

Queuing and Blocking Report  
2025 PM W- Proj IMP.

01/11/2017

Intersection: 11: Pines Rd & 16th Ave

| Movement              | EB  | EB  | WB | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|----|-----|-----|-----|-----|
| Directions Served     | T   | TR  | LT | LTR | R   | T   | R   |
| Maximum Queue (ft)    | 164 | 254 | 79 | 198 | 18  | 254 | 189 |
| Average Queue (ft)    | 52  | 140 | 37 | 69  | 1   | 143 | 46  |
| 95th Queue (ft)       | 105 | 248 | 82 | 136 | 11  | 232 | 119 |
| Link Distance (ft)    | 261 | 261 | 65 | 546 | 546 | 303 |     |
| Upstream Blk Time (%) |     | 3   | 2  |     |     | 0   |     |
| Queuing Penalty (veh) |     | 0   | 5  |     |     | 1   |     |
| Storage Bay Dist (ft) |     |     |    |     |     |     | 200 |
| Storage Blk Time (%)  |     |     |    |     |     | 3   | 0   |
| Queuing Penalty (veh) |     |     |    |     |     | 4   | 0   |

Intersection: 12: Hwy 27 & 16th Ave

| Movement              | EB | EB  | EB | WB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|----|-----|----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L  | LT  | R  | LTR | L   | T   | TR  | L   | T   | TR  |
| Maximum Queue (ft)    | 93 | 92  | 6  | 207 | 84  | 201 | 164 | 101 | 199 | 170 |
| Average Queue (ft)    | 37 | 59  | 0  | 103 | 15  | 116 | 59  | 39  | 118 | 82  |
| 95th Queue (ft)       | 80 | 103 | 3  | 193 | 51  | 178 | 131 | 81  | 179 | 148 |
| Link Distance (ft)    | 65 | 65  | 65 | 224 |     | 643 | 643 |     | 305 | 305 |
| Upstream Blk Time (%) | 2  | 9   |    | 1   |     |     |     |     |     |     |
| Queuing Penalty (veh) | 3  | 17  |    | 2   |     |     |     |     |     |     |
| Storage Bay Dist (ft) |    |     |    |     | 157 |     |     | 232 |     |     |
| Storage Blk Time (%)  |    |     |    |     | 0   | 2   |     |     | 0   |     |
| Queuing Penalty (veh) |    |     |    |     | 0   | 0   |     |     | 0   |     |

Zone Summary

Zone wide Queuing Penalty: 32

Queuing and Blocking Report  
2030 PM W- Proj IMP.

01/11/2017

Intersection: 11: Pines Rd & 16th Ave

| Movement              | EB  | EB  | WB | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|----|-----|-----|-----|-----|
| Directions Served     | T   | TR  | LT | LTR | R   | T   | R   |
| Maximum Queue (ft)    | 106 | 240 | 80 | 100 | 81  | 296 | 225 |
| Average Queue (ft)    | 52  | 113 | 40 | 43  | 39  | 154 | 53  |
| 95th Queue (ft)       | 98  | 195 | 82 | 85  | 66  | 262 | 140 |
| Link Distance (ft)    | 261 | 261 | 65 | 546 | 546 | 303 |     |
| Upstream Blk Time (%) |     | 0   | 2  |     |     | 1   |     |
| Queuing Penalty (veh) |     | 0   | 4  |     |     | 5   |     |
| Storage Bay Dist (ft) |     |     |    |     |     |     | 200 |
| Storage Blk Time (%)  |     |     |    |     |     | 6   | 0   |
| Queuing Penalty (veh) |     |     |    |     |     | 7   | 0   |

