



*Las Vegas Boulevard*  
MOBILE BILLBOARD STUDY 2022

# MOBILE BILLBOARD STUDY

## LAS VEGAS BOULEVARD

### TROPICANA AVENUE TO ELVIS PRESLEY BOULEVARD

Prepared for:



500 S. Grand Central Parkway  
Las Vegas, NV 89115-4000

Prepared By:

**Kimley»»Horn**

6671 Las Vegas Boulevard South, Suite 320, Las Vegas, NV 89119  
Tel 702.862.3600 [www.kimley-horn.com](http://www.kimley-horn.com)

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## 1. INTRODUCTION

This study was prepared for Clark County Department of Public Works to document mobile billboard vehicle activity on Las Vegas Boulevard (the “Strip”) between Tropicana Avenue and Elvis Presley Boulevard. The study corridor is illustrated in **Figure 1.1**. In conducting the study, data was collected on a typical weekday (Thursday, May 19, 2022), on Memorial Day Weekend (Saturday, May 28, 2022), one of the busiest weekends on Las Vegas Boulevard, and on a non-holiday weekend (Saturday, June 25, 2022), to observe peak and normal conditions. Mobile billboard volumes and travel times were documented for evaluation of vehicle level of service (LOS) conditions along Las Vegas Boulevard within the study limits. Compliance with the existing mobile billboard ordinance and vehicle behavior were also observed to identify possible strategies to improve public safety and reduce the perceived impacts of mobile billboard operations to the traveling public.

### 1.1. Study Purpose

The purpose of this study is to review the current Clark County Code Chapter 7.95 regarding mobile billboards, to observe conformance to the existing ordinance, and to aid in the recommendation of measures to improve safety and reduce the impacts on Las Vegas Boulevard within the study limits. A mobile billboard on Las Vegas Boulevard is shown in **Photo 1.1**.



Photo 1.1 – Mobile Billboard within the Study Limits

### 1.2. Study Goals

The goal of this study is to identify the number of mobile billboards advertising within the study area and quantify the impacts that mobile billboards may have on Las Vegas Boulevard for use in the enforcement of and/or revisions to the Clark County Code regarding Mobile Billboard Businesses outlined in Chapter 7.95.



Figure 1.1 – Las Vegas Primary Gaming Corridor and Study Limits (Clark County Code 7.95.180)

### 1.3. Study Corridor

The study corridor includes 2.6 miles within the Gaming Corridor of Las Vegas Boulevard from Tropicana Avenue to Elvis Presley Boulevard in the Las Vegas Valley. The Gaming Corridor limit (shown in **Figure 1.1**) is located east of Interstate 15 (I-15), south of US Highway 95, and north of Interstate 215 in Clark County, Nevada. The study corridor provides frontage to approximately 24 major resort hotel/casinos and 4 major retail centers along Las Vegas Boulevard.

The segment of Las Vegas Boulevard that makes up the study corridor is classified as a Minor Arterial by the Nevada Department of Transportation (NDOT). Las Vegas Boulevard is generally 3 lanes in each direction except for the following segments which have a 4<sup>th</sup> travel lane:

- Tropicana Avenue to Flamingo Road – Northbound and Southbound
- Caesars Palace Drive to Spring Mountain Road – Southbound
- Palazzo Drive (Private) to Cathedral Way – Northbound
- Fashion Show Drive to Resorts World Avenue (Private) – Southbound

Las Vegas Boulevard is an urban street with intersections or traffic signals spacing approximately 700 feet to 1,300 feet, with abundant unsignalized access points. A landscaped median (pictured in **Photo 1.2**) runs along the entire study corridor with median openings at signalized intersections and some unsignalized access drives.



**Photo 1.2 – Las Vegas Boulevard within the Gaming Corridor**

The understood draw for mobile billboards within the Gaming Corridor is high visibility of the advertisements due to significant pedestrian activity in the area (illustrated in **Photo 1.3** through **Photo 1.6**) attributed to various tourist attractions, including gaming, entertainment, and retail. These tourist attractions are a major source of revenue for Clark County and the State of Nevada. In recent years, the popularity of mobile billboard advertisements have increased significantly. The Clark County Commissioners voted unanimously in favor of passing regulations for mobile billboard use within Clark County in 2019.



**Photo 1.3 – Las Vegas Boulevard Pedestrians within the Gaming Corridor**



**Photo 1.5 – Las Vegas Boulevard Pedestrian Activity within the Gaming Corridor**



**Photo 1.4 – Las Vegas Boulevard Pedestrians and Mobile Billboard within the Gaming Corridor**



**Photo 1.6 – Las Vegas Boulevard Pedestrians and Multiple Mobile Billboards within the Gaming Corridor**

## 2. BACKGROUND

Prior research was conducted seeking similar studies concerning mobile billboards and associated regulations with limited success. This section provides a summary of relevant technical literature as well as a literature review concerning mobile billboards as it relates to Las Vegas Boulevard and Clark County. For the purposes of this study, as defined in the Clark County Code, a mobile billboard is defined as:

*“One or more sign structures that are mounted on a vehicle or trailer, regardless of weight or length, and are used for general advertising or advertising for hire. The term does not include signs that are installed on a bus, taxicab, or similar vehicle that is used primarily for the purpose of transporting multiple passengers or a vehicle operated in the normal course of the vehicle owner’s business if the signs contain advertising or identifying information directly related to the business.”*

Examples of mobile billboards observed on Las Vegas Boulevard during data collection efforts are shown in **Photo 2.1** through **Photo 2.4**. Examples include:

- Static mobile billboards
- Digital LED mobile billboards
- Combination LED/static mobile billboards



**Photo 2.1 – Typical Static Mobile Billboard**



**Photo 2.2 – Typical Digital LED Mobile Billboard**



**Photo 2.3 – Typical Combination LED/Static Mobile Billboard**



**Photo 2.4 – Typical Combination LED/Static Mobile Billboard**

### 2.1. Literature Review

In December 2019, Clark County passed the mobile billboard ordinance<sup>1</sup> into effect, which implemented several safety and operational regulations for mobile billboards. The ordinance was written in response to reports of unsafe driving, distractions, and several crashes involving mobile billboards along Las Vegas Boulevard.

