DAVID EVANS AND ASSOCIATES INC.

# TRANSMITTAL

**DATE:** August 13, 2019

**PROJECT:** Sammamish Concurrency Management

**TO:** Steven Chen, P.E.
Traffic Engineering Manager
City of Sammamish
801 – 228th Avenue SE
Sammamish, WA 98075-9509

**PROJECT NO.:** COSA0000-0018

**FROM:** Josh Anderson, P.E., PTOE

**PHONE NO.:** (425) 586-9773

**COPIES:** File

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☐ FOR YOUR INFORMATION ☐ FOR YOUR REVIEW ☐ RECORDS MANAGEMENT
☒ FOR YOUR USE

**COMMENTS:**

Steven,

Enclosed is the memo report for Concurrency Test #11. The new 2020-2025 TIP was incorporated into test #10. Concurrency Test #11 passed, as there are no intersection failures, and no Segment or Corridor v/c failures.

Please let me know if you have any questions.

Thank you,
Josh Anderson

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DAVID EVANS
AND ASSOCIATES INC.

# Technical Memorandum

**DATE:** August 12, 2019 *Updated August 13, 2019*

**TO:** Steven Chen, P.E.
Traffic Engineering Manager
City of Sammamish
801 – 228th Avenue SE
Sammamish, WA 98075-9509

**FROM:** Josh Anderson, P.E., PTOE
Senior Traffic Engineer

**SUBJECT:** Concurrency Report, Test #11

**PROJECT:** Sammamish Concurrency Management

**PROJECT NO.:** COSA0000-0018

**COPIES:** File

Attached is the concurrency analysis and other information for development application for TCR: 2019-00271. The adopted 2020-2025 TIP has been included since Test #10. The application results in the removal of 4 single family homes, and the construction of 357 multi-family units, 3,900 sq. ft. of high-turnover restaurant, 22,100 sq. ft. of quality restaurant, and 56,000 sq. ft. of retail. . In aggregate, and after internal and pass-by reductions, the test results in the ITE trip generation of 194 AM peak hour and 251 PM peak hour trips within the Sammamish city limits.

## Information for Concurrency Review of Current Development Applications

- Concurrency Test Report (1 page) – summary of results.
- Concurrency Intersection Analysis (1 page).
- Concurrency Segment and Corridor Analysis (2 pages).

## Additional Information for Concurrency Management

- Cumulative Development Totals (1 page) – running total of concurrency cases.
- AM Peak Land Use and Trip Generation Summary for Concurrency Test #11 (3 pages).
- PM Peak Land Use and Trip Generation Summary for Concurrency Test #11 (3 pages).\

## Additional Information Requested by STCA Developers

- AM Peak Trip Distribution for Test #11 (4 pages).
- PM Peak Trip Distribution for Test #11 (4 pages).



14432 SE Eastgate Way Suite 400 Bellevue Washington 98007 Telephone: 425.519.6500 Facsimile: 425.519.5361

# Concurrency Test Report for

## New Application: TCR2019-00271

## Sammamish Concurrency Application Traffic Model File: Concurrency Test #11

**Development Case**

This Concurrency Test #11 includes one new development application since the previous Concurrency Test #10

In aggregate, this test includes the following developments within the Sammamish city limits:

- removal of 4 single family homes,
- addition of 357 new multi-family homes,
- addition of 3,900 sq. ft. of high-turnover restaurant,
- addition of 22,100 sq. ft. of quality restaurant, and
- addition of 56,000 sq. ft. of retail.

The ITE Trip Generation, increases by **194 AM peak hour trips and 251 PM peak hour trips** for the tested development.

**Changes Updated in Models and Concurrency System:**

The following changes were added to the Citywide Pipeline Travel Demand Forecasting Model, SYNCHRO model, and/or the concurrency system:

- Inclusion of the 2020-2025 TIP project list (as of test #10),
- Update of the Pipeline analysis year to 2025 (as of test #10), and
- Update of the land use and trip generation in the system (as of Test #11).

**Concurrency Evaluation: PASS**

**Model Basis:** The above concurrency test developments were added into the 2025 Citywide VISUM Pipeline Travel Demand Forecasting Model (pared with the 2016 base model) that incorporated Concurrency Test #10.

**Link Standard:** The City of Sammamish has developed their own methodology for calculating v/c, the methodology is being called "HCM modified". No roadway segment may exceed an HCM modified v/c of 1.40 in either the AM or PM analysis hours. No roadway corridor may exceed an HCM modified v/c or 1.10 in either the AM or PM analysis hours.

**Intersection Standard:** No intersection Level of Service (LOS) may fall below C (or D on Principal Arterials, or E where Principal Arterials intersect). Stop-controlled and signal-controlled intersections were evaluated using the SYNCHRO program, and roundabouts were evaluated using the aaSIDRA program with the *Highway Capacity Manual* (HCM) 2010 methodology except where unsignalized intersections have two stage left turns (these intersections were analyzed using HCM 2000 methodologies). There are no failures at Sammamish intersections for this current test.

**Volumes are from the 2025 Pipeline Model paired with the 2016 base model** **8/13/2019**

**Land Use =** Concurrency Test #11
**Forecast Year =** 2025
**Road System =** 2025

| | | | | AM School Peak Hour (7:00 to 8:00) | | PM System Peak Hour (4:45 to 5:45) | |
|---|---|---|---|---|---|---|---|
| CP No. | Intersection | LOS Standard | Traffic Control | Delay | LOS | Delay | LOS |
| 1 | Issaquah-Pine Lk Rd & SE 48th St | D | Signal | 27.2 | C | 14.0 | B |
| 2 | 228th Ave NE & NE 12th Pl | D | Signal | 16.8 | B | 8.7 | A |
| 3 | Klahanie Dr SE & SE Issaquah Fall City Rd | D | RAB | 10.1 | B | 8.6 | A |
| 4 | 244th Ave SE & SE 24th St | C | 2-Way Stop | 23.6 | C | 15.5 | C |
| 5 | SE 32nd St & 244th Ave SE | C | 4-Way Stop | 17.2 | C | 19.8 | C |
| 6 | Issaquah-Pine Lk Rd & SE 32nd Way | D | RAB | 6.7 | A | 7.6 | A |
| 7 | 228th Ave SE & SE 40th St * | D | 2-Way Stop | 20.3 | C | 24.3 | C |
| 8 | SE Klahanie Blvd & 256th Ave SE | C | 4-Way Stop | 18.2 | C | 15.8 | C |
| 9 | 247th Pl SE & SE Issaquah Fall City Rd (Pacific Cascade Middle School) | D | RAB | 7.3 | A | 5.8 | A |
| 10 | Sahalee Way NE & NE 36th St | D | Signal | 13.7 | B | 11.2 | B |
| 11 | 242nd Ave NE & NE 8th St | C | Signal | 24.5 | C | 11.7 | B |
| 12 | 228th Ave SE & SE 8th St | D | Signal | 13.7 | B | 18.4 | B |
| 13 | 228th Ave NE & NE 19th Dr | D | Signal | 10.4 | B | 6.6 | A |
| 14 | 216th Ave NE & NE Inglewood Hill Rd | C | RAB | 6.5 | A | 8.7 | A |
| 15 | 228th Ave NE & NE Inglewood Hill Rd/NE 8th St | D | Signal | 30.4 | C | 24.7 | C |
| 16 | 228th Ave NE & NE 4th St | E | Signal | 35.0 | C | 23.7 | C |
| 17 | 228th Ave SE & SE 4th St | E | Signal | 18.8 | B | 22.8 | C |
| 18 | 212th Ave SE & SE 8th St | C | 2-Way Stop | 13.3 | B | 15.8 | C |
| 19 | 228th Ave SE & SE 16th St | D | Signal | 11.1 | B | 8.8 | A |
| 20 | E Lk Sammamish Pkwy & 212th Way SE | C | Signal | 5.4 | A | 4.3 | A |
| 21 | E Lk Sammamish Pkwy & SE 24th Way * | C | 2-Way Stop | 12.0 | B | 14.9 | B |
| 22 | 212th Ave SE & SE 20th St | C | 4-Way Stop | 10.6 | B | 12.9 | B |
| 23 | E Lk Sammamish Pkwy & Louis Thompson Rd | C | Signal | 9.7 | A | 10.3 | B |
| 24 | E Lk Sammamish Pkwy & Inglewood Hill Rd | C | Signal | 25.6 | C | 31.5 | C |
| 25 | Sahalee Way NE & NE 37th Way | D | Signal | 20.0 | B | 11.6 | B |
| 26 | NE 8th St & 244th Ave NE | C | RAB | 5.0 | A | 4.8 | A |
| 27 | 228th Ave SE & SE 20th St | D | Signal | 11.3 | B | 14.7 | B |
| 28 | 228th Ave SE & SE 24th St | E | Signal | 17.7 | B | 35.2 | D |
| 29 | 228th Ave SE & Issaquah-Pine Lk Rd | E | Signal | 30.8 | C | 40.7 | D |
| 30 | Issaquah-Pine Lk Rd & SE Klahanie Blvd | D | Signal | 27.2 | C | 26.1 | C |
| 31 | Duthie Hill Rd & Issaquah Beaver Lake Rd | D | Signal | 42.1 | D | 14.5 | B |
| 32 | 256th Ave SE/E Beaver Lake Dr SE & Issaquah Beaver Lake Rd | C | RAB | 7.0 | A | 5.6 | A |
| 33 | 228th Ave NE & NE 14th St | D | Signal | 7.6 | A | 7.9 | A |
| 34 | 228th Ave NE & NE 25th Way | D | Signal | 23.4 | C | 11.8 | B |
| 35 | Issaquah-Pine Lk Rd & SE 42nd St | D | Signal | 19.2 | B | 8.8 | A |
| 36 | Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE | D | Signal | 15.9 | B | 12.7 | B |
| 37 | NE 28th Pl/223rd Ave NE & Sahalee Way NE | D | Signal | 12.5 | B | 5.8 | A |
| 38 | Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE | D | Signal | 12.6 | B | 15.2 | B |
| 39 | 233rd Ave NE & NE 8th St | C | RAB | 6.6 | A | 3.8 | A |
| 40 | 228th Ave SE & E Main St | D | Signal | 4.4 | A | 4.8 | A |
| 41 | 244th Ave NE & E Main Dr | C | RAB | 5.5 | A | 4.9 | A |
| 42 | Duthie Hill Rd & Trossachs Blvd SE | D | Signal | 33.0 | C | 24.6 | C |
| 43 | 228th Ave SE & SE 10th St (Skyline) | D | Signal | 7.3 | A | 6.0 | A |

NOTE: * Intersection configurations require the use of HCM2000 methodologies to adequately present the operations of the two-stage left-turns from the minor approach.