Intersection: 12: Hwy 27 & 16th Ave

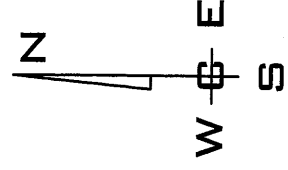
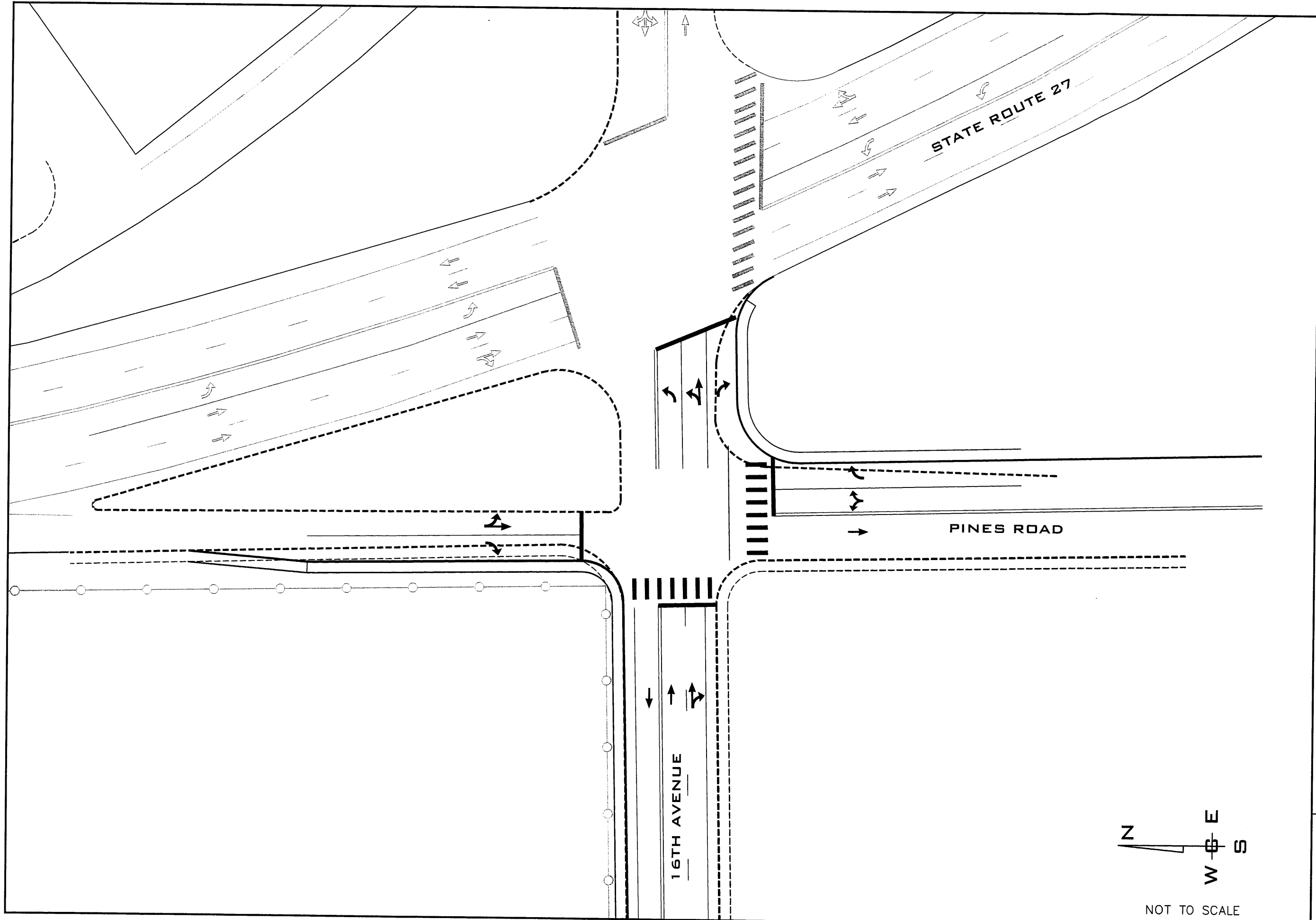
| Movement              | EB  | EB | EB | WB  | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|----|----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT | R  | LTR | L   | T   | TR  | L   | T   | TR  |
| Maximum Queue (ft)    | 96  | 90 | 9  | 198 | 61  | 190 | 145 | 97  | 192 | 166 |
| Average Queue (ft)    | 61  | 41 | 1  | 94  | 17  | 105 | 59  | 42  | 117 | 83  |
| 95th Queue (ft)       | 108 | 86 | 6  | 177 | 45  | 167 | 123 | 84  | 174 | 147 |
| Link Distance (ft)    | 65  | 65 | 65 | 224 |     | 643 | 643 |     | 305 | 305 |
| Upstream Blk Time (%) | 6   | 4  |    | 0   |     |     |     |     |     |     |
| Queuing Penalty (veh) | 12  | 7  |    | 1   |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |    |    |     | 157 |     |     | 232 |     |     |
| Storage Blk Time (%)  |     |    |    |     |     | 2   |     |     | 0   |     |
| Queuing Penalty (veh) |     |    |    |     |     | 0   |     |     | 0   |     |