As directed by the Clark County Board of Commissioners at the February 18, 2020 meeting within Agenda Item 46, a moratorium was placed on the acceptance of new mobile billboard license applications. The County then paused the issuance of new mobile billboard permits and licenses for advertisers pending a study on the number of existing mobile billboards along Las Vegas Boulevard and the potential impacts on safety and traffic flow.

According to local news reports, some of the more extravagant billboards play loud music and blow simulated theater smoke on pedestrians and/or other vehicles. Rory Reid, an attorney for Kre-8 Media Outdoor Advertising, provided a statement to local press authorities stating that an increased focus on public safety is in the best interest of advertisers, and that the owners of Kre-8 take pride in their safety standards. In addition, Virginia Valentine, member of the NDOT Board of Directors and CEO of the Nevada Resort Association commented that traffic congestion plays a huge role and has a direct impact on the economic benefit of the resort community. She recognized that mobile billboards are “most effective when strategically utilized and limited in number.”<sup>2</sup>

<sup>1</sup> CLARK COUNTY, NEV, Ch 7.95 (2019).

<sup>2</sup> Grega, K. (March 7, 2020). The billboard dilemma: Do mobile advertising’s benefits offset the traffic snarls and safety hazards? Las Vegas Sun.



### 2.1.1. Other Jurisdiction Mobile Billboard Regulations

In addition to Clark County, other entities have begun regulating mobile billboard businesses across the country. In 2010, the California State Legislature<sup>3</sup> amended the ability for local entities (county and/or city governments) to adopt and regulate ordinances on matters that are already covered by the California Vehicle Code. The bill expressly authorizes local authorities the ability to regulate mobile billboard advertising displays. The West Hollywood Code Chapter 11.44 – Mobile Billboards<sup>4</sup> states:

*“It is unlawful for any person to conduct, or cause to be conducted, any mobile billboard advertising upon any street, or other public place within the city in which the public has the right of travel. Mobile billboard advertising includes any vehicle, or wheeled conveyance which carries, conveys, pulls, or transports any sign or billboard for the primary purpose of advertising.”*

The exemptions stated within in Chapter 11.44 include:

- Busses;
- Taxicabs; and
- Any vehicle which displays an advertisement or business identification of its owner, so long as such vehicle is engaged in the usual business or regular work of the owner, and not used merely, mainly, or primarily to display advertisements.

### 2.1.2. Clark County Code Chapter 7.95

In Las Vegas, Flo Advertising<sup>5</sup> (Flo) operates a fleet of mobile billboards that run for 20 hours a day, 7 days a week. Flo offers different advertising packages based on the type of advertising desired, the time of day, and the length of screen time desired by customers. Other advertisers offer similar advertising packages and operating hours.

According to the Clark County Code, all signs (not just specifically mobile billboards) shall comply with the following, except those signs located within the Las Vegas Boulevard Gaming Corridor, as defined in NRS 463.3076:A:

*“Signs shall not increase lighting levels by more than 0.3 foot-candles over ambient levels as measured using a foot candle meter at 150 feet for sign areas up to 11 feet by 22 feet and 200 feet for bulletins 10.5 feet by 36 feet.”*

It should be noted that Clark County Code Section 30.72.040 as referenced in Section 7.95 applies to stationary signs and roadside billboards and only the reference for how to measure and the illuminance is applicable for mobile billboards while that reference is

unclear since mobile billboards operate at much closer proximity to drivers’ eyes.

It is important to note that Clark County Code Sections 7.95 and 30.72.040 refer to the boundaries of the “Primary Gaming Corridor” per the map shown in Section 7.95.180 and defined in NRS 463.3076.

Mobile billboard signs are advertised to emit 10,000 nits (amount of candle power emitted in one square meter), which translates to 929 foot-candles. This study summarizes a review conducted on whether the mobile billboards along Las Vegas Boulevard contribute more than 0.3 foot-candles over ambient light levels.

The Clark County Code Chapter 7.95<sup>1</sup> provides guidelines for the operations of mobile billboards (see **Appendix A**).

To operate a mobile billboard in Clark County, mobile billboard companies must display a business license in an open and conspicuous place at the business location. Each vehicle operated by a licensee must also display a decal on the rear bumper indicating that the mobile billboard business has a current and valid license (as shown in **Photo 2.5** and **Photo 2.6**).



**Photo 2.5 – Business License Decal on Mobile Billboard**



**Photo 2.6 – Business License Decal – Close Up**

The business license ensures vehicles are maintained in compliance with Chapter 484D of the Nevada Revised Statutes (NRS). It also ensures that the driver of the vehicle has a valid Nevada driver's license and received training on proper driving and operation of the vehicle. According to the Clark County Code Section 7.95.140, the following acts are unlawful for mobile billboards but were not included/evaluated in the data collection effort:

- For any person to stand, park, or store a mobile billboard upon a residential roadway in unincorporated Clark County at a location within five hundred feet of:
  - A dwelling, including any apartment unit or residential condominium pursuant to Section 14.10.020 of the code;
  - A public or private school that provides formal education traditionally associated with preschool or kindergarten through grade 12; and
  - A community facility. The distance is to be measured from the closest part of the vehicle to the applicable property line in a straight line to the closest part of the applicable property line.
- To knowingly allow an employee to consume alcoholic beverages or be under the influence of alcohol or drugs, whether legal or illegal, or be impaired in any manner while driving a vehicle used by the mobile billboard business;
- To knowingly allow a vehicle to be driven by anyone other than the employee of the mobile billboard business;
- To knowingly allow anyone to drive a vehicle to be driven in violation of local or state traffic laws;

<sup>3</sup> CA Legis. Assemb. 2756. Reg. Sess. 2009-2010 (2010).

