COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

*Working together to plan for the future*

# Treasure Valley Annual Congestion Management System Report, 2017

07-2019

February 2019

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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. This annual CMP report shares data, trends, progress toward meeting congestion-related performance measures, and 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 includes measures and targets for monitoring progress *toward* mitigating congestion and identifies management strategies to reduce congestion on the transportation system. The *Treasure Valley Congestion Management System Plan,* adopted by COMPASS in 2005, outlines congestion management elements, 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 high demands on the transportation system. Recurring congestion most often occurs during morning and evening commute periods. Non-recurring congestion is temporary and often unpredictable. Non-reoccurring 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 2017, the population grew by 15% (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.

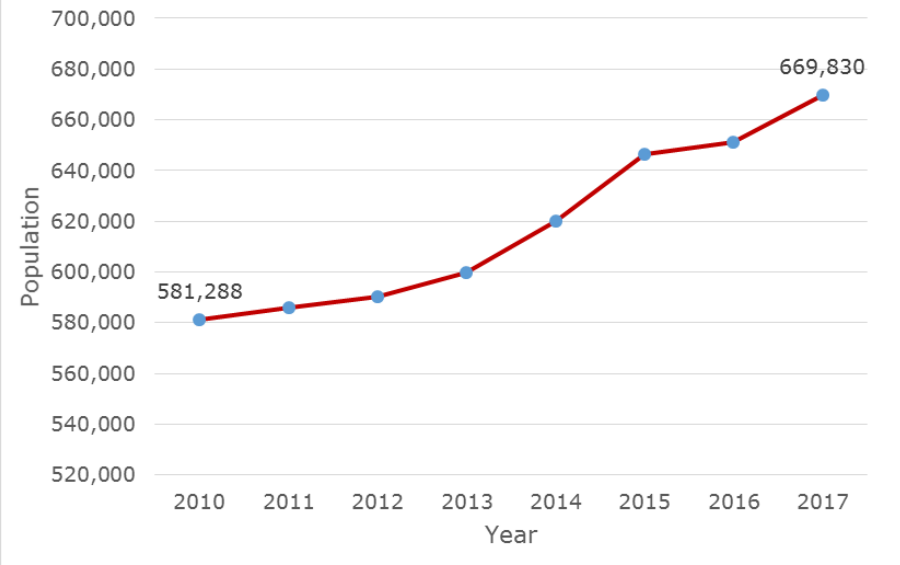


**Figure 1: Ada and Canyon Counties Population, 2010 - 2017**

## Development and Congestion

Development is a direct result of an increase in population. Development can have significant impacts on travel patterns and performance of the transportation system. Development has increased steadily from 2011 through 2017 in Ada and Canyon Counties (Figure 2). Identifying locations with high concentrations of development activity can help identify which corridors in the Treasure Valley 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 significant multi-family unit development or operational improvements on corridors with significant single family home development.

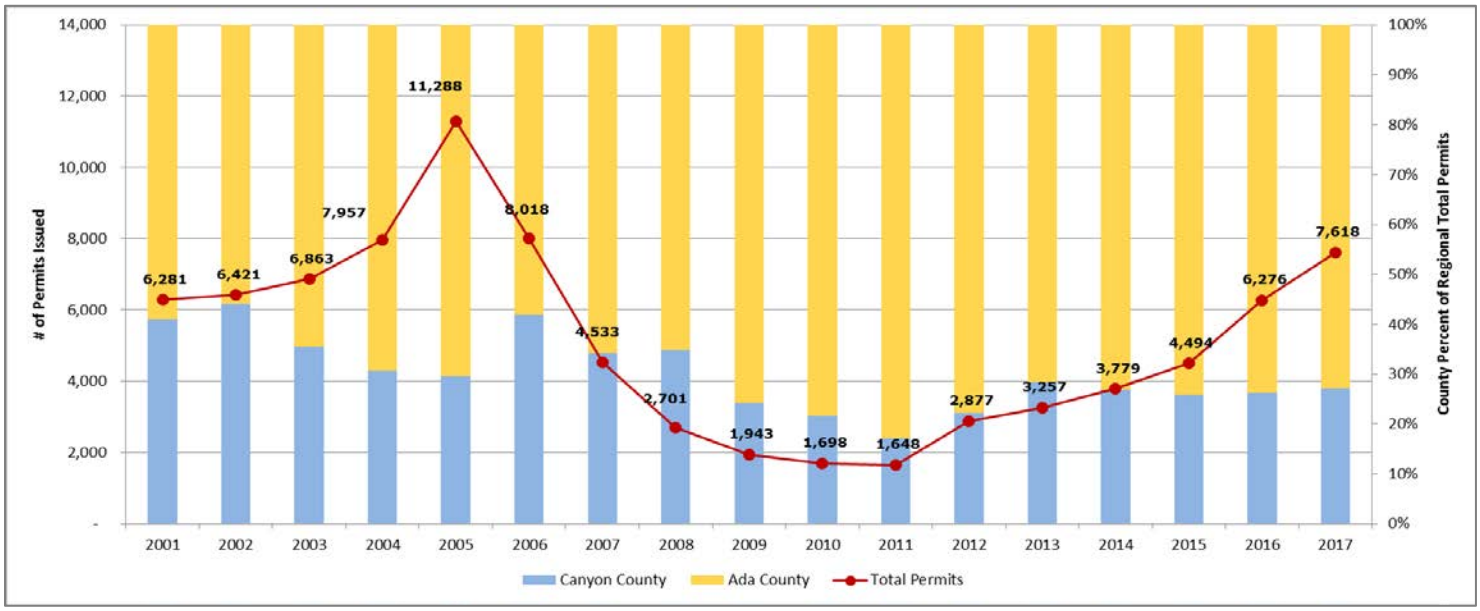


**Figure 2: Total New Construction Permits Issued by Year**

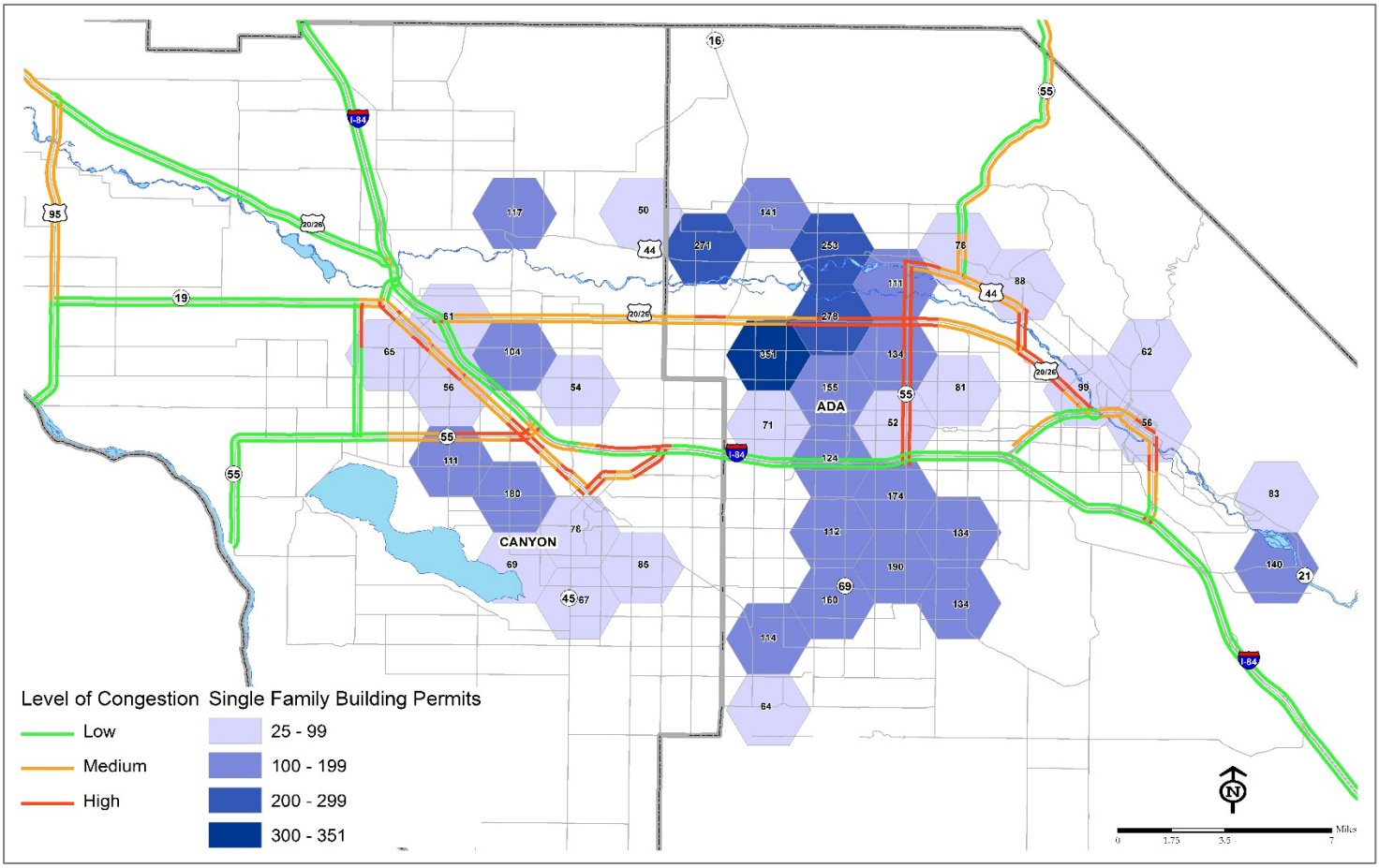


**Figure 3: Single Family Building Permit Activity and Levels of Peak Hour Congestion, 2017**

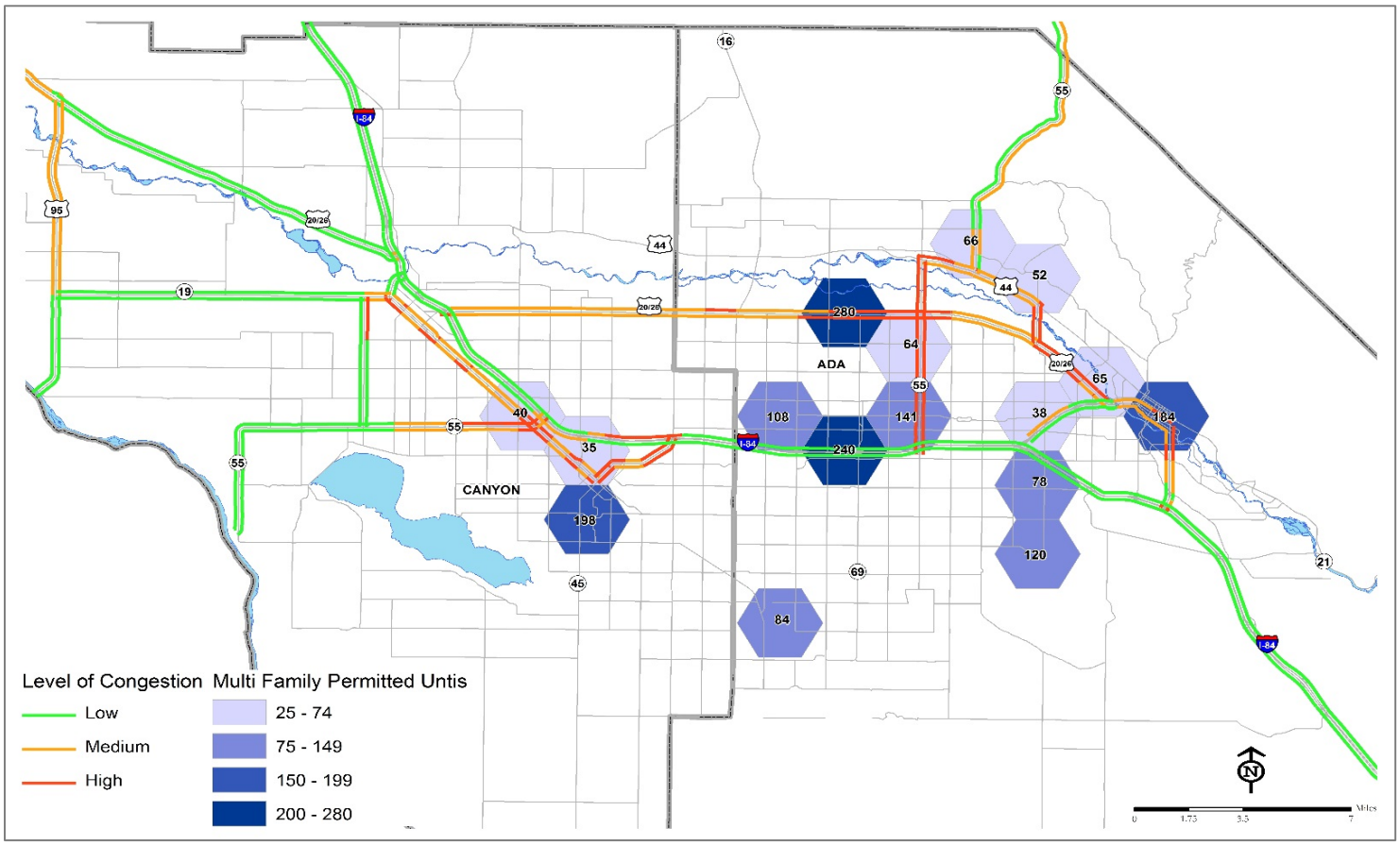


**Figure 4: Multi-Family Building Permit Activity and Levels of Peak Hour Congestion, 2017**

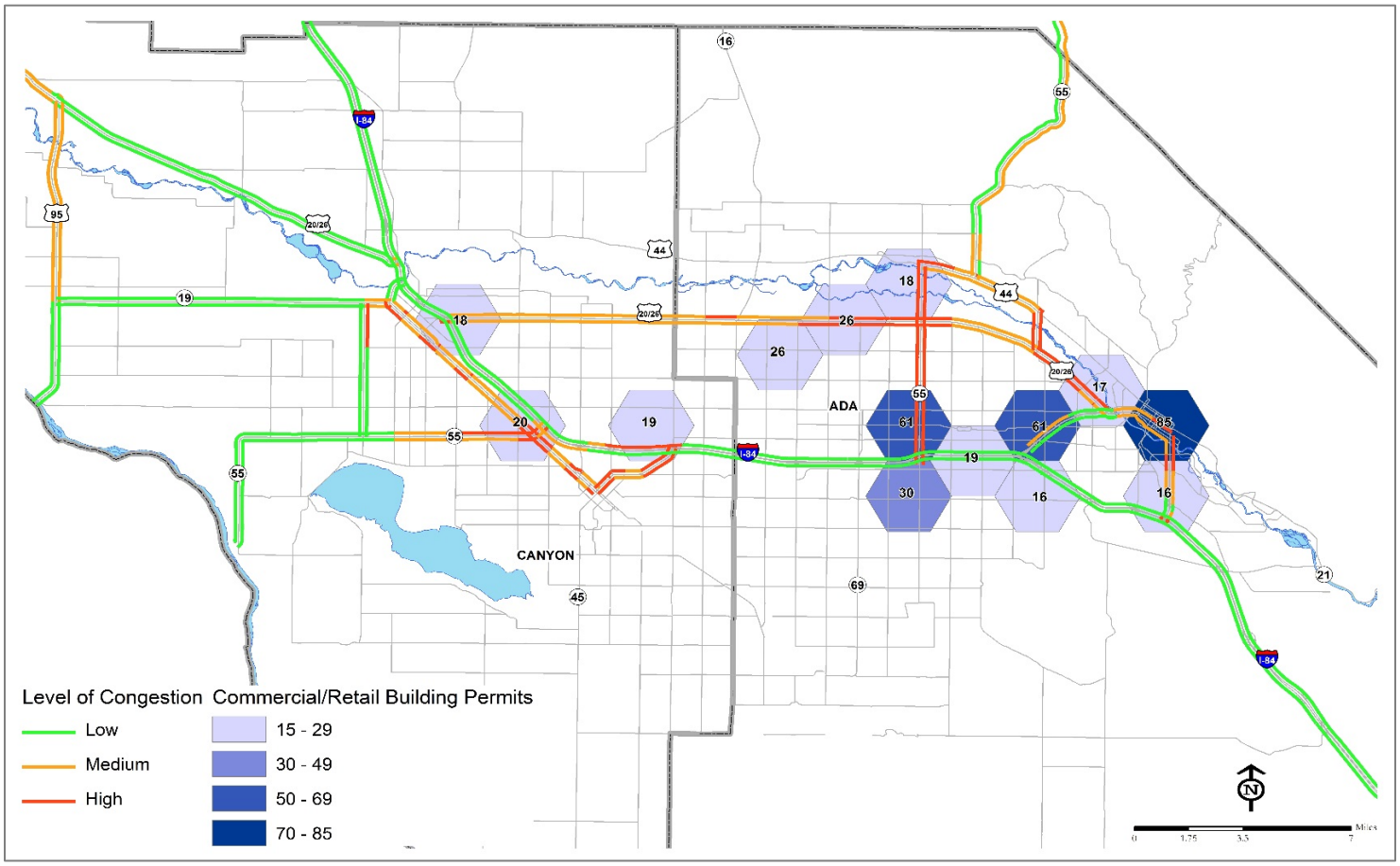


**Figure 5: Non-Residential Building Permit Activity and Levels of Peak Hour Congestion, 2017**

## Travel Time Data

In the 2016 CMP annual report, COMPASS introduced and used the National Performance Management Research Data Set (NPMRDS) to analyze and identify congestion. The NPMRDS is an archived vehicle probe-based speed and travel time data set that covers the National Highway System. 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 CMP system.

## 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. 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 with high, medium, and low levels of congestion (Table 1). The miles of highly congested roadway decreased in 2017, after an increasing trend from 2013-2016 (Table 2). This is likely due to the change in vendor (source of the data) and how the travel data are processed, as opposed to an actual on-the-ground change in travel times.

**Table 1: Travel Time Index Thresholds**

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

**Table 2: Miles and Percentage of High, Medium, and Low Congestion, Based on Weekday Average TTI Thresholds**

| Year | High | | Medium | | Low | | Total Miles |
|---|---|---|---|---|---|---|---|
| | Miles | Percent | Miles | Percent | Miles | Percent | |
| 2013 | 50.45 | 20.2% | 48.07 | 19.2% | 151.78 | 60.6% | **250.30** |
| 2014 | 84.30 | 30.3% | 39.91 | 14.4% | 153.43 | 55.3% | **277.64** |
| 2015 | 126.09 | 34.4% | 55.13 | 15.0% | 185.22 | 50.6% | **366.44** |
| 2016 | 136.05 | 37.1% | 36.12 | 9.9% | 194.27 | 53.0% | **366.44** |
| 2017 | 54.71 | 14.9% | 99.33 | 27.0% | 213.54 | 58.1% | **367.58** |

While congested roadway segments have been identified throughout the Treasure Valley, a survey of the ten most congested roadway segments shows that much of the congestion is concentrated on State Highway 55 (Eagle Road), which is the location of five of the top ten most congested roadway segments (Table 3 and Figure 6).

