 252   | 0     |
| Queue Length 95th (ft)  | 120   | 88    | 0     | #282  | 207   | 115   | 113   | 316   | 44    | 180   | 327   | 0     |
| Internal Link Dist (ft) |       | 920   |       |       | 220   |       |       | 920   |       |       | 1100  |       |
| Turn Bay Length (ft)    | 400   |       | 150   |       |       |       | 500   |       | 550   | 350   |       | 545   |
| Base Capacity (vph)     | 416   | 429   | 395   | 539   | 294   | 451   | 151   | 2081  | 783   | 534   | 2451  | 848   |
| Starvation Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Storage Cap Reductn     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio       | 0.44  | 0.29  | 0.29  | 0.83  | 0.53  | 0.59  | 0.46  | 0.47  | 0.27  | 0.56  | 0.46  | 0.06  |

### Intersection Summary

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

01/03/2023

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.7  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 73   | 46   | 1336 | 101  |
| Future Vol, veh/h        | 0    | 0    | 8     | 49   | 0    | 40   | 0    | 1217 | 73   | 46   | 1336 | 101  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 8     | 52   | 0    | 42   | 0    | 1281 | 77   | 48   | 1406 | 106  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 703    | 1939 | -      | 641  | - | 0      | 0 | 1358 | 0 | 0 |
| Stage 1              | -      | - | -      | 1281 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 658  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 326    | 69   | 0      | 358  | 0 | -      | - | 262  | - | 0 |
| Stage 1              | 0      | 0 | -      | 127  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 382  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 326    | 58   | -      | 358  | - | -      | - | 262  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 117  | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 127  | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 304  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  | SB  |  |
|----------------------|------|--|------|--|----|--|-----|--|
| HCM Control Delay, s | 16.3 |  | 39.4 |  | 0  |  | 0.7 |  |
| HCM LOS              | C    |  | E    |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 326   | 117   | 358   | 262   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.026 | 0.441 | 0.118 | 0.185 | -   |
| HCM Control Delay (s) | -   | -   | 16.3  | 58.1  | 16.4  | 21.8  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | C     | C     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 1.9   | 0.4   | 0.7   | -   |

HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

01/03/2023

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 442  | 75   | 82   | 708  | 27   | 0    | 0    | 64   | 80   | 8    | 164  |
| Future Vol, veh/h        | 0    | 442  | 75   | 82   | 708  | 27   | 0    | 0    | 64   | 80   | 8    | 164  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 465  | 79   | 86   | 745  | 28   | 0    | 0    | 67   | 84   | 8    | 173  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 544    | 0 | 0 | -      | - | 272  | 1164   | 1475 | 387  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 931    | 931  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 233    | 544  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 1021   | - | - | 0      | 0 | 726  | 150    | 125  | 611  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 287    | 344  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 749    | 517  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 1021   | - | - | -      | - | 726  | 127    | 115  | 611  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 260    | 262  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 287    | 315  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 679    | 517  | -    |

| Approach             | EB |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.9 |  |  | 10.5 |  |  | 27.8 |  |  |
| HCM LOS              |    |  |  |     |  |  | B    |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 726   | -   | -   | 1021  | -   | -   | 415   |
| HCM Lane V/C Ratio    | 0.093 | -   | -   | 0.085 | -   | -   | 0.639 |
| HCM Control Delay (s) | 10.5  | -   | -   | 8.9   | -   | -   | 27.8  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 0.3   | -   | -   | 0.3   | -   | -   | 4.3   |