<sup>4</sup> West Hollywood, CA Municipal Code. Chapter 11.44. Retrieved September 20, 2022.

<sup>5</sup> Flo Advertising. (n.d.). Various Pages. Retrieved June 28, 2021, from <https://floadvertising.com/>

- To operate a vehicle that the overall length exceeds thirty-two feet or the total height from the ground exceeds fourteen feet or the body of the vehicle exceeds eight and one-half feet in width, including any part of the advertising display, pursuant to applicable sections of NRS 484D;
- To knowingly allow or require an employee to drive a vehicle which, by reason of its mechanical condition, is hazardous to operate or for which operation is likely to result in the breakdown of the vehicle;
- To operate a vehicle that illuminates the display, either by exterior lighting or backlighting, without ambient light monitors that enable sign brightness to adjust to outside conditions; and
- To operate a vehicle with a mobile billboard when, according to the National Weather Service, sustained winds in excess of thirty-five miles per hour exist within the immediate vicinity of the vehicle or its proposed route.

For the purposes of this study, the following prohibited actions (according to Clark County Code Section 7.95.140) were included and evaluated during the data collection period:

- For any person to operate a mobile billboard using a detachable trailer-drawn billboard that is drawn or otherwise pulled by any type of vehicle;
- To knowingly stop or operate a vehicle in any manner that would impede or interfere with the orderly flow of traffic on a roadway;
- For any vehicle to display or exhibit any signage that contains moving or flashing lights or animation of any kind pursuant to Section 14.10.010 of the code [signs on vehicles within the public right-of-way], including, without limitation, video or rapidly changing images, except as provided for in Subsection (p) of this section [referring to dynamic display exceptions];
- To operate a vehicle with a mobile billboard that is equipped with a dynamic display unless:
  - The vehicle is equipped with a dynamic display management system which is configured to prevent moving or flashing lights or animation of any kind except when such vehicle is within the primary gaming corridor;
  - The dynamic display is only visible on the passenger side of the vehicle; and
  - The vehicle is located in the right travel lane.
- To operate a vehicle at such a slow speed as to impede the normal and reasonable movement of traffic except when reduced speed is necessary for safe operation or in compliance with law as provided for in Section 14.24.040 of the County Code;

- To operate a vehicle that illuminates the display or advertising by more than 0.3 foot-candles over ambient levels as measured using a foot candle meter as described in Section 30.72.040 of the code;
- To operate a vehicle that displays non-animated images with a dwell time of less than ten seconds; and
- For the operator of a vehicle to make a U-turn within the public rights-of-way.

## 2.2. Mobile Billboard Licenses

According to the Clark County Board of Commissioners Agenda Item 46, as of February 18, 2020, ten companies had applied for Clark County mobile billboard licenses for the use of 85 vehicles. However, the same agenda item also specified that a moratorium on the acceptance of new license applications for companies using mobile billboard advertising went into effect. As of July 2022, Clark County Business License Search shows six companies currently holding business licenses related to mobile billboard advertising. A summary of the existing companies and licenses is provided in **Table 2.1**. Three Clark County Licensed mobile billboards are shown in **Photo 2.7** and **Photo 2.8**.

**Table 2.1 – Existing Mobile Billboard Licenses**

| License Number  | Business Name                          | License Status | Business Address                                       |
|-----------------|--|----------------|--|
| 2005182.054-260 | Do It Outdoors                         | Limited        | 5840 Wynn Road<br>Las Vegas, NV 89118                  |
| 2005207.054-260 | FLO Advertising LLC                    | Limited        | Not Provided   |
| 2005156.054-260 | Kre-8 Media, LLC                       | Limited        | 4300 W Tropicana Avenue<br>Las Vegas, NV 89103         |
| 2005180.054-260 | Redline Media                          | Limited        | 4120 W Patrick Lane<br>Las Vegas, NV 89118             |
| 2005146.054-260 | Silver Lining Advertising LLC          | Pending        | 6623 S Las Vegas Boulevard<br>#245 Las Vegas, NV 89119 |
| 2005170.054-260 | Slow Motion Billboard Advertising, LLC | Limited        | Not Provided   |

Source: Clark County, Nevada Business License Search



**Photo 2.7 – Business License Decals on Mobile Billboards**



**Photo 2.8 – Business License Decals on a Mobile Billboard on Las Vegas Boulevard**

### 3. DATA COLLECTION

The following sections describe the data collection methodology used for the study and the background conditions in Las Vegas during the field observations and data collection periods, including Thursday, May 19, 2022 (Typical Weekday), the weekend of Saturday, May 28, 2022 (Memorial Day Weekend), and the weekend of Saturday, June 25, 2022 (Non-Holiday Weekend).

#### 3.1. Data Collection Methodology

To capture the variations in mobile billboard activity and operations along the study corridor of Las Vegas Boulevard from Tropicana Avenue to Elvis Presley Boulevard, a data collection program was established. The program focused on collecting travel times, vehicle volumes, vehicle headways, travel speeds, and mobile billboard luminance measurements with and without congestion on Las Vegas Boulevard. Data on both free flow and congested conditions were collected to determine if the observation data comparisons were statistically significant.