# Concurrency Test #11

## 2025 HCM Modified Methodology

| | Segment* | | AM Volume | PM Volume | Capacities 2025 HCM Mod | AM V/C 2025 HCM Mod | PM V/C 2025 HCM Mod | AM Corridor ≤1.1 Segment ≤1.4 | PM Corridor ≤1.1 Segment ≤1.4 |
|---|---|---|---|---|---|---|---|---|---|
| | **East Lake Sammamish Parkway North Corridor** | **NB** | | | | **1.52** | **0.82** | **Fail** | **Pass** |
| | | **SB** | | | | **0.54** | **1.63** | **Pass** | **Fail** |
| 1 | E Lk Sammamish Pkwy, City limits - 196th Ave NE (Weber Pl)[1] | NB | 1,143 | 614 | 705 | 1.62 | 0.87 | Fail | Pass |
| | | SB | 444 | 1,295 | | 0.63 | 1.84 | Pass | Fail |
| 2 | E Lk Sammamish Pkwy, 196th Ave NE - NE 26th Pl | NB | 1,197 | 644 | 705 | 1.70 | 0.91 | Fail | Pass |
| | | SB | 385 | 1,223 | | 0.55 | 1.73 | Pass | Fail |
| 3 | E Lk Sammamish Pkwy, NE 26th Pl - NE Inglewood Hill Rd | NB | 1,199 | 657 | 969 | 1.24 | 0.68 | Pass | Pass |
| | | SB | 433 | 1,266 | | 0.45 | 1.31 | Pass | Pass |
| | **East Lake Sammamish Parkway Central Corridor** | **NB** | | | | **0.61** | **0.68** | **Pass** | **Pass** |
| | | **SB** | | | | **0.50** | **0.77** | **Pass** | **Pass** |
| 4 | E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd | NB | 661 | 543 | 943 | 0.70 | 0.58 | Pass | Pass |
| | | SB | 381 | 761 | | 0.40 | 0.81 | Pass | Pass |
| 5 | E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St | NB | 399 | 479 | 705 | 0.57 | 0.68 | Pass | Pass |
| | | SB | 360 | 556 | | 0.51 | 0.79 | Pass | Pass |
| 6 | E Lk Sammamish Pkwy, SE 8th St – SE 24th Way | NB | 359 | 545 | 705 | 0.51 | 0.77 | Pass | Pass |
| | | SB | 405 | 500 | | 0.57 | 0.71 | Pass | Pass |
| | **East Lake Sammamish Parkway South Corridor** | **NB** | | | | **0.50** | **1.00** | **Pass** | **Pass** |
| | | **SB** | | | | **0.87** | **0.72** | **Pass** | **Pass** |
| 7 | E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE | NB | 348 | 571 | 881 | 0.40 | 0.65 | Pass | Pass |
| | | SB | 490 | 544 | | 0.56 | 0.62 | Pass | Pass |
| 8 | E Lk Sammamish Pkwy, 212th Ave SE – South City Limit | NB | 438 | 917 | 749 | 0.59 | 1.22 | Pass | Pass |
| | | SB | 795 | 606 | | 1.06 | 0.81 | Pass | Pass |
| | **Sahalee Way–228th Avenue North Corridor** | **NB** | | | | **1.07** | **0.60** | **Pass** | **Pass** |
| | | **SB** | | | | **0.51** | **0.97** | **Pass** | **Pass** |
| 9 | Sahalee Way/228th Ave NE, City Limit – NE 37th Way | NB | 1,376 | 572 | 1,060 | 1.30 | 0.54 | Pass | Pass |
| | | SB | 492 | 1,180 | | 0.46 | 1.11 | Pass | Pass |
| 10 | Sahalee Way/228th Ave NE, NE 37th Way - NE 36th St[2] | NB | 1,159 | 564 | 1,060 | 1.09 | 0.53 | Pass | Pass |
| | | SB | 505 | 1,075 | | 0.48 | 1.01 | Pass | Pass |
| 11 | Sahalee Way/228th Ave NE, NE 36th St - 223rd Ave NE[2] | NB | 1,135 | 554 | 1,060 | 1.07 | 0.52 | Pass | Pass |
| | | SB | 484 | 1,038 | | 0.46 | 0.98 | Pass | Pass |
| 12 | Sahalee Way/228th Ave NE, 223rd Ave NE – NE 25th Way | NB | 1,047 | 583 | 1,060 | 0.99 | 0.55 | Pass | Pass |
| | | SB | 479 | 917 | | 0.45 | 0.87 | Pass | Pass |
| 13 | 228th Ave, NE 25th Way – NE 12th Pl[3] | NB | 813 | 837 | 1,060 | 0.77 | 0.79 | Pass | Pass |
| | | SB | 695 | 879 | | 0.66 | 0.83 | Pass | Pass |
| | **228th Avenue Central Corridor** | **NB** | | | | **0.58** | **0.72** | **Pass** | **Pass** |
| | | **SB** | | | | **0.59** | **0.71** | **Pass** | **Pass** |
| 14 | 228th Ave, NE 12th Pl – NE 8th St/Inglewood Hill Rd | NB | 830 | 949 | 987 | 0.84 | 0.96 | Pass | Pass |
| | | SB | 874 | 938 | | 0.89 | 0.95 | Pass | Pass |
| 15 | 228th Ave, NE 8th St/Inglewood Hill Rd – Main St | NB | 912 | 1,113 | 1,896 | 0.48 | 0.59 | Pass | Pass |
| | | SB | 992 | 1,145 | | 0.52 | 0.60 | Pass | Pass |
| 16 | 228th Ave, Main St - SE 8th St | NB | 1,000 | 1,177 | 1,896 | 0.53 | 0.62 | Pass | Pass |
| | | SB | 790 | 1,256 | | 0.42 | 0.66 | Pass | Pass |
| 17 | 228th Ave, SE 8th St – SE 10th St | NB | 957 | 1,354 | 1,896 | 0.50 | 0.71 | Pass | Pass |
| | | SB | 1,038 | 1,261 | | 0.55 | 0.66 | Pass | Pass |
| 18 | 228th Ave, Se 10th St – SE 20th St | NB | 1,126 | 1,418 | 1,896 | 0.59 | 0.75 | Pass | Pass |
| | | SB | 1,123 | 1,357 | | 0.59 | 0.72 | Pass | Pass |
| | **228th Avenue South Corridor** | **NB** | | | | **0.59** | **0.88** | **Pass** | **Pass** |
| | | **SB** | | | | **0.73** | **0.70** | **Pass** | **Pass** |
| 19 | 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE[4] | NB | 1,195 | 1,506 | 1,949 | 0.61 | 0.77 | Pass | Pass |
| | | SB | 1,211 | 1,425 | | 0.62 | 0.73 | Pass | Pass |
| 20 | 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way | NB | 526 | 998 | 969 | 0.54 | 1.03 | Pass | Pass |
| | | SB | 855 | 603 | | 0.88 | 0.62 | Pass | Pass |
| | **244th Avenue North Corridor** | **NB** | | | | **0.36** | **0.41** | **Pass** | **Pass** |
| | | **SB** | | | | **0.44** | **0.40** | **Pass** | **Pass** |
| 21 | 244th Ave NE, NE 30th Pl - NE 20th St | NB | 318 | 339 | 881 | 0.36 | 0.38 | Pass | Pass |
| | | SB | 318 | 362 | | 0.36 | 0.41 | Pass | Pass |
| 22 | 244th Ave NE, NE 20th St - NE 8th St | NB | 340 | 400 | 881 | 0.39 | 0.45 | Pass | Pass |
| | | SB | 487 | 387 | | 0.55 | 0.44 | Pass | Pass |
| 23 | 244th Ave NE, NE 8th St – E Main St | NB | 368 | 328 | 925 | 0.40 | 0.35 | Pass | Pass |
| | | SB | 298 | 373 | | 0.32 | 0.40 | Pass | Pass |
| 24 | 244th Ave NE/SE, E Main St - SE 8th St | NB | 197 | 378 | 881 | 0.22 | 0.43 | Pass | Pass |
| | | SB | 396 | 301 | | 0.45 | 0.34 | Pass | Pass |
| | **NE Inglewood Hill Road Corridor** | **EB** | | | | **0.28** | **0.84** | **Pass** | **Pass** |
| | | **WB** | | | | **0.75** | **0.39** | **Pass** | **Pass** |
| 25 | NE Inglewood Hill Rd, E Lk Sammamish Pkwy – 216th Ave | EB | 240 | 745 | 705 | 0.34 | 1.06 | Pass | Pass |
| | | WB | 669 | 324 | | 0.95 | 0.46 | Pass | Pass |
| 26 | NE Inglewood Hill Rd, 216th Ave NE – 228th Ave NE | EB | 220 | 553 | 1,013 | 0.22 | 0.55 | Pass | Pass |
| | | WB | 478 | 325 | | 0.47 | 0.32 | Pass | Pass |

| | Segment* | | AM Volume | PM Volume | Capacities 2025 HCM Mod | AM V/C 2025 HCM Mod | PM V/C 2025 HCM Mod | AM Corridor ≤1.1 Segment ≤1.4 | PM Corridor ≤1.1 Segment ≤1.4 |
|---|---|---|---|---|---|---|---|---|---|
| | **NE 8th Street Corridor** | **EB** | | | | **0.32** | **0.53** | **Pass** | **Pass** |
| | | **WB** | | | | **0.43** | **0.36** | **Pass** | **Pass** |
| 27 | NE 8th St, 228th Ave NE – 235th Ave NE | EB | 370 | 592 | 1,013 | 0.36 | 0.58 | Pass | Pass |
| | | WB | 454 | 375 | | 0.45 | 0.37 | Pass | Pass |
| 28 | NE 8th St, 235th Ave NE – 244th Ave NE | EB | 233 | 429 | 925 | 0.25 | 0.46 | Pass | Pass |
| | | WB | 387 | 318 | | 0.42 | 0.34 | Pass | Pass |
| | **SE 8th Street Corridor** | **EB** | | | | **0.28** | **0.44** | **Pass** | **Pass** |
| | | **WB** | | | | **0.65** | **0.34** | **Pass** | **Pass** |
| 29 | SE 8th St, 228th Ave SE – 244th Ave SE | EB | 261 | 408 | 925 | 0.28 | 0.44 | Pass | Pass |
| | | WB | 604 | 310 | | 0.65 | 0.34 | Pass | Pass |
| | **Issaquah-Pine Lake Road Corridor** | **EB/SB** | | | | **0.97** | **0.82** | **Pass** | **Pass** |
| | | **WB/NB** | | | | **0.54** | **1.04** | **Pass** | **Pass** |
| 30 | Issaquah-Pine Lk Rd, 228th Ave SE - SE 32nd Way[5] | EB | 430 | 848 | 943 | 0.46 | 0.90 | Pass | Pass |
| | | WB | 512 | 632 | | 0.54 | 0.67 | Pass | Pass |
| 31 | Issaquah-Pine Lk Rd, SE 32nd Way - SE Klahanie Blvd | NB | 529 | 788 | 943 | 0.56 | 0.84 | Pass | Pass |
| | | SB | 681 | 772 | | 0.72 | 0.82 | Pass | Pass |
| 32 | Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 46th St | NB | 504 | 1,034 | 943 | 0.53 | 1.10 | Pass | Pass |
| | | SB | 1,070 | 761 | | 1.13 | 0.81 | Pass | Pass |
| 33 | Issaquah-Pine Lk Rd, SE 46th St - SE 48th St | NB | 502 | 1,235 | 943 | 0.53 | 1.31 | Pass | Pass |
| | | SB | 1,104 | 715 | | 1.17 | 0.76 | Pass | Pass |
| | **SE 32nd Way/Street - Issaquah-Beaver Lake Road Corridor** | **EB** | | | | **0.34** | **0.62** | **Pass** | **Pass** |
| | | **WB** | | | | **0.52** | **0.44** | **Pass** | **Pass** |
| 34 | SE 32nd Way, Issaquah-Pine Lk Rd – 235th Place SE | EB | 263 | 532 | 749 | 0.35 | 0.71 | Pass | Pass |
| | | WB | 474 | 354 | | 0.63 | 0.47 | Pass | Pass |
| 35 | SE 32nd Way, 235th Place SE – 244th Ave SE | EB | 224 | 449 | 705 | 0.32 | 0.64 | Pass | Pass |
| | | WB | 328 | 274 | | 0.46 | 0.39 | Pass | Pass |
| 36 | SE 32nd Way, 244th Ave SE – E Beaver Lake Dr SE | EB | 278 | 483 | 705 | 0.39 | 0.69 | Pass | Pass |
| | | WB | 402 | 368 | | 0.57 | 0.52 | Pass | Pass |
| 37 | Issaquah-Beaver Lk Rd, E Beaver Lk Dr – SE Duthie Hill Rd | EB | 254 | 303 | 881 | 0.29 | 0.34 | Pass | Pass |
| | | WB | 285 | 295 | | 0.32 | 0.34 | Pass | Pass |
| | **Issaquah-Fall City Road Corridor** | **NB/EB** | | | | **0.26** | **0.84** | **Pass** | **Pass** |
| | | **SB/WB** | | | | **0.80** | **0.44** | **Pass** | **Pass** |
| 38 | SE Issaquah-Fall City Rd, Issaquah-Pine Lk Rd – 245th Pl SE[5] | EB | 537 | 1,496 | 1,772 | 0.30 | 0.84 | Pass | Pass |
| | | WB | 1,378 | 781 | | 0.78 | 0.44 | Pass | Pass |
| 39 | SE Issaquah-Fall City Rd, 245th Ave SE - Klahanie Dr SE | EB | 162 | 1,416 | 1,861 | 0.09 | 0.76 | Pass | Pass |
| | | WB | 1,463 | 728 | | 0.79 | 0.39 | Pass | Pass |
| 40 | SE Issaquah-Fall City Rd, Klahanie Dr SE - SE Duthie Hill Rd | EB | 247 | 972 | 925 | 0.27 | 1.05 | Pass | Pass |
| | | WB | 819 | 532 | | 0.89 | 0.57 | Pass | Pass |
| 41 | SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – SE Issaquah-Fall City Rd[6] | NB | 223 | 589 | 881 | 0.25 | 0.67 | Pass | Pass |
| | | SB | 700 | 292 | | 0.79 | 0.33 | Pass | Pass |
| | **Duthie Hill Road Corridor** | **NB/EB** | | | | **0.35** | **1.03** | **Pass** | **Pass** |
| | | **SB/WB** | | | | **0.96** | **0.67** | **Pass** | **Pass** |
| 42 | SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE | NB | 283 | 847 | 725 | 0.39 | 1.17 | Pass | Pass |
| | | SB | 800 | 547 | | 1.10 | 0.75 | Pass | Pass |
| 43 | SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE[6] | EB | 289 | 794 | 906 | 0.32 | 0.88 | Pass | Pass |
| | | WB | 738 | 522 | | 0.81 | 0.58 | Pass | Pass |

**Notes**

Corridor V/C ratios are volume weighted.