Zone Summary

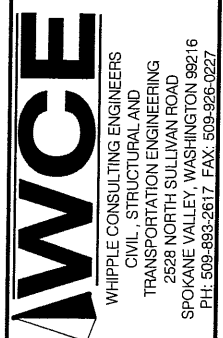
Zone wide Queuing Penalty: 36







NOT TO SCALE

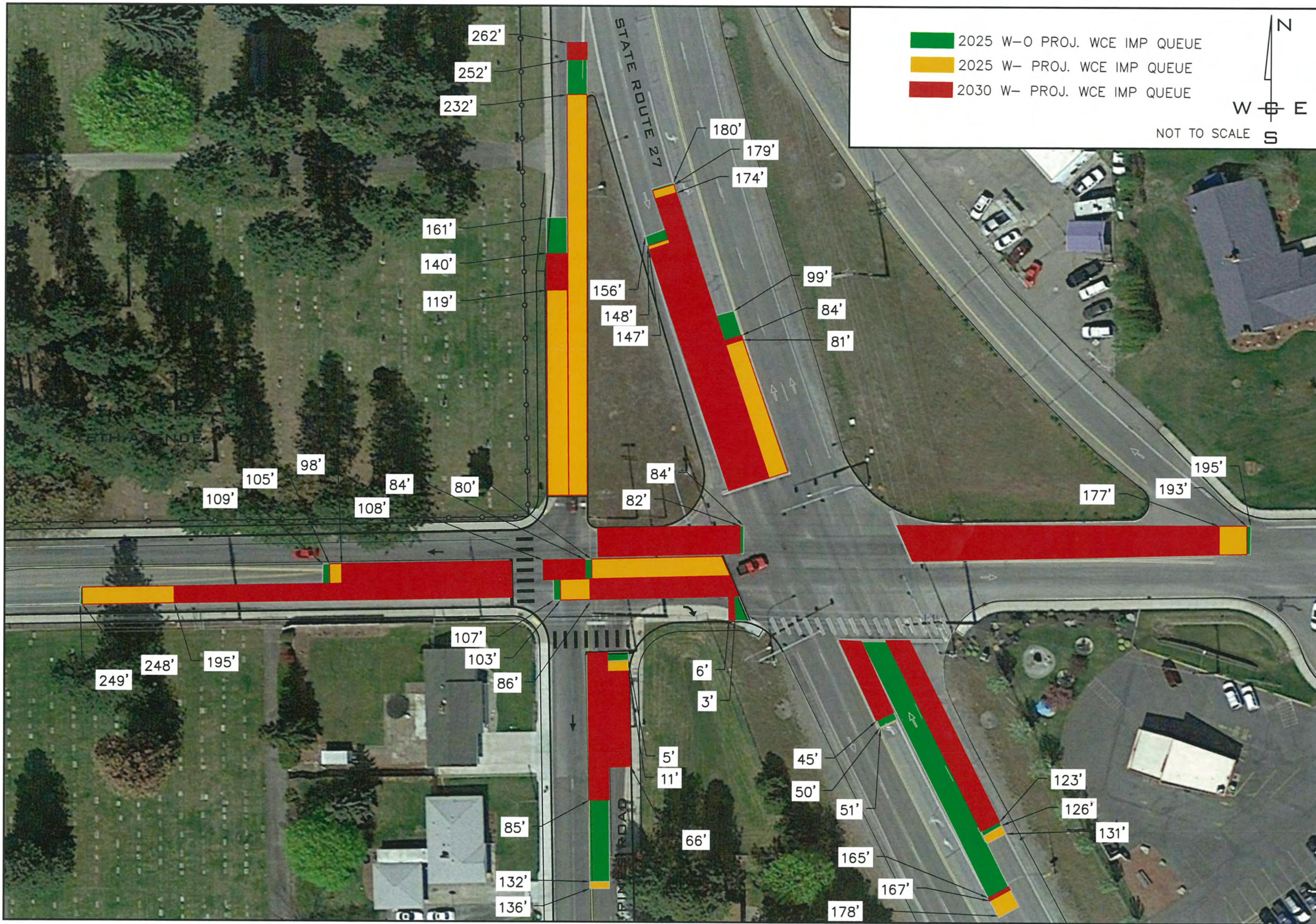


PROJ #: 13-11166  
 DATE: 1/11/17  
 DRAWN: BNG  
 APPROVED: TRW

TRAFFIC IMPACT ANALYSIS  
**PAINTED HILLS PRD**  
 MADISON ROAD & THORPE ROAD  
 SPOKANE VALLEY, WASHINGTON  
 CONCEPT INTERSECTION IMPROVEMENTS

FIGURE  
**13A0**





WCE  
 WHIPPLE CONSULTING ENGINEERS  
 CIVIL, STRUCTURAL AND  
 TRANSPORTATION ENGINEERING  
 2528 NORTH SULLIVAN ROAD  
 SPOKANE VALLEY, WASHINGTON 99216  
 PH. 509-893-2617 FAX. 509-926-0227