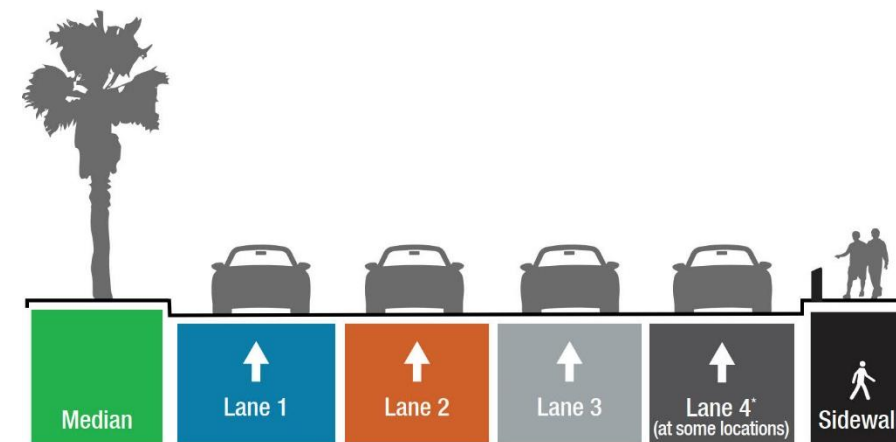
Based on the literature review discussed in **Section 2.1**, the mobile billboard companies advertise the peak reach on the Strip to be between 6:00 PM and 12:00 AM. The Applied Analytics<sup>6</sup> report, commissioned by Big Traffic Mobile Billboards Worldwide, provides an overview of how much exposure people on the Strip have to mobile billboard advertisements. The Applied Analytics report is included in **Appendix B** (Appendix B through Appendix J are included in the Technical Appendix provided under separate cover). Using the Applied Analytics report, mobile billboard company advertising information, and previous observations/data collection, the primary mobile billboard data collection times for this study were identified as the Saturday of a holiday weekend (Memorial Day, May 28, 2022) and a typical, non-holiday Saturday (June 25, 2022). Travel times were also collected on a typical weekday (Thursday, May 19, 2022). Data was collected from 4:00 PM to 6:00 PM on Thursday, May 19, 2022, and from 5:00 PM to 11:00 PM on both Saturday, May 28, 2022 and Saturday, June 25, 2022.

##### 3.1.1. Travel Time Runs

Travel time runs were performed on Thursday, May 19, 2022, Saturday, May 28, 2022, as well as on Saturday, June 25, 2022. Data was collected from 4:00 PM to 6:00 PM on Thursday, May 19, 2022, and from 5:00 PM to 11:00 PM on both Saturday data collection periods. The travel time runs were conducted by four separate data collection teams (Groups A – D) during the Memorial Day Saturday and by two separate teams (Groups A – B) on the June 25, 2022, Saturday. Each group had three vehicles: one driving in Lane 1; one

driving in Lane 2; and one driving in Lane 3. The travel lanes (1 - 3) are illustrated in **Figure 3.1**. As noted in **Section 1.3**, some segments along Las Vegas Boulevard have 4 travel lanes. To be clear, Lane 1 is always next to the median, Lane 2 is always to the right of Lane 1, and Lane 3 is directly to the right of Lane 2 and for the remainder of the report will be referred to as Lane 1, Lane 2, and Lane 3. Lane 3 is next to the sidewalk at some locations but not in the locations where there is a 4<sup>th</sup> travel lane. Data was not collected in Lane 4 as Lane 4 does not exist throughout the study corridor. It is important to note that Lane 1, Lane 2, and Lane 3 are the through lanes and do not include the left and right turn lanes at intersections throughout the study corridor.

Prior to each data collection period, training courses were held to brief each team member on the data collection procedure (see **Photo 3.1**). All teams started at approximately 5:00 PM from the same location. Group A and Group C started traveling northbound from Tropicana Avenue to Elvis Presley Boulevard. Group B and Group D began driving southbound from Elvis Presley Boulevard to Tropicana Avenue. After the start, each driver made as many runs as possible with short breaks as needed northbound and southbound in their respective lane throughout the data collection period. Teams were instructed to collect data from the same lane for the entirety of the study period and maintain speeds with the flow of traffic (no passing), such that travel times and behaviors were effectively documented along the study corridor.



**Figure 3.1 – Roadway Travel Lane Numbering System**

*\*The following segments on Las Vegas Boulevard have a 4<sup>th</sup> travel lane:*  
-Tropicana Avenue to Flamingo Road – Northbound and Southbound  
-Caesars Palace Drive to Spring Mountain Road – Southbound  
-Palazzo Drive (Private) to Cathedral Way – Northbound  
-Fashion Show Drive to Resorts World Avenue (Private) – Southbound



**Photo 3.1 – Training Course Conducted Prior to Data Collection Period (May 28, 2022)**

The teams used a stopwatch phone application, utilizing the lap function to record the travel time in each individual segment of the study limits, while also recording total run times. New laps were initiated at the beginning of each new segment, which occurred underneath the signal head on the far side of each major intersection of the study corridor. **Table 3.1** describes the segments used for time tracking purposes. The run times for each individual segment within the study corridor were tracked on a data collection worksheet (see **Figure 3.2**). The raw data collected from each collection period along with notes of observations by the data collection agents are included within **Appendix C**.

<sup>6</sup>Applied Analytics. (2009). *Analysis of Mobile Billboards: Reach and Recall*.

