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Final Technical Memorandum #1

February 18, 2026   Project# 30764

To: Brock Dille, PE (Idaho Transportation Department)

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Project: Blue Lakes Boulevard & Pole Line Road Project

RE: Final Technical Memorandum #1: Existing Year 2025 & Future Year 2050 No-Build Evaluation

This memorandum documents the results and findings of the existing and future no-build conditions evaluation for the Blue Lakes Boulevard and Pole Line Road Project, herein referred to as "the project", which includes an evaluation of existing infrastructure, safety and crash trends, and traffic operations. The results of this evaluation will be used to identify and compare improvements at and around the Blue Lakes Boulevard and Pole Line Road intersection in Twin Falls, Idaho. Below is a table of contents summary for this memorandum:

Project Area, Purpose, and Process

Located within Twin Falls city limits, the Blue Lakes Boulevard and Pole Line Road intersection and surrounding roadways serve all traffic, including regional, local and heavy freight, that travel across the Perrine Bridge into and out of the City of Twin Falls. The intersection resides on US-93 and is surrounded by a high concentration of commercial uses, experiencing high demand during weekdays and weekends.

Exhibit 1 provides context on the location of the study area in relation to other key landmarks and junctions within the Magic Valley region. Figure 1 illustrates the study area which includes eight (8) signalized intersections, 14 unsignalized intersections, and over 100 driveways and accesses with varying levels of access restrictions. The study area includes roadways owned and maintained by the Idaho Transportation Department (ITD) and the City of Twin Falls.
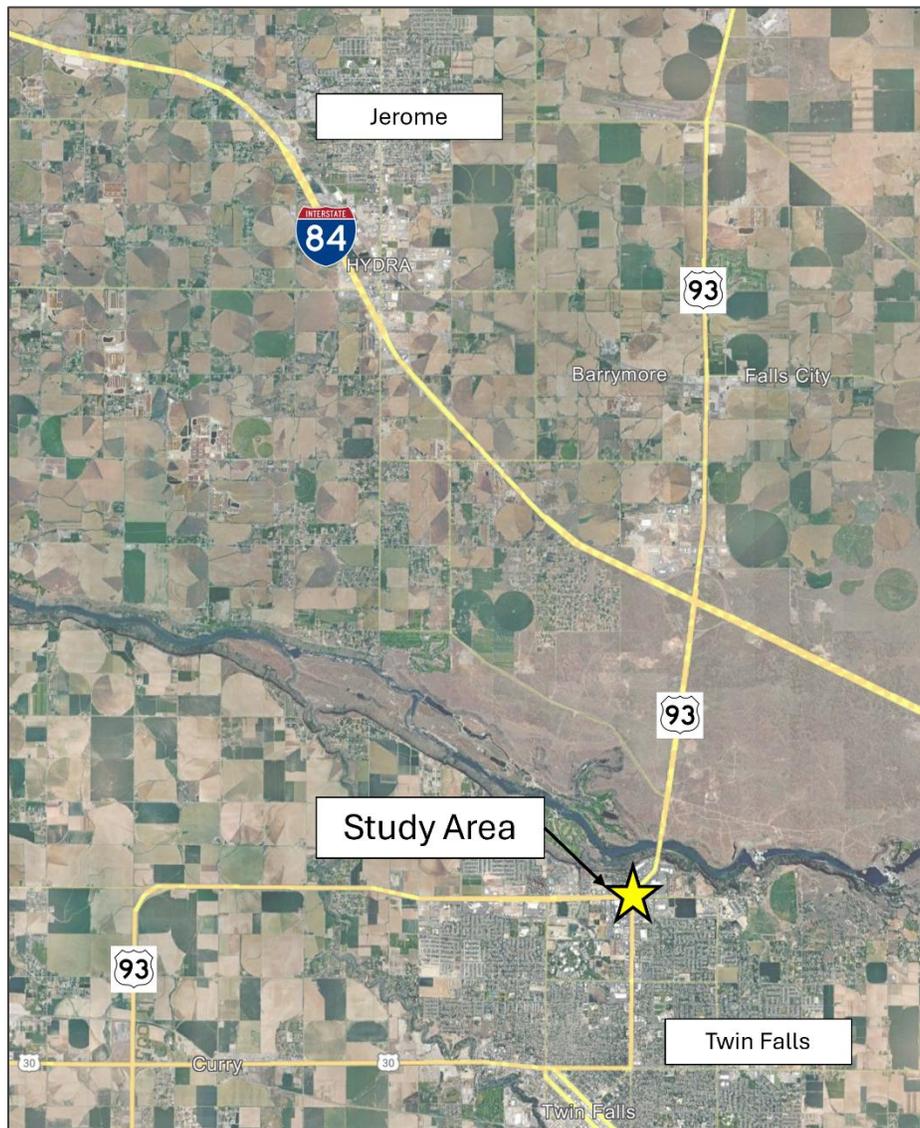

Exhibit 1. Site Vicinity Map

Figure 1. Project Study Area

Blue Lakes Boulevard and Pole Line Road Project

Data Sources: OpenStreetMap, ITD, City of Twin Falls

Legend:
- ● Study Intersection
- State Highway
- Local Roadway
- Private Roadway
- Park
- City Limits

Labels on map: Golf Course Rd, 93, Snake River, Fillmore St, Bridgeview Blvd, Pole Line Rd, Elm St, Cheney Dr, Fillmore St, College Rd, Blue Lakes Blvd, Locust St, Falls Ave

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The purpose of the project is to identify improvements for the Blue Lakes Boulevard and Pole Line Road intersection and surrounding area that may be implemented in the short-, medium-, or long-term, with the goal to improve both safety and traffic congestion. The project involves a tiered alternatives evaluation as outlined in Exhibit 2. Results from the future year 2050 no-build conditions analysis will be used to compare with alternatives developed in the tiered alternatives evaluation.
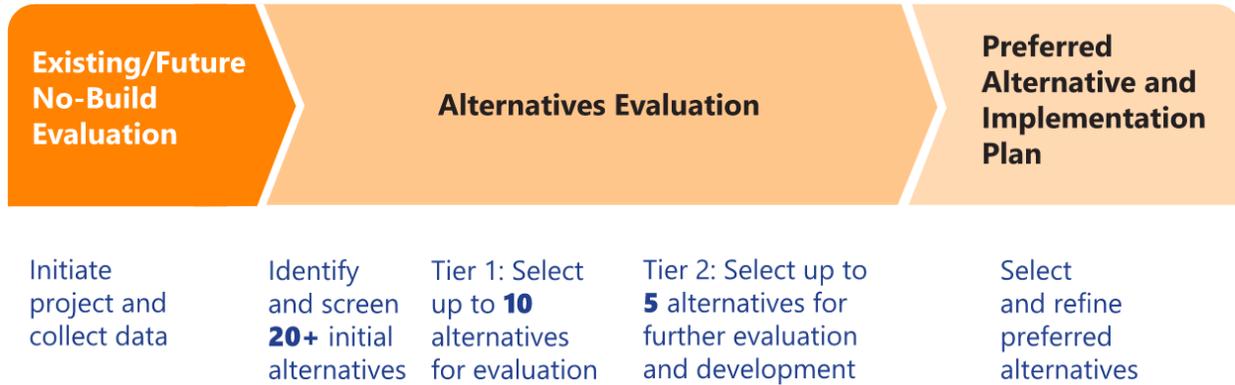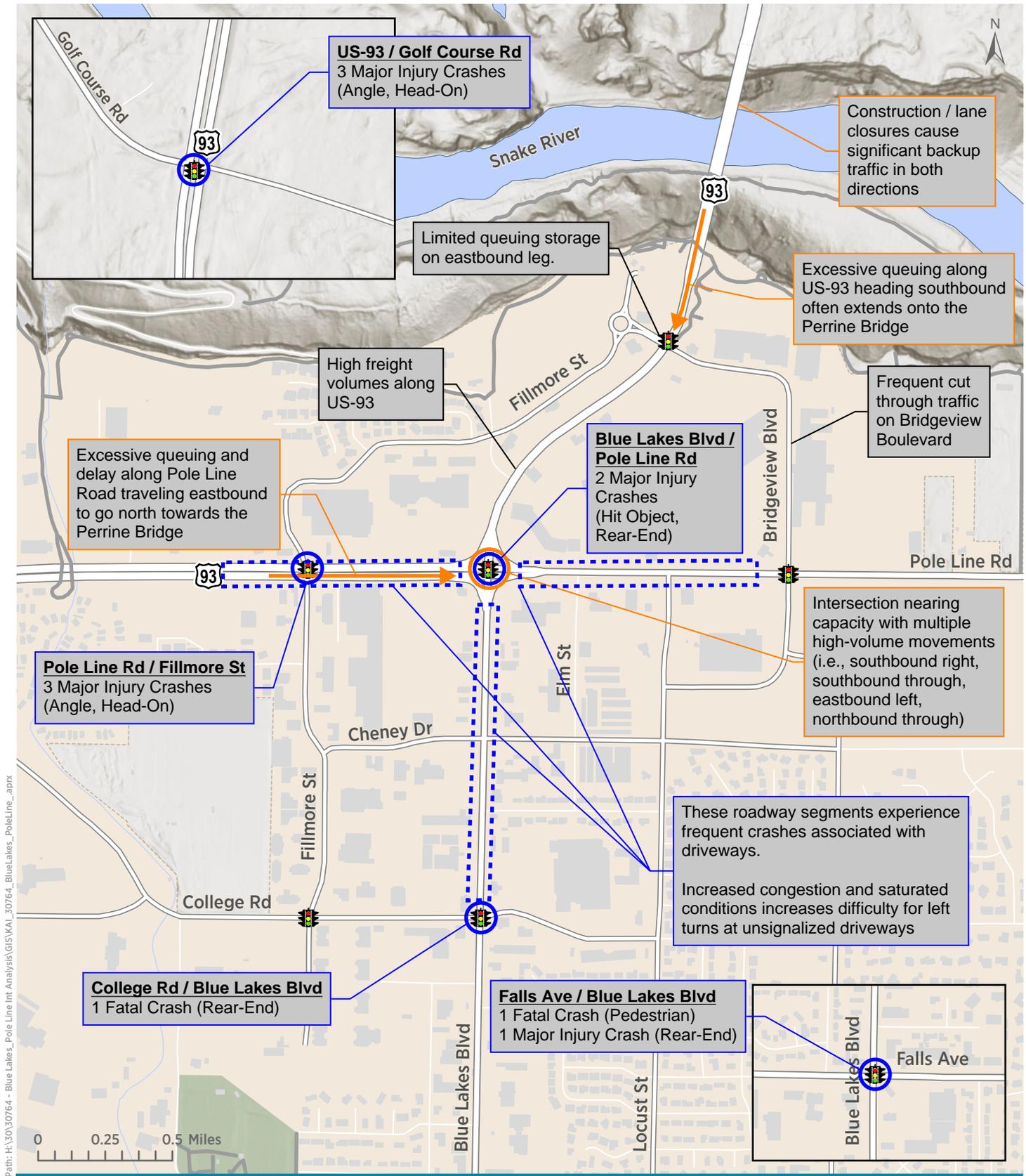
Existing/Future No-Build Evaluation	Alternatives Evaluation			Preferred Alternative and Implementation Plan
Initiate project and collect data	Identify and screen 20+ initial alternatives	Tier 1: Select up to 10 alternatives for evaluation	Tier 2: Select up to 5 alternatives for further evaluation and development	Select and refine preferred alternatives

Exhibit 2. Project Process

Through the tiered alternatives evaluation, preferred alternative(s) will be selected that may include lane modifications, access management, traffic signal modifications, traffic control changes, and minor realignment of routes at the Blue Lakes Boulevard and Pole Line Road intersection and adjacent, connecting roadways in the study area.

Executive Summary

Key deficiencies within the study area were identified based on findings and results of the existing year 2025 and future year 2050 no-build evaluation. The key deficiencies will help determine the main priorities, goals, and objectives of the alternatives analysis. Figure 2 summarizes these key deficiencies.

US-93 / Golf Course Rd
3 Major Injury Crashes
(Angle, Head-On)

Construction / lane closures cause significant backup traffic in both directions

Limited queuing storage on eastbound leg.

Excessive queuing along US-93 heading southbound often extends onto the Perrine Bridge

High freight volumes along US-93

Frequent cut through traffic on Bridgeview Boulevard

Blue Lakes Blvd / Pole Line Rd
2 Major Injury Crashes
(Hit Object, Rear-End)

Excessive queuing and delay along Pole Line Road traveling eastbound to go north towards the Perrine Bridge

Intersection nearing capacity with multiple high-volume movements (i.e., southbound right, southbound through, eastbound left, northbound through)

Pole Line Rd / Fillmore St
3 Major Injury Crashes
(Angle, Head-On)

These roadway segments experience frequent crashes associated with driveways.

Increased congestion and saturated conditions increases difficulty for left turns at unsignalized driveways

College Rd / Blue Lakes Blvd
1 Fatal Crash (Rear-End)

Falls Ave / Blue Lakes Blvd
1 Fatal Crash (Pedestrian)
1 Major Injury Crash (Rear-End)

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0   0.25   0.5 Miles

Data Sources: OpenStreetMap, ITD, City of Twin Falls

General Highlights

The lack of coordination among signals causes unpredictability and inconsistencies in traffic flow.

There are limited pedestrian and bicycle facilities within the study area.

Under future year 2050 no-build conditions, most intersections are projected to operate over capacity and at LOS E or F during peak traffic conditions.

Signalized
Park Path
Park
City Limits

Figure 2. Needs, Deficiencies, and Opportunities

Blue Lakes Boulevard and Pole Line Road Project

Methodology and Performance Measures

This section describes the methodology and performance measures used in the existing year 2025 and future year 2050 no-build evaluation.

MACROSCOPIC ANALYSIS TOOL (SYNCHRO)

Synchro is a traffic analysis and signal timing optimization software widely used by transportation engineers and planners. Synchro supports both signalized and unsignalized intersections and uses the methodologies outlined in the Highway Capacity Manual (HCM), 7th Edition[1] and HCM, 2000 Edition[2] to generate performance measures such as volume-to-capacity (V/C) ratios, vehicle delay, level of service (LOS), and queue lengths at both intersection and approach levels. Synchro also allows users to develop optimized signal timing plans based on traffic volumes and intersection geometry.

Synchro provides quick access to high-level analysis results for the intersections modeled within the study area. However, one limitation of the Synchro model is that it evaluates traffic operations at the intersection level rather than the network level, and therefore does not account for interactions between intersections, such as queue spillback. Additionally, Synchro uses a deterministic approach, which does not capture the inherent variability and randomness in traffic flow and assignment. Given that this modeling tool is ideal for quick assessments and planning-level evaluations, it will be the primary tool used for reporting existing and future no-build traffic operations, Tier 1 alternative evaluations, and quick refinements of Tier 2 alternatives.

Synchro Model Inputs

The key input data required to develop the Synchro model includes network geometry, traffic volumes and composition (e.g., cars, trucks, pedestrians), and traffic signal timing plans. This data is further outlined in the Data Collection section below.