PROJ #: 13-1166  
 DATE: 12/14/15  
 DRAWN: BNG  
 APPROVED: TRW

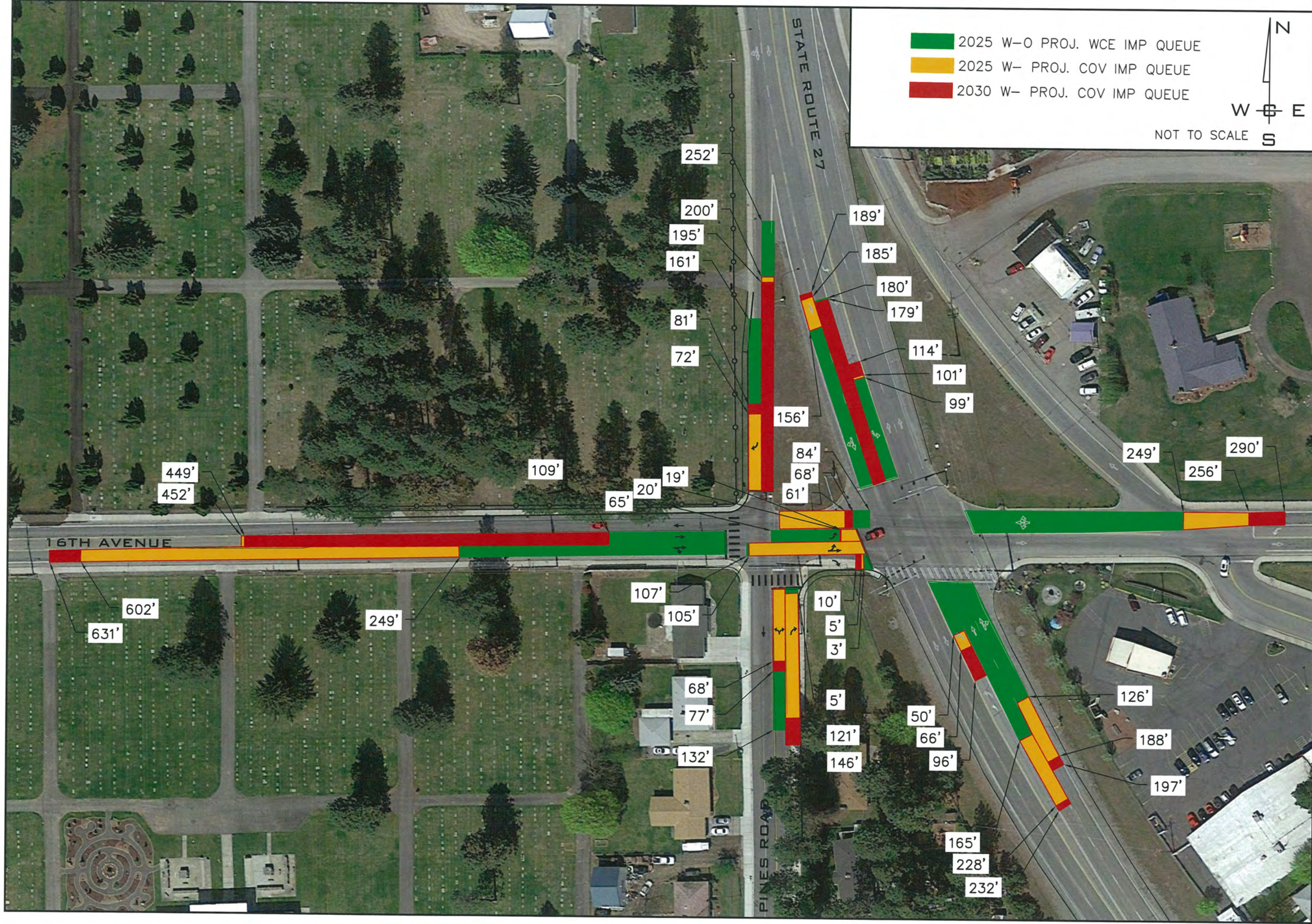
NOT TO SCALE

TRAFFIC IMPACT ANALYSIS  
**PAINTED HILLS PRD**  
 MADISON ROAD & THORPE ROAD  
 SPOKANE VALLEY, WASHINGTON

WCE TIMING QUEUE SUMMARY EXHIBIT

FIGURE  
**13A1**





- 2025 W-O PROJ. WCE IMP QUEUE
- 2025 W- PROJ. COV IMP QUEUE
- 2030 W- PROJ. COV IMP QUEUE

NOT TO SCALE

N  
W ⊕ E  
S

**WCE**  
 WHIPPLE CONSULTING ENGINEERS  
 CIVIL, STRUCTURAL AND  
 TRANSPORTATION ENGINEERING  
 2528 NORTH SULLIVAN ROAD  
 SPOKANE VALLEY, WASHINGTON 99216  
 PH. 509-893-2617 FAX. 509-926-0227

