NEVADA GAMING CONTROL BOARD

DISPOSITION
SPECIAL MEETING AGENDA

NEVADA GAMING CONTROL BOARD MEETING
NEVADA HEARING ROOMS BUILDING
7120 AMIGO STREET, ROOM 3
LAS VEGAS, NV 89119

Thursday, June 25, 2026

9:00 a.m.
- Public Comments
- Nonrestricted Item **#01-06-26**
- Public Comments

Members Present:

Mike Dreitzer, Chairman
Hon. George Assad (Ret.), Member
Chandeni K. Sendall, Member

This public comments agenda item is provided in accordance with NRS 241.020(3)(d)(3) which requires an agenda provide for a period devoted to comments by the general public, if any, and discussion of those comments. No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action will be taken. Comments by the public may be limited to three minutes as a reasonable time, place and manner restriction, but may not be limited based upon viewpoint.

PUBLIC COMMENTS AND DISCUSSION:

Comments made regarding the dangers that can be found along the I-15 from California to Las Vegas. Refer to Public Comments Attachment 1. Member Assad made comments recognizing the 250th anniversary of America.

***CORRECTED**

FOR POSSIBLE ACTION:

SP01-06-26 **N26-0662** **Re:** 37284-01
***~~R26-0627~~** 17378-02
R26-0672 37287-01 (M)
37288-01 (D)
STATELINE BBRC 31700 LVB, LLC, dba
BUFFALO BILL'S RESORT & CASINO
31700 LAS VEGAS BLVD S
PRIMM, NV 89019

and

37285-01
13810-02
37289-01 (M)
37290-01 (D)
STATELINE PVR 31900 LVB, LLC, dba
PRIMM VALLEY RESORT & CASINO
31900 LAS VEGAS BLVD S
PRIMM, NV 89019

and

37286-01
03373-03
37291-01 (M)
37292-01 (D)
STATELINE WP 115 PRIMM, LLC, dba
WHISKEY PETE'S HOTEL & CASINO
100 W PRIMM BLVD
PRIMM, NV 89019

APPLICATIONS FOR A NONRESTRICTED GAMING LICENSE

APPLICATIONS FOR LICENSURE AS A MANUFACTURER AND DISTRIBUTOR

APPLICATIONS TO RECEIVE A PERCENTAGE OF GAMING REVENUE FROM THE RACE BOOK AND SPORTS POOL, INCLUDING OFF-TRACK PARI-MUTUEL RACE AND SPORTS WAGERING, OPERATED BY BRANDYWINE BOOKMAKING, LLC, AT PRIMM VALLEY RESORT & CASINO, DB AT PRIMM VALLEY RESORT & CASINO – RACE BOOK AND SPORTS POOL; BUFFALO BILL'S RESORT & CASINO, DB AT BUFFALO BILL'S RESORT & CASINO – RACE BOOK AND SPORTS POOL; AND WHISKEY PETE'S HOTEL & CASINO, DB AT WHISKEY PETE'S HOTEL & CASINO – RACE BOOK AND SPORTS POOL

---------- ITEM CONTINUED NEXT PAGE ----------

EJH GAMING TRUST — 33 1/3%
Member

TDH GAMING TRUST — 33 1/3%
Member

THE TIMOTHY P. HERBST GAMING TRUST — 33 1/3%
Member

TIMOTHY P. HERBST
Manager

APPLICATIONS FOR LICENSURE AS A MEMBER OR MANAGER

Re: 31072-01
09074-02
JETT GAMING LLC dba
TERRIBLE'S GAMING, db at
PRIMM CENTER AT THE PRIMM VALLEY RESORT
31900 LAS VEGAS BLVD S
PRIMM, NV 89019

APPLICATION FOR A RESTRICTED GAMING LICENSE

GCB RECOMMENDS: APPROVAL, CONDITIONED:

1) **APPROVALS LIMITED FOR STATELINE BBRC 31700 LVB, LLC, STATELINE PVR 31900 LVB, LLC, STATELINE WP 115 PRIMM, LLC, EJH GAMING TRUST, TDH GAMING TRUST, THE TIMOTHY P. HERBST GAMING TRUST, AND TIMOTHY PAUL HERBST TO EXPIRE AT MIDNIGHT OF THE JUNE 2027 NEVADA GAMING COMMISSION MEETING ON THE DAY THE ITEM IS HEARD.**

2) **PRIOR TO COMMENCEMENT OF GAMING OPERATIONS, A FULLY EXECUTED COPY OF THE MASTER LEASE AGREEMENT BETWEEN PRIMM SOUTH REAL ESTATE COMPANY AND STATELINE OPERATING COMPANY, LLC, OR AN AFFILIATE, MUST BE RECEIVED AND ADMINISTRATIVELY APPROVED BY THE NEVADA GAMING CONTROL BOARD CHAIR OR THE CHAIR'S DESIGNEE.**

3) **A KEY EMPLOYEE APPLICATION MUST BE FILED WITHIN 60 DAYS OF ISSUANCE OF THE STATE GAMING LICENSE, AND THEREAFTER BE REFILED WITHIN 60 DAYS OF ANY CHANGE IN THE PERSON OCCUPYING THAT POSITION.**

4) **THE SURVEILLANCE SYSTEM AND/OR MIRROR(S) MUST BE INSPECTED AND APPROVED BY THE NEVADA GAMING CONTROL BOARD (ENFORCEMENT DIVISION) WITHIN 60 DAYS OF ISSUANCE OF THE STATE GAMING LICENSE AND THEREAFTER BE MAINTAINED AT OR ABOVE THE STANDARD THAT IS APPROVED.**

5) **THE MANUFACTURER'S LICENSE IS LIMITED TO THE MODIFICATION OF MACHINES THAT ARE, OR HAVE BEEN, UTILIZED IN THE OPERATIONS OF THE LICENSED LOCATION OR ITS AFFILIATED COMPANIES AND THAT ANY SUCH MODIFICATIONS SHALL BE LIMITED TO OPERATIONAL CONFIGURATION CHANGES SUCH AS REPLACEMENT OF ONE PRE-APPROVED COMPONENT WITH ANOTHER PRE-APPROVED COMPONENT OR MODIFICATIONS THAT WILL NOT AFFECT THE MANNER OR MODE OF PLAY OF THE DEVICE.**

6) **THE DISTRIBUTOR'S LICENSE IS LIMITED TO THE ACQUISITION OF MACHINES TO BE UTILIZED IN, OR THE DISTRIBUTION OF MACHINES WHICH HAVE BEEN UTILIZED IN, THE OPERATIONS OF THE LICENSED LOCATION OR ITS AFFILIATED COMPANIES.**

NGC DISPOSITION:

This public comments agenda item is provided in accordance with NRS 241.020(3)(d)(3) which requires an agenda provide for a period devoted to comments by the general public, if any, and discussion of those comments. No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action will be taken. Comments by the public may be limited to three minutes as a reasonable time, place and manner restriction, but may not be limited based upon viewpoint.

PUBLIC COMMENTS AND DISCUSSION:

Comments made regarding the dangers that can be found along the I-15 from California to Las Vegas.

June 10, 2026

Dear Mr. Edwin T. Snell:

We strongly support the Rebuild SoCal Partnership Project to enhance Interstate 15 north of Barstow to the Nevada State Line.

An update on the project was provided during the May 6, 2026, Regular Meeting of the San Bernardino County Transportation Authority (SBCTA). For your reference, see the attached SBCTA agenda item 30.

The City of Barstow sincerely appreciates the dedication and advocacy of the Rebuild SoCal Partnership in highlighting the needs of this section of I-15. We believe that improving I-15 north of Barstow will bring valuable benefits to public safety and transportation efficiency for our community and all travelers.

Sincerely,

Rochelle Clayton
City Manager

1ST PUBLIC COMMENT - ATTACHMENT 1
JUNE 25, 2026

Minute Action

AGENDA ITEM: 30

Date: May 6, 2026

Subject:
Interstate 15 Coalition Update

Recommendation:
Receive an update on the Rebuild SoCal Partnership project concept to improve Interstate 15 north of Barstow to the Nevada State Line.

Background:
Interstate 15 (I-15) serves as a key transportation corridor for San Bernardino County (County). This interstate is a crucial connection for the County, providing regional connectivity as well as commercial and freight traffic from the Ports of Los Angeles and Long Beach to the rest of the country.

Over the last two years, a project concept to improve I-15 north of Barstow has become part of the Rebuild SoCal Partnership's (Rebuild SoCal) advocacy effort. Rebuild SoCal is a coalition of contractors and union workers who advocate for the ongoing development and maintenance of essential public infrastructure projects to ensure Southern California's airports, bridges, ports, railways, roads, and water projects are well-designed, safe, and effective. Their initiatives include advocacy for projects, funding, and policies that support infrastructure improvements in Southern California.

The improvement of I-15 being considered by Rebuild SoCal is north of Barstow to the California/Nevada State Line. In February of 2024, Rebuild SoCal commissioned a traffic data analysis and technical report (attached) conducted by Wood Rodgers Engineering (Wood Rodgers). The analysis focused on reviewing existing documents and studies; identifying traffic characteristics; locating recurring bottlenecks; evaluating the effectiveness of the recently implemented part-time shoulder-use pilot project between State Line and the Agricultural Inspection Station; identifying potential strategies to alleviate recurring congestion; and evaluating the potential benefits of the proposed improvements that occur during peak traffic periods (weekends and major holidays).

Rebuild SoCal has commissioned Wood Rodgers to conduct a feasibility study which will begin soon and take approximately 18 months to complete. Once complete, the feasibility study will inform the next steps for the project concept.

San Bernardino County Transportation Authority (SBCTA) staff appreciates the attention Rebuild SoCal has brought to safety and mobility challenges along I-15 north of Barstow and supports efforts to improve safety and emergency response times in this segment of the corridor as a pillar of our mission statement. However, it is important to note that the SBCTA Board of Directors (Board) has also been a strong supporter of the Brightline West project, recognizing its potential to provide a safe, high-capacity alternative to driving between Southern California and Las Vegas, reduce congestion along the I-15 corridor between Rancho Cucamonga and the Nevada State Line, and remove an estimated 3 million vehicle trips annually.