**Table 3.1 – Segments of Mobile Billboard Study Limits**

| Northbound   | # of Lanes | Southbound   | # of Lanes |
|--|------------|--|------------|
| Tropicana Avenue to Park Avenue  | 4          | Elvis Presley Boulevard to Resorts World Avenue (Private)                    | 3          |
| Park Avenue to Aria Place (Private)  | 4          | Resorts World Avenue (Private) to Convention Center Drive                    | 4          |
| Aria Place (Private) to Harmon Avenue  | 4          | Convention Center Drive to Genting Boulevard                                 | 4          |
| Harmon Avenue to Paris Drive (Private)                                       | 4          | Genting Boulevard to Wynn Boulevard (Private)                                | 4          |
| Paris Drive (Private) to Flamingo Road                                       | 4          | Wynn Boulevard (Private) to Fashion Show Drive                               | 4          |
| Flamingo Road to Caesars Palace Drive  | 3          | Fashion Show Drive to Spring Mountain Road                                   | 3          |
| Caesars Palace Drive to S. Siegfried and Roy Drive (Private)                 | 3          | Spring Mountain Road to Siren's Cove Boulevard                               | 4          |
| S. Siegfried and Roy Drive (Private) to N. Siegfried and Roy Drive (Private) | 3          | Sirens Cove Boulevard to N. Siegfried and Roy Drive (Private)                | 4          |
| N. Siegfried and Roy Drive (Private) to Palazzo Drive (Private)              | 3          | N. Siegfried and Roy Drive (Private) to S. Siegfried and Roy Drive (Private) | 4          |
| Palazzo Drive (Private) to Spring Mountain Road                              | 4          | S. Siegfried and Roy Drive (Private) to Caesars Palace Drive                 | 4          |
| Spring Mountain Road to Wynn Main Gate Drive                                 | 4          | Caesars Palace Drive to Flamingo Road  | 3          |
| Wynn Main Gate Drive to Wynn Boulevard (Private)                             | 4          | Flamingo Road to Bellagio Drive  | 4          |
| Wynn Boulevard (Private) to Cathedral Way                                    | 4          | Bellagio Drive to Harmon Avenue  | 4          |
| Cathedral Way to Convention Center Drive                                     | 3          | Harmon Avenue to Aria Place (Private)  | 4          |
| Convention Center Drive to Resorts World Avenue (Private)                    | 3          | Aria Place (Private) to Park Avenue  | 4          |
| Resorts World Avenue (Private) to Elvis Presley Boulevard                    | 3          | Park Avenue to Tropicana Avenue  | 4          |



**Mobile Billboard Data Collection - June 25th 2022**

Team #: \_\_\_\_\_ Run #: \_\_\_\_\_ Lane # \_\_\_\_\_  
 Names: \_\_\_\_\_ Direction: **NORTH** Run Start time: \_\_\_\_\_  
 \_\_\_\_\_ Run End Time: \_\_\_\_\_

| Segment (signalized intersections):                                      | Behind Bboard? | If yes, # Cars Between? | CC #? | Time (sec) | Min/Max MPH | Notes: (Bboard lane change, Bboard turned off LVB, mult. Bboards in a row, etc.) |
|--|----------------|-------------------------|-------|------------|-------------|--|
| Tropicana to MGM (Park Avenue)   | Y / N          |                         |       |            | /           |  |
| MGM (Park Avenue) to Aria Place  | Y / N          |                         |       |            | /           |  |
| Aria Place to Harmon Avenue  | Y / N          |                         |       |            | /           |  |
| Harmon Avenue to Paris (past Bellagio light - light with through arrows) | Y / N          |                         |       |            | /           |  |
| Paris to Flamingo  | Y / N          |                         |       |            | /           |  |
| Flamingo to Caesars Palace   | Y / N          |                         |       |            | /           |  |
| Caesars Palace to South Siegfried and Roy                                | Y / N          |                         |       |            | /           |  |
| South Siegfried and Roy to North Siegfried and Roy                       | Y / N          |                         |       |            | /           |  |
| North Siegfried and Roy to Palazzo (Sirens Cove)                         | Y / N          |                         |       |            | /           |  |
| Palazzo (Sirens Cove) to Sands (Spring Mountain)                         | Y / N          |                         |       |            | /           |  |
| Sands (Spring Mountain) to Wynn Main Gate (Fashion Show)                 | Y / N          |                         |       |            | /           |  |
| Wynn Main Gate (Fashion Show) to Wynn Las Vegas                          | Y / N          |                         |       |            | /           |  |
| Wynn Las Vegas to Cathedral (Genting)                                    | Y / N          |                         |       |            | /           |  |
| Cathedral (Genting) to Convention Center                                 | Y / N          |                         |       |            | /           |  |
| Convention Center to Resorts World                                       | Y / N          |                         |       |            | /           |  |
| Resorts World to Elvis Presley   | Y / N          |                         |       |            | /           |  |
| <b>Total Time (Min:Sec)</b>  |                |                         |       |            |             |  |

**Figure 3.2 – Data Collection Form Used for Northbound Travel Times (Non-Holiday Weekend, June 25, 2022)**



### 3.1.2. Vehicle Volume Counts

During the data collection period on Saturday, May 28, 2022 (Memorial Day Weekend), and on Saturday, June 25, 2022 (Non-Holiday Weekend), vehicle volume counts were performed along Las Vegas Boulevard at three locations with two cameras at each location, one recording northbound traffic, and the other recording southbound traffic. The first two cameras were located north of Tropicana Avenue, the second set was north of Flamingo Road, and the third was located north of Spring Mountain Road (as illustrated in **Figure 3.3**).

Video cameras (as shown in **Photo 3.2** and **Photo 3.3**) were used to collect vehicle volumes. The cameras were stationary and mounted on poles extending approximately 30 feet into the air. A battery pack was then mounted to the pole, and the pole was secured to a post or other non-moveable item in the public right-of-way (i.e., a median island tree, light pole, or fence). The cameras have a wide-angle lens and were programmed to begin recording at 12:00 AM on the day of data collection. The recording duration lasted 24 hours. After the recording was complete, the camera setup was retrieved, and the video data was processed to summarize vehicle volumes by lane and travel direction.