PROJ #: 13-1166  
 DATE: 02/02/17  
 DRAWN: BNG  
 APPROVED: TRW

**TRAFFIC IMPACT ANALYSIS**  
**PAINTED HILLS PRD**  
 MADISON ROAD & THORPE ROAD  
 SPOKANE VALLEY, WASHINGTON

GOV TIMING QUEUE SUMMARY EXHIBIT

FIGURE  
**13A2**





Summary of All Intervals

| Run Number              | 1    | 2    | 3    | 4    | 5    | Avg  |
|-------------------------|------|------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2031 | 2106 | 2067 | 2075 | 2023 | 2060 |
| Vehs Exited             | 2040 | 2105 | 2077 | 2074 | 2010 | 2061 |
| Starting Vehs           | 56   | 47   | 51   | 63   | 54   | 54   |
| Ending Vehs             | 47   | 48   | 41   | 64   | 67   | 52   |
| Denied Entry Before     | 1    | 1    | 1    | 10   | 0    | 3    |
| Denied Entry After      | 7    | 0    | 0    | 11   | 6    | 6    |
| Travel Distance (mi)    | 335  | 349  | 351  | 342  | 336  | 343  |
| Travel Time (hr)        | 49.4 | 52.5 | 51.8 | 60.1 | 54.4 | 53.6 |
| Total Delay (hr)        | 37.7 | 40.4 | 39.6 | 48.2 | 42.7 | 41.7 |
| Total Stops             | 1780 | 1957 | 1976 | 1843 | 1844 | 1880 |
| Fuel Used (gal)         | 25.2 | 26.3 | 26.0 | 27.9 | 26.2 | 26.3 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 4:50 |
| End Time                            | 5:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

Interval #1 Information Recording

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 5:00 |
| End Time                            | 6:00 |
| Total Time (min)                    | 60   |
| Volumes adjusted by Growth Factors. |      |

| Run Number           | 1    | 2    | 3    | 4    | 5    | Avg  |
|----------------------|------|------|------|------|------|------|
| Vehs Entered         | 2031 | 2106 | 2067 | 2075 | 2023 | 2060 |
| Vehs Exited          | 2040 | 2105 | 2077 | 2074 | 2010 | 2061 |
| Starting Vehs        | 56   | 47   | 51   | 63   | 54   | 54   |
| Ending Vehs          | 47   | 48   | 41   | 64   | 67   | 52   |
| Denied Entry Before  | 1    | 1    | 1    | 10   | 0    | 3    |
| Denied Entry After   | 7    | 0    | 0    | 11   | 6    | 6    |
| Travel Distance (mi) | 335  | 349  | 351  | 342  | 336  | 343  |
| Travel Time (hr)     | 49.4 | 52.5 | 51.8 | 60.1 | 54.4 | 53.6 |
| Total Delay (hr)     | 37.7 | 40.4 | 39.6 | 48.2 | 42.7 | 41.7 |
| Total Stops          | 1780 | 1957 | 1976 | 1843 | 1844 | 1880 |
| Fuel Used (gal)      | 25.2 | 26.3 | 26.0 | 27.9 | 26.2 | 26.3 |



11: Pines Rd & 16th Ave Performance by movement

| Movement            | EBT   | EBR   | WBL  | WBT  | NBL  | NBR  | SBT  | SBR  | All  |
|---------------------|-------|-------|------|------|------|------|------|------|------|
| Denied Del/Veh (s)  | 5.8   | 7.8   | 0.0  | 0.0  | 0.7  | 3.8  | 12.0 | 7.5  | 5.7  |
| Total Del/Veh (s)   | 115.7 | 123.5 | 9.1  | 14.1 | 50.4 | 11.8 | 53.2 | 4.5  | 54.7 |
| Stop Del/Veh (s)    | 103.7 | 114.6 | 7.1  | 11.0 | 48.0 | 10.5 | 48.8 | 4.2  | 49.2 |
| Stop/Veh            | 1.32  | 1.20  | 0.08 | 0.12 | 0.88 | 0.80 | 0.60 | 0.71 | 0.78 |
| Denied Entry Before | 0     | 0     | 0    | 0    | 0    | 1    | 0    | 0    | 1    |
| Denied Entry After  | 1     | 1     | 0    | 0    | 0    | 0    | 1    | 1    | 4    |