Given the significance of this corridor, it is important to note that this segment of I-15 north of Barstow lies outside the County's urbanized areas, and primary responsibility for major capital improvements rests with the State. The limited availability of local transportation funding;

particularly in the North Desert Subarea, where approximately $36 million in combined Measure I, state, and federal funds remain available for new projects through 2040, increases the need for regional alignment and strategic prioritization of project investments. A collaborative approach will play a pivotal role in the successful advancement of safety projects along the entire stretch of I-15 in San Bernardino County.

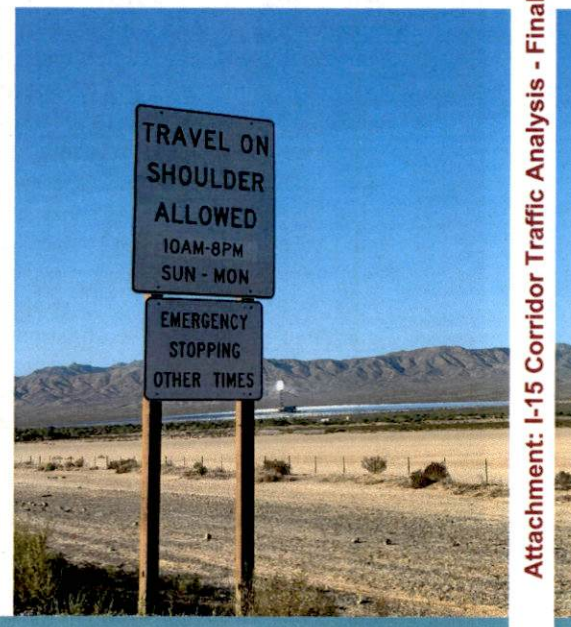
Technical staff will participate in feasibility study meetings and will provide updates to the SBCTA Board as new information about the project concept becomes available.

Financial Impact:
This item has no financial impact on the adopted Budget for Fiscal Year 2025/2026.

Reviewed By:
This item has not received prior policy committee or technical advisory committee review. This item is being brought directly to the Board due to the nature of the proposed project with applicability to multiple jurisdictions.

Responsible Staff:
Otis Greer, Deputy Executive Director

I-15 Traffic Data Analysis Final Technical Report

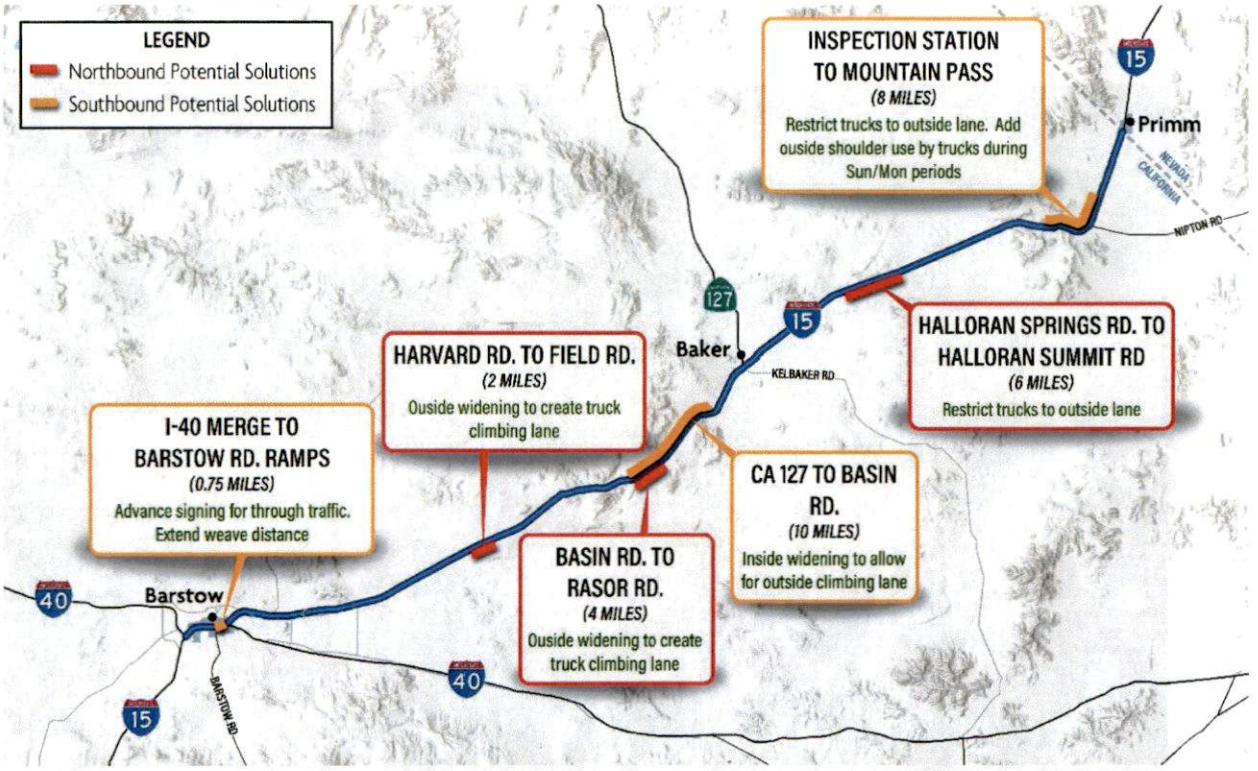


February 29, 2024

Las Vegas

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
8345 W. Sunset Road, Suite 150
Las Vegas, NV 89113
Tel: 702.220.3680

Potential Improvement Alternatives



Typical Peak Period Congestion
Source: Primmnevada.net

INTRODUCTION

Wood Rodgers presents this memorandum summarizing the key findings of the I-15 Traffic Data and Analysis ("analysis"). Weekend and holiday travelers from Southern California flock to Las Vegas for entertainment and share I-15 with extensive freight and commerce. In fact, federal forecasts project I-15 from California to/through Nevada will total nearly $700 billion by 2050 (Freight Analysis Framework v5). This activity results in enormous economic benefits for both states but often at the cost of recurring congestion and delay on I-15 during peak periods. Efforts spanning many years have been implemented to address these challenges. These and other ongoing efforts are important and must continue to improve mobility, reliability, and the flow of people and goods. However, there is a desire for more immediate action to address these challenges, providing relief for travelers and support economic growth.

The analysis focused on review of existing documents and studies, identifying traffic characteristics, locating recurring bottlenecks, evaluating the effectiveness of the part-time shoulder use pilot project recently implemented between state Line and the Agricultural Inspection Station, identifying potential strategies to alleviate recurring congestion and evaluation of potential benefits of the proposed improvements. The analysis limits are from the Nevada/California state line to Barstow, California, a distance of approximately 113 miles (**Figure 1**).

Figure 1: Analysis Limits

METHODOLOGIES

Previous Plans and Studies Review

A literature review of relevant existing plans and studies was conducted as part of this analysis. Key documents reviewed are listed below:

- Decision Support Framework and Parameters for Dynamic Part-Time Shoulder Use, FHWA, 2019
- I-15 Mobility Alliance, https://i15alliance.org/
- I-15 Corridor System Master Plan, I-15 Mobility Alliance, 2012 (updated 2017)
- Brightline West High-Speed Rail National Environmental Policy Act (NEPA) Documentation

Speed for 1-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for July 09, 2023 through August 20,2023 (Every Sunday)

Figure 5a: I-15 SB Speeds July/August 2023

Speed for 1-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for July 10, 2022 through August 20,2022 (Every Sunday)

Figure 5b: I-15 SB Speeds July/August 2022

Speed for 1-15 Northbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data Averaged by 1 hour for July 07, 2023 through August 25,2023 (Every Friday)