**Table 3: Ten Most Congested Roadway Segments > 0.5 miles***

| Rank | Road | Description | Miles | Direction | TTI |
|---|---|---|---|---|---|
| **1** | US 20/26 (Chinden Blvd) | Cloverdale Rd to SH 55 (Eagle Rd) | 0.96 | Westbound | 4.32 |
| **2** | Caldwell Blvd | Middleton Rd to Karcher Rd | 0.67 | Eastbound | 3.33 |
| **3** | SH 55 (Eagle Rd) | US 20/26 (Chinden Blvd) to SH 44 | 1.88 | Southbound | 3.21 |
| **4** | SH 55 (Eagle Rd) | McMillan Rd to US 20/26 (Chinden Blvd) | 1.01 | Northbound | 3.15 |
| **5** | Caldwell Blvd | Orchard Ave to Canyon St | 0.53 | Eastbound | 2.97 |
| **6** | SH 55 (Eagle Rd) | Franklin Rd to Fairview Ave | 1.00 | Southbound | 2.95 |
| **7** | Garrity Blvd | Kings Rd to I-84 On Ramp | 1.15 | Eastbound | 2.94 |
| **8** | SH 55 (Eagle Rd) | Fairview Ave to Ustick Rd | 0.99 | Northbound | 2.92 |
| **9** | SH 55 (Karcher Rd) | Middleton Rd to Caldwell Blvd | 0.52 | Eastbound | 2.91 |
| **10** | SH 55 (Eagle Rd) | I-84 EB Off Ramp to Franklin Rd | 0.51 | Southbound | 2.87 |

***Peak hour, 2017, roadways with NPMRDS data only**

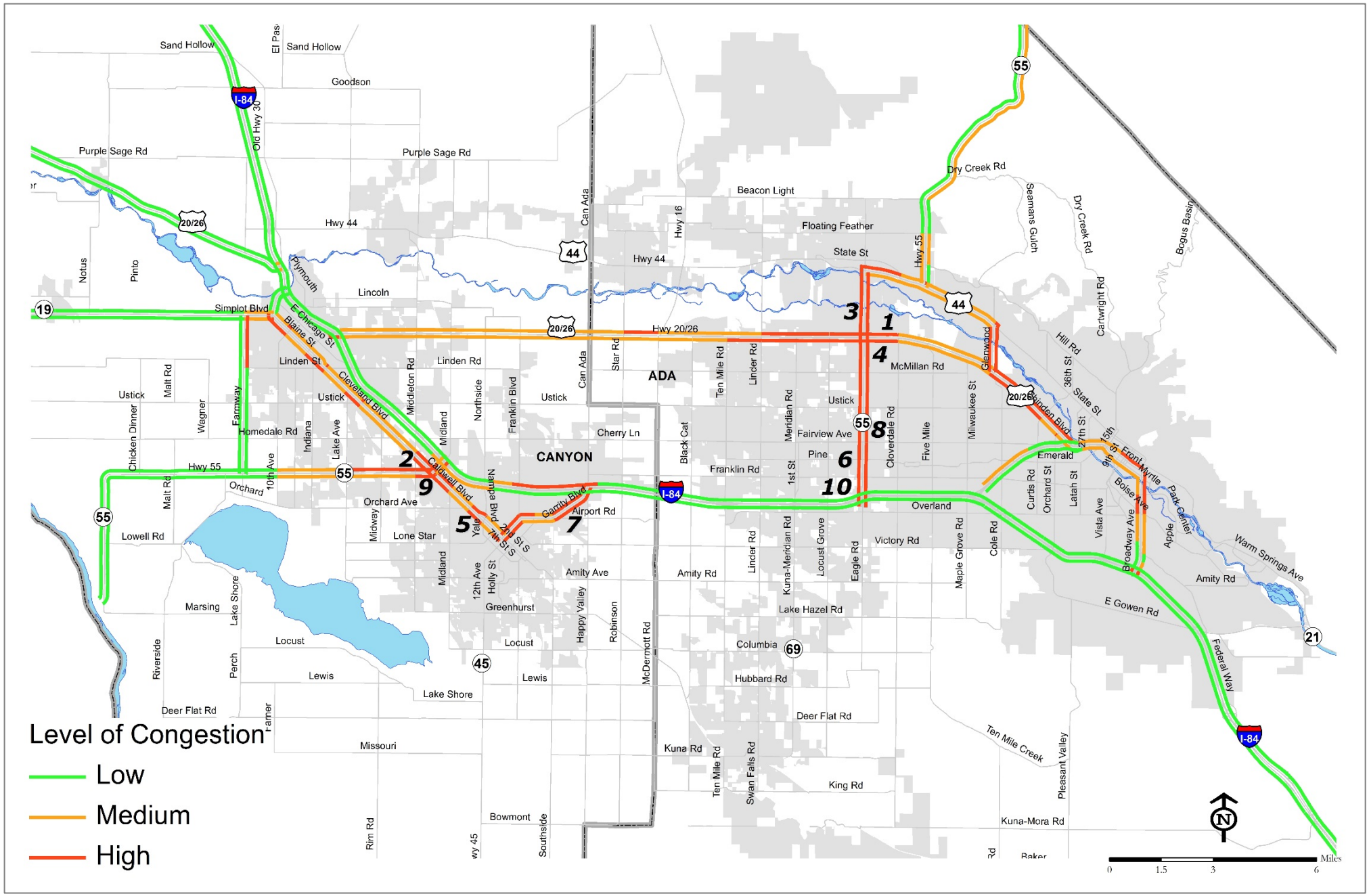


**Figure 6: Top Ten Congested Roadways > 0.5 miles (Peak hour, 2017, roadways with NPMRDS data only)**

## 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 7). In Figure 7, 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 6 minutes are added to the travel time, for an average weekday morning commute travel time of about 29 minutes.

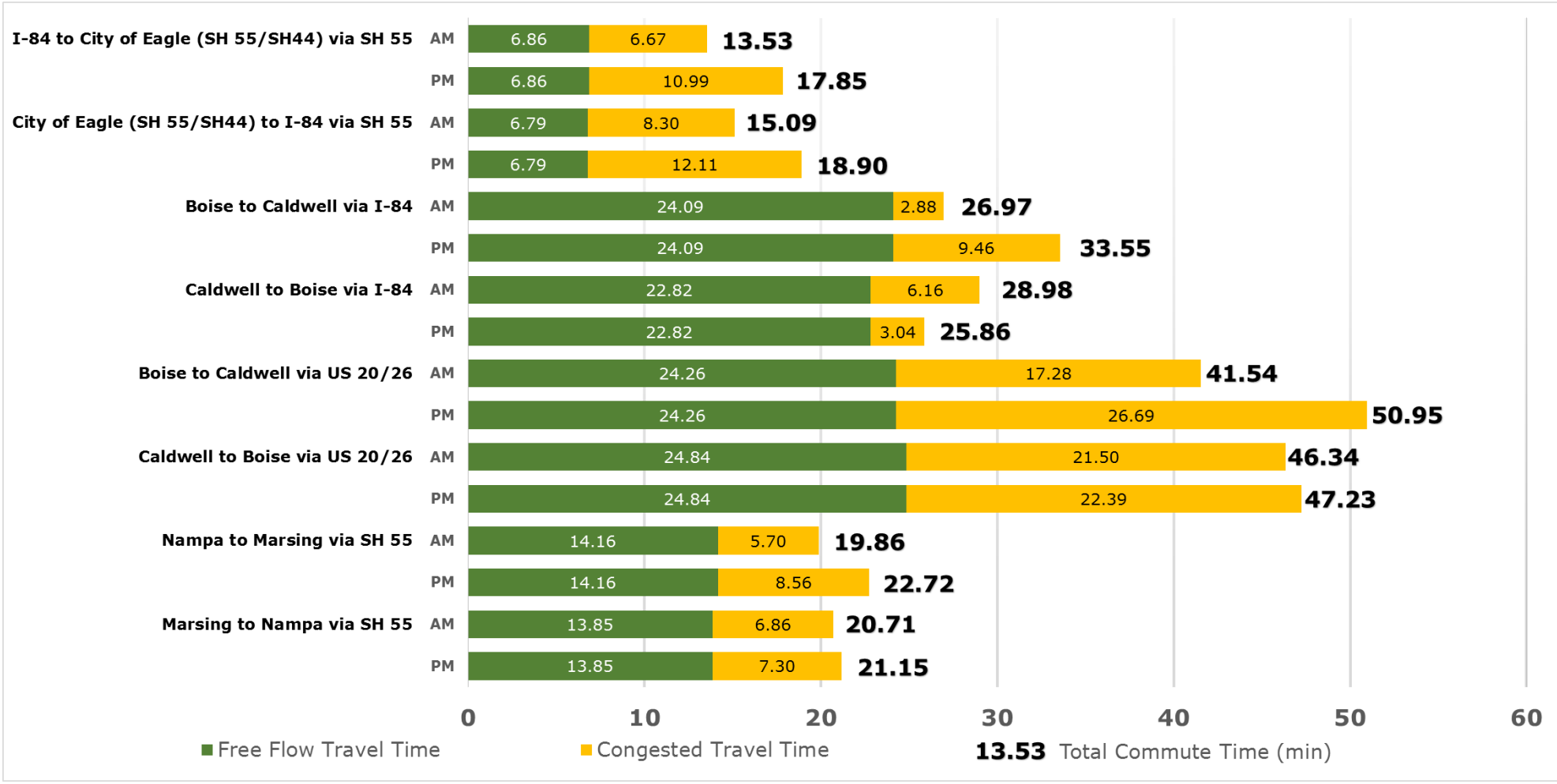


**Figure 7: Average Weekday AM and PM Commute Travel Times for Select Routes in the Treasure Valley (2017)**

## 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. COMPASS reports two reliability measures, Level of Travel Time Reliability (Figure 8) and Truck Travel Time Reliability (Figure 9), to measure how predictable or consistent travel times are for passenger and freight along the CMP network. COMPASS has adopted the Idaho Transportation Department's (ITD's) statewide targets for these measures.

## MAP-21 Performance Measures

**92.7%** Interstate reliable

**78.6%** Non-interstate roads reliable

**1.47** Truck Travel Time Reliability

## Level of Travel Time Reliability (LOTTR)

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 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. ITD set a target of 90% of PMT reliable on the Interstate and 70% PMT reliable on the non-interstate system. These measures are both being met in COMPASS' planning area, with 92.7% of the interstate reliable and 78.6% of non-interstate roads reliable.

## 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 is presented as a weighted average. The Idaho Transportation Department set a target of a TTTR of less than 1.3. The region is not hitting this target. This is likely due to issues cause by non-recurring congestion from weather and traffic incidents.

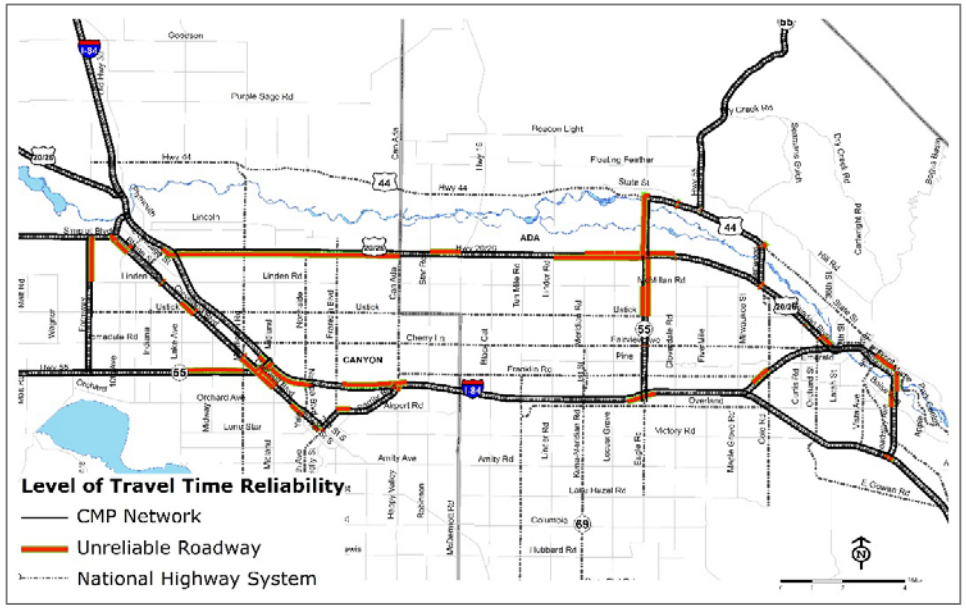


**Figure 8: Level of Travel Time Reliability**

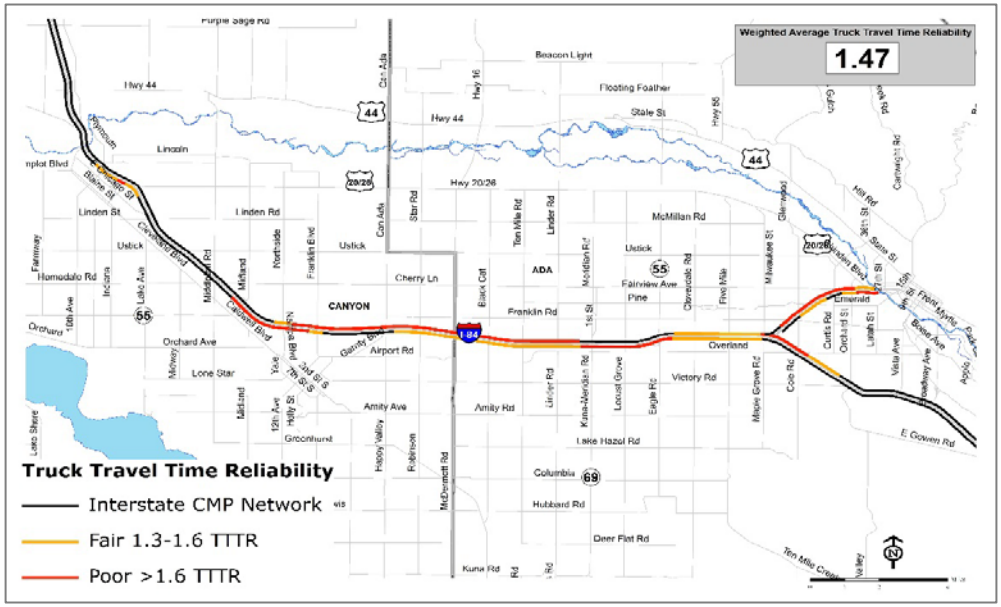


**Figure 9: Truck Travel Time Reliability**

## Other Measures

### COMPASS Performance Measures

COMPASS publishes a 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 4). Green checkmarks signal that COMPASS is on track to meet the targets set for 2040; yellow checkmarks signal that progress has been made toward the target, but not enough to meet the target by 2040. COMPASS is not on track to meet the target for Transit Passenger Miles.

**Table 4: Progress toward Communities in Motion Performance Measures (2017)**

| Performance Measure | 2015 | 2017 | 2040 Target | Progress |
|---|---|---|---|---|
| Percentage of Bicycle Lanes per Arterial Roadway Mile | 16.4% | 17.9% | > 25% |  |
| Percent of Sidewalks per Roadway Mile | 48% | 52% | > 50% |  |
| Miles of Trails and Pathways | 509 | 565 | > 754 |  |
| Transit Passenger Miles | 7 Million | 7.1 Million | > 13.5 Million |  |
| Percentage of Employment Near Transit | 61% | 64% | > 70% |  |

## 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 5). 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 5: Congestion Mitigation Strategies**

| Strategy | Description | Examples | Measures Impacted |
|---|---|---|---|
| Travel 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<br>• Ridesharing<br>• Flexible work arrangements<br>• Transit Oriented Development | • Bike lanes per arterial roadway<br>• Sidewalks per roadway miles<br>• Miles of trails and pathways<br>• Peak hour TTI<br>• Commute times |
| Traffic Operations Improvements/Intelligent Transportation Systems (ITS) | Implementing improvements focused on optimizing the current transportation infrastructure | • Optimize signal timing<br>• Intersection improvements<br>• Transit signal priority | • Peak hour TTI<br>• System reliability<br>• 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<br>• Expanded frequency/hours of service<br>• Expanded public transportation system | • Peak hour TTI<br>• System reliability<br>• Commute times<br>• Transit passenger miles<br>• Percentage of employment near transit |
| Road Capacity | Expanding capacity by adding lanes, new roads, or improving intersections | • Add travel lanes<br>• Fill gaps in the street network<br>• Construct overpass/ underpasses | • Peak hour TTI<br>• System reliability<br>• Commute times |

## Programmed 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 FY2018-2022 TIP are designed to help mitigate congestion (Figure 10 and Table 6). 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 www.compassidaho.org/prodserv/transimprovement.htm.