Photo 3.2 – Camera Equipment Used to Collect Vehicle Volume Counts

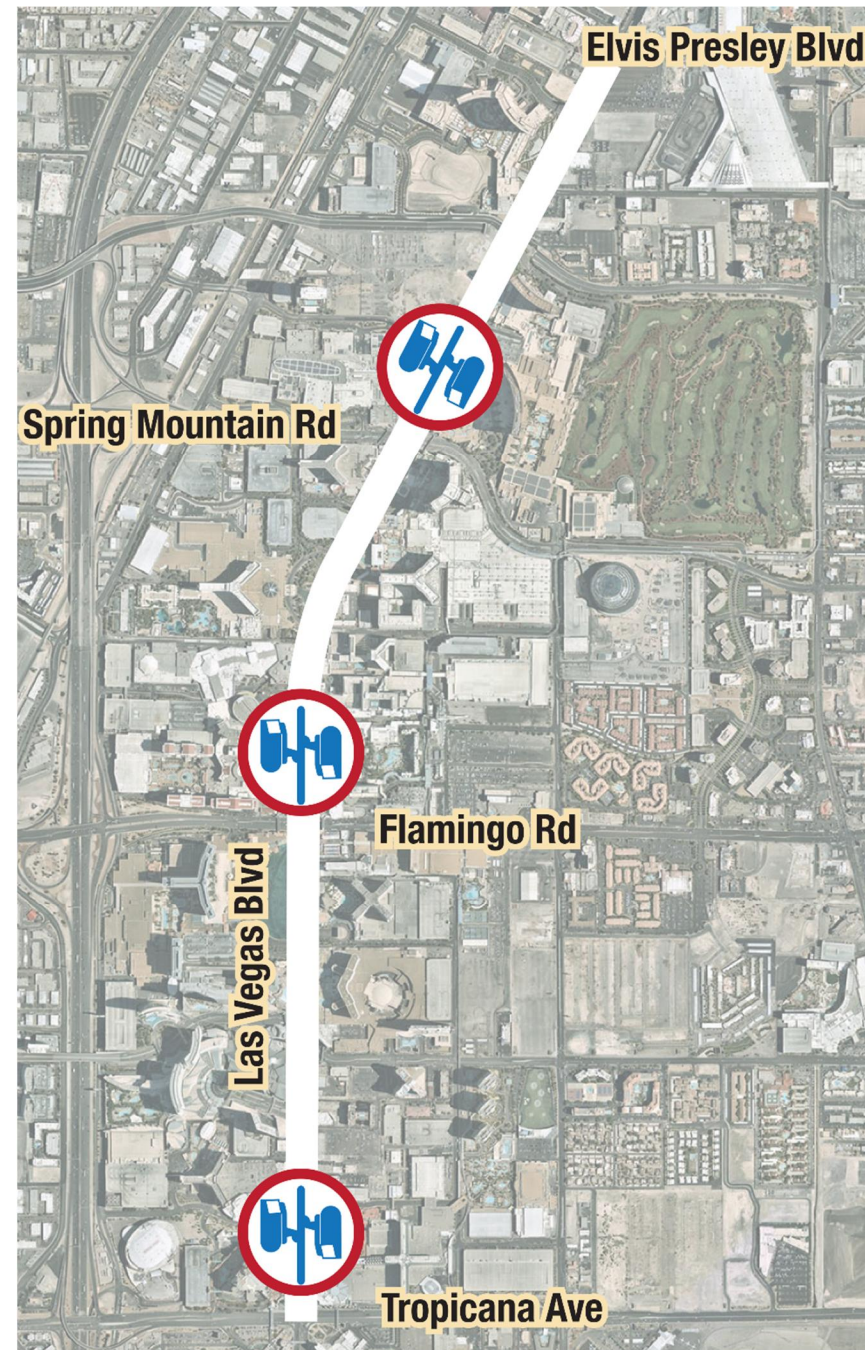


Figure 3.3 – Vehicle Volume Count Camera Locations



Photo 3.3 – Typical Installation of Camera to Collect Vehicle Volume Counts

**3.1.3. Mobile Billboard Volumes and Headway Characteristics**

Clark County Public Works staff members used RTC FAST cameras to observe Las Vegas Boulevard during the 3 field observed data collection periods. County staff members identified the number of mobile billboards and the headway (amount of time) between billboards in each travel lane in the northbound and southbound directions. The mobile billboard headway data was collected at the following four locations along Las Vegas Boulevard, including:

- Tropicana Avenue
- Flamingo Road
- Palazzo Drive (Private)
- Convention Center Drive

The times when each of the mobile billboards crossed a cordon line within the cameras' view in each lane was recorded. The record provided both a tally for the number of mobile billboards and the headway between billboards. The headway was recorded based on the lane in which each billboard was traveling (see **Figure 3.4**). Two mobile billboards traveling in Lane 2 are shown in **Photo 3.4**.



**Photo 3.4 – Mobile Billboards Traveling in Lane 2**

**FLAMINGO ROAD & LAS VEGAS BOULEVARD**

| SOUTHBOUND THRU |         |    | NORTHBOUND THRU |         |    |
|-----------------|---------|----|-----------------|---------|----|
| T3              | T2      | T1 | T1              | T2      | T3 |
| ↓               | ↓       | ↓  | ↑               | ↑       | ↑  |
|                 | 5:00:49 |    |                 | 5:00:42 |    |
|                 | 5:00:47 |    |                 |         |    |
| 5:02:58         |         |    |                 | 5:12:21 |    |
| 5:04:00         |         |    |                 | 5:14:52 |    |
|                 | 5:05:47 |    |                 | 5:27:54 |    |
|                 | 5:06:17 |    |                 |         |    |
|                 | 5:08:25 |    |                 | 5:32:54 |    |
|                 | 5:08:39 |    |                 | 5:32:59 |    |
|                 | 5:08:45 |    |                 | 5:36:07 |    |
|                 |         |    |                 | 5:36:08 |    |
| 5:09:08         |         |    |                 | 5:41:13 |    |
|                 |         |    |                 | 5:41:29 |    |
| 5:11:29         | 5:16:41 |    |                 | 5:43:49 |    |
|                 | 5:16:48 |    |                 | 5:46:21 |    |
| 5:19:14         | 5:19:40 |    |                 | 5:47:30 |    |
|                 |         |    |                 | 5:47:00 |    |
| 5:22:10         | 5:22:19 |    |                 | 5:47:01 |    |
|                 | 5:35:36 |    |                 | 5:49:08 |    |
| 5:29:38         | 5:54:27 |    |                 | 6:13:12 |    |
|                 |         |    |                 | 6:22:00 |    |