LOS  
D

12: Hwy 27 & 16th Ave Performance by movement

| Movement            | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | All  |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Denied Del/Veh (s)  | 0.0  | 0.2  | 0.0  | 0.3  | 0.3  | 3.7  | 3.7  | 0.1  | 0.1  | 11.2 | 15.6 | 4.6  |
| Total Del/Veh (s)   | 11.2 | 11.3 | 2.1  | 47.4 | 59.3 | 19.6 | 65.2 | 48.9 | 19.3 | 47.3 | 54.0 | 38.6 |
| Stop Del/Veh (s)    | 10.4 | 9.8  | 2.0  | 42.0 | 51.4 | 14.5 | 62.7 | 43.8 | 18.0 | 45.4 | 50.0 | 34.9 |
| Stop/Veh            | 0.09 | 0.06 | 0.17 | 0.80 | 0.89 | 1.38 | 0.91 | 0.84 | 0.78 | 0.85 | 0.64 | 0.55 |
| Denied Entry Before | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 2    |
| Denied Entry After  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 2    | 2    |

LOS  
C

59: Pines Rd & Hwy 27 Performance by movement

| Movement            | NWT  | All  |
|---------------------|------|------|
| Denied Del/Veh (s)  | 0.0  | 0.0  |
| Total Del/Veh (s)   | 2.2  | 2.2  |
| Stop Del/Veh (s)    | 0.2  | 0.2  |
| Stop/Veh            | 0.00 | 0.00 |
| Denied Entry Before | 0    | 0    |
| Denied Entry After  | 0    | 0    |

Total Network Performance

|                     |      |
|---------------------|------|
| Denied Del/Veh (s)  | 7.0  |
| Total Del/Veh (s)   | 64.3 |
| Stop Del/Veh (s)    | 56.5 |
| Stop/Veh            | 0.89 |
| Denied Entry Before | 3    |
| Denied Entry After  | 6    |



Queuing and Blocking Report  
2025 PM W- PROJ IMP

1/30/2017

Intersection: 11: Pines Rd & 16th Ave

| Movement              | EB  | EB  | WB | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|----|-----|-----|-----|-----|
| Directions Served     | T   | TR  | LT | L   | R   | T   | R   |
| Maximum Queue (ft)    | 375 | 584 | 78 | 104 | 164 | 167 | 102 |
| Average Queue (ft)    | 255 | 389 | 21 | 26  | 64  | 152 | 39  |
| 95th Queue (ft)       | 452 | 602 | 61 | 68  | 121 | 200 | 72  |
| Link Distance (ft)    |     | 568 | 23 | 328 |     |     |     |
| Upstream Blk Time (%) |     | 8   | 19 |     |     |     |     |
| Queuing Penalty (veh) |     | 0   | 47 |     |     |     |     |
| Storage Bay Dist (ft) | 250 |     |    |     | 150 |     | 160 |
| Storage Blk Time (%)  | 0   | 50  |    | 0   | 1   | 30  |     |
| Queuing Penalty (veh) | 1   | 87  |    | 0   | 0   | 34  |     |

Intersection: 12: Hwy 27 & 16th Ave

| Movement              | EB | EB  | EB | WB  | WB | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L  | LT  | R  | LT  | R  | L   | T   | TR  | L   | T   | TR  |
| Maximum Queue (ft)    | 34 | 85  | 8  | 289 | 45 | 97  | 237 | 198 | 130 | 165 | 165 |
| Average Queue (ft)    | 3  | 65  | 1  | 156 | 9  | 18  | 159 | 103 | 47  | 153 | 128 |
| 95th Queue (ft)       | 19 | 105 | 5  | 256 | 39 | 66  | 228 | 188 | 101 | 180 | 185 |
| Link Distance (ft)    | 23 | 23  | 23 | 814 |    |     | 223 | 223 |     |     |     |
| Upstream Blk Time (%) | 2  | 35  | 0  |     |    | 0   | 1   | 0   |     |     |     |
| Queuing Penalty (veh) | 4  | 65  | 0  |     |    | 0   | 0   | 0   |     |     |     |
| Storage Bay Dist (ft) |    |     |    |     | 25 | 157 |     |     | 232 |     |     |
| Storage Blk Time (%)  |    |     |    | 64  | 0  |     | 14  |     |     |     |     |
| Queuing Penalty (veh) |    |     |    | 5   | 0  |     | 4   |     |     |     |     |

Intersection: 59: Pines Rd & Hwy 27

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

Network Summary

Network wide Queuing Penalty: 246



---

Intersection: 11: Pines Rd & 16th Ave

---

Phase

Movement(s) Served

Maximum Green (s)

Minimum Green (s)

Recall

Avg. Green (s)

g/C Ratio

Cycles Skipped (%)

Cycles @ Minimum (%)

Cycles Maxed Out (%)

Cycles with Peds (%)