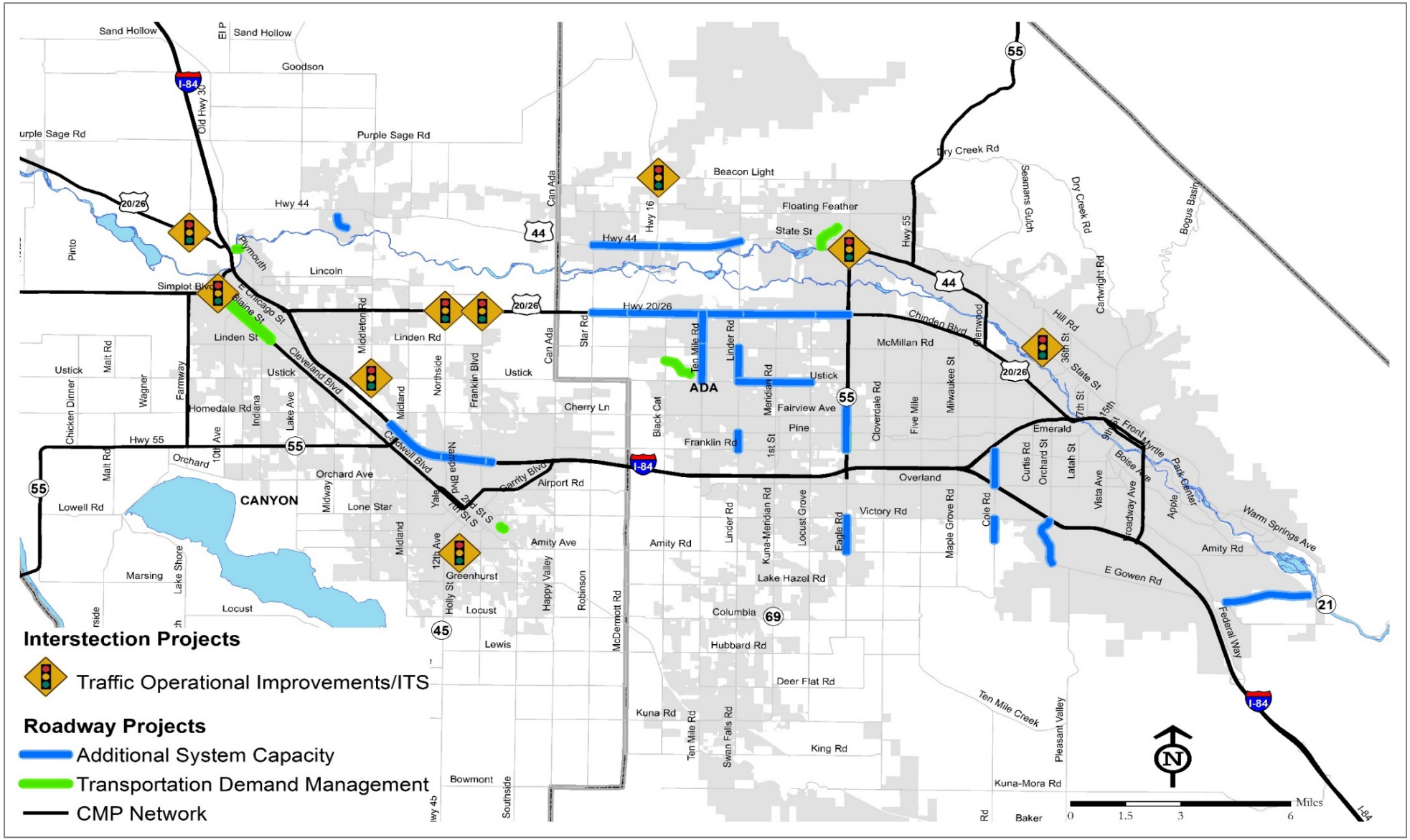


**Figure 10: Programmed Projects Congestion Mitigation Projects, FY2018-2022 TIP**

**Table 6: Programmed Congestion Mitigation Projects, FY2018-2022 TIP**

| Strategy | Project Name | CMP Corridor |
|---|---|---|
| **Transportation Demand Management** | Pathway, Five Mile Creek, Treatment Plant to Black Cat Road, City of Meridian | |
| | ADA (Americans with Disabilities Act) Ramps, City of Caldwell | |
| | Pedestrian Improvements, Historic North Nampa Pathway, City of Nampa | |
| | Bicycle Parking, Downtown Bicycle Facilities, Boise State University | |
| | Bike Share, City of Boise | |
| | Pathway, Dry Creek Trail and Underpass, City of Eagle | |
| | Old Highway 30, Plymouth Street Bridge, City of Caldwell | |
| | Bicycle Parking, Secure Bicycle Facilities, Boise State University | |
| | Pathway, Indian Creek, Taffy Drive to Peppermint Drive, City of Nampa | |
| | Pedestrian Improvements, SH-55 (Eagle Road), Franklin Road to Pine Avenue, City of Meridian | State Highway 55 |
| **Traffic Operational Improvements / ITS** | US 20/26 and Farmway/Kent Ranch Road Intersection, west of City of Caldwell | US 20/26 |
| | SH-16 and Beacon Light Road, Intersection Improvements, Ada County | |
| | SH-44 (State Street) and SH-55 (Eagle Road) Intersection, 1/2 Continuous Flow Intersection, City of Eagle | |
| | State Street and Collister Drive Intersection, City of Boise | |
| | Colorado Avenue and Holly Street, Signal and Pedestrian Improvements, City of Nampa | |
| | Middleton Road and Ustick Road, Roundabout, City of Caldwell | |
| | Centennial Way Roundabout, City of Caldwell | |
| | US 20/26, Intersection Improvements, Canyon County | US 20/26 |
| | ITS, SH-55 (Eagle Road) Signal Equipment Upgrades, Ada County | State Highway 55 |
| | I-84, Karcher Road Interchange in the City of Nampa to the City of Caldwell | I-84 |
| **Additional System Capacity** | US 20/26 (Chinden Boulevard), Locust Grove Road to SH-55 (Eagle Road) | US 20/26 |
| | South Cemetery Road, Highland Drive to Willow Creek, City of Middleton | |
| | Cole Road, I-84 to Franklin Road, City of Boise | I-84 |
| | Cole Road, McGlochlin Street to Victory Road, City of Boise | |
| | US 20/26 (Chinden Boulevard), Linder Road to Locust Grove Road | US 20/26 |
| | SH-21, Technology Way to Surprise Way, City of Boise | |
| | US 20/26 (Chinden Boulevard), Star Road to SH-16, Ada County | US 20/26 |
| | US 20/26 (Chinden Boulevard), SH-16 to Linder Road, Ada County and City of Meridian | US 20/26 |
| | Linder Road, Ustick Road to McMillan Road, City of Meridian | |
| | Ten Mile Road, McMillan Road to US 20/26 (Chinden Boulevard), City of Meridian | |
| | Ten Mile Road, Ustick Road to McMillan Road, City of Meridian | |
| | Ustick Road, Linder Road to Meridian Road, City of Meridian | |
| | Ustick Road, Meridian Road to Locust Grove Road, City of Meridian | |
| | Orchard Street, Gowen Road to I-84 On-Ramp, City of Boise | |
| | Linder Road, Franklin Road to Pine Avenue, City of Meridian | |
| | SH-55 (Eagle Road), Amity Road to Victory Road, City of Meridian | State Highway 55 |
| | SH-44 (State Street), SH-16 to Linder Road, Ada County | |
| | SH-44 (State Street), Star Road to SH-16, Ada County | |
| | I-84, Karcher Interchange to Franklin Boulevard Corridor, City of Nampa | I-84 |
| | SH-55 (Eagle Road), Meridian Towne Center, City of Meridian | State Highway55 |
| | I-84, Northside Boulevard to Karcher Road Interchange, City of Nampa | I-84 |
| | I-84, Franklin Boulevard to Northside Boulevard, City of Nampa | I-84 |

# Summary

In 2017, Ada and Canyon Counties continued to experience population growth and development activity. Despite the amount of growth, only 15% of the roadways monitored in the congestion management process experience high levels of congestion. Much of the congestion on the roadways is experienced during the morning and evening peak hour commute times. In order to mitigate congestion, COMPASS is implementing a set of strategies identified by the Federal Highway Administration. This set of strategies not only includes adding capacity to the roadways, but also encouraging people to use other modes of transportation such as walking, cycling, and public transportation, as well as implementing strategies and technology to maximize the efficiency of the existing transportation network. The findings showcased in this report will be incorporated into COMPASS's TIP and long-range transportation plan processes to prioritize transportation projects. With the National Performance Measures Research Data Set, COMPASS expects to be able to more effectively monitor how these strategies are affecting the performance of the transportation system. In 2019, COMPASS will update the Congestion Management Plan to capture new data sources, performance measures, and methodologies for analyzing congestion and the effects of projects to mitigate congestion.

# Appendix
# Detailed Corridor Congestion Analysis

# I-84

## I-84 Changes in Traffic Volume and Travel Time, 2013 - 2017

The I-84 corridor through Ada and Canyon Counties has experienced significant increases in traffic volumes and travel time from 2013 to 2017. Two sections of I-84 with some of the largest percentage increases in volume were: 1) near the 10th Avenue interchange in the City of Caldwell (Exit 28) at 20%, and 2) near the Broadway Avenue interchange in the City of Boise (Exit 54) at 16%. However, the two sections with the largest travel time changes were 1) near Franklin Boulevard in the City of Nampa and 2) near the Flying Wye where I-84 and I-184 converge in the City of Boise (Figure 11).

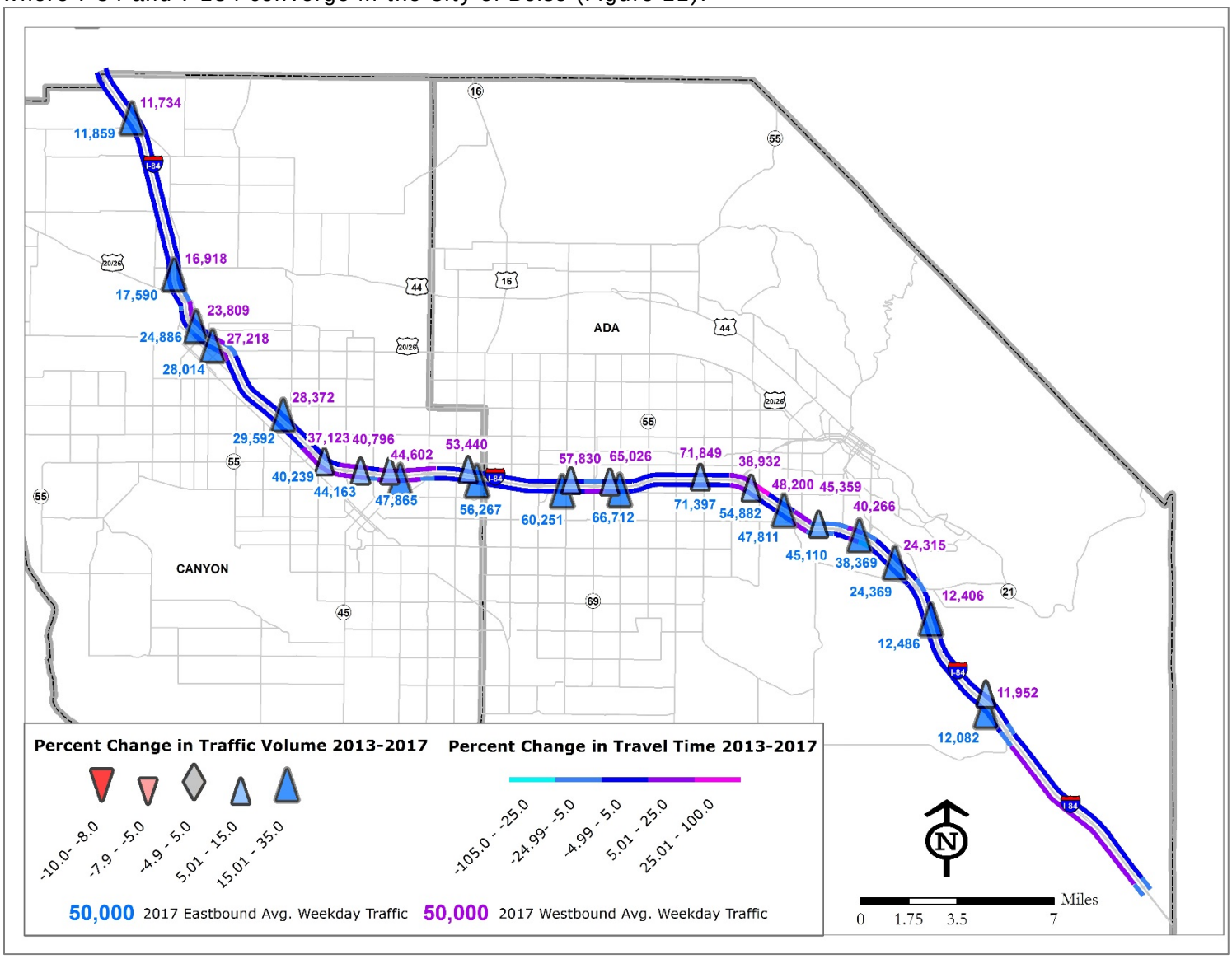


**Figure 11: I-84 Change in Peak Hour Travel Time and Average Weekday Monthly Volumes, 2013-2017**

## I-84 Speed Profiles

Over the past five years, the average speeds during the morning and evening commute 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 12 and 13). In 2017, the average speed was about 51 mph during both the morning and evening 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.

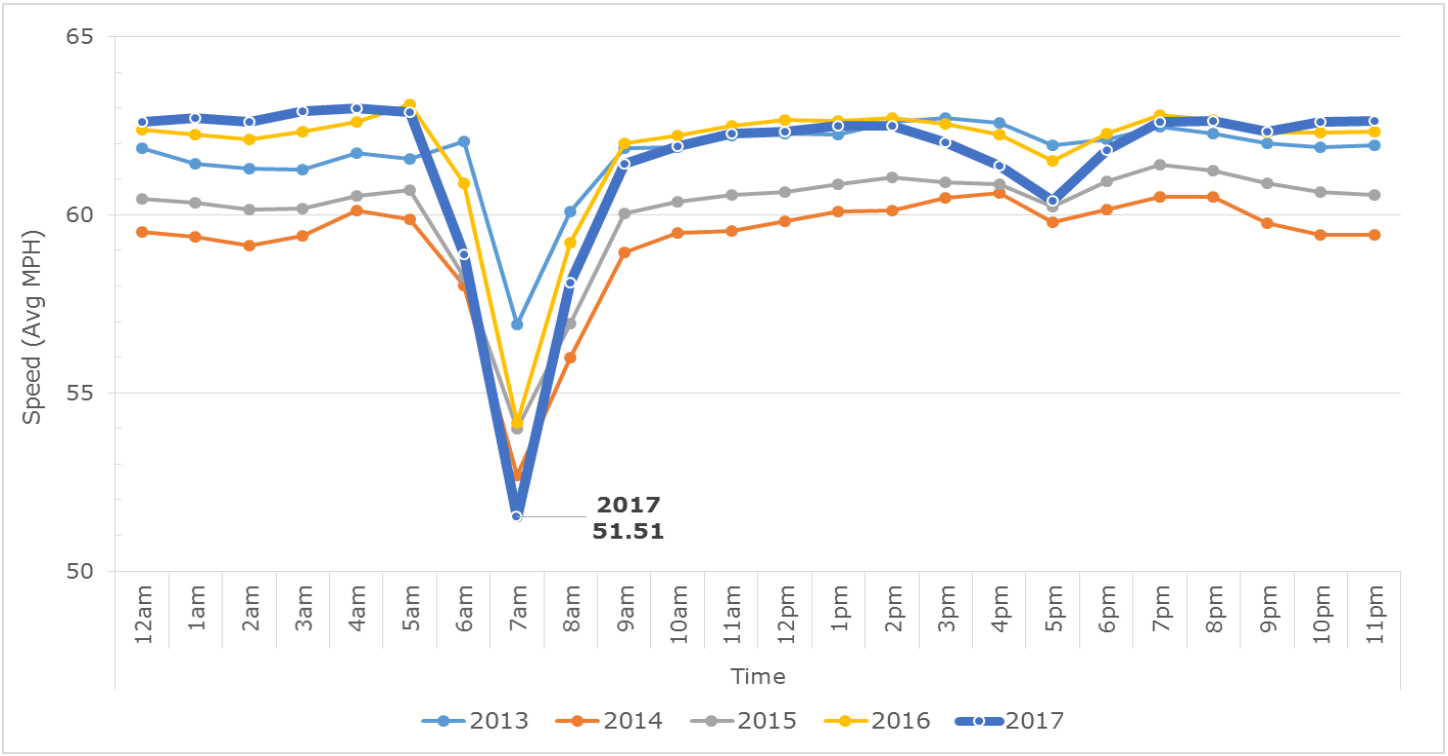


**Figure 12: I-84 Eastbound (Centennial Way to Flying Wye interchange I-184), Average Weekday Speeds, 2013 - 2017**

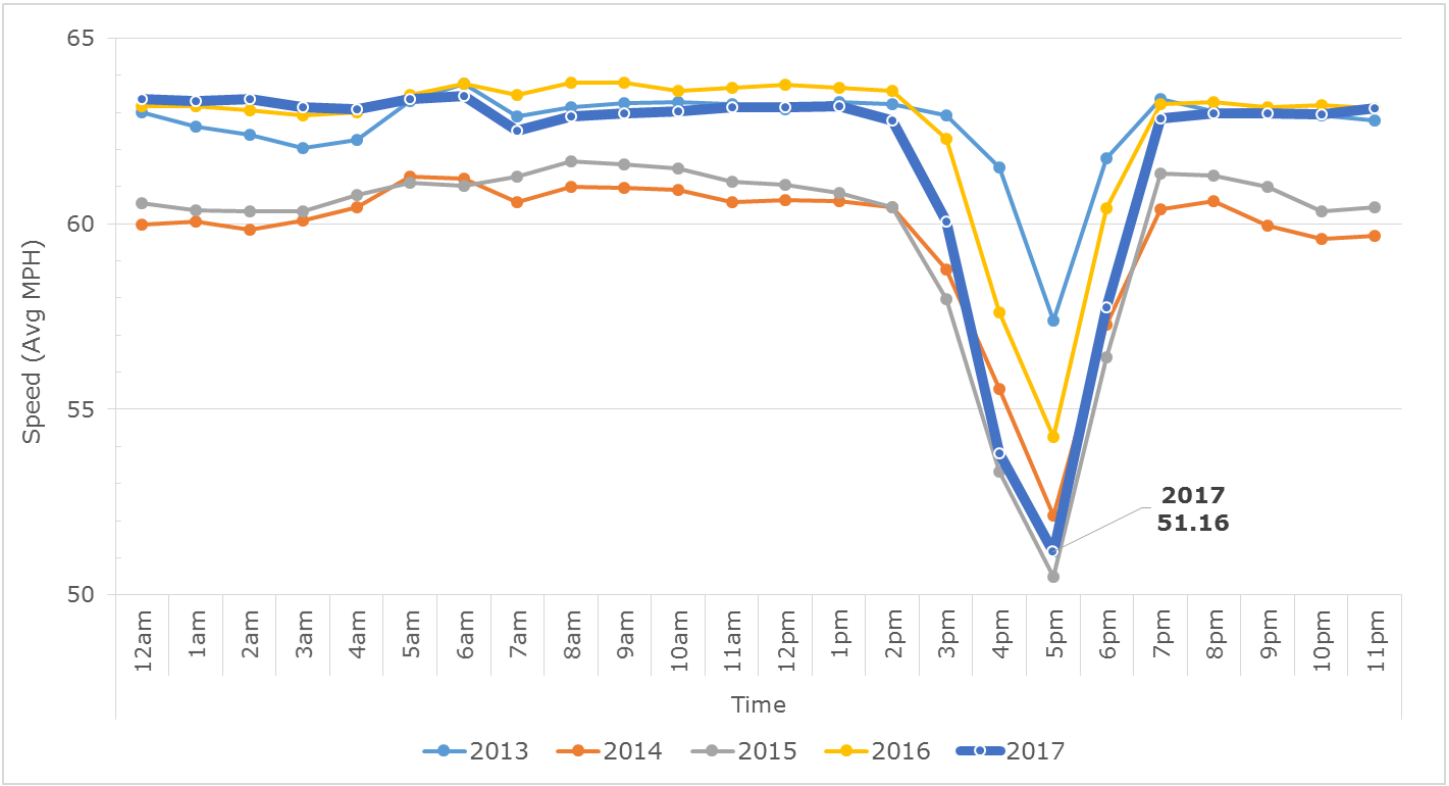


**Figure 13: I-84 Westbound (Flying Wye interchange I-184 to Centennial Way), Average Weekday Speeds, 2013 - 2017**

## I-84 Congestion Analysis and Congestion Mitigation Strategies

I-84 experiences most of its congestion issues in 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 2-lane interstate (Figure 14). The programmed and planned projects for this section of I-84 are highlighted in Table 7.

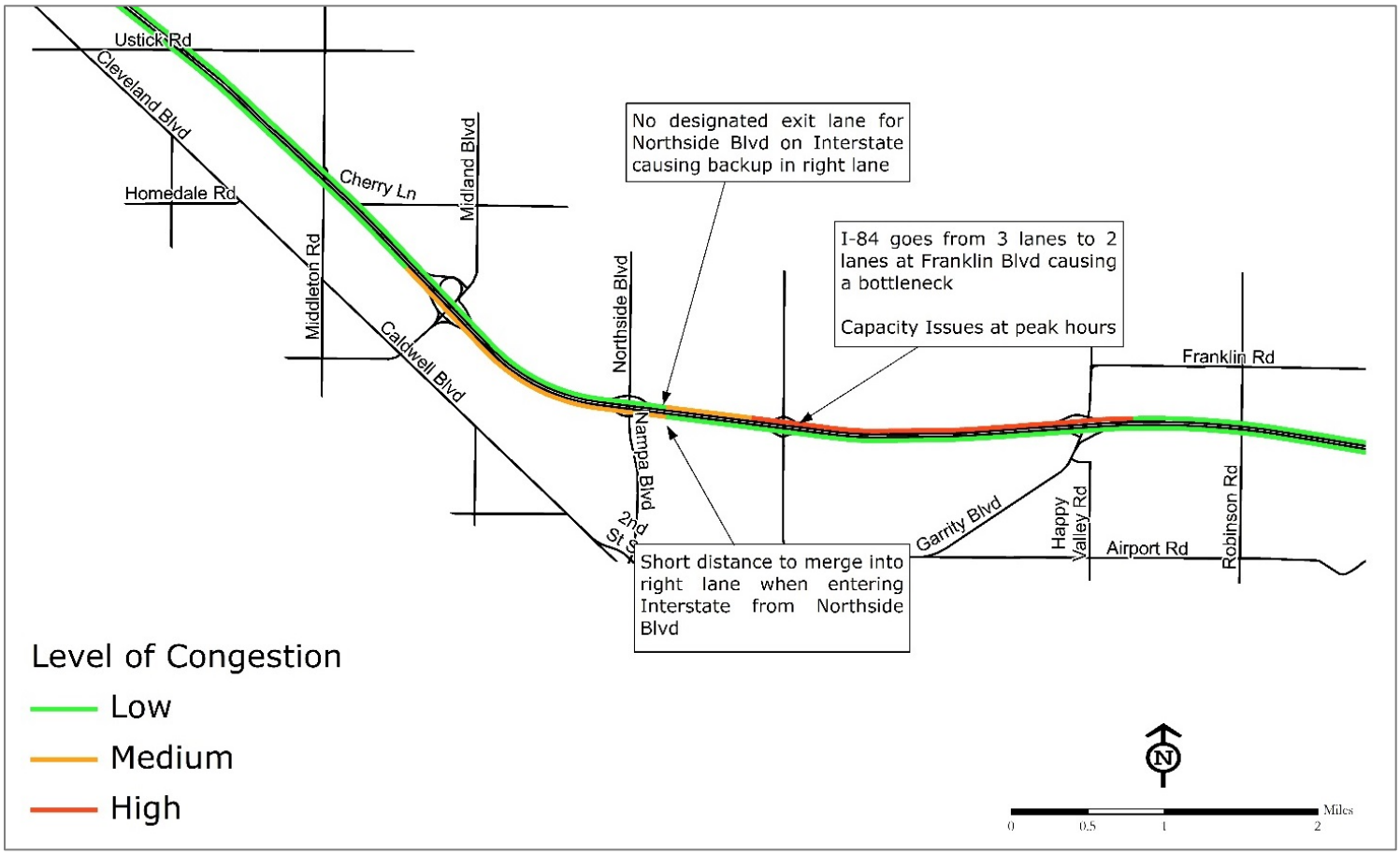


**Figure 14: I-84 Levels of Peak Hour Congestion, 2017**

**Table 7: I-84 Congestion Mitigation Projects**

| Strategy | Programmed Projects (FY2018-2022) | Planned Funded Projects (FY2023-2040) | Planned Unfunded Projects |
|---|---|---|---|
| Travel Demand Management | ✓ ACHD Commuteride | | |
| Traffic Operations Improvements/Intelligent Transportation Systems (ITS) | | | |
| Public Transportation Improvements | | | ✓ New and extended services |
| Road Capacity | ✓ Widen I-84 to 3 lanes in each direction between Karcher Rd Interchange (Exit 33) and Franklin Blvd Interchange (Exit 36) | ✓ Widen I-84 to 3 lanes in both directions from the City of Caldwell (Exit 29) to Karcher Rd Interchange (Exit 33) | |

# I-184

## I-184 Change in Traffic Volume and Travel Time, 2013 - 2017

I-184 volume increases were more modest than the increases along I-84 from 2013 to 2017 (Figure 15). However, I-184 experienced a more noticable decrease in travel times likely due to the volume of vehicles merging from I-184 onto I-84 during the evening commute. The merge point with I-84, just west of the Flying Wye (I-84/I-184 intersection), carries the highest volume of traffic than any other road in the area and, in 2017, exceeded 140,000 vehicles on an average weekday.