* ELSP corridors are shown for information purposes only as they are excluded from concurrency.

[1] A portion of this segment is 30 MPH.

[2] PM Peak Hour in Sammamish is 4:45-5:45 PM. 15 minute segment count not available, 5-6PM used.

[3] A portion of this segment is 35 MPH.

[4] 228th/IPLR: No FYA

[5] This segment transitions from a wider cross-section to two lanes, the narrower section was used.

[6] Segment is partially outside of Sammamish City Limits.

DAVID EVANS
AND ASSOCIATES INC.

# CONCURRENCY SYSTEM MONITORING REPORT CONCURRENCY TEST #11

## August 12, 2019

14432 SE Eastgate Way Suite 400 Bellevue Washington 98007 Telephone: 425.519.6500 Facsimile: 425.519.5361

# CUMULATIVE DEVELOPMENT TOTALS

## City of Sammamish Concurrency Management System with Concurrency Test #11

**BASE = 2016 Travel Demand Model Update**

### Total Land Use and Trips (summary)

| Concurrency Case | Dwellings (SF + MF) | Commercial Bldgs (1000sf) | Minor Generators (mixed measures) | Trip Generation (PM Peak Hour) |
|---|---|---|---|---|
| 2016 Base | 23,313 | 3,367 | 1,069 | 37,477 |
| **Cumulative Growth Totals** | **330** | **299** | **1** | **473** |
| Concurrency Future Totals | 23,642 | 3,666 | 1,069 | 37,950 |

### Total Land Use and Trips (details)

| Concurrency Case | Single Family DU's | Multi-Family DU's | General Retail 1000sf | Office 1000sf | Indus-trial 1000sf | Social Retail 1000sf | School Church 1000sf | Med-Dental 1000sf | Active Land Equiv Trips | Park& Ride spaces | Trips - Total (PM Peak Hour) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2016 Base | 19,850 | 3,463 | 724 | 122 | 21 | **162** | 2,338 | 70 | 680 | 319 | 37,477 |
| **Cumulative Growth Totals** | **(30)** | **360** | **56** | **-** | **-** | **26.5** | **217** | **1** | **-** | **-** | **473** |
| Concurrency Future Totals | 19,819 | 3,823 | 780 | 122 | 21 | 189 | 2,555 | 70 | 680 | 319 | 37,950 |

### Cumulative Growth of Trips from 2016 Base

| Concurrency Test Case | Single Family DU's | Multi-Family DU's | General Retail 1000sf | Office 1000sf | Indus-trial 1000sf | Social Retail 1000sf | School Church 1000sf | Med-Dental 1000sf | Active Land Equiv Trips | Park& Ride spaces | Trips - Total (PM Peak Hour) | PM Peak Hour Trip - Increase from Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ConCur#36 | 1 | - | - | - | - | 0.5 | 27.0 | 0.5 | - | - | 27 | 27 |
| ConCur#1 | 10 | - | - | - | - | - | - | - | - | - | 9 | 36 |
| ConCur#2 | - | - | - | - | - | - | - | - | 1.0 | - | 1 | 37 |
| ConCur#3 | 1 | - | - | - | - | - | 63.0 | - | - | - | 90 | 127 |
| ConCur#4 | 3 | - | - | - | - | - | - | - | - | - | 3 | 130 |
| ConCur#5 | 3 | - | - | - | - | - | - | - | - | - | 3 | 133 |
| ConCur#6 | 1 | - | - | - | - | - | - | - | - | - | 1 | 134 |
| ConCur#7 | 1 | - | - | - | - | - | - | - | - | - | 1 | 135 |
| ConCur#8 | (3) | - | - | - | - | - | 138.8 | - | - | - | 97 | 232 |
| ConCur#9 | 2 | - | - | - | - | - | - | - | - | - | 2 | 234 |
| ConCur#10 | (45) | 3 | - | - | - | - | (12.0) | - | (1.0) | - | (26) | 208 |
| ConCur#11 | (4) | 357 | 56.0 | - | - | 26.0 | - | - | - | - | 265 | 473 |
| **Cumulative Growth Totals** | **(30)** | **360** | **56.0** | **-** | **-** | **26.5** | **216.8** | **0.5** | **-** | **-** | | **473** |

*Source: Land Use and Trip Generation workbook for each test case. The land uses before Case Concur#36 were all incoporated in 2016 Base.*

Trip generation is for PM Peak Hour, at Traffic Analysis Zones within City of Sammamish

## *LAND USE and TRIP GENERATION SUMMARY - AM PEAK HOUR*

| | |
|---|---|
| *Sammamish Traffic Model* | ***Forecast Year:*** **2025** |
| *User Case Description:* | **2025 Pipeline** |
| | **Concurrency Test #11** |

| ***City of Sammamish*** | | **Land Use Totals** | | | | |
|---|---|---|---|---|---|---|
| | | Major Generators | | Minor Generators | | |
| AREA NAME | AREA CODE | Total Dwellings | Comm'l 1000 sf | SchlChrch 1000 sf | ActivLand Equiv Trips | Park/Ride spaces |
| Sammamish NW | 1 | 6,545 | 375 | 144 | 40 | 0 |
| Sammamish NE | 2 | 3,424 | 260 | 904 | 106 | 0 |
| Sammamish SW | 3 | 2,977 | 252 | 123 | 251 | 319 |
| Sammamish SE | 4 | 4,826 | 267 | 933 | 210 | 0 |
| Klah-FCRd | 5 | 4,876 | 124 | 298 | 239 | 0 |
| **Subtotal** | | **22,648** | **1,277** | **2,402** | **846** | **319** |

| **Trip Generation Totals** | | | |
|---|---|---|---|
| Trip Generation by Location | | | |
| At Dwellings | At All Other | Totals | |
| 2,738 | 1,993 | 4,731 | |
| 1,899 | 3,099 | 4,998 | |
| 1,390 | 1,257 | 2,647 | |
| 2,428 | 3,369 | 5,797 | |
| 1,933 | 1,752 | 3,685 | |
| **10,388** | **11,470** | **21,858** | |

| ***City of Sammamish*** | **Trip Generation by Land Use Type** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dwellings | | Commercial Generators | | | | | | Minor Generators | | | |
| Land Use Type | SFDU | MFDU | Retail 1000 sf | Office 1000 sf | Ind'l 1000 sf | SocRetl 1000 sf | MedDntl 1000 sf | *Comm'l Subtotal* | SchlChrch 1000 sf | ActivLand Equiv Trips | Park/Ride spaces | **Totals** |
| Quantity | 18,882 | 3,766 | 857 | 124 | 28 | 179 | 89 | *1,277.0* | 2,402 | 846 | 319 | |
| Overall Trip Rate | 0.60 | 0.40 | 0.28 | 1.16 | 0.78 | 1.52 | 3.82 | | 2.85 | 1.00 | 0.74 | |
| Overall Trips | 11,389 | 1,510 | 243 | 145 | 22 | 273 | 338 | *1021* | 6,856 | 846 | 236 | **21,858** |

### *Description of PM Peak Hour Traffic Generation Model:*

*Values describe total trip generation by all cars, trucks, and commercial vehicles, computed from land use data for Traffic Analysis Zones.*
*Trip generation procedure includes adjustments to basic vehicular trip generation, according to zone-specific adjustments for: transit mode split (work and non-work); commute-trip reduction actions, character of retail activity (local versus regional service); retail size; and pass-by reductions.*
*Pass-by traffic at retail sites is eliminated so that only net off-site traffic is included for distribution in the traffic model.*
*Trip generation in zones outside the Sammamish Planning Area are scaled down based on distance from Sammamish (near zero at edge of region).*
*Summaries by area represent the sum for all TAZ's in each area.*

### *Trip purposes represent the following directional movements:*

***(a) Work-Based Trip Purposes, by direction:***

***From Home*** *to work = commute trips without stops, discounted for park&ride trips.*
*Includes 6% work-home trips in reverse direction to dominant commute flow.*
***From Home to Other*** *= trips from home to other destinations, before continuing to work*
***From Other to work*** *= trips from the non-home destinations of purpose (2) to work*
***From home to Park/Ride*** *= From homes to Issaquah Park&Ride and Redmond Park&Ride.*
***Non-home-based*** *= personal and commercial vehicle trips, to/from locations which are not the driver's home.*

***(b) Home-Based Trip Purposes, by direction:***

*Trips between the driver's home and all other non-work destinations, primarily retail.*
***From Home to Local Other*** *= Shorter trips in the community around the residential zone.*
***From Local Other to Home*** *= Shorter trips in the community around the residential zone.*
***From Home to Regional Other*** *= Longer trips outside the local community.*
***From Regional Other*** *to Home = Longer trips outside the local community.*

***Aggregate trip rates, combining all trip purposes, but before zone-specific size/scale adjustments are applied:***
***(Retail rate formula varies exponentially with size)***

| ***Land Use:*** | ***Units*** | ***2Way Rate*** | ***% Outbnd*** |
|---|---|---|---|
| Single Family | dwelling | 0.60 | 74% |
| Multi Family | dwelling | 0.40 | 79% |
| Retail ……..over 1,00,000 sf | 1000 sf | 0.82 | 40% |
| Retail ….example at 400,000 sf | 1000 sf | 0.95 | 40% |
| Retail ….example at 100,000 sf | 1000 sf | 1.29 | 40% |
| Retail ……example at 20,000 sf | 1000 sf | 1.39 | 40% |
| Retail …..…… under 8,300 sf | 1000 sf | 2.70 | 40% |
| Office | 1000 sf | 1.16 | 13% |
| Industrial | 1000 sf | 0.78 | 39% |
| Social Retail | 1000 sf | 1.52 | 59% |
| Schools, Churches | 1000 sf | 2.85 | 48% |
| Med-Dental | 1000 sf | 3.82 | 26% |
| Active Land | trip equivalents | 1.00 | 20% |
| Park&Ride | space | 0.74 | 5% |

NOTE1: Trip ends outside Sammamish Planning Area are scaled down from actual totals to various degrees, for Sammamish modeling purposes.
Do not compare to land use, nor to region-wide trip generation data from other sources.
NOTE2: about 6% of the "From Work" total is actually distributed as "To-Work" trips (e.g., 2nd shift workers), but not separately summarized.