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023



| Lane Group              | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations     | ↖↖    | ↗↗    | ↖     | ↖↖    | ↗     | ↖     | ↖     | ↗↗↗   | ↖     | ↖↖    | ↗↗↗   | ↖     |
| Traffic Volume (vph)    | 212   | 191   | 55    | 342   | 141   | 322   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Future Volume (vph)     | 212   | 191   | 55    | 342   | 141   | 322   | 83    | 1373  | 253   | 345   | 949   | 70    |
| Confl. Peds. (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Confl. Bikes (#/hr)     |       |       |       |       |       |       |       |       |       |       |       |       |
| Peak Hour Factor        | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Growth Factor           | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  | 100%  |
| Heavy Vehicles (%)      | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    | 2%    |
| Bus Blockages (#/hr)    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Parking (#/hr)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Mid-Block Traffic (%)   |       | 0%    |       |       | 0%    |       |       | 0%    |       |       | 0%    |       |
| Shared Lane Traffic (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)   | 223   | 201   | 58    | 360   | 148   | 339   | 87    | 1445  | 266   | 363   | 999   | 74    |
| Turn Type               | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  | Prot  | NA    | Perm  |
| Protected Phases        | 3     | 8     |       | 7     | 4     |       | 1     | 6     |       | 5     | 2     |       |
| Permitted Phases        |       |       | 8     |       |       | 4     |       |       | 6     |       |       | 2     |
| Detector Phase          | 3     | 8     | 8     | 7     | 4     | 4     | 1     | 6     | 6     | 5     | 2     | 2     |
| Switch Phase            |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)     | 5.0   | 10.0  | 10.0  | 5.0   | 10.0  | 10.0  | 5.0   | 20.0  | 20.0  | 5.0   | 20.0  | 20.0  |
| Minimum Split (s)       | 14.0  | 18.0  | 18.0  | 14.0  | 18.0  | 18.0  | 14.0  | 28.2  | 28.2  | 14.0  | 28.2  | 28.2  |
| Total Split (s)         | 25.0  | 25.0  | 25.0  | 28.0  | 28.0  | 28.0  | 20.0  | 59.0  | 59.0  | 28.0  | 67.0  | 67.0  |
| Total Split (%)         | 17.9% | 17.9% | 17.9% | 20.0% | 20.0% | 20.0% | 14.3% | 42.1% | 42.1% | 20.0% | 47.9% | 47.9% |
| Yellow Time (s)         | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   | 5.6   |
| All-Red Time (s)        | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| Lost Time Adjust (s)    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)     | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.0   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   | 8.2   |
| Lead/Lag                | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?      | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode             | None  | None  | None  | None  | None  | None  | None  | C-Max | C-Max | None  | C-Max | C-Max |
| Act Effct Green (s)     | 14.1  | 14.9  | 14.9  | 18.5  | 19.3  | 19.3  | 10.6  | 55.7  | 55.7  | 18.5  | 63.5  | 63.5  |
| Actuated g/C Ratio      | 0.10  | 0.11  | 0.11  | 0.13  | 0.14  | 0.14  | 0.08  | 0.40  | 0.40  | 0.13  | 0.45  | 0.45  |
| v/c Ratio               | 0.64  | 0.53  | 0.18  | 0.79  | 0.58  | 0.90  | 0.65  | 0.71  | 0.34  | 0.80  | 0.43  | 0.09  |
| Control Delay           | 69.1  | 64.2  | 1.3   | 72.3  | 65.7  | 53.4  | 84.7  | 38.9  | 4.6   | 73.0  | 27.5  | 0.2   |
| Queue Delay             | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay             | 69.1  | 64.2  | 1.3   | 72.3  | 65.7  | 53.4  | 84.7  | 38.9  | 4.6   | 73.0  | 27.5  | 0.2   |
| LOS                     | E     | E     | A     | E     | E     | D     | F     | D     | A     | E     | C     | A     |
| Approach Delay          |       | 58.9  |       |       | 63.6  |       |       | 36.0  |       |       | 37.6  |       |
| Approach LOS            |       | E     |       |       | E     |       |       | D     |       |       | D     |       |
| Queue Length 50th (ft)  | 102   | 91    | 0     | 164   | 124   | 142   | 78    | 427   | 0     | 165   | 237   | 0     |
| Queue Length 95th (ft)  | 144   | 133   | 0     | 220   | 202   | #323  | 138   | 487   | 59    | 222   | 280   | 0     |
| Internal Link Dist (ft) |       | 920   |       |       | 220   |       |       | 920   |       |       | 1100  |       |
| Turn Bay Length (ft)    | 400   |       | 150   |       |       |       | 500   |       | 550   | 350   |       | 545   |
| Base Capacity (vph)     | 416   | 430   | 338   | 490   | 275   | 391   | 149   | 2023  | 789   | 485   | 2307  | 808   |
| Starvation Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Storage Cap Reductn     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio       | 0.54  | 0.47  | 0.17  | 0.73  | 0.54  | 0.87  | 0.58  | 0.71  | 0.34  | 0.75  | 0.43  | 0.09  |

### Intersection Summary

# Timings

## 1: US 19 & Spring Hill Dr

01/03/2023

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 59 (42%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 44.0

Intersection LOS: D

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: US 19 & Spring Hill Dr



HCM 6th TWSC  
2: US 19 & Osowaw Blvd/Driveway B

01/03/2023

| Intersection             |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.5  |      |       |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      | ↗     | ↘    |      | ↗    |      | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 0    | 12    | 42   | 0    | 83   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Future Vol, veh/h        | 0    | 0    | 12    | 42   | 0    | 83   | 0    | 1766 | 71   | 36   | 1326 | 112  |
| Conflicting Peds, #/hr   | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop  | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | Yield | -    | -    | None | -    | -    | None | -    | -    | Free |
| Storage Length           | -    | -    | 0     | 0    | -    | 0    | -    | -    | 405  | 405  | -    | 550  |
| Veh in Median Storage, # | -    | 2    | -     | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -     | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95    | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 0    | 13    | 44   | 0    | 87   | 0    | 1859 | 75   | 38   | 1396 | 118  |