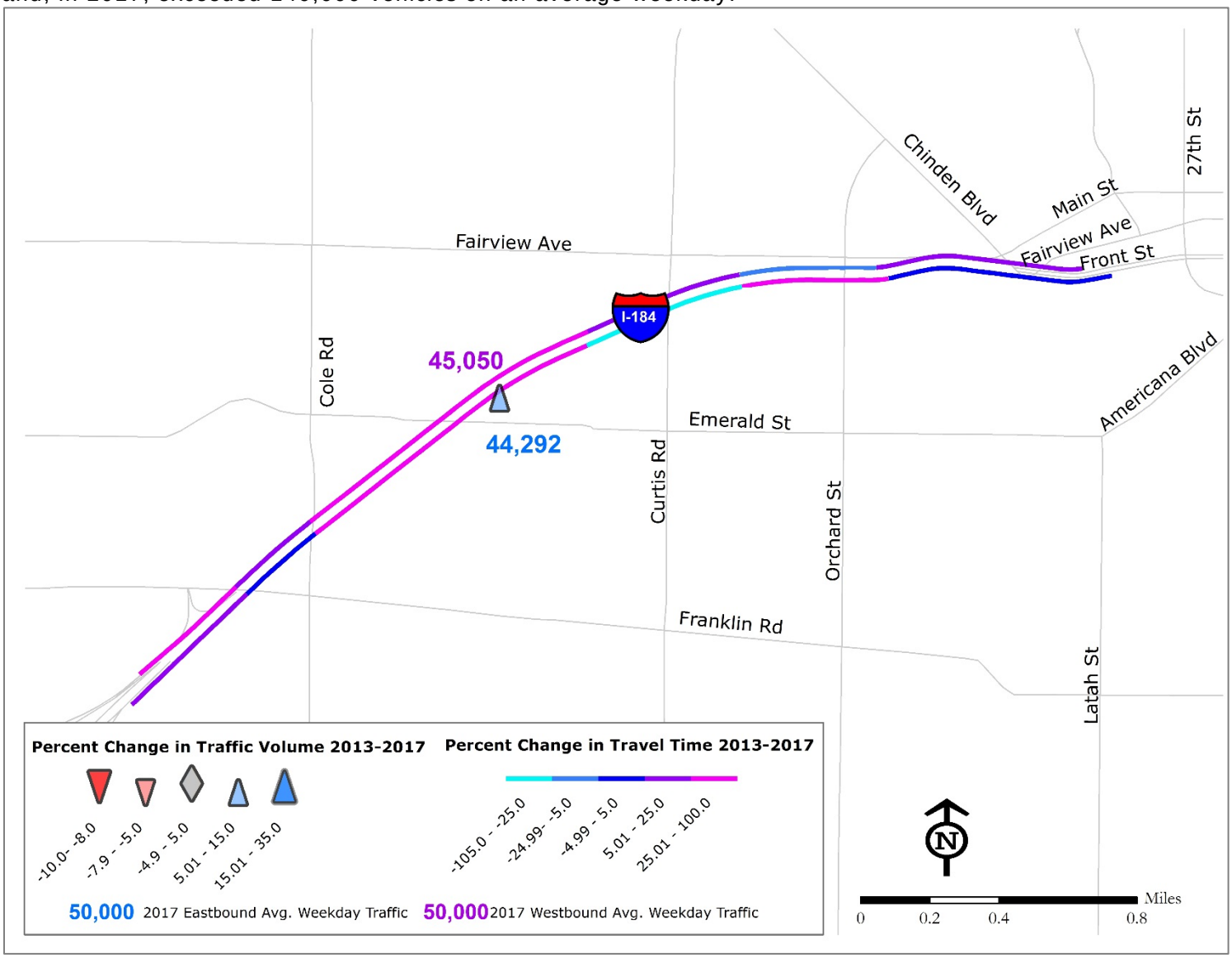


**Figure 15: I-184 Change in Peak Hour Travel Time and Average Weekday Monthly Volumes, 2013-2017**

## I-184 Speed Profiles

The average weekday speed profiles for the section of I-184 from the Flying Wye to its terminus about 1 mile west of the 15th / Front Street intersection show speed decreases during the morning and evening peak hours (Figure 16 and Figure 17). The evening reduction in speed westbound is much more pronounced than the morning eastbound reduction. Moreover, the morning eastbound speeds appear to have stabilized between 2016 and 2017.

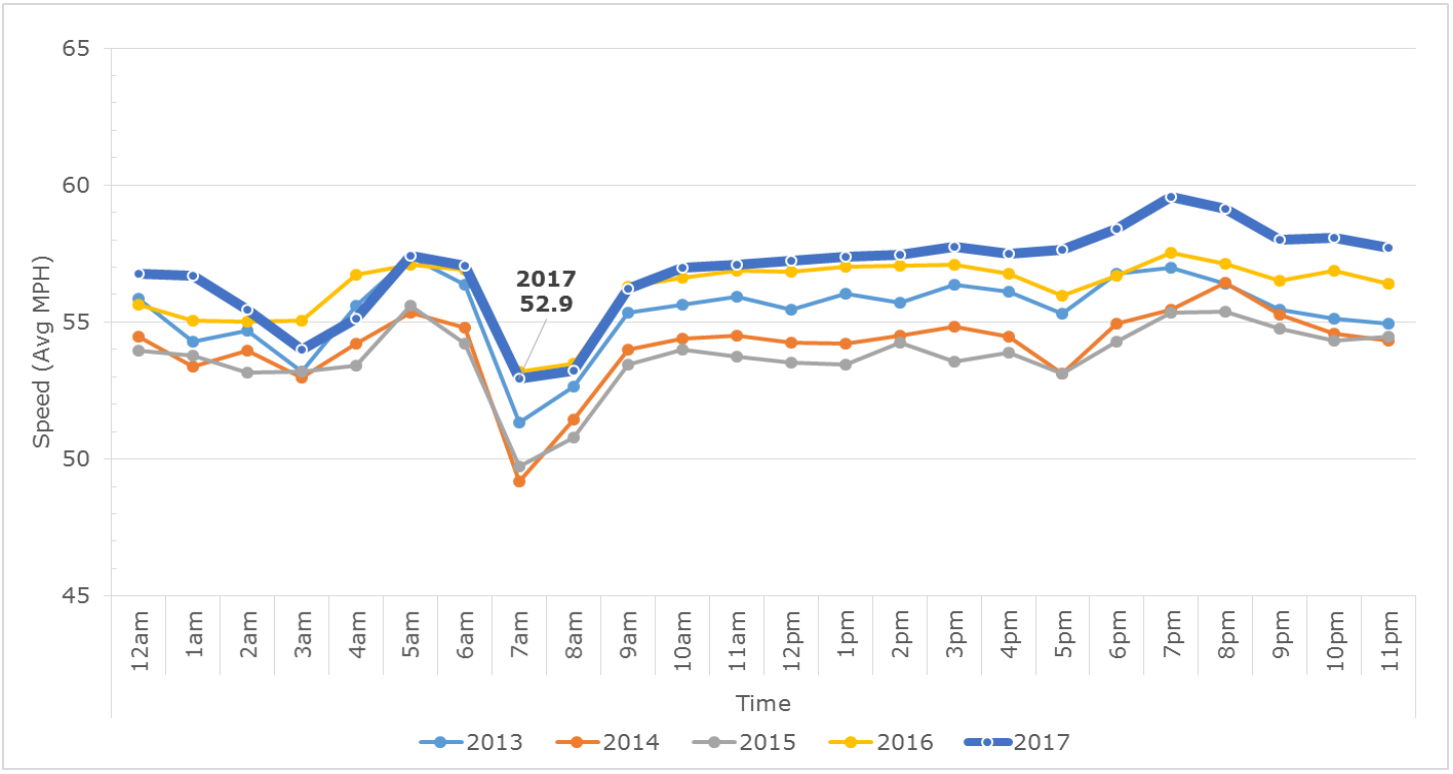


**Figure 16: I-184 Eastbound, Average Weekday Speeds, 2013 - 2017**

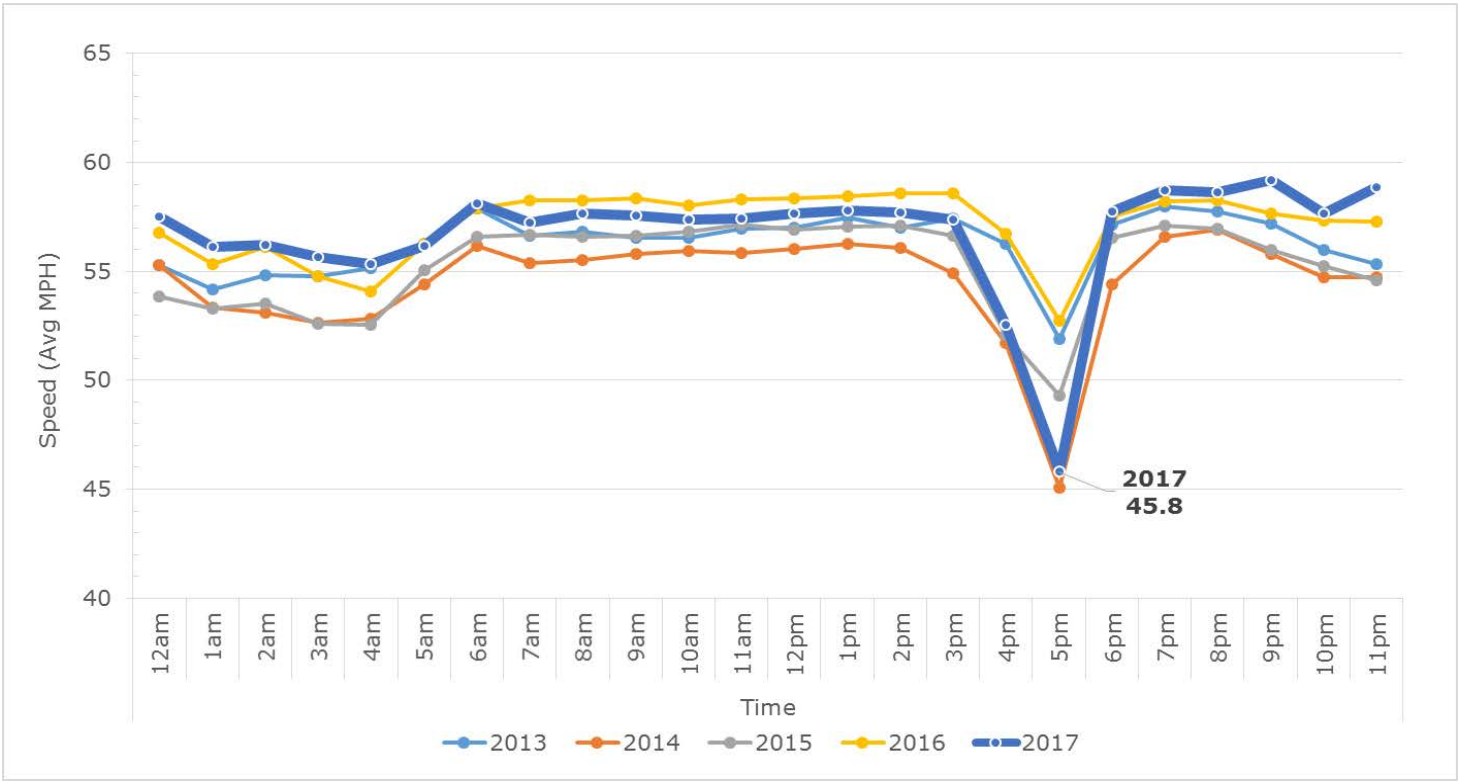


**Figure 17: I-184 Westbound, Average Weekday Speeds, 2013 - 2017**

## 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 18). 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 8.

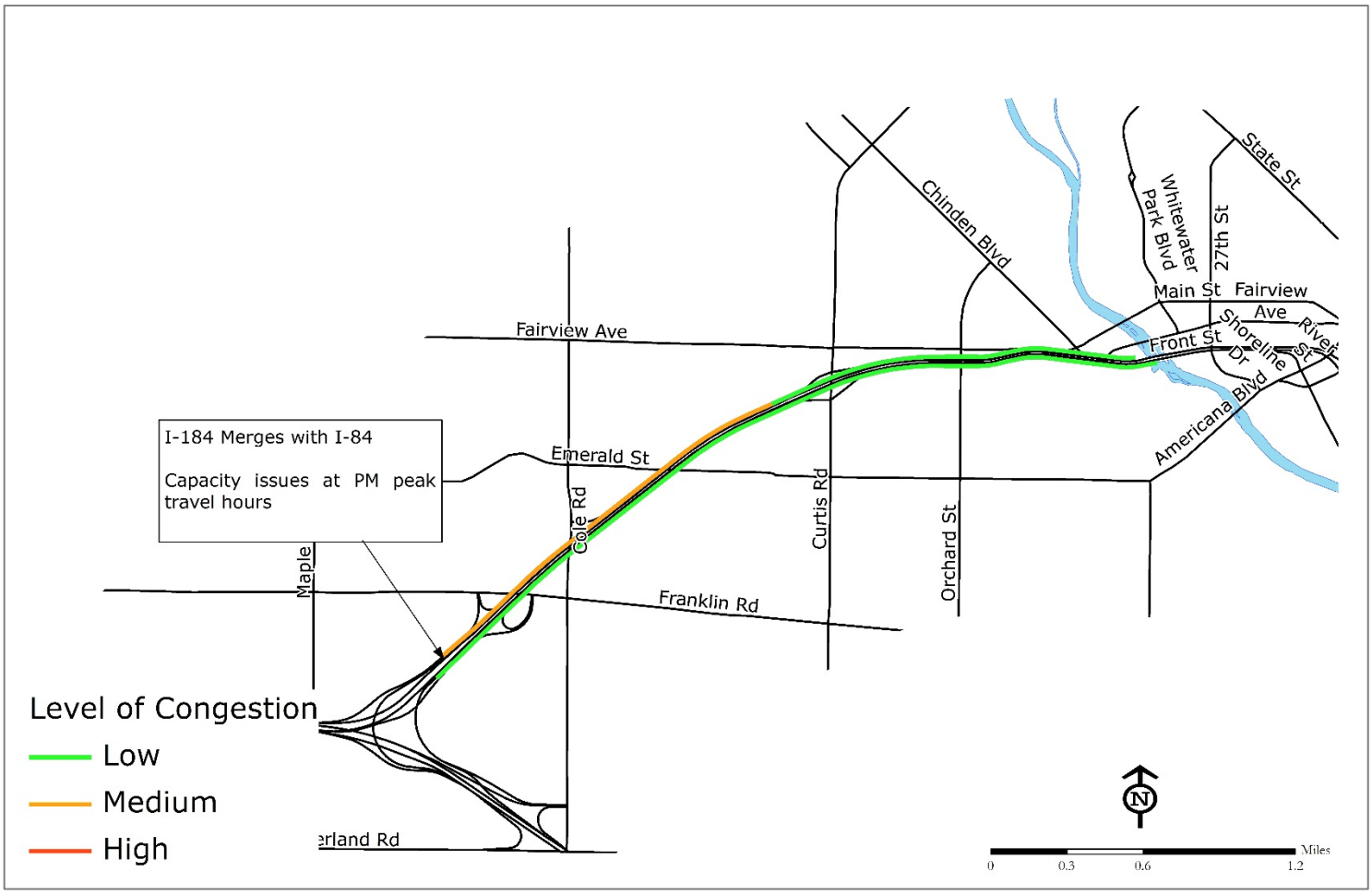


**Figure 18: I-84 Levels of Peak Hour Congestion, 2017**

**Table 8: I-184 Congestion Mitigation Projects**

| Strategy | Programmed Projects (FY2018-2022) | Planned Funded Projects (FY2023-2040) | Planned Unfunded Projects |
|---|---|---|---|
| Travel Demand Management | ✓ ACHD Commuteride | | |
| Traffic Operations Improvements/Intelligent Transportation Systems (ITS) | | | |
| Public Transportation Improvements | | | ✓ Planned new and extended services |
| Road Capacity | | | |

# US 20/26

## US 20/26 Change in Traffic Volume and Travel Time, 2013 - 2017

Most of the volume increases and travel time decreases over the past five years on US 20/26 (Chinden Boulevard) have occurred west of State Highway 55 (Eagle Road) where the roadway changes from two lanes to one lane per direction (Figure 19). Travel times have also noticeably decreased around the State Highway 16 intersection. The noticeable drop in traffic volume around the intersection of Front Street and Broadway Avenue is most likely due to nearby construction in 2017.