## *LAND USE and TRIP GENERATION SUMMARY - AM PEAK HOUR*

| | |
|---|---|
| *Sammamish Traffic Model* | ***Forecast Year:*** **2025** |
| *User Case Description:* | **2025 Pipeline** |
| | **Concurrency Test #11** |

### *Land Use and Trip Generation - Grand Summary*

| | | Major Generators | | Minor Generators | | | | Trip Generation by Location | | |
|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | Total Dwellings | Comm'l 1000 sf | Schl/Chrch 1000 sf | ActivLand Equiv Trips | Park/Ride spaces | | At Dwellings | At All Other | Totals |
| Sammamish NW | 1 | 6,545 | 375 | 144 | 40 | 0 | | 2,738 | 1,993 | 4,731 |
| Sammamish NE | 2 | 3,424 | 260 | 904 | 106 | 0 | | 1,899 | 3,099 | 4,998 |
| Sammamish SW | 3 | 2,977 | 252 | 123 | 251 | 319 | | 1,390 | 1,257 | 2,647 |
| Sammamish SE | 4 | 4,826 | 267 | 933 | 210 | 0 | | 2,428 | 3,369 | 5,797 |
| Klah-FCRd | 5 | 4,876 | 124 | 298 | 239 | 0 | | 1,933 | 1,752 | 3,685 |
| **SR202Edge** | **6** | 620 | 197 | 10 | 47 | 0 | | 329 | 387 | 716 |
| Issaquah | 60 | 15,560 | 13,780 | 1,109 | 0 | 1,400 | | 9,542 | 16,717 | 26,259 |
| Redmond | 70 | 35,208 | 39,932 | 762 | 823 | 500 | | 10,402 | 15,044 | 25,446 |
| Other areas | 80-200 | 1,618,010 | 887,929 | 0 | 0 | 0 | | 88,200 | 108,677 | 196,877 |
| | **Totals** | 1,692,045 | 943,115 | 4,282 | 1,716 | 2,219 | | 118,861 | 152,295 | 271,156 |
| City of Sammamish Subtotal | | 22,648 | 1,277 | 2,402 | 846 | 319 | | 10,388 | 11,470 | 21,858 |
| Sammamish+Growth Area Subtotal | | 23,268 | 1,474 | 2,411 | 893 | 319 | | 10,717 | 11,857 | 22,574 |

*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

### *Trip End Summary by Trip Purpose Groups*

| | | 4 Work-based Trip Purposes | | | 4 Home-Based Trip Purposes | | | Non-Home-Based Trips | | | All Trip Purposes Combined | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | Origins | Destin's | Totals | Origins | Destin's | Totals | ORIG6 | DEST6 | Totals | Origins | Destin's | Totals |
| Sammamish NW | 1 | 1,169 | 407 | 1,576 | 1,765 | 1,118 | 2,883 | 235 | 37 | 272 | 3,169 | 1,562 | 4,731 |
| Sammamish NE | 2 | 709 | 685 | 1,394 | 1,743 | 1,401 | 3,144 | 437 | 23 | 460 | 2,889 | 2,109 | 4,998 |
| Sammamish SW | 3 | 546 | 279 | 825 | 880 | 648 | 1,528 | 212 | 82 | 294 | 1,638 | 1,009 | 2,647 |
| Sammamish SE | 4 | 957 | 692 | 1,649 | 2,095 | 1,518 | 3,613 | 503 | 32 | 535 | 3,555 | 2,242 | 5,797 |
| Klah-FCRd | 5 | 864 | 280 | 1,144 | 1,401 | 925 | 2,326 | 200 | 15 | 215 | 2,465 | 1,220 | 3,685 |
| SR202Edge | 6 | 117 | 116 | 233 | 222 | 194 | 416 | 51 | 16 | 67 | 390 | 326 | 716 |
| Issaquah | 60 | 2,859 | 5,353 | 8,212 | 6,424 | 8,167 | 14,591 | 1,576 | 1,880 | 3,456 | 10,859 | 15,400 | 26,259 |
| Redmond | 70 | 3,941 | 6,936 | 10,877 | 5,244 | 6,776 | 12,020 | 1,052 | 1,497 | 2,549 | 10,237 | 15,209 | 25,446 |
| Other areas | 80-93 | 27,460 | 31,607 | 59,067 | 10,492 | 11,237 | 21,729 | 1,413 | 2,071 | 3,484 | 39,365 | 44,915 | 84,280 |
| | **Totals** | **78,797** | **78,797** | **157,594** | **43,138** | **43,138** | **86,276** | **7,089** | **7,089** | **14,178** | **129,024** | **129,024** | **258,048** |
| City of Sammamish Subtotal | | 4,245 | 2,343 | 6,588 | 7,884 | 5,610 | 13,494 | 1,587 | 189 | 1,776 | 13,716 | 8,142 | 21,858 |
| **Sammamish+Growth Area Subtotal** | | **4,362** | **2,459** | **6,821** | **8,106** | **5,804** | **13,910** | **1,638** | **205** | **1,843** | **14,106** | **8,468** | **22,574** |

*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

## *LAND USE and TRIP GENERATION SUMMARY - AM PEAK HOUR*

| | |
|---|---|
| *Sammamish Traffic Model* | ***Forecast Year:*** **2025** |
| *User Case Description:* | **2025 Pipeline** |
| | **Concurrency Test #11** |

***Trip End Summary for Work-Related Trip Purposes***

| | | HM-WK | HM-WK | WK-DVT | WK-DVT | DVT-HM | DVT-HM | HM-PKRD | HM-PKRD | Totals | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | ORIG1 | DEST1 | ORIG2 | DEST2 | ORIG3 | DEST3 | ORIG9 | DEST9 | Origins | Destin's |
| Sammamish NW | 1 | 1,127 | 362 | 5 | 27 | 37 | 18 | 0 | 0 | 1,169 | 407 |
| Sammamish NE | 2 | 591 | 653 | 10 | 22 | 108 | 10 | 0 | 0 | 709 | 685 |
| Sammamish SW | 3 | 525 | 186 | 0 | 5 | 21 | 5 | 0 | 83 | 546 | 279 |
| Sammamish SE | 4 | 835 | 659 | 10 | 20 | 112 | 13 | 0 | 0 | 957 | 692 |
| Klah-FCRd | 5 | 821 | 247 | 4 | 10 | 39 | 23 | 0 | 0 | 864 | 280 |
| SR202Edge | 6 | 103 | 104 | 3 | 12 | 11 | 0 | 0 | 0 | 117 | 116 |
| Issaquah | 60 | 2,387 | 4,654 | 136 | 265 | 333 | 67 | 3 | 367 | 2,859 | 5,353 |
| Redmond | 70 | 3,417 | 6,517 | 305 | 184 | 208 | 104 | 11 | 131 | 3,941 | 6,936 |
| Other areas | 80-200 | 62,262 | 58,686 | 2,601 | 2,529 | 2,205 | 2,834 | 567 | 0 | 67,635 | 64,049 |
| | **Totals** | **72,068** | **72,068** | **3,074** | **3,074** | **3,074** | **3,074** | **581** | **581** | 78,797 | 78,797 |
| City of Sammamish Subtotal | | 3,899 | 2,107 | 29 | 84 | 317 | 69 | 0 | 83 | 4,245 | 2,343 |
| **Sammamish+Growth Area Subtotal** | | **4,002** | **2,211** | **32** | **96** | **328** | **69** | **0** | **83** | **4,362** | **2,459** |

*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

***Trip End Summary for Home-Based Trip Purposes***

| | | H-LOCL | H-LOCL | LOCL-HM | LOCL-HM | HM-REG'L | HM-REG'L | REG'L-HM | REG'L-HM | Totals | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | ORIG4 | DEST4 | ORIG5 | DEST5 | ORIG7 | DEST7 | ORIG8 | DEST8 | Origins | Destin's |
| Sammamish NW | 1 | 1,478 | 266 | 259 | 825 | 28 | 0 | 0 | 27 | 1,765 | 1,118 |
| Sammamish NE | 2 | 772 | 954 | 954 | 430 | 17 | 0 | 0 | 17 | 1,743 | 1,401 |
| Sammamish SW | 3 | 701 | 242 | 170 | 398 | 9 | 0 | 0 | 8 | 880 | 648 |
| Sammamish SE | 4 | 1,103 | 882 | 975 | 620 | 17 | 0 | 0 | 16 | 2,095 | 1,518 |
| Klah-FCRd | 5 | 1,040 | 333 | 330 | 564 | 31 | 0 | 0 | 28 | 1,401 | 925 |
| SR202Edge | 6 | 143 | 113 | 78 | 80 | 1 | 0 | 0 | 1 | 222 | 194 |
| Issaquah | 60 | 2,845 | 6,534 | 3,383 | 1,439 | 90 | 114 | 106 | 80 | 6,424 | 8,167 |
| Redmond | 70 | 2,372 | 5,489 | 2,708 | 1,134 | 80 | 89 | 84 | 64 | 5,244 | 6,776 |
| Other areas | 80-200 | 16,578 | 12,219 | 5,577 | 8,944 | 590 | 660 | 619 | 568 | 23,364 | 22,391 |
| | **Totals** | **27,032** | **27,032** | **14,434** | **14,434** | **863** | **863** | **809** | **809** | 43,138 | 43,138 |
| City of Sammamish Subtotal | | 5,094 | 2,677 | 2,688 | 2,837 | 102 | 0 | 0 | 96 | 7,884 | 5,610 |
| **Sammamish+Growth Area Subtotal** | | **5,237** | **2,790** | **2,766** | **2,917** | **103** | **0** | **0** | **97** | **8,106** | **5,804** |

*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

## *LAND USE and TRIP GENERATION SUMMARY - PM PEAK HOUR*

| | |
|---|---|
| *Sammamish Traffic Model* | ***Forecast Year:*** **2025** |
| *User Case Description:* | **2025 Pipeline** |
| | **Concurrency Test #11** |

| ***City of Sammamish*** | | **Land Use Totals** | | | | |
|---|---|---|---|---|---|---|
| | | Major Generators | | Minor Generators | | |
| AREA NAME | AREA CODE | Total Dwellings | Comm'l 1000 sf | SchlChrch 1000 sf | ActivLand Equiv Trips | Park/Ride spaces |
| Sammamish NW | 1 | 6,381 | 335 | 144 | 40 | 0 |
| Sammamish NE | 2 | 3,424 | 260 | 904 | 106 | 0 |
| Sammamish SW | 3 | 2,977 | 252 | 123 | 251 | 319 |
| Sammamish SE | 4 | 4,826 | 267 | 916 | 210 | 0 |
| Klah-FCRd | 5 | 4,876 | 124 | 381 | 239 | 0 |
| **Subtotal** | | **22,484** | **1,237** | **2,467** | **846** | **319** |

| **Trip Generation Totals** | | |
|---|---|---|
| Trip Generation by Location | | |
| At Dwellings | At All Other | Totals |
| 4,881 | 2,922 | 7,803 |
| 2,607 | 3,025 | 5,632 |
| 2,357 | 1,770 | 4,127 |
| 3,709 | 3,175 | 6,884 |
| 3,530 | 1,830 | 5,360 |
| **17,084** | **12,722** | **29,806** |

| ***City of Sammamish*** | **Trip Generation by Land Use Type** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dwellings | | Commercial Generators | | | | | | Minor Generators | | | |
| Land Use Type | SFDU | MFDU | Retail 1000 sf | Office 1000 sf | Ind'l 1000 sf | SocRetl 1000 sf | MedDntl 1000 sf | *Comm'l Subtotal* | SchlChrch 1000 sf | ActivLand Equiv Trips | Park/Ride spaces | **Totals** |
| Quantity | 18,880 | 3,604 | 818 | 124 | 28 | 178 | 89 | *1,236.8* | 2,467 | 846 | 319 | |
| Overall Trip Rate | 0.92 | 0.56 | 7.23 | 1.47 | 0.88 | 5.23 | 3.41 | | 0.80 | 1.00 | 0.75 | |
| Overall Trips | 17,359 | 2,034 | 5,911 | 182 | 25 | 932 | 302 | *7352* | 1,976 | 846 | 239 | **29,806** |