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0



Summary of All Intervals

| Run Number              | 1    | 2    | 3    | 4    | 5    | Avg  |
|-------------------------|------|------|------|------|------|------|
| Start Time              | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 | 4:50 |
| End Time                | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 | 6:00 |
| Total Time (min)        | 70   | 70   | 70   | 70   | 70   | 70   |
| Time Recorded (min)     | 60   | 60   | 60   | 60   | 60   | 60   |
| # of Intervals          | 2    | 2    | 2    | 2    | 2    | 2    |
| # of Recorded Intervals | 1    | 1    | 1    | 1    | 1    | 1    |
| Vehs Entered            | 2110 | 2184 | 2166 | 2109 | 2082 | 2131 |
| Vehs Exited             | 2099 | 2181 | 2162 | 2138 | 2092 | 2134 |
| Starting Vehs           | 53   | 52   | 52   | 76   | 58   | 59   |
| Ending Vehs             | 64   | 55   | 56   | 47   | 48   | 52   |
| Denied Entry Before     | 2    | 2    | 2    | 0    | 1    | 1    |
| Denied Entry After      | 11   | 0    | 9    | 0    | 0    | 2    |
| Travel Distance (mi)    | 355  | 363  | 357  | 358  | 348  | 356  |
| Travel Time (hr)        | 66.2 | 53.8 | 56.6 | 55.3 | 50.9 | 56.6 |
| Total Delay (hr)        | 53.9 | 41.1 | 44.1 | 42.9 | 38.8 | 44.2 |
| Total Stops             | 1919 | 2053 | 1927 | 1955 | 1889 | 1952 |
| Fuel Used (gal)         | 29.6 | 27.2 | 27.5 | 27.3 | 25.9 | 27.5 |

Interval #0 Information Seeding

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 4:50 |
| End Time                            | 5:00 |
| Total Time (min)                    | 10   |
| Volumes adjusted by Growth Factors. |      |
| No data recorded this interval.     |      |

Interval #1 Information Recording

|                                     |      |
|-------------------------------------|------|
| Start Time                          | 5:00 |
| End Time                            | 6:00 |
| Total Time (min)                    | 60   |
| Volumes adjusted by Growth Factors. |      |

| Run Number           | 1    | 2    | 3    | 4    | 5    | Avg  |
|----------------------|------|------|------|------|------|------|
| Vehs Entered         | 2110 | 2184 | 2166 | 2109 | 2082 | 2131 |
| Vehs Exited          | 2099 | 2181 | 2162 | 2138 | 2092 | 2134 |
| Starting Vehs        | 53   | 52   | 52   | 76   | 58   | 59   |
| Ending Vehs          | 64   | 55   | 56   | 47   | 48   | 52   |
| Denied Entry Before  | 2    | 2    | 2    | 0    | 1    | 1    |
| Denied Entry After   | 11   | 0    | 9    | 0    | 0    | 2    |
| Travel Distance (mi) | 355  | 363  | 357  | 358  | 348  | 356  |
| Travel Time (hr)     | 66.2 | 53.8 | 56.6 | 55.3 | 50.9 | 56.6 |
| Total Delay (hr)     | 53.9 | 41.1 | 44.1 | 42.9 | 38.8 | 44.2 |
| Total Stops          | 1919 | 2053 | 1927 | 1955 | 1889 | 1952 |
| Fuel Used (gal)      | 29.6 | 27.2 | 27.5 | 27.3 | 25.9 | 27.5 |



11: Pines Rd & 16th Ave Performance by movement

| Movement            | EBT   | EBR   | WBL  | WBT  | NBL  | NBR  | SBT  | SBR  | All  |
|---------------------|-------|-------|------|------|------|------|------|------|------|
| Denied Del/Veh (s)  | 19.6  | 18.2  | 0.0  | 0.1  | 0.6  | 3.7  | 10.2 | 7.5  | 9.5  |
| Total Del/Veh (s)   | 122.9 | 128.9 | 11.3 | 14.9 | 49.4 | 14.5 | 52.5 | 4.9  | 57.1 |
| Stop Del/Veh (s)    | 111.1 | 120.1 | 9.4  | 11.8 | 47.0 | 12.9 | 48.1 | 4.5  | 51.6 |
| Stop/Veh            | 1.28  | 1.16  | 0.11 | 0.14 | 0.85 | 0.83 | 0.59 | 0.72 | 0.77 |
| Denied Entry Before | 0     | 0     | 0    | 0    | 0    | 0    | 1    | 0    | 1    |
| Denied Entry After  | 1     | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 1    |