Synchro Performance Measures

The following performance measures were obtained through Synchro and calculated using the HCM 7th Edition methodology, and HCM 2000 Edition methodology as needed:

- **Level of Service (LOS)**: An "A" to "F" ranking based on the average control delay experienced by motorists. LOS A conditions have very low vehicle delay times, while LOS F conditions have high delay times that are considered unacceptable to most drivers.
- **Volume-to-capacity (V/C)**: A ratio comparing the volume of traffic to the theoretical capacity of the facility to accommodate traffic. A V/C ratio of 1.0 indicates an intersection, or movement at an intersection, is operating at capacity. A V/C ratio over 1.0 indicates the intersection's capacity is exceeded.

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[1] Transportation Research Board. *Highway Capacity Manual, 7th Edition*. 2022.
[2] Transportation Research Board. *Highway Capacity Manual, 2000 Edition*. 2000.

- ■ **Vehicle Queue Length**: The length of vehicle queues at study intersections. 95th percentile queue lengths were measured at study intersections during peak hours, which is a metric for queue lengths that are likely to occur only 5% of the time, representing a worse-case-scenario.

Because the HCM 7th Edition does not provide an overall intersection V/C, HCM 2000 Edition is provided to obtain this metric. Additionally, for intersections which are unable to report HCM 7th Edition due to incompatibility (e.g., lane geometry, signal phasing), the next most recent version of HCM which can report operation metrics is used in its place.

MICROSCOPIC ANALYSIS TOOL (VISSIM)

VISSIM is a microscopic traffic simulation software used for modeling and analyzing complex, multimodal transportation systems. VISSIM simulates individual vehicle and pedestrian movements based on behavior-driven algorithms, allowing for detailed analysis of traffic dynamics at both intersection and network levels. It supports a wide range of transportation modes, including automobiles, transit, bicycles, and pedestrians, and is particularly valuable for evaluating the impacts of signal timing, geometric changes, network changes, transit operations, and multimodal interactions.

Unlike deterministic tools such as Synchro, VISSIM uses stochastic modeling to reflect the variability in driver behavior and traffic patterns, making it well-suited for projects where queuing, spillback, or coordination between closely spaced intersections are critical. Due to VISSIM's strengths in analyzing complex networks, VISSIM 2025 will be used to model and analyze the existing weekday PM condition and the future alternatives (Tier 2) that will be informed by the Synchro analysis.

The existing and no build models have been developed, and are currently being calibrated. Upon completion of the calibration process, the corresponding results will be added to this technical memorandum.

VISSIM Model Inputs

To develop a VISSIM simulation that can accurately model and analyze conditions, similar to Synchro, network geometry, traffic volumes and composition (e.g., cars, trucks, pedestrians) and traffic signal timing plans were collected by the team.

VISSIM Performance Measures

Similar to Synchro, the following performance measures were obtained from VISSIM:

- ■ **Vehicle Delay**: Vehicle delay will be calculated both at the intersection level, approach level, and network level in the study area during the weekday PM peak hour.
- ■ **Level of Service (LOS)**: While not directly output like in Synchro, LOS can be derived from average delay values using HCM thresholds.
- ■ **Queue Length**: Both average and maximum queue lengths will be measured at study intersections during the weekday PM peak hour.
- ■ **Vehicle Travel Time**: Average vehicle travel times will be collected along defined routes or links during the weekday PM peak hour.

- **Latent (Unmet) Demand**: Latent (unmet) demand represents the number of vehicles that are unable to enter the network due to congestion and oversaturation. This metric will be used to understand the extent of congestion (if any) for various alternatives.

PERFORMANCE MEASURE THRESHOLDS

The operating thresholds used in the traffic analysis were established for the City of Twin Falls and ITD as follows:

- **City of Twin Falls**: LOS D or better for roadways and intersections. (Determined through conversations with the City and consistent with other recent studies done in the area.)
- **ITD**: LOS E or better for intersections and critical lane groups. V/C less than or equal to 0.90 for intersections and critical lane groups. (This is not an official practice for ITD District 4 and is based on thresholds ITD uses for traffic studies on state highways.[3])

Existing Year 2025 No-Build Conditions

This section details the existing year 2025 no-build conditions evaluation and summarizes data collection, existing infrastructure, safety analysis, traffic volumes, and existing no-build traffic operations.

DATA COLLECTION

The project team obtained the following data or reviewed the document noted below for the existing no-build evaluation:

- **Existing and Active Plans, Studies, and Projects**:
  - Magic Valley's Metropolitan Transportation Plan (MTP) (on-going)
    - This plan is currently being developed and is expected to be adopted in early 2026. Data from this study was referenced from this project.
  - Magic Valley Origin-Destination Study (2021)
  - Snake River Crossing Study (2024)

- **Traffic Count Data**:
  - Counts were collected in September 2025 during the weekday AM, weekday PM, and weekend midday peak periods.

- **Crash Data**:
  - Intersection and roadway segment crash data was obtained from ITD for the most recent five years available (2020 – 2024).

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[3] Idaho Transportation Department. *Development Proportionate Share Contribution*. November 2020.

- **Signal Timing Data**:
  - Existing signal timing data sheets and phase diagrams were obtained from the City of Twin Falls and ITD. It was noted that ITD owns signals along US-93 and the City of Twin Falls owns all signals within the study area not on US-93. The City maintains all signals within the study area except for Golf Course Road and US-93 intersection, which is maintained by ITD.
  - To verify the signal timing plans and understand the signal system total inventory, a field visit was conducted by the team to inspect all traffic signal controllers and ensure that the most current timing plans and inventory were incorporated into the existing conditions model.
- **GIS Data**: GIS files were obtained related to geospatial information such as roadway network data (i.e., roadway characteristics), existing pedestrian and bicyclist infrastructure inventory, and the Magic Valley MPO's travel demand model.

Traffic Counts

Traffic counts were collected in September 2025 during a typical mid-weekday (Tuesday through Thursday) during the weekday AM (7:00 – 9:00 AM) and weekday PM (4:00 – 6:00 PM) peak periods, and during the weekend midday (11:00 AM – 1:00 PM) peak period at all signalized and unsignalized intersections. 24-hour tube counts were collected for a typical mid-weekday on roadways within the study area. Turning movement counts were also collected at 29 driveways located along Blue Lakes Boulevard, Fillmore Street, and Bridgeview Boulevard during the weekday PM peak period only. Attachment A provides traffic counts collected for this study.
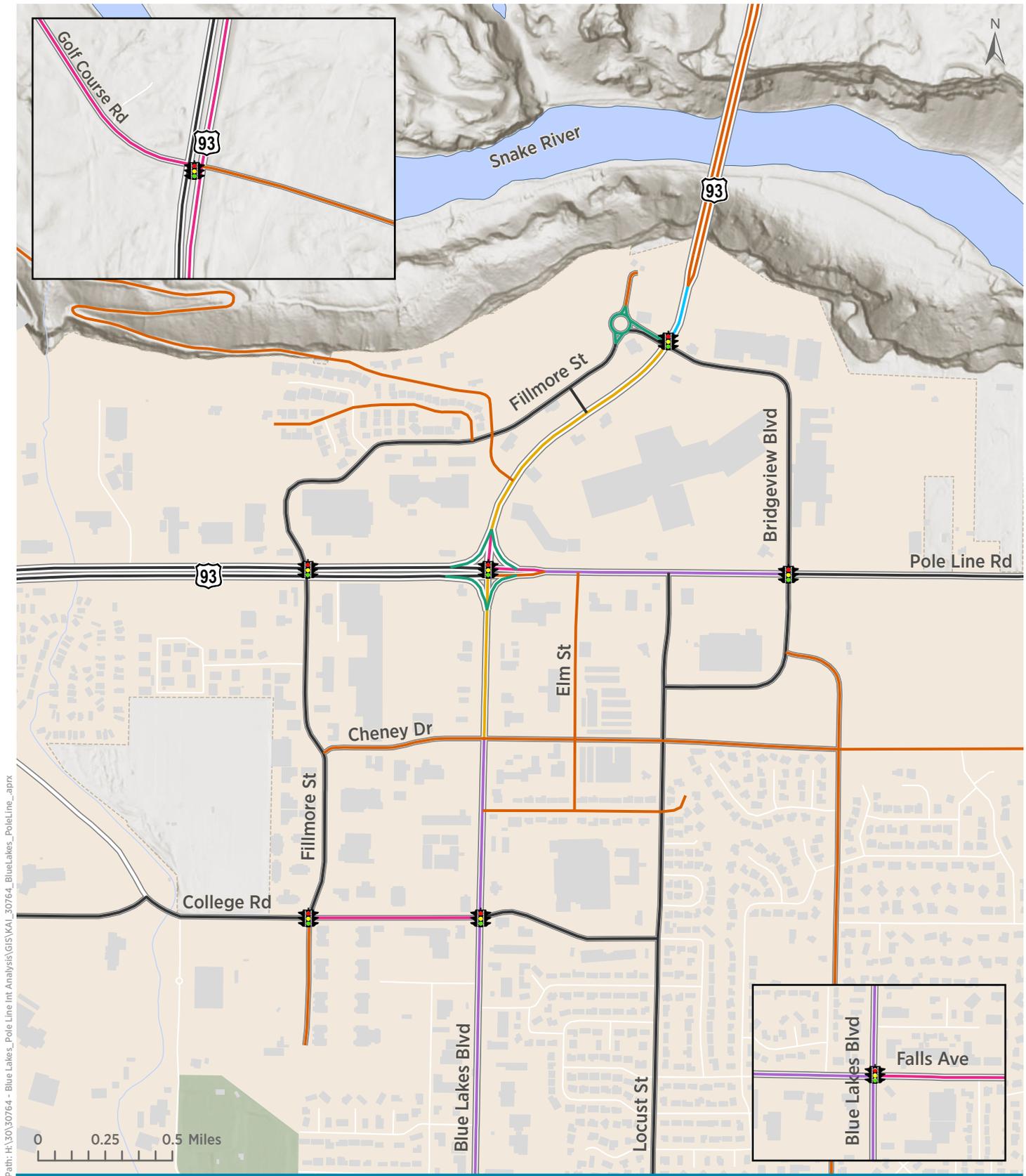
EXISTING INFRASTRUCTURE

Figure 3 illustrates the existing traffic control types for each study intersection and number of lanes along the roadways within the study area. The study area includes nine (9) signalized intersections and over 100 driveways and accesses with varying levels of access restrictions. Attachment B provides an inventory of all driveways within the study area in addition to the driveways where counts were collected.

Bicycle, Pedestrian, and Transit Considerations

Figure 4 illustrates the existing pedestrian and bicyclist infrastructure in the study area and summarizes pedestrian and bicyclist peak hour count data at each signalized intersection. As shown in the figure, there is existing sidewalk along all roadways within the study area. There is limited bicycle infrastructure other than the Canyon Rim Trail. The Canyon River Trail extends across the northern extents of the study area south of the bridge and follows the rim of the canyon area with an underpass that crosses underneath Pole Line Road (US-93) approximately 2,150 feet to the east of Washington Street.

Pedestrian and bicycle activity is generally low within the study area, except for a slight peak at the Blue Lakes Boulevard and Pole Line Road intersection during the weekend midday peak hour, likely due to commercial activity. During the weekday PM peak hour, ped activity is moderate relative to other time periods, particularly along Blue Lakes Boulevard.

Golf Course Rd

93

Snake River

93

Fillmore St

Bridgeview Blvd

Pole Line Rd

93

Elm St

Cheney Dr

Fillmore St

College Rd

Blue Lakes Blvd

Locust St

Blue Lakes Blvd

Falls Ave

Path: H:\30\30764 - Blue Lakes_Pole Line Int Analysis\GIS\KAI_30764_BlueLakes_PoleLine_.aprx

0   0.25   0.5 Miles

Control Type

Signalized

Park

City Limits

Data Sources: OpenStreetMap, ITD, City of Twin Falls

Total Number of Lanes

1   5
2   6
3   7
4

Figure 3. Existing Intersection and Roadway Infrastructure

Blue Lakes Boulevard and Pole Line Road Project
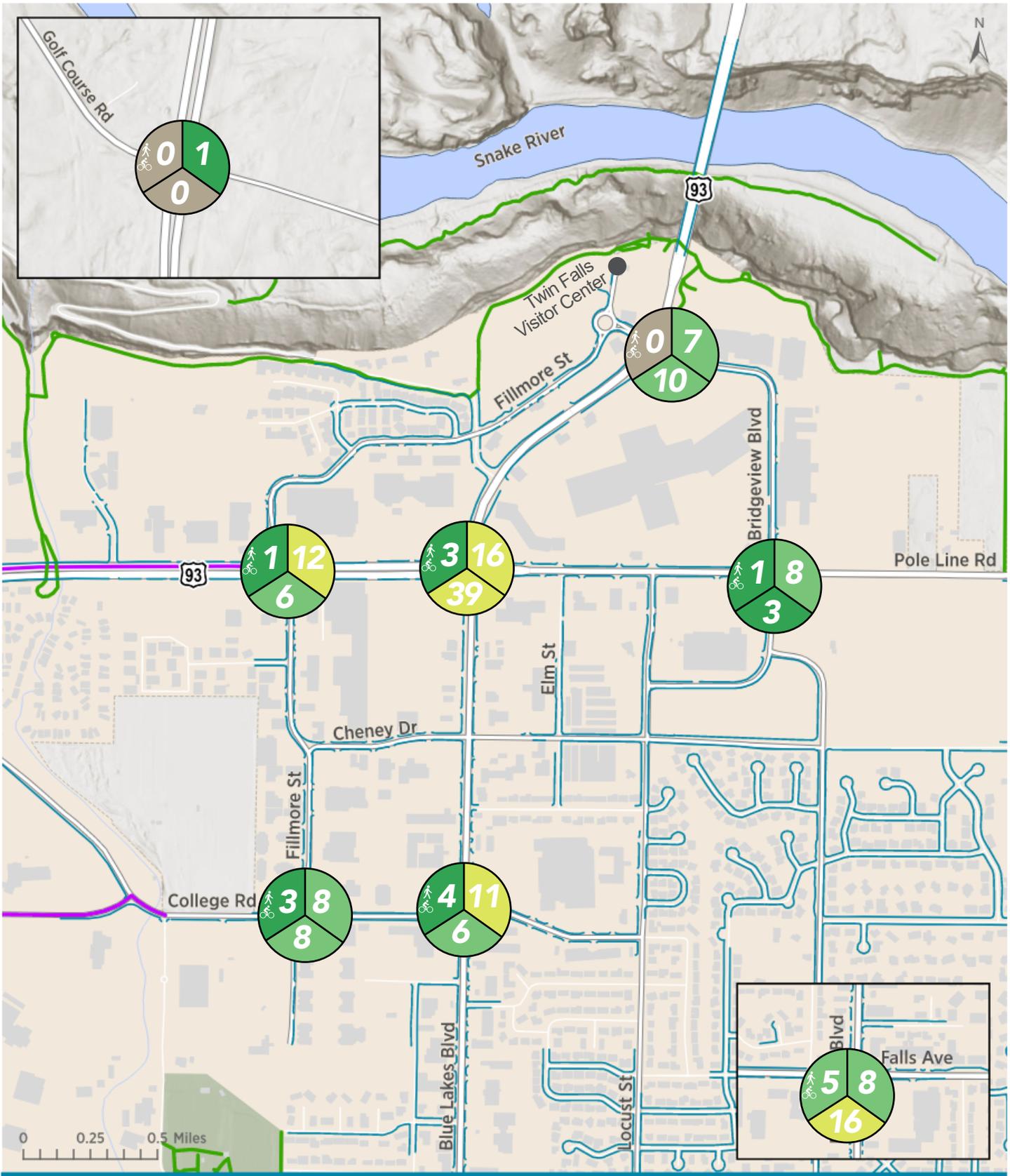
Figure 4. Pedestrian and Bicycle Infrastructure

Blue Lakes Boulevard and Pole Line Road Project

Legend

- Sidewalk
- Multi-Use Path
- Park Path
- Park
- City Limits

Pedestrian & Biclyclist Volume per hour

0 | 1 - 4 | 5 - 10 | 10+

Weekday AM | Weekday PM | Weekend Mid-day

Data Sources: OpenStreetMap, ITD, City of Twin Falls

Map labels:

Golf Course Rd

Snake River

93

Twin Falls Visitor Center

Fillmore St

Bridgeview Blvd

Pole Line Rd

Elm St

Cheney Dr

Fillmore St

College Rd

Blue Lakes Blvd

Locust St

Blvd

Falls Ave

93

Pie chart values:

- Golf Course Rd: 0 | 1 | 0
- Visitor Center: 0 | 7 | 10
- US-93 / Fillmore: 1 | 12 | 6
- Central: 3 | 16 | 39
- Pole Line / Bridgeview: 1 | 8 | 3
- College Rd / Fillmore: 3 | 8 | 8
- College Rd / Blue Lakes: 4 | 11 | 6
- Falls Ave: 5 | 8 | 16

0   0.25   0.5 Miles

The Twin Falls Visitor Center is also within the study area, located directly southwest of the Perrine Bridge. The Twin Falls Visitor Center is a significant tourist attractor within the Twin Falls area and provides bike rentals for people to access the Canyon Rim Trail.