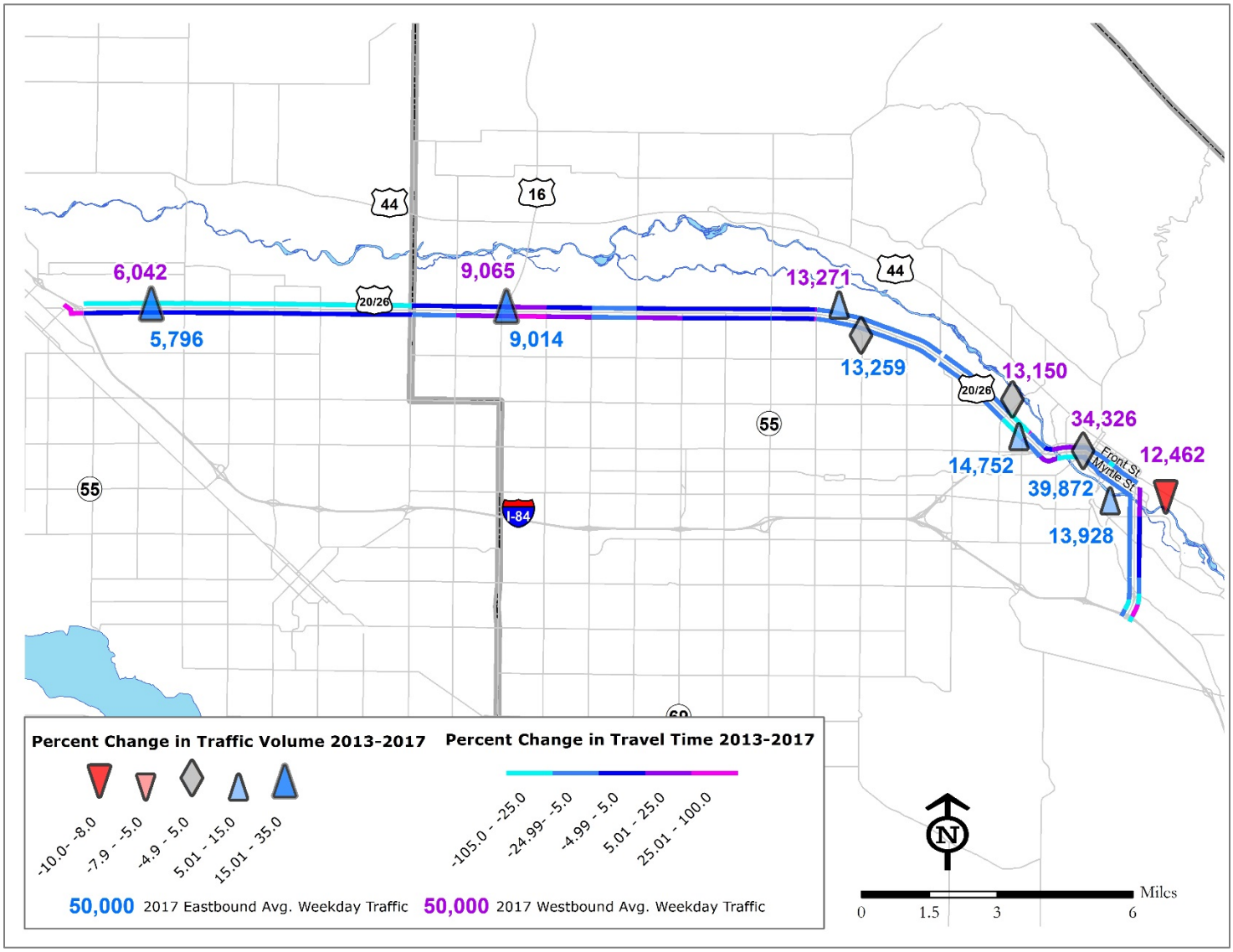


**Figure 19: US 20/26 Change in Peak Hour Travel Time and Average Weekday Monthly Volumes, 2013-2017**

## 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.

## 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 afternoon slowdowns. Speeds decrease throughout the day and reach the slowest points at 7 am and 5 pm and have gotten progressively worse from 2013 to 2017 (Figures 20 and 21).

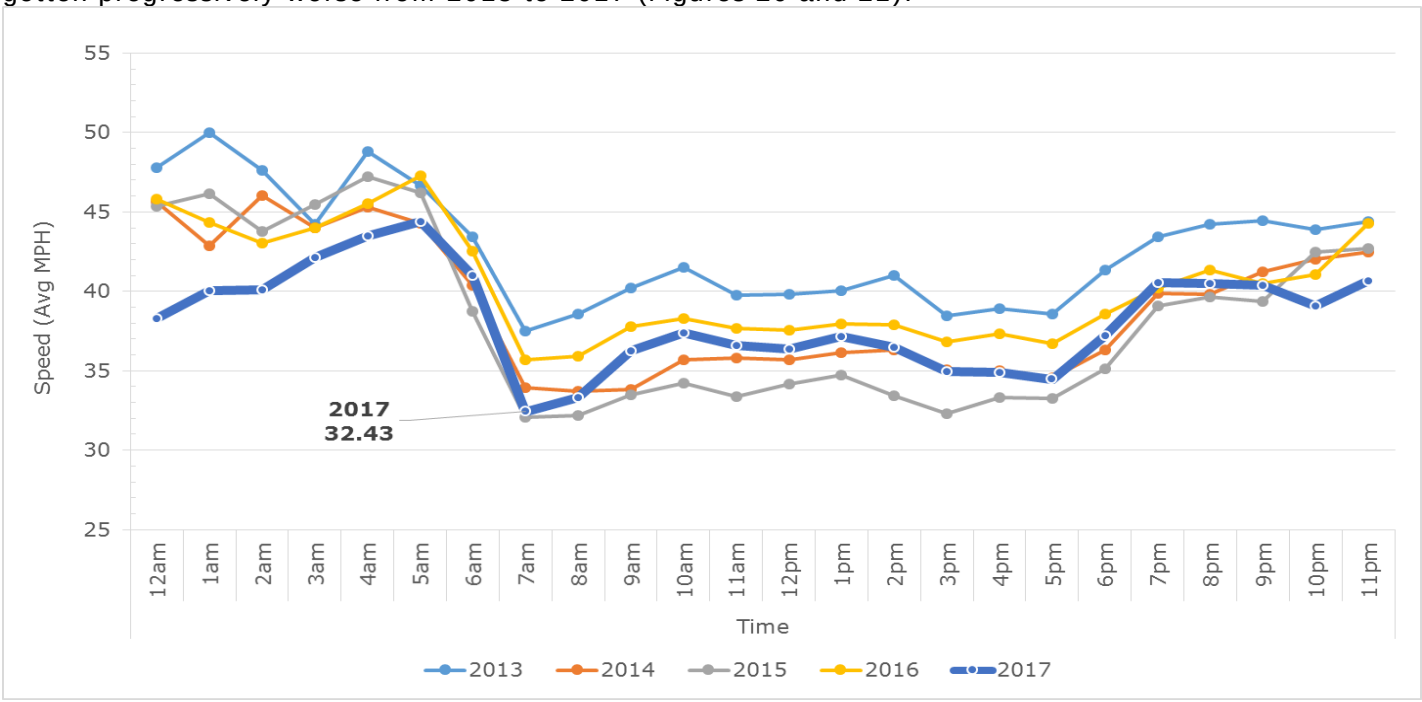


**Figure 20: US 20/26 (I-84 to State Highway 55 [Eagle Road]) Eastbound, Average Weekday Speeds, 2013 – 2017**

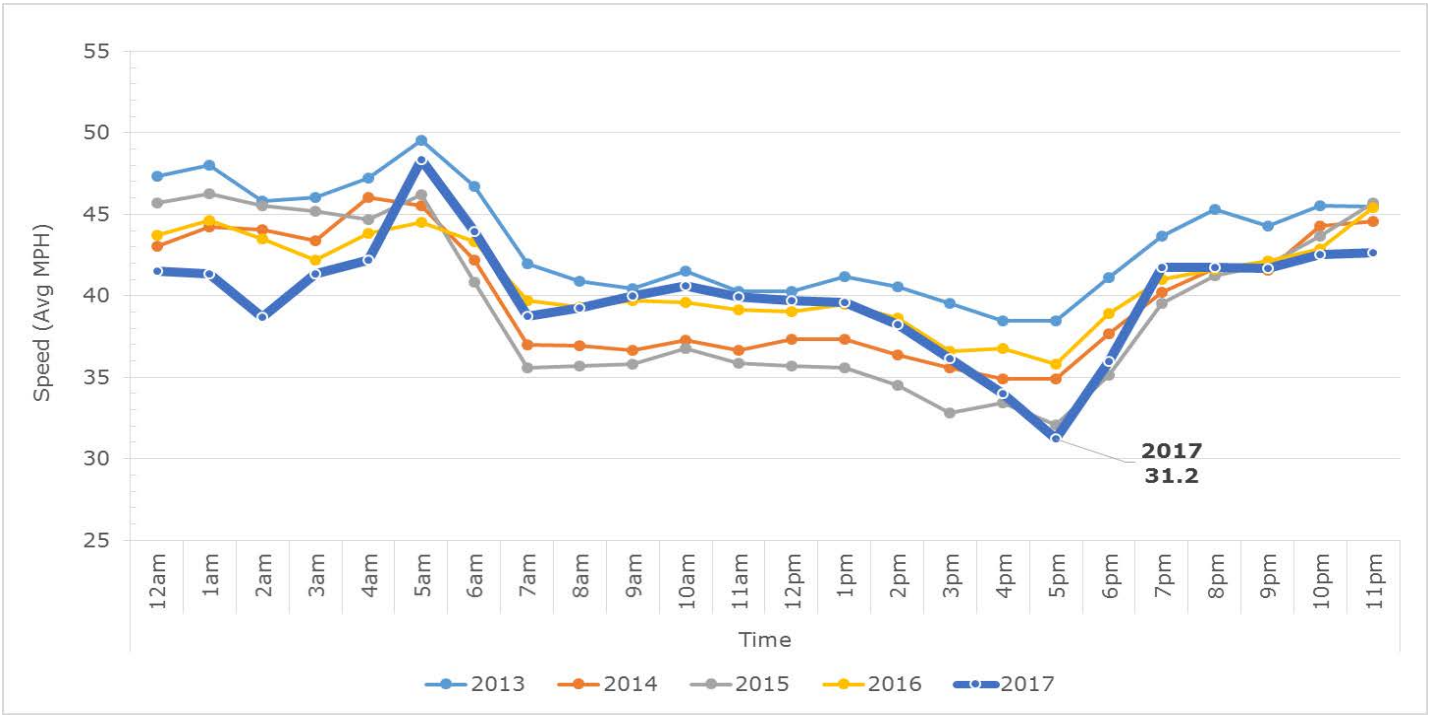


**Figure 21: US 20/26 (State Highway 55 [Eagle Road] to I-84) Westbound, Average Weekday Speeds, 2013 – 2017**

## 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 (Figures 22 and 23). The westbound direction sees the typical evening peak hour slowdown associated with an increase in commuters on the road. Also, the posted speed limit changes from 50 mph to 35 mph near Glenwood Street, which contributes to the overall average speed hovering near 30 mph.

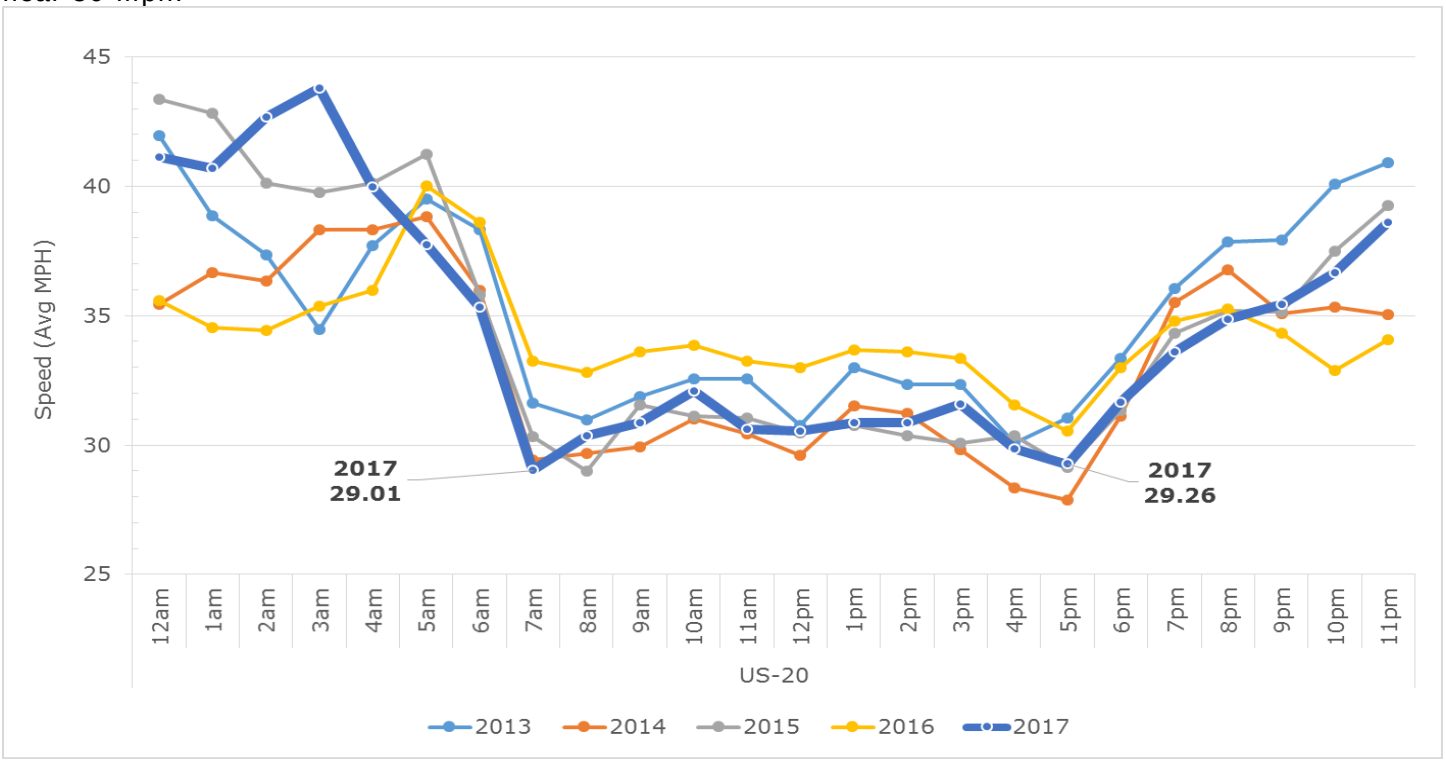


**Figure 22: US 20/26 (State Highway 55 [Eagle Road] to Glenwood Street) Eastbound, Average Weekday Speeds, 2013 - 2017**

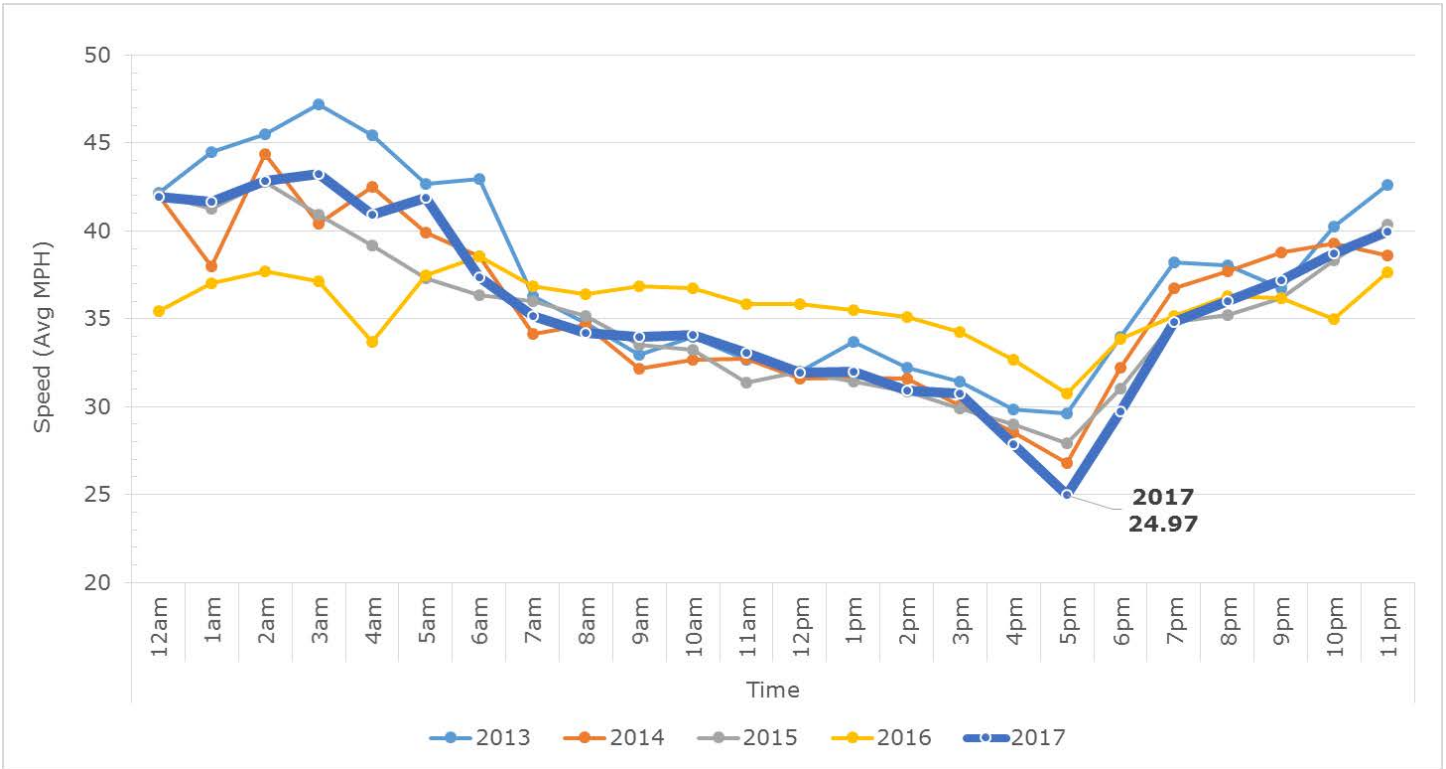


**Figure 23: US 20/26 (Glenwood Street to State Highway 55 [Eagle Road]) Westbound, Average Weekday Speeds, 2013 - 2017**

## 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 24). The westbound direction experiences a more dramatic slowdown during the 5 pm hour (Figure 25). This is likely due to commuters traveling from work to home on Chinden Boulevard at this time.