LOS  
D

12: Hwy 27 & 16th Ave Performance by movement

| Movement            | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | All  |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Denied Del/Veh (s)  | 0.0  | 0.3  | 0.0  | 0.2  | 0.3  | 3.9  | 3.9  | 0.1  | 0.1  | 1.3  | 2.3  | 0.8  |
| Total Del/Veh (s)   | 11.5 | 11.5 | 2.1  | 50.9 | 63.6 | 19.5 | 60.6 | 50.1 | 17.2 | 54.0 | 51.5 | 39.3 |
| Stop Del/Veh (s)    | 10.7 | 9.9  | 2.0  | 45.5 | 55.2 | 14.4 | 57.9 | 44.8 | 15.8 | 52.0 | 47.5 | 35.5 |
| Stop/Veh            | 0.08 | 0.07 | 0.15 | 0.87 | 0.91 | 1.25 | 0.96 | 0.84 | 0.64 | 0.87 | 0.66 | 0.56 |
| Denied Entry Before | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Denied Entry After  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 1    |

LOS  
D

59: Pines Rd & Hwy 27 Performance by movement

| Movement            | NWT  | All  |
|---------------------|------|------|
| Denied Del/Veh (s)  | 0.0  | 0.0  |
| Total Del/Veh (s)   | 2.2  | 2.2  |
| Stop Del/Veh (s)    | 0.2  | 0.2  |
| Stop/Veh            | 0.00 | 0.00 |
| Denied Entry Before | 0    | 0    |
| Denied Entry After  | 0    | 0    |

Total Network Performance

|                     |      |
|---------------------|------|
| Denied Del/Veh (s)  | 6.4  |
| Total Del/Veh (s)   | 66.5 |
| Stop Del/Veh (s)    | 58.5 |
| Stop/Veh            | 0.89 |
| Denied Entry Before | 1    |
| Denied Entry After  | 2    |



Queuing and Blocking Report  
2030 PM W- PROJ IMP

1/30/2017

Intersection: 11: Pines Rd & 16th Ave

| Movement              | EB  | EB  | WB | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|----|-----|-----|-----|-----|
| Directions Served     | T   | TR  | LT | L   | R   | T   | R   |
| Maximum Queue (ft)    | 375 | 594 | 88 | 136 | 200 | 167 | 113 |
| Average Queue (ft)    | 267 | 415 | 26 | 26  | 73  | 155 | 42  |
| 95th Queue (ft)       | 449 | 631 | 68 | 77  | 146 | 195 | 81  |
| Link Distance (ft)    |     | 568 | 23 | 328 |     |     |     |
| Upstream Blk Time (%) |     | 16  | 24 |     |     |     |     |
| Queuing Penalty (veh) |     | 0   | 63 |     |     |     |     |
| Storage Bay Dist (ft) | 250 |     |    |     | 150 |     | 160 |
| Storage Blk Time (%)  | 1   | 52  |    | 0   | 1   | 29  | 0   |
| Queuing Penalty (veh) | 1   | 96  |    | 1   | 0   | 36  | 0   |

Intersection: 12: Hwy 27 & 16th Ave

| Movement              | EB | EB  | EB | WB  | WB | NB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L  | LT  | R  | LT  | R  | L   | T   | TR  | L   | T   | TR  |
| Maximum Queue (ft)    | 35 | 86  | 22 | 313 | 45 | 121 | 237 | 210 | 137 | 165 | 165 |
| Average Queue (ft)    | 3  | 66  | 2  | 173 | 10 | 25  | 164 | 101 | 56  | 156 | 129 |
| 95th Queue (ft)       | 20 | 107 | 10 | 290 | 40 | 96  | 232 | 197 | 114 | 179 | 189 |
| Link Distance (ft)    | 23 | 23  | 23 | 814 |    |     | 223 | 223 |     |     |     |
| Upstream Blk Time (%) | 3  | 35  | 0  |     |    | 0   | 2   | 0   |     |     |     |
| Queuing Penalty (veh) | 6  | 67  | 0  |     |    | 0   | 0   | 0   |     |     |     |
| Storage Bay Dist (ft) |    |     |    |     | 25 | 157 |     |     | 232 |     |     |
| Storage Blk Time (%)  |    |     |    | 66  | 0  |     | 14  |     |     |     |     |
| Queuing Penalty (veh) |    |     |    | 5   | 0  |     | 4   |     |     |     |     |

Intersection: 59: Pines Rd & Hwy 27

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

Network Summary

Network wide Queuing Penalty: 279



---

Intersection: 11: Pines Rd & 16th Ave

---

Phase

Movement(s) Served

Maximum Green (s)

Minimum Green (s)

Recall

Avg. Green (s)

g/C Ratio

Cycles Skipped (%)

Cycles @ Minimum (%)

Cycles Maxed Out (%)

Cycles with Peds (%)

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0