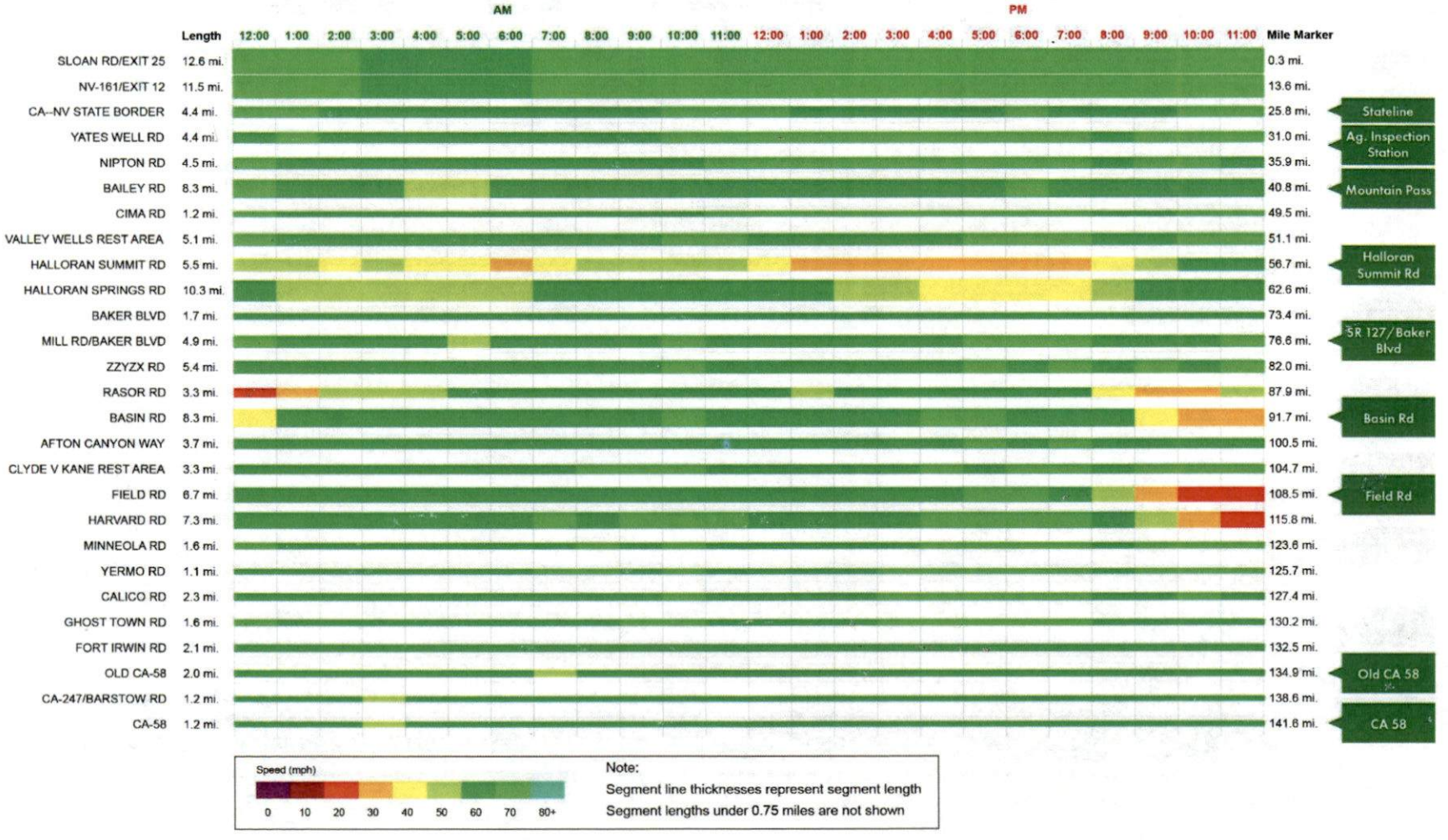


Figure 6: Summer 2023 I-15 NB Speed on Friday

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for September 04, 2023

Figure 7a: I-15 SB Speed on Labor Day Weekend

Speed for I-15 Northbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for September 01, 2023

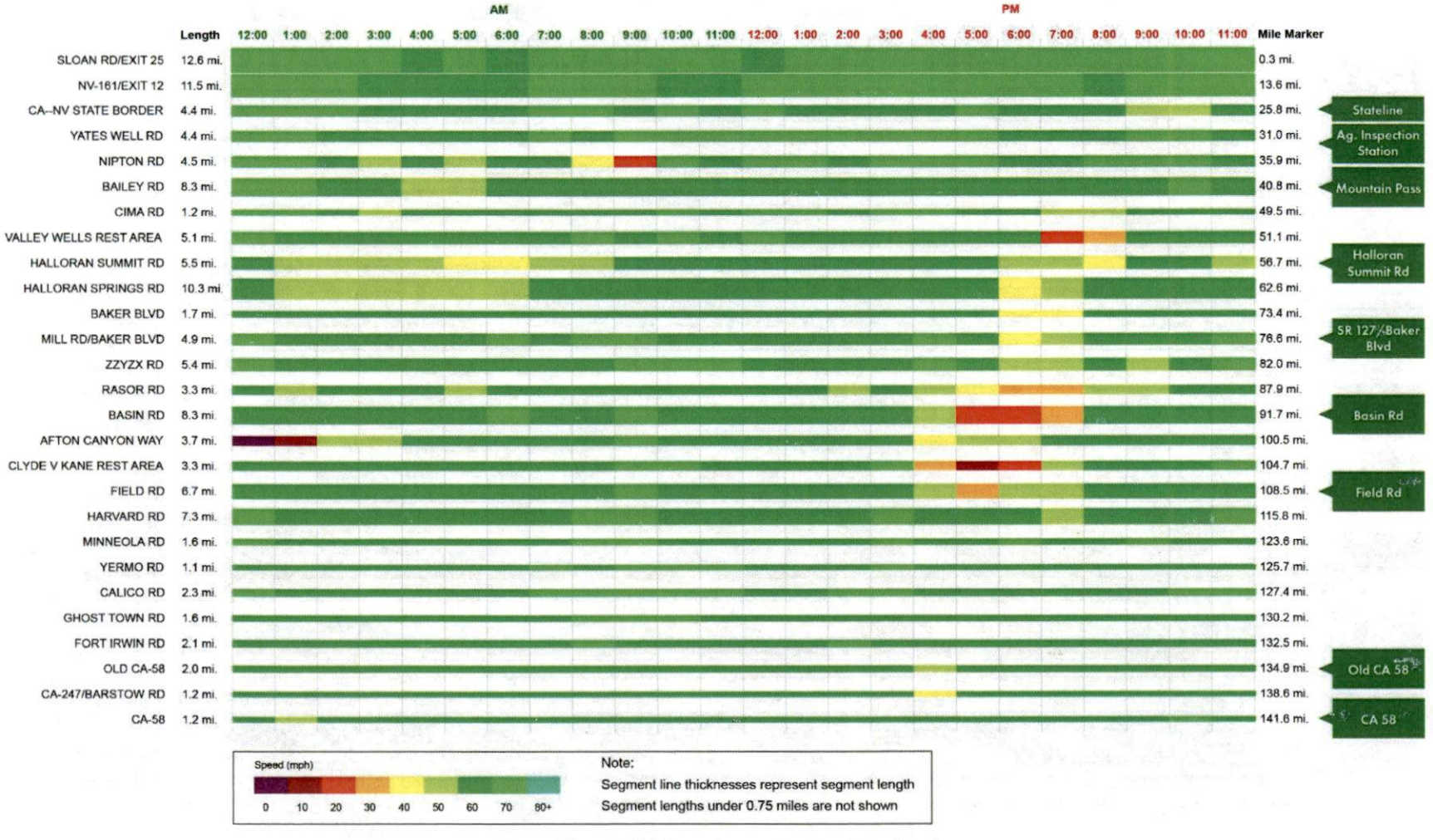


Figure 7b: I-15 NB Speed on Labor Day Weekend

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for November 27, 2022

Figure 8a: I-15 SB Speed on Thanksgiving Holiday

Speed for 1-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for November 26, 2023

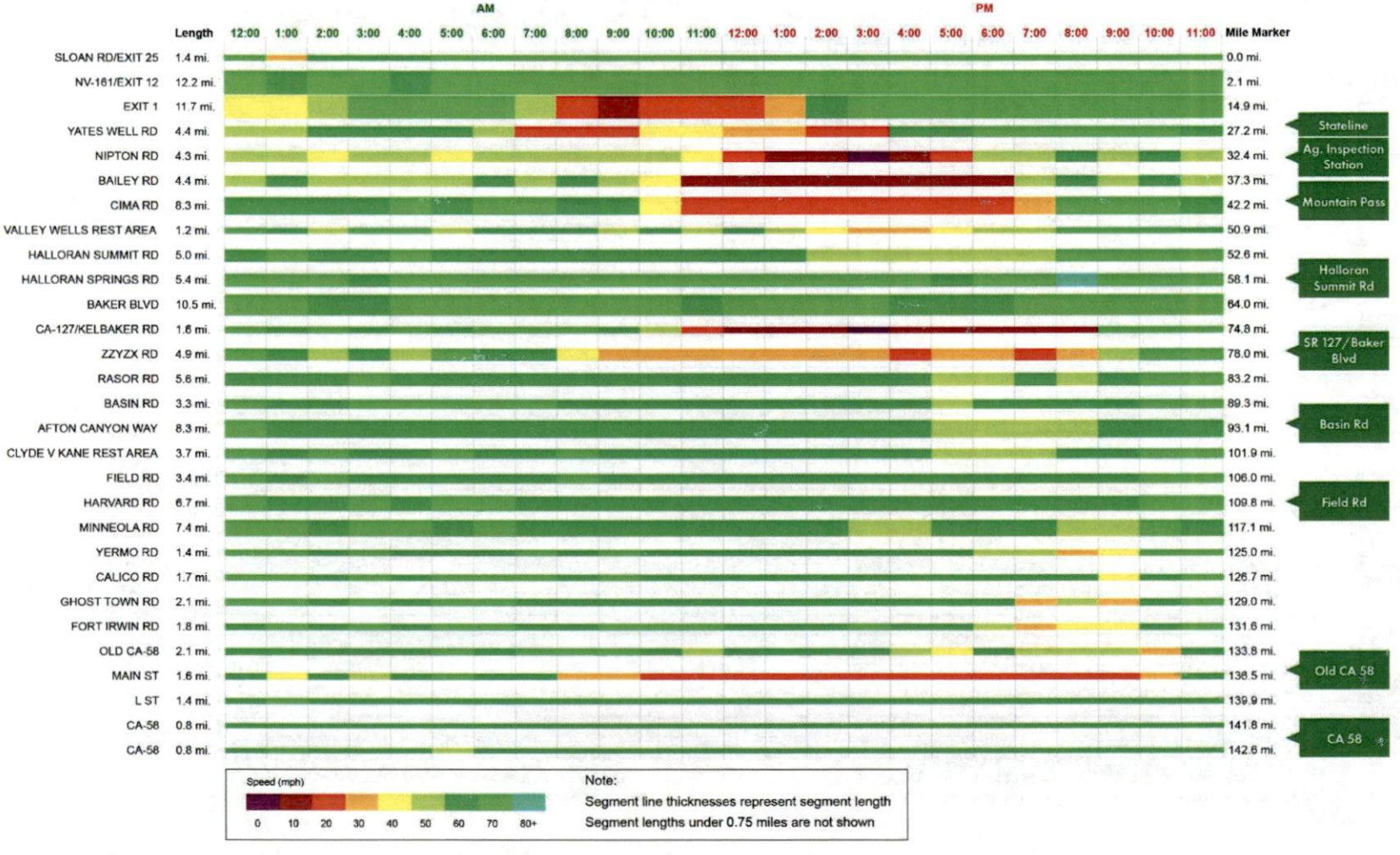


Figure 8b: I-15 SB Speed on Thanksgiving Holiday

Speed for 1-15 Northbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for November 22, 2023

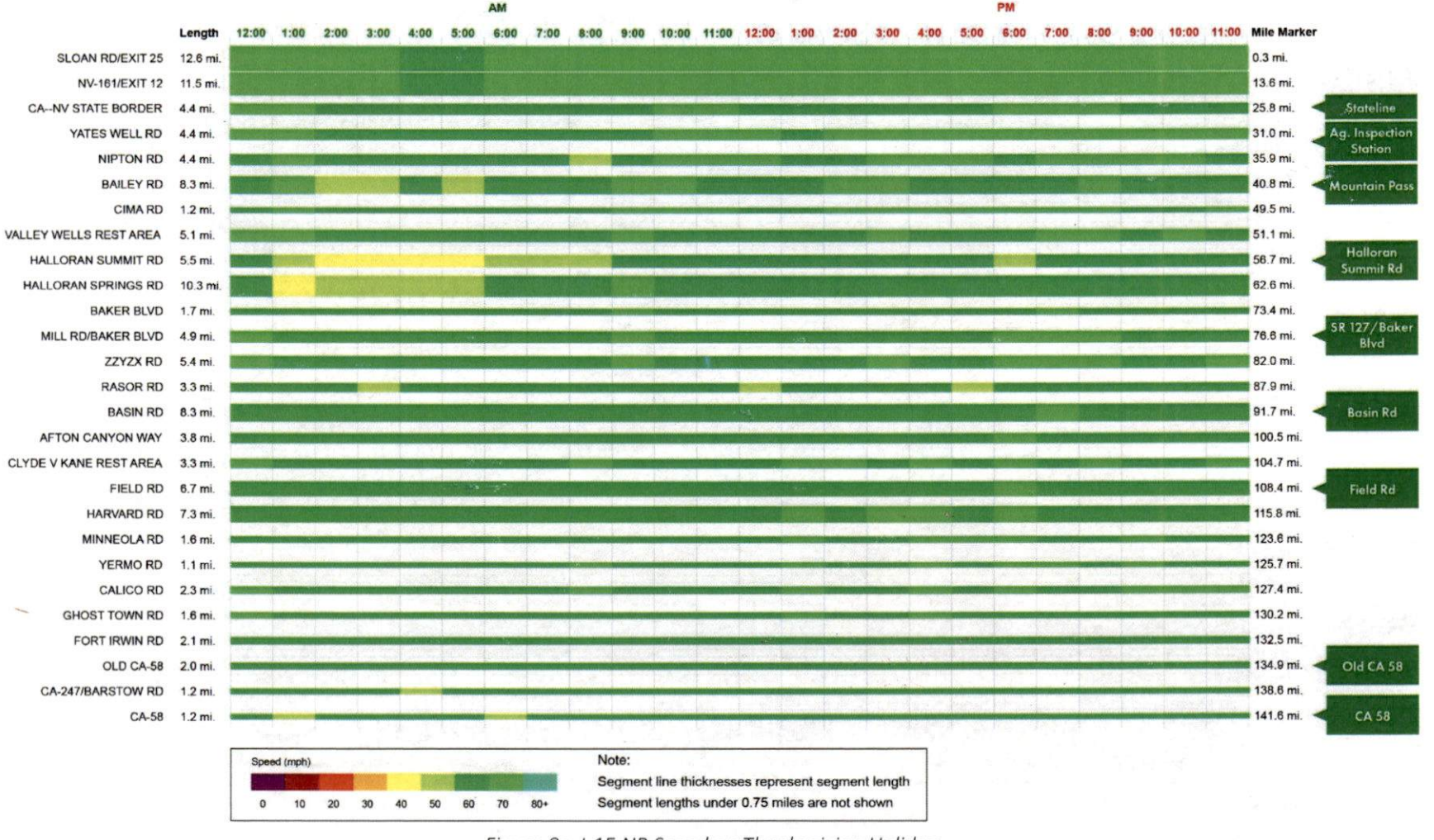


Figure 8c: I-15 NB Speed on Thanksgiving Holiday

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for December 26, 2022

Figure 9a: I-15 SB Speed on Christmas Holiday

Speed for 1-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for December 26, 2023

Figure 9b: I-15 SB Speed on Christmas Holiday

Speed for 1-15 Northbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for December 22, 2023

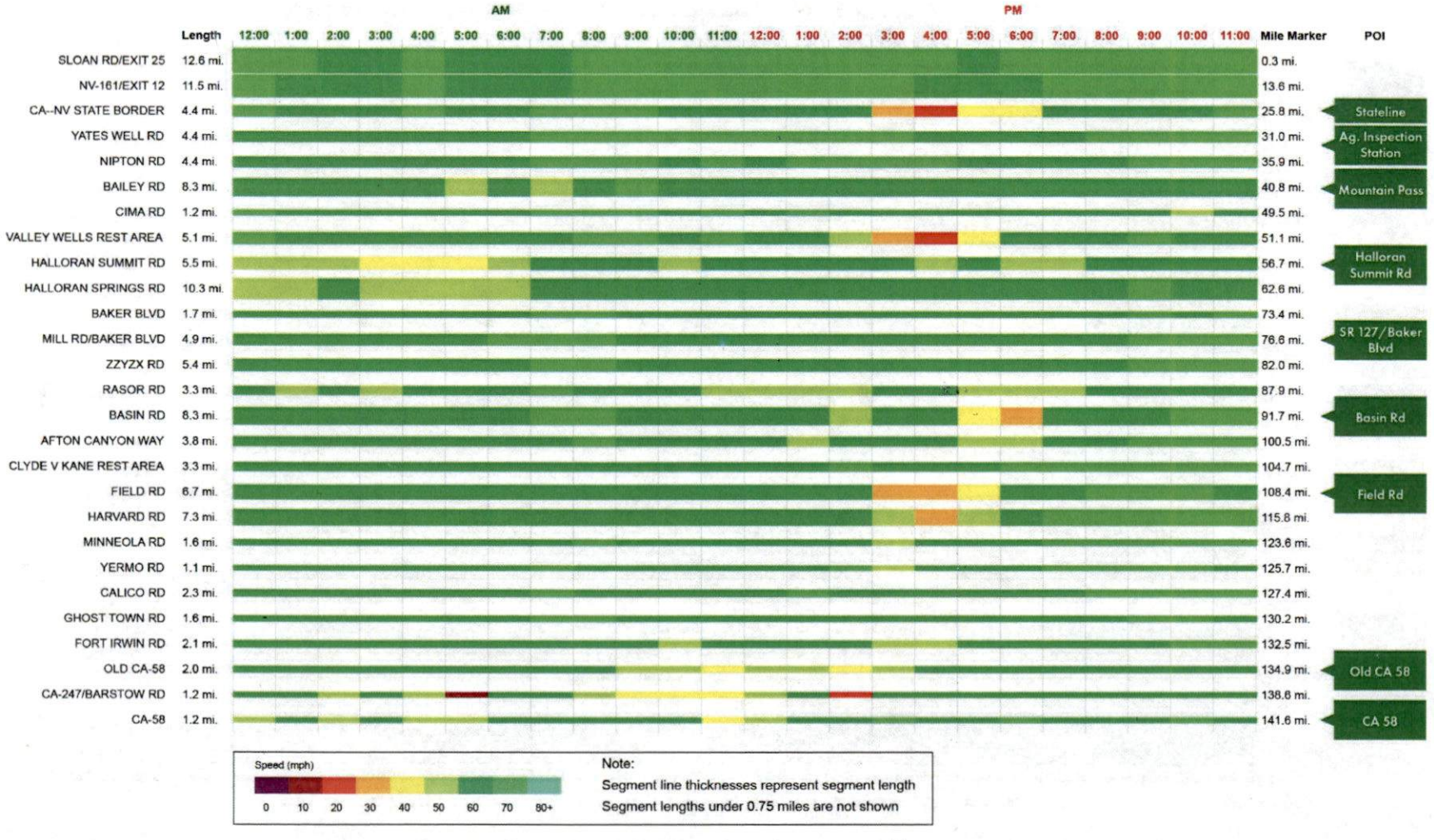


Figure 9c: I-15 NB Speed on Christmas Holiday

The recurring congestion hotspots identified on I-15 southbound based on INRIX data are listed below and in **Figure 10**. The vertical roadway profile is shown for reference with corresponding southbound grades and number of existing lanes illustrated along I-15 on the map.

- I-15 Southbound
  - NV Exit 1 to Bailey Road (15.5 miles)
  - CA 127 to Basin Road (16 miles)
  - Old CA 58 to I-40 (3 miles)

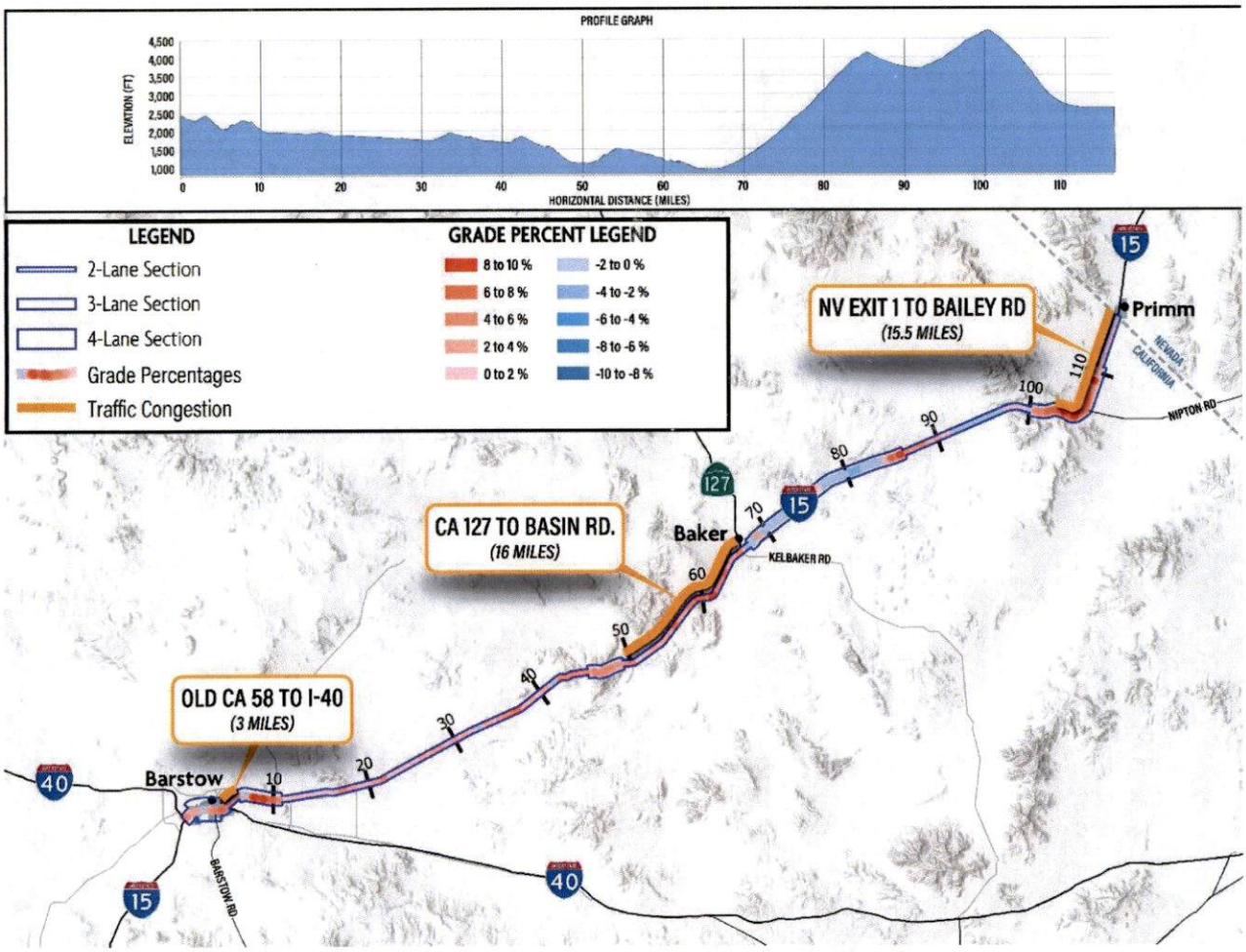


Figure 10: I-15 SB Congestion Hotspots, Lanes and Grades

Similarly, the recurring congestion hotspots identified on I-15 northbound based on INRIX data are listed below and in **Figure 11** on the following page.

- I-15 Northbound
  - Harvard Road to Field Road (7 miles)
  - Basin Road to Rasor Road (4 miles)
  - Halloran Springs Road to Halloran Summit Road (6 miles)

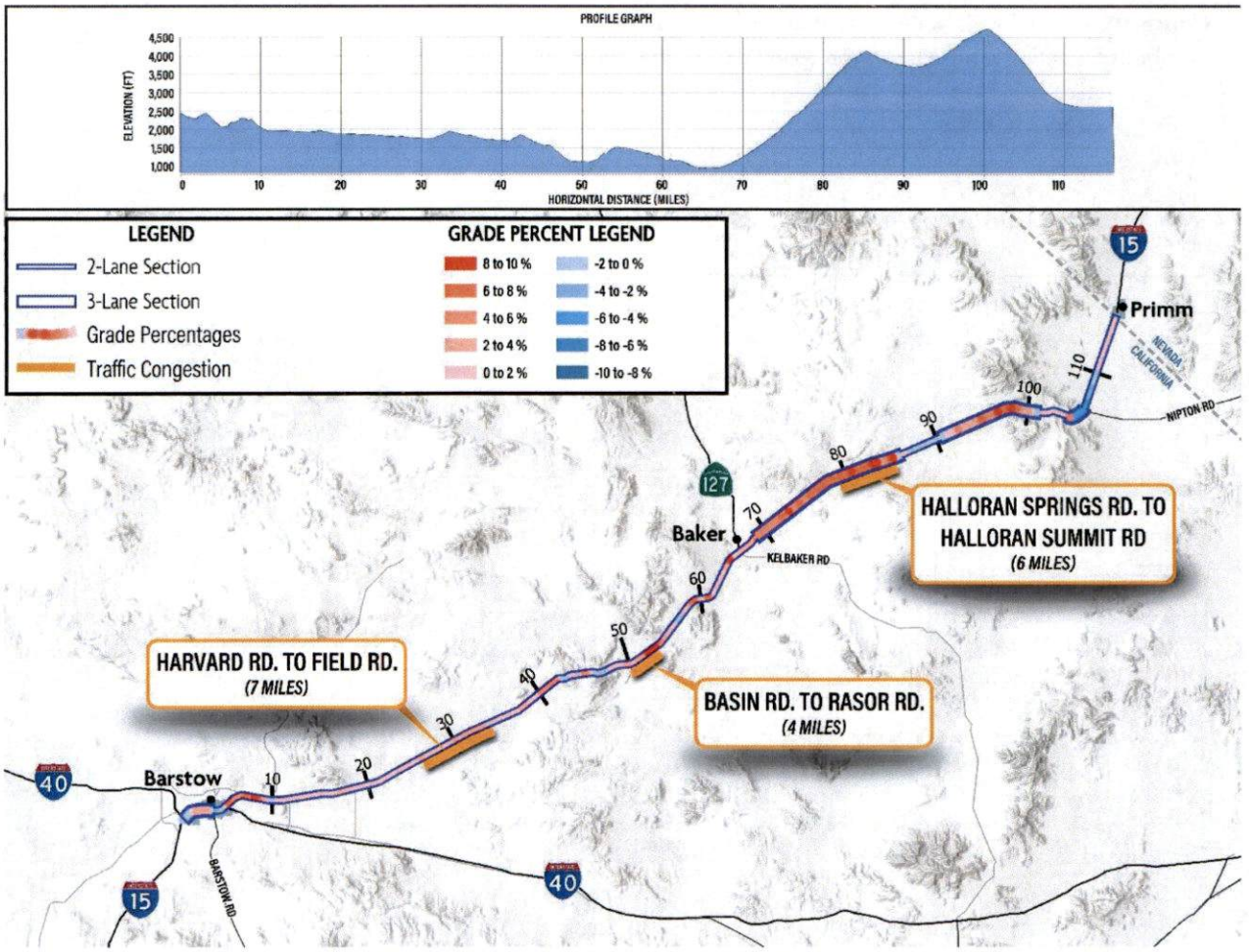


Figure 11: I-15 NB Congestion Hotspots, Lanes and Grades

The length of congestion was found to be higher in the southbound direction (34.5 miles total) than northbound direction (17 miles total). The peak southbound speeds dropped by as much as 90-percent at key hotspots in the southbound direction and as much as 74-percent at key hotspots in the northbound direction.

Part-Time Shoulder Use Project Evaluation

Figures 12a and **12b** shows the comparison of speed on I-15 southbound during Labor Day weekend in 2022 (before the part-time shoulder pilot project implementation) and Labor Day weekend in 2023 (after the part-time shoulder pilot project implementation). The data indicates that congestion at the state line is most intense where the speeds dropped to as low as 8 mph, which equates to a 90-percent drop from free flow speeds. Additional peak demand data was collected to assess the performance of the part-time shoulder pilot project during Thanksgiving (**Figures 13a** and **13b**) and Christmas holidays (**Figures 14a** and **14b**) with similar results.

The shoulder pilot project helps during typical weekends with relatively lower traffic demand but appears to mostly just move the congestion further south during peak traffic demand.

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for September 05, 2022

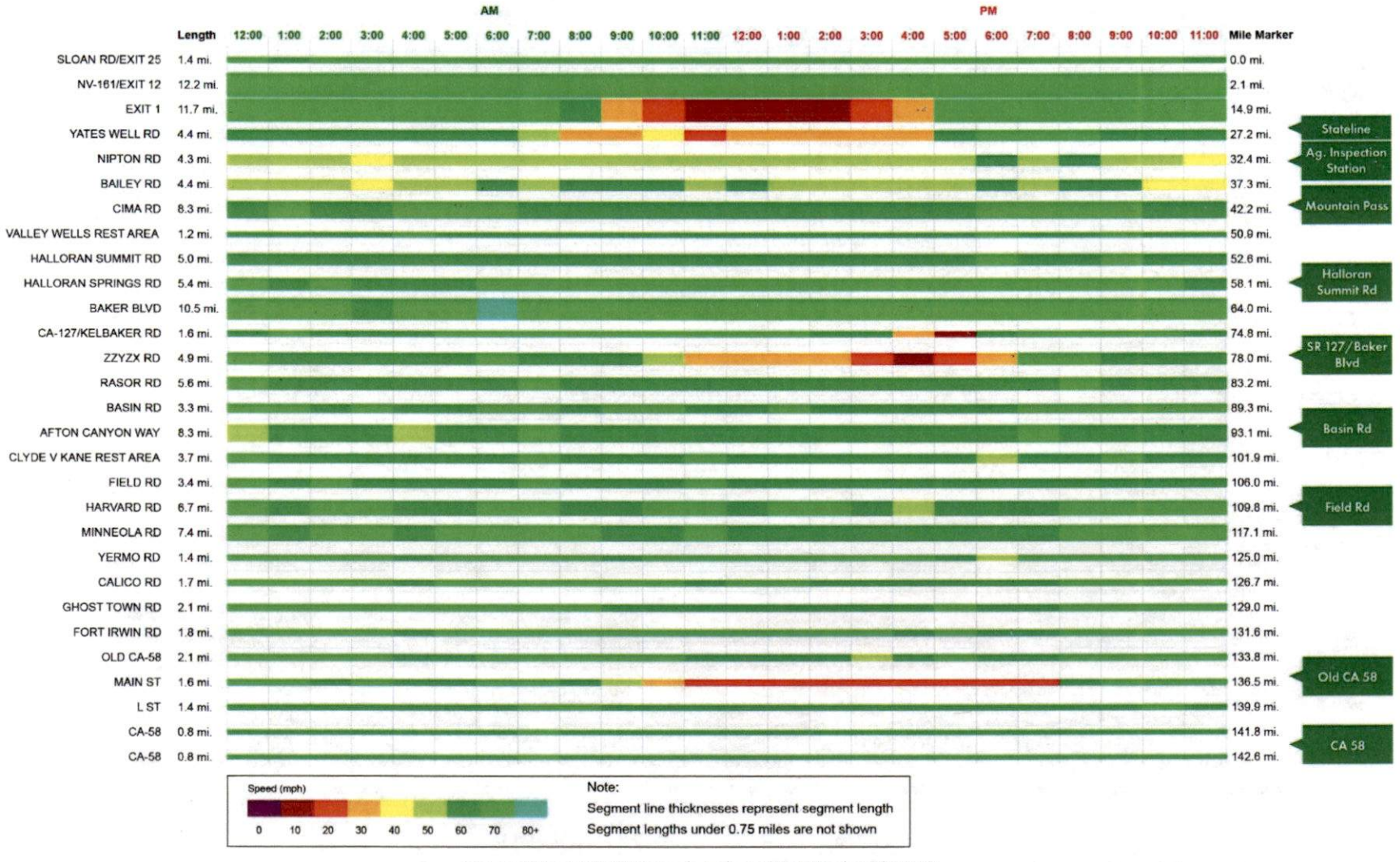


Figure 12a: I-15 SB Speeds Labor Day Weekend 2022

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for September 04, 2023

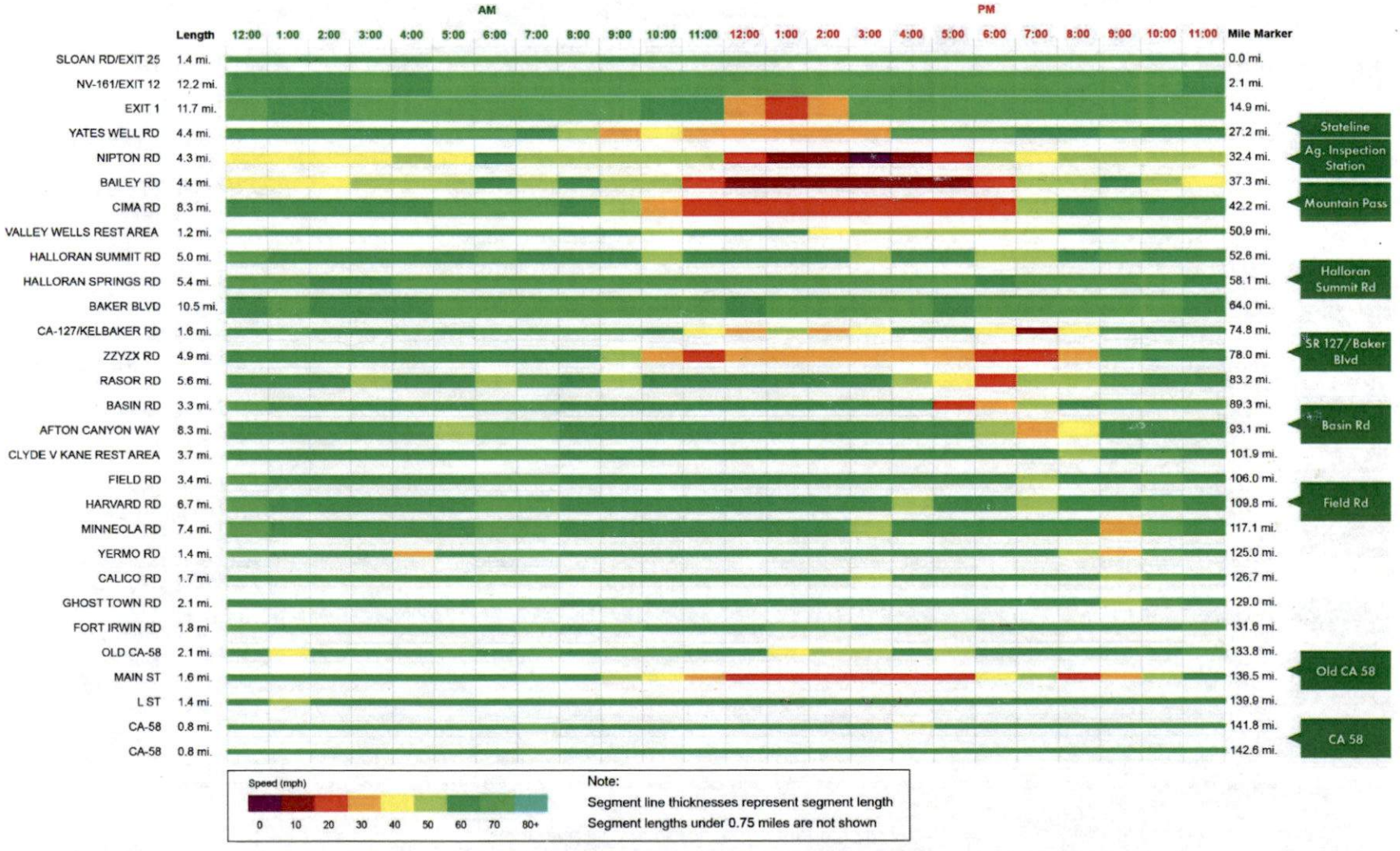


Figure 12b: I-15 SB Speeds Labor Day Weekend 2023

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data
Averaged by 1 hour for November 27, 2022

Figure 13a: I-15 SB Speeds Thanksgiving 2022

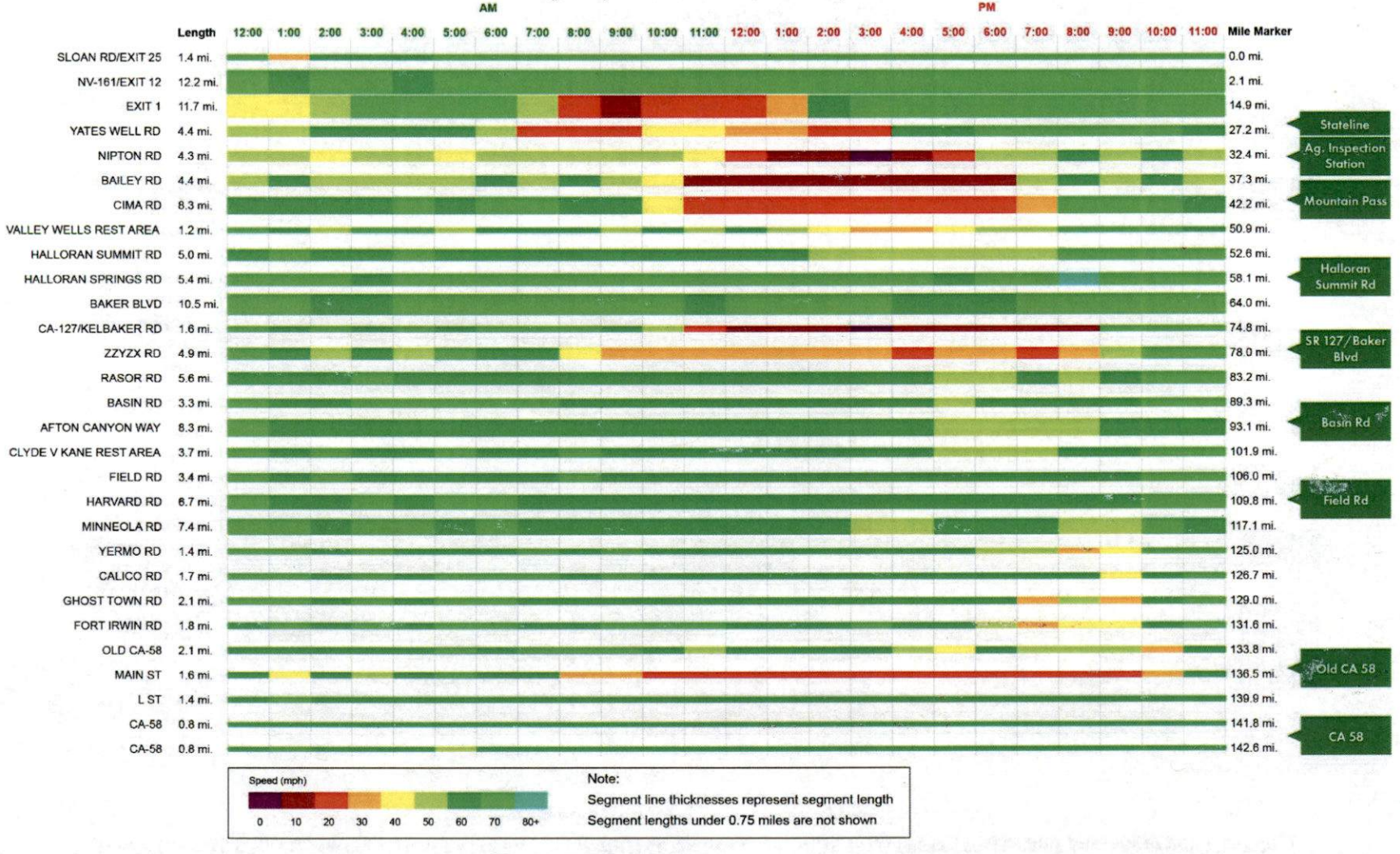


Figure 13b: I-15 SB Speeds Thanksgiving 2023

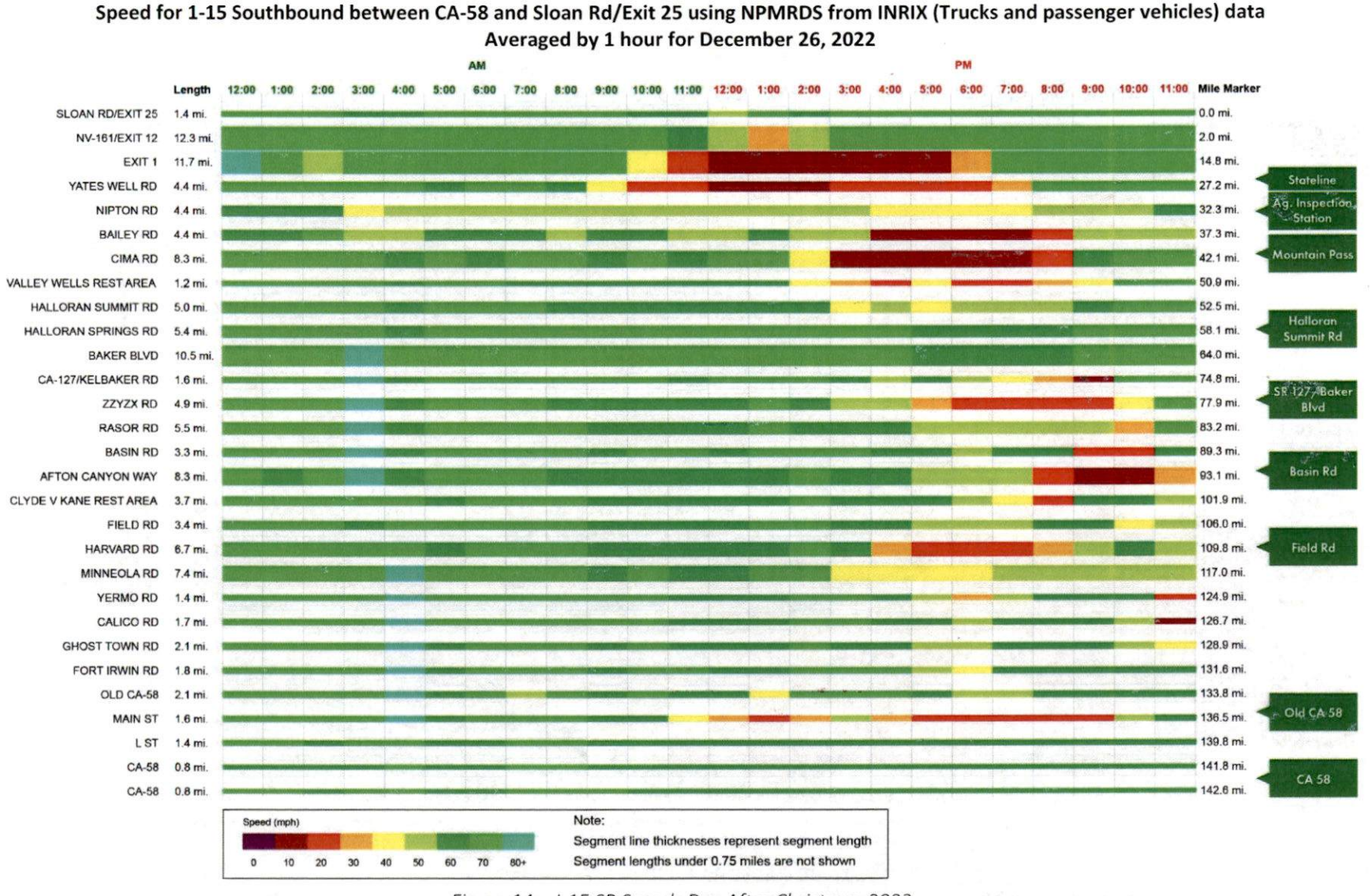


Figure 14a: I-15 SB Speeds Day After Christmas 2022

Speed for I-15 Southbound between CA-58 and Sloan Rd/Exit 25 using NPMRDS from INRIX (Trucks and passenger vehicles) data Averaged by 1 hour for December 26, 2023

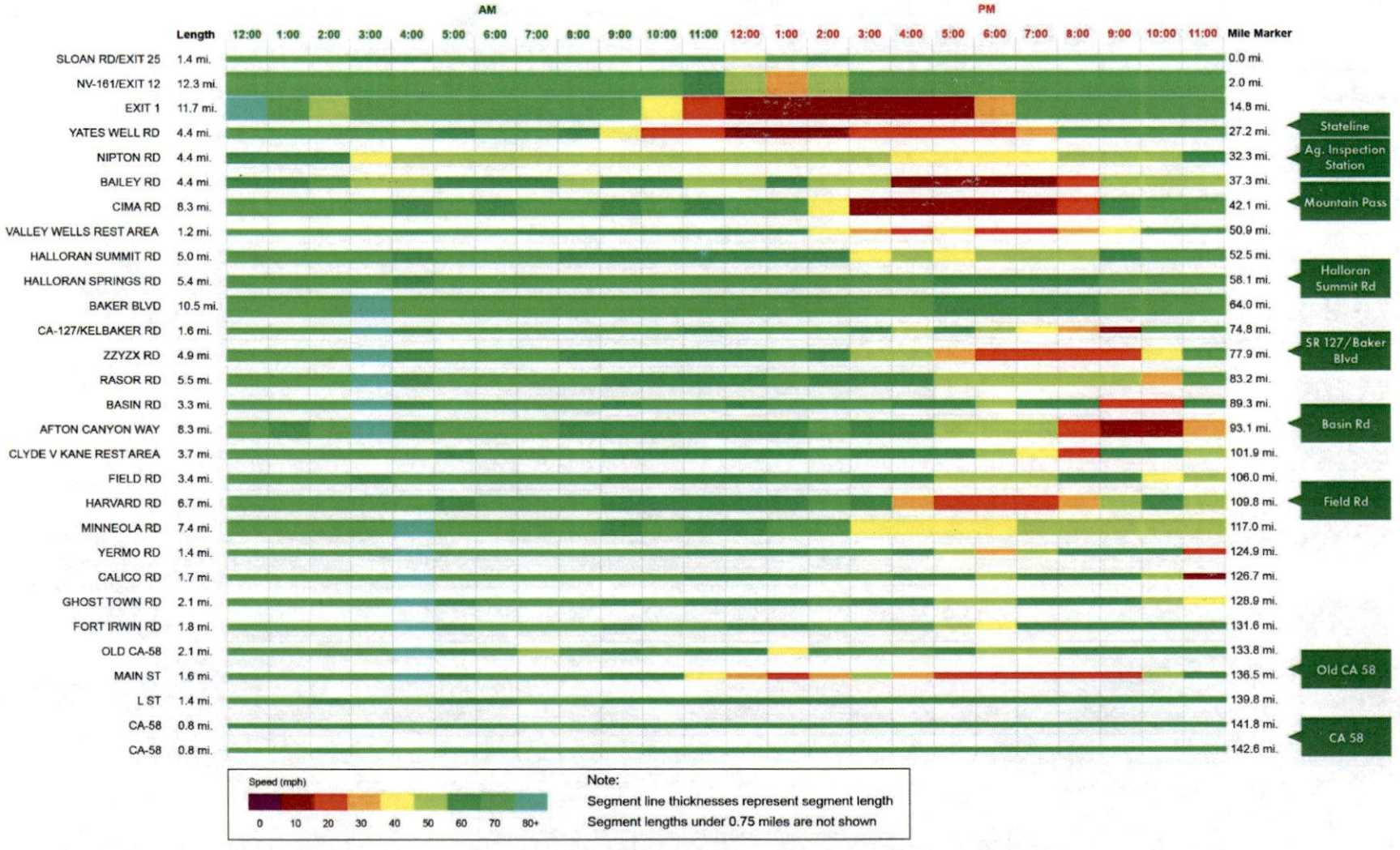


Figure 14b: I-15 SB Speeds Day After Christmas 2023

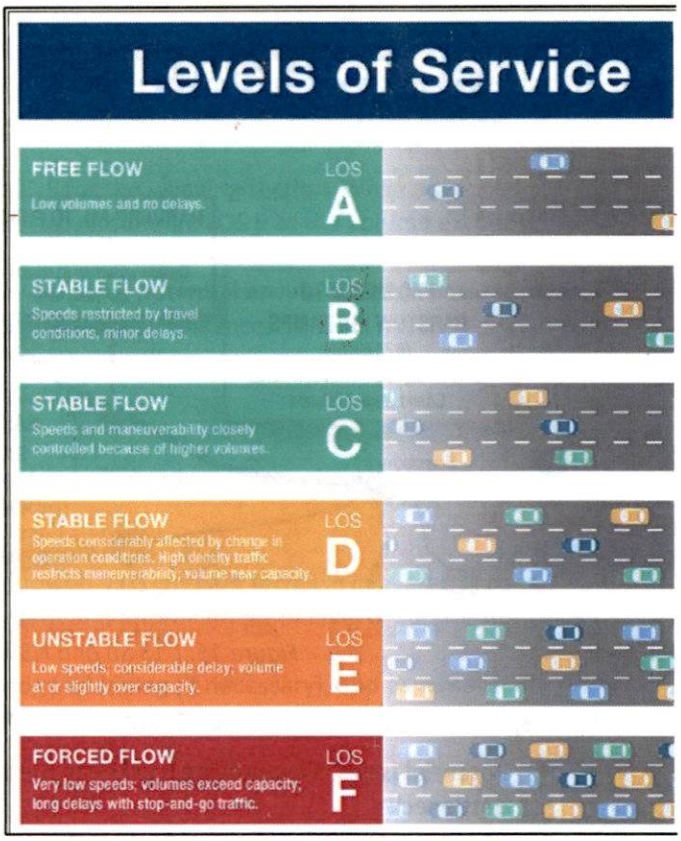
The data indicates that peak traffic on the day after Christmas varies from year to year depending on the day the holiday lands on and is not reliable for analysis purposes for that reason. As such, the effectiveness of the part-time shoulder use was evaluated based on the Sunday after Thanksgiving traffic data from 2022 and 2023.

Based on analysis of I-15 southbound speed data from Sloan Road to Bailey Road (40 miles) on the Sunday after Thanksgiving, between 10:00am and 8:00pm, when the part-time shoulder lanes were open, the following improvements were observed:

- Average Speed improves from 32 mph to 44 mph
- Travel time reduction from 75 minutes to 55 minutes
- 19,704 hours or 26-percent reduction in person-hours of travel

HCS Analysis

Highway Capacity Software (HCS), which implements methods and procedures documented in the Highway Capacity Manual (HCM) was used to perform operational analysis on the key freeway segments identified as hotspots from the initial analysis. Results are reported as level of service (LOS) as shown in the graphic.



HCS analysis results are summarized below based on maximum peak demand volumes from Caltrans Data.

- I-15 SB NV Exit 1 to Nipton Road - 2 lanes: **LOS F**
- I-15 SB NV Exit 1 to Nipton Road - 2 lanes plus Shoulder Lane Use: **LOS D**
- I-15 SB NV CA-127 to Basin Road - 2 lanes: **LOS D**
- I-15 SB Old CA-58 to I-40 - 2 lanes: **LOS F**

The HCS analysis shows that the LOS is dependent not only on the number of lanes and peak traffic demand but is also sensitive to other criteria such as shoulder width, truck traffic percentage, and grades.