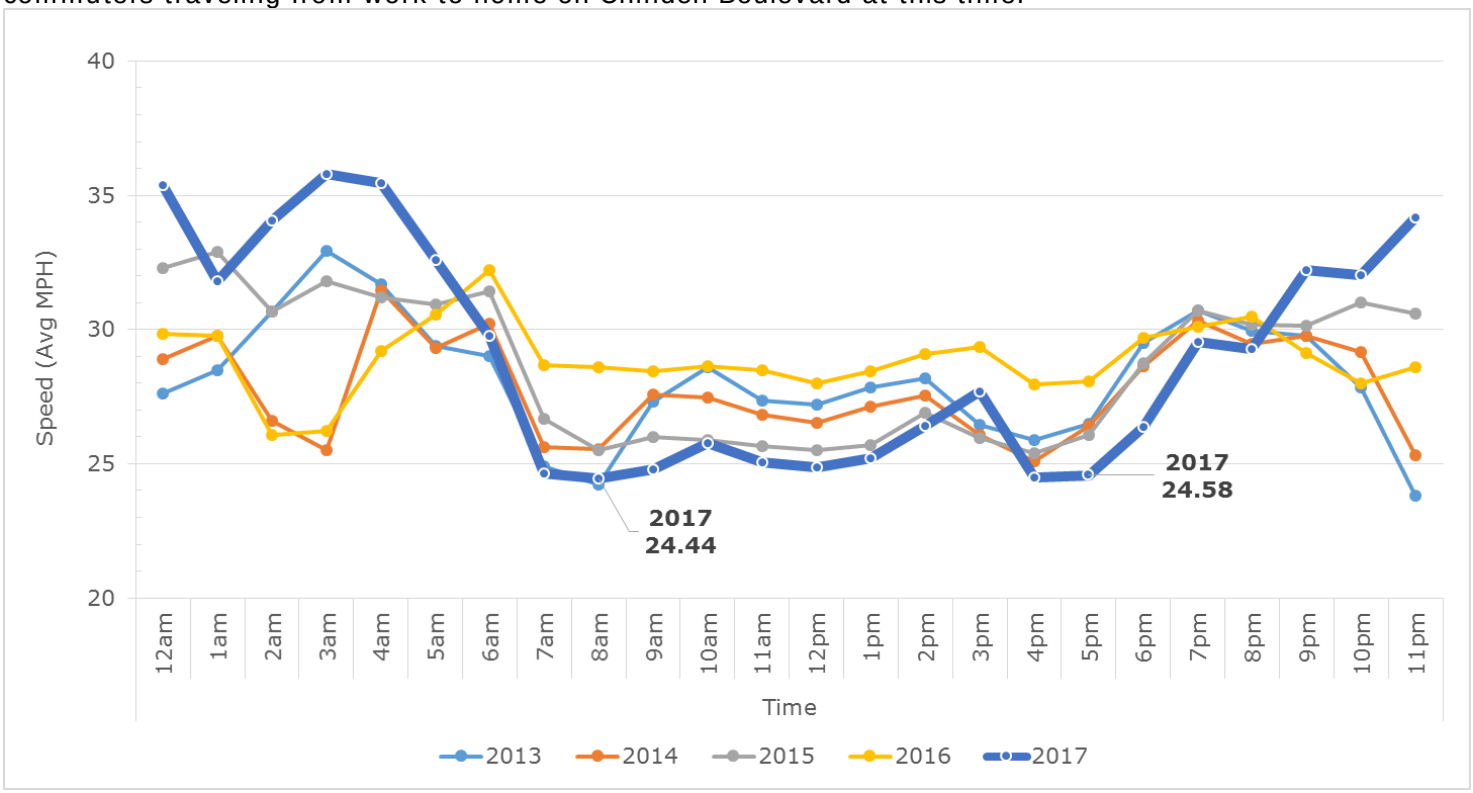


**Figure 24: US 20/26 (Glenwood Street to I-184) Eastbound, Average Weekday Speeds, 2013 - 2017**

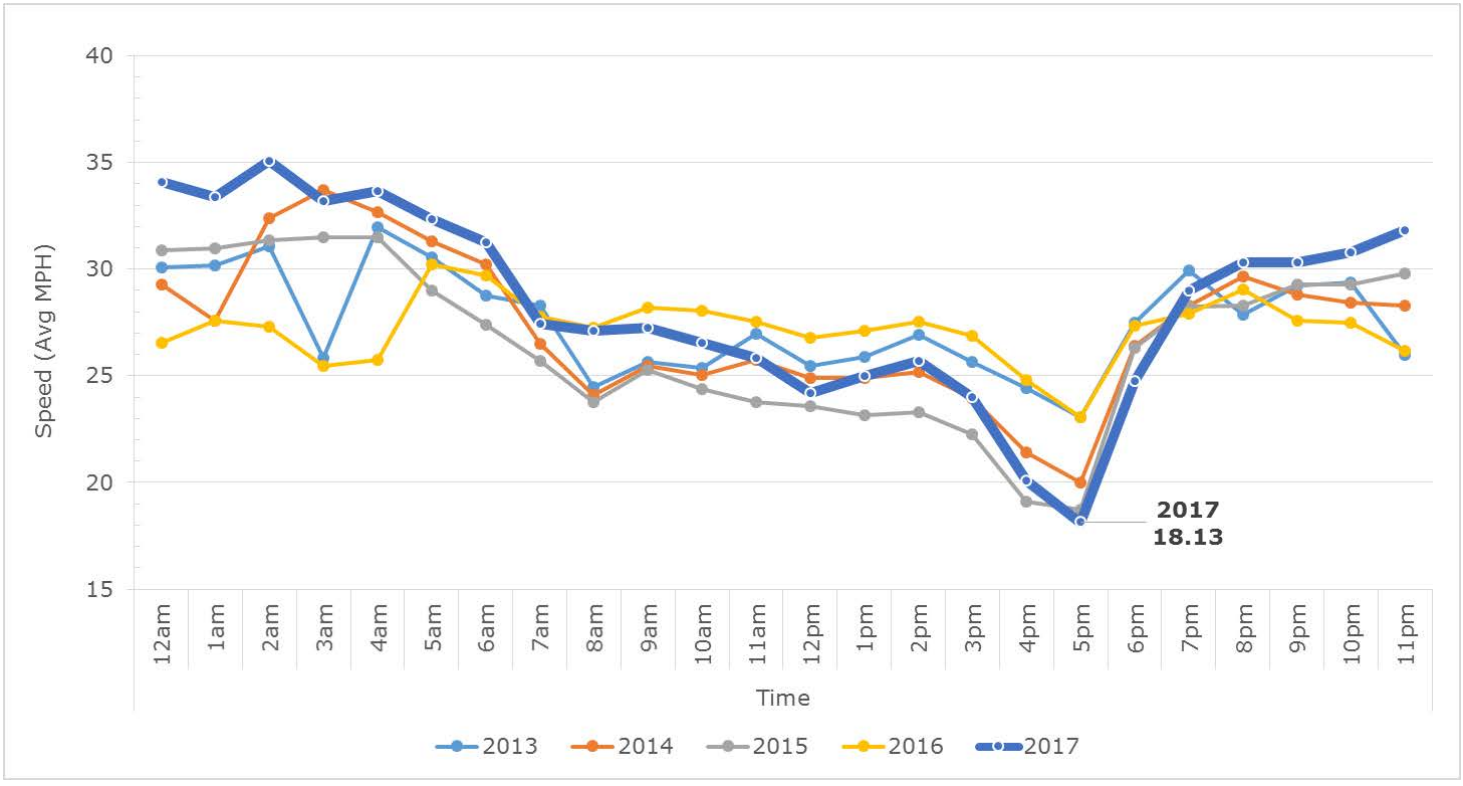


**Figure 25: US 20/26 (I-184 to Glenwood Street) Westbound, Average Weekday Speeds, 2013 - 2017**

## 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 an overall speed decrease throughout the day in the eastbound direction and a gradual decrease until reaching its slowest speeds at 4 pm in the westbound direction (Figures 26 and 27). 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.

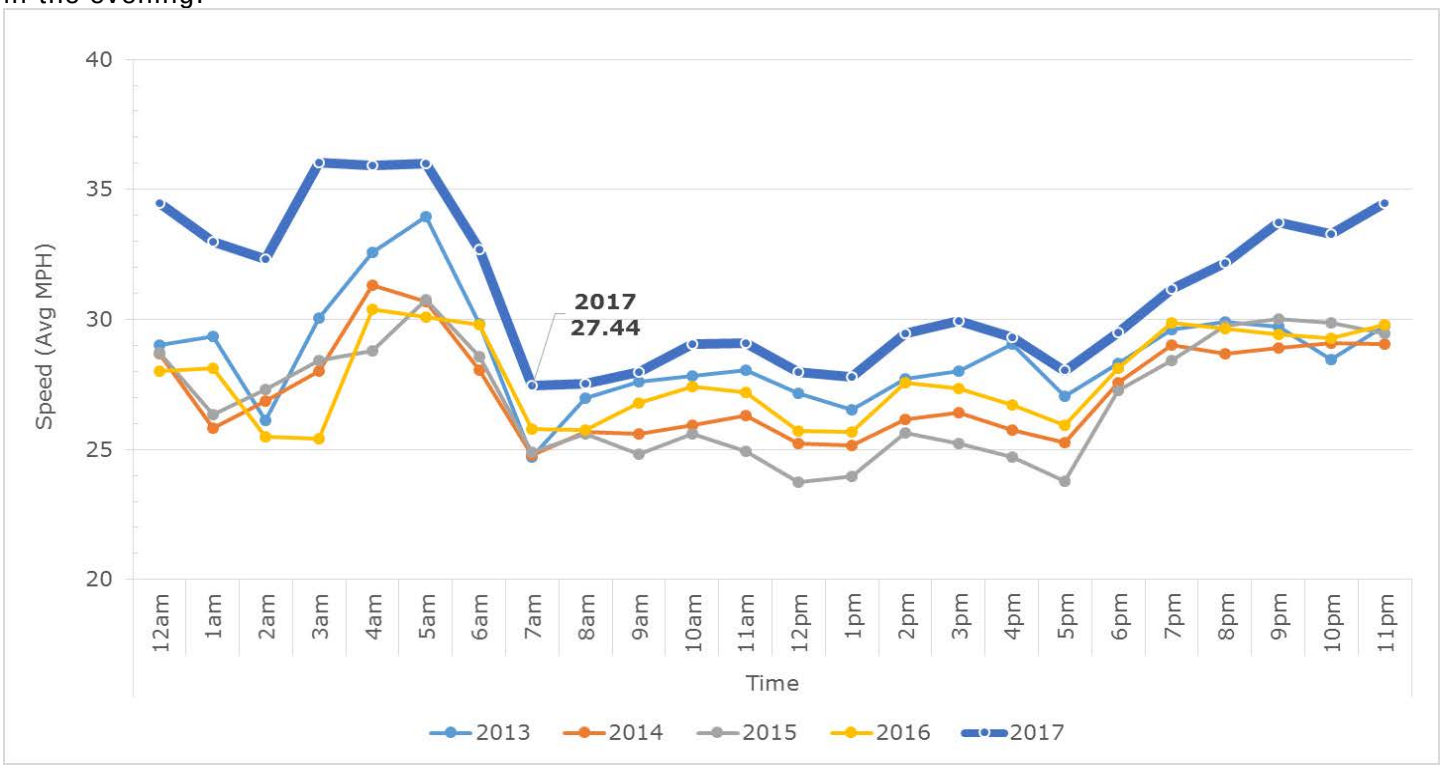


**Figure 26: US 20/26 (I-184 to Broadway Avenue via Myrtle St) Eastbound, Average Weekday Speeds, 2013 - 2017**

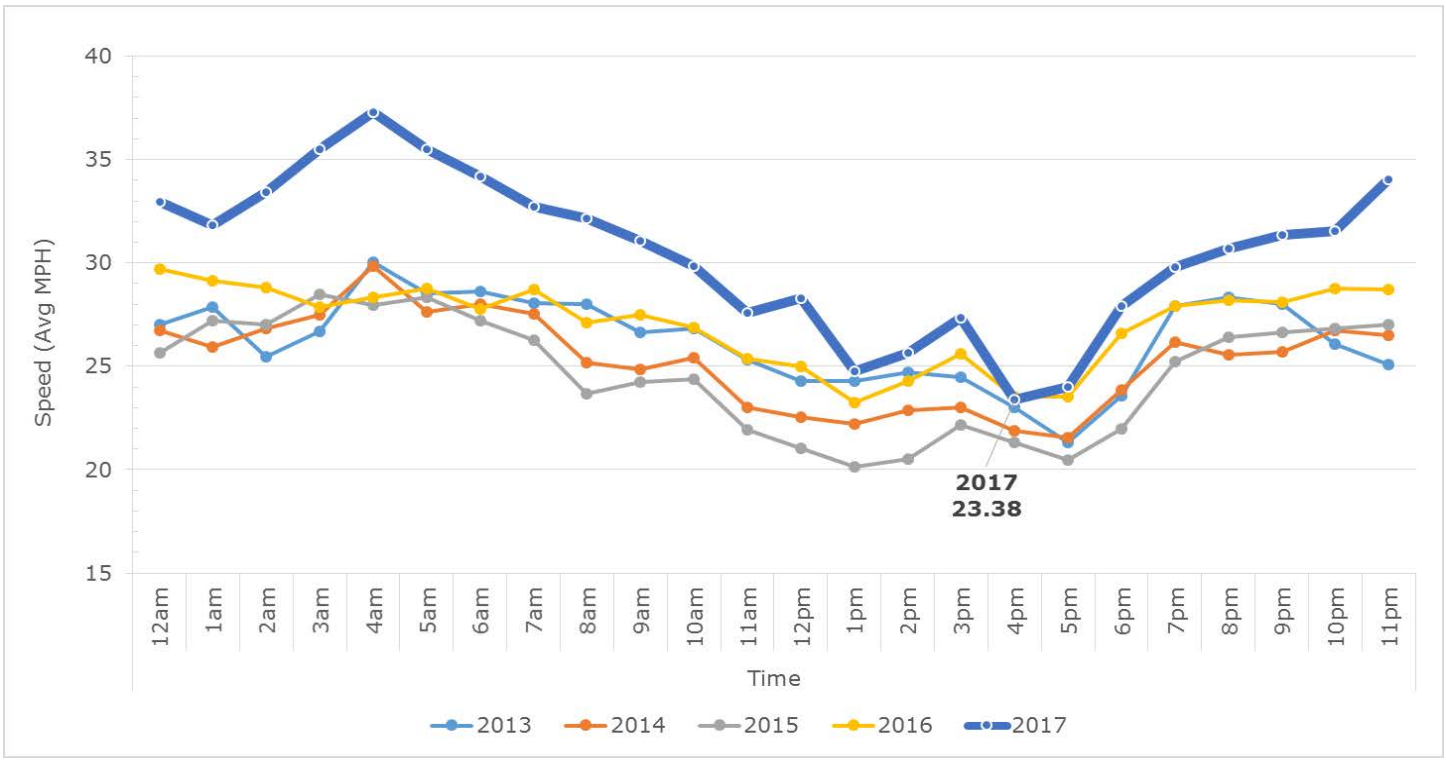


**Figure 27: US 20/26 (Broadway Avenue to I-184 via Front Street) Westbound, Average Weekday Speeds, 2013 - 2017**

## 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 28 and 29). There are minor slowdowns along the roadway during peak travel hours which is 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.

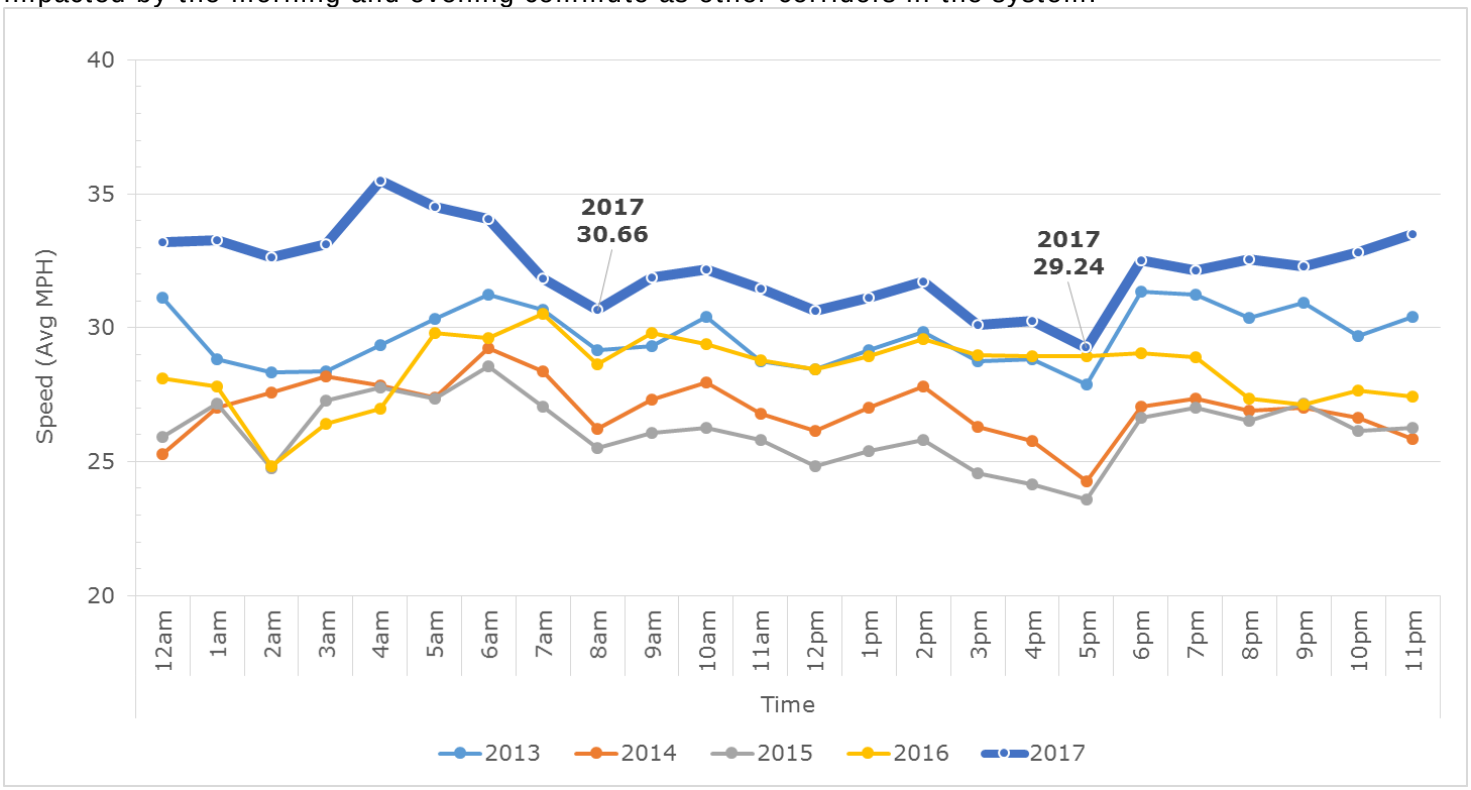


**Figure 28: US 20/26 (Myrtle Street to I-84) Southbound, Average Weekday Speeds, 2013 - 2017**

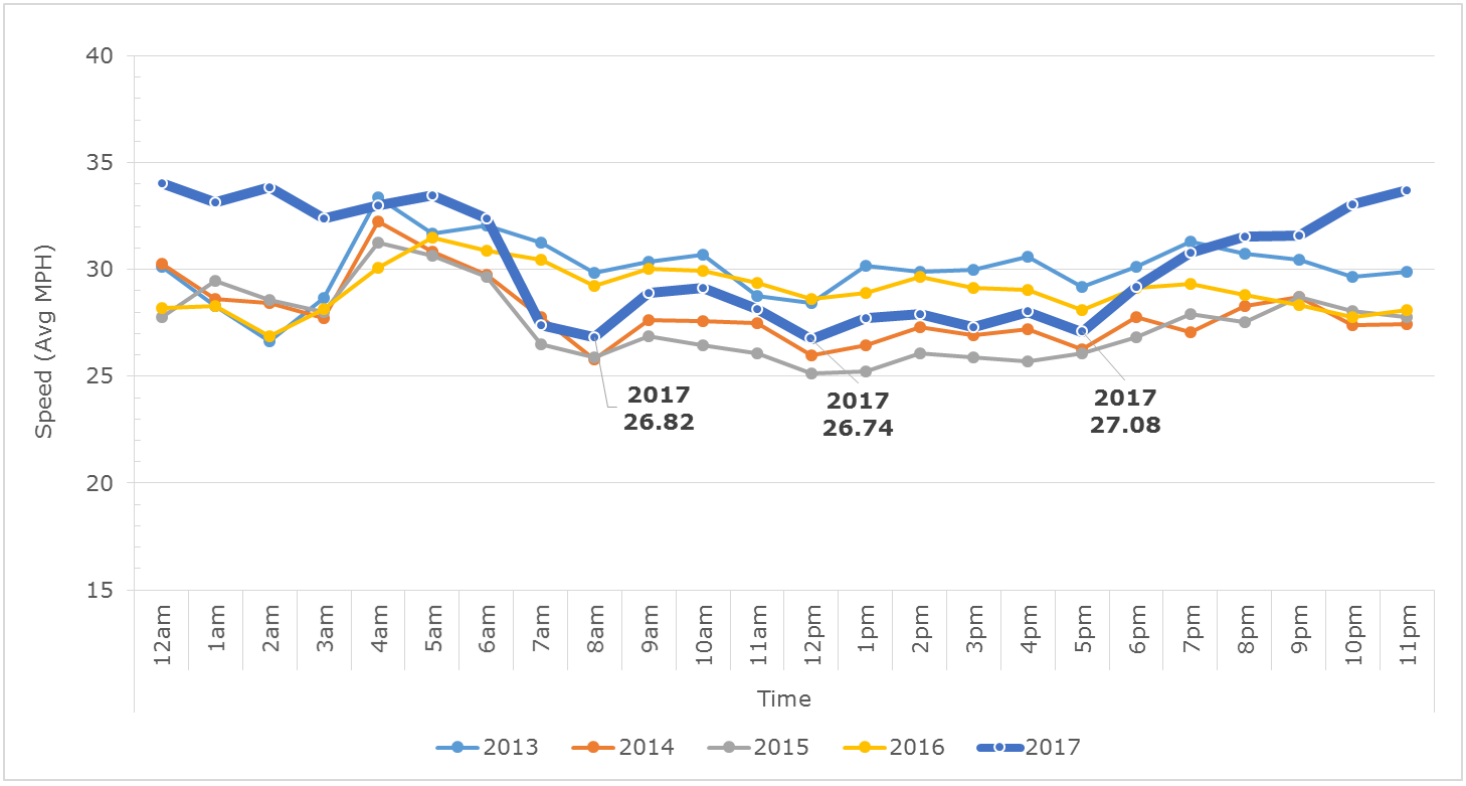


**Figure 29: US 20/26 (I-84 to Front Street) Northbound, Average Weekday Speeds, 2013 - 2017**

## 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 30). COMPASS has identified a mix of congestion mitigation stratgies to apply on this complicated corridor. Programmed and planned projects are highlighted in Table 9.