### *Description of PM Peak Hour Traffic Generation Model:*

*Values describe total trip generation by all cars, trucks, and commercial vehicles, computed from land use data for Traffic Analysis Zones.*
*Trip generation procedure includes adjustments to basic vehicular trip generation, according to zone-specific adjustments for: transit mode split (work and non-work); commute-trip reduction actions, character of retail activity (local versus regional service); retail size; and pass-by reductions.*
*Pass-by traffic at retail sites is eliminated so that only net off-site traffic is included for distribution in the traffic model.*
*Trip generation in zones outside the Sammamish Planning Area are scaled down based on distance from Sammamish (near zero at edge of region).*
*Summaries by area represent the sum for all TAZ's in each area.*

### *Trip purposes represent the following directional movements:*

***(a) Work-Based Trip Purposes, by direction:***

***From Work to Home*** *= commute trips without stops, discounted for park&ride trips. Includes 6% home-work trips in reverse direction to dominant commute flow.*

***From Work to Other*** *= trips from worksites to other destinations, before continuing home.*

***From Other to Home*** *= trips from the non-home destinations of purpose (2) to home*

***From Park/Ride*** *to Home = From Issaquah Park&Ride and Redmond Park&Ride, to homes.*

***Non-home-based*** *= personal and commercial vehicle trips, to/from locations which are not the driver's home.*

***(b) Home-Based Trip Purposes, by direction:***

*Trips between the driver's home and all other non-work destinations, primarily retail.*

***From Home to Local Other*** *= Shorter trips in the community around the residential zone.*

***From Local Other to Home*** *= Shorter trips in the community around the residential zone.*

***From Home to Regional Other*** *= Longer trips outside the local community.*

***From Regional Other*** *to Home = Longer trips outside the local community.*

***Aggregate trip rates, combining all trip purposes, but before zone-specific size/scale adjustments are applied: (Retail rate formula varies exponentially with size)***

| ***Land Use:*** | ***Units*** | ***2Way Rate*** | ***% Outbnd*** |
|---|---|---|---|
| Single Family | dwelling | 0.92 | 35% |
| Multi Family | dwelling | 0.56 | 33% |
| Retail ……..…..over 1,00,000 sf | 1000 sf | 3.64 | 51% |
| Retail ….example at 400,000 sf | 1000 sf | 4.24 | 51% |
| Retail ….example at 100,000 sf | 1000 sf | 5.72 | 51% |
| Retail ……example at 20,000 sf | 1000 sf | 6.20 | 51% |
| Retail ……..…… under 8,300 sf | 1000 sf | 12.00 | 51% |
| Office | 1000 sf | 1.47 | 76% |
| Industrial | 1000 sf | 0.88 | 81% |
| Social Retail | 1000 sf | 5.23 | 51% |
| Schools, Churches | 1000 sf | 0.80 | 62% |
| Med-Dental | 1000 sf | 3.41 | 57% |
| Active Land | trip equivalents | 1.00 | 41% |
| Park&Ride | space | 0.75 | 87% |

NOTE1: Trip ends outside Sammamish Planning Area are scaled down from actual totals to various degrees, for Sammamish modeling purposes.
Do not compare to land use, nor to region-wide trip generation data from other sources.
NOTE2: about 6% of the "From Work" total is actually distributed as "To-Work" trips (e.g., 2nd shift workers), but not separately summarized.

## *LAND USE and TRIP GENERATION SUMMARY - PM PEAK HOUR*

| | |
|---|---|
| *Sammamish Traffic Model* | ***Forecast Year:*** **2025** |
| *User Case Description:* | **2025 Pipeline** |
| | **Concurrency Test #11** |

### *Land Use and Trip Generation - Grand Summary*

| | | Major Generators | | Minor Generators | | | | Trip Generation by Location | | |
|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | Total Dwellings | Comm'l 1000 sf | SchlChrch 1000 sf | ActivLand Equiv Trips | Park/Ride spaces | | At Dwellings | At All Other | Totals |
| Sammamish NW | 1 | 6,381 | 335 | 144 | 40 | 0 | | 4,881 | 2,922 | 7,803 |
| Sammamish NE | 2 | 3,424 | 260 | 904 | 106 | 0 | | 2,607 | 3,025 | 5,632 |
| Sammamish SW | 3 | 2,977 | 252 | 123 | 251 | 319 | | 2,357 | 1,770 | 4,127 |
| Sammamish SE | 4 | 4,826 | 267 | 916 | 210 | 0 | | 3,709 | 3,175 | 6,884 |
| Klah-FCRd | 5 | 4,876 | 124 | 381 | 239 | 0 | | 3,530 | 1,830 | 5,360 |
| **SR202Edge** | **6** | 620 | 197 | 10 | 47 | 0 | | 478 | 1,306 | 1,784 |
| Issaquah | 60 | 15,560 | 13,780 | 1,109 | 0 | 1,400 | | 9,603 | 39,630 | 49,233 |
| Redmond | 70 | 35,208 | 39,932 | 762 | 823 | 500 | | 10,580 | 34,702 | 45,282 |
| Other areas | 80-200 | 1,618,010 | 887,929 | 0 | 0 | 0 | | 171,742 | 241,088 | 412,830 |
| | **Totals** | 1,691,881 | 943,075 | 4,348 | 1,716 | 2,219 | | 209,487 | 329,448 | 538,935 |
| City of Sammamish Subtotal | | 22,484 | 1,237 | 2,467 | 846 | 319 | | 17,084 | 12,722 | 29,806 |
| Sammamish+Growth Area Subtotal | | 23,104 | 1,434 | 2,477 | 893 | 319 | | 17,562 | 14,028 | 31,590 |

*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

### *Trip End Summary by Trip Purpose Groups*

| | | 4 Work-based Trip Purposes | | | 4 Home-Based Trip Purposes | | | Non-Home-Based Trips | | | All Trip Purposes Combined | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | Origins | Destin's | Totals | Origins | Destin's | Totals | ORIG6 | DEST6 | Totals | Origins | Destin's | Totals |
| Sammamish NW | 1 | 309 | 2,282 | 2,591 | 2,306 | 1,943 | 4,249 | 518 | 445 | 963 | 3,133 | 4,670 | 7,803 |
| Sammamish NE | 2 | 329 | 1,279 | 1,608 | 1,750 | 1,481 | 3,231 | 422 | 371 | 793 | 2,501 | 3,131 | 5,632 |
| Sammamish SW | 3 | 452 | 1,121 | 1,573 | 1,120 | 955 | 2,075 | 255 | 224 | 479 | 1,827 | 2,300 | 4,127 |
| Sammamish SE | 4 | 336 | 1,771 | 2,107 | 2,153 | 1,787 | 3,940 | 446 | 391 | 837 | 2,935 | 3,949 | 6,884 |
| Klah-FCRd | 5 | 165 | 1,617 | 1,782 | 1,678 | 1,371 | 3,049 | 289 | 240 | 529 | 2,132 | 3,228 | 5,360 |
| SR202Edge | 6 | 206 | 302 | 508 | 425 | 417 | 842 | 224 | 210 | 434 | 855 | 929 | 1,784 |
| Issaquah | 60 | 12,548 | 6,493 | 19,041 | 9,366 | 10,215 | 19,581 | 5,288 | 5,323 | 10,611 | 27,202 | 22,031 | 49,233 |
| Redmond | 70 | 19,687 | 7,775 | 27,462 | 5,592 | 6,641 | 12,233 | 2,681 | 2,906 | 5,587 | 27,960 | 17,322 | 45,282 |
| Other areas | 80-93 | 78,029 | 62,545 | 140,574 | 12,484 | 12,870 | 25,354 | 4,410 | 4,562 | 8,972 | 94,923 | 79,977 | 174,900 |
| | **Totals** | **182,096** | **182,096** | **364,192** | **52,277** | **52,278** | **104,555** | **18,691** | **18,691** | **37,382** | **253,064** | **253,065** | **506,129** |
| City of Sammamish Subtotal | | 1,591 | 8,070 | 9,661 | 9,007 | 7,537 | 16,544 | 1,930 | 1,671 | 3,601 | 12,528 | 17,278 | 29,806 |
| **Sammamish+Growth Area Subtotal** | | **1,797** | **8,372** | **10,169** | **9,432** | **7,954** | **17,386** | **2,154** | **1,881** | **4,035** | **13,383** | **18,207** | **31,590** |

*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

## *LAND USE and TRIP GENERATION SUMMARY - PM PEAK HOUR*

| | |
|---|---|
| *Sammamish Traffic Model* | ***Forecast Year:*** **2025** |
| *User Case Description:* | **2025 Pipeline** |
| | **Concurrency Test #11** |

***Trip End Summary for Work-Related Trip Purposes***

| | | WK-HM | WK-HM | WK-DVT | WK-DVT | DVT-HM | DVT-HM | PKRD-HM | PKRD-HM | Totals | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | ORIG1 | DEST1 | ORIG2 | DEST2 | ORIG3 | DEST3 | ORIG9 | DEST9 | Origins | Destin's |
| Sammamish NW | 1 | 81 | 1,578 | 0 | 241 | 228 | 345 | 0 | 118 | 309 | 2,282 |
| Sammamish NE | 2 | 135 | 847 | 5 | 189 | 189 | 185 | 0 | 58 | 329 | 1,279 |
| Sammamish SW | 3 | 125 | 748 | 11 | 143 | 141 | 172 | 175 | 58 | 452 | 1,121 |
| Sammamish SE | 4 | 107 | 1,195 | 2 | 224 | 227 | 264 | 0 | 88 | 336 | 1,771 |
| Klah-FCRd | 5 | 50 | 1,172 | 0 | 115 | 115 | 247 | 0 | 83 | 165 | 1,617 |
| SR202Edge | 6 | 86 | 153 | 14 | 106 | 106 | 32 | 0 | 11 | 206 | 302 |
| Issaquah | 60 | 8,261 | 3,444 | 1,287 | 2,241 | 2,230 | 580 | 770 | 228 | 12,548 | 6,493 |
| Redmond | 70 | 15,079 | 5,249 | 2,808 | 1,525 | 1,525 | 756 | 275 | 245 | 19,687 | 7,775 |
| Other areas | 80-200 | 107,178 | 116,716 | 20,760 | 20,103 | 20,126 | 22,306 | 0 | 331 | 148,064 | 159,456 |
| | **Totals** | **131,102** | **131,102** | **24,887** | **24,887** | **24,887** | **24,887** | **1,220** | **1,220** | 182,096 | 182,096 |
| City of Sammamish Subtotal | | 498 | 5,540 | 18 | 912 | 900 | 1,213 | 175 | 405 | 1,591 | 8,070 |
| **Sammamish+Growth Area Subtotal** | | **584** | **5,693** | **32** | **1,018** | **1,006** | **1,245** | **175** | **416** | **1,797** | **8,372** |