As such, sensitivity testing results for different grades with part-time shoulder use is summarized below:

- I-15 SB NV Exit 1 to Nipton Road - 2 lanes plus Shoulder Lane Use, 2-percent grade for 10 miles: **LOS D**
- I-15 SB NV Exit 1 to Nipton Road - 2 lanes plus Shoulder Lane Use, 4-percent grade for 10 miles: **LOS E**
- I-15 SB NV Exit 1 to Nipton Road - 2 lanes plus Shoulder Lane Use, 6-percent grade for 10 miles: **LOS F**

The HCS model calibrated to reflect observed conditions was used to quantify the effectiveness of the shoulder pilot project and other potential improvements in future phases of the analysis. The HCS analysis reports are included in **Attachment A** of this memo.

Attachment A
HCS Analysis Reports

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hr
Project Description	I-15 SB - NV Exit 1 to Nipton Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.80
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3641	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2286
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	-	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	2.00	Volume-to-Capacity Ratio (v/c)	1.01

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	2.7	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.1		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hour
Project Description	I-15 SB - CA-127 to Basin Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.56
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2984	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1874
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	-	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	2.00	Volume-to-Capacity Ratio (v/c)	0.83

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.9
Total Ramp Density Adjustment	2.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.8		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hour
Project Description	I-15 SB - Old CA-58 to I-40	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	68.5
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	4563	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2914
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2385
Single-Unit Trucks (SUT), %	-	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2240
Tractor-Trailers (TT), %	-	Final Adjusted Capacity (c_{adj}), pc/h/ln	2240
Passenger Car Equivalent (E_T)	2.00	Volume-to-Capacity Ratio (v/c)	1.30

Speed and Density

Lane Width Adjustment (f_{LW})	1.9	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	65.1		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hour
Project Description	I-15 SB - NV Exit 1 to Nipton Rd plus Shoulder Use	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.80
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.3
Right-Side Lateral Clearance, ft	0		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	Shoulder Closed	Final Capacity Adjustment Factor (CAF)	0.779
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3641	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1524
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Initial Adjusted Capacity (c_{adj}), pc/h/ln	1870
Tractor-Trailers (TT), %	-	Final Adjusted Capacity (c_{adj}), pc/h/ln	1870
Passenger Car Equivalent (E_T)	2.00	Volume-to-Capacity Ratio (v/c)	0.82

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	2.4	Density (D), pc/mi/ln	27.6
Total Ramp Density Adjustment	2.7	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	66.8		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hour
Project Description	I-15 SB - NV Exit 1 to Nipton Rd plus Shoulder Use-2% Grade	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	2.00
Measured or Base Free-Flow Speed	Base	Grade Length, mi	10.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.80
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.3
Right-Side Lateral Clearance, ft	0		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	Shoulder Closed	Final Capacity Adjustment Factor (CAF)	0.779
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3641	Heavy Vehicle Adjustment Factor (f_{HV})	0.804
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1606
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	1870
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	1870
Passenger Car Equivalent (E_T)	2.36	Volume-to-Capacity Ratio (v/c)	0.86

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.5
Right-Side Lateral Clearance Adj. (f_{RLC})	2.4	Density (D), pc/mi/ln	30.6
Total Ramp Density Adjustment	2.7	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	66.8		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hour
Project Description	I-15 SB - NV Exit 1 to Nipton Rd plus Shoulder Use-4% Grade	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	4.00
Measured or Base Free-Flow Speed	Base	Grade Length, mi	10.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.80
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.3
Right-Side Lateral Clearance, ft	0		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	Shoulder Closed	Final Capacity Adjustment Factor (CAF)	0.779
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3641	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1717
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	1870
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	1870
Passenger Car Equivalent (E_T)	2.83	Volume-to-Capacity Ratio (v/c)	0.92

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	48.3
Right-Side Lateral Clearance Adj. (f_{RLC})	2.4	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	2.7	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	66.8		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	11/17/203
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Max Peak Hour
Project Description	I-15 SB - NV Exit 1 to Nipton Rd plus Shoulder Use-6% Grade	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	6.00
Measured or Base Free-Flow Speed	Base	Grade Length, mi	10.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.80
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.3
Right-Side Lateral Clearance, ft	0		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	Shoulder Closed	Final Capacity Adjustment Factor (CAF)	0.779
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3641	Heavy Vehicle Adjustment Factor (f_{HV})	0.688
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1877
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	1870
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	1870
Passenger Car Equivalent (E_T)	3.52	Volume-to-Capacity Ratio (v/c)	1.00

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	2.4	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	2.7	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	66.8		

Attachment B
HCS Worksheets Evaluating Conceptual Solutions

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 SB - Inspection Station to Mountain Pass	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	4.30
Measured or Base Free-Flow Speed	Base	Grade Length, mi	8.10
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.9
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3460	Heavy Vehicle Adjustment Factor (f_{HV})	0.882
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	2086
Total Trucks, %	1.70	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	8.86	Volume-to-Capacity Ratio (v/c)	0.93

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.7
Total Ramp Density Adjustment	1.5	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.2		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 SB - Inspection Station to Mountain Pass-with Improvements	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	4.30
Measured or Base Free-Flow Speed	Base	Grade Length, mi	8.10
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.9
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	3400	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1808
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	8.86	Volume-to-Capacity Ratio (v/c)	0.80

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	62.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	29.1
Total Ramp Density Adjustment	1.5	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.2		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 SB - 2mi s/o CA-127 to Rasor Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	1.60
Measured or Base Free-Flow Speed	Base	Grade Length, mi	10.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.20
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	74.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2636	Heavy Vehicle Adjustment Factor (f_{HV})	0.875
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1602
Total Trucks, %	8.40	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (ET)	2.71	Volume-to-Capacity Ratio (v/c)	0.71

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.2
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.8		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 SB - 2mi s/o CA-127 to Rasor Rd-with Improvements	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	1.60
Measured or Base Free-Flow Speed	Base	Grade Length, mi	10.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.20
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	74.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2413	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1284
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	4.56	Volume-to-Capacity Ratio (v/c)	0.57

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.8		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 NB - Halloran Springs Rd to Halloran Summit Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	3.66
Measured or Base Free-Flow Speed	Base	Grade Length, mi	5.96
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	74.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2768	Heavy Vehicle Adjustment Factor (f_{HV})	0.861
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1710
Total Trucks, %	2.90	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (ET)	6.56	Volume-to-Capacity Ratio (v/c)	0.76

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	64.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.6
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.4		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 NB - Halloran Springs Rd to Halloran Summit Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	3.66
Measured or Base Free-Flow Speed	Base	Grade Length, mi	5.96
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	74.1
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2689	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1430
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (ET)	7.80	Volume-to-Capacity Ratio (v/c)	0.63

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.9
Total Ramp Density Adjustment	1.3	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.4		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 NB - Basin Road to Rasor Road	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	1.93
Measured or Base Free-Flow Speed	Base	Grade Length, mi	3.80
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.52
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.5
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2940	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1792
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	2.82	Volume-to-Capacity Ratio (v/c)	0.79

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	62.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.7
Total Ramp Density Adjustment	1.9	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.9		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 NB - Basin Road to Rasor Road-With Improvements	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	1.93
Measured or Base Free-Flow Speed	Base	Grade Length, mi	3.80
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.52
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.5
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2706	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1440
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	4.96	Volume-to-Capacity Ratio (v/c)	0.64

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.2
Total Ramp Density Adjustment	1.9	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.9		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 NB- 2 mi s/o Field Rd to Field Rd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	1.70
Measured or Base Free-Flow Speed	Base	Grade Length, mi	2.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2998	Heavy Vehicle Adjustment Factor (f_{HV})	0.878
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1816
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (ET)	2.74	Volume-to-Capacity Ratio (v/c)	0.81

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	62.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	29.3
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.9		

HCS Basic Freeway Report

Project Information

Analyst	PAT	Date	Feb 2024
Agency	Wood Rodgers, Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15 NB- 2 mi s/o Field Rd to Field Rd - with Improvements	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Specific Grade
Segment Length (L), ft	-	Percent Grade, %	1.70
Measured or Base Free-Flow Speed	Base	Grade Length, mi	2.00
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	73.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Final Capacity Adjustment Factor (CAF)	0.939
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000

Demand and Capacity

Demand Volume (V), veh/h	2757	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor (PHF)	0.94	Flow Rate (v_p), pc/h/ln	1466
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	30	Initial Adjusted Capacity (c_{adj}), pc/h/ln	2254
Tractor-Trailers (TT), %	70	Final Adjusted Capacity (c_{adj}), pc/h/ln	2254
Passenger Car Equivalent (E_T)	4.68	Volume-to-Capacity Ratio (v/c)	0.65

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	1.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.9		

HCS Freeway Weaving Report

Project Information

Analyst	PAT	Date	February 2023
Agency	Wood Rodgers Inc.	Analysis Year	2023
Jurisdiction	Caltrans	Time Analyzed	Holiday Peak
Project Description	I-15from I-40 to Barstow Ramps-Existing	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Segment Length (Ls), ft	1900	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	0.950
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	0.939

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	4439	2904	246	247
Peak Hour Factor (PHF)	0.91	0.91	0.91	0.91
Total Trucks, %	5.00	5.00	5.00	5.00
Heavy Vehicle Adjustment Factor (fHV)	0.952	0.952	0.952	0.952
Flow Rate (vi), pc/h	5124	3352	284	285
Weaving Flow Rate (vw), pc/h	3637	Ideal Conditions Capacity (cIFL), pc/h/ln		2318
Non-Weaving Flow Rate (vNW), pc/h	5408	Density-Based Capacity (cIWL × N × fHV), veh/h		7429
Total Flow Rate (v), pc/h	9045	Demand Flow-Based Capacity (cIW × fHV), veh/h		5684
Volume Ratio (VR)	0.402	Weaving Area Capacity (cW), veh/h		5684
Minimum Lane Change Rate (LCMIN), lc/h	799	Adjusted Weaving Area Capacity (cWA), veh/h		5337
Maximum Weaving Length (LMAX), ft	6704	Demand-to-Capacity Ratio (v/c)		1.61

Speed and Density

Non-Weaving Vehicle Index (INW)	-	Average Weaving Speed (SW), mi/h	-
Non-Weaving Lane Change Rate (LCNW), lc/h	-	Average Non-Weaving Speed (SNW), mi/h	-
Weaving Lane Change Rate (LCW), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LCAll), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F