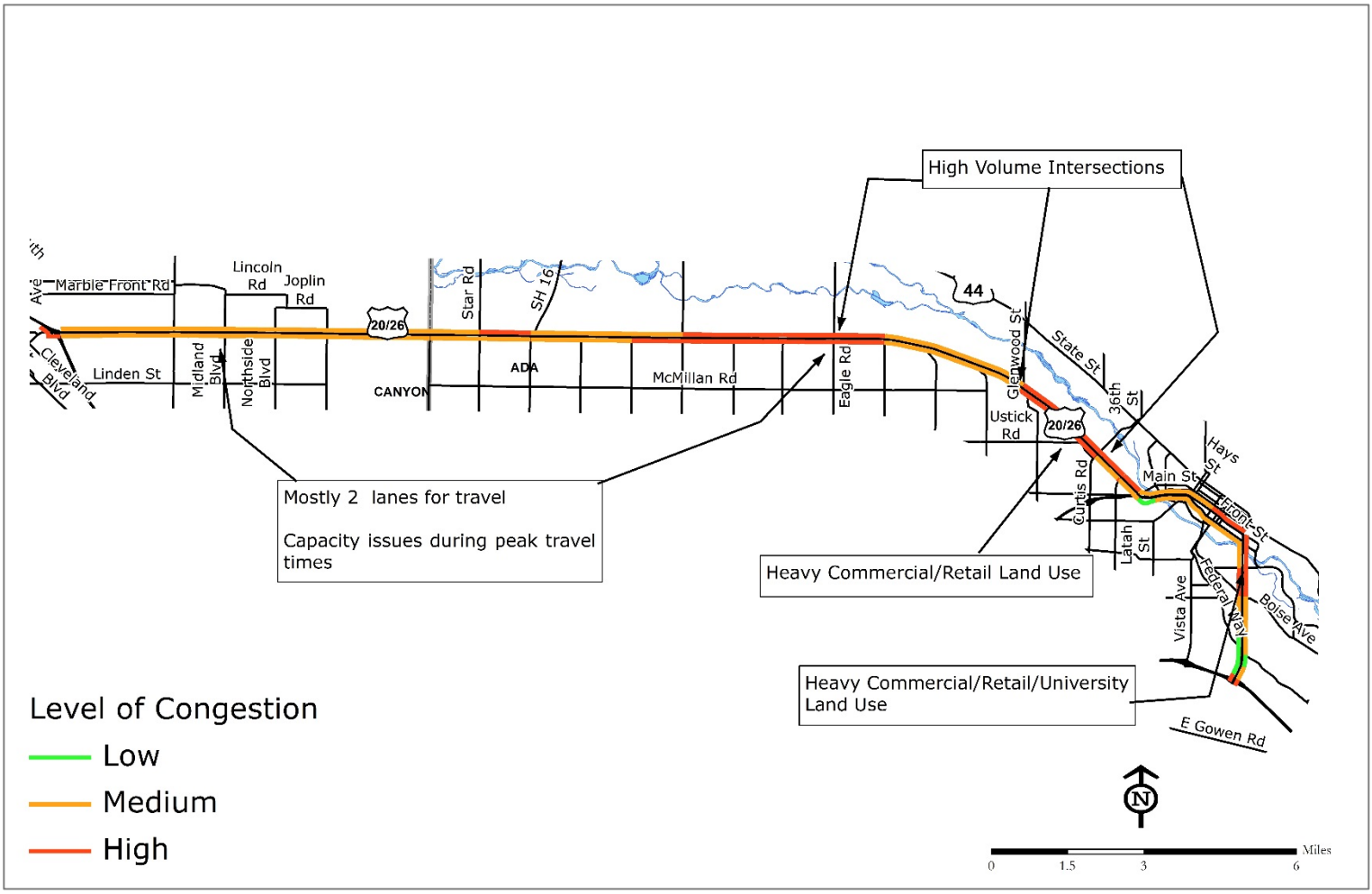


**Figure 30: US 20/26 Levels of Peak Hour Congestion, 2017**

**Table 9: US 20/26 Congestion Mitigation Projects**

| Strategy | Programmed Projects (FY2018-2022) | Planned Funded Projects (FY2023-2040) | Planned Unfunded Projects |
|---|---|---|---|
| Travel Demand Management | ✓ ACHD Commuteride | | |
| Traffic Operations Improvements/Intelligent Transportation Systems (ITS) | ✓ Intersection improvements in Ada and Canyon Counties | ✓ Intersection improvements in Ada and Canyon Counties | |
| Public Transportation Improvements | | | ✓ Planned new and extended services |
| Road Capacity | ✓ Widening from 2 to 4 lanes from Star Road to Eagle Road | ✓ Widening to 6 lanes from I-84 to Middleton Road<br>✓ Widening from 4 to 6 lanes Linder Road to Eagle Road<br>✓ Widening from 2 lanes 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) Change in Traffic Volume and Travel Time, 2013 – 2017

State Highway 55 (Eagle Road) has seen an increases in both traffic volumes and travel times since 2013. The two ends of the corridor have seen the largest increases in travel times – near the Eagle Road interchange on the south and at the intersection with State Highway 44 on the north. The segment between Fairview Avenue and Ustick Road has also experienced somewhat significant increases in travel time (Figure 31).

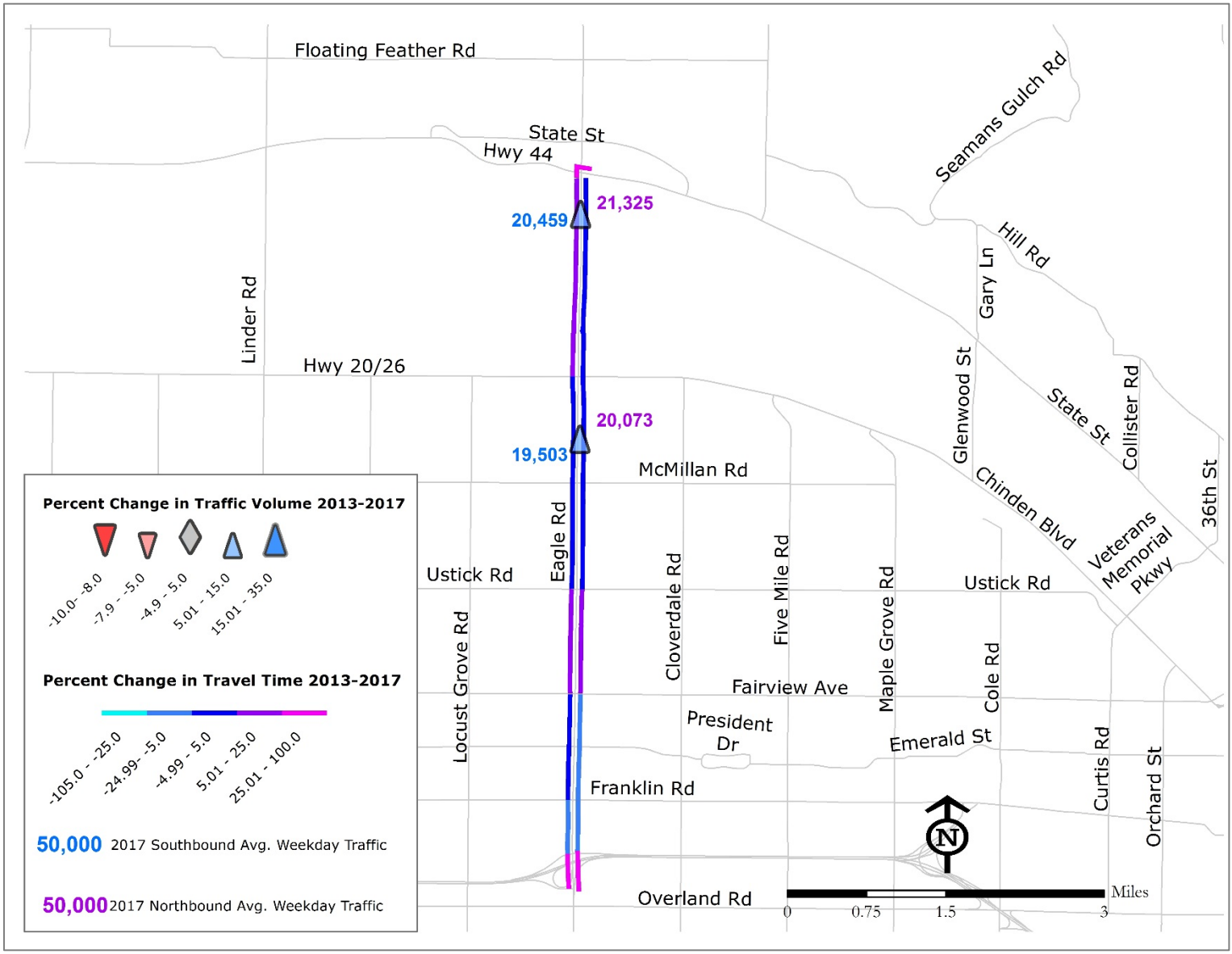


**Figure 31: State Highway 55 (Eagle Road) Change in Peak Hour Travel Time and Average Weekday Volumes, 2013-2017**

## State Highway 55 (Eagle Road) Speed Profiles

State Highway 55 (Eagle Road) experiences a steady decrease in speeds throughout the workday (Figures 32 and 33). The slowest speeds are during the 5 pm hour for both directions; likely due to typical commuting patterns. The speed profile has remained fairly consistent throughout the five-year period despite significant development activity along the corridor.

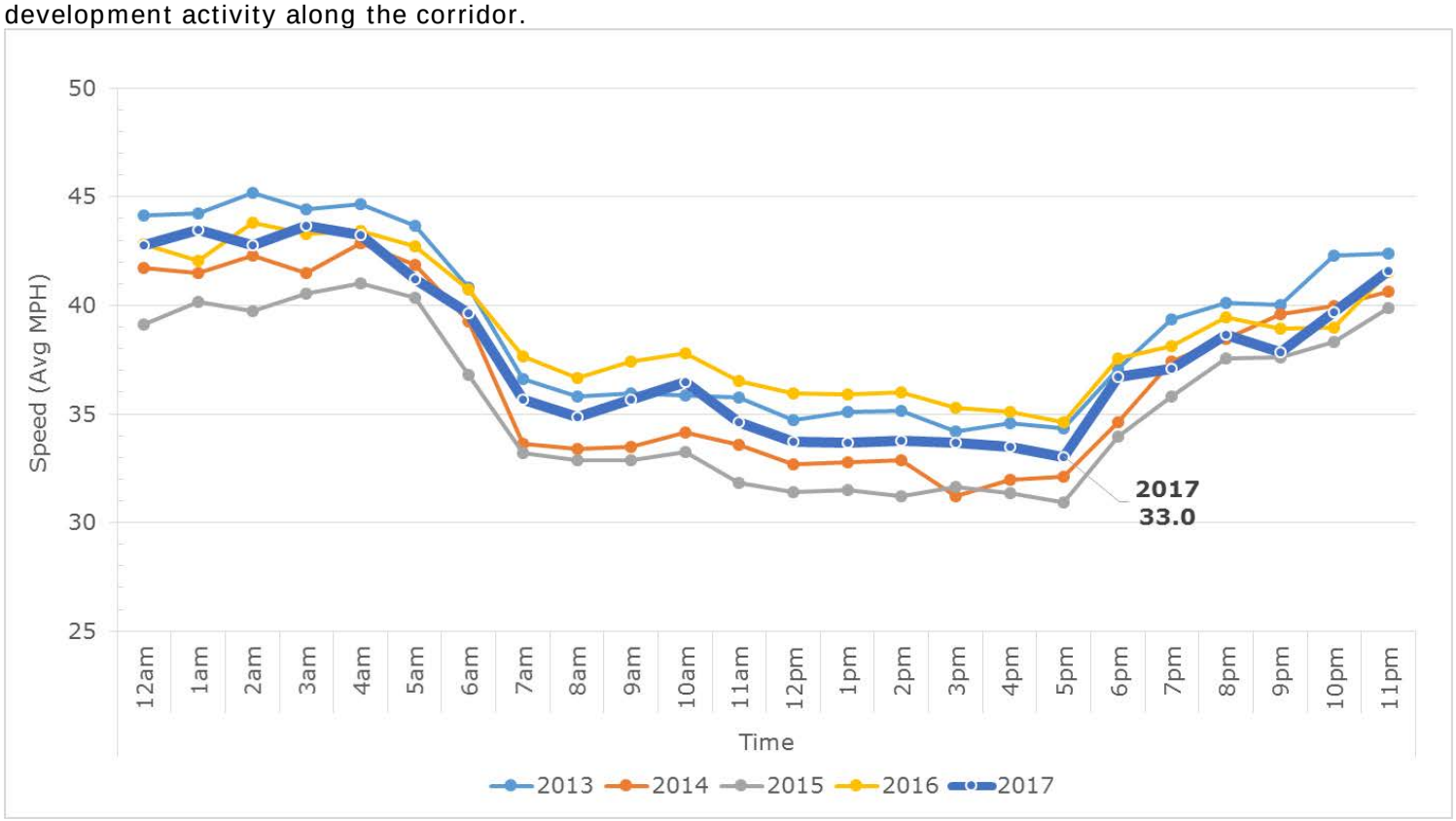


**Figure 32: State Highway 55 (Eagle Road) Northbound, Average Weekday Speeds, 2013 - 2017**

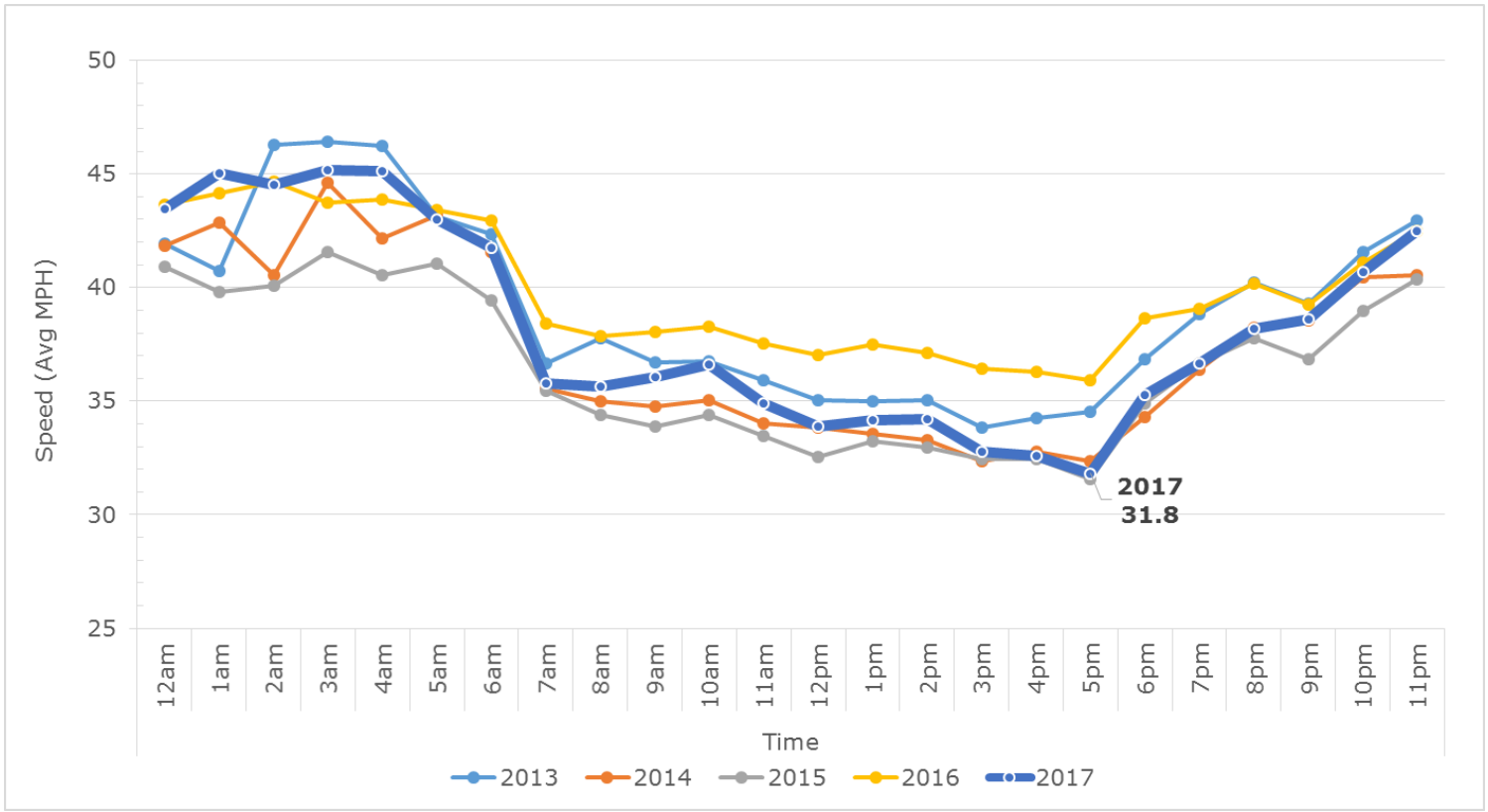


**Figure 33: State Highway 55 (Eagle Road) Southbound, Average Weekday Speeds, 2013 - 2017**

## 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 34). Programmed and planned projects are highlighted in Table 10.