Ride Twin Falls Transit (Ride TFT), Twin Fall's local transit agency, provides on-demand micro transit and scheduled ride services accessible via their mobile app or by phone call. Their transit services are operational during weekdays between 6:00 AM to 9:00 PM and Saturdays from 7:00 AM to 9:00 PM.

Freight Considerations

The study area carries high freight activity particularly along the US-93 corridor which is a designated freight route[4] (can accommodate freight up to 129k lbs) which runs north and south along the Perrine Bridge to the Blue Lakes Boulevard and Pole Line Road intersection and to the east along Pole Line Road (US-93). In addition, the US-93 corridor is classified as a Critical Rural Freight Corridor[5], which is a roadway that provides a connection to the Primary Highway Freight System (PHFS).

Access Locations and Spacing

There are multiple accesses and driveways to private property along the roadway corridors as listed below and illustrated in Attachment B:

- Blue Lakes Boulevard (Bridgeview Boulevard to Pole Line Road) – approximately two (2) accesses
- Blue Lakes Boulevard (Pole Line Road to Falls Avenue) – approximately 33 accesses
- Pole Line Road (Blue Lakes Boulevard to Bridgeview Boulevard) - approximately 5 accesses
- Pole Line Road (Blue Lakes Boulevard to Fillmore Street) – approximately 5 accesses
- Fillmore Street (Blue Lakes Boulevard to Pole Line Road) – approximately 11 accesses
- Fillmore Street (Pole Line Road to College Road) – approximately 13 accesses
- Bridgeview Boulevard (Blue Lakes Boulevard to Pole Line Road) - approximately 5 accesses

Accesses along Blue Lakes Boulevard and Pole Line Road are closely spaced with little to no access management (i.e., most are unsignalized, full-movement accesses). The exception to that is along Pole Line Road between Fillmore Street and Blue Lakes Boulevard where access is controlled on all driveways by a raised median down the center of Pole Line Road. Many of the accesses have only right-in, right-out movements allowed whereas the few others have only the right-in, right-out, left-in movements allowed.

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[4] Idaho Transportation Department. *Designated Routes up to 129,000 Pounds: Idaho State Highway System*. March 2019.
[5] Idaho Transportation Department. *Idaho's 2023 Strategic Freight Plan*. March 2023.

Signal Systems Inventory

The project team reviewed the existing signals system to help understand the capabilities and limitations of the system. There are eight (8) signals in the study area. The signals were field verified in October 2025; this section summarizes the findings from this field evaluation.

Of the eight (8) signalized intersections within the project limits, one is owned, operated, and maintained by ITD District 4, three (3) are owned by ITD District 4 but operated and maintained by Twin Falls, and four are owned, operated, and maintained by Twin Falls. Both ITD and Twin Falls operate Econolite Cobalt controllers with ASC3 software and use video for stop bar detection at the project intersections. The eight signalized intersections operated and maintained by Twin Falls use IR Opticom for emergency vehicle preemption. Signalized intersections along the state routes are equipped with battery backup systems and have an Axis multi-sensor camera for traffic monitoring. For remote connectivity, ITD utilizes cellular communications, while Twin Falls primarily utilizes wireless radios communicating back to a single antenna at the Police Department building, where fiber optic communications is routed to the Public Works building. Twin Falls operates an on-premises server with Econolite Centracs signal management system for remote signal timing changes and has the ability to pull up video feeds from the Axis cameras; however, video streaming quality is poor, with noisy feeds that cut out intermittently, most likely due to radio aiming and bandwidth limitations.

Additional equipment inventory details regarding the project's signalized intersections are included in Attachment C.

SAFETY ANALYSIS

The project team performed a safety analysis to identify existing crash trends and patterns within the study area. This analysis uses crash data obtained from ITD from the most recent five (5) years available (2020 – 2024) for all intersections and roadways within the study area (see Attachment D). Finally, network screening was performed according to methods outlined in Chapter 4 of the Highway Safety Manual[6].

Crash Trends Summary

Crash trends were identified based on the location of crashes (e.g., associated with an intersection, a segment or driveway within the study area), how number of crashes varied across the study period, the severity of crashes as well as the crash type. A breakdown of individual crash type and severities is shown in Exhibit 3. Additionally, Attachment E provides detailed information and results from this analysis.

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[6] American Association of State Highway Transportation Officials (AASHTO). *Highway Safety Manual 1st Edition*. 2010.
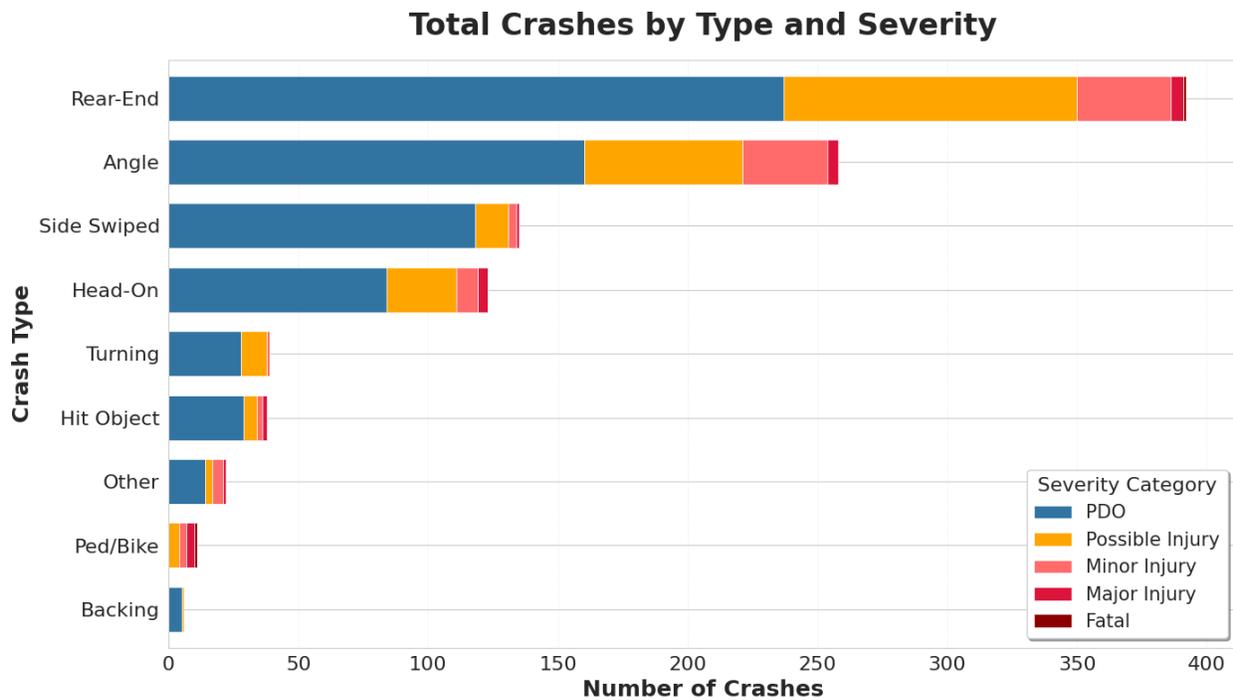
Total Crashes by Type and Severity

Exhibit 3 Distribution of Crash Types and Severity

Key numbers from this analysis are given below:

- **Total Crashes:** A total of 1,143 crashes were identified across the study area roadway network during the 5-year study period. 622 crashes occurred at an intersection, and 521 crashes took place along a roadway segment.
- **Driveway Crashes:** Of the 521 crashes that took place along roadway segments, 38% (198 crashes) were associated with entering/exiting traffic from driveways.
- **Crashes by Year**: The number of crashes peaked in 2021 (268) and remained steady, until dropping slightly to 238 crashes in 2024.
- **Crash Severity:** A total of 337 crashes were more severe than Property Damage Only (PDO) including 87 that resulted in minor injuries and 20 that resulted in major injuries. A total of 2 fatal accidents were reported during the study period; one resulting from a rear-end collision at the intersection of Blue Lakes Boulevard and College Road, while the other occurred at Blue Lakes Boulevard and Falls Avenue intersection where a pedestrian was struck.
- **Crash Types:** Nearly 40% of the identified crashes were rear-end crashes (458 crashes) making it the most common crash type, followed by angle crashes (303 crashes; 27%) and side-swiped crashes (148; 13%). 10 crashes (1%) involved vulnerable road users, e.g., pedestrians or bicyclists, where all resulted in injuries.

Crash Rate and Severity by Location

This analysis evaluated Equivalent Property Damage Only (EPDO) values and Crash Rates according to the Highway Safety Manual (FHWA 2009) to screen the network and identify intersections and segments with the highest levels of crash activity. EPDO values place higher weights to crashes that result in a fatality or severe injury and consider the frequency of these crashes to identify critical locations. Crash rates are based on crash frequency and are normalized by the associated traffic volumes passing through these locations. Crash rates are reported in crashes per million entering vehicles (intersections) and crashes per million vehicle miles traveled (roadway segments).

Based on the analysis, intersections and segments within the study area that rank the highest in terms of EPDO and crash rates were identified and are listed below (see Figure 5). A breakdown of the crash types and severities at these locations is provided in Attachment E.

- **Intersections**

    - Blue Lakes Boulevard and Falls Avenue: Highest number of high-severity crashes (i.e., highest EPDO score) within the study area, including one fatal crash resulting from a pedestrian being struck at this intersection while a rear-end crash resulted in major injuries. The most common crash type was rear-end crashes while other predominate crash types include side swipe and angle crashes.
    - Pole Line Road and Fillmore Street: Intersection with highest crash rate (1.66 crashes per 1 million entering vehicles) and highest overall number of recorded crashes (113). 3 resulted in major injuries from angle crashes (2) and head-on crashes (1) respectively.
    - Blue Lakes Boulevard and College Road: One fatality resulting from a rear-end crash. Additionally, 4 major injuries were reported from rear-end (2) and angle (2) crashes respectively.
    - Blue Lakes Boulevard and Pole Line Road: Ranks fourth in terms of EPDO and third in terms of crash rates. A total of 100 crashes were recorded during the 5-year study period, predominantly rear-end and side-swipe crashes. A major injury was reported from a vehicle running off the road and hitting a fixed object.
    - Blue Lakes Boulevard and Fillmore Street / Bridgeview Avenue: Located immediately adjacent to a roundabout and recorded 68 crashes during the 5-year study period including 34 rear-end crashes and 12 side swipe crashes.

- **Roadway Segments**

    - Pole Line Road (US-93) - Washington Street to Blue Lakes Boulevard: Ranks highest among segments in terms of EPDO and frequency with 153 crashes in total. The segment also has a high density of driveways contributing to crashes associated with driveways, and the highest number of head-on crashes.
    - Blue Lakes Boulevard- Pole Line Road to Falls Avenue: 129 crashes recorded in total with highest number of crashes (58) associated with driveways due to high driveway density.
    - Blue Lakes Boulevard / US-93 - Pole Line Road to Golf Course Road: Highest number of rear-end (69) crashes and side swipe (28) crashes recorded on this segment.
    - Pole Line Road – Blue Lakes Boulevard to Bridgeview Boulevard: Highest crash rate with 7.49 crashes per 1 Million vehicle miles traveled on this segment. Most common crash types include angle and head-on crashes attributed to the presence of driveways and two-way, left- turn lanes.
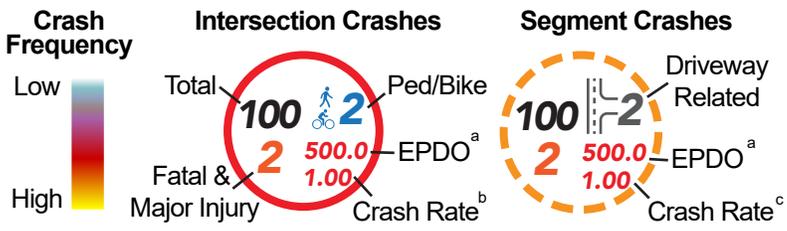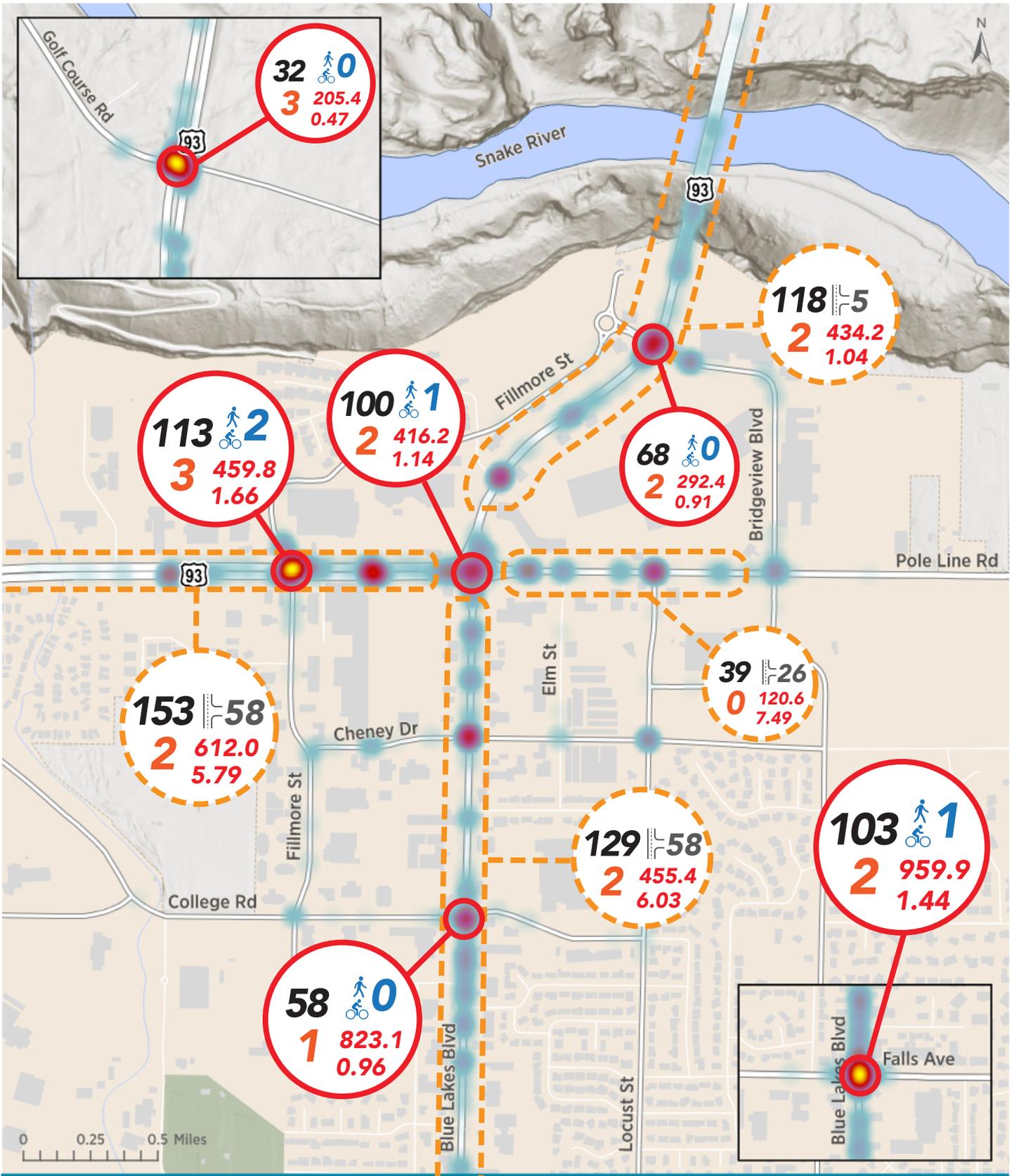
Figure 5. Network Crash Summary
Blue Lakes Boulevard and Pole Line Road Project