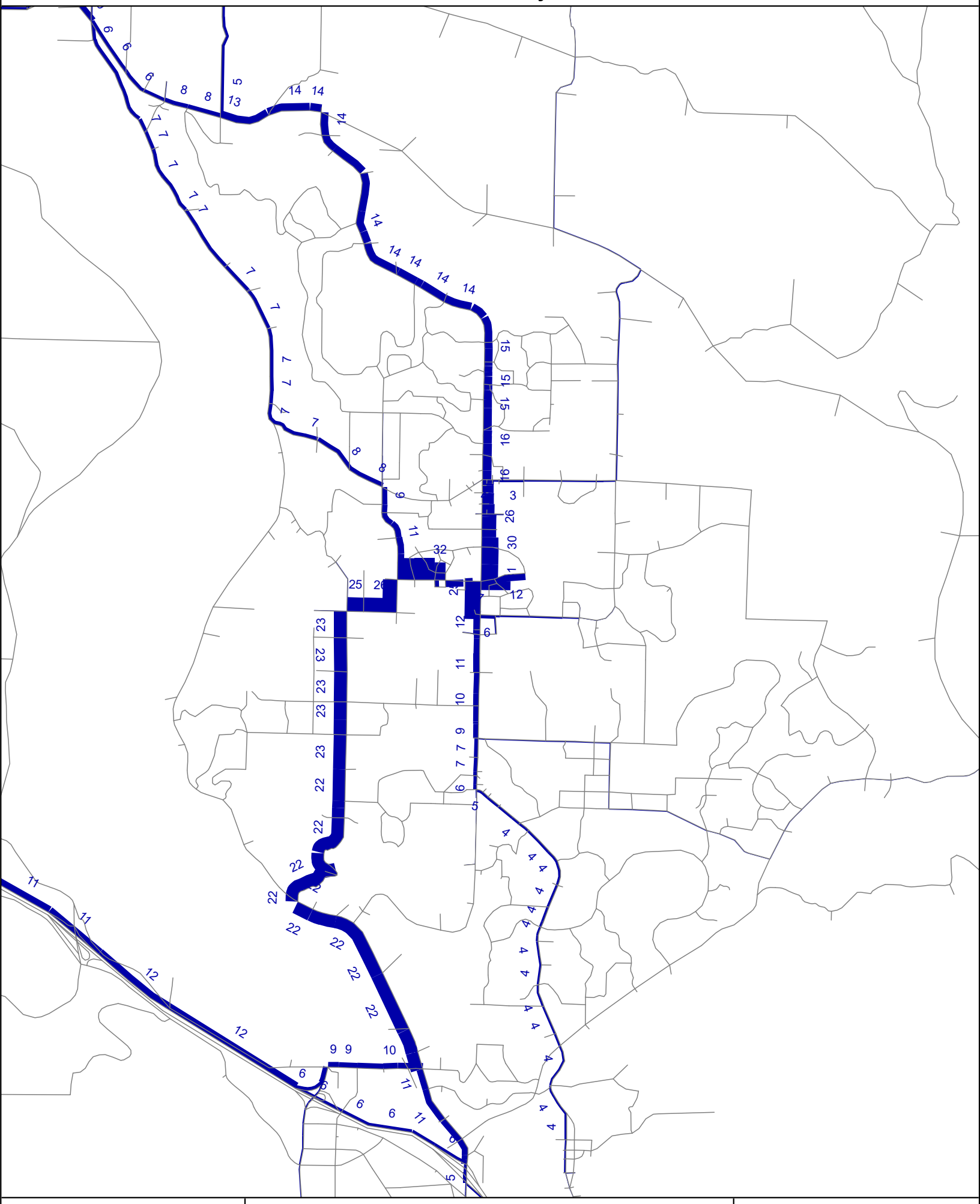
*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

***Trip End Summary for Home-Based Trip Purposes***

| | | H-LOCL | H-LOCL | LOCL-HM | LOCL-HM | HM-REG'L | HM-REG'L | REG'L-HM | REG'L-HM | Totals | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AREA NAME | CODE | ORIG4 | DEST4 | ORIG5 | DEST5 | ORIG7 | DEST7 | ORIG8 | DEST8 | Origins | Destin's |
| Sammamish NW | 1 | 1,266 | 568 | 841 | 1,190 | 199 | 0 | 0 | 185 | 2,306 | 1,943 |
| Sammamish NE | 2 | 679 | 747 | 967 | 637 | 104 | 0 | 0 | 97 | 1,750 | 1,481 |
| Sammamish SW | 3 | 617 | 287 | 409 | 585 | 94 | 0 | 0 | 83 | 1,120 | 955 |
| Sammamish SE | 4 | 966 | 738 | 1,040 | 912 | 147 | 0 | 0 | 137 | 2,153 | 1,787 |
| Klah-FCRd | 5 | 891 | 387 | 634 | 843 | 153 | 0 | 0 | 141 | 1,678 | 1,371 |
| SR202Edge | 6 | 131 | 281 | 279 | 122 | 15 | 0 | 0 | 14 | 425 | 417 |
| Issaquah | 60 | 2,331 | 7,063 | 6,126 | 2,231 | 405 | 537 | 504 | 384 | 9,366 | 10,215 |
| Redmond | 70 | 1,877 | 4,102 | 2,998 | 1,810 | 329 | 415 | 388 | 314 | 5,592 | 6,641 |
| Other areas | 80-200 | 14,140 | 8,725 | 8,409 | 13,373 | 2,516 | 3,010 | 2,822 | 2,360 | 27,887 | 27,468 |
| | **Totals** | **22,898** | **22,898** | **21,703** | **21,703** | **3,962** | **3,962** | **3,714** | **3,715** | 52,277 | 52,278 |
| City of Sammamish Subtotal | | 4,419 | 2,727 | 3,891 | 4,167 | 697 | 0 | 0 | 643 | 9,007 | 7,537 |
| **Sammamish+Growth Area Subtotal** | | **4,550** | **3,008** | **4,170** | **4,289** | **712** | **0** | **0** | **657** | **9,432** | **7,954** |

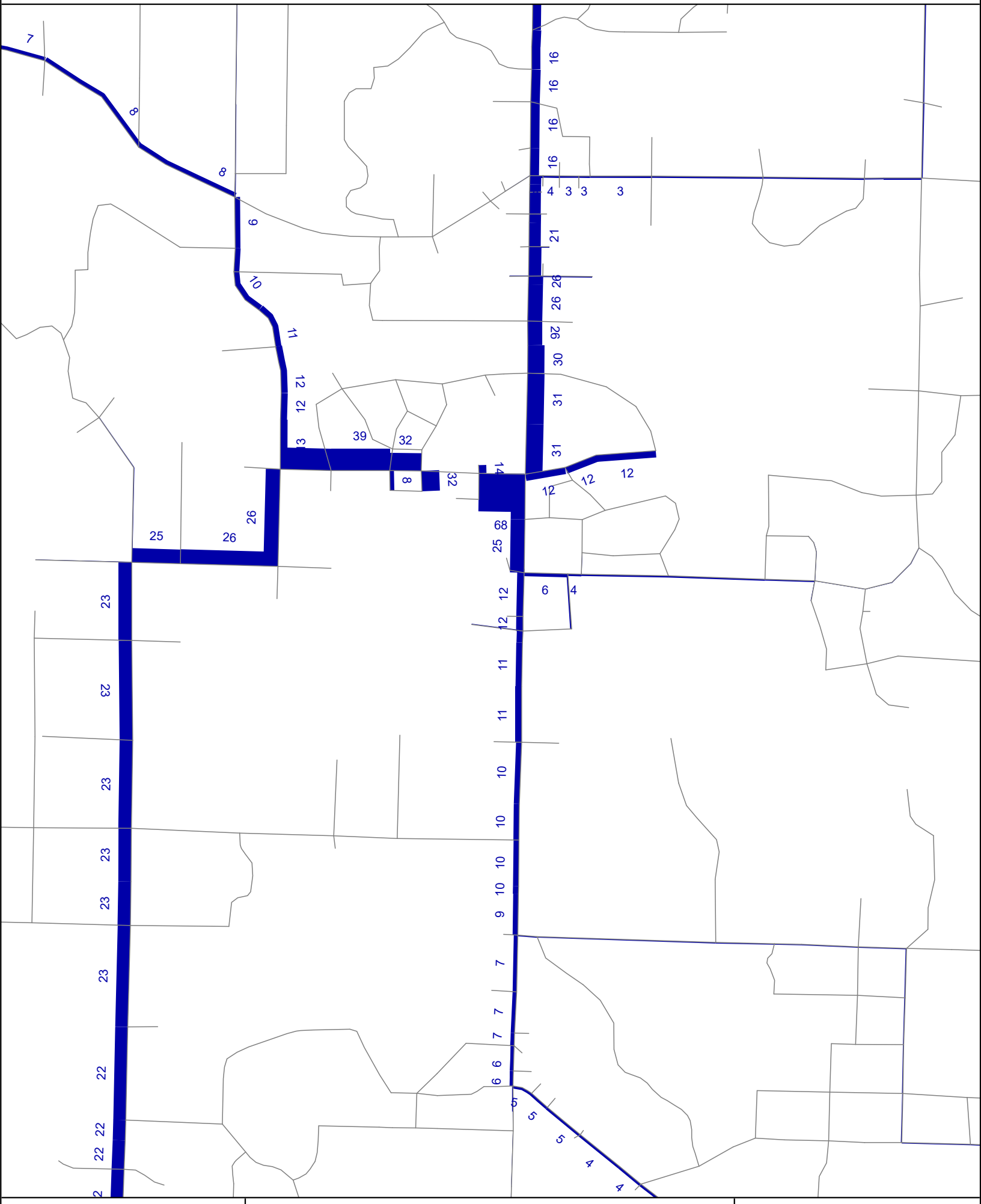
*Caution: Totals given do not include all trips in the Puget Sound region. Trips beyond Sammamish Planning Area are discounted, approaching zero in adjacent counties.*

# 2025 Concurrency Test #11



| August 1, 2019 | David Evans and Associates, Inc. | AM Peak Originating |
|---|---|---|

# 2025 Concurrency Test #11

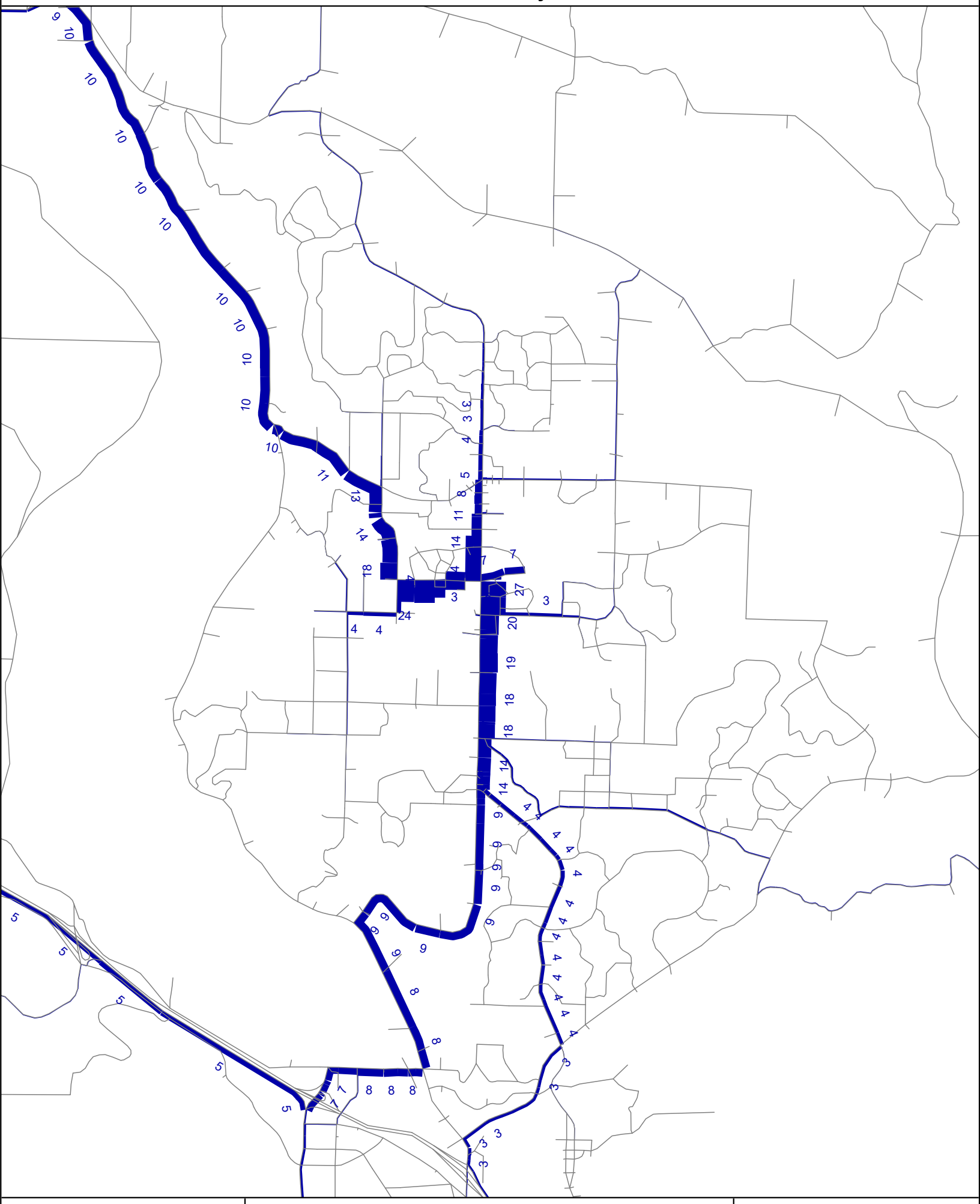


| August 1, 2019 | David Evans and Associates, Inc. | AM Peak Origin - Zoom |
|---|---|---|