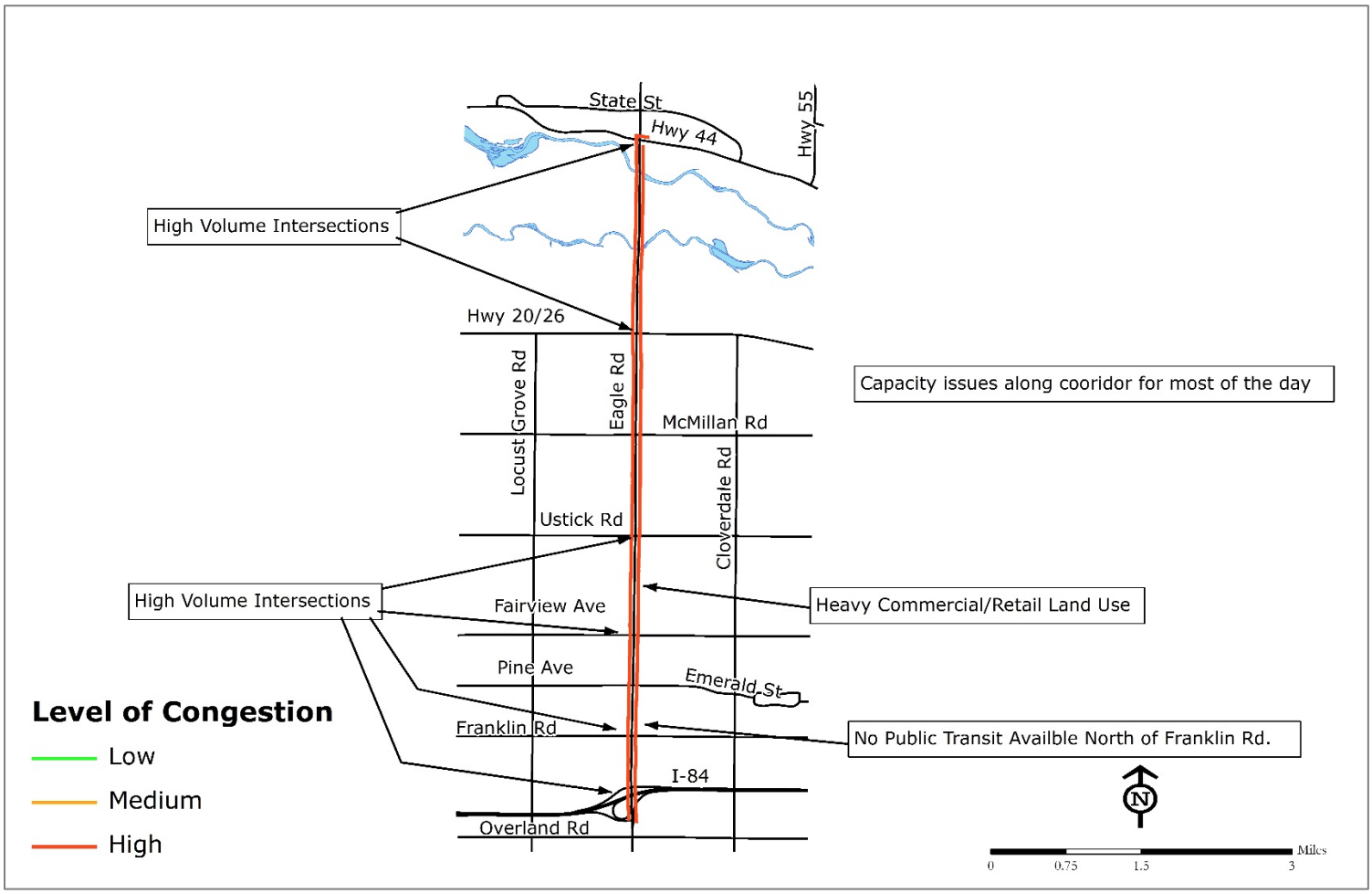


**Figure 34: State Highway 55 (Eagle Road) Levels of Peak Hour Congestion, 2017**

**Table 10: State Highway 55 (Eagle Road) Congestion Mitigation Projects**

| Strategy | Programmed Projects (FY2018-2022) | Planned Funded Projects (FY2023-2040) | Planned Unfunded Projects |
|---|---|---|---|
| Travel Demand Management | ✓ Bike and pedestrian bridge over north channel of the Boise River<br>✓ ACHD Commuteride<br>✓ Pedestrian improvements from Franklin Road to Pine Avenue | | |
| Traffic Operations Improvements/Intelligent Transportation Systems (ITS) | ✓ Signal timing device upgrade | | |
| Public Transportation Improvements | | | ✓ Planned new and extended services |
| Road 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, 2014 - 2017

State Highway 55 (Karcher Road) has seen an uptick in traffic volumes in the eastbound direction. Despite the increased traffic volumes, travel times have decreased on some sections of road heading eastbound. These reductions are likely due to the widening project completed east of Middleton Road in 2015 and signal optimization in 2016. On the other hand, travel times have increased in other sections of the road including the westbound direction between 10th Avenue and Middleton Road, despite a slight decrease in traffic volume (Figure 35). Traffic signals have been installed at four intersections which provide some safety benefits but contribute to increases in travel time.

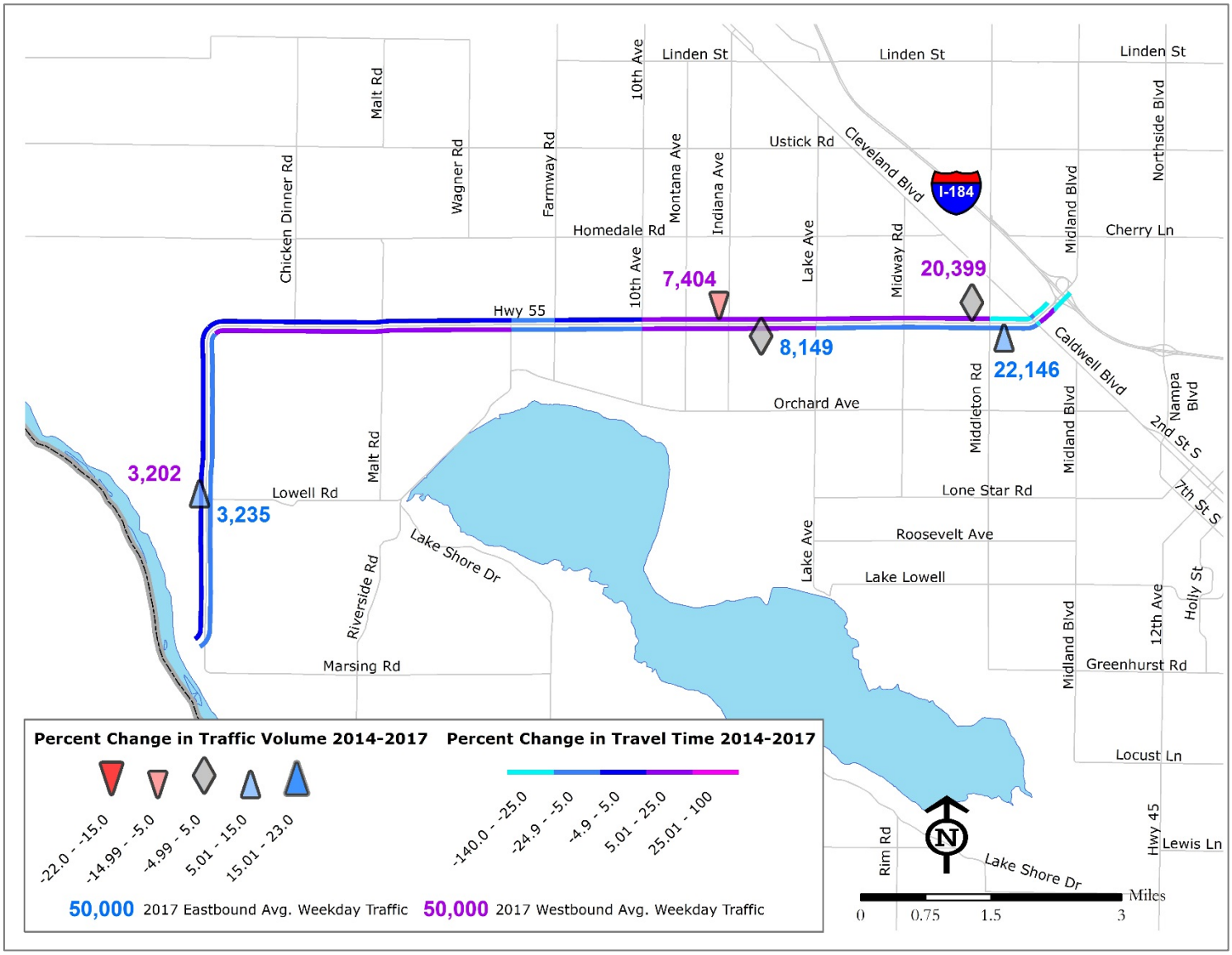


**Figure 35: State Highway 55 (Karcher Rd) Change in Peak Hour Travel Time and Average Weekday Monthly Volumes, 2014-2017**

*Travel time data were not available for 2013.

## State Highway 55 (Karcher Road) Speed Profiles

The State Highway 55 (Karcher Road) speed charts show the system experiencing normal morning and evening peak hour travel delays. There is also a noticable drop in average speed throughout the workday hours (Figures 36 and 37). The trend over the five year period is fairly consistent.

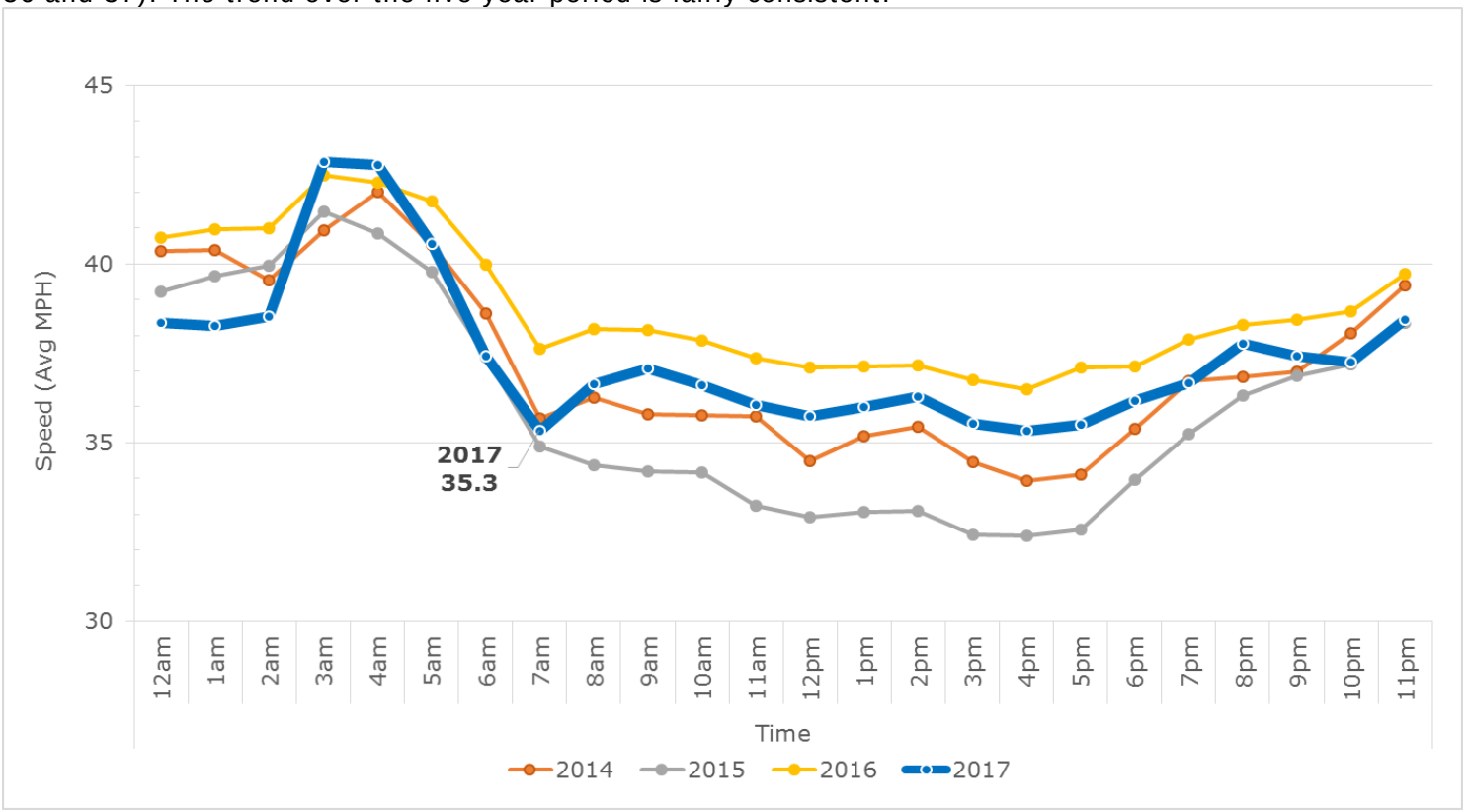


**Figure 36: State Highway 55 (Karcher Road) Eastbound, Average Weekday Speeds, 2014 - 2017**

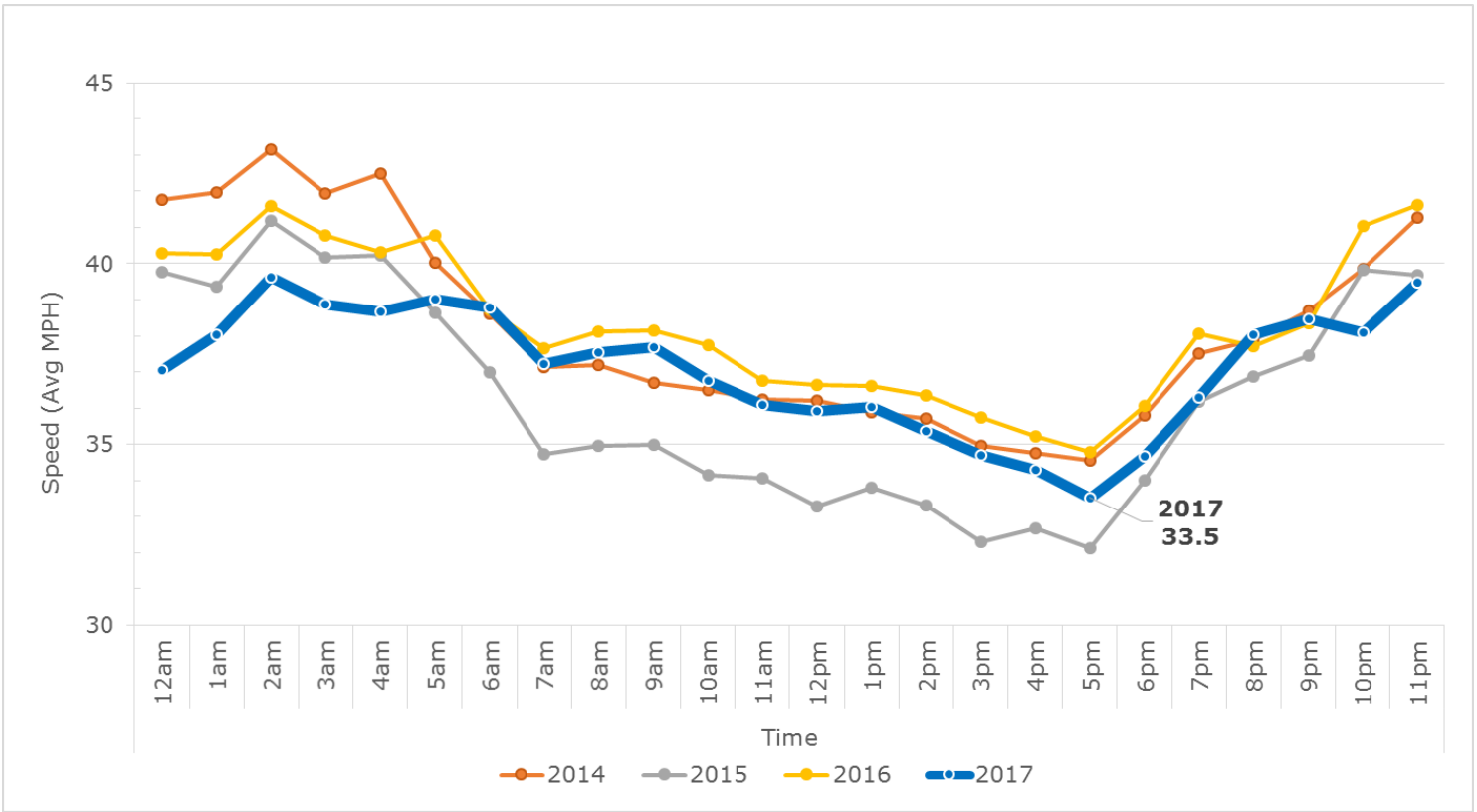


**Figure 37: : State Highway 55 (Karcher Road) Westbound, Average Weekday Speeds, 2014 - 2017**

## 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 Nampa (Figure 38). 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 Caldwell Boulevard and the I-84 interchange. Programmed and planned projects are highlighted in Table 11.

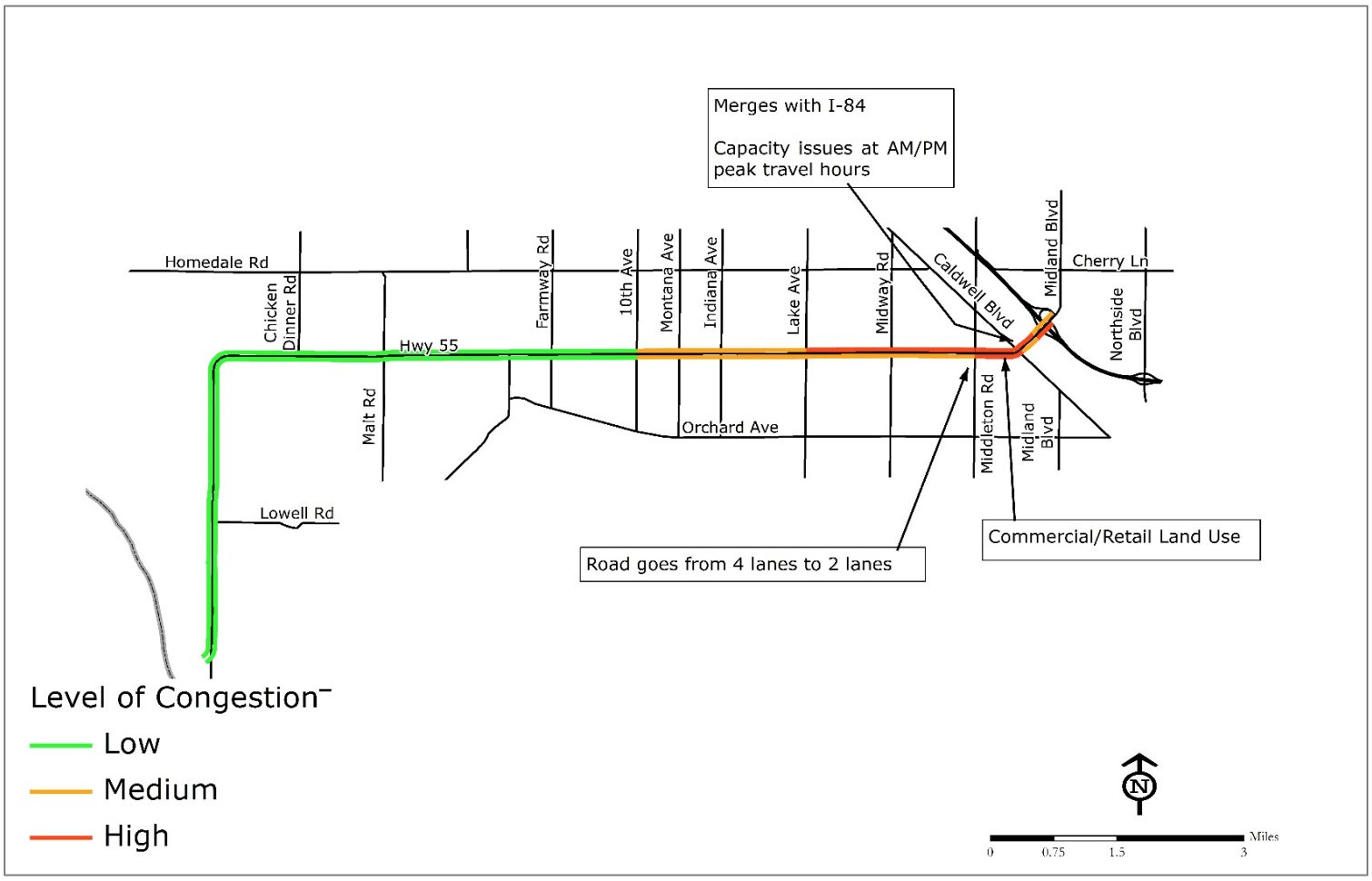


**Figure 38: State Highway 55 (Karcher Road) Levels of Peak Hour Congestion, 2017**

**Table 11: State Highway 55 (Karcher Road) Congestion Mitigation Projects**

| Strategy | Programmed Projects (FY2018-2022) | Planned Funded Projects (FY2023-2040) | Planned Unfunded Projects |
|---|---|---|---|
| Travel Demand Management | | | |
| Traffic Operations Improvements/Intelligent Transportation Systems (ITS) | ✓ Intersection improvements at State Highway 55 and Florida Avenue | | |
| Public Transportation Improvements | | | ✓ Planned services |
| Road Capacity | | ✓ Widen from 2 to 4 lanes from Indiana Avenue to Middleton Road | ✓ Widen from 2 to 4 lanes Pear Lane to Indiana Avenue |