Snake River

Golf Course Rd

32 🚶0
3 205.4
   0.47

118 5
2 434.2
   1.04

113 🚶2
3 459.8
   1.66

100 🚶1
2 416.2
   1.14

68 🚶0
2 292.4
   0.91

Fillmore St

Bridgeview Blvd

Pole Line Rd

153 58
2 612.0
   5.79

39 26
0 120.6
   7.49

Elm St

Cheney Dr

Fillmore St

129 58
2 455.4
   6.03

103 🚶1
2 959.9
   1.44

College Rd

58 🚶0
1 823.1
   0.96

Blue Lakes Blvd

Locust St

Blue Lakes Blvd

Falls Ave

0   0.25   0.5 Miles

Crash Frequency

Low

High

Intersection Crashes

Total
100 🚶2
2 500.0
   1.00
Fatal & Major Injury — Ped/Bike — EPDO[a] — Crash Rate[b]

Segment Crashes

Driveway Related
100 2
2 500.0
   1.00
EPDO[a] — Crash Rate[c]

Data Sources: OpenStreetMap, ITD, City of Twin Falls
Crash data reported for year 2020 - year 2024

[a] EPDO = Equivalent Property Damage Only
[b] Crash Rate at an intersection = Number of Crashes per 1,000,000 Entering Vehicles
[c] Crash Rate at a segment = Number of Crashes per 1,000,000 Vehicle Miles Traveled

Systemic Safety Analysis

Systemic safety analysis principles establish the need to consider the safety risks associated with locations without documented crash history. This is because severe crashes are rare events and waiting for an increased frequency of crashes often fails to identify where a severe crash is more likely to happen. The systemic approach shifts the focus from where crashes occurred to where risk factors exist by identifying locations that share similar high-risk roadway characteristics (e.g., poor geometric design, operational deficiencies, or lack of critical safety infrastructure) that are commonly known to cause crashes elsewhere in the network. Therefore, it's a way of identifying high-risk sites proactively to prevent future crashes.

Figure 6 identifies specific high-risk geometric and operational features across the study area. These characteristics are used to prioritize locations for safety treatments based on inherent risk:

- **Skewed Intersection Geometry:** A non-90-degree intersection angle reduces the sight distance for drivers turning onto the main road, making it harder to judge the speed of approaching traffic[7]. This is a common factor in angle crashes.
- **Uncoordinated Signals:** Signals that are not timed properly with adjacent signals are commonly known to cause frequent stopping, starting and speeding, hence, directly increasing the likelihood of rear-end crashes[8].
- **High Driveway Density:** A high number of driveways in a short segment introduces conflict points where vehicles frequently enter and exit the roadway. This significantly increases the risk of turning, angle, and side-swipe crashes, especially on multi-lane highways and arterial roadways[9].
- **Permissive Left-turn Phasing:** Requires drivers to visually search for and select a gap in oncoming traffic before making a left-turn. This increases the risk of angle crashes, especially on multi-lane roadways when approach speeds are high[10].
- **Right-Turn Slip Lane:** Slip lanes are yield controlled and allow vehicles to maintain high speeds while turning right. However, this can make it difficult for drivers to yield to pedestrians crossing the slip lane and creates a merge conflict point[11].
- **Yield Controlled Only:** Relying solely on a yield sign to control access from a minor road is less safe than a stop-controlled intersection/movement and increases the potential for angle crashes.

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[7] American Association of State Highway Transportation Officials (AASHTO). *Highway Safety Manual 1st Edition*. 2010.
[8] Federal Highway Administration (FHWA), *Signalized Intersections Informational Guide 2nd Edition.* July 2013.
[9] National Cooperative Highway Research Program (NCHRP). *Report 659: Guide for the Geometric Design of Driveways.* 2010.
[10] Federal Highway Administration (FHWA). *Safety Evaluation of Protected Left-Turn Phasing and Leading Pedestrian Intervals on Pedestrian Safety.* October 2018.
[11] Jiang et al., 2020. *Impact of right-turn channelization on pedestrian safety at signalized intersections.* December 2019.
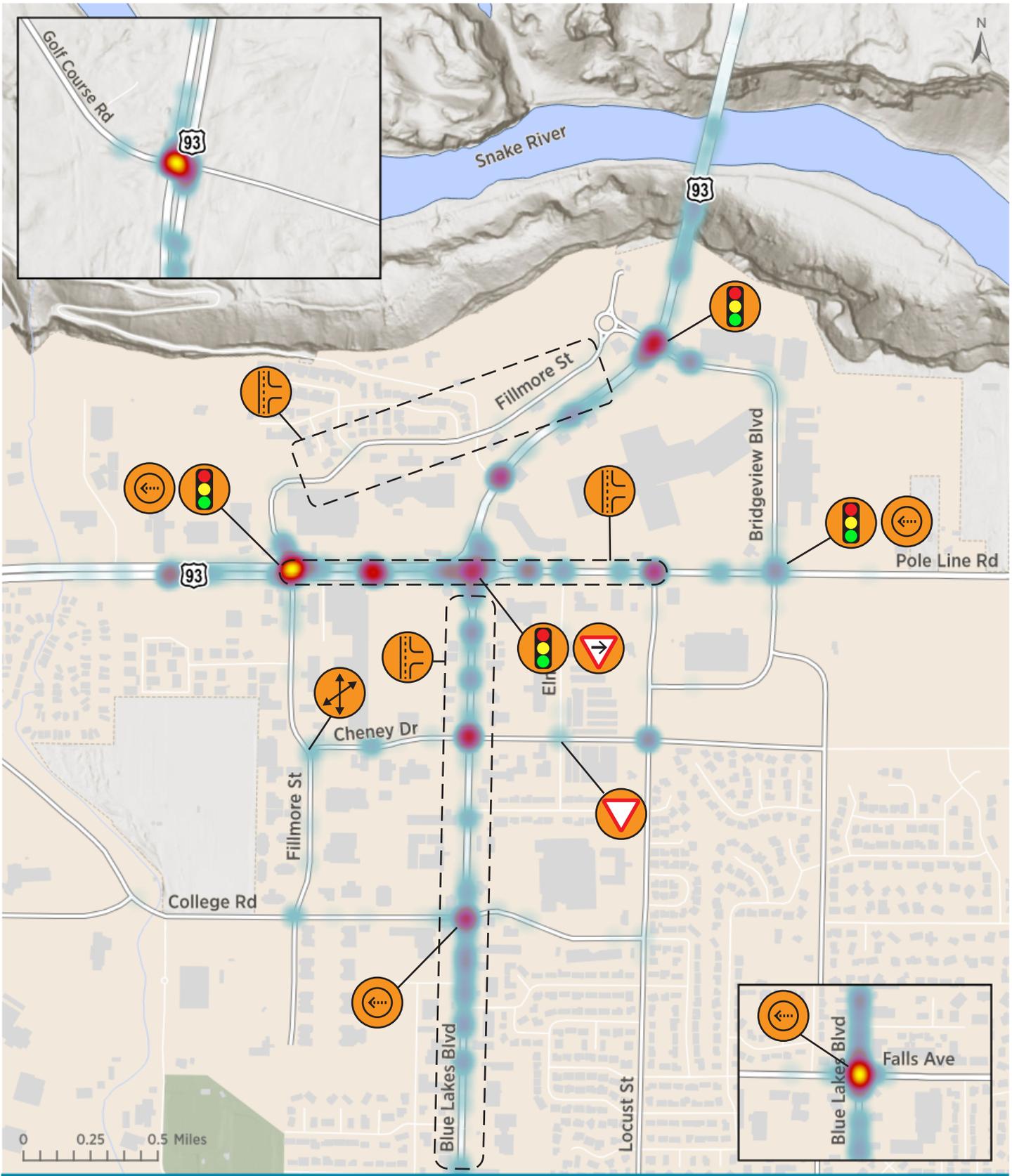
Crash Frequency
Low
High

- Skewed Unsignalized Intersection
- Uncoordinated Signal
- High Driveway Density
- Yield Controlled Only
- Permissive Left-turn Phasing
- Right-turn Slip Lane

Data Sources: OpenStreetMap, ITD, City of Twin Falls
Crash data reported for year 2020 - year 2024

Figure 6. Infrastructure Risk Indicators

Blue Lakes Boulevard and Pole Line Road Project

EXISTING YEAR 2025 TRAFFIC VOLUMES

Traffic counts used for the traffic operations analysis were collected in September 2025. This section summarizes trends identified within the traffic count data and outlines the approach for selecting peak hours and any volume adjustments made to the data for use in the analysis.

Daily Traffic

Exhibit 4 shows the daily traffic along Blue Lakes Boulevard and Pole Line Road to identify peak hours during a typical weekday. These volumes represent 24-hour tube counts that were collected on a mid-weekday in September 2025. The exhibit highlights the weekday AM peak hour occurring between 7:30 to 8:30 AM and the weekday PM peak hour occurring between 4:45 to 5:45 PM. As such, these are the peak periods utilized in the operations analysis for this study for a typical weekday.
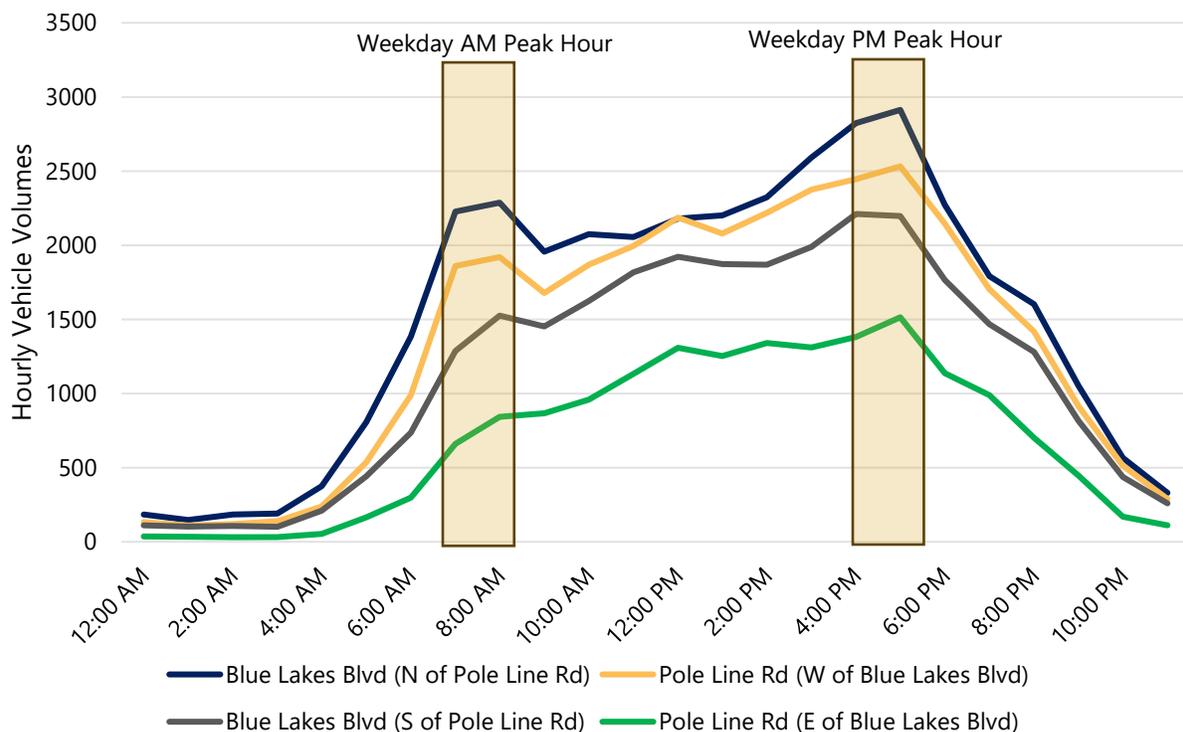
Exhibit 4. 24-Hour Weekday Volume Profiles (Bi-Directional)

Volumes along Blue Lakes Boulevard, north of Pole Line Road, show the highest volumes, nearing 3,000 vehicles during the evening peak. The second highest volumes are observed on Pole Line Road, west of the Blue Lakes Boulevard and Pole Line Road intersection. This is consistent throughout the typical mid-weekday. Volumes on each leg, except the north leg, are generally higher during the midday than the morning period. Notably, the weekday AM and PM peak for these segments extend over about a 2-hour period rather than a single peak hour period. Figure 7 shows the existing year 2025 daily traffic projected from the travel demand model and 24-hour counts collected during the weekday in September 2025.
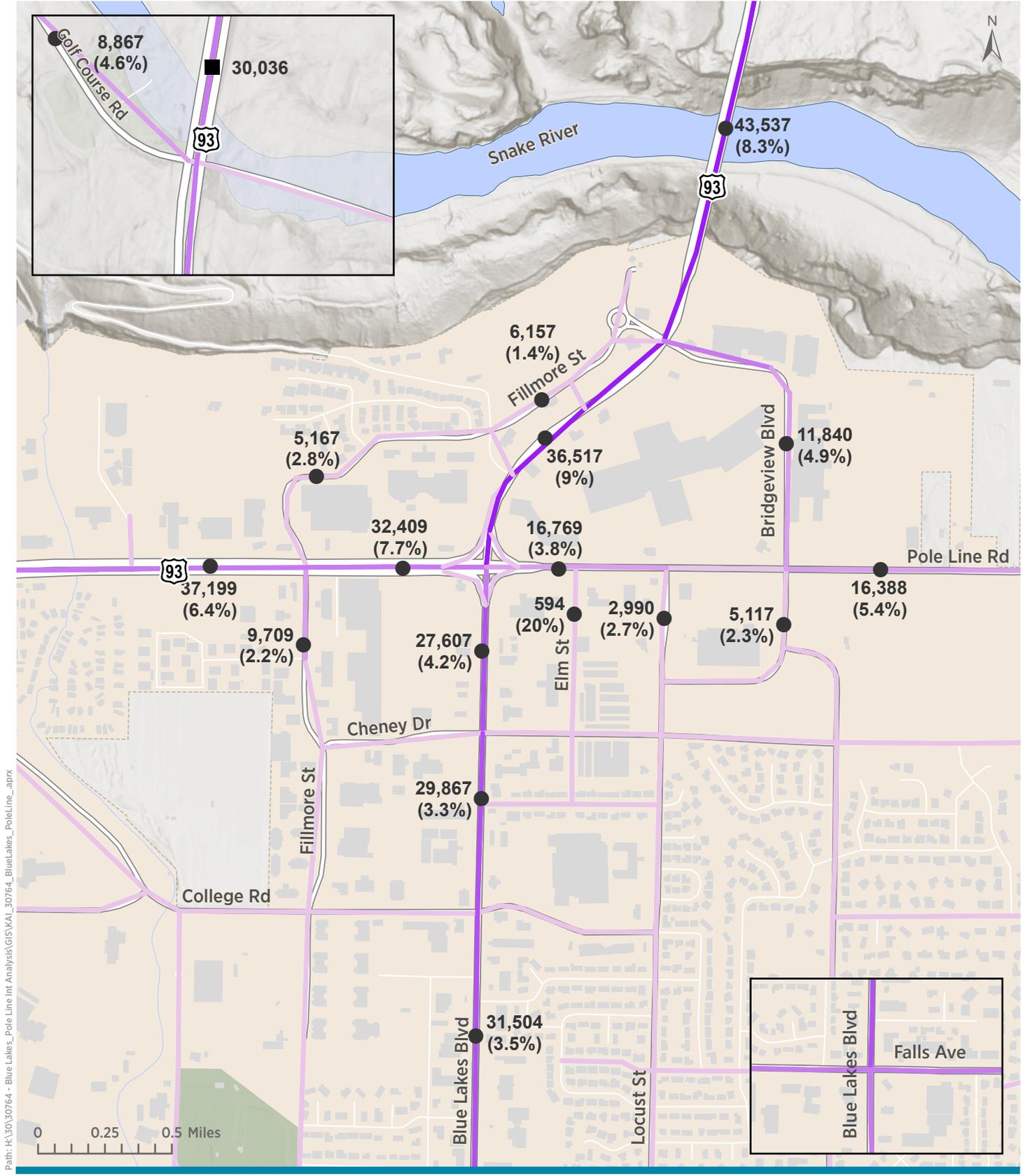
Figure 7. Existing Year 2025 Daily Traffic Volumes (Model and Count Data)

Blue Lakes Boulevard and Pole Line Road Project

2025 Model Volume

2025 Traffic Count (Heavy Vehicle Percentage)
Automated Traffic Recorder
Park
City Limits

— 0 - 5,000
— 5,000 - 10,000
— 10,000 - 20,000
— 20,000 - 30,000
— > 30,000

Data Sources: OpenStreetMap, ITD, City of Twin Falls, MVMPO Travel Demand Model

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Turning Movement Counts

Exhibit 5 illustrates turning movements at the Blue Lakes Boulevard and Pole Line Road intersection for the weekday AM, weekday PM, and weekend midday peak hours. As shown, during the weekday AM peak hour, the southbound right-turn and through movements are the heaviest with the northbound through and eastbound left-turn movements being the next highest movements. Similarly to the weekday AM peak hour, the southbound through and right-turn movements as well as the northbound through and eastbound left-turn movements remain the critically high movements at this intersection during the weekday PM peak hour. The heaviest movements during the weekend midday peak hour are similar to the other peak hours, as the southbound right-turn and through movements as well as the westbound left-turn and northbound through movements are the highest.
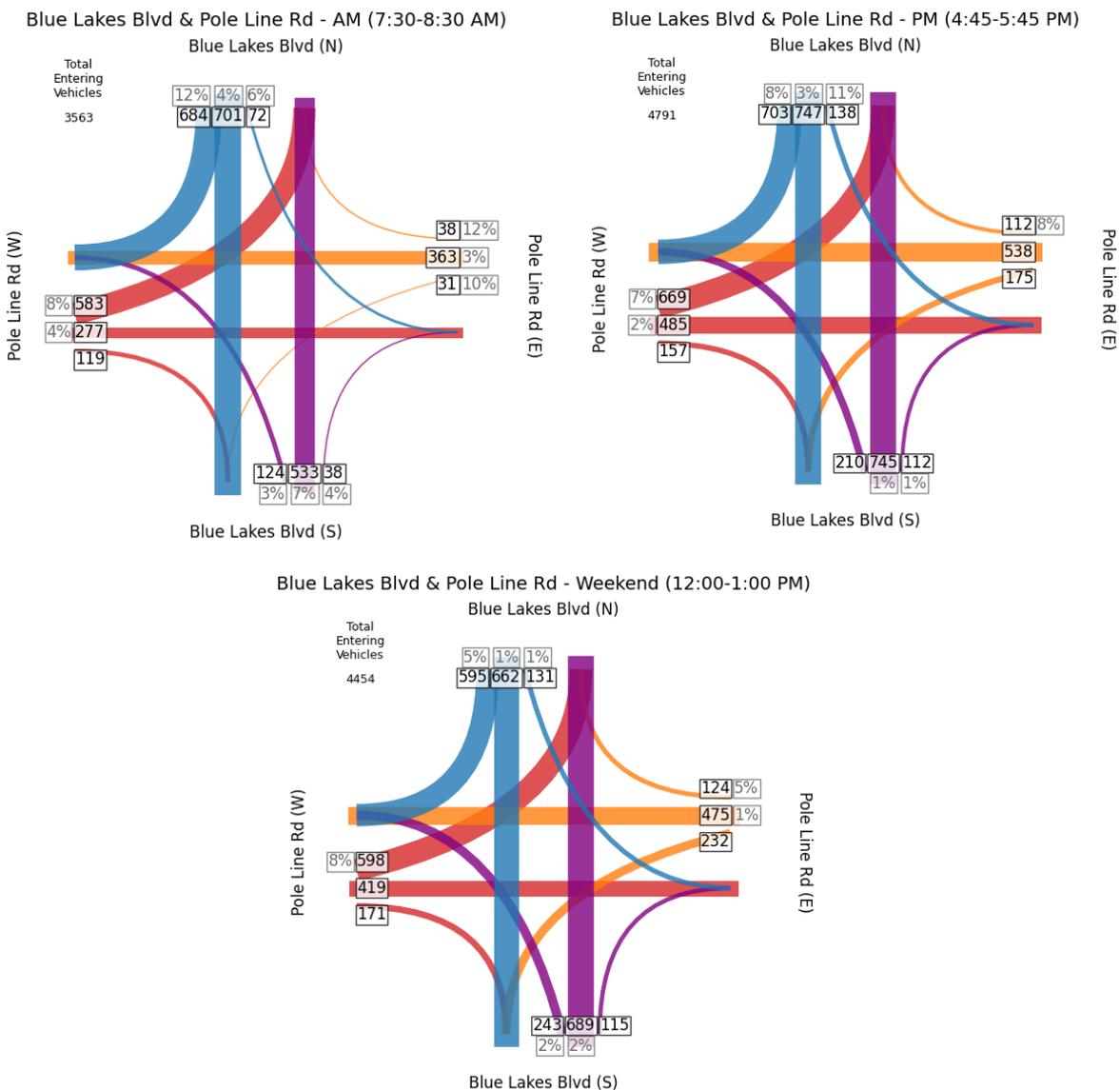

Exhibit 5. Blue Lakes Boulevard / Pole Line Road Turning Movements (Weekday AM, PM and Weekend Peak Hours)

*Note: Heavy Vehicle Percentages (HV%) shown in light grey are 0% if no box is shown.

A high percentage of the movements at the Blue Lakes Boulevard and Pole Line Road intersection are also heavy vehicles. Heavy vehicles account for 9% of the total daily volume on the southbound approach of the intersection. During the weekday PM peak hour, 11% of southbound left-turning vehicles, 8% of southbound right-turning vehicles, and 7% of the eastbound left-turning vehicles at the Blue Lakes Boulevard and Pole Line Road intersection are freight traffic. Those movements tend to have the highest freight traffic during the weekday peak hours.

Exhibit 6 compares total entering vehicles (TEV) during the peak hours for other signalized intersections within the study area. The other intersections' total entering volumes that are not noted below are summarized in Attachment F.
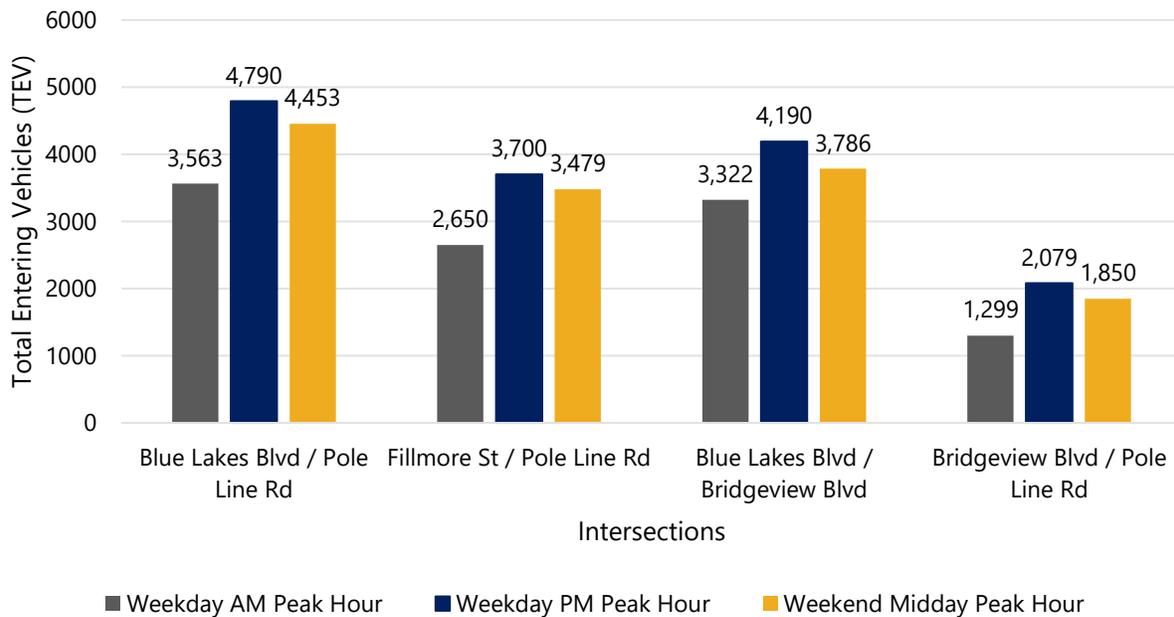

Exhibit 6. Study Intersection TEV (Total Entering Vehicles)

These intersections all show the highest volumes entering during the weekday PM peak hour with the second highest period being the weekend midday peak hour. The Blue Lakes Boulevard and Pole Line Road intersection has the highest TEV comparatively.

Seasonal Volume Trends

Monthly volumes along US-93 were analyzed to determine if any seasonal adjustments need to be made to the collected counts. Exhibit 7 summarizes ADT by month from 2024 collected by ITD's Automatic Traffic Recorder (ATR) located along the Perrine Bridge (ATR #303).
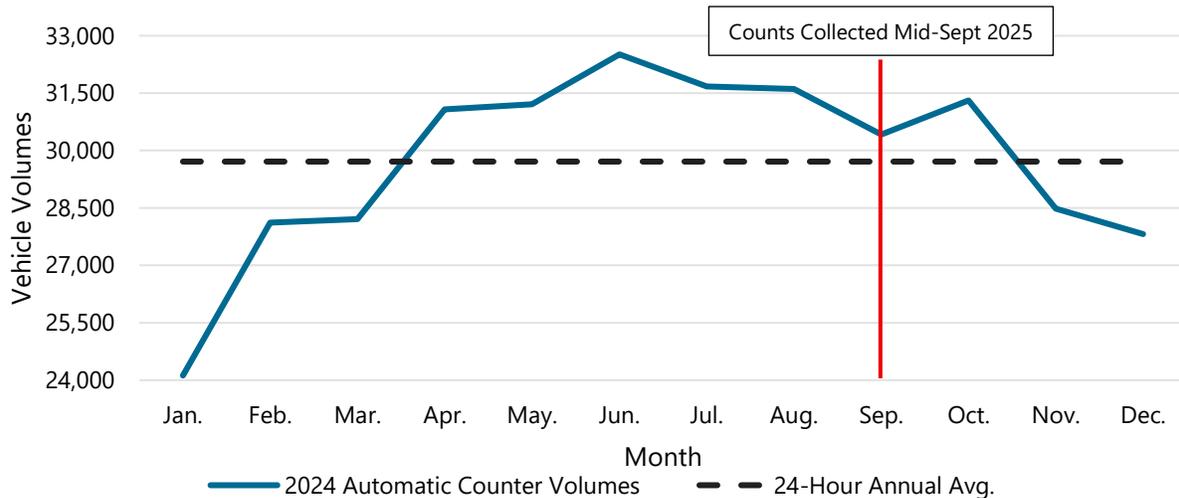

Exhibit 7. Year 2024 AADT by Month (ATR 303 – Perrine Bridge)

The average 24-hour annual average daily traffic (AADT), represented by the black dashed line, is slightly lower than 30,000. Volumes increase steadily throughout the Spring season and peak at just over 32,000 vehicles in June before gradually declining. Traffic levels stay above average until about mid-October and early-November and continue to decline toward the end of the year.

Traffic counts used for this analysis were collected in September 2025, as indicated by the red line in the graphic, when volumes are still expected to be above the annual average. This time frame falls just after the summer peak but before the late-year decline, representing typical mid-range demand so no seasonal adjustments were made to the traffic volumes.

Driveways

Figure 8 displays the entering and exiting volumes at each driveway where counts were collected (for the weekday PM peak hour only) to illustrate which driveways and accesses are most heavily utilized. The heaviest utilized driveways are the Perrine Street / Fillmore Street access, the Costco accesses on Pole Line Road and Fillmore Street, and the Magic Valley Mall access on Bridgeview Boulevard just to the east of Blue Lakes Boulevard.

Path: H:\30\30764 - Blue Lakes_Pole Line Int Analysis\GIS\KAI_30764_BlueLakes_PoleLine.aprx

Snake River

Fillmore St

Bridgeview Blvd

Pole Line Rd

Elm St

Locust St

Cheney Dr

Fillmore St

Blue Lakes Blvd

0   0.25 Miles

N

Data Sources: OpenStreetMap, ITD, City of Twin Falls

Weekday PM Peak Hour Driveway Counts (5 PM to 6 PM)

- < 10
- 11 - 50
- 51 - 150
- 151 - 300
- > 300

Figure 8. Access Volumes and Utilization

Blue Lakes Boulevard and Pole Line Road Project

In-Process Developments

Two in-process developments, In-N-Out and Raising Canes, were accounted for in the development of existing year 2025 traffic volumes used in the traffic operations analysis.

In-N-Out weekday AM and weekday PM peak hour trip generation volumes were provided by the City of Twin Falls. Since site trips were not available for any of the peak hours for Raising Canes or for the weekend peak hour for In-N-Out, trip generation volumes were estimated using the ITE Trip Generation Manual 12th Edition[12].

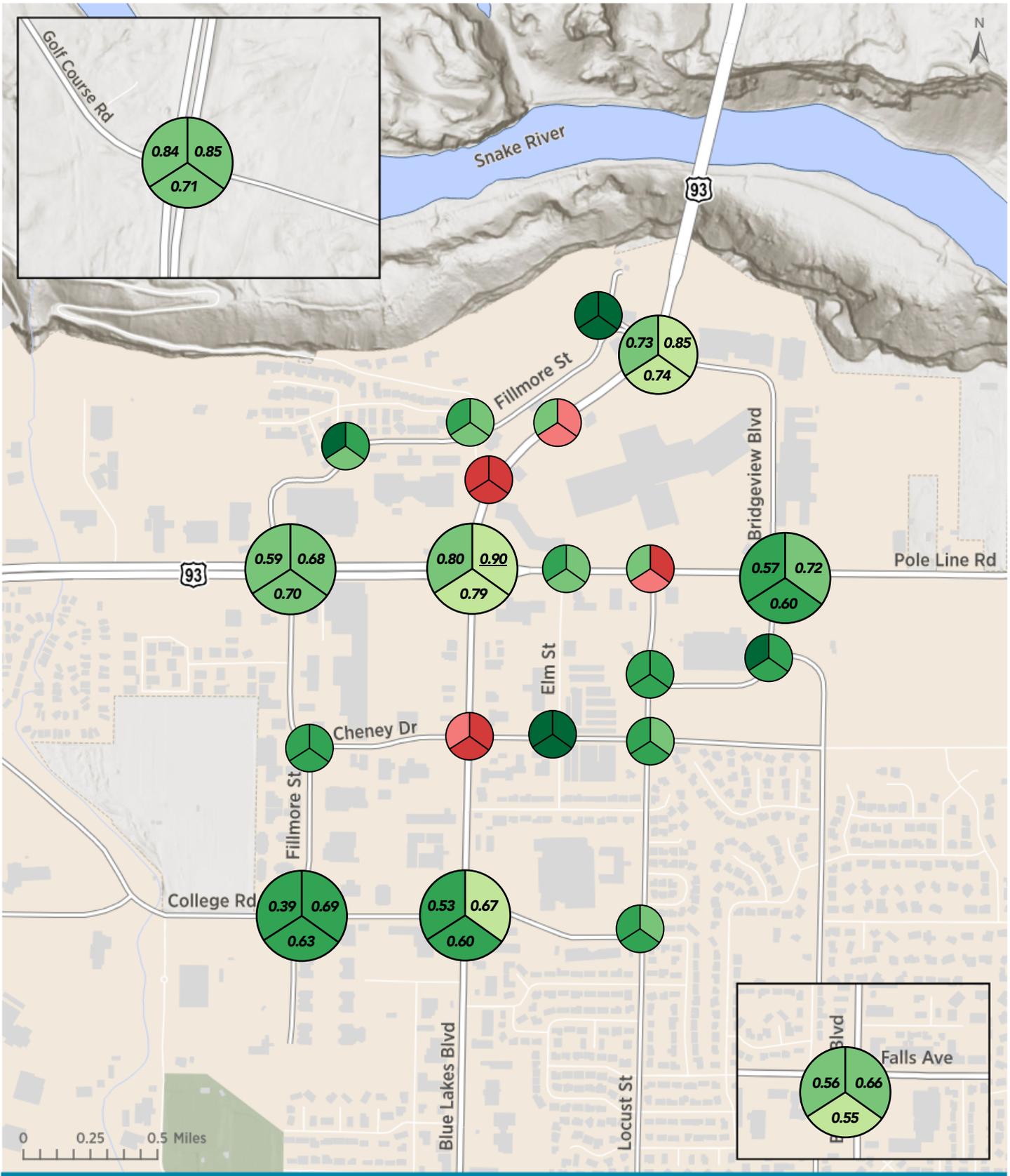## Regional vs. Local Traffic Patterns

The Blue Lakes Boulevard and Pole Line Road intersection and adjacent roadway system serve both local and regional traffic. Information sourced from Replica, a big data platform that estimates travel trends based on data sources including but not limited to traffic volumes, US Census data, cell phone data, and financial transactions was used to summarize the regional vs. localized users through the intersection. The intersection approximately has 40% of its trips not beginning or ending in Twin Falls and approximately 15% of trips travel further than 60 miles to get to their destination. This highlights the large number of regional trips and the importance of this intersection as a regional connection. Another pattern seen of the volume through the intersection is approximately 40% of the trips go or come directly from I-84. This additionally shows the regional aspect of the intersection as well as the critical connection of US-93 between I-84 and Twin Falls.

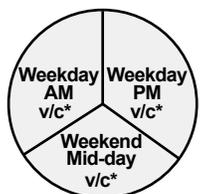## EXISTING NO-BUILD OPERATIONS ANALYSIS

An operational analysis was performed on the roadway system under existing year 2025 conditions during the weekday AM, weekday PM, and weekend midday peak hours. This section summarizes the results from the analysis. As noted previously, two models of the existing network were developed as part of this project. The results in this section are primarily from Synchro 12. The existing conditions traffic analysis uses the traffic volumes and existing intersection lane configurations as summarized in Attachment F.

Figure 9 displays the intersection LOS for each study intersection and V/C ratios for each signalized intersection as reported for existing year 2025 during the weekday AM, weekday PM, and weekend midday peak hours. Attachment G provides a table summary of the existing year 2025 no-build traffic results and Operational Worksheets.

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[12] Institute of Transportation Engineers. *Trip Generation Manual, 12th Edition*. August 2025.

Inset (top left, Golf Course Rd):
0.84 | 0.85
0.71

Intersection values on map:
- 0.73 | 0.85 / 0.74
- 0.59 | 0.68 / 0.70
- 0.80 | 0.90 / 0.79
- 0.57 | 0.72 / 0.60
- 0.39 | 0.69 / 0.63
- 0.53 | 0.67 / 0.60

Inset (bottom right, Falls Ave):
0.56 | 0.66
0.55

Map labels: Golf Course Rd, Snake River, 93, Fillmore St, Bridgeview Blvd, Pole Line Rd, Elm St, Cheney Dr, Fillmore St, College Rd, Blue Lakes Blvd, Locust St, Blvd, Falls Ave

Data Sources: OpenStreetMap, ITD, City of Twin Falls

Legend:

Weekday AM v/c* | Weekday PM v/c*
Weekend Mid-day v/c*

Signalized Intersection   **Unsignalized Intersection**

Level of Service (LOS)
- A
- B
- C
- D
- E
- F

Figure 9. Existing Year 2025 No-Build Traffic Operations

Blue Lakes Boulevard and Pole Line Road Project

*v/c = Volume to Capacity Ratio. Underlined v/c ratios highlight locations where volumes exceed 90% of capacity

Level of Service and Capacity Results

As shown in Figure 9 all signalized intersections operate under capacity and at LOS D or better under existing year 2025 no-build conditions. The intersections and movements that exceed a V/C of 0.90 or more:

- Blue Lakes Boulevard / Pole Line Road

  – Eastbound Left-Turn: V/C of 0.92 (weekday PM peak hour)

- Blue Lakes Boulevard / Fillmore Street / Bridgeview Boulevard

  – Eastbound Left-Turn: V/C of 0.93 (weekday PM peak hour)
  – Northbound Through: V/C of 0.93 (weekday PM peak hour)
  – Southbound Left-Turn V/C of 0.93 (weekday PM peak hour)

- Blue Lakes Boulevard / College Road

  – Eastbound Right-Turn: V/C of 0.93 (weekday PM peak hour)

- US-93 / Golf Course Road

  – Southbound Through-Right: V/C of 0.93 (weekday PM peak hour)
  – Eastbound Right-Turn: V/C of 0.91 (weekday AM peak hour)

Vehicle Queuing and Other Considerations

Table 1 provides the existing storage capacity for each signalized intersection and respective lane group and summarizes the 95th percentile queues for existing year 2025 conditions during the weekday AM, weekday PM, and weekend midday peak hours.

Table 1. Existing Storage Capacity and 95th Percentile Queuing Summary (Existing Year 2025)

Intersection	Lane Group	Existing Storage (Feet)	95th Percentile Queues (Feet)[1, 2, 3]		
			Weekday AM	Weekday PM	Weekend Midday
US-93 / Golf Course Rd	EBLT	-	25	50	25
	EBR	875	275	250	200
	WBT	-	50	25	50
	NBL	730	125	225	125
	NBT	-	325	425	275
	SBL	150	25	25	25
	SBT	-	550	600	400
Blue Lakes Blvd / Bridgeview Blvd / Fillmore Street	EBL	125	*150*	*400*	*375*
	EBT	-	50	175	225
	EBR	125	25	25	25

Intersection	Lane Group	Existing Storage (Feet)	95th Percentile Queues (Feet)[1,2,3]		
			Weekday AM	Weekday PM	Weekend Midday
	WBL	125	75	*150*	*200*
	WBT	-	75	175	225
	WBR	135	*325*	*525*	*225*
	NBL	200	100	175	200
	NBT	-	525	1,075	600
	NBR	235	25	50	75
	SBL	250	225	*400*	225
	SBT	-	325	500	425
Blue Lakes Blvd / Pole Line Rd	EBL	370	*500*	*650*	*500*
	EBT	-	175	400	325
	EBR	-	50	100	75
	WBL	260	75	250	300
	WBT	-	300	475	425
	WBR	390	25	75	75
	NBL	175	175	*250*	*275*
	NBT	-	450	675	625
	SBL	215	175	*300*	*275*
	SBT	-	525	600	500
	SBR	-	700	850	400
Fillmore Street / Pole Line Rd	EBL	125	50	*175*	*275*
	EBT	-	425	425	425
	WBL	125	50	75	75
	WBT	-	225	425	350
	NBL	175	100	*200*	*200*
	NBT	-	75	225	250
	NBR	175	50	75	75
	SBL	150	50	150	150
	SBT	-	100	175	150
	SBR	150	25	100	100
Bridgeview Blvd / Pole Line Rd	EBL	180	17	100	75
	EBT	-	175	350	225

Intersection	Lane Group	Existing Storage (Feet)	95th Percentile Queues (Feet)[1, 2, 3]		
			Weekday AM	Weekday PM	Weekend Midday
	EBR	-	25	25	25
	WBL	135	25	50	50
	WBT	-	125	225	150
	WBR	50	*100*	*225*	*125*
	NBL	120	50	75	75
	NBT	-	100	175	150
	SBL	115	125	250	150
	SBT	-	75	175	175
Fillmore St / College Rd	EBL	200	75	150	150
	EBT	-	150	225	125
	WBL	150	25	25	125
	WBT	-	175	225	25
	WBR	-	25	25	25
	NBL	50	25	50	25
	NBT	-	25	50	25
	SBL	115	50	*150*	*100*
	SBT	-	50	50	75
Blue Lakes Blvd / College Rd	EBL	150	75	150	100
	EBT	-	100	325	200
	EBR	-	50	75	75
	WBL	150	25	75	100
	WBT	-	200	300	250
	NBL	175	150	75	50
	NBT	-	125	700	175
	SBL	100	25	50	50
	SBT	-	325	650	475
Blue Lakes Blvd / Falls Ave	EBL	120	*150*	*225*	*200*
	EBT	-	125	250	175
	EBR	250	25	75	75
	WBL	150	150	*250*	*200*
	WBT	-	200	275	150

Intersection	Lane Group	Existing Storage (Feet)	95th Percentile Queues (Feet)[1, 2, 3]		
			Weekday AM	Weekday PM	Weekend Midday
	WBR	115	75	100	75
	NBL	220	100	100	100
	NBT	-	325	575	450
	NBR	550	25	50	50
	SBL	130	25	100	75
	SBT	-	325	400	525
	SBR	430	75	25	100

[1] 95th percentile queues are rounded up to the nearest 25'.

[2] Queue lengths that are **bolded** and *italicized* are exceeding existing turn bay storage.

[3] Reported queues represent the longest queue for each lane group (i.e., if dual turn lanes are present, the queue reported represents the longer of the two lanes for that movement).

Due to the unpredictability of uncoordinated signals and the high number of heavy vehicles traveling along US-93, there are some signalized intersections and movements that experience substantial delays and queuing throughout the peak hours. These observations differ from the results found in Synchro mainly due to Synchro's inability to model the interactions between intersections. The eastbound left-turn movement at the Blue Lakes Boulevard and Pole Line Road intersection and the southbound through and left-turn movements at the Blue Lakes Boulevard / Bridgeview Boulevard / Fillmore Street intersection, for example, have been observed to experience excessive queuing that spill back as outlined in Exhibit 8 and Exhibit 9. However, these two intersections are shown to operate within the City of Twin Falls and ITD thresholds for LOS and V/C as shown in Figure 9.

These localized bottlenecks contribute to network wide congestion during peak periods, block accesses and other adjacent intersections, and hinder the overall functionality of the study area corridors. The operations analysis also reports vehicle queue lengths, and the results are shown Attachment G. These results may vary substantially from field observations due to lack of coordination between traffic signals and the high amount of freight activity.

Exhibit 8. Queuing at Blue Lakes Boulevard and Pole Line Road Intersection

Exhibit 9. Queuing at Blue Lakes Boulevard and Bridgeview Boulevard Intersection

VISSIM Analysis – Existing Year 2025 No-Build Conditions

A microsimulation model developed in PTV VISSIM is a time-step, vehicle-based traffic operations model that simulates the movement and interaction of individual vehicles, pedestrians, and other road users within a defined transportation network. Unlike deterministic methods (Synchro) in the Highway Capacity Manual (HCM), which estimate average delay and level of service under steady-state assumptions, VISSIM represents stochastic driver behavior, lane-changing decisions, car-following dynamics, signal control logic, and network effects at a granular level (typically 0.1-second resolution). This allows the model to capture spillback, queue interaction between closely spaced intersections, and operational nuances that are not well represented in isolated intersection or macroscopic analyses.

The purpose of developing a VISSIM model in this study is to evaluate network-level operational performance under existing and future conditions with greater fidelity than analytical procedures alone can provide. The model enables assessment of measures such as average control delay, corridor travel time, queue length distribution (e.g., average and maximum queue lengths), and reliability metrics under varying demand scenarios. It is particularly valuable when testing alternative signal control strategies, geometric modifications, or demand sensitivity scenarios, as it reflects dynamic vehicle interactions and progression quality across the corridor.

The model includes settings that describe how drivers typically behave on the road-such as how closely they follow other vehicles, how they change lanes, how fast they prefer to travel, and how quickly they accelerate or slow down. It also accounts for the mix of vehicles on the roadway (cars, trucks, buses) and how traffic signals operate, including timing, coordination, and any special priority for transit or emergency vehicles.

Before using the model to test future conditions, we adjust these settings so that the simulation closely matches what is happening in the real world today. We do this by comparing the model's results to actual traffic counts, travel times, and observed queue lengths. This step ensures the model provides a realistic and reliable representation of current traffic conditions before evaluating potential improvements. The detailed process of model calibration is provided in Attachment H.

NETWORK RESULTS

An evaluation of the network-wide statistics, as presented in Table 2, provides a comprehensive understanding of the overall transportation network performance. This table provides an aggregate view of key metrics such as average speed, total delay, and vehicle throughput, which are indicative of the network's operational efficiency. For instance, the average speed across the network reveals the general pace of traffic flow, while the total delay gives an insight into the degree of congestion experienced by road users. The vehicle throughput, on the other hand, indicates the capacity of the network to accommodate the traffic demand.

Table 2. Existing Network-Wide Statistics – Existing Year 2025 Weekday PM Peak Hour

Network-Wide Statistics	Weekday PM Peak Hour
Average Delay per vehicle (sec/veh)	76.1
Average Speed per vehicle (mph)	24.1
Total Delay of all vehicles (hr)	274.1
Latent Demand (at end of peak hour) / Percentage of total peak hour vehicles	0.6 / 0.0%
Latent Delay (hr) / Percentage of total delay	0.6 / 0.2%

The network-wide results in Table 2 show that in weekday PM peak hour, the overall delay is approximately 76 seconds per vehicle. The results shown in this table also show that the model is performing as expected for an existing conditions model with limited latent delay and demand. Existing conditions models are expected to have low latent demand and delay as existing conditions models should capture all existing congestion within the model. Attachment H has detailed intersections analysis results including approach and intersections delays, LOS and queue lengths.

The results of the existing conditions model indicate that the network is operating acceptably under current traffic volumes. While signalized intersections and numerous driveway access points introduce some delay, as expected in a developed corridor, the overall system continues to function efficiently. Average travel speeds remain steady, and there is no evidence of sustained or corridor-wide congestion.

The simulation overview showed no noticeable issue in terms of queueing or bottleneck in the network at all intersections. Hence, the current network geometry and control systems at intersections are operating at an acceptable level.

Future Year 2050 No-Build Conditions

This section summarizes the future year 2050 no-build conditions evaluation and summarizes growth assumptions, future safety analysis, the development of future traffic volumes, and future no-build traffic operations.

TRAFFIC VOLUMES AND GROWTH ASSUMPTIONS

The recently formed Magic Valley Metropolitan Planning Organization (MVMPO) developed a travel demand model which provides future travel demand projections based on anticipated growth in population and employment in Twin Falls County and Jerome County. This model provides projected daily volumes for base year 2025 and future horizon year of 2050. Figure 10 shows the future year 2050 daily traffic volumes from the model and estimated future volumes at 24-hour count locations based on the estimated growth projections.
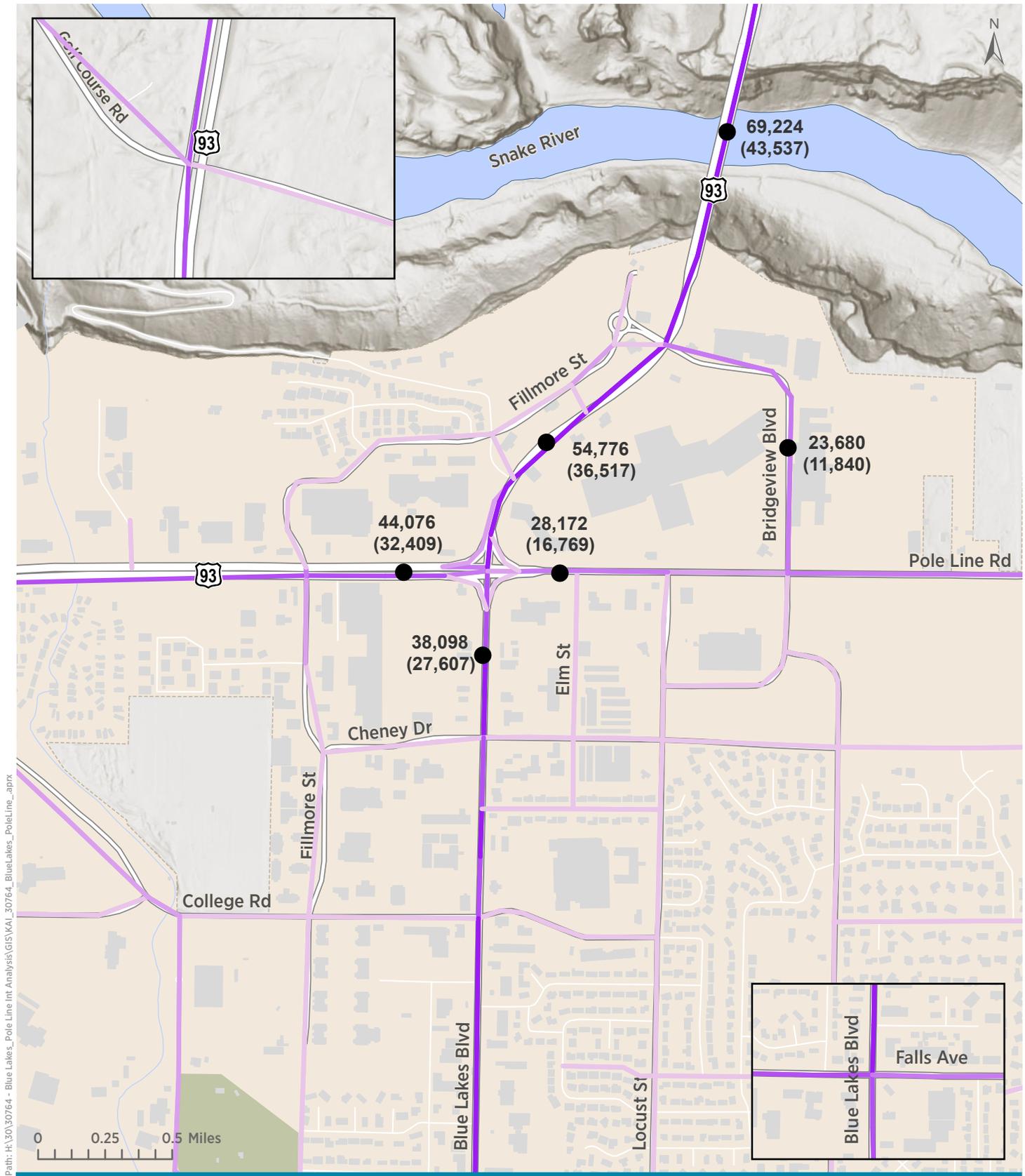
Future traffic volumes were developed using procedures outlined in the National Cooperative Highway Research Program (NCHRP) *Report 765 – Analytical Travel Forecasting Approaches for Project-Level Planning and Design*[13], the travel demand model outputs for base year 2025 and future year 2050, and existing traffic volumes. Using this NCHRP procedure, each intersection has their own unique growth rate from the different volume comparisons between 2025 and 2050 for each intersection as seen below in Table 3. Percent Growth by Intersection (Weekday PM Peak Hour) ranging roughly from 1.0-2.5% annual average growth rate (AAGR).

Table 3. Percent Growth by Intersection (Weekday PM Peak Hour) from the Travel Demand Model

Intersection	Existing Year 2025 TEV[1]	Future Year 2050 TEV[1]	% Growth
Golf Course Rd / US-93	3,748	5,822	55% (1.78% AAGR)
Blue Lakes Blvd / Bridgeview Blvd / Fillmore St	4,190	6,428	53% (1.73% AAGR)
Blue Lakes Blvd / Pole Line Rd	4,790	7,400	55% (1.76% AAGR)
Fillmore St / Pole Line Rd	3,700	4,605	25% (0.88% AAGR)
Bridgeview Blvd / Pole Line Rd	2,079	3,779	82% (2.42% AAGR)

[1] TEV = Total Entering Vehicle

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[13] Transportation Research Board. *NCHRP Report 765: Analytical Travel Forecasting Approaches for Project-Level Planning and Design*. 2014.

Figure 10. Future Year 2050 Daily Traffic Volumes (Model and Count Data)

Blue Lakes Boulevard and Pole Line Road Project

2050 Model Volume

● 2050 Estimated Volume (2025 Traffic Counts)

Data Sources: OpenStreetMap, ITD, City of Twin Falls

- 0 - 5.000
- 5,000 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- > 30,000

Map labels:
- 69,224 (43,537)
- 54,776 (36,517)
- 23,680 (11,840)
- 44,076 (32,409)
- 28,172 (16,769)
- 38,098 (27,607)
- Snake River
- Fillmore St
- Bridgeview Blvd
- Pole Line Rd
- Elm St
- Cheney Dr
- Fillmore St
- College Rd
- Blue Lakes Blvd
- Locust St
- Falls Ave
- Golf Course Rd
- 93

Path: H:\30\30764 - Blue Lakes_Pole Line Int Analysis\GIS\KAI_30764_BlueLakes_PoleLine_.aprx

PLANNED PROJECTS

Currently there are no funded transportation projects within the study area, however, there are multiple funded and programmed roadway assumptions that are assumed in the future year 2050 travel demand model. Note, the Snake River Crossing Study is currently on-going and was not assumed as a programmed improvement in the future conditions analysis.

FUTURE SAFETY

As traffic volumes within the study area continue to grow and commercial activity continues to increase, crash frequency is expected to also increase. Although existing pedestrian and bicycle activity is relatively low, potential commercial development may attract more non-motorized users in the future, driving the need for proactive consideration of safer infrastructure that accommodates all road users.

FUTURE NO-BUILD OPERATIONS ANALYSIS

This section summarizes the results from the future year 2050 no-build operations analysis. The future conditions traffic analysis uses the future traffic volumes as summarized in Attachment I and assumes no changes to the existing intersection lane configurations summarized in Attachment F.

Figure 11 displays the intersection LOS for each study intersection and V/C ratios for each signalized intersection as reported from Synchro 12 for future year 2050 during the weekday AM, weekday PM, and weekend midday peak hours. Attachment J provides a table summary of the future year 2050 no-build traffic results and Synchro 12 Operational Worksheets.
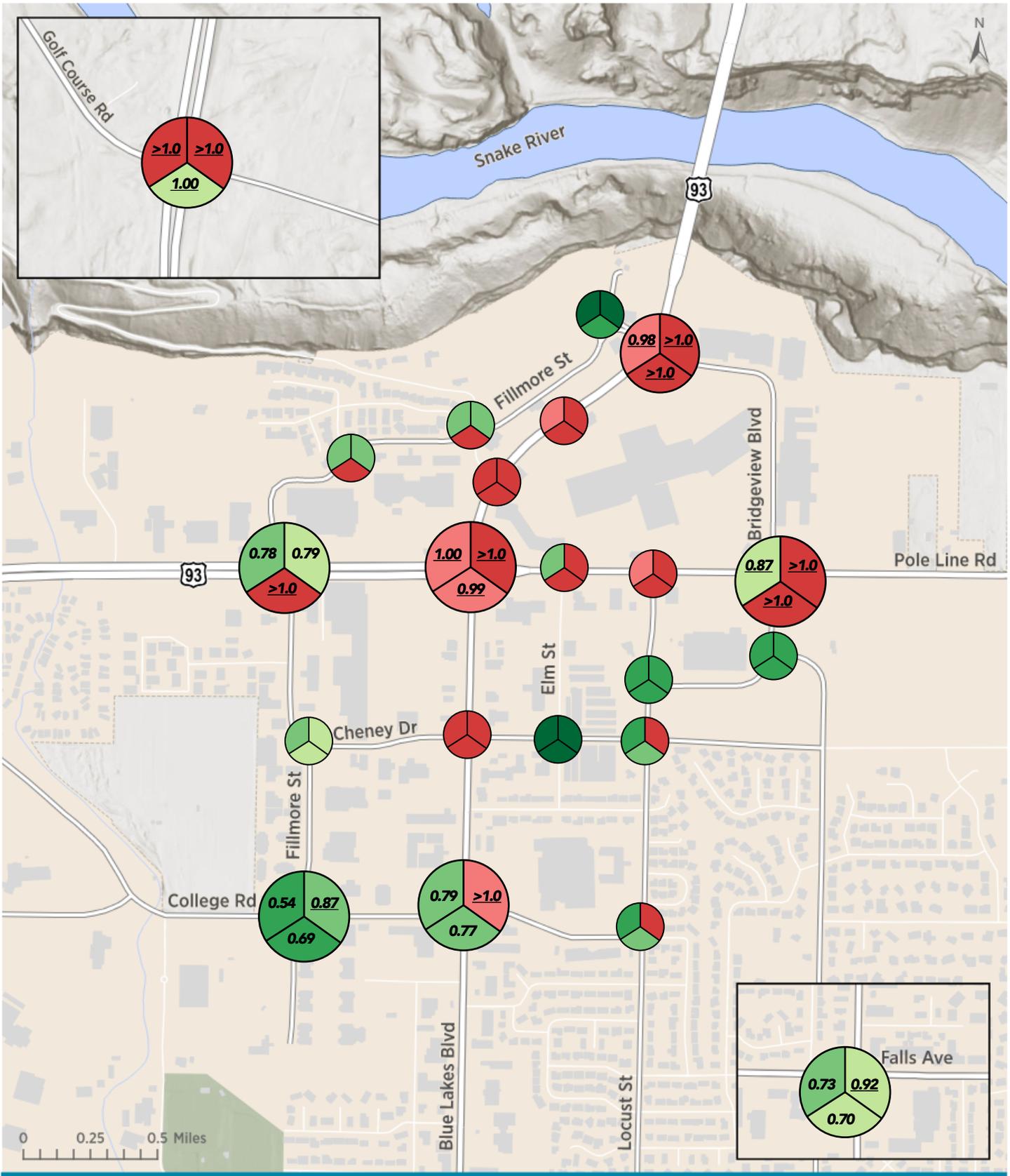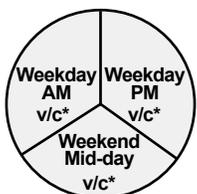
Figure 11. Future Year 2050 No-Build Traffic Operations
Blue Lakes Boulevard and Pole Line Road Project

Level of Service (LOS)

Signalized Intersection:
| Weekday AM v/c* | Weekday PM v/c* |
| Weekend Mid-day v/c* | |

Unsignalized Intersection

- A (dark green)
- B (green)
- C (medium green)
- D (light green)
- E (pink/salmon)
- F (red)

Data Sources: OpenStreetMap, ITD, City of Twin Falls

*v/c = Volume to Capacity Ratio. Underlined v/c ratios highlight locations where volumes exceed 80% of capacity

Level of Service and Capacity Results

The operational analysis under the future year 2050 no-build scenario indicates that most intersections are projected to exceed acceptable Level of Service (LOS), as defined in the Performance Measure Thresholds section, in the weekday PM Peak hour and the weekend midday peak hour. There are only seven intersections functioning at LOS D or better, with 15 intersections in the network operating worse than LOS D during at least one time period. All signalized intersections are shown to be operating with the overall intersection and/or a movement operating over or near capacity during the weekday PM peak hour. The future volume demand has been projected to grow significantly south of the Snake River resulting in a large increase of volume across the Perrine Bridge and thus causing the roadway system to exceed capacity.

The operational analysis of unsignalized intersections under the future year 2050 no-build scenario reveals significant challenges for movements from minor streets onto major corridors. These intersections generally operate at LOS E or F during peak periods, indicating severe congestion and poor performance. The most problematic movements are left-turns from minor streets, which require drivers to find adequate gaps in heavy major-street traffic.

The operational deficiencies across the signalized and unsignalized intersections indicate that the network will fail to operate effectively under future year 2050 conditions, necessitating improvements along the Blue Lakes Boulevard and Pole Line Road corridors.

Vehicle Queuing and Other Considerations

In addition to the operational results, many of these intersections are closely spaced and interconnected, meaning that queuing and delays at one location can quickly spill back and impact adjacent intersections. This is particularly evident along Blue Lakes Boulevard, where congestion at the intersection of Blue Lakes Boulevard and Pole Line Road often interacts with queues at the intersection of Fillmore Street and Pole Line Road, creating corridor-wide operational challenges. These spillback conditions are not fully reflected in the Synchro analysis, which evaluates intersections largely in isolation and does not model queue interactions between intersections. However, the VISSIM microsimulation explicitly captures these queue spillbacks and their distribution along the corridor, providing a more realistic representation of how congestion at one intersection affects adjacent facilities. These extreme delays not only result in dysfunctional intersection performance but also influence driver behavior. Faced with prolonged waiting times, drivers may divert to alternative routes, increasing traffic on adjacent streets and potentially creating new operational issues along Fillmore Street and Bridgeview Boulevard. This pattern underscores the need for access control strategies along major corridors such as Blue Lakes Boulevard and Pole Line Road. Limiting or consolidating conflict points and improving intersection geometry can help reduce delays, enhance safety, and maintain corridor efficiency.

VISSIM Analysis – Future Year 2050 No-Build Conditions

Following calibration of the model to existing turning-movement volumes and prevailing operational conditions, including traffic signal timings and stop-controlled intersections, the developed future-year traffic volumes were applied to the network. The following sections detail the assumptions and results of the future year 2050 VISSIM network model.

ASSUMED NETWORK ADJUSTMENTS

After evaluating network operations under future demand, targeted operational adjustments were implemented to improve performance at two locations. These adjustments included refining signal timing at the intersection of Blue Lakes Boulevard / Fillmore Street / Bridgeview Boulevard and converting the all-way stop control at Fillmore Road and Canyon Spring Road to two-way stop control. Together, these changes improved operations at the affected intersections and contributed to measurable improvements in overall network performance.

NETWORK RESULTS

Table 4 summarizes the network-level performance metrics, including average control delay, average travel speed, and latent demand. Collectively, these indicators demonstrate that under year 2050 projected volumes, the existing roadway network is unable to adequately accommodate future demand. The substantially elevated average delay and network-wide average speeds below 10 mph reflect oversaturated operating conditions and sustained congestion throughout the system. Furthermore, a latent demand exceeding 23 percent indicates that nearly one-quarter of the total demand is suppressed, with vehicles unable to enter the modeled network due to spillback and queues extending to upstream boundary links. This level of unmet demand confirms that the existing configuration lacks sufficient capacity to support the forecast year conditions without operational or geometric improvements.

Table 4. Future Network-Wide Statistics – Future Year 2025 Weekday PM Peak Hour

Network-Wide Statistics	Weekday PM Peak Hour
Average Delay per vehicle (sec/veh)	462.6
Average Speed per vehicle (mph)	7.3
Total Delay of all vehicles (hr)	2110.2
Latent Demand (at end of peak hour) / Percentage of total peak hour vehicles	3,868.5 / 23.52%
Latent Delay (hr) / Percentage of total delay	1,783.8 / 84.53%

BLUE LAKES BOULEVARD / POLE LINE ROAD

Exhibit 10 illustrates the simulated vehicle queues at the intersection of Blue Lakes Boulevard (US 93) and Pole Line Road. The trajectory traces represent individual vehicle movements and clearly highlight areas of concentrated queuing and spillback. As shown, the queue on the west leg of the intersection extends

beyond the adjacent Fillmore Street and Pole Line Road intersection, resulting in spillback that affects both the southbound (SB) and eastbound (EB) approaches at that upstream location.

The results indicate substantial queue formation on the eastbound (EB) approach of Pole Line Road, as well as persistent and extended queue buildup on the northbound (NB) approach of Blue Lakes Boulevard. The northbound congestion propagates upstream, producing sustained long queues at all intersections south of the Blue Lakes Boulevard and Pole Line Road intersection. In addition, the westbound right-turn (WBR) movement carries relatively high demand, which further increases localized saturation and operational stress at the intersection. Collectively, these findings demonstrate corridor-level oversaturation and significant inter-intersection spillback under the modeled conditions.
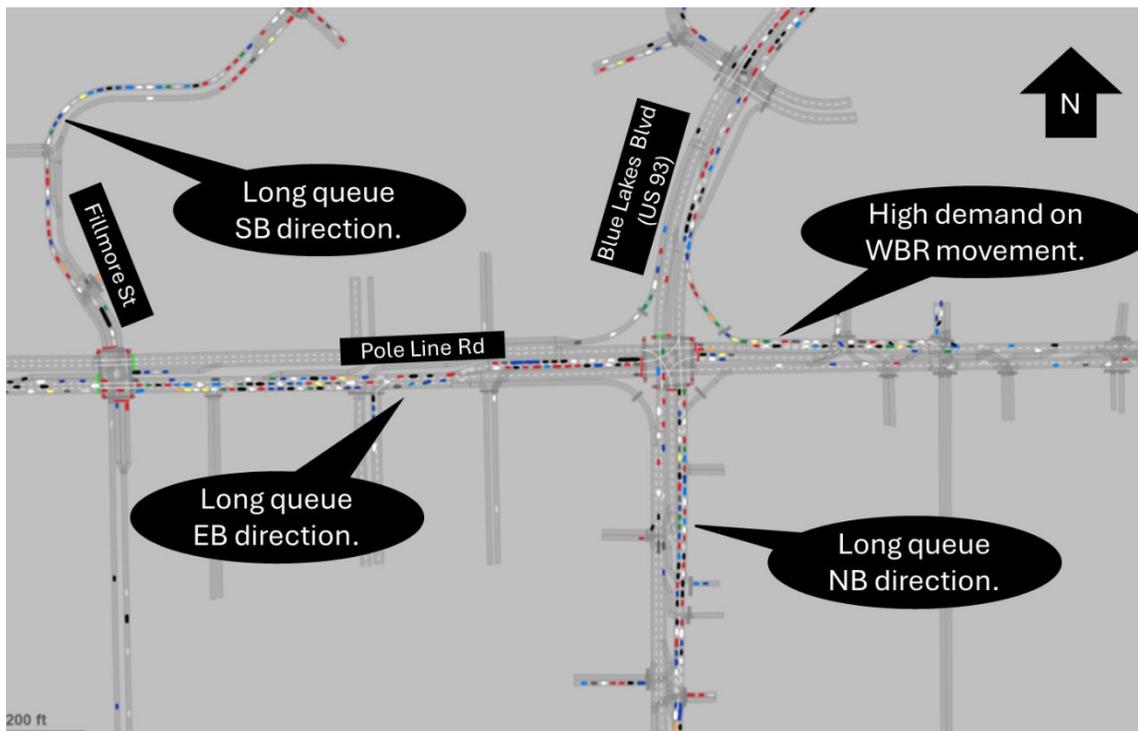

Exhibit 10. VISSIM Model of Traffic Operations at Blue Lakes Blvd and Pole Line Rd Intersection

The extent and persistence of these queues suggest that, under projected future year 2050 traffic volumes, the available intersection capacity will be insufficient to accommodate demand without operational degradation.

BLUE LAKES BOULEVARD / BRIDGEVIEW BOULEVARD / FILLMORE STREET

Exhibit 11 presents simulated vehicle queue development along Blue Lakes Boulevard (US 93) and its connections to Fillmore Street and Bridgeview Boulevard. The vehicle paths represent individual movements within the network and visually highlight areas of sustained congestion. As shown, significant queue buildup occurs in the approaches ending Eastbound (EB) turning left and Westbound (WB) turning right to travel to north. The majority of these movements are detours due to lack of capacity at the intersection of Blue Lakes Boulevard at Pole Line Road.
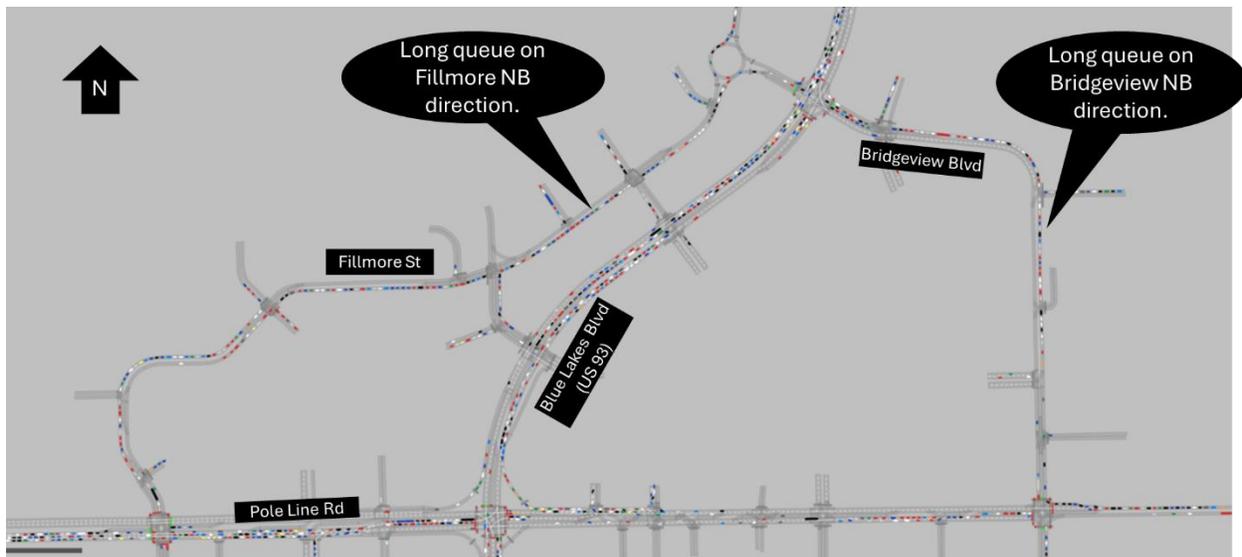
Exhibit 11. Modelled Queue Formations along Fillmore St and Bridgeview Blvd

The spatial continuity of these queues suggests that operational constraints along Blue Lakes Boulevard are influencing upstream conditions on the side streets. With future year 2050 traffic volume projections, these movements are expected to experience increasing delay and potential spillback, indicating that targeted operational or geometric improvements may be necessary to maintain acceptable performance.

BLUE LAKES BOULEVARD / CHENEY DRIVE

Exhibit 12 illustrates simulated queue development along Blue Lakes Boulevard at the intersection with Cheney Drive, as well as the adjacent segments near Pole Line Road and Fillmore Street. As shown, substantial queues form on both the eastbound (EB) and westbound (WB) approaches of Blue Lakes Boulevard at Cheney Drive, indicating that this intersection is operating under elevated demand conditions.

The presence of extended queues in both directions suggests limited available capacity and increasing operational pressure along the corridor. These conditions raise the potential for spillback that could affect upstream intersections, reinforcing the need to evaluate targeted operational or geometric improvements.

Exhibit 12. Side Street Queues at Blue Lakes Blvd and Cheney Dr

Conclusion

The key deficiencies identified from this existing year 2025 and future year 2050 no-build evaluation are summarized in Figure 2 and listed below:

- Safety

    - The intersections with the highest frequency and most severe crashes include:
        o Fillmore Street / Pole Line Road
        o College Road / Blue Lakes Boulevard
        o Falls Avenue / Blue Lakes Boulevard
    - Several roadway segments experience frequent crashes associated with driveways, particularly along Blue Lakes Boulevard (south of Pole Line Road) and along Pole Line Road (between Fillmore Street and Bridgeview Boulevard).

- Traffic Operations

    - The Blue Lakes Boulevard and Pole Line Road intersection is nearing capacity under existing year 2025 conditions and has multiple high-volume movements including the southbound through, southbound right-turn, eastbound left-turn, and northbound through movements that are nearing capacity.
    - Southbound movements at Blue Lakes Boulevard / Bridgeview Boulevard / Fillmore Street experiences excessive delays and queuing extending along the Perrine Bridge.
    - Eastbound movements along Pole Line Road (west of Blue Lakes Boulevard) experience excessive delays and queuing extending through adjacent intersections (e.g., spillback into Fillmore Street / Pole Line Road intersection).
    - Increased congestion and saturated conditions along major corridors introduce challenges for left turns at unsignalized driveways, making it difficult for drivers to find gaps during peak periods.
    - Under future year 2050 no-build conditions, most intersections are projected to operate over capacity and at LOS E or F during the peak traffic conditions.
    - The lack of coordination among signals causes unpredictability and inconsistencies in traffic flow.

- Other Considerations

    - There is high freight activity along the US-93 corridor.
    - There are limited pedestrian and bicycle facilities within the study area.
    - Bridgeview Boulevard, between Blue Lakes Boulevard and Pole Line Road, experiences frequent cut-through traffic.
    - Limited queuing storage on the eastbound approach of the Bridgeview Boulevard / Fillmore Street and Blue Lakes Boulevard intersection.

These results will be used to guide the identification and selection of alternatives and improvements as part of the next phase of the project.

Attachments

A. Traffic Counts
B. Driveway Inventory
C. Signal Systems Inventory
D. Crash Data
E. Safety Analysis – Detailed Information
F. Existing Year 2025 Traffic Volumes & Lane Configurations
G. Existing Year 2025 Traffic Operations Summary & Synchro 12 Operational Worksheets
H. VISSIM Calibration & Results
I. Future Year 2050 Traffic Volumes
J. Future Year 2050 Traffic Operations Summary & Synchro 12 Operational Worksheets

Attachment A
Traffic Counts

Attachment B
Driveway Inventory

Attachment C
Signal Systems Inventory

Attachment D
Crash Data

Attachment E
Safety Analysis – Detailed Information

Attachment F
Existing Year 2025 Traffic Volumes
& Lane Configurations

Attachment G
Existing Year 2025
Traffic Operations Table Summary
& Synchro 12 Operational Worksheets

Attachment H
VISSIM Calibration and Results

Attachment I
Future Year 2050 Traffic Volumes
& Lane Configurations

Attachment J
Future Year 2050 Traffic Operations
Summary & Synchro 12 Operational
Worksheets