# 2025 Concurrency Test #11


| August 1, 2019 | David Evans and Associates, Inc. | AM Peak Originating |
|---|---|---|

# 2025 Concurrency Test #11



| August 1, 2019 | David Evans and Associates, Inc. | AM Peak Destined |
|---|---|---|

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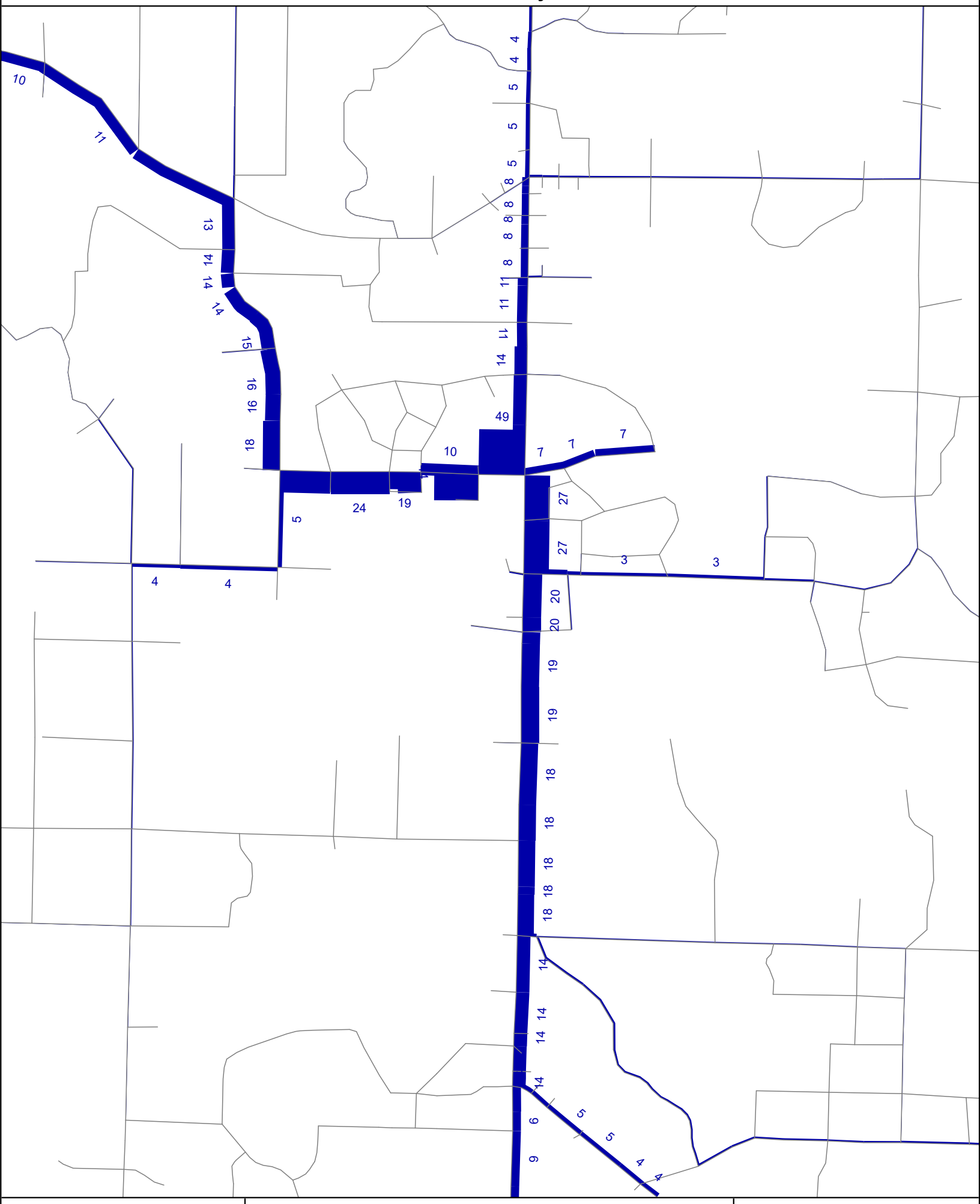
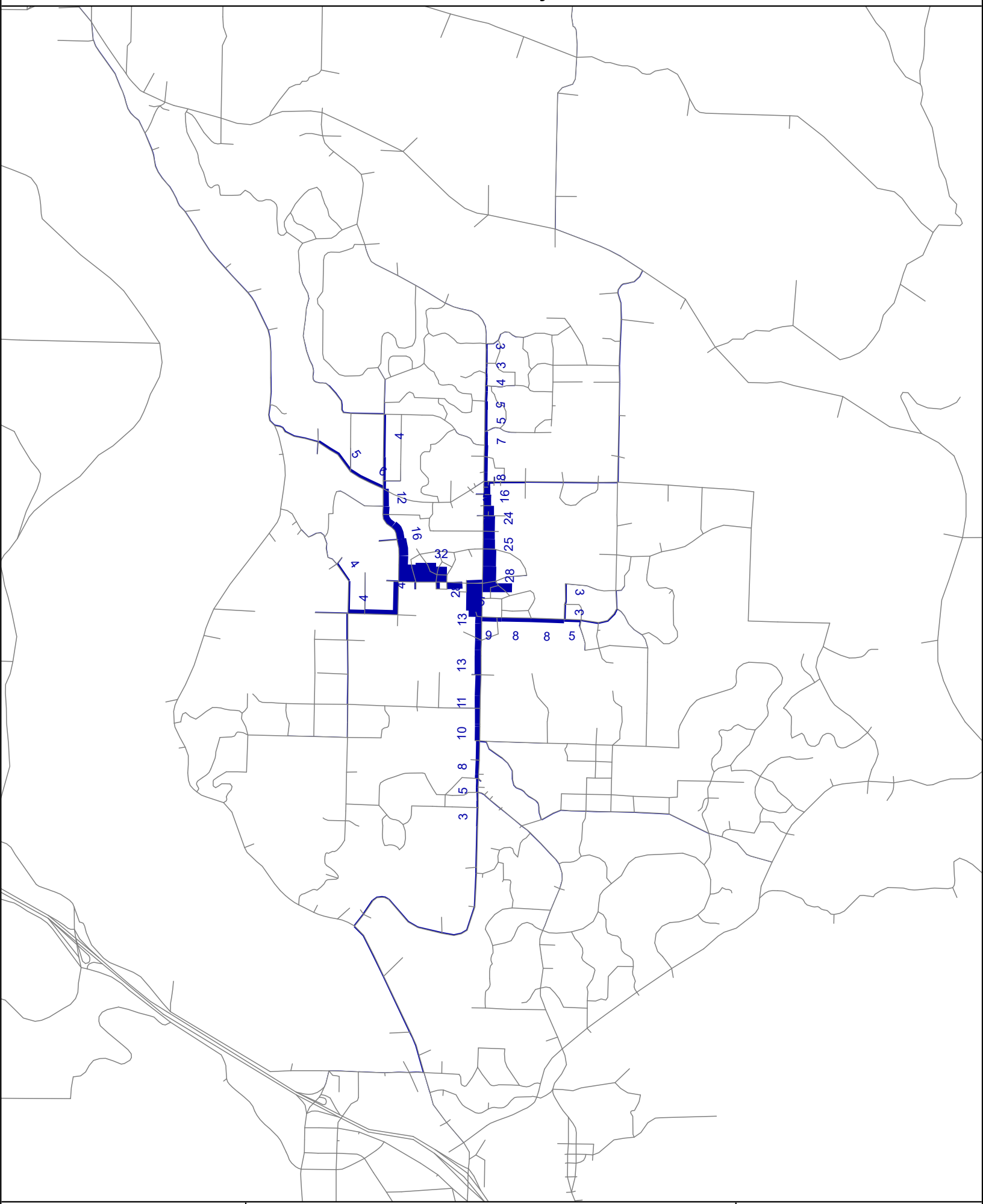


| August 1, 2019 | David Evans and Associates, Inc. | AM Peak Destined - Zoom |
|---|---|---|

# 2025 Concurrency Test #11


| | | |
|---|---|---|
| August 1, 2019 | David Evans and Associates, Inc. | AM Peak Destined |

# 2025 Concurrency Test #11



| August 1, 2019 | David Evans and Associates, Inc. | PM Peak Originating |
|---|---|---|