RW  
5/28

**Figure 3.4 – Typical Mobile Billboard Volume and Headway Data Collection Sheet**

**3.1.4. Mobile Billboard Illuminance**

Per the Clark County ordinance, mobile billboards are prohibited from operating a vehicle that illuminates the display or advertising by more than 0.3 foot-candles over ambient levels as measured using a foot-candle meter. Based on Section 30.72.040 of Clark County Code, it is unclear if this is applicable to mobile billboards when they are within the gaming corridor. Examples of typical mobile billboard illuminance are included in **Photo 3.5** and **Photo 3.6**. Illuminance is the amount of light that is recorded on the metering device or reflected from a surface while luminance is the amount of light created (light that leaves the bulb). For this study, illuminance was collected and evaluated. The illuminance of the mobile billboards along Las Vegas Boulevard was collected on Thursday, June 24, 2021, from 6:30 PM to 10:30 PM. Illuminance data was collected for the ambient light reading as well as for all sides of multiple mobile billboards.



**Photo 3.5 – Mobile Billboard with a Bright Electronic Display**



Photo 3.6 – Mobile Billboard with a Bright Electronic Display

### 3.2. Las Vegas Background Conditions During Data Collection

The background conditions of Las Vegas were reviewed to understand tourism activity levels during holiday and non-holiday weekends. The following sections describe the tourism activity, events, and weather conditions leading up to and during the data collection weekends, May 28, 2022 (Memorial Day Weekend) and June 25, 2022 (Non-Holiday Weekend).

#### 3.2.1. Tourism

At the time this report was prepared, the latest available tourism indicator data from the Las Vegas Convention and Visitors Authority (LVCVA) was updated for May 2022. The tourism indicator data includes total passengers at Harry Reid International Airport, visitor volumes, I-15 traffic volumes, and hotel occupancy rates. The available tourism data is summarized in **Table 3.2**. Tourism data for 2020 was not included for comparison, as this was the year in which the COVID-19 pandemic severely impacted Las Vegas tourism.

The airport experienced a total of 4,577,609 passengers in May 2022, compared to 3,521,630 passengers in May 2021, 4,584,506 passengers in May 2019, and 4,354,367 passengers in May 2018.

Essentially, in May 2022, the airport saw approximately 30.0% more passengers when compared with May 2021, 0.2% fewer passengers when compared with May 2019, and 5.1% more passengers when compared with May 2018.

In May 2022, Las Vegas experienced a total visitor volume of 3,446,900, compared to 2,878,200 visitors in May 2021, 3,691,100 visitors in May 2019, and 3,630,400 visitors in May 2018.

Total visitor volume in May 2022 is up roughly 19.8% from 2021, but down 6.6% and 5.1% compared with May 2019 and May 2018, respectively.

Table 3.2 – May Tourism Data Comparison

| Tourism Measures                                     | May 2022  | May 2021  | May 2019  | May 2018  |
|--|-----------|-----------|-----------|-----------|
| Total Passengers at Harry Reid International Airport | 4,577,609 | 3,521,630 | 4,584,506 | 4,354,367 |
| Visitor Volumes                                      | 3,446,900 | 2,878,200 | 3,691,100 | 3,630,400 |
| I-15 Traffic Volumes                                 | 47,515    | 50,754    | 46,993    | 47,268    |
| Citywide Weekend Hotel Occupancy                     | 91.9%     | 87.8%     | 96.4%     | 96.0%     |
| Las Vegas Strip Hotel Occupancy                      | 85.5%     | 71.8%     | 92.2%     | 90.5%     |

I-15 provides interstate connectivity between Las Vegas, Nevada and Los Angeles, California. The average daily automobile traffic on I-15 at the Nevada/California border in May 2022 was reported at 47,515 vehicles, compared to historical traffic volumes of 50,754, 46,993, and 47,268 vehicles in May 2021, May 2019, and May 2018, respectively.

In May 2022, Las Vegas obtained a valley-wide weekend hotel occupancy rate of 91.9%, compared to 87.8% in May 2021, 96.4% in May 2019, and 96.0% in May 2018. In May 2022, the Strip experienced a hotel occupancy rate of 85.5%, compared to 71.8% in May 2021, 92.2% in May 2019, and 90.5% in May 2018.

Based on the LVCVA tourism indicator data as of May 2022, tourism in Las Vegas has generally recovered from the impact of the COVID-19 pandemic and has nearly returned to pre-pandemic levels.

The number of annual visitors to Las Vegas is expected to continue to increase with ongoing casino, resort, and event center expansions, as well as new construction. **Photo 3.7** and **Photo 3.8** illustrates the high pedestrian activity on Las Vegas Boulevard on May 28, 2022.

An example of the pedestrian activity on Las Vegas Boulevard as included in the Kimley-Horn 2015 Pedestrian Study is included in **Figure 3.5**.

This figure illustrates the pedestrian activity on Las Vegas Boulevard over a 12-hour period. As shown, the peak activity level is generally between 6:00 PM and 12:00 AM, which coincides with the peak time

periods advertised by the mobile billboard companies. Approximately 2,200 pedestrians walked in front of the Bellagio Hotel Resort/Casino within the peak 15-minute period on a holiday Saturday in 2015.