| Major/Minor          | Minor2 |   | Minor1 |      | Major1 |      |   | Major2 |   |      |   |   |
|----------------------|--------|---|--------|------|--------|------|---|--------|---|------|---|---|
| Conflicting Flow All | -      | - | 698    | 2493 | -      | 930  | - | 0      | 0 | 1934 | 0 | 0 |
| Stage 1              | -      | - | -      | 1859 | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 634  | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy        | -      | - | 7.14   | 6.44 | -      | 7.14 | - | -      | - | 5.34 | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | 7.34 | -      | -    | - | -      | - | -    | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.74 | -      | -    | - | -      | - | -    | - | - |
| Follow-up Hdwy       | -      | - | 3.92   | 3.82 | -      | 3.92 | - | -      | - | 3.12 | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 328    | ~31  | 0      | 231  | 0 | -      | - | 135  | - | 0 |
| Stage 1              | 0      | 0 | -      | 49   | 0      | -    | 0 | -      | - | -    | - | 0 |
| Stage 2              | 0      | 0 | -      | 395  | 0      | -    | 0 | -      | - | -    | - | 0 |
| Platoon blocked, %   |        |   |        |      |        |      |   | -      | - | -    |   |   |
| Mov Cap-1 Maneuver   | -      | - | 328    | ~23  | -      | 231  | - | -      | - | 135  | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 46   | -      | -    | - | -      | - | -    | - | - |
| Stage 1              | -      | - | -      | 49   | -      | -    | - | -      | - | -    | - | - |
| Stage 2              | -      | - | -      | 273  | -      | -    | - | -      | - | -    | - | - |

| Approach             | EB   |  | WB    |  | NB |  | SB  |  |
|----------------------|------|--|-------|--|----|--|-----|--|
| HCM Control Delay, s | 16.4 |  | 106.7 |  | 0  |  | 1.1 |  |
| HCM LOS              | C    |  | F     |  |    |  |     |  |

| Minor Lane/Major Mvmt | NBT | NBR | EBLn1 | WBLn1 | WBLn2 | SBL   | SBT |
|-----------------------|-----|-----|-------|-------|-------|-------|-----|
| Capacity (veh/h)      | -   | -   | 328   | 46    | 231   | 135   | -   |
| HCM Lane V/C Ratio    | -   | -   | 0.039 | 0.961 | 0.378 | 0.281 | -   |
| HCM Control Delay (s) | -   | -   | 16.4  | 258.7 | 29.8  | 41.8  | -   |
| HCM Lane LOS          | -   | -   | C     | F     | D     | E     | -   |
| HCM 95th %tile Q(veh) | -   | -   | 0.1   | 4     | 1.7   | 1.1   | -   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



HCM 6th TWSC  
3: Pinehurst Dr & Spring Hill Dr

01/03/2023

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↑↑   |      | ↑    | ↑↑   |      |      |      | ↑    |      | ↑↓   |      |
| Traffic Vol, veh/h       | 0    | 660  | 60   | 67   | 712  | 32   | 0    | 0    | 163  | 93   | 8    | 124  |
| Future Vol, veh/h        | 0    | 660  | 60   | 67   | 712  | 32   | 0    | 0    | 163  | 93   | 8    | 124  |
| 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           | -    | -    | -    | 150  | -    | -    | -    | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 2    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 695  | 63   | 71   | 749  | 34   | 0    | 0    | 172  | 98   | 8    | 131  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |   |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|---|------|--------|------|------|
| Conflicting Flow All | -      | 0 | 0 | 758    | 0 | 0 | -      | - | 379  | 1256   | 1666 | 392  |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 908    | 908  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 348    | 758  | -    |
| Critical Hdwy        | -      | - | - | 4.14   | - | - | -      | - | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | -      | - | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | -      | - | - | 2.22   | - | - | -      | - | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 0      | - | - | 849    | - | - | 0      | 0 | 619  | 128    | 96   | 607  |
| Stage 1              | 0      | - | - | -      | - | - | 0      | 0 | -    | 296    | 352  | -    |
| Stage 2              | 0      | - | - | -      | - | - | 0      | 0 | -    | 641    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | - | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | -      | - | - | 849    | - | - | -      | - | 619  | ~ 87   | 88   | 607  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | -      | - | -    | 238    | 238  | -    |
| Stage 1              | -      | - | - | -      | - | - | -      | - | -    | 296    | 322  | -    |
| Stage 2              | -      | - | - | -      | - | - | -      | - | -    | 463    | 413  | -    |

| Approach             | EB |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0  |  |  | 0.8 |  |  | 13 |  |  | 32.7 |  |  |
| HCM LOS              |    |  |  |     |  |  | B  |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 619   | -   | -   | 849   | -   | -   | 358   |
| HCM Lane V/C Ratio    | 0.277 | -   | -   | 0.083 | -   | -   | 0.662 |
| HCM Control Delay (s) | 13    | -   | -   | 9.6   | -   | -   | 32.7  |
| HCM Lane LOS          | B     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.1   | -   | -   | 0.3   | -   | -   | 4.5   |

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon