COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Working together to plan for the future

Treasure Valley Annual Congestion Management System Report, 2019

10-2020

September 2020

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Background and Introduction

What is the Congestion Management Process?

The congestion management process (CMP) is a systematic approach for analyzing, identifying, monitoring, and managing congestion. The congestion management annual report uses data to show trends in congestion, measure progress toward meeting congestion-related performance measures, and recommend strategies to mitigate congestion in Ada and Canyon Counties, Idaho – the Treasure Valley. These two counties comprise the planning area for the region's metropolitan planning organization, the Community Planning Association of Southwest Idaho (COMPASS). A CMP is federally required for areas with populations exceeding 200,000, known as Transportation Management Areas. While only a portion of COMPASS' planning area is subject to this requirement (the Boise Urbanized Area), COMPASS' CMP covers its entire planning area.

The CMP is used as a tool to identify congestion mitigation needs and support the development of COMPASS' long-range transportation plan, *Communities in Motion*, and its Regional Transportation Improvement Program (TIP). The process identifies measures and targets for monitoring progress toward mitigating congestion, as well as management strategies to reduce congestion on the transportation system. The *Treasure Valley Congestion Management System Plan,* adopted by COMPASS in 2005, details how COMPASS implements the congestion management process, including the travel time data collection process, use of the data, specific definitions of congestion, and a "toolbox" of mitigation strategies. The plan is available at www.compassidaho.org/documents/prodserv/reports/TreasureValleyCMSFinal.pdf.

What is Congestion?

Congestion occurs when a roadway has reached its capacity or incurs a temporary reduction in capacity resulting in slower travel times. There are two types of congestion: recurring and non-recurring. Recurring congestion is caused by predictable day-to-day traffic patterns and is usually the result of insufficient capacity and/or high demand on the transportation system. Recurring congestion most often occurs during morning and evening commute periods. Non-recurring congestion is temporary and often unpredictable. Non-recurring congestion is often caused by road construction, traffic accidents, inclement weather, special events, and emergencies.

Growth Measures

Growth in the Treasure Valley

The Treasure Valley continues to grow. COMPASS estimates population on a yearly basis for cities and counties in its planning area. From 2010 through 2019, the population grew by nearly 23% (Figure 1). This increase in population has created additional demand on the transportation system, which is one of the causes of congestion. COMPASS and its member agencies are planning for growth and identifying, prioritizing, and securing funding for transportation projects to manage demand and mitigate congestion. Visit the COMPASS demographics web page for more information.

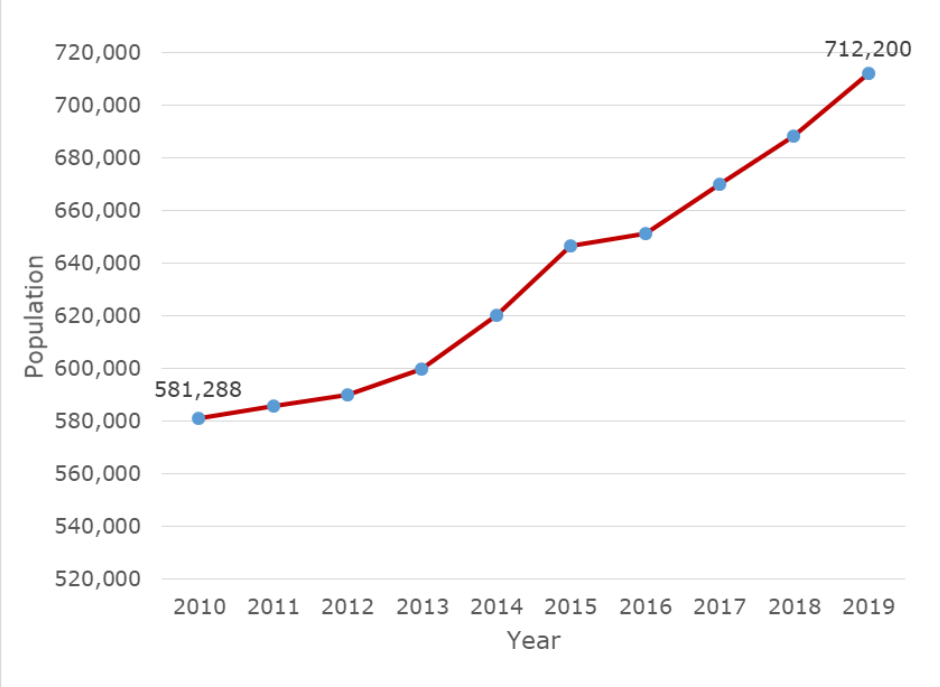

Figure 1: Ada and Canyon Counties Population (2010 – 2019)

Development and Congestion

Increases in population and development activity can impact travel patterns and performance of the transportation system. Development activity has increased steadily from 2011 through 2019 in Ada and Canyon Counties (Figure 2). Identifying locations with high concentrations of development activity can help pinpoint which corridors in the area might experience the most change in traffic volumes and congestion due to new construction (Figures 3 – 5). This information can also help to identify appropriate locations for congestion mitigation strategies, such as providing public transportation services on corridors with concentrations of multi-family unit development or operational improvements on corridors with single-family home development. Visit the COMPASS development monitoring web page for more information.

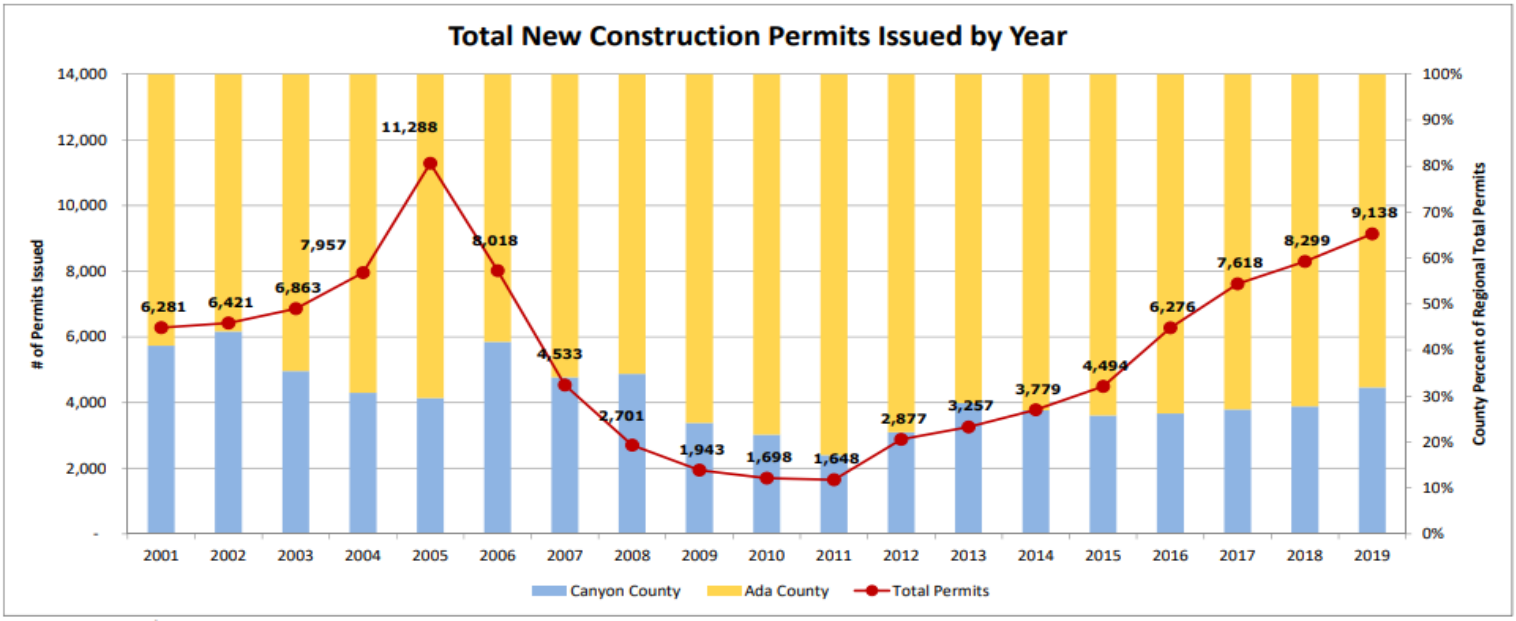

Figure 2: Total New Construction Permits Issued by Year (2001 – 2019)

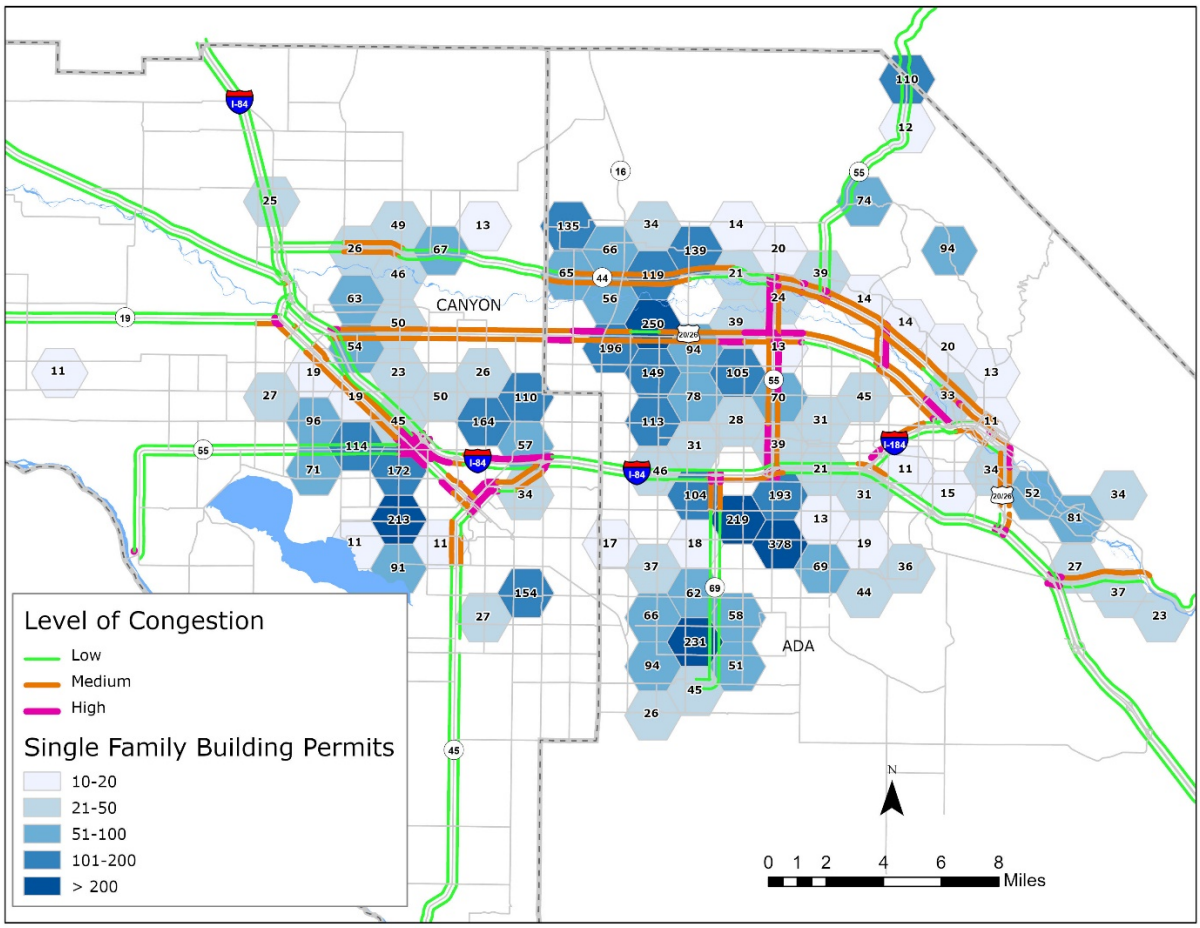

Figure 3: Single Family Building Permit Activity and Levels of Highest Peak Hour Congestion (2019)

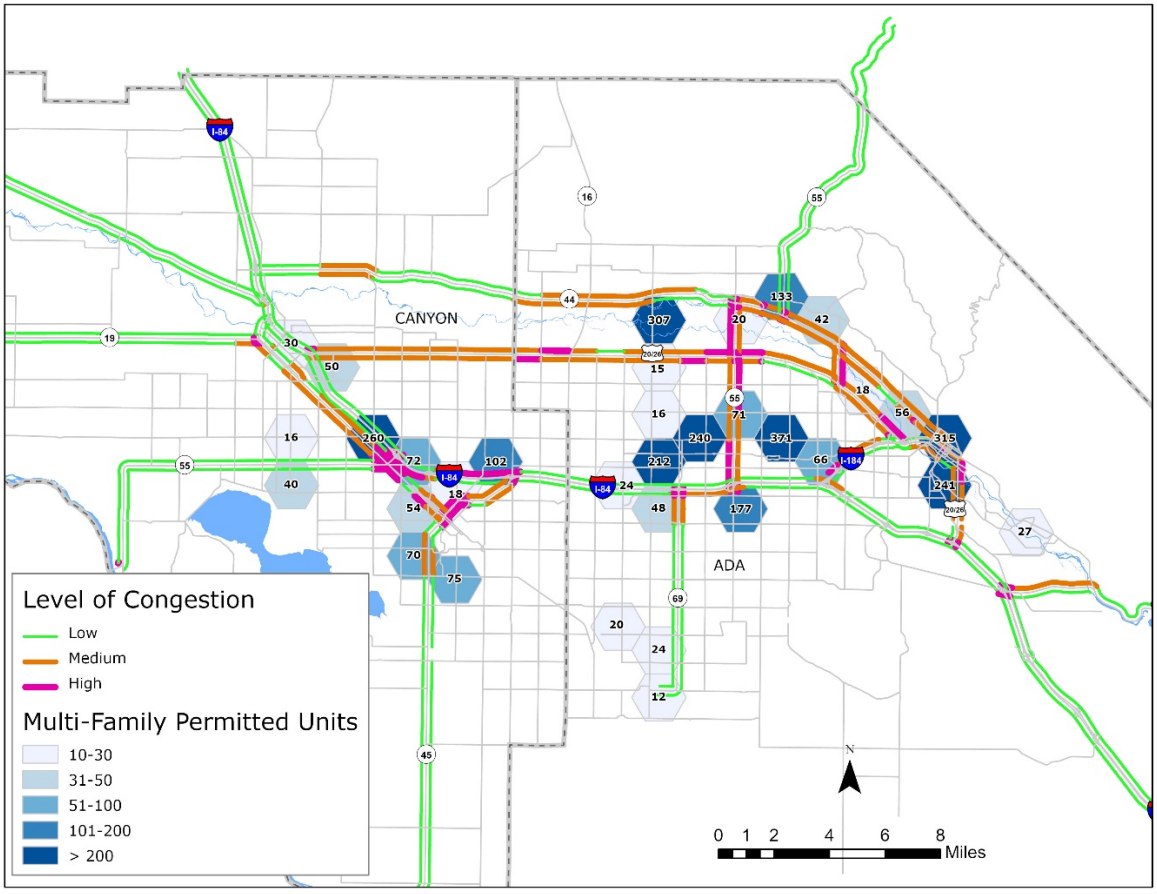

Figure 4: Multi-Family Building Permit Activity and Levels of Highest Peak Hour Congestion (2019)

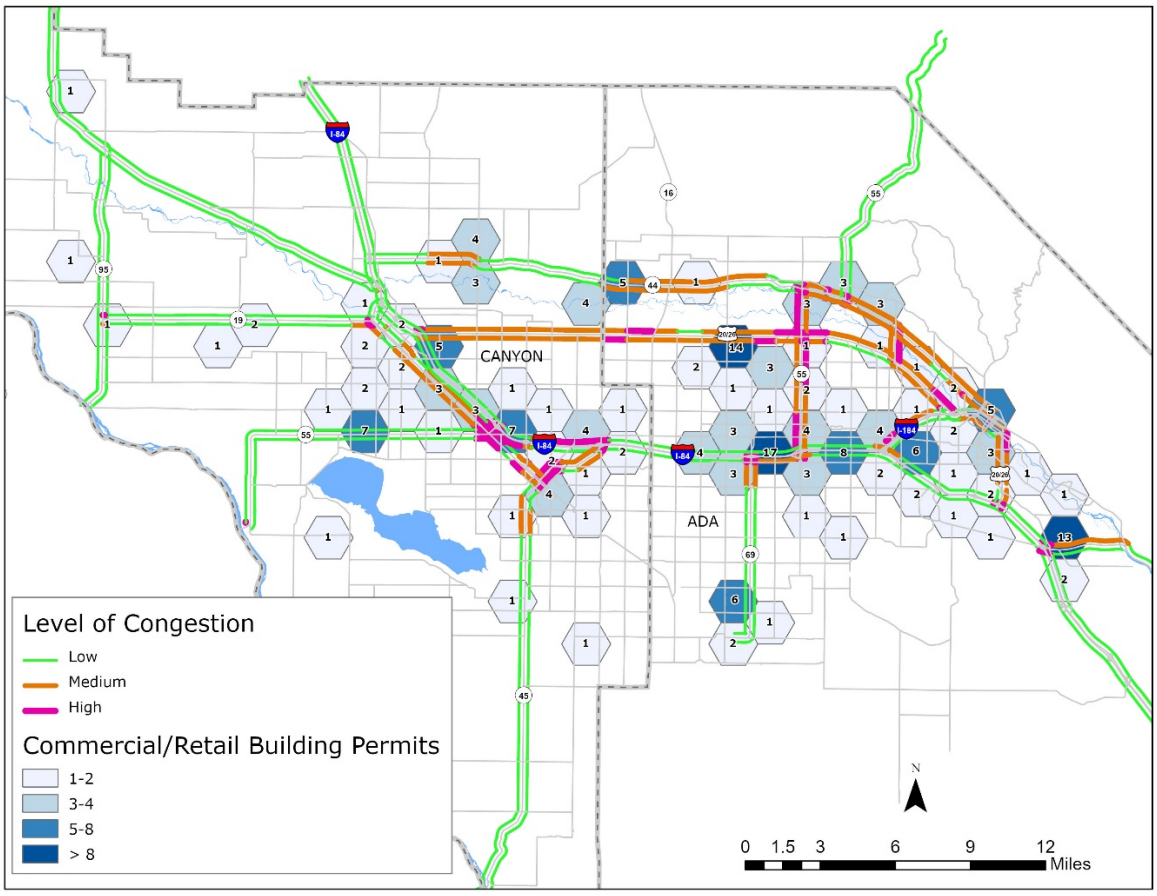

Figure 5: Commercial/Retail Building Permit Activity and Levels of Highest Peak Hour Congestion (2019)

Travel Time Data

COMPASS uses the National Performance Management Research Data Set (NPMRDS) to analyze and identify congestion. The NPMRDS is a vehicle probe-based speed and travel time data set that covers portions of the National Highway System. The Congestion Management Plan and annual reports refer to this as the Tier 1 network. It is procured by the Federal Highway Administration and made available to state and local governments to assist with performance measure reporting. The dataset is composed of travel time records averaged in five-minute intervals for segments of road, or "Traffic Message Channels," on the National Highway System collected from millions of connected vehicles, trucks, and mobile devices that supply location and movement data. The NPMRDS is the primary source for travel time data used in this report and is used to calculate system reliability, Travel Time Index, and commute travel times on the Tier 1 network. These data are used to develop corridor-level analyses of average speeds, traffic volumes, and causes of congestion; these analyses can be found in the Appendix of this report.

Travel Time Index (TTI)

TTI is the ratio of the ideal free flow travel time to the actual measured travel time. For example, a TTI value of 3 means that it take three times longer to drive a segment at a particular time than it would under free-flow conditions. Free-flow speeds are considered the 85th percentile speed at non-peak hours. TTI is a good measure to show the severity of congestion on the transportation system and how congestion impacts travel times. COMPASS uses the TTI to classify roadway segments into high, medium, and low levels of congestion (Table 1). TTI is averaged for morning (6am-9am), midday (9am-3pm), evening (3pm-7pm), and weekend (6am-8pm) peak periods; the highest TTI value for each roadway segment is used to designate the level of congestion for that segment. The percentage of miles of highly congested roadway segments slightly increased between 2018 and 2019 (Table 2). Numbers may vary slightly from previous reports due to data quality improvements and additional data made available by the travel time data vendor.

Table 1: Travel Time Index Thresholds

High	Medium	Low
TTI > 2.0	TTI 1.5 – 2.0	TTI < 1.5

Table 2: Tier 1 Network Congestion Summary, Based on Max Average TTI Thresholds for CMP Time Periods

Year	High		Medium		Low		Total Miles
	Miles	Percent	Miles	Percent	Miles	Percent	
2019	30.6	6.5%	108.5	23.2%	329.5	70.3%	**468.6**
2018	22.8	6.2%	81.6	22.3%	261.3	71.5%	**365.6**
2017	23.2	6.3%	108.3	29.6%	234.2	64.1%	**365.6**
2016*	126.6	34.6%	50.6	13.8%	188.4	51.5%	**365.7**
2015*	106.0	29.0%	71.7	19.6%	187.9	51.4%	**365.7**

*Percentages vary due to change in travel time data vendor

A survey of the ten most congested roadway segments shows that the worst congestion in the valley in 2019 was concentrated in three main areas: at US 20/26 (Chinden Boulevard) and State Highway 55 (Eagle Road), around the City of Nampa on Nampa/Caldwell Boulevard and I-84, and on State Highway 55 (Eagle Road) near the I-84 interchange (Table 3 and Figure 6).

Table 3: Ten Most Congested Tier 1 Network Segments > 0.5 Miles (2019)

Rank	Road	Description	Miles	Direction	TTI	Peak Period	Delay
1	US 20/26 (Chinden Blvd)	Cloverdale Rd to SH 55 (Eagle Rd)	0.94	Westbound	3.24	PM	2 min 53 sec
2	I-84	Exit 38 Idaho Center Blvd to Exit 36 Franklin Blvd	2.03	Westbound	2.83	PM	3 min 05 sec
3	US 20/26 (Chinden Blvd)	SH 16/McDermott Rd to Star Rd	1.00	Westbound	2.75	PM	2 min 02 sec
4	SH 55 (Eagle Rd)	Franklin Rd to I-84 Westbound On Ramp	0.51	Southbound	2.53	PM	1 min 17sec
5	SH 55 (Eagle Rd)	McMillan Rd to US 20/26 (Chinden Blvd)	0.98	Northbound	2.52	PM	2 min 02sec
6	I-84	Karcher Rd Off Ramp to Karcher Rd On Ramp	0.68	Eastbound	2.45	AM	53 sec
7	US 20/26 (Chinden Blvd)	Orchard St./36th to Veterans Memorial Pkwy	0.64	Westbound	2.43	PM	1 min 34 sec
8	Nampa/Caldwell Blvd	Orchard Ave to Northside Blvd	0.53	Eastbound	2.40	PM	1 min 29 sec
9	US 20/26 (Chinden Blvd)	Eagle Rd (SH 55) to Locust Grove Rd	1.00	Westbound	2.38	PM	1 min 45 sec
10	SH 55 (Eagle Rd)	SH 44 to US 20/26 (Chinden Blvd)	1.90	Southbound	2.33	PM	3 min 13 sec

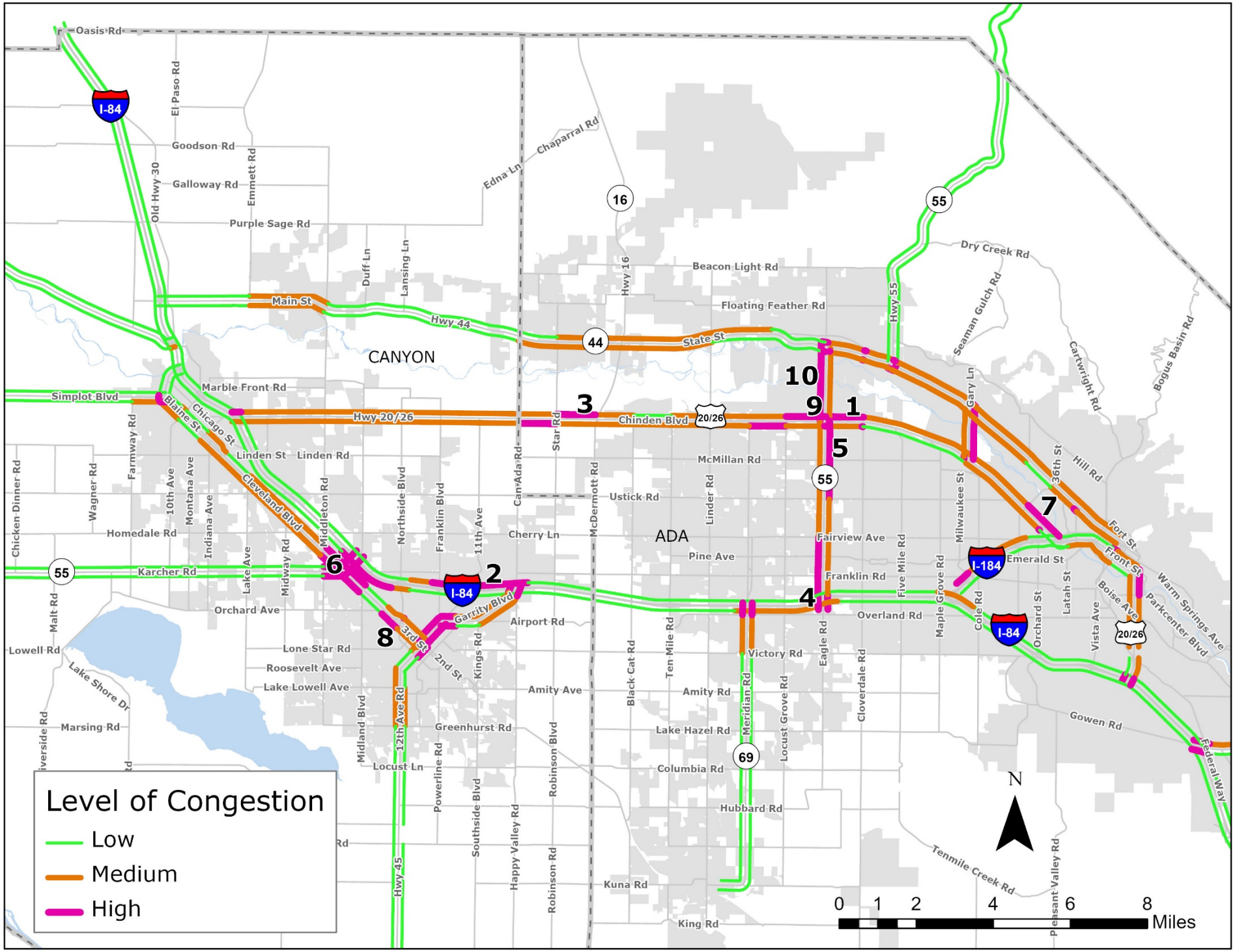

Figure 6: Top Ten Congested Tier 1 Network Segments > 0.5 Miles (Peak period maximum, 2019)

Tier 2 Supplemental Travel Time Data and Analysis

As in 2018, in 2019, the Idaho Transportation Department (ITD) purchased additional travel time data that supplements the NPMRDS. This provides travel time data and the ability to analyze conditions on arterials and other major roadways not included in the NPMRDS. These additional roadways make up the Tier 2 network in the CMP. The same methodology (Travel Time Index) that is used to analyze congestion using the NPMRDS was applied to the Tier 2 travel time data set (Tables 4, 5, and 6; Figures 7 and 8). Some of the segments on the Tier 2 network experience low traffic volumes; as a result, recorded actual travel times for the entire year are not available. The data vendor uses imputed data, calculated by using historic averages or free flow speeds to fill these voids in the dataset where no vehicles are detected. The analysis and calculations of travel time done for this report use only records where actual recorded travel times are available. The percentage of the Tier 2 network considered highly congested increased to 1.4% from less than 1% the previous year (Table 4).

Table 4: Tier 2 Network Congestion Summary, Based on Weekday Average TTI Thresholds

Year	High		Medium		Low		Not Included*		Total Miles
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	
2019	15.88	1.4%	49.45	4.2%	950.58	80.5%	164.48	13.9%	1,180.39
2018	7.22	0.7%	46.74	4.3%	926.50	85.3%	105.61	9.7%	1,086.07

*Not provided in the data set or excluded from the analysis because of limited actual recorded travel time data.

Table 5: Top Ten Congested Tier 2 Network Segments in Canyon County > 0.1 Miles (2019)

Rank	Road	Description	Miles	Direction	TTI	Peak Period	Delay
1	Franklin Rd	Franklin Rd at US 20/26 (Chinden Blvd)	0.68	Southbound	3.71	AM	1 min 18 sec
2	I-84 Exit 33 Off Ramp	I-84 Off Ramp at Exit 33 (Karcher Rd)	0.13	Eastbound	3.63	Midday	58 sec
3	Terra Linda Way	Terra Linda Way at Idaho Center Blvd	0.12	Westbound	3.21	PM	36 sec
4	Idaho Center Blvd	Idaho Center Blvd at I-84 Off Ramp Exit 38	0.31	Southbound	2.64	PM	52 sec
5	I-84 Exit 33 On Ramp	I-84 On Ramp at Exit 33 (Karcher Rd)	0.17	Eastbound	2.52	AM	43 sec
6	I-84 Exit 33 Off Ramp	I-84 Off Ramp at Exit 33 (Karcher Rd)	0.20	Westbound	2.13	PM	38 sec
7	11th Ave	11th Ave at Garrity Blvd	0.42	Southbound	1.99	PM	1 min 8 sec
8	Sunnyslope Rd	Sunnyslope Rd at Marsing Rd	0.10	Westbound	1.94	PM	13 sec
9	Can Ada Rd	Can Ada Rd at US 20/26 (Chinden Blvd)	0.50	Southbound	1.89	PM	36 sec
10	Karcher Rd	Karcher Rd at 20th St	0.12	Westbound	1.84	AM	15 sec

Table 6: Top Ten Congested Tier 2 Network Segments in Ada County > 0.1 Miles (2019)

Rank	Road	Description	Miles	Direction	TTI	Peak Period	Delay
1	Ustick Rd	Ustick Rd at Eagle Rd	0.23	Westbound	3.03	PM	56 sec
2	I-184 Exit 1A Off Ramp	I-184 Off Ramp at Exit 1A (Franklin Rd)	0.15	Northbound	2.96	PM	22 sec
3	Ten Mile Rd	Ten Mile Rd at I-84 overpass	0.10	Northbound	2.94	AM	21 sec
4	Pine Ave	Pine Ave at Meridian Rd	0.10	Westbound	2.88	PM	31 sec
5	Franklin Rd	Franklin Rd at Eagle Rd	0.33	Westbound	2.84	PM	1 min 10 sec
6	I-84 On Ramp (Meridian Rd)	I-84 On Ramp at Exit 44 (Meridian Rd)	0.37	Eastbound	2.75	AM	44 sec
7	Overland Rd	Overland Rd at Five Mile Rd	0.14	Eastbound	2.71	PM	25 sec
8	Pine Ave	Pine Ave at Eagle Rd	0.26	Westbound	2.64	PM	1 min 1 sec
9	Eagle Rd	Eagle Rd south of State St	0.16	Southbound	2.61	Midday	34 sec
10	Meridian Rd	Meridian Rd at I-84 overpass	0.10	Southbound	2.54	PM	22 sec

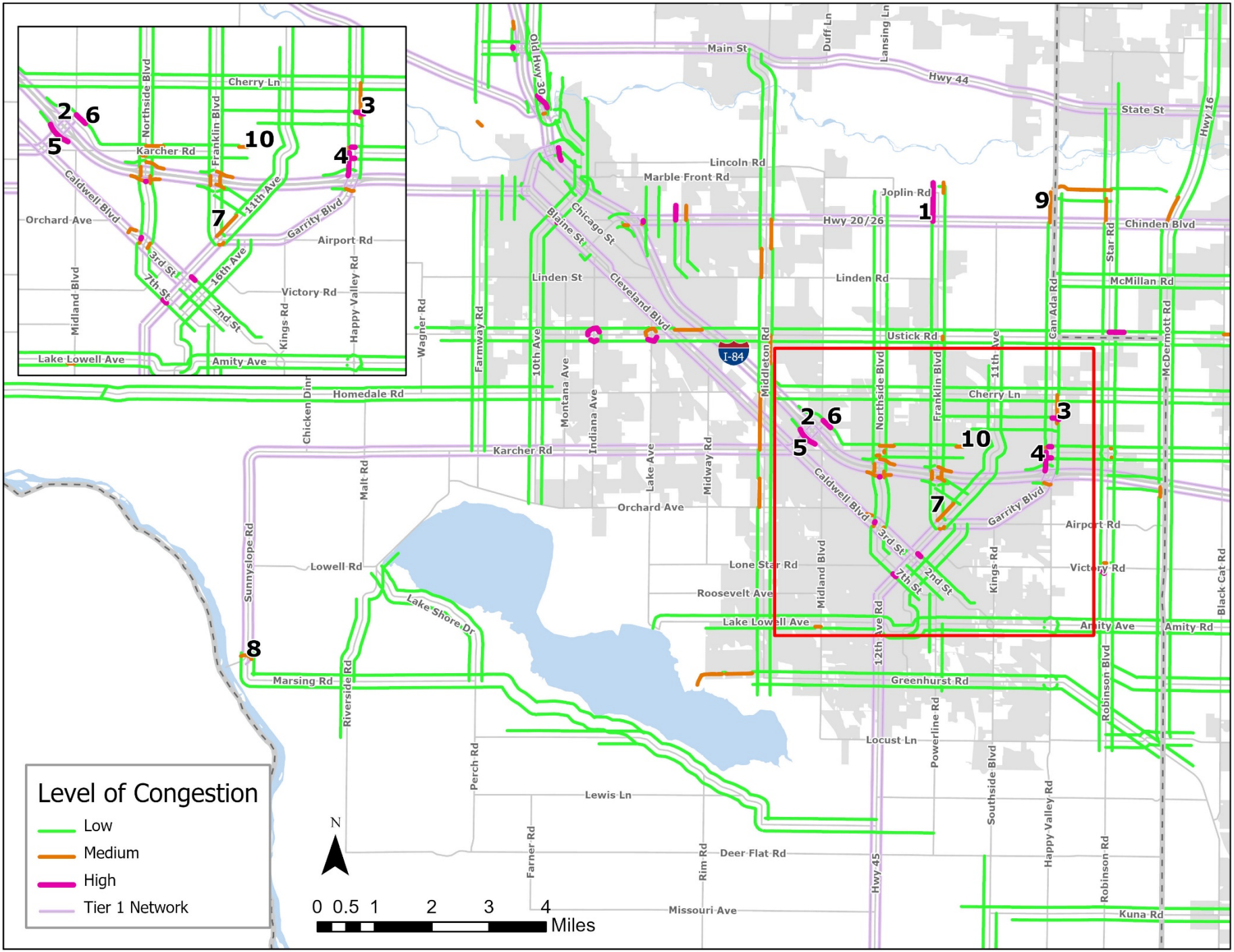

Figure 7: Top Ten Tier 2 Congested Roadways > 0.1 miles in Canyon County (Peak period maximum, 2019)

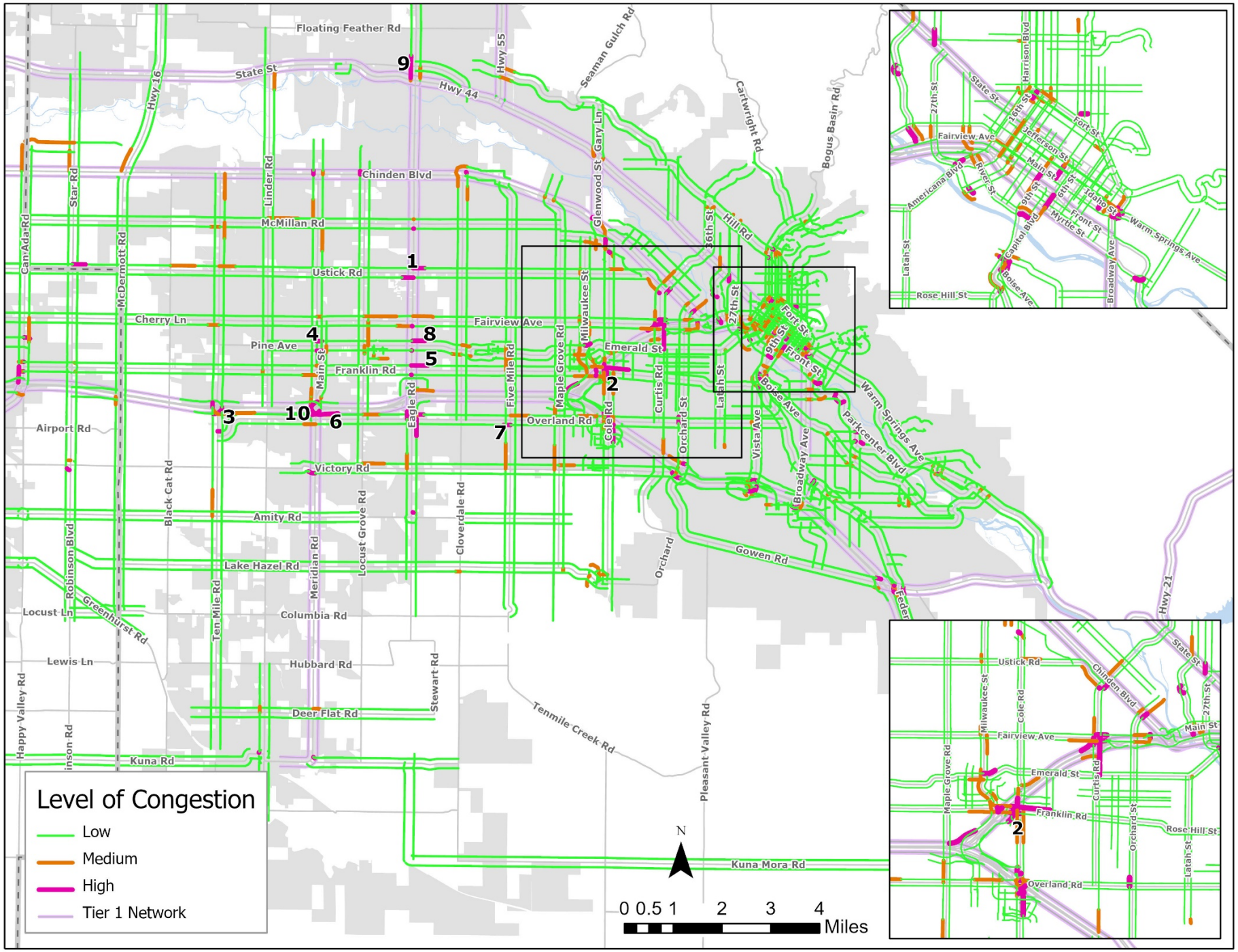

Figure 8: Top Ten Tier 2 Network Segments > 0.1 miles in Ada County (Peak period maximum, 2019)

Peak Hour Commute Times in the Treasure Valley

Recurring congestion in the Treasure Valley occurs primarily during the morning (AM) and evening (PM) commute times. Depending on the route, travelers can expect to add a significant amount of time to their commute due to congestion (Figure 9). In Figure 9, the free flow travel time is show in green, the travel time added to the commute due to congestion is shown in yellow, and the total average weekday commute (free flow + congested travel time) is displayed in black bold font. For example, under free flow conditions the travel time from Caldwell to Boise on I-84 takes around 23 minutes; during the morning commute over 7 minutes are added to the travel time, for an average weekday morning commute travel time of about 30 minutes.

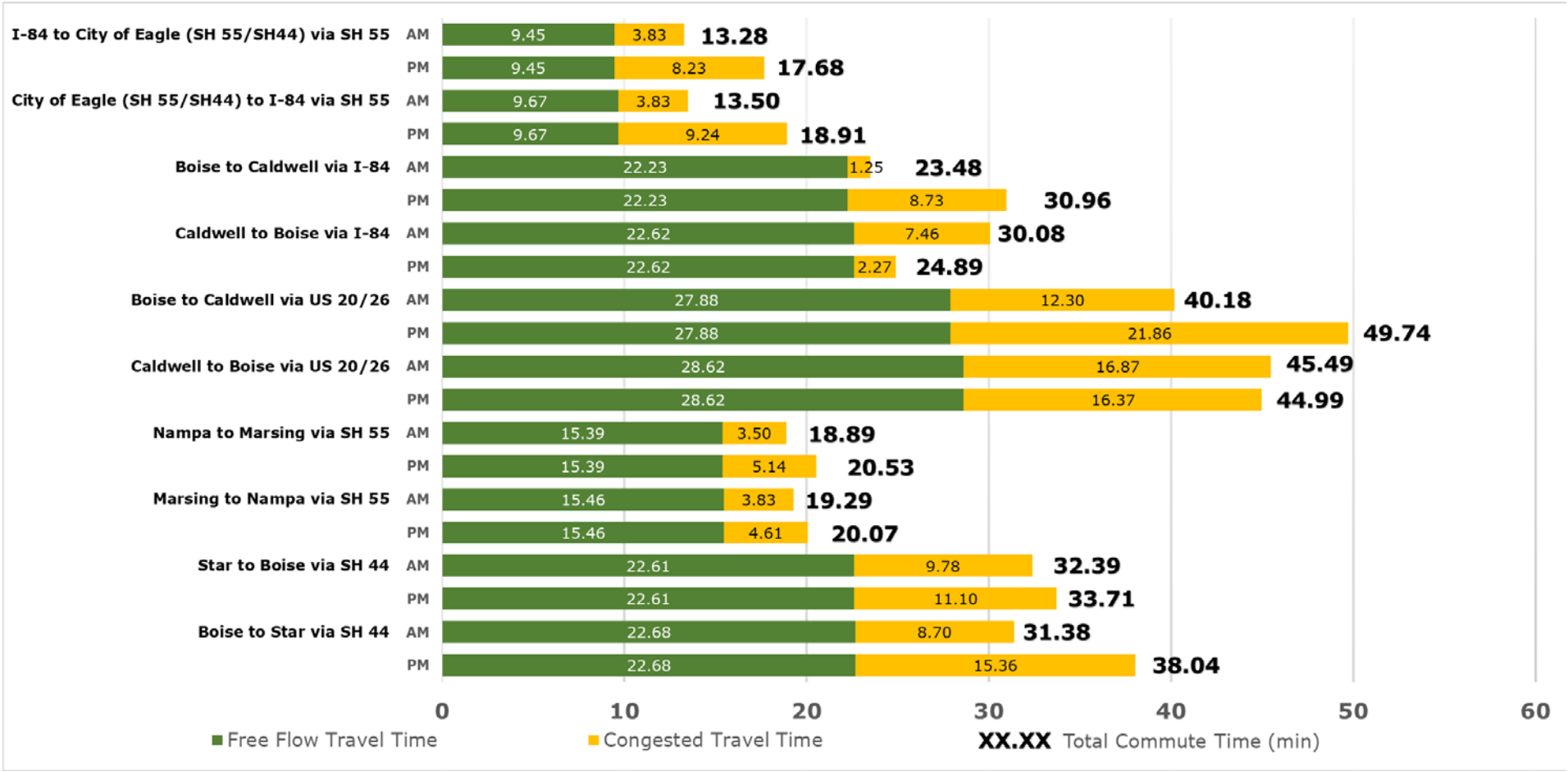

Figure 9: Average Weekday AM and PM Peak Period Commute Travel Times for Select Routes in the Treasure Valley (2019)

Federal System Performance Measures

The Moving Ahead for Progress in the 21st Century Act (MAP-21), signed in 2012, includes provisions requiring state transportation agencies and metropolitan planning organizations such as COMPASS to report performance measures and set targets on safety, infrastructure, and system performance for their planning areas. System performance is reported as reliability: Level of Travel Time Reliability and Truck Travel Time Reliability. These measures, described below, show how predictable or consistent travel times are for passenger and freight vehicles along the Tier 1 network.

MAP-21 Performance Measures

90.4% Interstate Reliable
Meets target of ≥90% reliable

76.2% Non-Interstate Roads Reliable
Meets target of ≥70% reliable

1.50 Truck Travel Time Reliability
Does not meet target score of <1.3

COMPASS has adopted ITD's statewide targets for these measures.

Level of Travel Time Reliability (LOTTR)

Travel time reliability measures are used to tell how consistent travel time is from one point to another, from one day to the next. Factors such as weather, events, construction, or crashes can make it difficult to predict how long it can take to travel from one destination to another. Many commuters understand that congestion is unavoidable on their commute, but by being able to effectively budget enough commute time can offset some of the inconveniences caused by every day congestion. The overall MAP-21 reliability goals and targets are intended to make travel time more predictable (Figures 10 and 11).

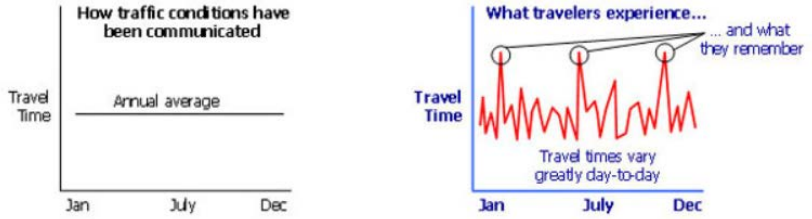

Figure 10: Reliability measures better reflect what commuters experience on a day-to-day basis

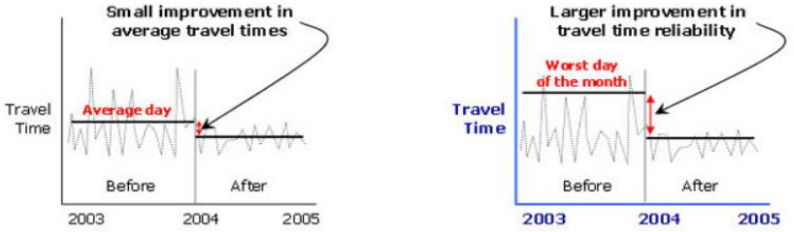

Figure 11: MAP-21 goals aim to decrease the variability of travel times from day-to-day

LOTTR is defined as the ratio of the longer travel times (80th percentile) to a "normal" travel time (50th percentile). A LOTTR score of 1.5 means that it takes 50% longer to travel a segment of roadway at times of some of the highest levels of congestion than during non-congested times. Roadways with LOTTR scores greater than 1.5 are considered unreliable. The overall system reliability is calculated by weighting each segment by person miles traveled (PMT). A percentage of reliable PMT on the system is used as an overall rating of the system reliability. COMPASS has adopted ITD's statewide targets of greater than 90% of PMT reliable on interstates and greater than 70% PMT reliable on the non-interstate system for performance measurement in Ada and Canyon Counties. COMPASS is meeting its interstate reliability measure at 90.4% of the interstate reliable and its target for non-interstate roads at 76.2% of non-interstate roads reliable (Figure 12).

Truck Travel Time Reliability (TTTR)

TTTR is a metric used to measure how efficiently freight is moving through the transportation system. TTTR is similar to LOTTR except the 95th percentile travel time is used as the longer travel time in the equation, TTTR is only calculated for the interstate system, and it is presented as a weighted average. ITD has set a statewide target of a TTTR of less than 1.3 and COMPASS has adopted this target for its performance measurement. The COMPASS planning area is not hitting this target at 1.5 TTTR (Figure 13). This is likely due to issues cause by non-recurring congestion from weather and traffic incidents on the interstate.

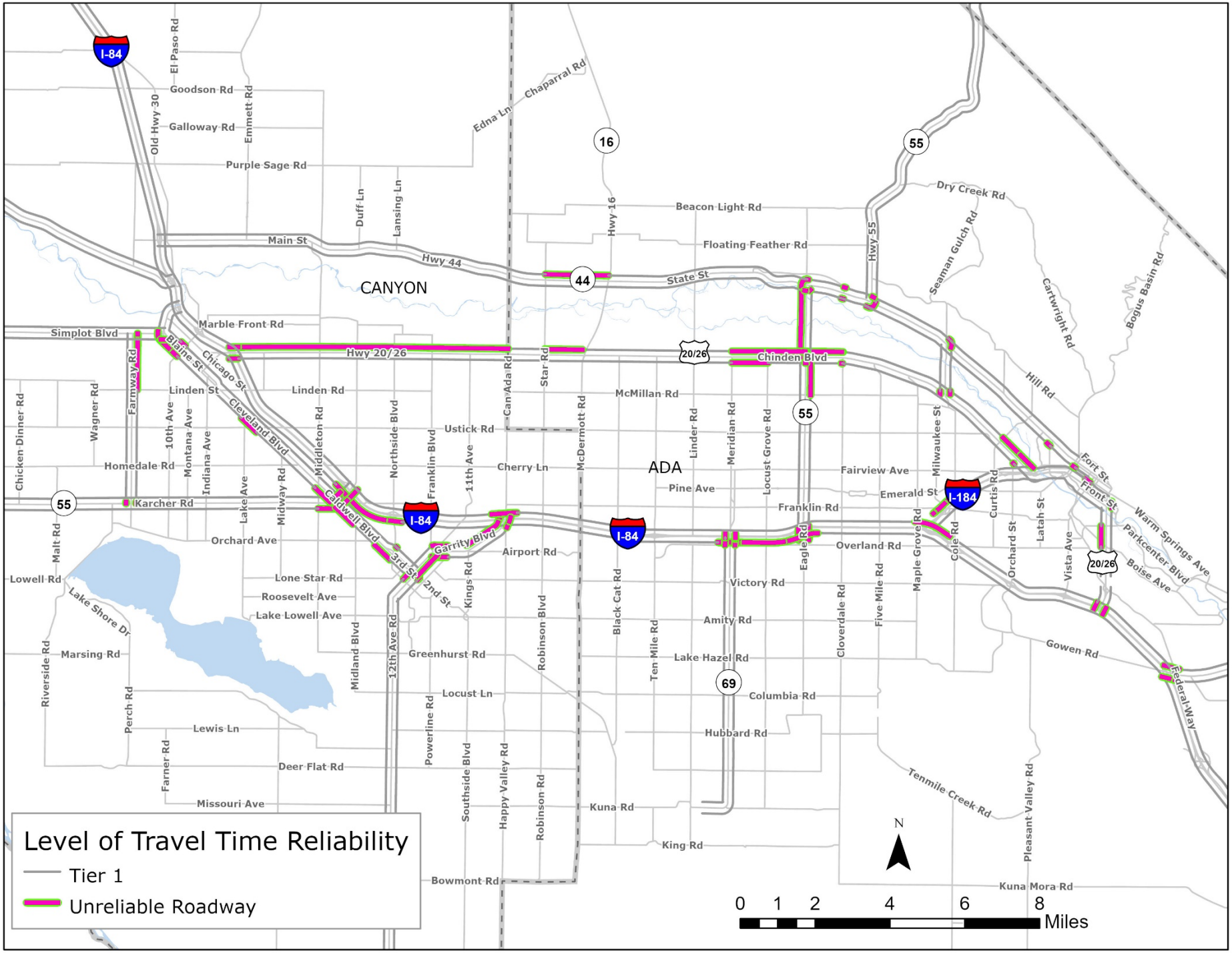

Figure 12: Level of Travel Time Reliability (2019)

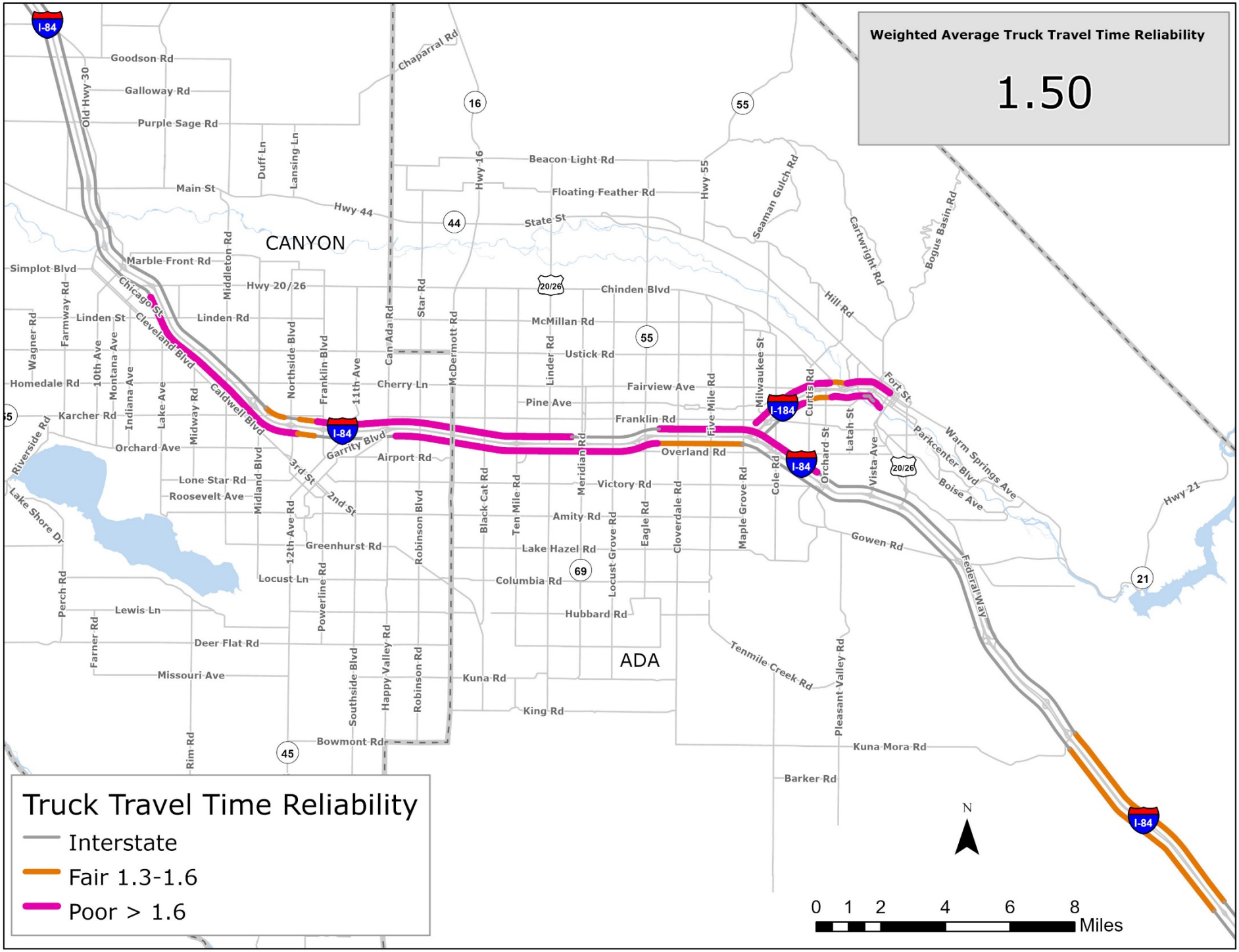

Figure 13: Truck Travel Time Reliability (2019)

COMPASS Performance Measures

COMPASS Change in Motion

COMPASS publishes the Change in Motion Scorecard on a biennial basis to report on the progress made toward achieving the goals established in *Communities in Motion*, the long-range transportation plan for Ada and Canyon Counties. Five of the performance measures reported in the Change in Motion Scorecard concern the availability and usage of public transportation and bicycle/pedestrian infrastructure, which can help alleviate capacity issues by minimizing the number of single occupancy vehicles on the road (Table 7). Green checkmarks signal that COMPASS is on track to meet the targets set for 2040. A red "X" indicates the region is not making progress on a target.

Table 7: Progress toward Communities in Motion Performance Measures (2019)

Performance Measure	2017	2018	2019	2040 Target	Progress
Percentage of Bicycle Lanes per Arterial Roadway Mile	17.9%	21.3%	22.5%	> 25%	
Ratio of Sidewalks Miles per 1 Roadway Mile*	N/A	N/A	.82 mi:1 mi	N/A	
Miles of Trails and Pathways	565	576	577	> 754	
Transit Ridership*	1.35 Million	1.29 Million	1.21 Million	N/A	
Percentage of Employment Near Transit	64%	60%	56%	> 70%	

***Measure added or modified in 2019. Targets or data for past years are currently unavailable.**

Strategies and Implementation Program

Congestion Mitigation Strategies

Congestion mitigation strategies are grouped into four categories, as identified in the Federal Highway Administration's *Congestion Management Process: A Guidebook* (Table 8). COMPASS and its member agencies implement these strategies to mitigate congestion through projects included in its TIP and long-range transportation plan (*Communities in Motion*).

Table 8: Congestion Mitigation Strategies

Strategy	Description	Examples	Measures Impacted
Transportation Demand Management	Providing travelers with more options of how and when they commute in order to reduce the number of trips during congested hours	• Pedestrian/bicycle infrastructure • Ridesharing • Flexible work arrangements • Transit Oriented Development	• Bike lanes per arterial roadway • Sidewalks per roadway miles • Miles of trails and pathways • Peak hour TTI • Commute times
Traffic Operations Improvements/Intelligent Transportation Systems (ITS)	Implementing improvements focused on optimizing the current transportation infrastructure	• Optimize signal timing • Intersection improvements • Transit signal priority	• Peak hour TTI • System reliability • Commute times
Public Transportation Improvements	Improving transit operations, access, and services to encourage more usage to reduce the number of vehicles on the road	• Bus Rapid Transit • Expanded frequency/hours of service • Expanded public transportation system	• Peak hour TTI • System reliability • Commute times • Transit passenger miles • Percentage of employment near transit
Additional System Capacity	Expanding capacity by adding lanes, new roads, or improving intersections	• Add travel lanes • Fill gaps in the street network • Construct overpass/ underpasses	• Peak hour TTI • System reliability • Commute times

Programmed (Budgeted) Congestion Reduction / Mitigation Projects

The TIP is a collection of projects selected by COMPASS to benefit the transportation system Ada and Canyon Counties. Multiple projects programmed (budgeted) in the FY2020-2026 TIP are designed to help mitigate congestion (Figure 14 and Table 9). The impacts of large scale congestion mitigation projects on the transportation network will be evaluated in subsequent CMP reports. You can find the most current TIP and archived TIPs at http://www.compassidaho.org/prodserv/transimprovement.htm.

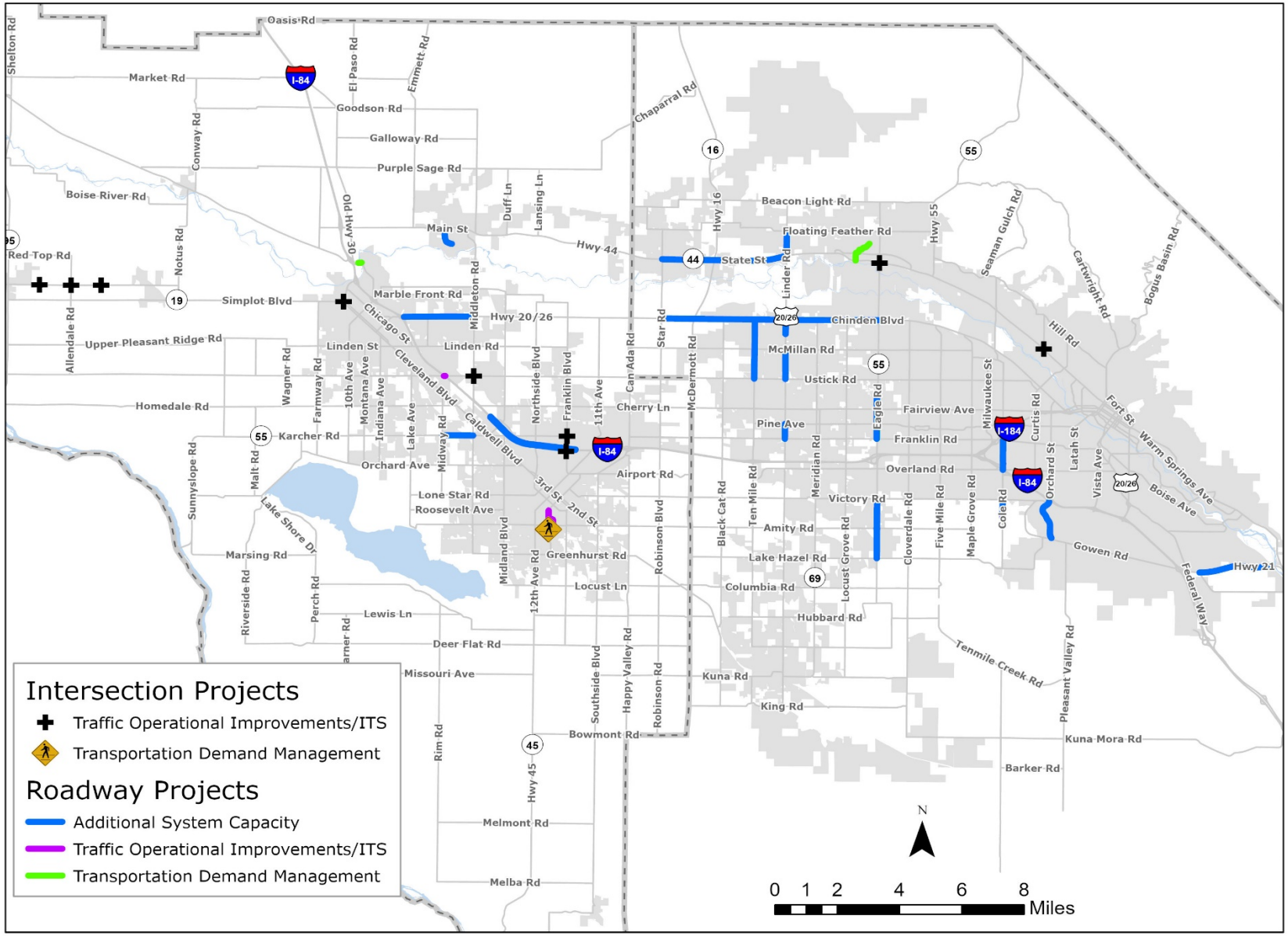

Figure 14: Programmed Congestion Mitigation Projects, FY2020-2026 TIP

Table 9: Programmed Congestion Mitigation Projects, FY2020-2026 TIP

Strategy	Project Name	Tier 1 Corridor
Transportation Demand Management	Colorado Ave and Holly St, Signal and Pedestrian Improvements, Nampa	
	Old Highway 30, Plymouth St Bridge, Caldwell	
	Pathway, Dry Creek Trail and Underpass, Eagle	
	Pathway, Stoddard Pathway, Amity Ave to Sherman Ave, Nampa	
	Pathway, Stoddard Pathway, Iowa Ave to Amity Ave, Nampa	
	Pedestrian Improvements, SH-55 (Eagle Rd), Franklin Rd to Pine Ave, Meridian	SH 55
Traffic Operations Improvements / ITS	Centennial Way Roundabout, Caldwell	
	Franklin Boulevard and Karcher Rd, Intersection Improvements, Nampa	
	Franklin Blvd, Freight Improvements near 3rd Ave North, Nampa	
	Holly St/Northwest Nazarene University Roadway Reconfiguration, Nampa	
	I-84, Middleton Rd and Ustick Rd Overpasses, Canyon County	I-84
	I-84, Middleton Rd Overpass, Canyon County	I-84
	I-84, Ustick Rd Overpass, Canyon County	I-84
	Middleton Rd and Ustick Rd, Roundabout, Caldwell	
	Peckham Rd Intersections, Canyon County	
	SH-44 (State St) and SH-55 (Eagle Rd) Intersection, 1/2 CFI, Eagle	SH 44
	State St and Collister Dr Intersection, Boise	SH 44
Additional System Capacity	Cole Rd, I-84 to Franklin Rd, Boise	
	Cole Rd, McGlochlin St to Victory Rd, Boise	
	Eagle Rd, Amity Rd to Victory Rd, Meridian	SH 55
	Eagle Rd, Lake Hazel Rd to Amity Rd, Meridian	SH 55
	I-84, Karcher Interchange to Franklin Blvd Corridor, Nampa (Design)	I-84
	Linder Rd, Cayuse Creek Dr to US 20/26 (Chinden Blvd), Meridian	
	Linder Rd, Franklin Rd to Pine Ave, Meridian	
	Linder Rd, SH-44 (State St) to Floating Feather Rd, Eagle	
	Linder Rd, Ustick Rd to McMillan Rd, Meridian	
	Orchard St, Gowen Rd to I-84 On-Ramp, Boise	
	SH-21, Technology Way to Surprise Way, Boise	
	SH-44 (State St), SH-16 to Linder Rd, Ada County	SH 44
	SH-44 (State St), Star Rd to SH-16, Ada County	SH 44
	SH-55 (Eagle Rd), Meridian Towne Center, Meridian	SH 55
	SH-55 (Karcher Rd), Midway Rd to Middleton Rd, Nampa	SH 55
	South Cemetery Rd, Highland Dr to Willow Creek, Middleton	
	Ten Mile Rd, McMillan Rd to US 20/26 (Chinden Blvd), Meridian	
	Ten Mile Rd, Ustick Rd to McMillan Rd, Meridian	
	US 20/26 (Chinden Blvd), Linder Rd to Locust Grove Rd, Meridian and Eagle	US 20/26
	US 20/26 (Chinden Blvd), Locust Grove Rd to SH-55 (Eagle Rd), Ada County	US 20/26
	US 20/26 (Chinden Blvd), SH-16 to Linder Rd, Ada County	US 20/26
	US 20/26 (Chinden Blvd), Star Rd to SH-16, Ada County	US 20/26
	US 20/26 (Chinden Blvd), I-84 to Middleton Rd, Canyon County	US 20/26
Public Transportation Improvements	Transit - Acquisition of Service, Canyon County, Valley Regional Transit	
	Transit - Fixed Line Service, Rural Areas, Treasure Valley Transit	
	Transit - Purchase of Service, Rural Areas, Treasure Valley Transit	

Summary

This Congestion Management Annual Report summarizes how the transportation system in Ada and Canyon Counties is performing and what transportation agencies are doing to help mitigate congestion. This report and the travel time data it is based on are used by COMPASS in its transportation planning activities, including informing the project selection process for TIP, analyzing progress toward the goals of the regional long-range transportation plan, and providing assistance to member agencies with their planning processes.

The key takeaways from this report include:

- Population growth and construction activity continued to increase throughout 2019. Heavy pockets of new development are happening between US 20/26 (Chinden Boulevard) and State Highway 44 (State Street) in Meridian, in southwest Boise (south of I-84), and around Nampa and Kuna.
- The evening peak period (3pm to 7pm) is the most congested time of day on the Tier 1 &2 networks.
- The percentage of miles of highly congested roadways on both the Tier 1 and Tier 2 networks slightly increased from 2018.
- The performance measures set for percentage of person miles traveled considered reliable on the Tier 1 system for both interstate and non-interstate roadway both hit their targets in 2019. Truck Travel Time Reliability, measures in at 1.5, did not meet the target of 1.3 set by ITD and COMPASS for federal performance measure reporting.
- On the Tier 2 network, many of the highly congested segments in Ada County were at intersections with State Highway 55 (Eagle Road). In Canyon County, most of the highly congested segments were located in the Nampa area.
- Major capacity projects on I-84 between the Karcher Road interchange (Exit 33) and the Franklin Boulevard interchange (Exit 35) and on US 20/26 (Chinden Boulevard) between State Highway 16 and Eagle Road are underway. It is anticipated that I-84 and US 20/26 (Chinden Boulevard) will experience higher levels of congestion during construction.

Appendix
Detailed Corridor Congestion Analyses

I-84

I-84 Traffic Volumes, 2015-2019

I-84 in Ada and Canyon Counties accommodates the largest volumes of vehicles in the entire state of Idaho. The busiest section of interstate is between the State Highway 55 (Eagle Road) interchange and the I-184 Flying Wye interchange — serving over 150,000 vehicles on an average weekday (Figure 15). However, between 2015 and 2019 the highest annual growth rates in traffic volumes on I-84 were at the Gowen Road Interchange (8%), west of the Locust Grove overpass (7%-8%), and in Meridian near the State Highway 69 (Meridian Road) interchange (7%) (Table 10).

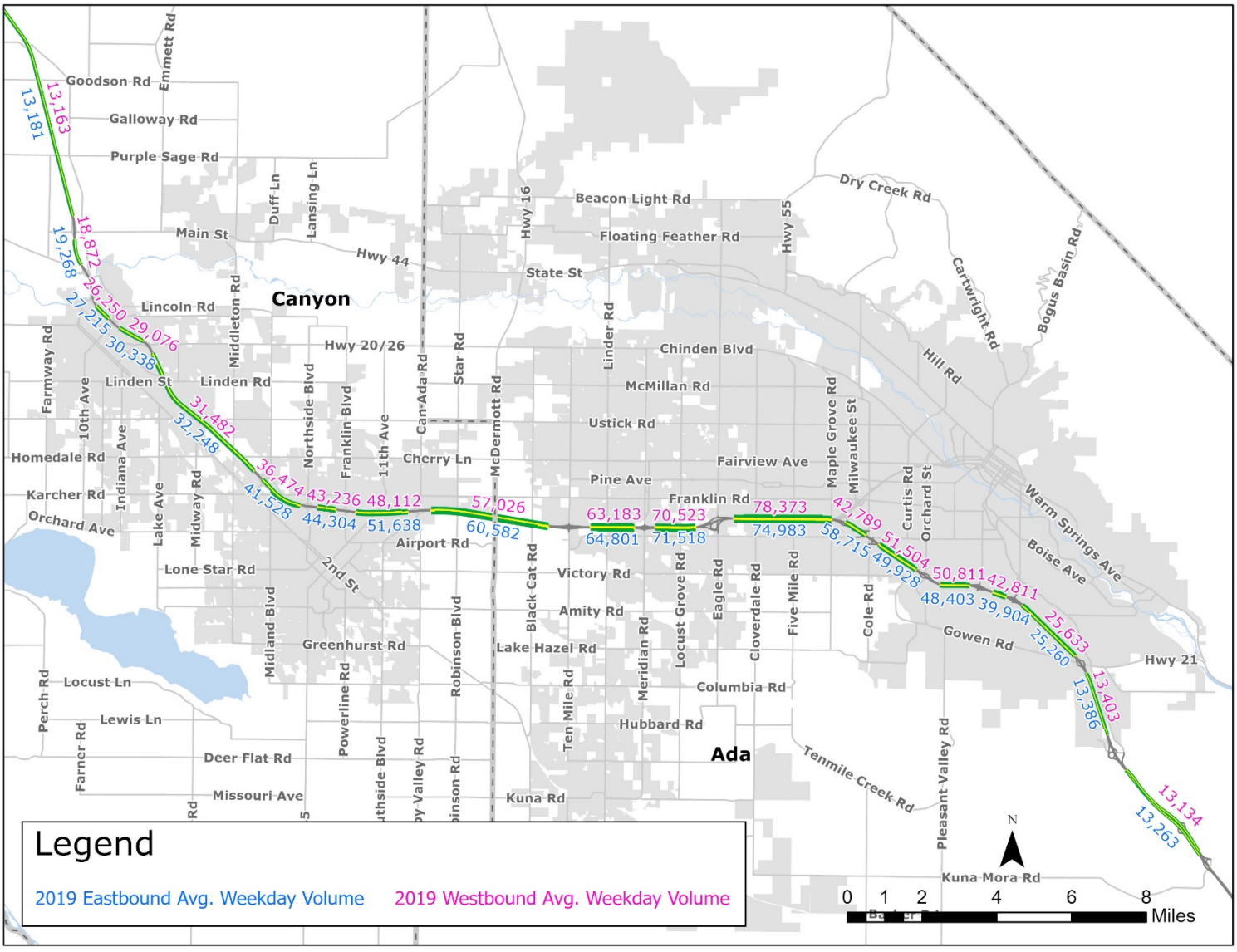

Figure 15: I-84 Annual Average Weekday Traffic Volumes (automatic traffic recorder counts) (2019)

Table 10: I-84 Average Annual Weekday Traffic Volumes (2015-2019)

I-84 Locations	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
w/o Locust Grove Overpass	East	53,153	64,359	66,712	69,480	71,518	8%
0.74 miles w/o EB Off Ramp Gowen Rd (Exit 57)	West	19,070	23,796	24,315	25,789	25,633	8%
0.74 miles w/o EB Off Ramp Gowen Rd (Exit 57)	East	18,807	23,055	24,369	25,436	25,260	8%
w/o Locust Grove Overpass	West	53,504	63,606	65,026	68,616	70,523	7%
0.61 miles w/o WB On Ramp IC 44 (Meridian)	East	49,955	57,506	60,251	62,683	64,801	7%
0.6 miles w/o Broadway Ave IC	West	33,307	39,400	40,266	42,732	42,811	6%
1.2 miles w/o I 184 IC (Five Mile)	West	61,355	70,350	71,849	76,620	78,373	6%
1.8 miles se/o Sand Hollow IC	Northwest	10,350	11,332	11,734	12,528	13,163	6%
0.61 miles w/o WB On Ramp IC 44 (Meridian)	West	49,852	56,162	57,830	61,182	63,183	6%
0.4 miles w/o Vista Ave IC	West	42,954	47,322	45,359	-	50,811	6%
0.6 miles w/o Broadway Ave IC	East	32,161	33,834	38,369	39,937	39,904	6%
1.8 miles se/o Sand Hollow IC	Southeast	10,636	11,309	11,859	12,458	13,181	6%
0.4 miles nw/o US 20/26 (Exit 26)	East	15,655	16,786	17,590	17,328	19,268	5%
nw/o 10th Ave Interchange (Exit 28)	Southeast	22,401	23,908	24,886	26,157	27,215	5%
1.2 miles w/o I 184 IC (Five Mile)	East	61,759	68,434	71,397	74,278	74,983	5%
nw/o 10th Ave Interchange (Exit 28)	Northwest	21,648	23,012	23,809	25,192	26,250	5%
0.7 miles e/o Robinson Rd overpass	East	50,000	54,029	56,267	58,505	60,582	5%
1.4 miles se/o Gowen Rd IC	Northwest	11,129	12,069	12,406	13,164	13,403	5%
0.3 miles w/o Cole/Overland Interchange (Boise)	Northwest	35,533	39,630	38,932	40,571	42,789	5%
w/o 11th Ave Overpass	East	43,125	46,221	47,865	50,099	51,638	5%
0.4 miles w/o Vista Ave IC	East	42,303	46,652	45,110	-	48,403	5%
0.4 miles nw/o US 20/26 (Exit 26)	West	15,807	16,281	16,918	18,632	18,872	5%
1.5 miles nw/o Blacks Creek IC	Southeast	11,126	11,567	12,082	13,266	13,263	4%
1.4 miles se/o Gowen Rd IC	Southeast	11,250	12,048	12,486	13,039	13,386	4%
0.8 miles w/o Orchard IC	Northwest	43,292	47,737	48,200	51,263	51,504	4%
se/o Ustick Road Overpass (Caldwell)	West	26,573	28,350	28,372	30,211	31,482	4%
1.5 miles nw/o Blacks Creek IC	Northwest	11,137	11,711	11,952	12,668	13,134	4%
0.8 miles w/o Orchard IC	Southeast	42,340	46,330	47,811	49,763	49,928	4%
0.3 miles w/o Cole/Overland Interchange (Boise)	Southeast	49,806	54,637	54,882	55,287	58,715	4%
se/o Ustick Road Overpass (Caldwell)	East	27,449	29,426	29,592	31,378	32,248	4%
nw/o Franklin Rd Interchange (Exit 29)	Southeast	25,918	27,627	28,014	29,912	30,338	4%
0.7 miles e/o Robinson Rd overpass	West	48,948	52,691	53,440	55,304	57,026	4%
nw/o Franklin Rd Interchange (Exit 29)	Northwest	24,959	26,504	27,218	28,393	29,076	4%
w/o 11th Ave Overpass	West	42,127	44,127	44,602	46,811	48,112	3%
w/o Beg EB Off Ramp Franklin Blvd IC (Exit 36)	West	39,189	40,905	40,796	42,572	43,236	2%
0.1 miles se/o Karcher Rd Interchange (Exit 33)	East	37,657	38,790	40,239	42,236	41,528	2%
w/o Beg EB Off Ramp Franklin Blvd IC (Exit 36)	East	40,786	43,231	44,163	45,712	44,304	2%
0.1 miles se/o Karcher Rd Interchange (Exit 33)	West	35,238	38,381	37,123	37,540	36,474	1%

Source: Automatic Traffic Recorders maintained by ITD

I-84 Speed Profiles

Over the past five years, the average speeds during the morning and evening commutes have decreased between the Centennial Way interchange in the City of Caldwell and the Flying Wye interchange with I-184 in the City of Boise (Figures 16 and 17). In 2019, the average speed was about 51 mph during both the morning (eastbound) and evening (westbound) commutes. Another trend that could be emerging is a decrease in average speeds starting around 5 pm in the eastbound direction – this may suggest that the number of people commuting to Meridian, Nampa, and Caldwell for work from the Boise area is increasing. Overall, the speed profiles for the past three years are relatively typical.

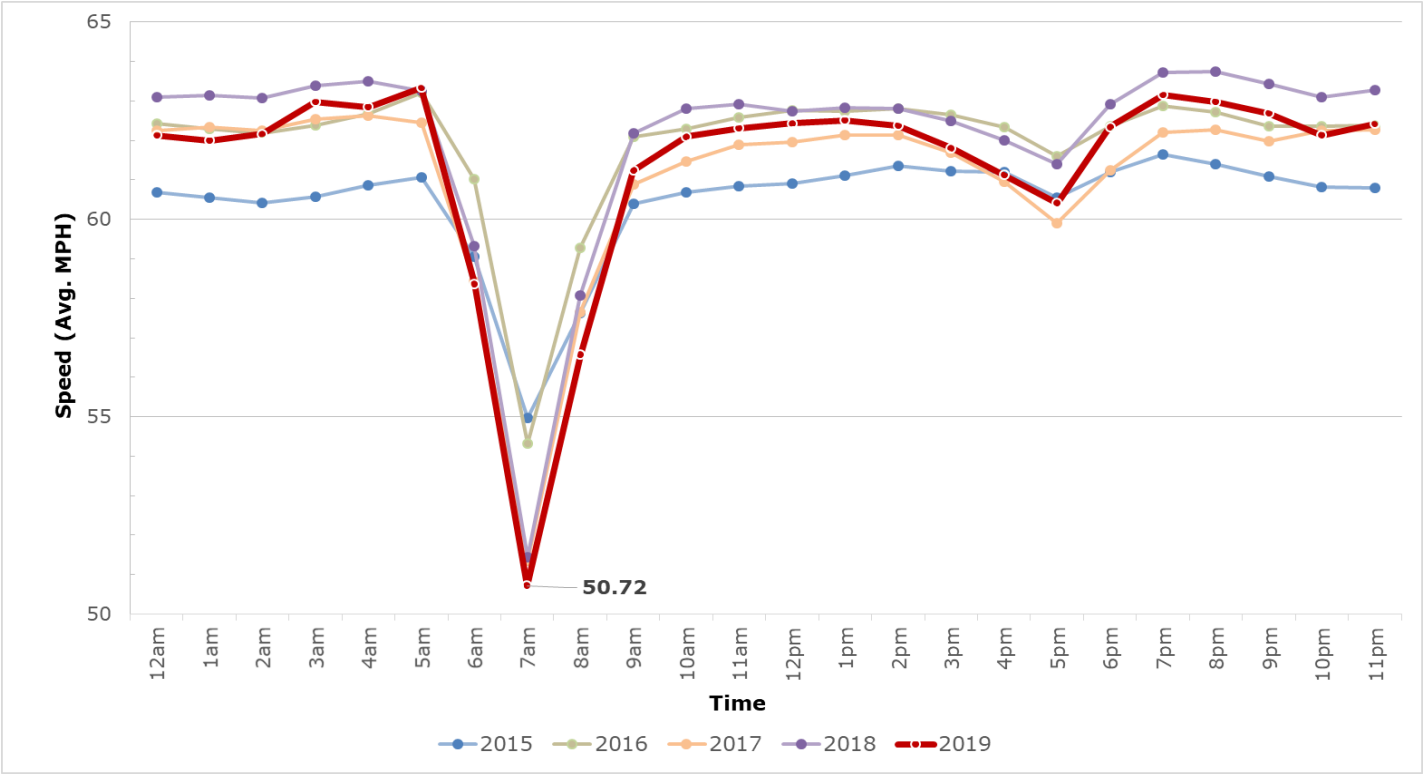

Figure 16: I-84 Eastbound (Centennial Way to Flying Wye interchange I-184), Average Weekday Speeds (2015 – 2019)

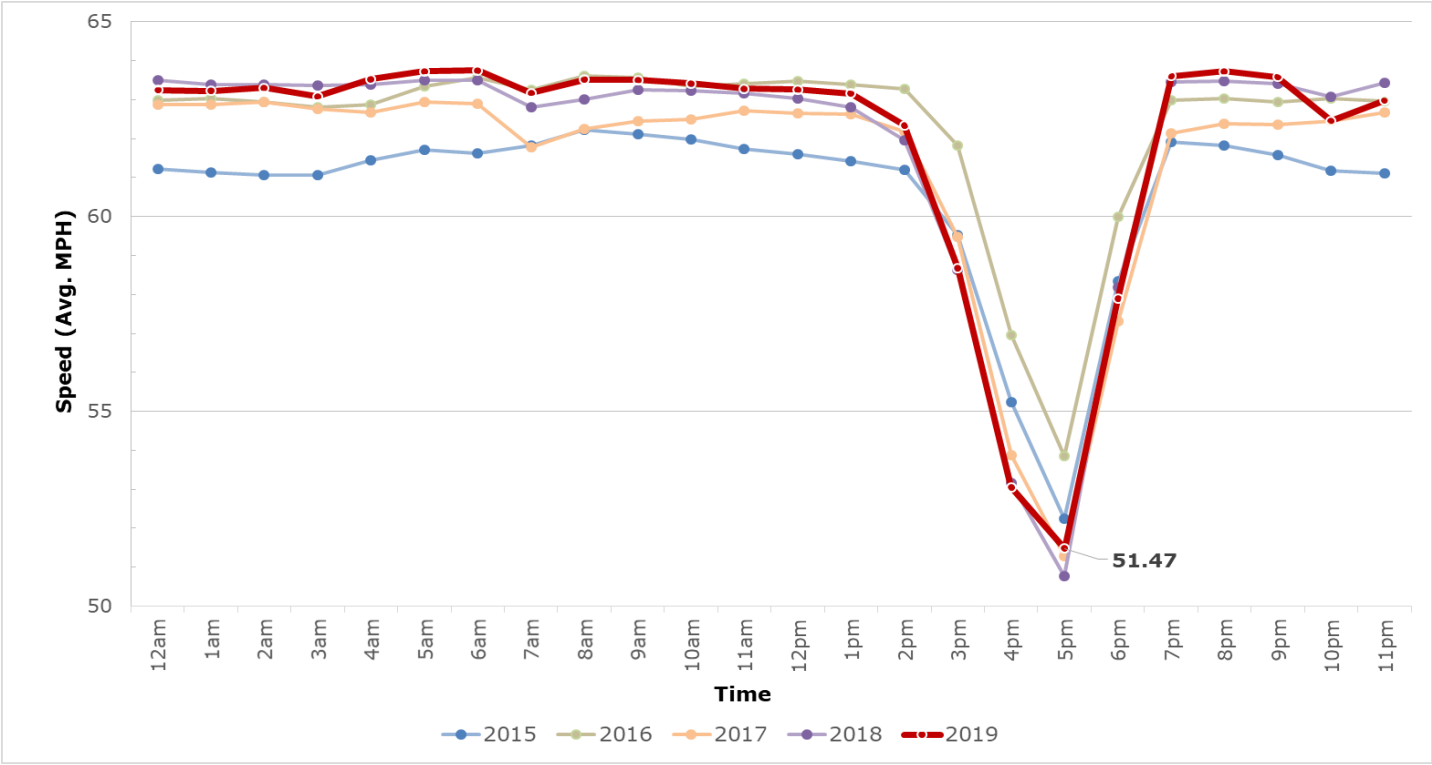

Figure 17: I-84 Westbound (Flying Wye interchange I-184 to Centennial Way), Average Weekday Speeds (2015 – 2019)

I-84 Congestion Analysis and Congestion Mitigation Strategies

I-84 experiences most of its congestion issues near the City of Nampa between the Karcher Road interchange and the Garrity Boulevard interchange. The westbound congestion is caused by a "bottleneck" where the interstate changes from three to two travel lanes. Eastbound congestion is most likely caused by a high volume of cars entering the interstate during the morning commute with a short distance to merge onto a two-lane interstate (Figure 18). In addition, the Meridian, Eagle Road (SH 55) and Flying Wye (I-184) interchanges experience moderate congestion during peak hours due to the volume of vehicles merging onto the interstate. The programmed and planned projects for this section of I-84 are highlighted in Table 11.

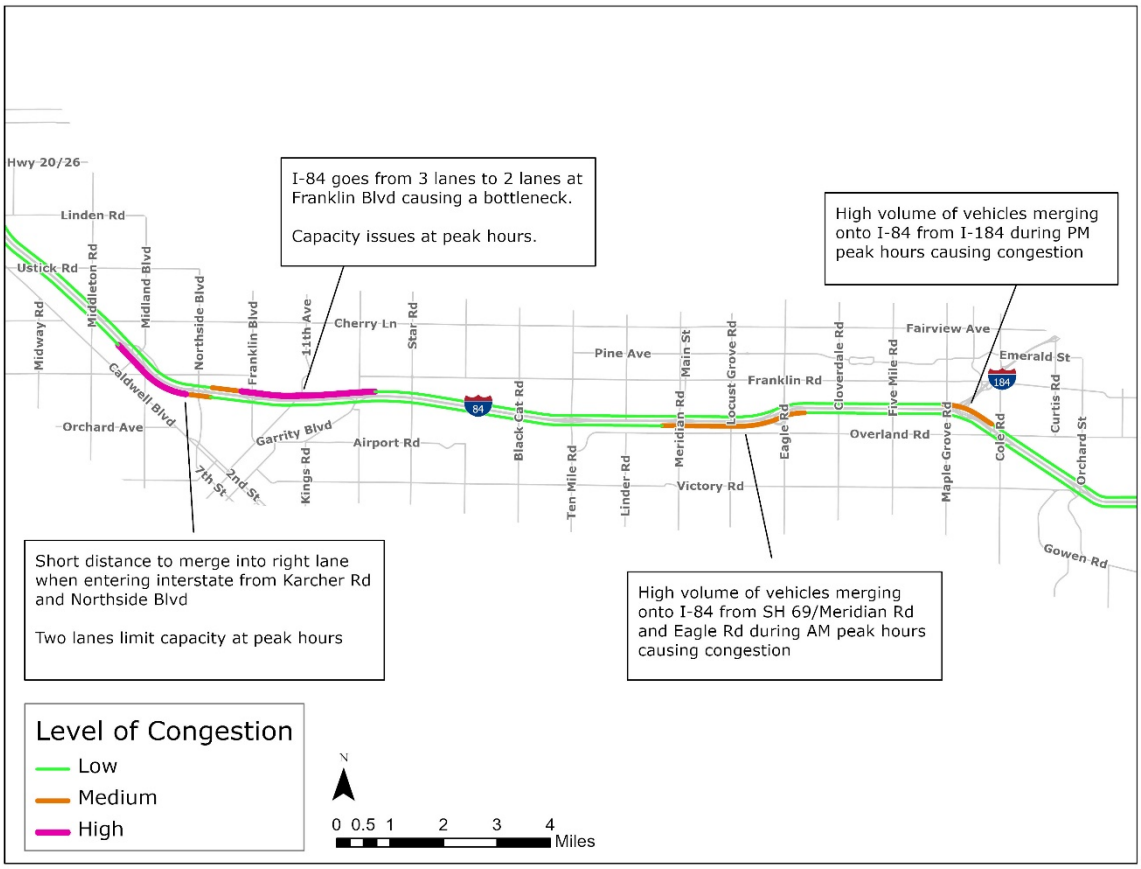

Figure 18: I-84 Levels of Peak Hour Congestion and Causes of Congestion (2019)

Table 11: I-84 Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management	✓ ACHD Commuteride		
Traffic Operations Improvements/ITS			
Public Transportation Improvements			✓ New and extended services
Additional System Capacity	✓ Widen I-84 to 3 lanes in each direction between Karcher Rd interchange (Exit 33) and Franklin Blvd interchange (Exit 36) and from the City of Caldwell (Exit 29) to Karcher Rd interchange (Exit 33)		✓ Widen I-84 to 3 lanes in each direction between Centennial Way (Exit 27) and City of Caldwell (Exit 29)

I-184

I-184 Traffic Volumes, 2015 - 2019

The busiest stretch of I-184 is between the Curtis Road and Franklin Road interchanges (Figure 19). I-184 average volume rate increases were more modest than the increases along I-84 from 2015 to 2019 (Table 12). The most significant growth in traffic volumes on I-184 over the past five years has been in the northeast direction just past the Emerald Street overpass.

Figure 19: I-184 Average Annual Weekday Traffic Volumes (automatic traffic recorder counts) (2019)

Table 12: I-184 Average Annual Weekday Traffic Volumes (2015-2019)

I-184	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
1.4 miles ne/o I 84 IC (Emerald Overpass)	Northeast	40,043	43,093	44,292	45,072	46,030	4%
1.4 miles ne/o I 84 IC (Emerald Overpass)	Southwest	42,298	45,160	45,050	46,894	47,567	3%
0.4 miles e/o Boise River (Connector EB)	East	41,549	42,198	39,872	43,549	44,665	2%
0.4 miles e/o Boise River (Connector WB)	West	35,197	36,542	34,326	37,265	37,498	2%

Source: Automatic Traffic Recorders maintained by ITD

I-184 Speed Profiles

The average weekday speed profiles for the section of I-184 from the Flying Wye to its terminus about one mile west of the 15th / Front Street intersection show speeds decrease during the morning (eastbound) and evening (westbound) peak hours (Figures 20 and 21). The evening reduction in speed westbound is much more pronounced than the morning eastbound reduction and has continued to decrease over the past five years. Moreover, the morning eastbound speeds appear to have improved since 2015.

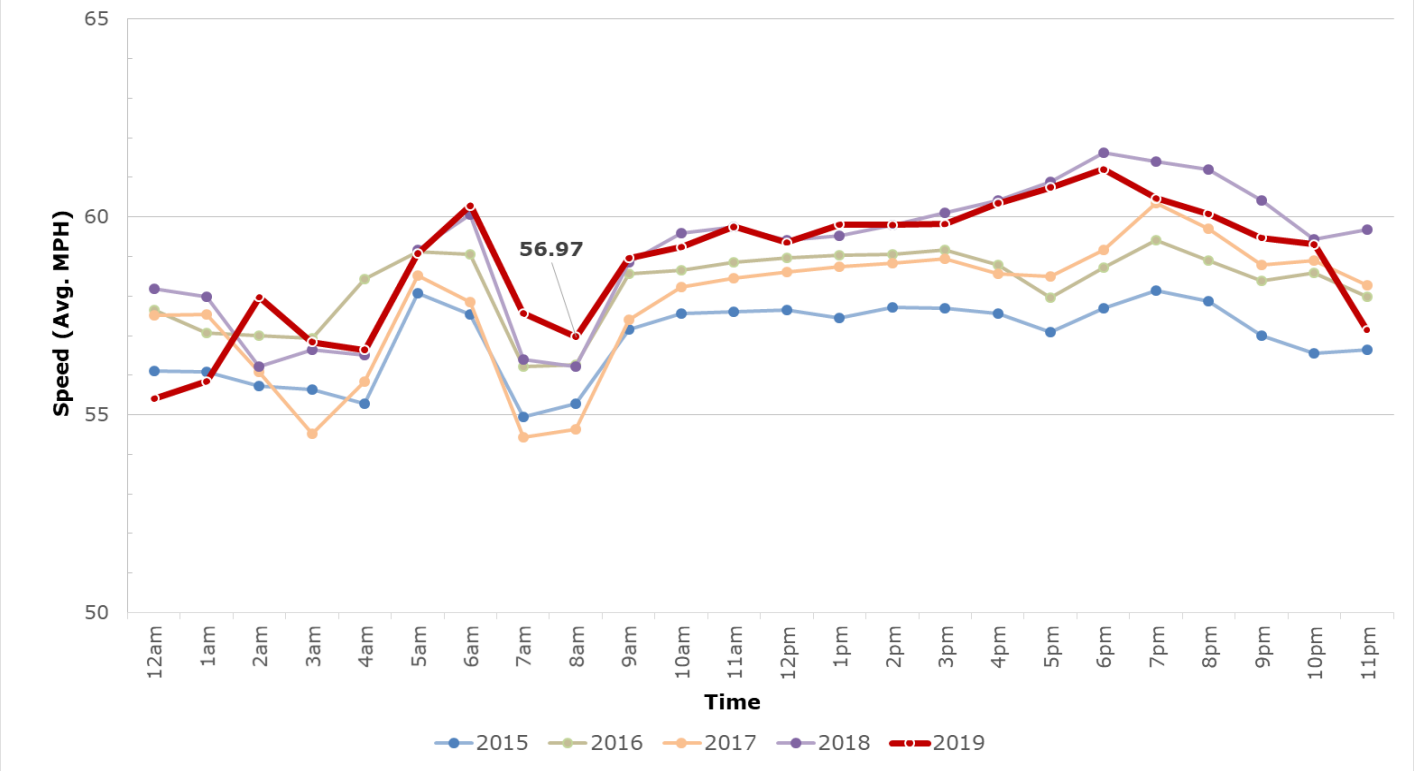

Figure 20: I-184 Eastbound, Average Weekday Speeds (2015 – 2019)

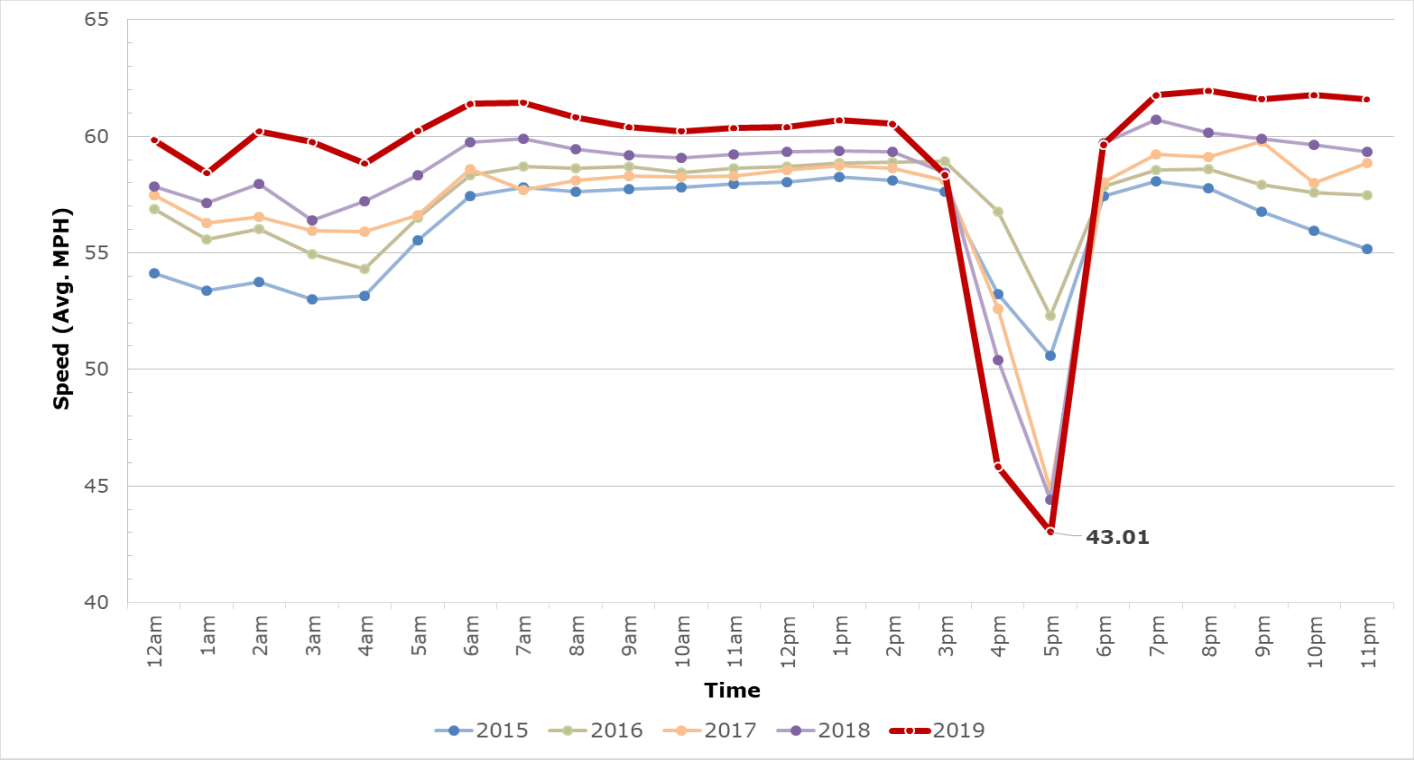

Figure 21: I-184 Westbound, Average Weekday Speeds (2015 – 2019)

I-184 Congestion Analysis and Congestion Mitigation Strategies

Congestion on I-184 typically occurs in the westbound direction during the evening commute where I-184 merges with I-84 (Figure 22). This is caused by commuters leaving the City of Boise at the end of the work day. The programmed and planned projects for I-184 are highlighted in Table 13.

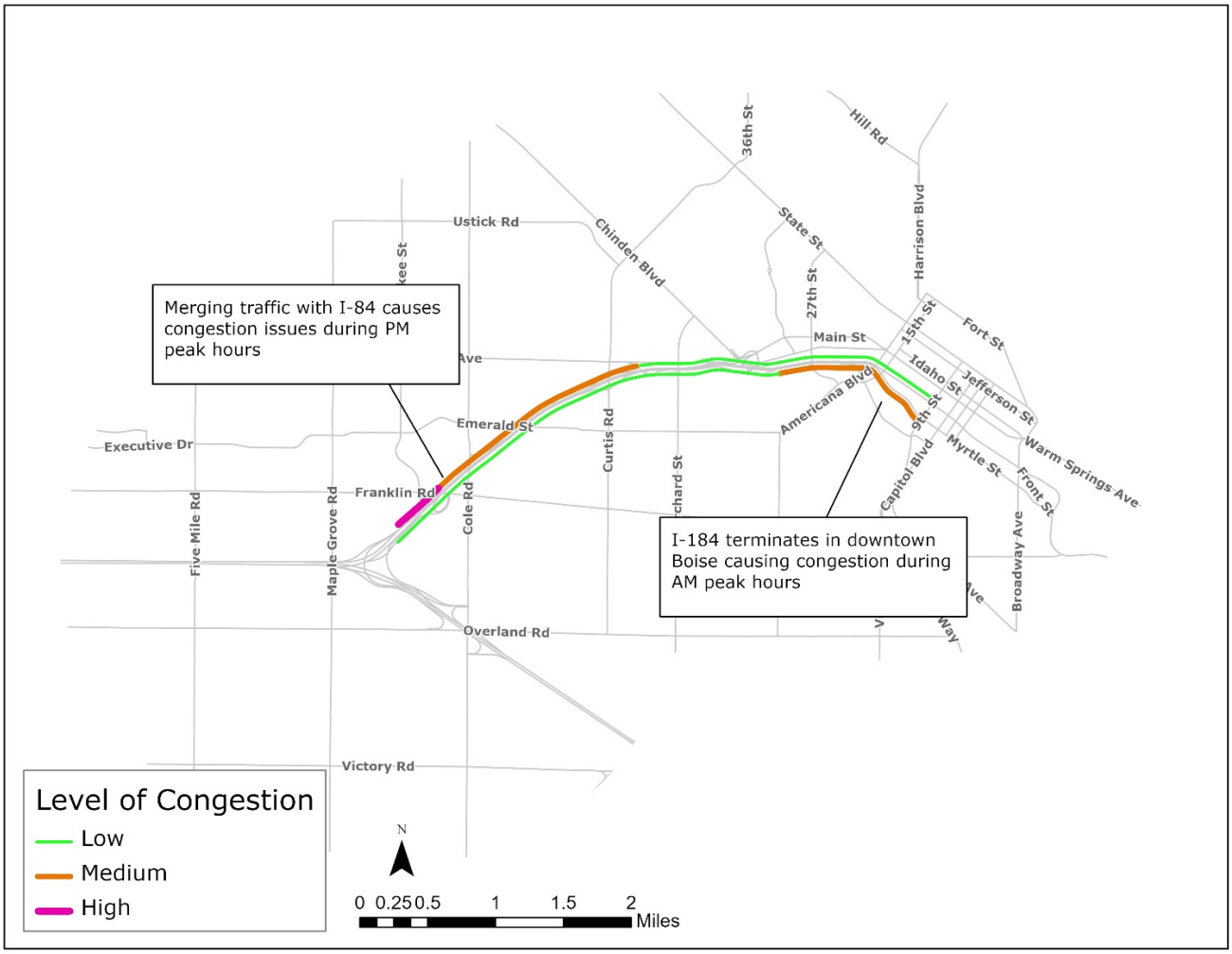

Figure 22: I-184 Levels of Peak Hour Congestion and Causes of Congestion (2019)

Table 13: I-184 Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management	✓ ACHD Commuteride		
Traffic Operations Improvements/ITS			
Public Transportation Improvements			✓ Planned new and extended services
Additional System Capacity			

US 20/26

US 20/26 Traffic Volumes, 2015 - 2019

The highest traffic volume on US 20/26 occurs near downtown Boise where Broadway Avenue crosses the Boise River (Figure 23). US 20/26 has seen its highest average growth rates in traffic volumes along the stretch through Canyon County. Just east of I-84 (Exit 29), US 20/26 has seen an average of 6% growth in traffic volumes per year from 2015-2019 (Table 14). The busier sections of US 20/26 in Garden City and Boise have averaged much lower growth rates in the same five-year period.

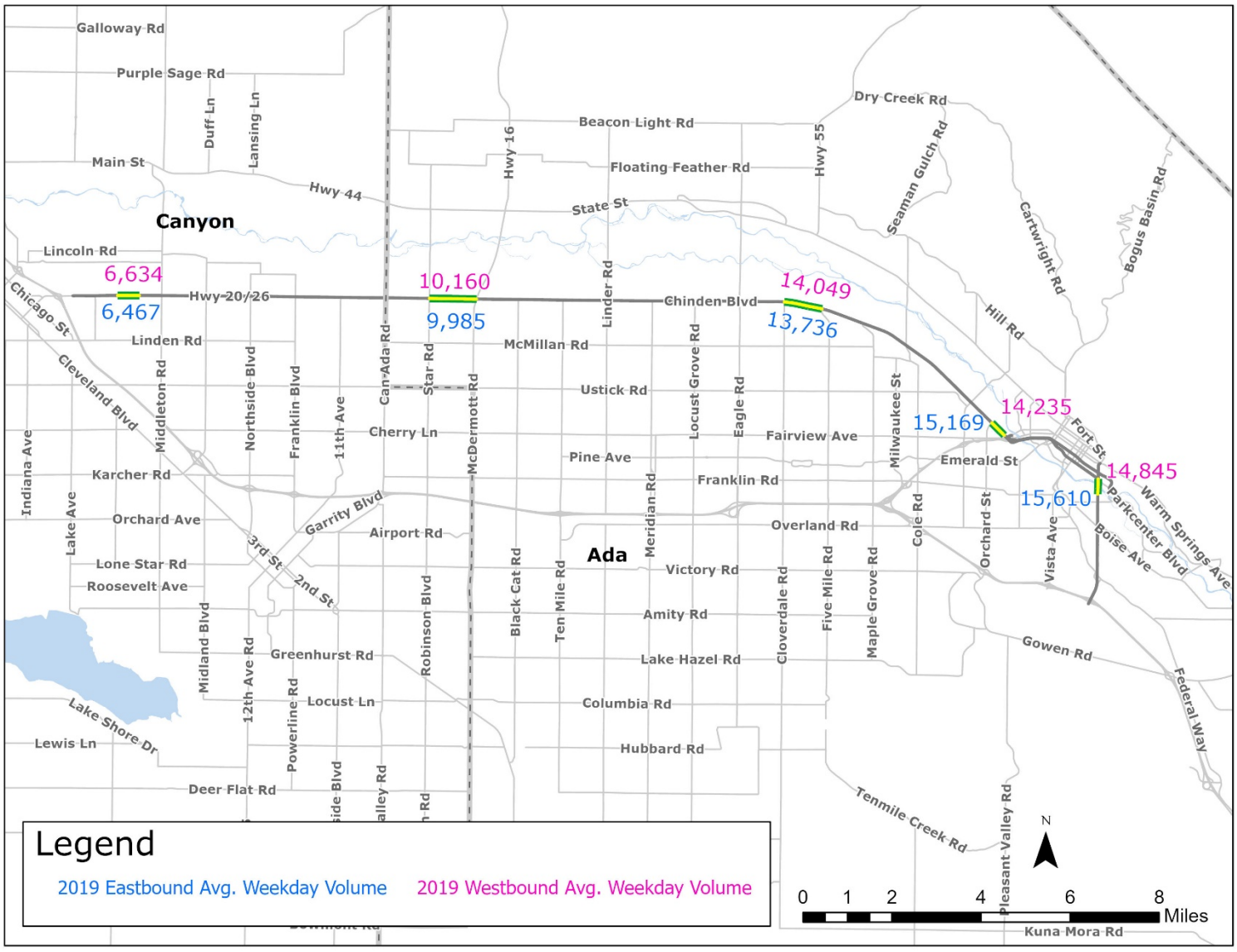

Figure 23: Annual Average Weekday Volumes on US 20/26 (automatic traffic recorder counts) (2019)

Table 14: US 20/26 (Chinden Boulevard/Broadway Avenue), Average Annual Weekday Traffic Volumes (2015-2019)

Road	Location	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
US 20/26	1.6 miles e/o Jct I-84 IC #29 (e/o KCID Rd)	East	5,057	5,354	5,796	6,012	6,467	6%
US 20/26	1.6 miles e/o Jct I-84 IC #29 (e/o KCID Rd)	West	5,346	5,625	6,042	6,352	6,634	6%
Chinden Blvd (US 20/26)	w/o McDermott Rd	East	8,336	8,470	9,014	9,524	9,985	5%
Chinden Blvd (US 20/26)	w/o McDermott Rd	West	8,554	8,668	9,065	9,664	10,160	4%
US 20/26	w/o Apple Valley Rd	East	2,215	2,335	2,425	2,569	2,620	4%
US 20/26	0.38 miles nw/o Mink Rd	Southeast	3,408	3,689	3,749	3,861	4,020	4%
US 20/26	w/o Apple Valley Rd	West	2,180	2,289	2,343	2,509	2,555	4%
US 20/26	0.38 miles nw/o Mink Rd	Northwest	3,303	3,573	3,553	3,693	3,869	4%
Chinden Blvd (US 20/26)	w/o 32nd St	Northwest	13,383	13,008	13,150	14,473	14,235	2%
Chinden Blvd (US 20/26)	w/o 32nd St	Southeast	14,486	14,154	14,752	15,610	15,169	1%
Broadway Ave	s/o Myrtle (River Crossing)	South	15,109	12,969	13,928	14,713	15,610	1%
Chinden Blvd (US 20/26)	0.14 miles nw/o Five Mile Ext.	Northwest	13,749	13,276	13,271	14,015	14,049	1%
Chinden Blvd (US 20/26)	0.14 miles nw/o Five Mile Ext.	Southeast	13,733	13,185	13,259	13,721	13,736	0%
Broadway Ave	s/o Myrtle (River Crossing)	North	15,091	12,260	12,462	14,066	14,845	0%

Source: Automatic Traffic Recorders maintained by ITD

*Broadway Bridge Closed for replacement

US 20/26 Speed Profiles

The US 20/26 speed profiles are broken into five different sections to account for different roadway characteristics along the corridor. The sections below are shown in order from west to east.

US 20/26: I-84 (Exit 29) to State Highway 55 (Eagle Road)

US 20/26 from I-84 (Exit 29) to State Highway 55 (Eagle Road) exhibits predictable morning and midday slowdowns. Speeds are slowest at 7 am (eastbound) and 5 pm (westbound). Average speeds decreased in 2019 in both directions during their busiest peak hours; morning peak eastbound and evening peak westbound (Figures 24 and 25).

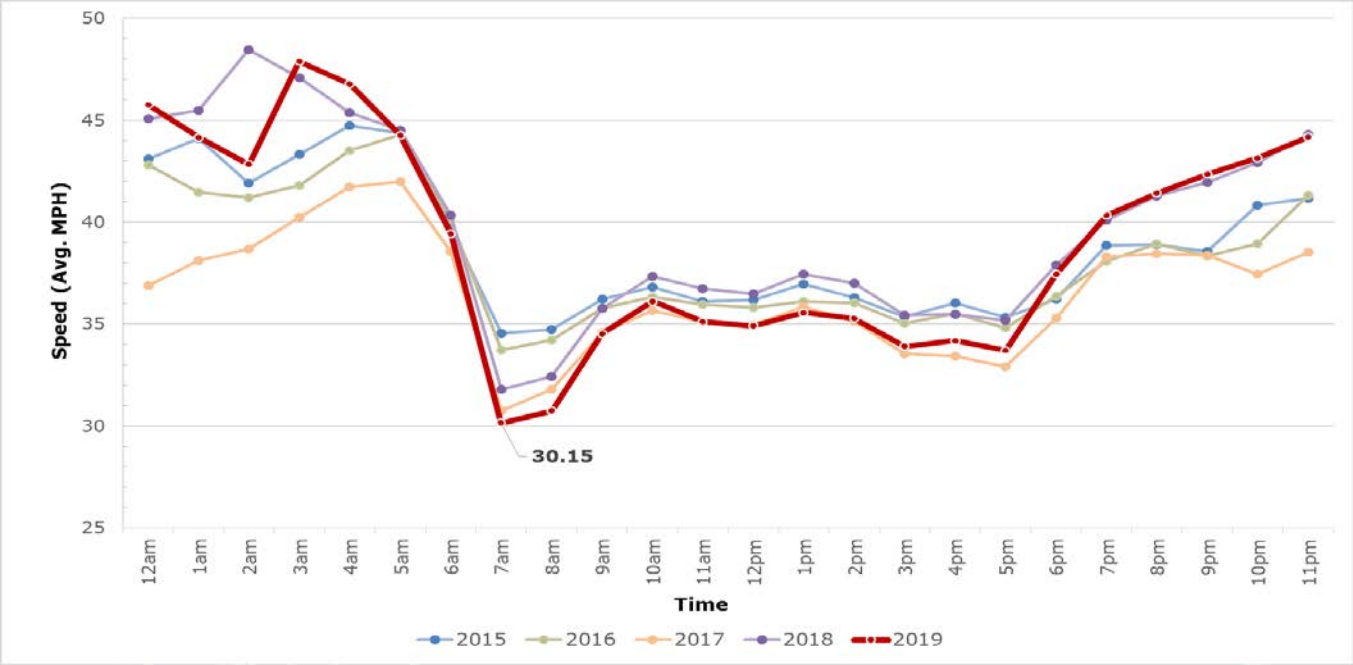

Figure 24: US 20/26 (I-84 to State Highway 55 [Eagle Road]) Eastbound, Average Weekday Speeds (2015 – 2019)

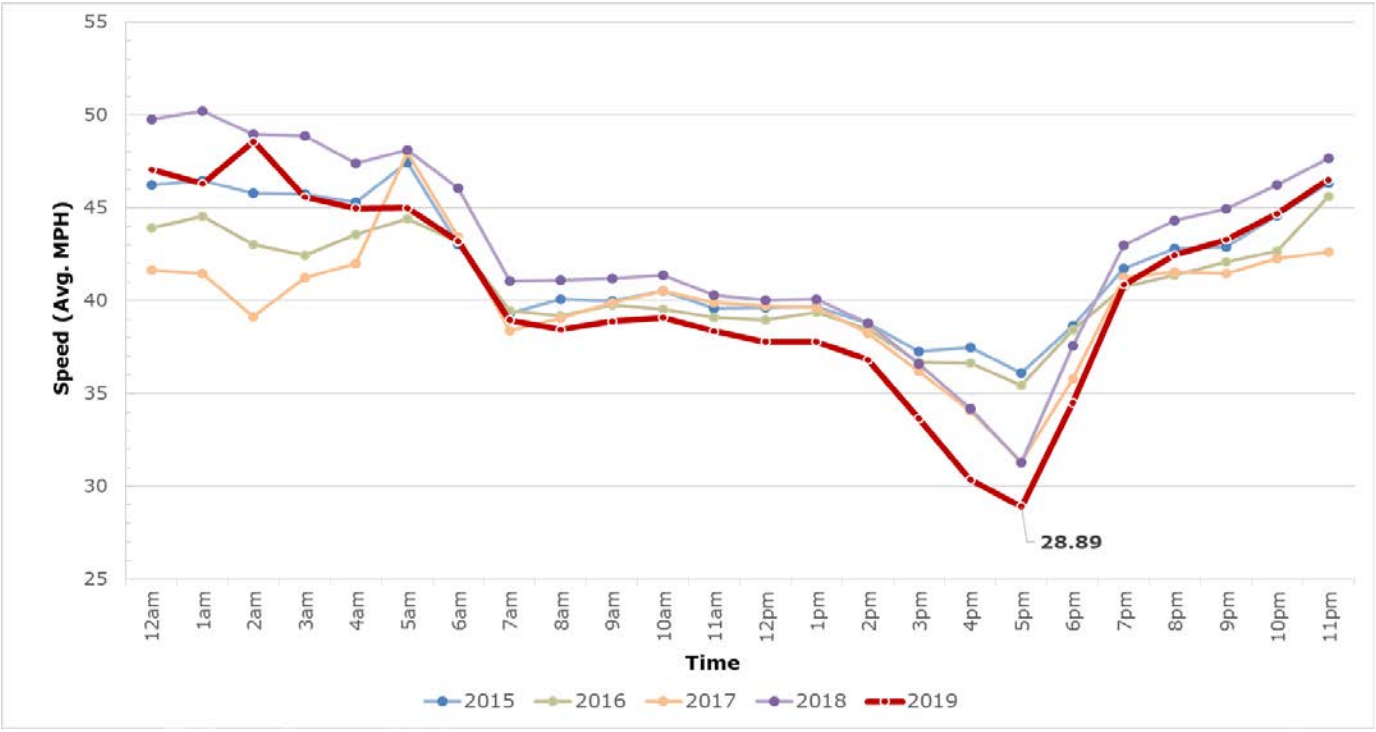

Figure 25: US 20/26 (State Highway 55 [Eagle Road] to I-84) Westbound, Average Weekday Speeds (2015 – 2019)

US 20/26 (Chinden Boulevard): State Highway 55 (Eagle Road) to Glenwood Street

The section of US 20/26 between State Highway 55 (Eagle Road) and Glenwood Street heading eastbound experiences a reduction in speeds beginning with the morning commute and continuing throughout typical business hours (Figure 26). The westbound direction sees the typical evening peak hour slowdown associated with an increase in commuters on the road (Figure 27). Also, the posted speed limit changes from 50 mph (west) to 35 mph (east) 0.25 miles west of Glenwood Street, which contributes to the overall average speed hovering near 30 mph.

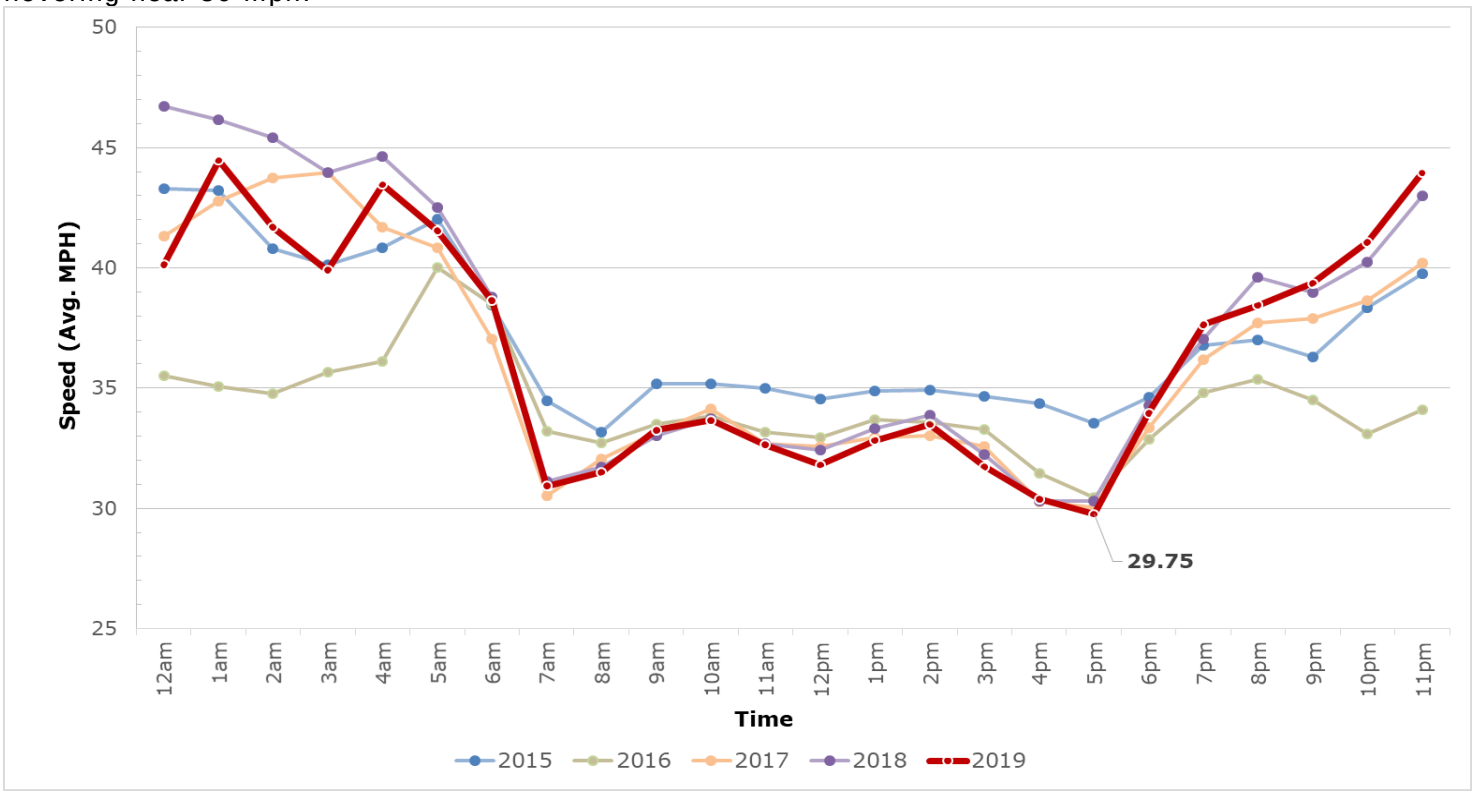

Figure 26: US 20/26 (State Highway 55 [Eagle Road] to Glenwood Street) Eastbound, Average Weekday Speeds (2015 – 2019)

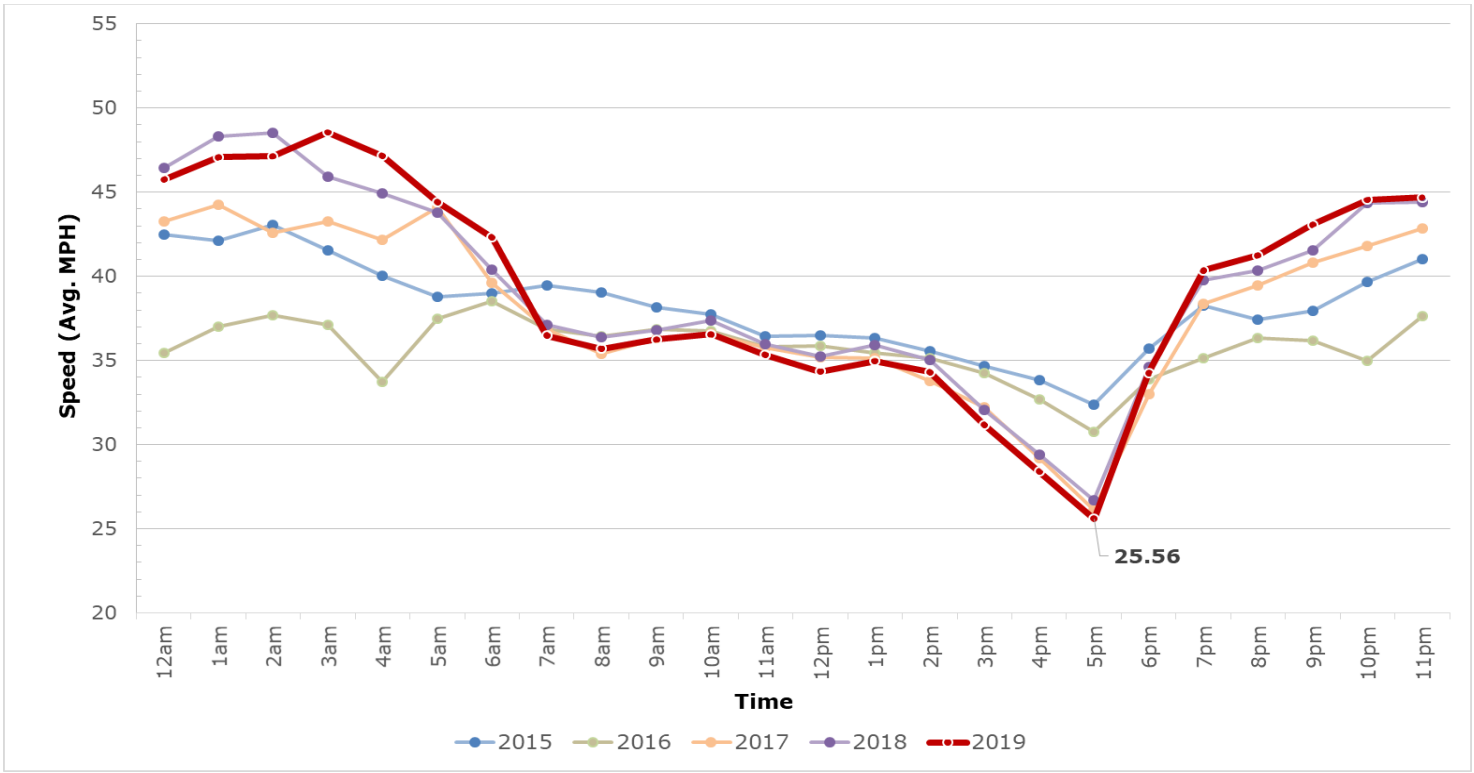

Figure 27: US 20/26 (Glenwood Street to State Highway 55 [Eagle Road]) Westbound, Average Weekday Speeds (2015 – 2019)

US 20/26 (Chinden Boulevard): Glenwood Street to I-184

The section of US 20/26 between Glenwood Street and I-184 heading eastbound sees a degradation in speeds starting with the morning commute and continuing through typical business hours (Figure 28). The westbound direction experiences the most dramatic slowdown, bottoming out at 20 mph, during the 5 pm hour (Figure 29). This is likely due to commuters traveling from work to home on Chinden Boulevard at this time.

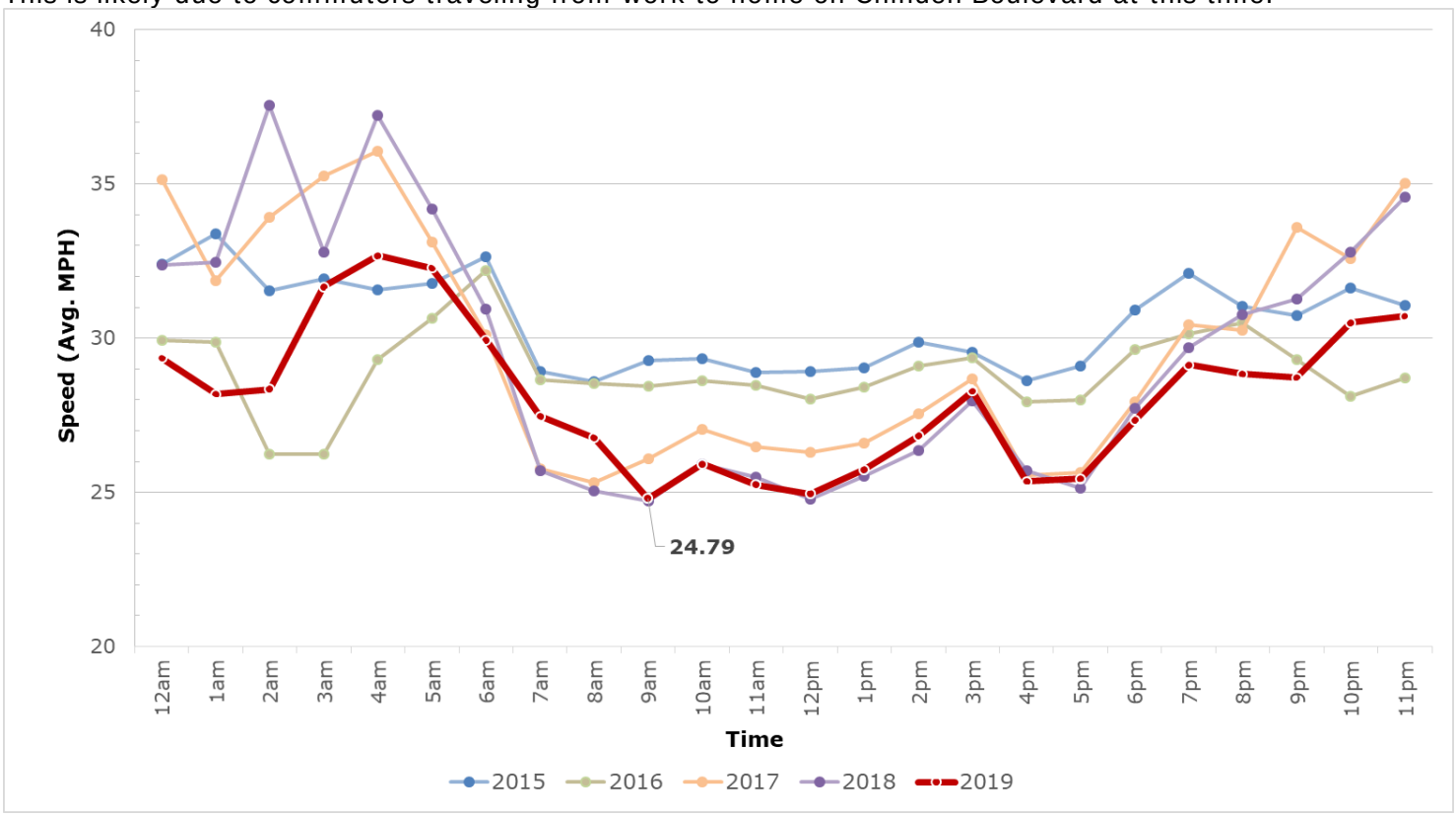

Figure 28: US 20/26 (Glenwood Street to I-184) Eastbound, Average Weekday Speeds (2015 – 2019)

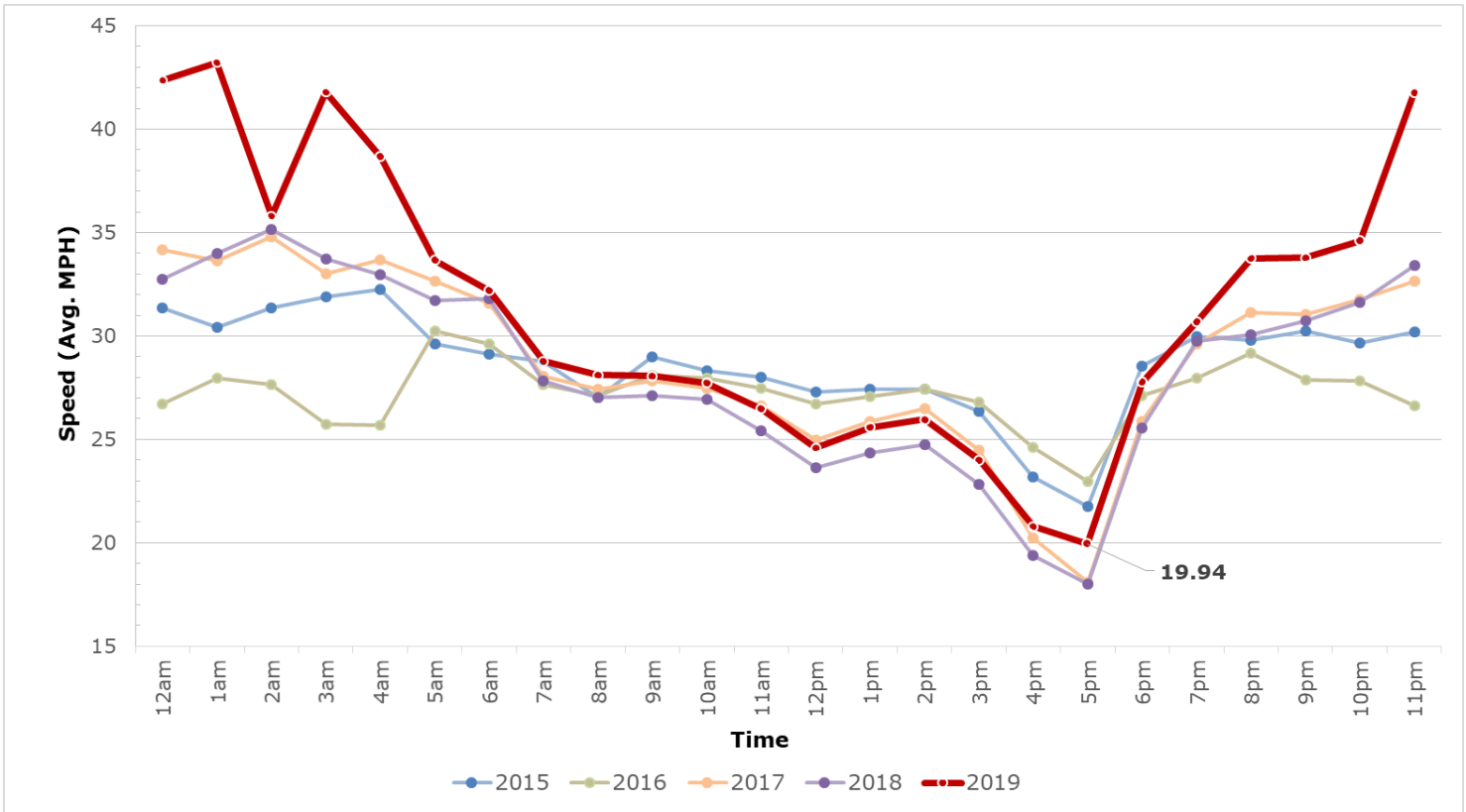

Figure 29: US 20/26 (I-184 to Glenwood Street) Westbound, Average Weekday Speeds (2015 – 2019)

US 20/26 (Front and Myrtle Streets): I-184 to Broadway Avenue

The section of US 20/26 through the urban center of the City of Boise tends to see a speed decrease during the morning peak hours that continues until after peak evening hours in the eastbound direction, with a gradual decrease until reaching its slowest speeds at 4 pm in the westbound direction (Figures 30 and 31). The highway in this section is divided in to two separate one-way thoroughfares providing access to downtown Boise. The fluctuations in speed are likely due to an increased volume during typical business hours and typical commute patterns of eastbound in the morning and westbound in the evening.

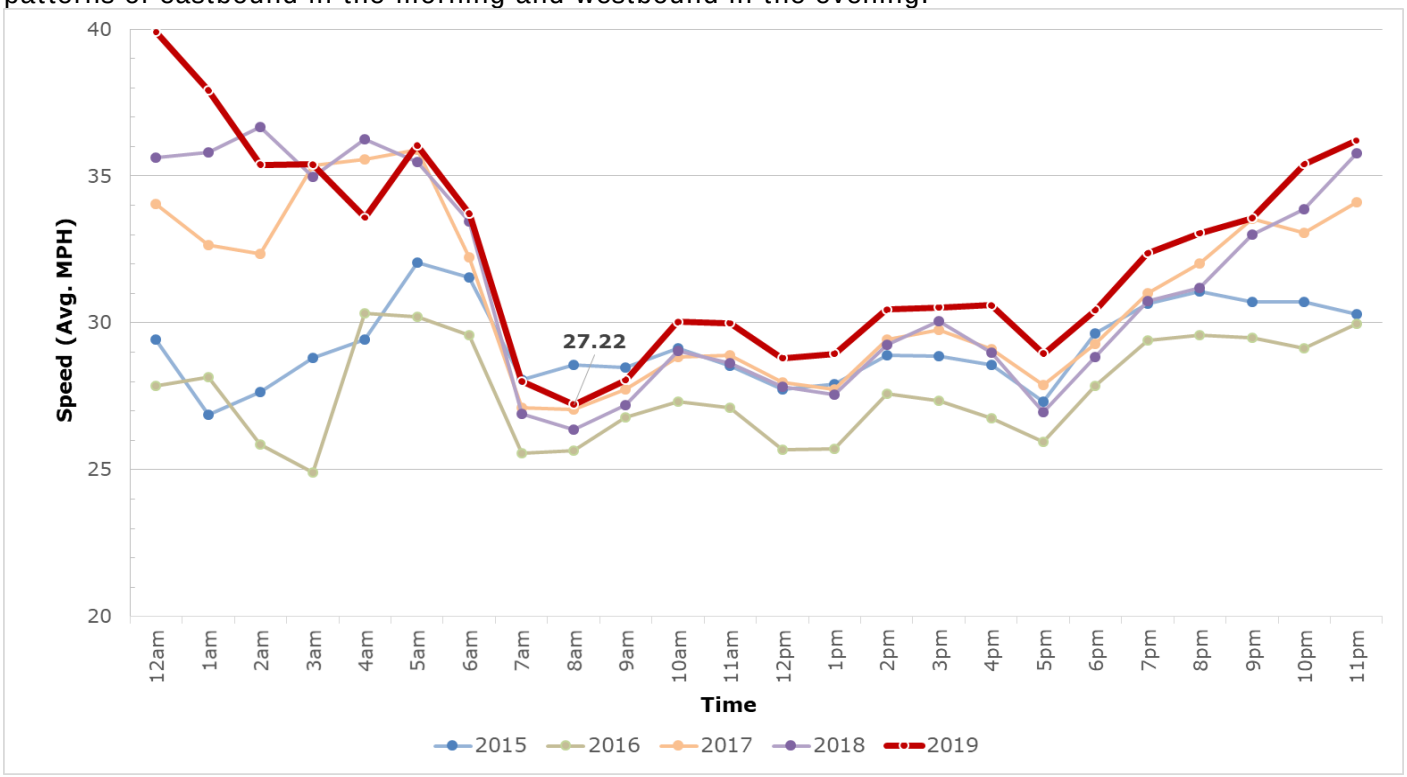

Figure 30: US 20/26 (I-184 to Broadway Avenue via Myrtle Street) Eastbound, Average Weekday Speeds (2015 – 2019)

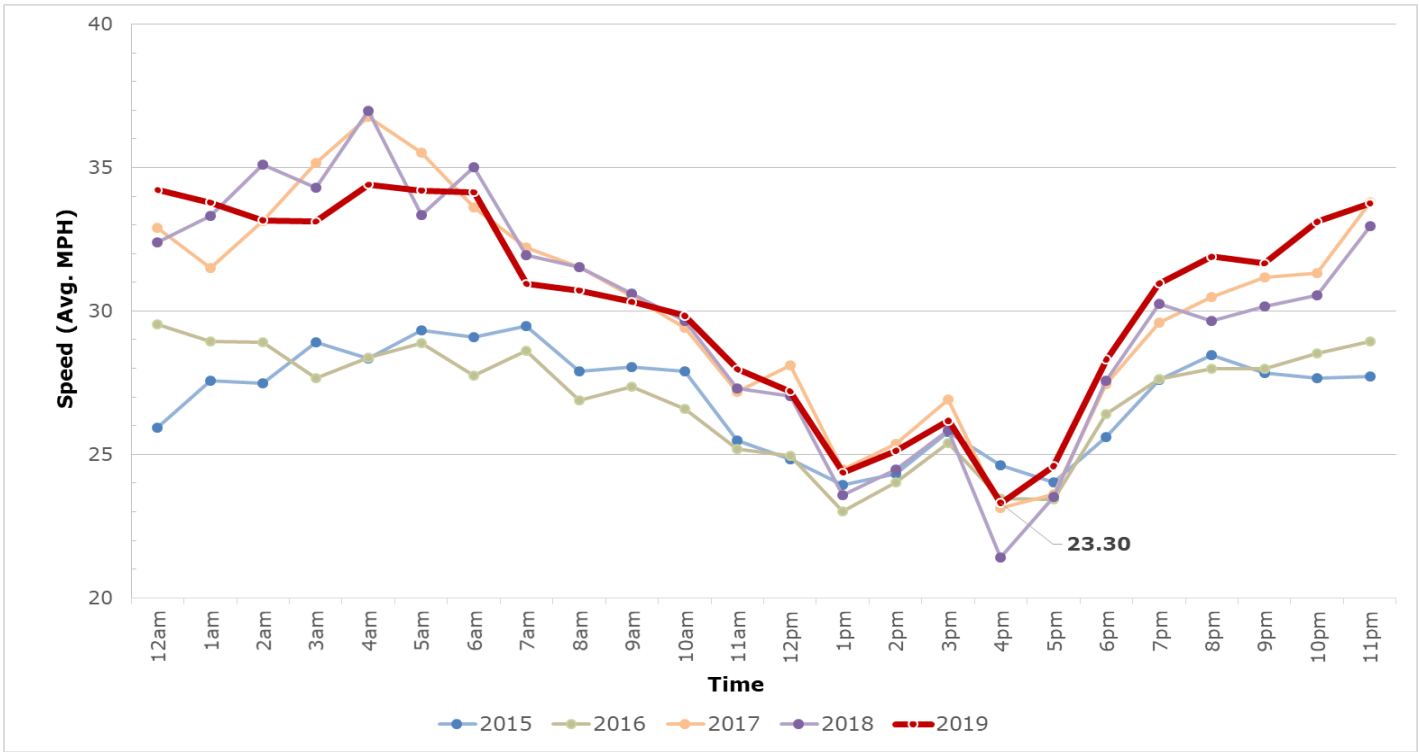

Figure 31: US 20/26 (Broadway Avenue to I-184 via Front Street) Westbound, Average Weekday Speeds (2015 – 2019)

US 20/26 (Broadway Avenue): Myrtle/Front Streets to I-84

US 20/26 (Broadway Avenue) from Front/Myrtle Streets to I-84 sees a slight drop in speeds from 8 am to 5 pm (Figures 32 and 33). There are minor slowdowns along the roadway during peak travel hours that are likely due congestion caused by commuters headed to some of the area's larger employers – St. Luke's Regional Medical Center and Boise State University. Nevertheless, this section of roadway doesn't seem to be as heavily impacted by the morning and evening commute as other corridors in the system.

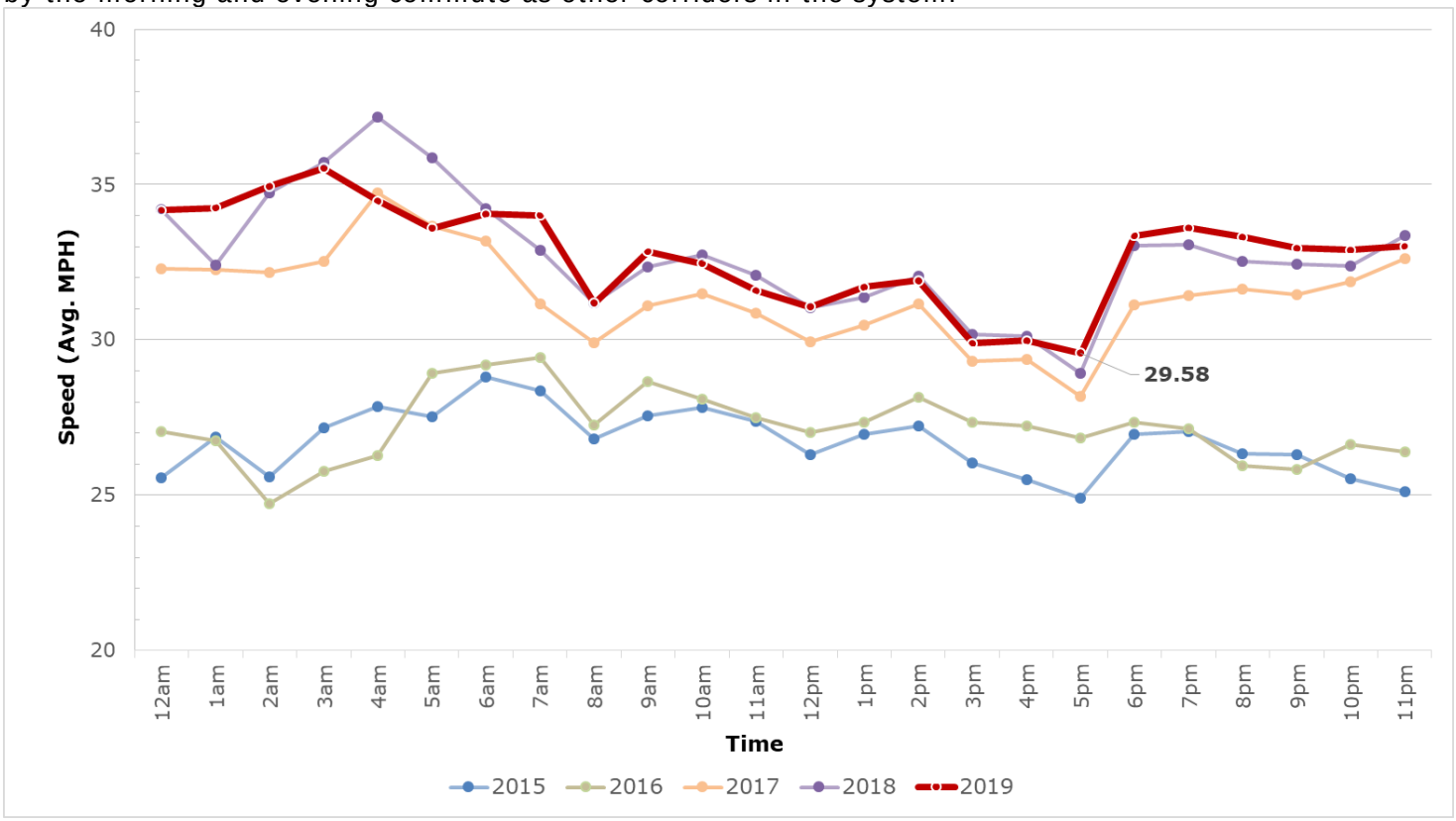

Figure 32: US 20/26 (Myrtle Street to I-84) Southbound, Average Weekday Speeds (2015 – 2019)

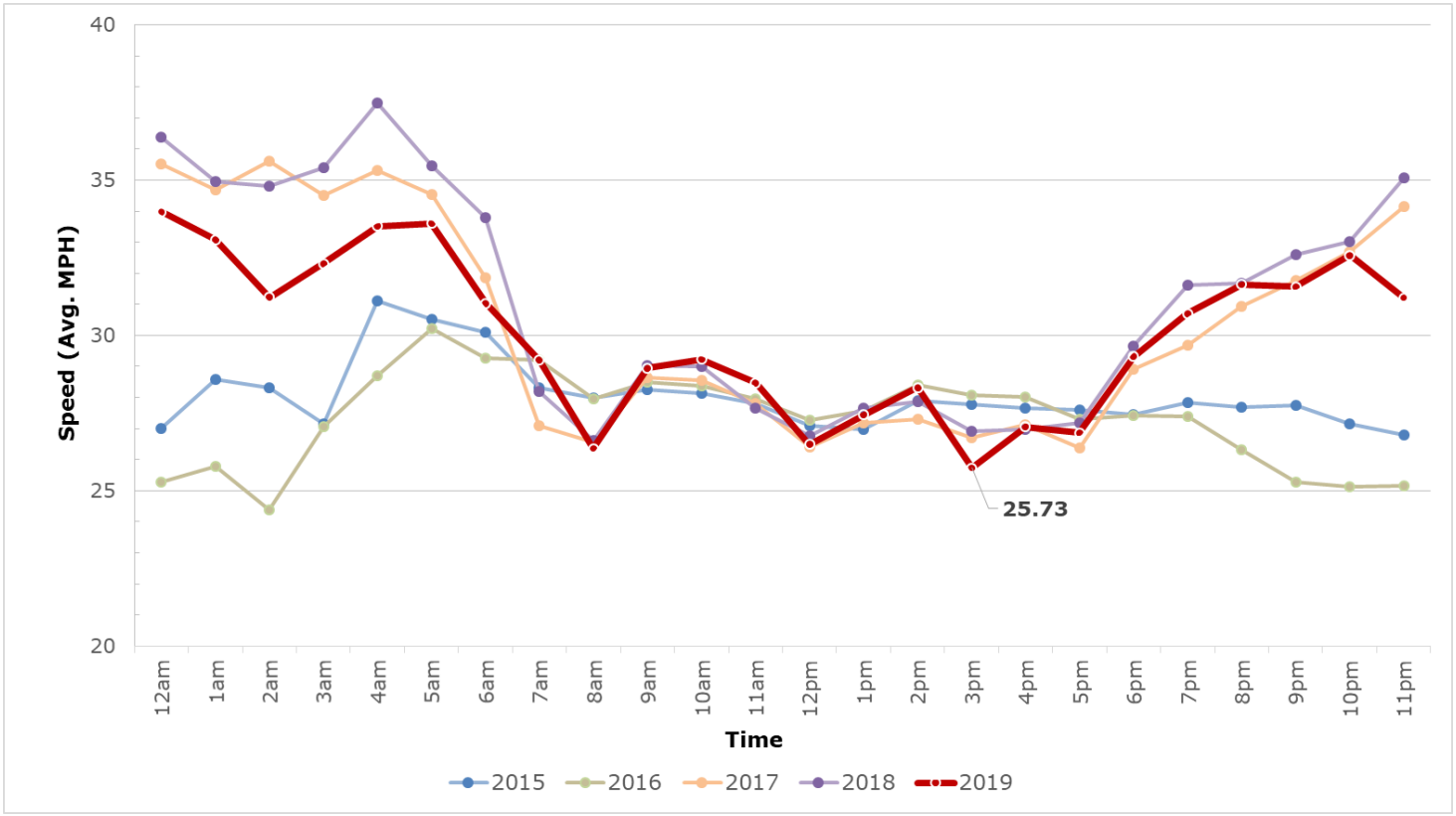

Figure 33: US 20/26 (I-84 to Front Street) Northbound, Average Weekday Speeds (2015 – 2019)

US-20/26 Congestion Analysis and Congestion Mitigation Strategies

US 20/26 is a main east/west thoroughfare in Ada and Canyon Counties. The corridor has capacity issues, high volume intersections, access management issues, and areas with heavy commercial/industrial land use, all of which contribute to congestion throughout the length of the corridor (Figure 34). COMPASS has identified a mix of congestion mitigation stratgies to apply on this complicated corridor. Programmed and planned projects are highlighted in Table 15.

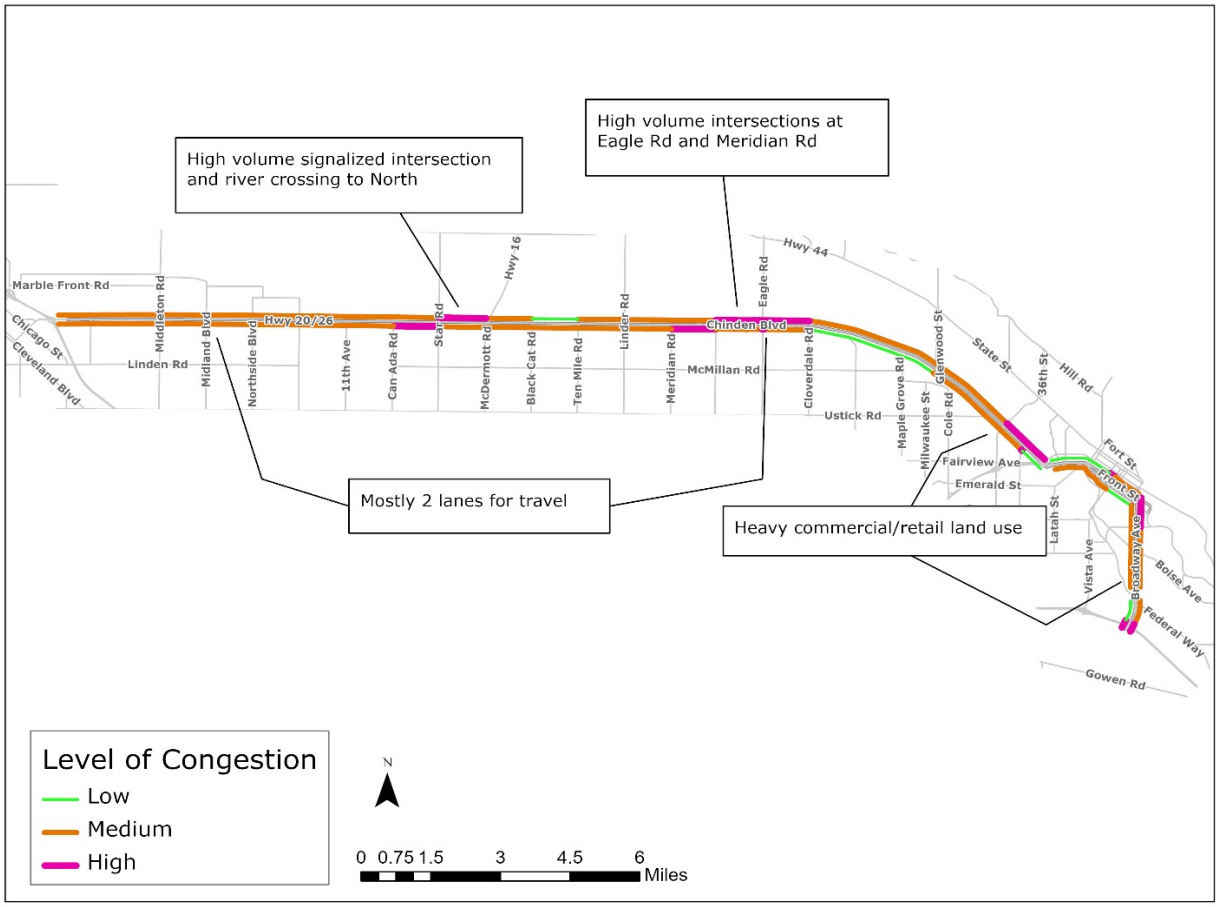

Figure 34: US 20/26 Levels of Peak Hour Congestion and Causes of Congestion (2019)

Table 15: US 20/26 Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management	✓ ACHD Commuteride Pedestrian improvements from I-84 to Middleton Road Install pedestrian beacon at 43rd St crossing		
Traffic Operations Improvements/ITS	✓ Intersection improvements in Ada and Canyon Counties	✓ Intersection improvements in Ada and Canyon Counties	
Public Transportation Improvements			✓ Planned new and extended services
Additional System Capacity	✓ Widening from 2 to 4 lanes from Star Road to Eagle Road Widening from 4 to 6 lanes from I-84 to Smeed Parkway and 2 to 6 lanes from Smeed Parkway to Middleton Road	✓ Widening from 4 to 6 lanes from Linder Road to Eagle Road Widening from 2 to 4 lanes from Middleton Road to Star Road	✓ Widening from 4 to 6 lanes from Middleton Road to Linder Road

State Highway 55 (Eagle Road)

State Highway 55 (Eagle Road) Traffic Volume, 2015 – 2019

State Highway 55 (Eagle Road) serves as one of the main north/south corridors in the Treasure Valley and includes some of the highest volume intersections in the State of Idaho. Over 40,000 vehicles per day cross the north channel of the Boise River (Figure 35) The highway has experienced moderate growth between 2015 and 2019 where it crosses the Boise River just south of State Highway 44 (Table 16).

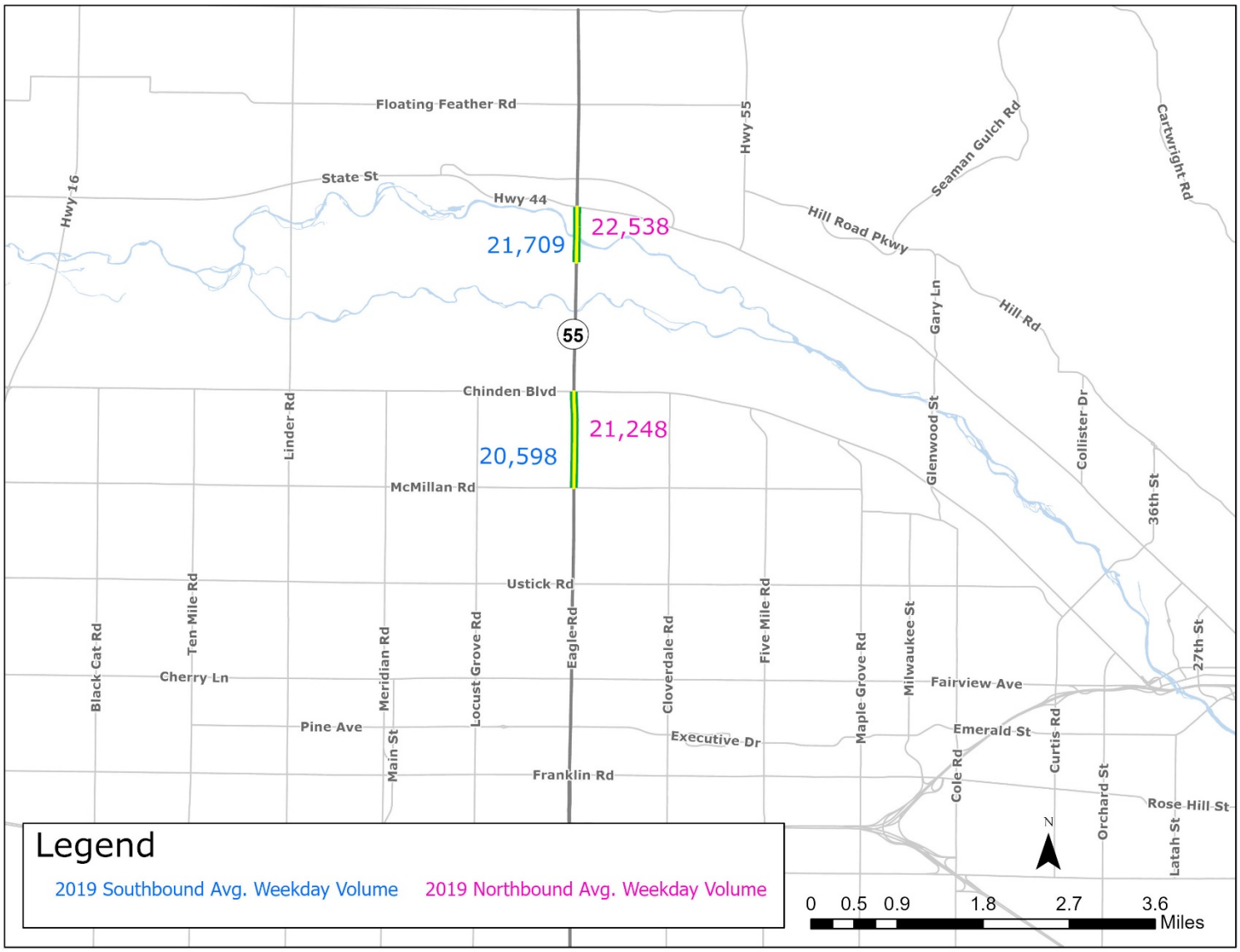

Figure 35: State Highway 55 (Eagle Road), Annual Average Weekday Volumes (2019)

Table 16: State Highway 55 (Eagle Road), Average Annual Weekday Traffic Volumes (2015-2019)

Location	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
0.3 miles s/o SH 44 (River Crossing)	North	20,075	20,881	21,325	21,995	22,538	3%
0.3 miles s/o SH 44 (River Crossing)	South	19,153	20,299	20,459	21,254	21,709	3%
n/o Sedona St	North	19,219	19,940	20,073	20,459	21,248	3%
n/o Sedona St	South	18,986	19,655	19,503	19,741	20,598	2%

Source: Automatic Traffic Recorders maintained by ITD

State Highway 55 (Eagle Road) Speed Profiles

State Highway 55 (Eagle Road) experiences a steady decrease in speeds throughout the workday (Figures 36 and 37). The slowest speeds are during midday and evening peak hours in both directions. These dips are telling signs that this corridor serves both as a commuter corridor and a commercial corridor. The speed profile has remained fairly consistent throughout the five-year period despite significant development activity along the corridor.

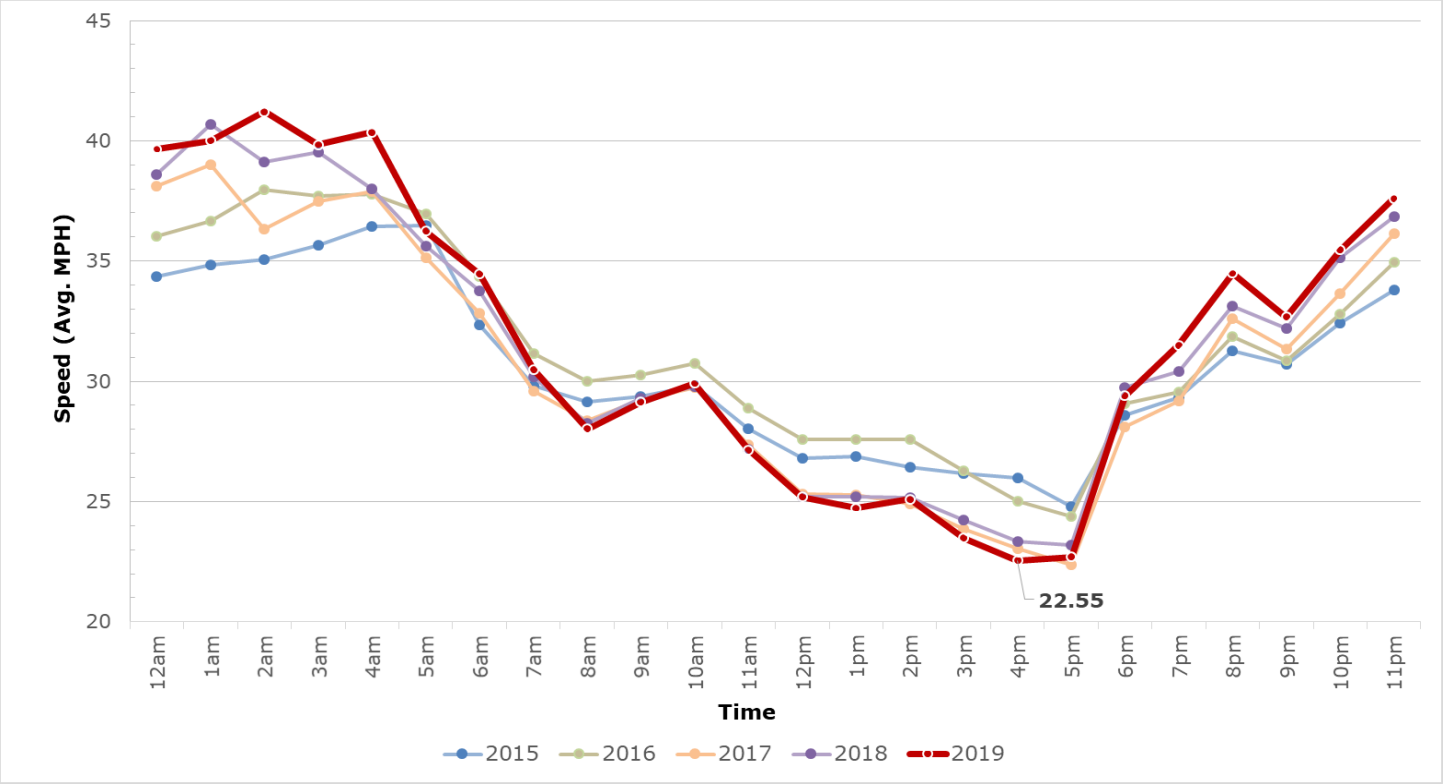

Figure 36: State Highway 55 (Eagle Road) Northbound, Average Weekday Speeds (2015 – 2019)

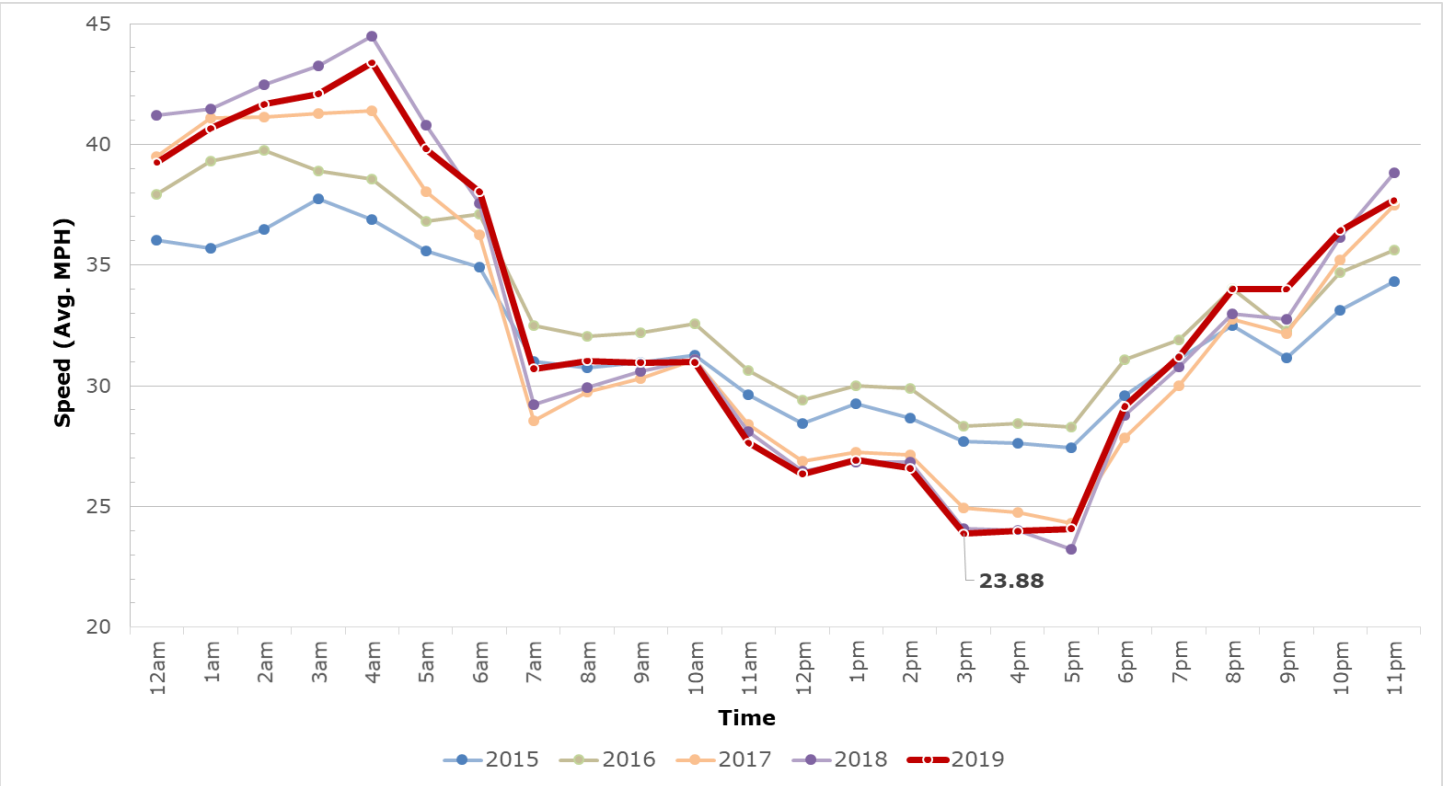

Figure 37: State Highway 55 (Eagle Road) Southbound, Average Weekday Speeds (2015 – 2019)

State Highway 55 (Eagle Road) Congestion Analysis and Congestion Mitigation Strategies

The State Highway 55 (Eagle Road) corridor experiences high levels of congestion caused by high traffic volumes, a variety of land uses, high volume intersections, a lack of public transportation services, and access management issues (Figure 38). Programmed and planned projects are highlighted in Table 17.

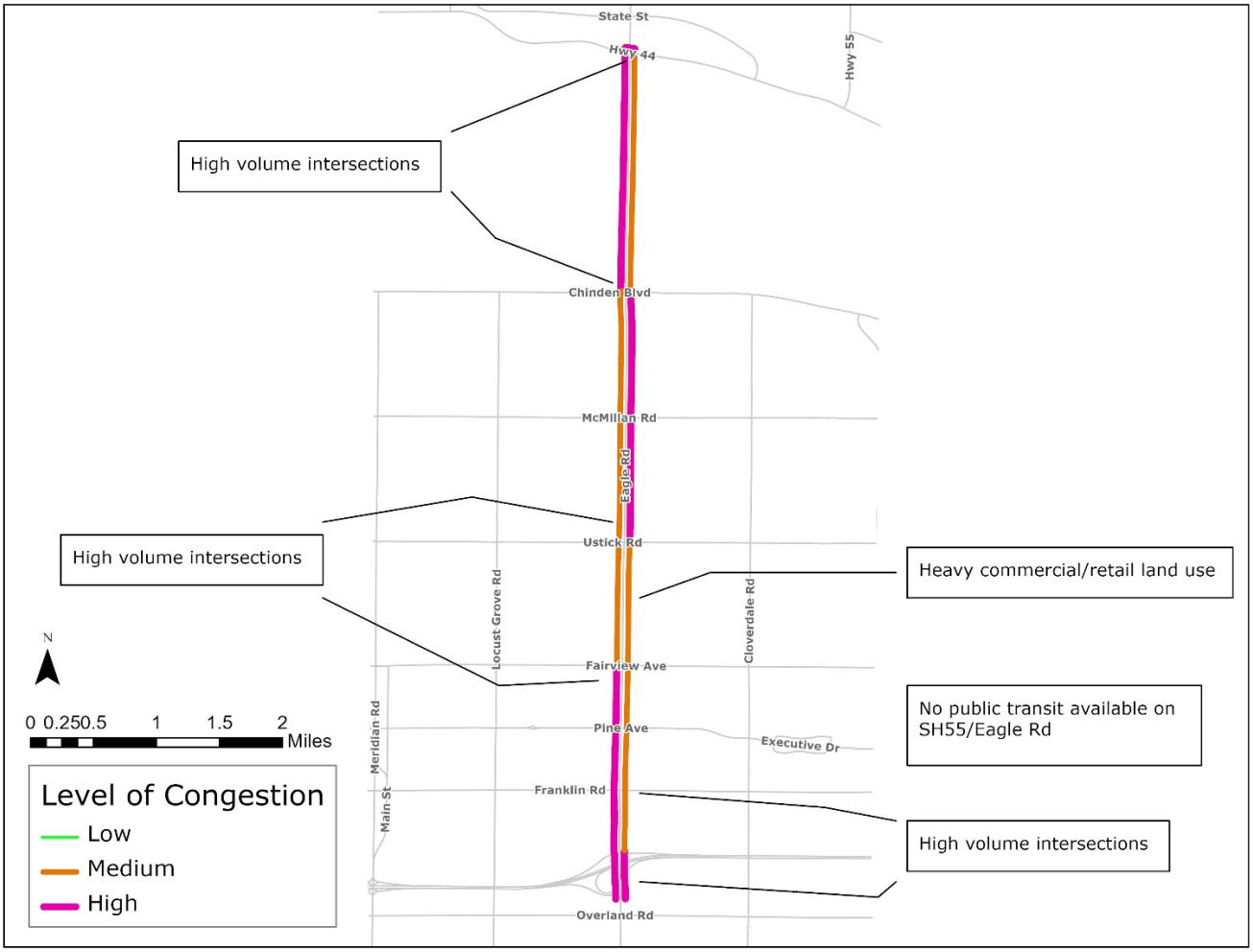

Figure 38: State Highway 55 (Eagle Road) Levels of Peak Hour Congestion and Causes of Congestion (2019)

Table 17: State Highway 55 (Eagle Road) Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management	✓ ACHD Commuteride Bike and pedestrian bridge over north channel of the Boise River Pedestrian improvements from Franklin Road to Pine Avenue		
Traffic Operations Improvements/ITS	✓ Intersection Improvementst at SH 44 (State St) and SH 55 (Eagle Rd)		
Public Transportation Improvements			✓ Planned new and extended services
Additional System Capacity	✓ Add one lane southbound from River Valley Street to Franklin Road		

State Highway 55 (Karcher Road)

State Highway 55 (Karcher Road) Change in Traffic Volume and Travel Time, 2015 - 2019

State Highway 55 (Karcher Road) is busiest near the I-84 interchange (Figure 39). State Highway 55 (Karcher Road) has seen its greatest increase in traffic volumes just east of Indiana Avenue before entering the urban area of Nampa (Table 18).

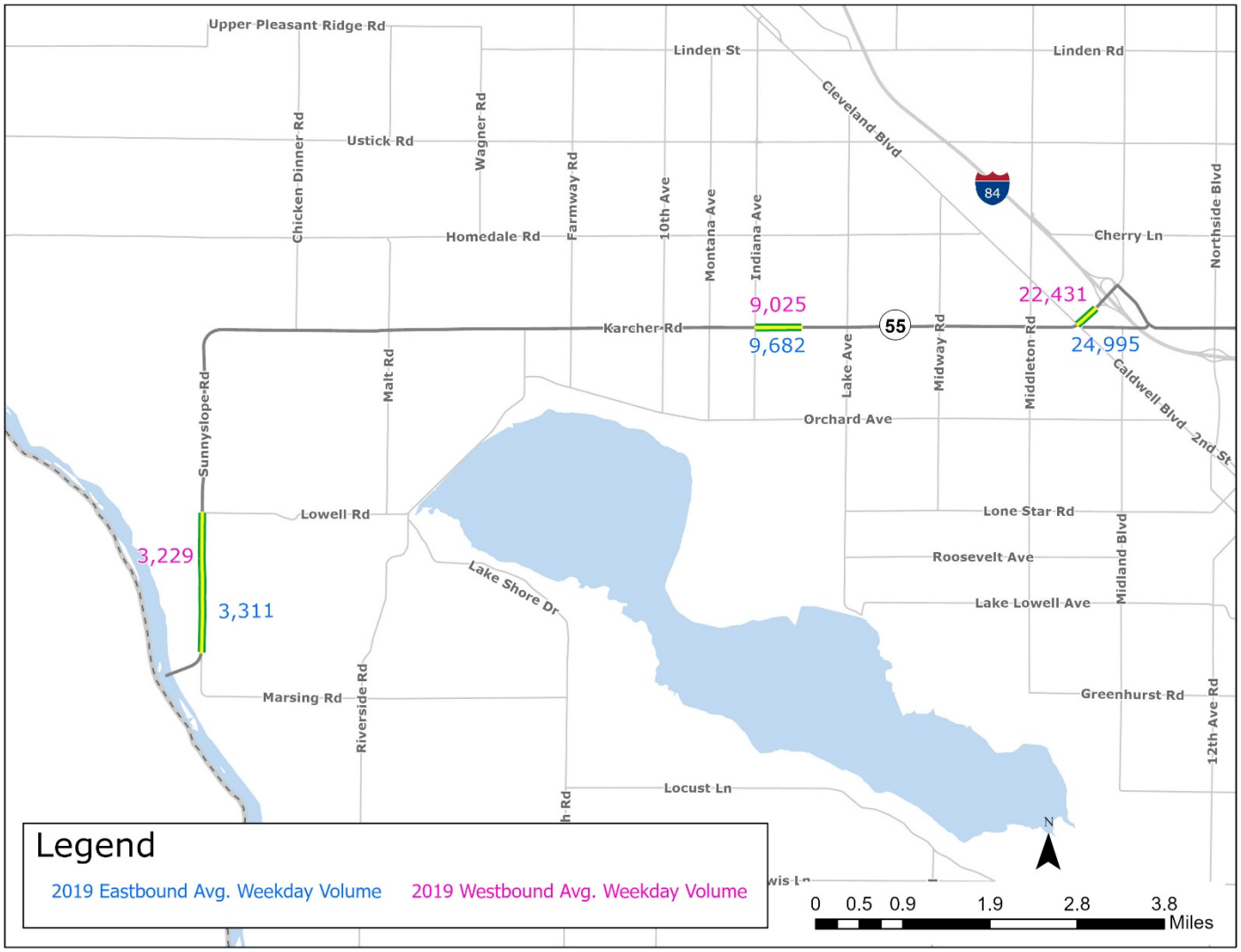

Figure 39: State Highway 55 (Karcher Road) Annual Average Weekday Volumes (2019)

Table 18: State Highway 55 (Karcher Road) Average Annual Weekday Traffic Volumes (2015-2019)

Location	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
0.25 miles e/o Indiana Ave	East	7,254	8,272	8,149	8,946	9,682	7%
0.25 miles e/o Indiana Ave	West	7,050	8,005	7,404	8,256	9,025	6%
0.14 miles n/o I-84B (Caldwell-Nampa Blvd)	Northeast	20,807	22,673	22,146	23,088	24,995	5%
0.14 miles n/o I-84B (Caldwell-Nampa Blvd)	Southwest	19,766	21,333	20,399	20,866	22,431	3%
s/o Lowell Rd	North	3,015	3,170	3,235	3,390	3,311	2%
s/o Lowell Rd	South	2,929	3,093	3,202	3,286	3,229	2%

Source: Automatic Traffic Recorders maintained by ITD

State Highway 55 (Karcher Road) Speed Profiles

State Highway 55 (Karcher Road) experiences normal morning and evening peak hour travel delays. There is also a noticable drop in average speed throughout the workday hours (Figures 40 and 41). The westbound direction saw a noticable dip in speeds throughout the day in 2019.

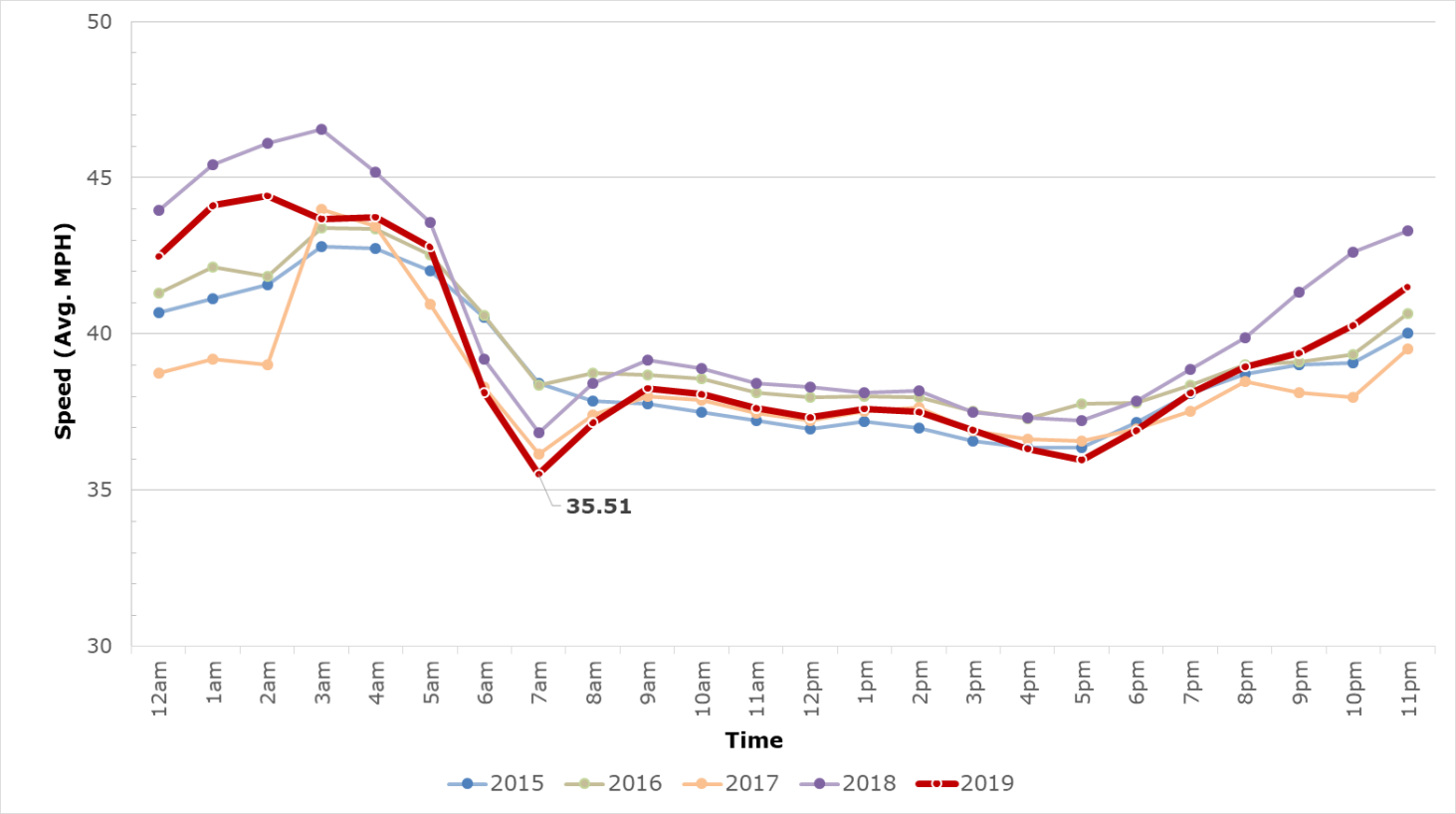

Figure 40: State Highway 55 (Karcher Road) Eastbound, Average Weekday Speeds (2015 – 2019)

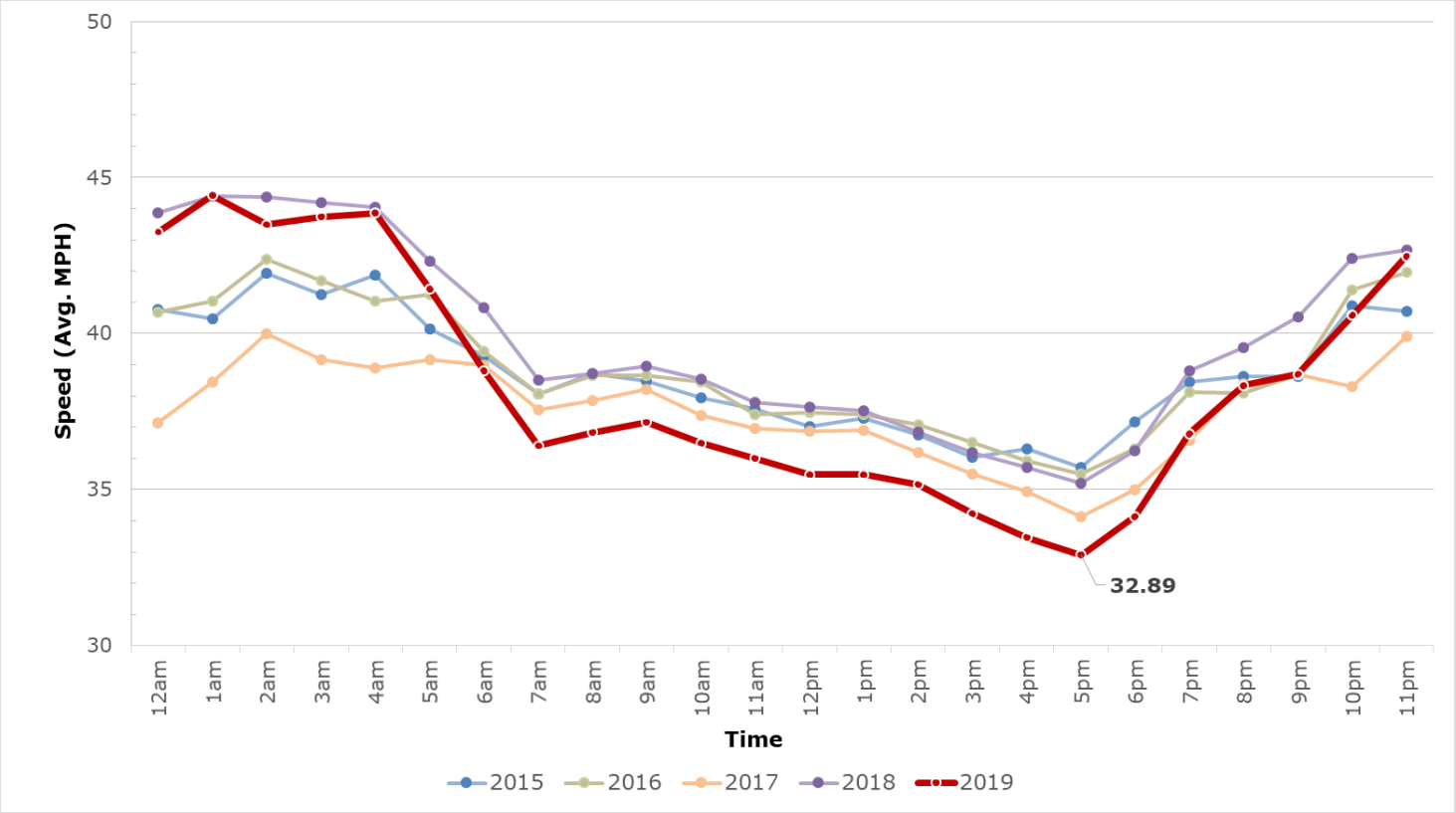

Figure 41: State Highway 55 (Karcher Road) Westbound, Average Weekday Speeds (2015 – 2019)

State Highway 55 (Karcher Road) Congestion Analysis and Congestion Mitigation Strategies

State Highway 55 (Karcher Road) experiences high peak hour congestion mainly in the urban areas surrounding the City of Nampa (Figure 42). The issues stem from a reduction in travel lanes from four to two at Middleton Road, commercial/retail land uses, and high volume intersections at Nampa/Caldwell Boulevard and the I-84 interchange. Programmed and planned projects are highlighted in Table 19.

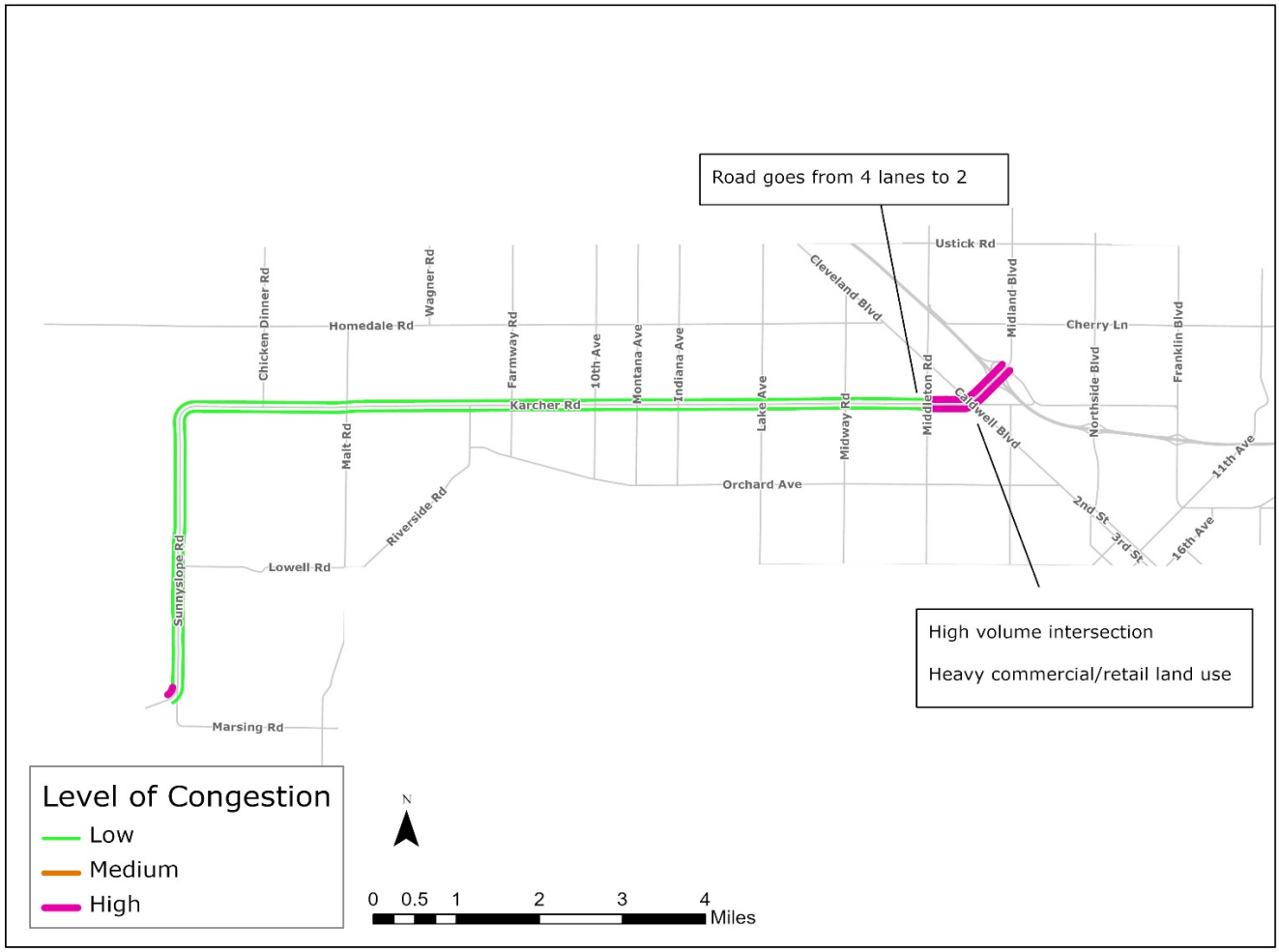

Figure 42: State Highway 55 (Karcher Road) Levels of Peak Hour Congestion and Cause of Congestion (2019)

Table 19: State Highway 55 (Karcher Road) Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management			
Traffic Operations Improvements/ITS			
Public Transportation Improvements			✓ Planned services
Additional System Capacity	✓ Add an additional lane in each direction on SH 55 (Karcher Rd) from Midway Rd to Middleton Rd	✓ Widen from 2 to 4 lanes from Indiana Ave to Midway Rd	✓ Widen from 2 to 4 lanes from Pear Lane to Indiana Avenue

State Highway 44 (State St)

State Highway 44 (State Street) Change in Traffic Volume and Travel Time, 2015 - 2019

State Highway 44 (State Street) is busiest near downtown Boise (Figure 43), while experiencing its greatest increase in traffic volumes just east of State Highway 16 (Table 20). Traffic volume growth rates actually decreased near downtown Boise, likely due to construction during 2018 and 2019.

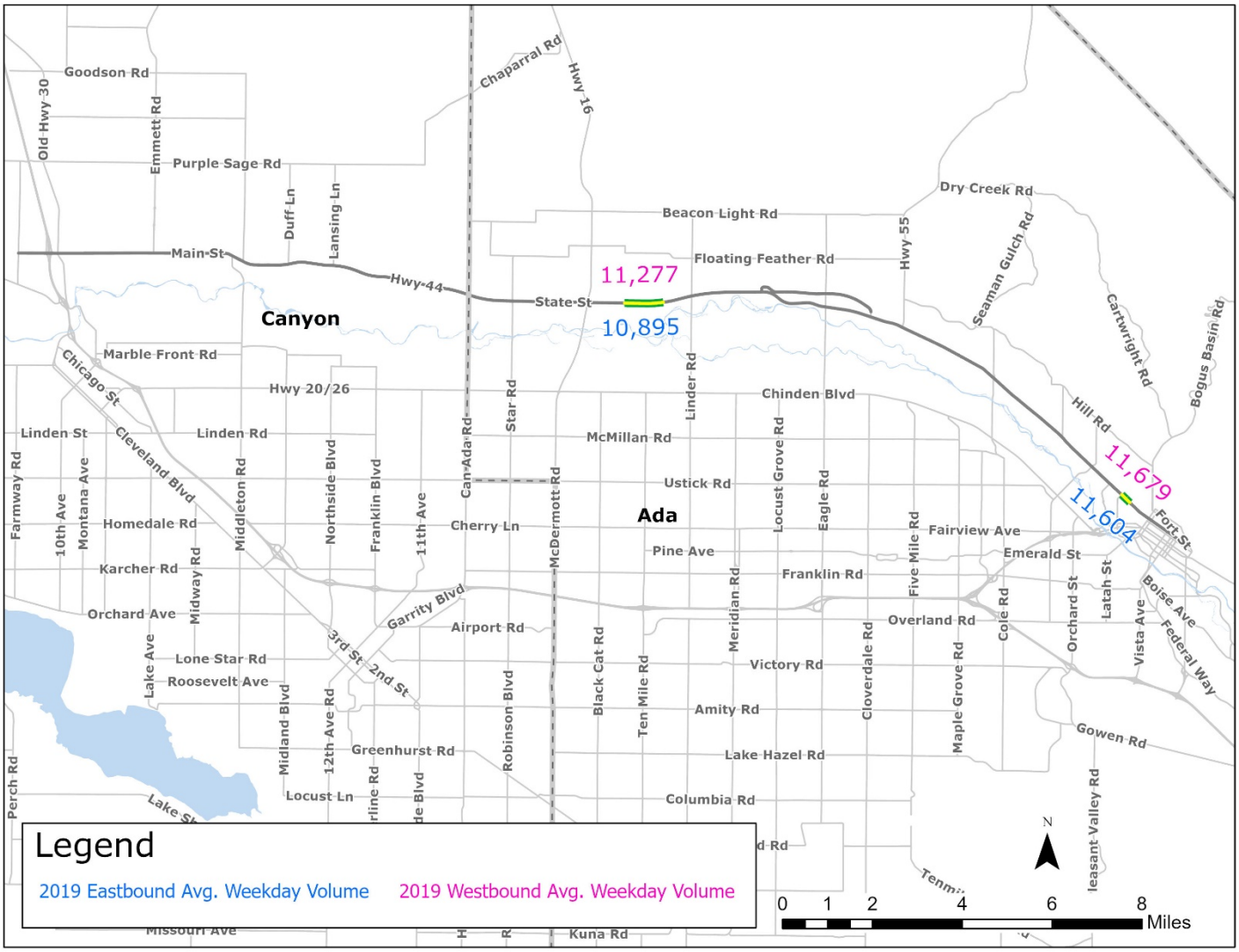

Figure 43: State Highway 44 (State Street) Annual Average Weekday Volumes (2019)

Table 20: State Highway 44 (State Street) Average Annual Weekday Traffic Volumes (2015-2019)

Location	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
e/o Palmer Lane	East	9,152	9,730	10,254	10,606	10,895	4%
e/o Palmer Lane	West	9,645	10,279	10,773	11,366	11,277	4%
nw/o 23rd St	Northwest	12,774	12,543	11,858	11,029	11,679	-2%
nw/o 23rd St	Southeast	12,139	12,162	11,935	10,776	11,604	-1%

Source: Automatic Traffic Recorders maintained by ITD

State Highway 44 (State Street)

The State Highway 44 (State Street) speed profiles are broken into three different sections to account for different roadway characteristics along the corridor. The sections below are shown in order from west to east.

State Highway 44 (State Street): 9th Street to Glenwood Street Speed Profiles

This section of State Highway 44 (State Street) experiences the most delay during the evening peak hours in both directions. There is also a noticable drop in average speed throughout the workday hours (Figures 44 and 45). No data for this corridor were provided in the in the NPMRDS data set for 2015-2018.

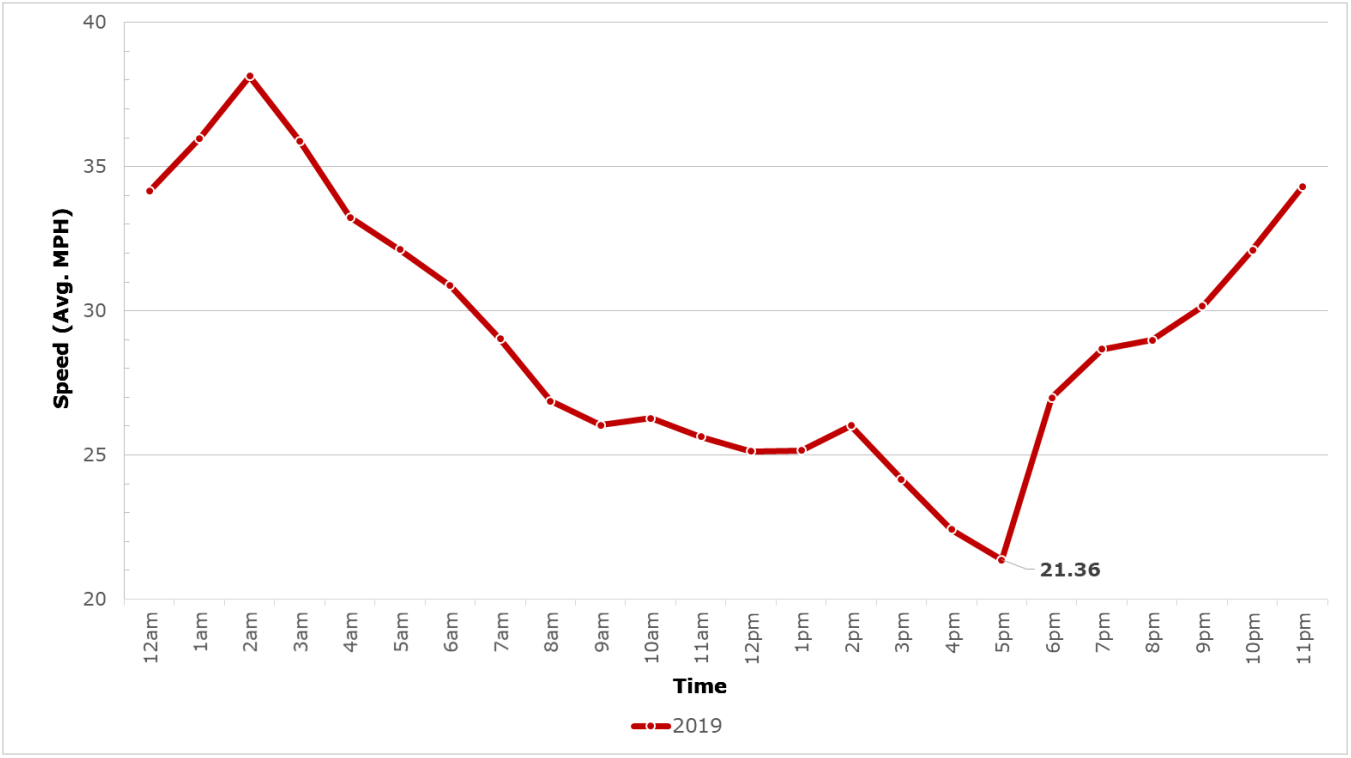

Figure 44: State Highway 44 (9th Street to Glenwood Street) Westbound, Average Weekday Speeds (2019)

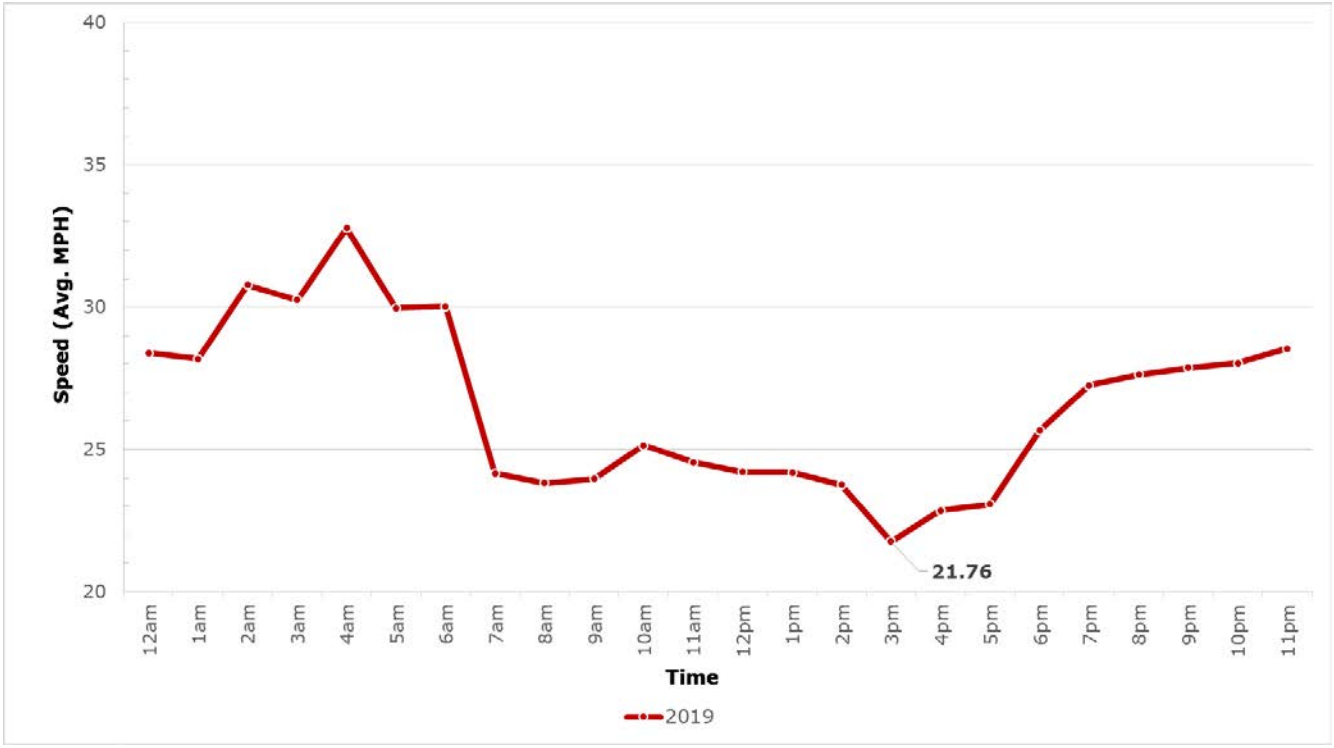

Figure 45: State Highway 44 (Glenwood Street to 9th Street) Eastbound, Average Weekday Speeds (2019)

State Highway 44 (State Street): Glenwood Street to State Highway 16 Speed Profiles

This section of State Highway 44 (experiences a noticable drop in average speed throughout the workday hours (Figures 46 and 47). No data for this corridor were provided in the in the NPMRDS data set for 2015-2018.

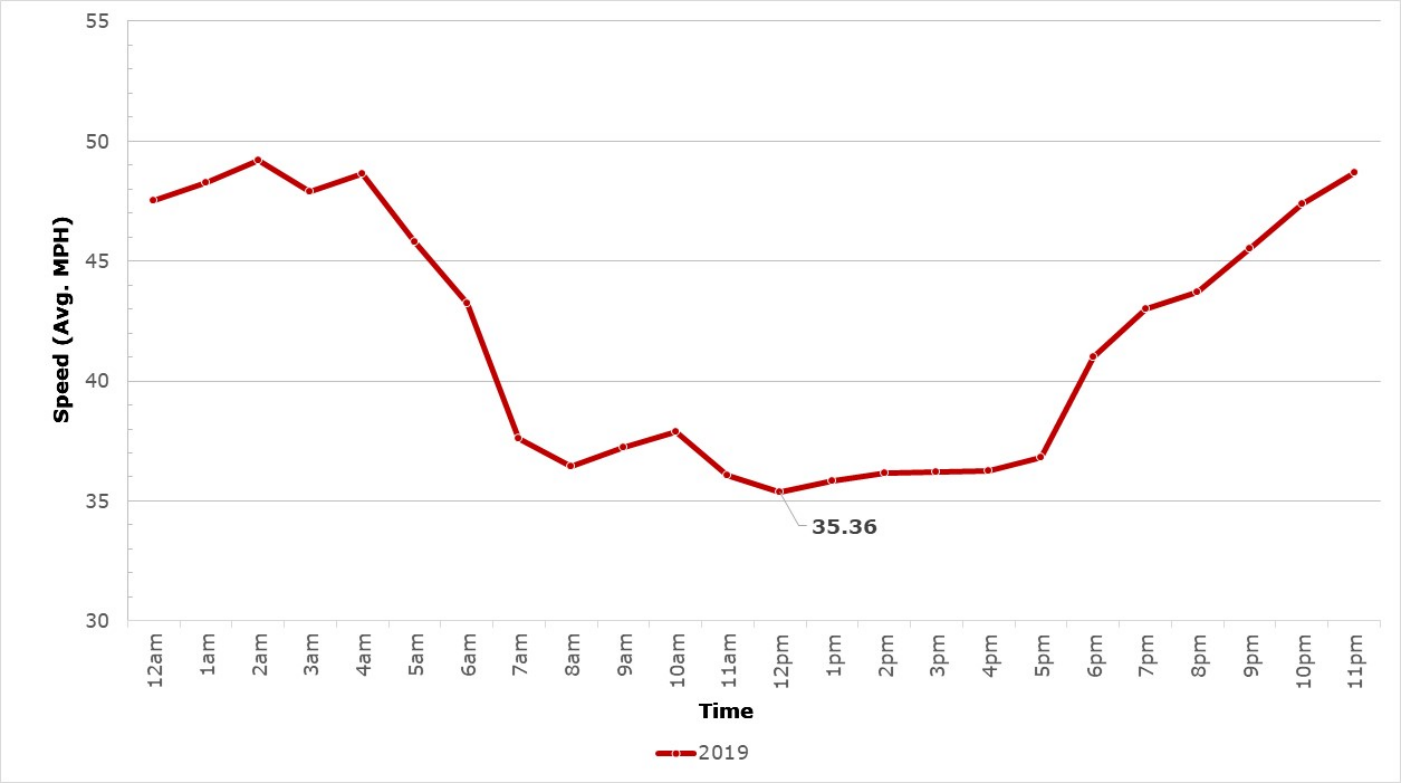

Figure 46: State Highway 44 (Glenwood Street to State Highway 16) Westbound, Average Weekday Speeds (2019)

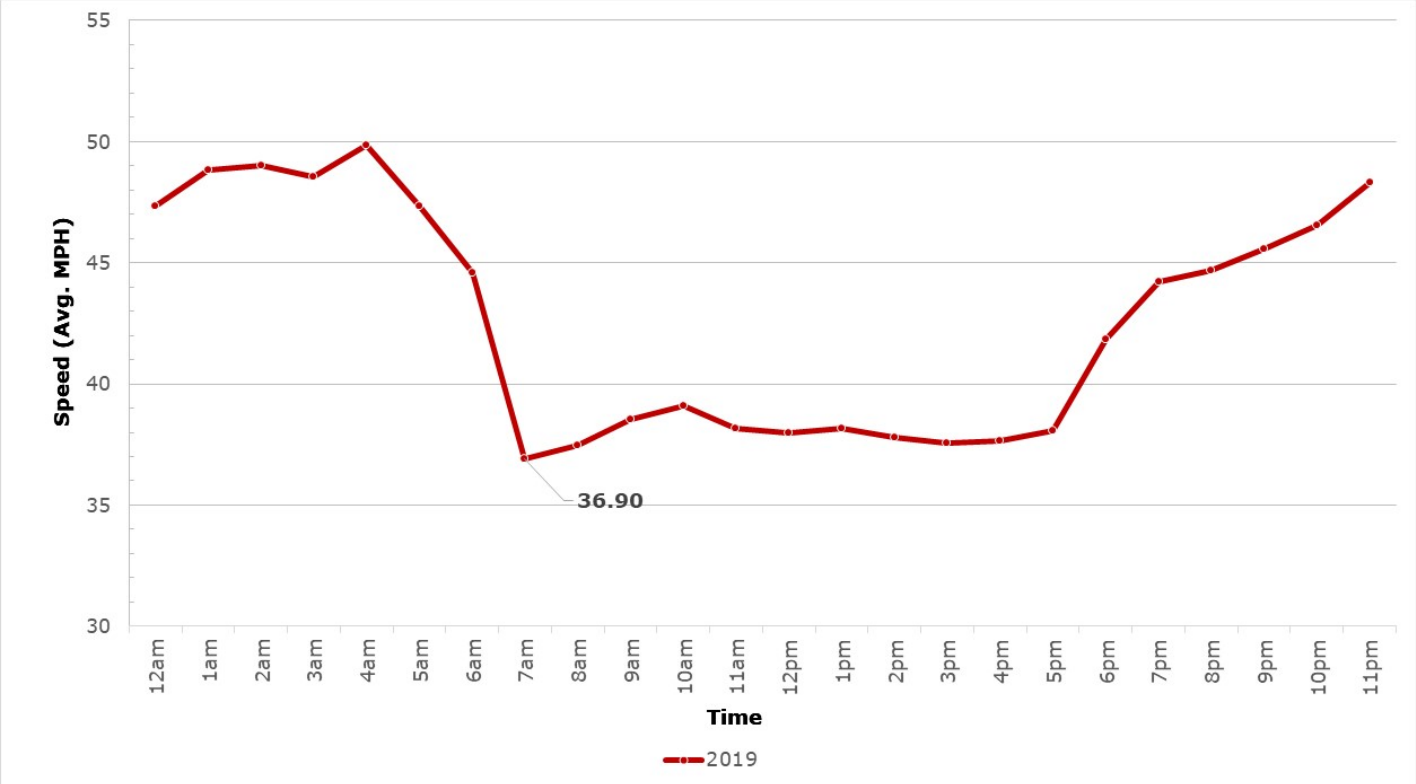

Figure 47: State Highway 44 (State Highway 16 to Glenwood Street) Eastbound, Average Weekday Speeds (2019)

State Highway 44 (State Street): State Highway 16 to I-84 Speed Profiles

This section of State Highway 44 (State Street) experiences less delay that the other two sections analyzed. There are just slight dips in speed during the morning/evening peak hours (Figures 48 and 49). No data for this corridor were provided in the in the NPMRDS data set for 2015-2018.

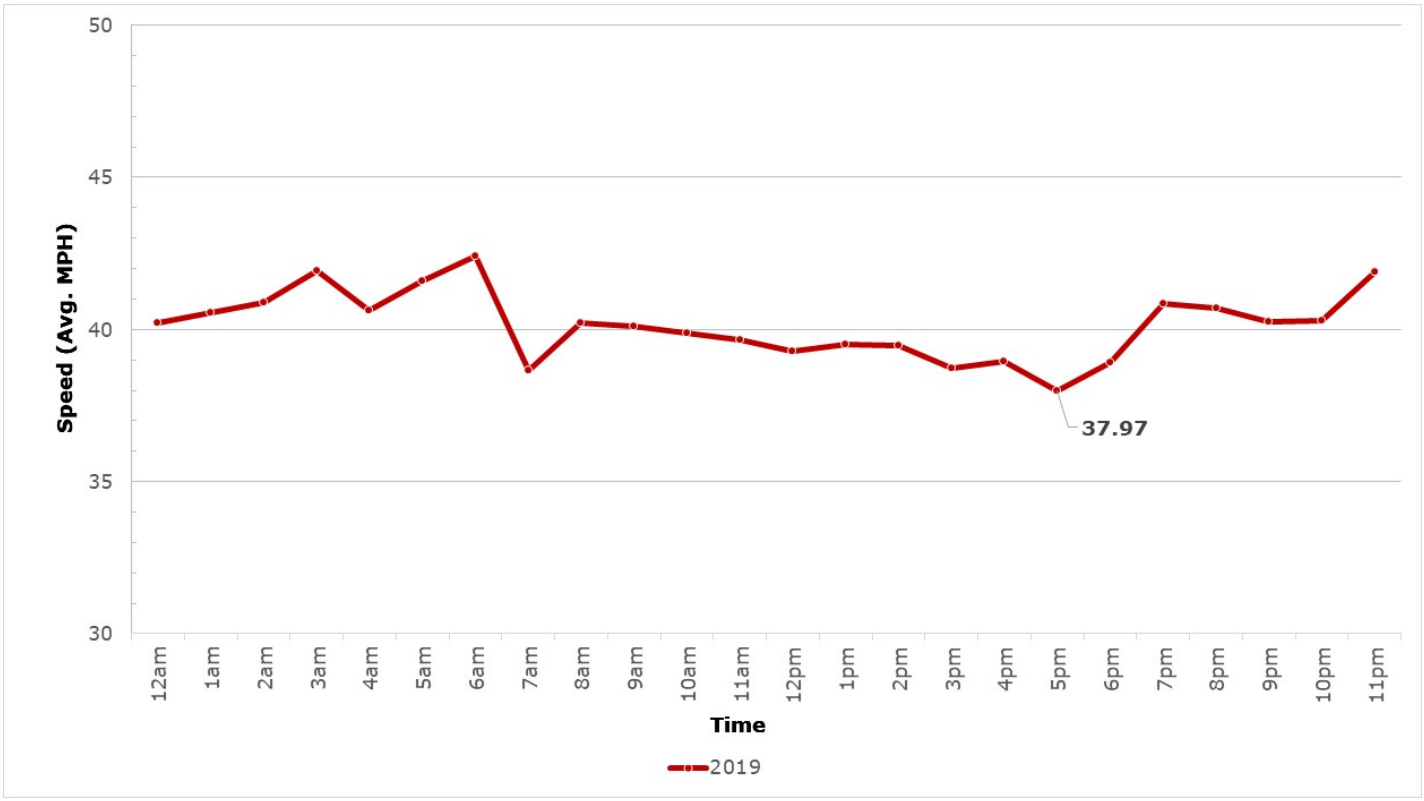

Figure 48: State Highway 44 (State Highway 16 to I-84) Westbound, Average Weekday Speeds (2019)

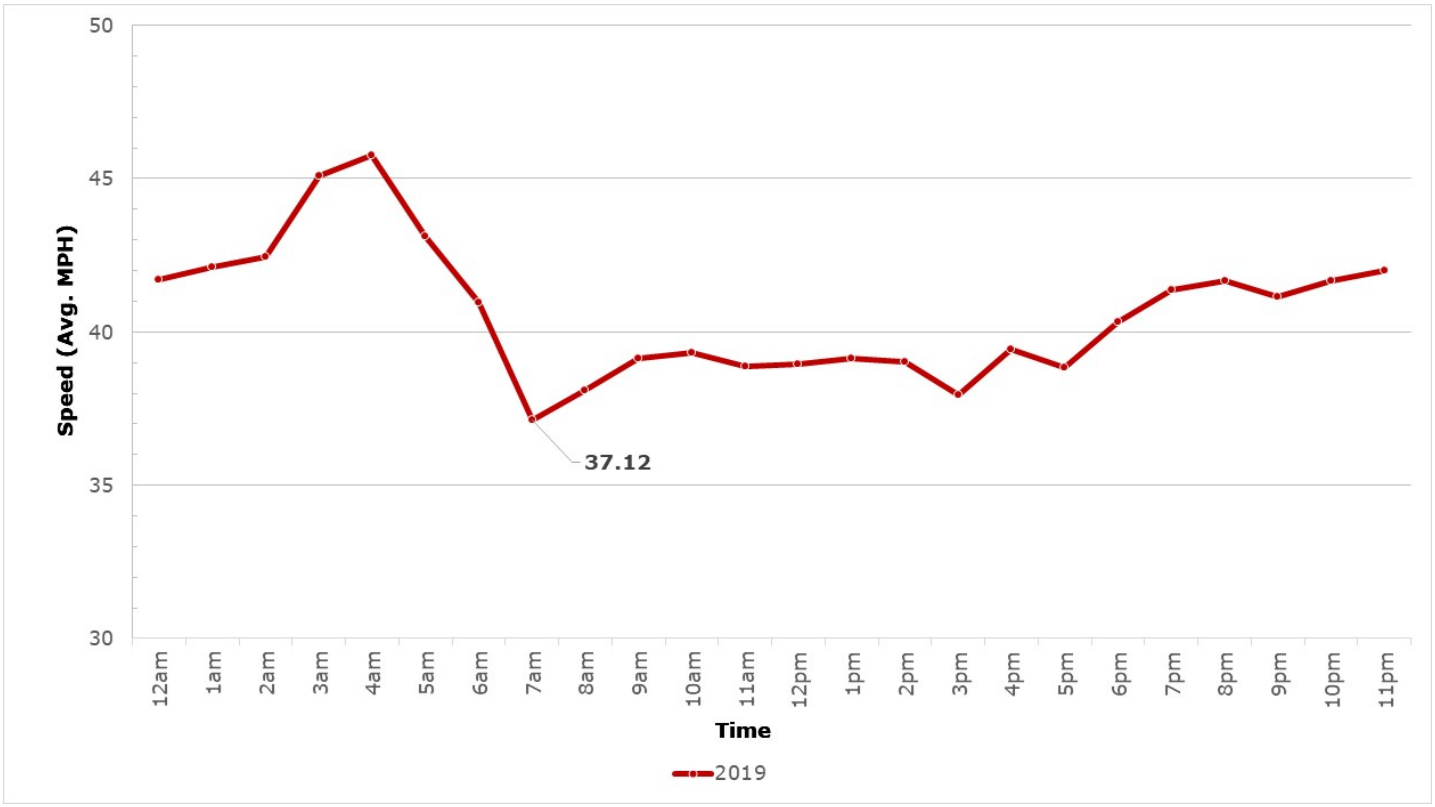

Figure 49: State Highway 44 (I-84 to State Highway 16) Eastbound, Average Weekday Speeds (2019)

State Highway 44 (State Street) Congestion Analysis and Congestion Mitigation Strategies

State Highway 44 (State Street) experiences high peak hour congestion mainly in the urban areas surrounding the City of Boise (Figure 50). The issues stem from a high commercial/retail land uses, high volume intersections at the river crossings and with State Highway 55 (Eagle Road), and lane reductions from 4 to 2 travel lanes around Linder Road. Programmed and planned projects are highlighted in Table 21.

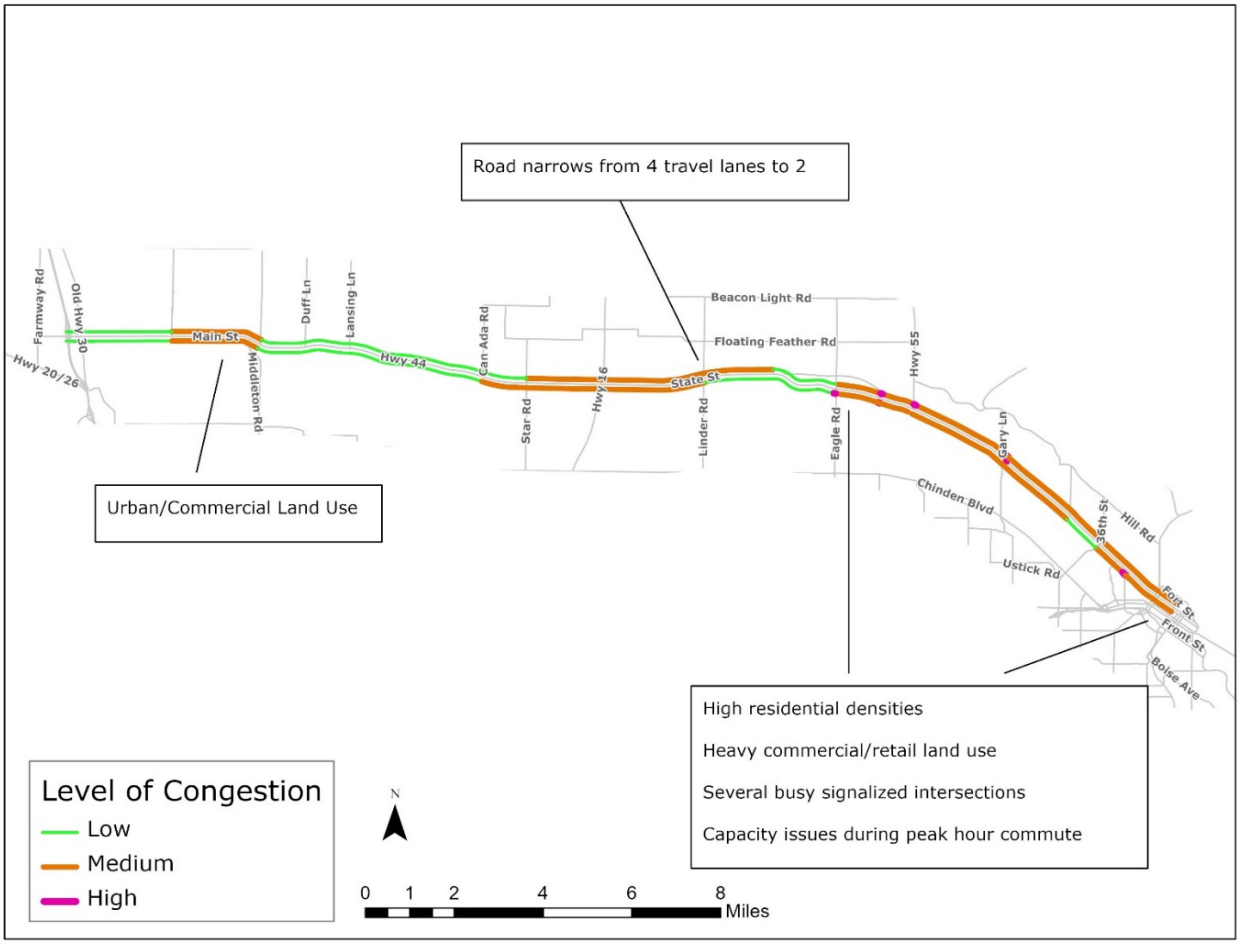

Figure 50: State Highway 44 (State Street) Levels of Peak Hour Congestion and Cause of Congestion (2019)

Table 21: State Highway 44 (State Street) Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management			
Traffic Operations Improvements/ITS	✓ Construct Partial continuous flow intersection at SH 44 (State St) and SH 55 (Eagle Rd) Widen and modify intersection of Collister and State St	✓ Replace/modify signal and reconstruct approaches at intersection of SH 44 and Star Rd	
Public Transportation Improvements			✓ Bus Rapid Transit from Glenwood Bridge to downtown Boise
Additional System Capacity	✓ Widen from 2 to 4 lanes from Star Rd to Linder Rd	✓ Widen from 5 to 7 lanes from Glenwood St to 27th St Widen from 2 to 4 lanes Canyon Ln to I-84 on ramp	✓ Widen from 2 to 4 lanes from Canyon Ln to Star Rd Construct new roadway from Duff Ln to Canyon Ln

State Highway 69 (Kuna/Meridian Road)

State Highway 69 (Kuna/Meridian Road) Change in Traffic Volume and Travel Time, 2015 - 2019

State Highway 69 (Kuna/Meridian Road) has seen its greatest annual growth rate in traffic volumes just south of Hubbard Road (Table 22). Growth rates of seven to eight percent are among some of the highest growth rates for the corridors included in this report.

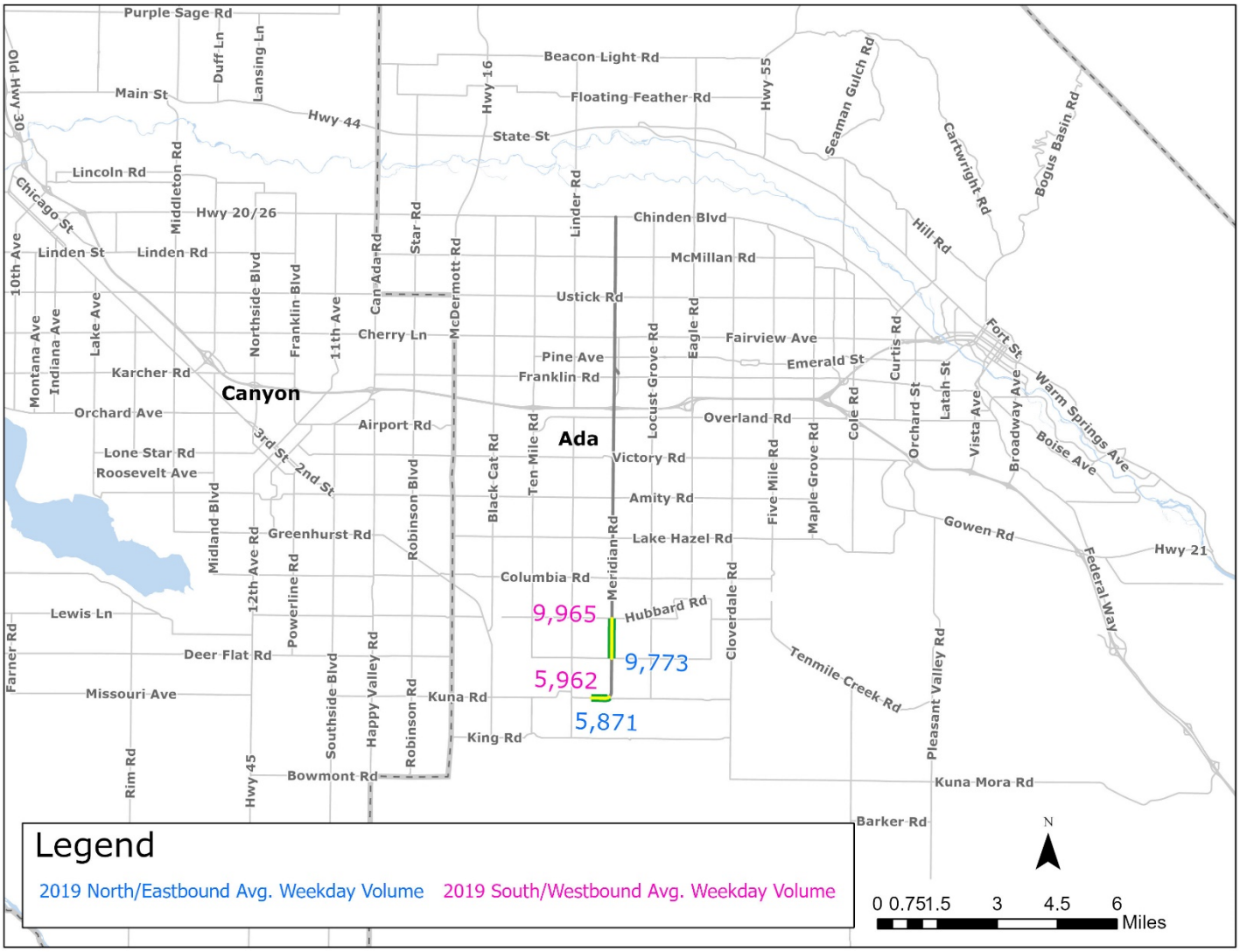

Figure 51: State Highway 69 (Kuna/Meridian Road) Annual Average Weekday Volumes (2019)

Table 22: State Highway 69 (Kuna/Meridian Road) Average Annual Weekday Traffic Volumes (2015-2019)

Location	Direction	2015	2016	2017	2018	2019	Annual Growth Rate
s/o Hubbard Rd	South	7,436	8,232	8,607	9,307	9,965	8%
s/o Hubbard Rd	North	7,473	8,091	8,554	9,150	9,773	7%
e/o Sailer Pl (Kuna)	West	4,744	5,029	5,477	5,778	5,962	6%
e/o Sailer Pl (Kuna)	East	4,778	5,001	5,452	5,778	5,871	5%

Source: Automatic Traffic Recorders maintained by ITD

State Highway 69 (Kuna/Meridian Road): Swan Falls Road to Overland Road, Speed Profiles

On State Highway 69 (Kuna/Meridian Road) speeds decrease during both the morning and evening peak hours. The most significant drop in speed occurs during the morning peak in both directions (Figures 52 and 53). Evening delay doesn't seem to impact this corridors as much as other included in this report. No data for this corridor were provided in the in the NPMRDS data set for 2015-2018.

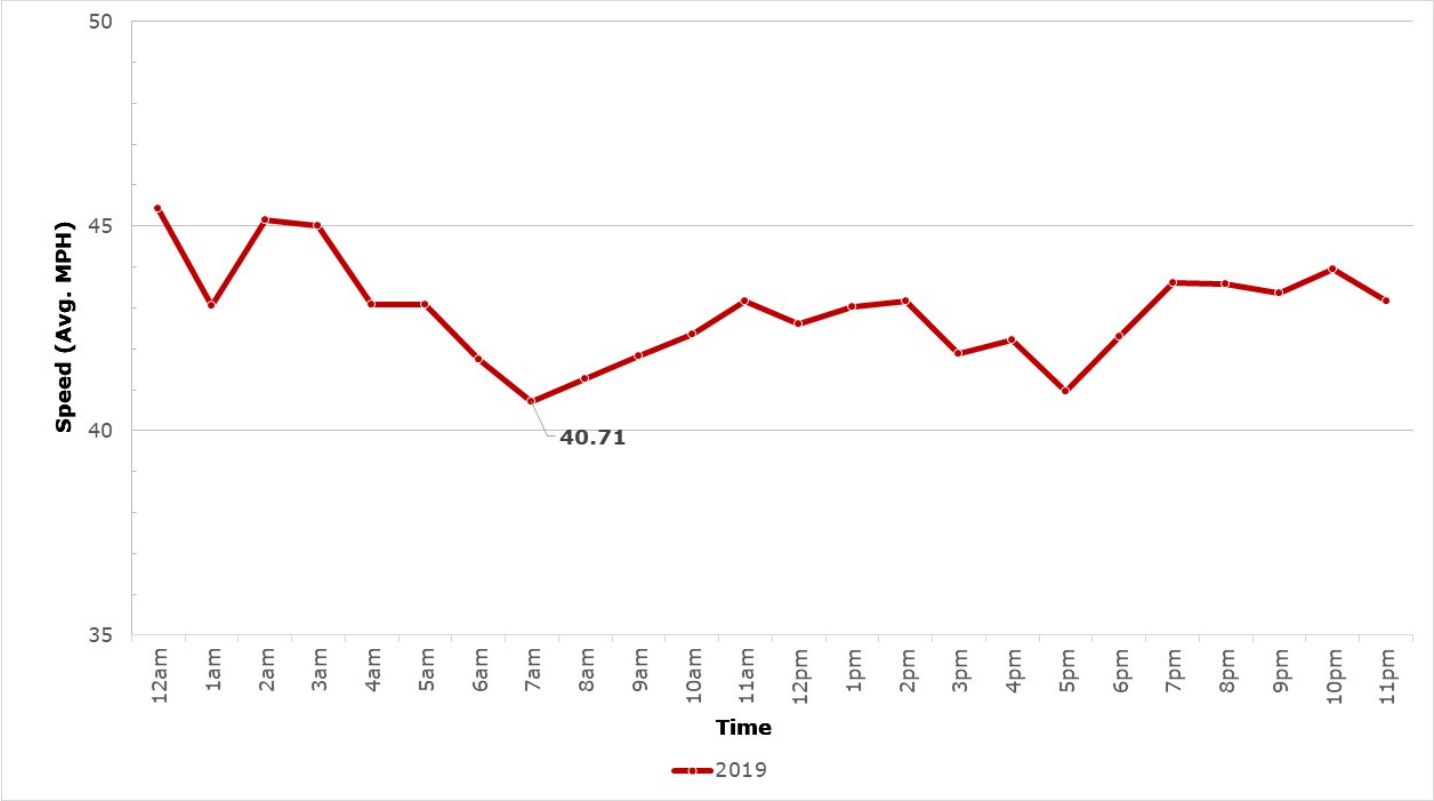

Figure 52: State Highway 69 (Kuna/Meridian Road) Northbound, Average Weekday Speeds (2019)

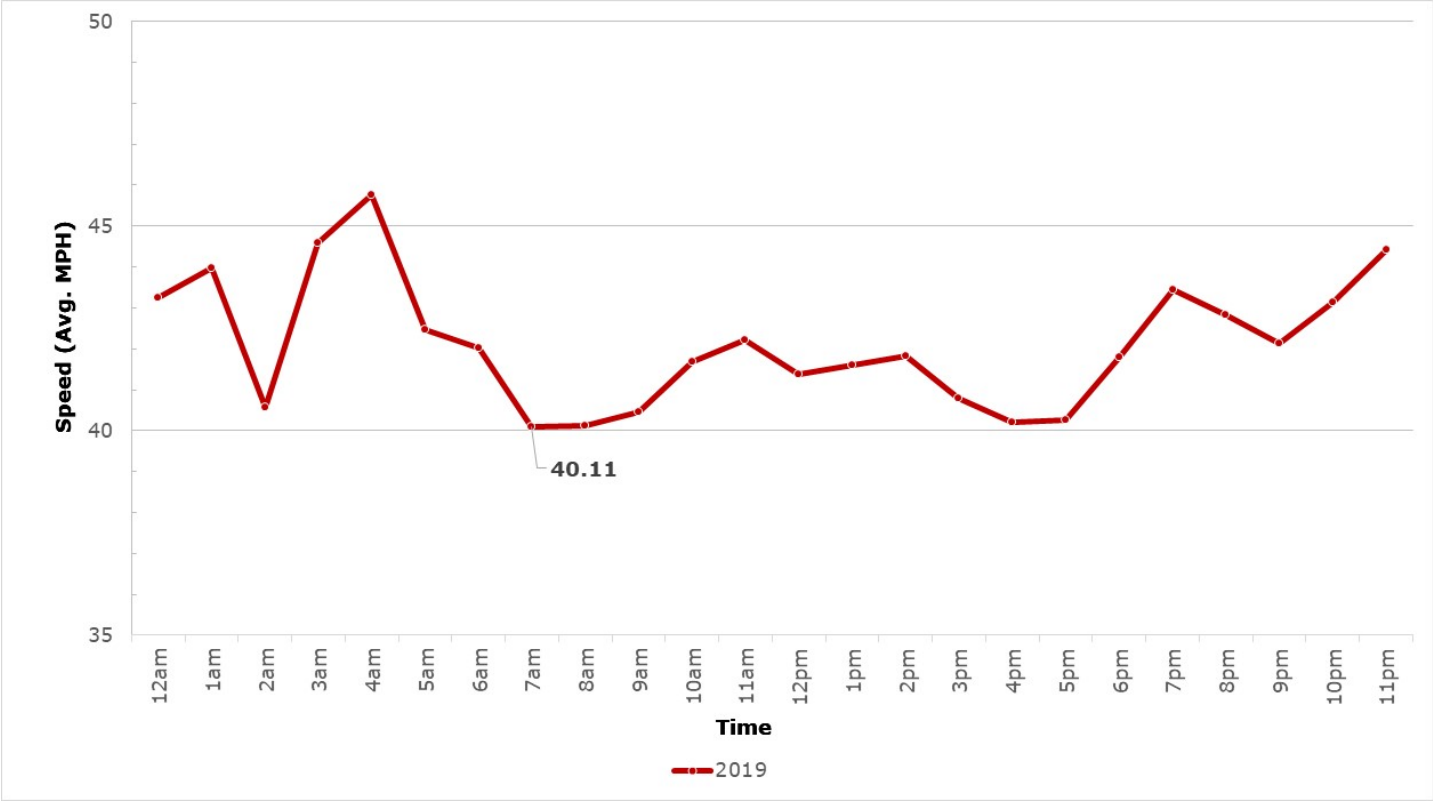

Figure 53: State Highway 69 (Kuna/Meridian Road) Southbound, Average Weekday Speeds (2019)

State Highway 69 (Kuna/Meridian Road) Congestion Analysis and Congestion Mitigation Strategies

State Highway 69 (Kuna/Meridian Road) experiences high peak hour congestion mainly near the busy signalized intersections with Overland Road and I-84 (Figure 54). Programmed and planned projects are highlighted in Table 23.

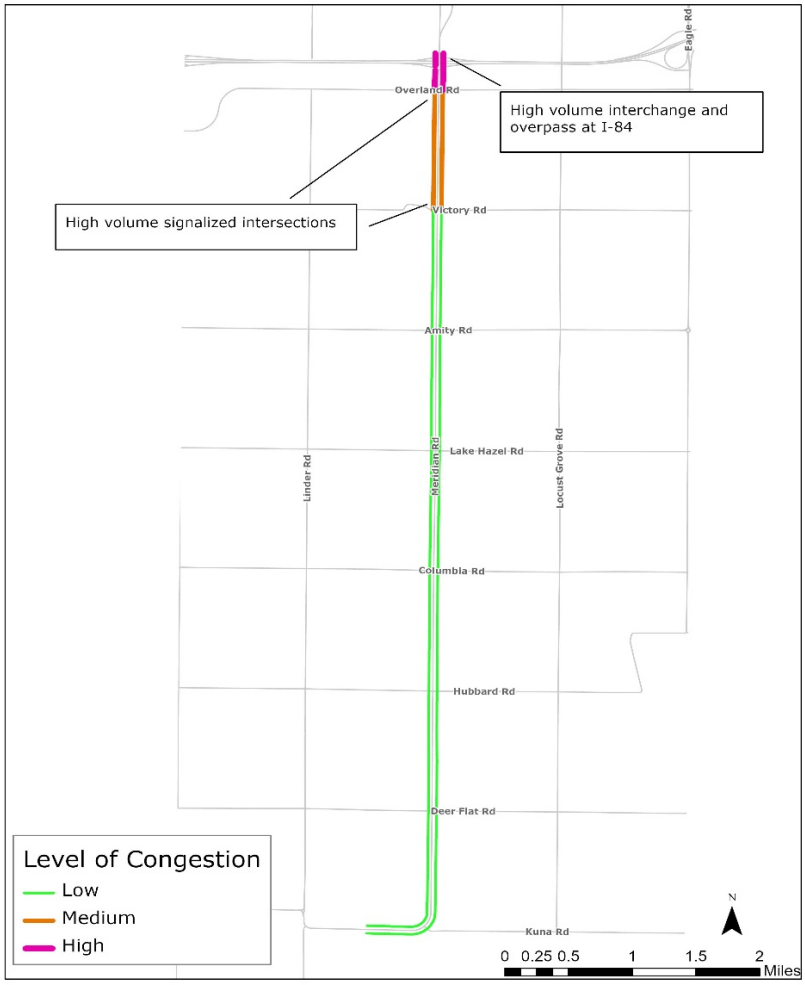

Figure 54: State Highway 69 (Kuna/Meridian Road) Levels of Peak Hour Congestion and Cause of Congestion (2019)

Table 23: State Highway 69 (Kuna/Meridian Road) Congestion Mitigation Projects

Strategy	Programmed Projects (FY2020-2026)	Planned Funded Projects (FY2027-2040)	Planned Unfunded Projects
Transportation Demand Management			
Traffic Operations Improvements/ITS	✓ Intersection improvements at Amity Rd and SH 69 and Deer Flat Rd and SH 69		
Public Transportation Improvements			✓ Planned services
Additional System Capacity			