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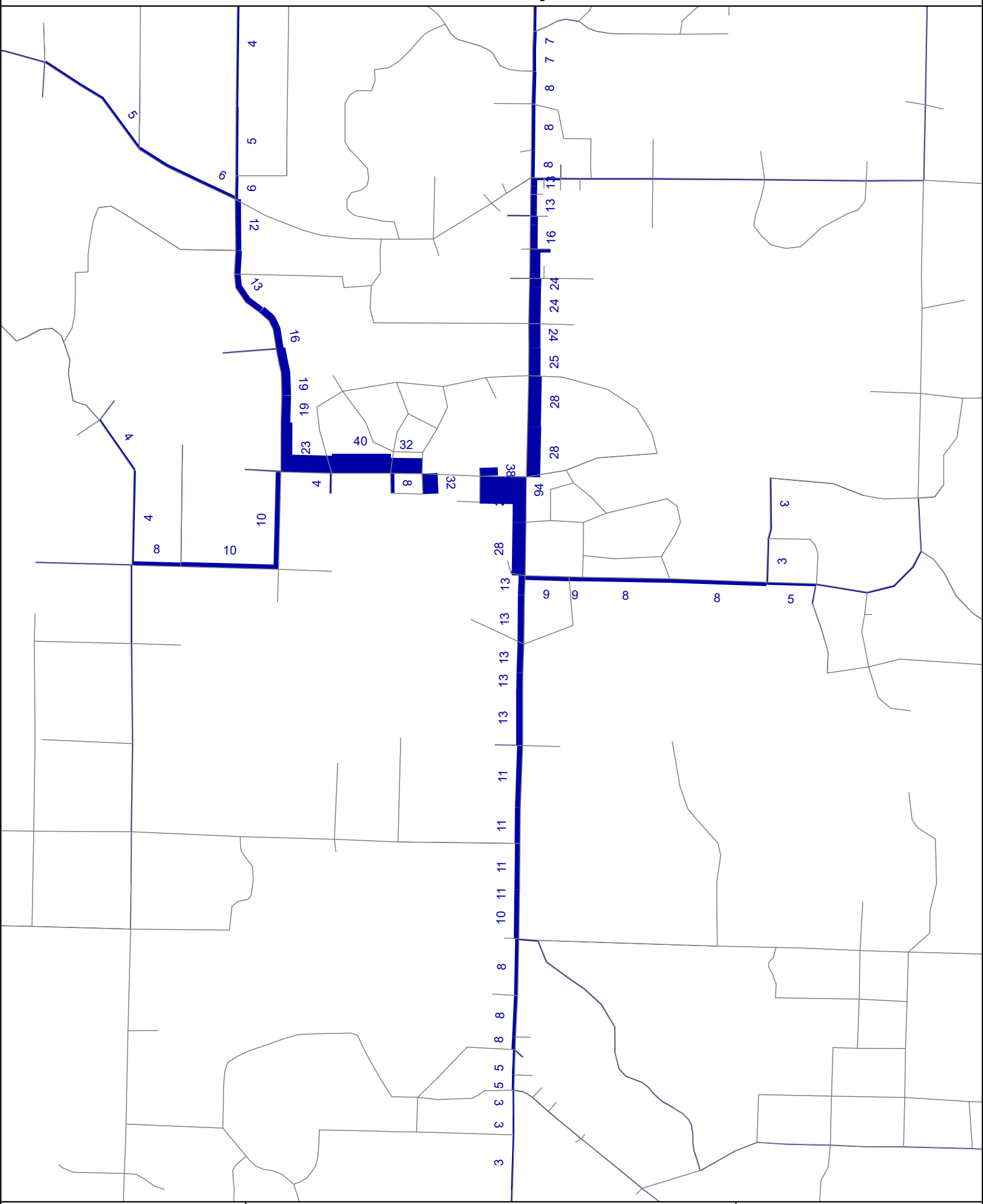
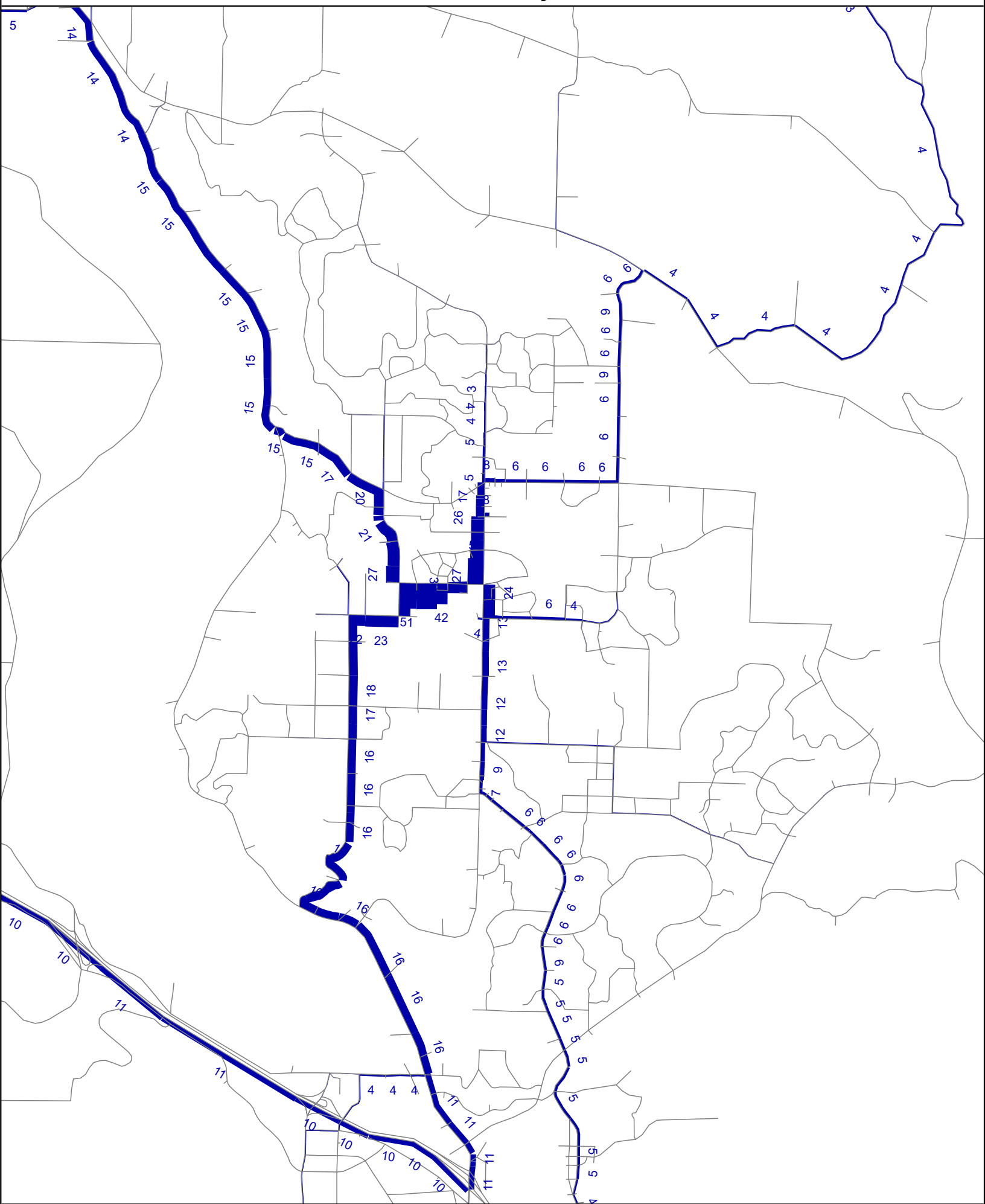


| August 1, 2019 | David Evans and Associates, Inc. | PM Peak Origin - Zoom |
|---|---|---|

# 2025 Concurrency Test #11


| August 1, 2019 | David Evans and Associates, Inc. | PM Peak Origin |
|---|---|---|

# 2025 Concurrency Test #11



| August 1, 2019 | David Evans and Associates, Inc. | PM Peak Destined |
|---|---|---|

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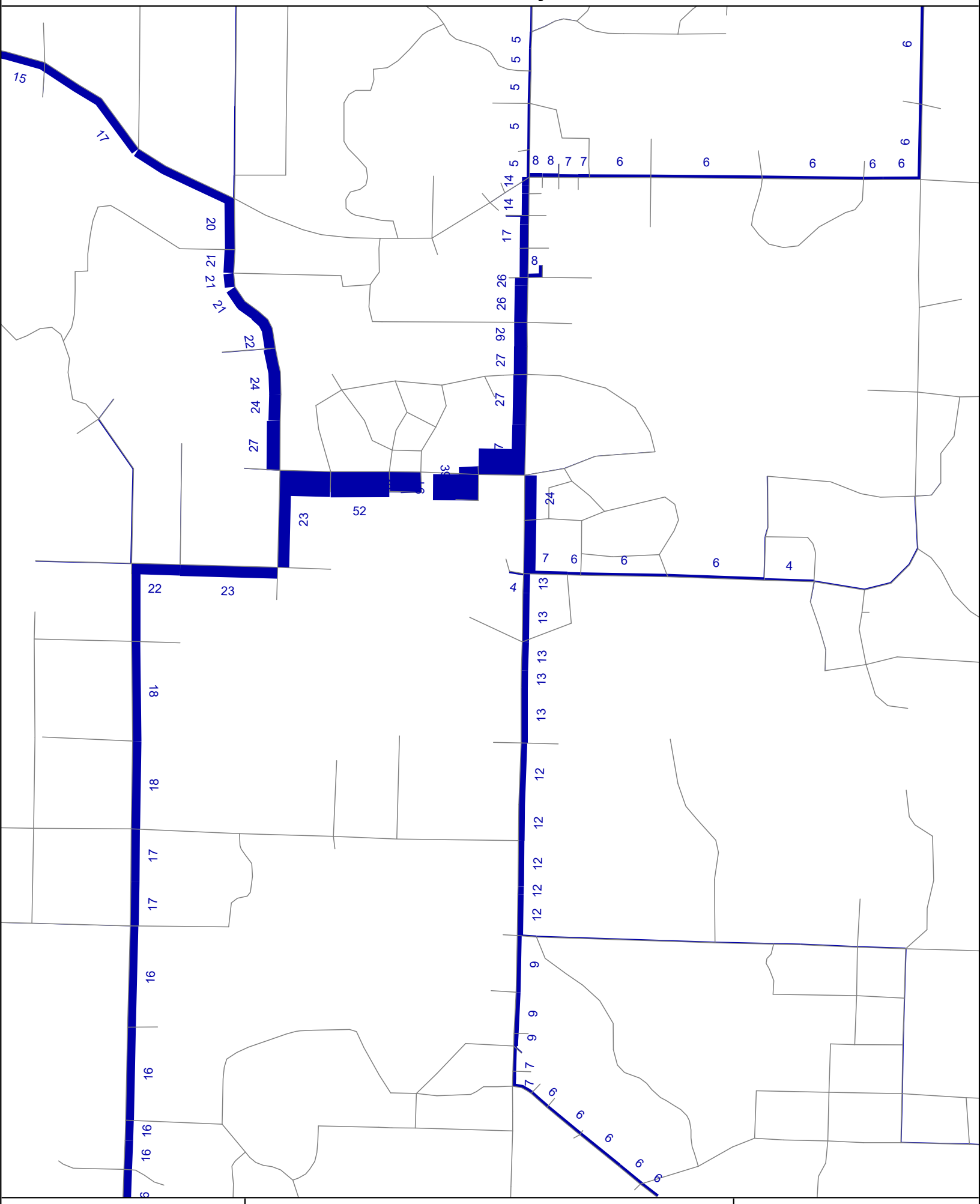
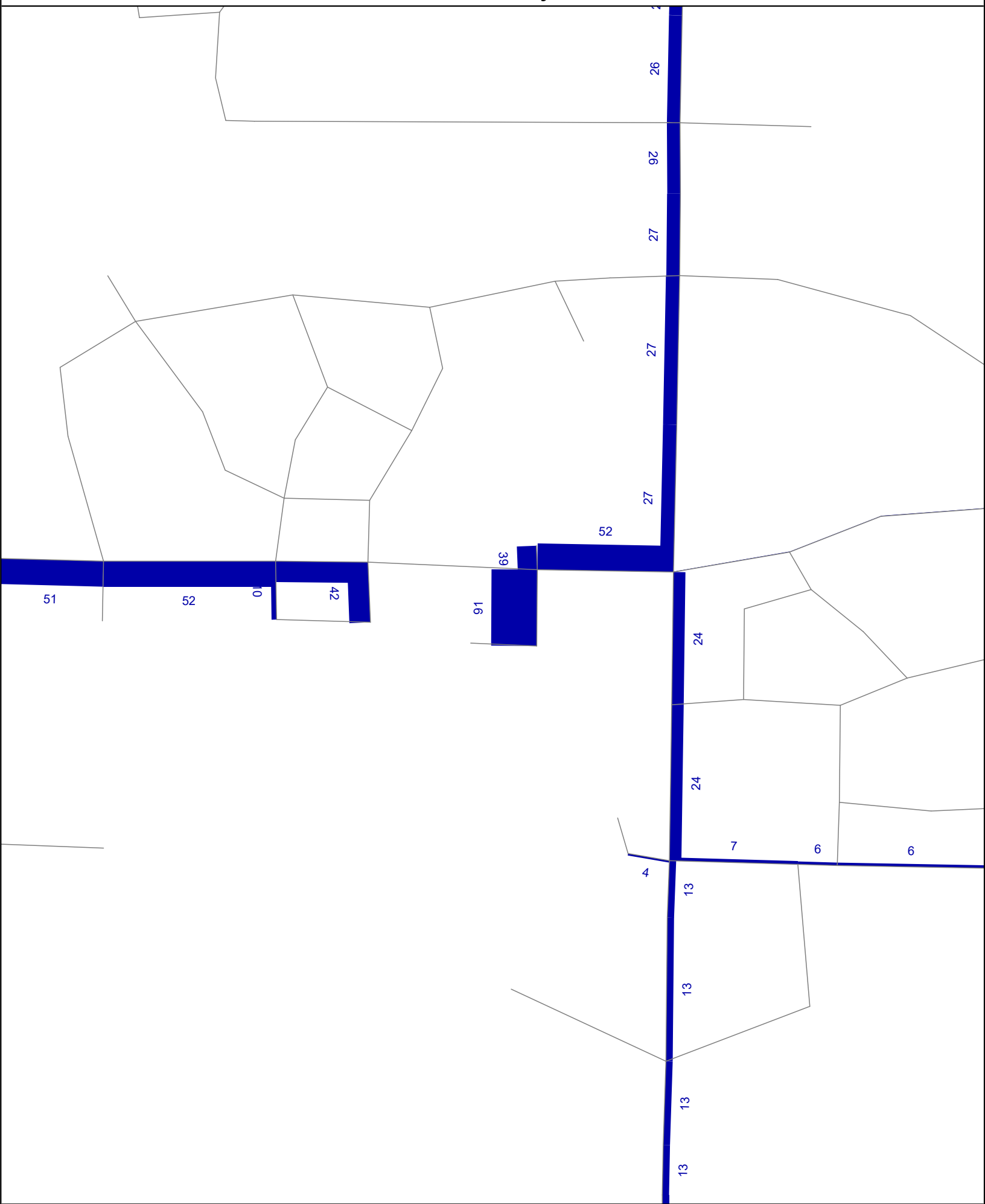


| August 1, 2019 | David Evans and Associates, Inc. | PM Peak Destin - Zoom |
|---|---|---|

# 2025 Concurrency Test #11




| | | |
|---|---|---|
| August 1, 2019 | David Evans and Associates, Inc. | PM Peak Destined |