Photo 3.7 – High Pedestrian Activity on Las Vegas Boulevard on May 28, 2022 (Memorial Day Weekend)



Photo 3.8 – High Pedestrian Activity on Las Vegas Boulevard on May 28, 2022 (Memorial Day Weekend)

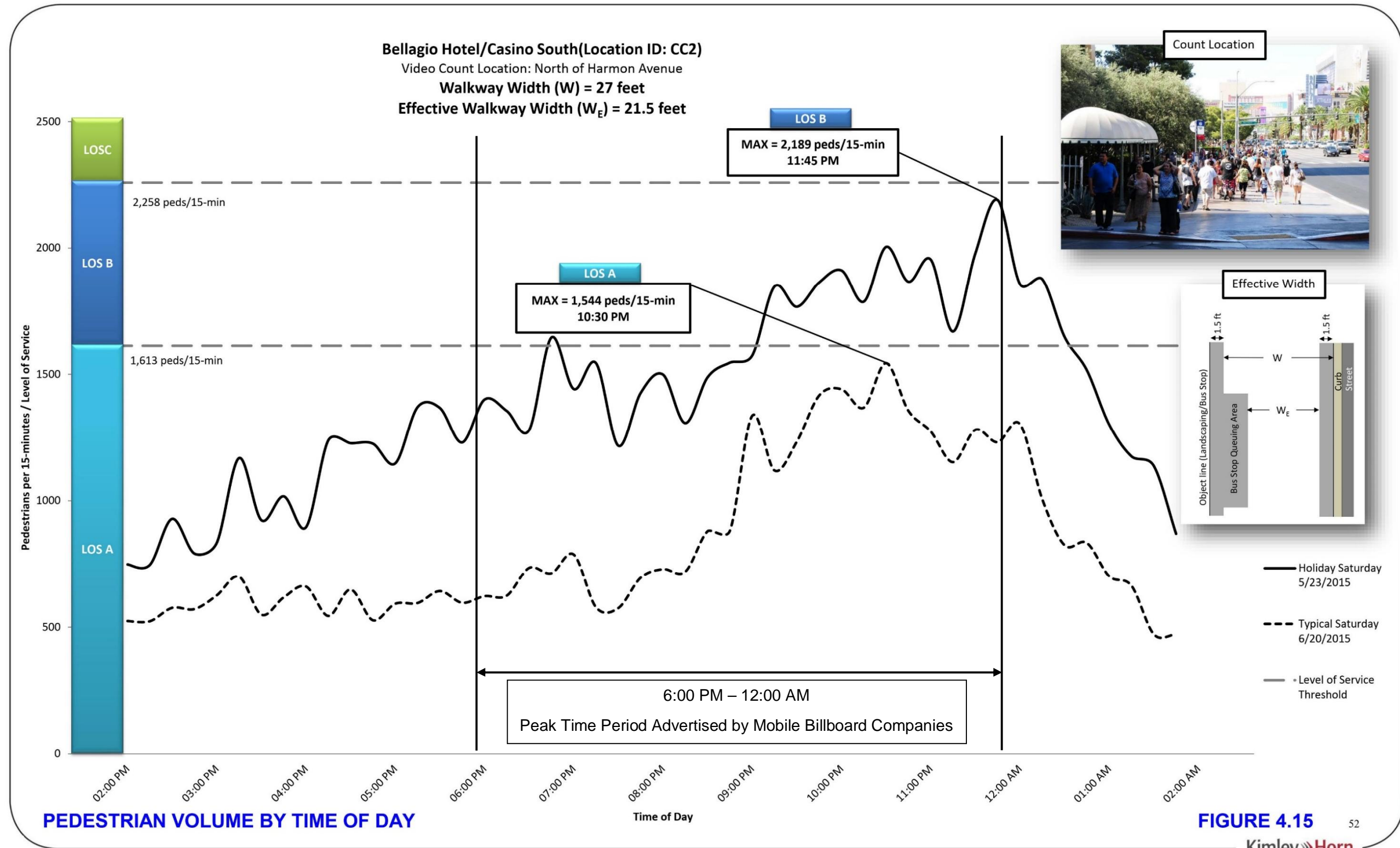


Figure 3.5 – Pedestrian Volume Data Figure – 2015 Las Vegas Boulevard Pedestrian Study



### 3.2.2. Events

During and surrounding the data collection weekends of May 28, 2022 (Memorial Day Weekend) and June 25, 2022 (Non-Holiday Weekend), numerous events were attracting tourists to the Las Vegas Gaming Corridor in addition to the wide variety of regularly scheduled shows, concerts, conferences, and events. Events included:

#### May 2022

- AEW Wrestling, Michelob ULTRA Arena at Mandalay Bay, May 25 and May 27
- The Doobie Brothers, Zappos Theater at Planet Hollywood, May 27 and May 28
- The Eagles, MGM Grand Garden Area, May 28
- AEW Wrestling, T-Mobile Arena, May 29
- New Kids on the Block, Michelob ULTRA Arena at Mandalay Bay, May 29
- Jack White, The Chelsea at The Cosmopolitan, May 29

#### June 2022

- AJR, The Chelsea at The Cosmopolitan, June 24
- Los Dos Carnales, The Theater at Virgin Hotels, June 24
- Marca MP, MGM Grand Garden Area, June 24
- World Series of Poker, June 24 through June 26
- Primus, The Theater at Virgin Hotels, June 25
- Nick Cannon, MGM Garden Area, June 25
- Justin Bieber, T-Mobile Arena, June 25
- Fantasy Sports-Con, Las Vegas Convention Center (LVCC), June 25
- International Esthetics Cosmetics & Spa Conference, LVCC, June 25 through June 27
- Aerosmith, Dolby Live at the Park MGM, June 26

The identified events represent typical Las Vegas Gaming Corridor activities during the study observation periods.

### 3.2.3. Weather

On Saturday, May 28, 2022, the highest recorded temperature for the day was 93 degrees Fahrenheit and the lowest recorded temperature was 77 degrees Fahrenheit, as indicated at the Harry Reid International Airport Weather Station. The historical average high temperature for this day is 93.2 degrees Fahrenheit and the historical average low temperature is 70 degrees Fahrenheit. The weather was generally reported to be partly or mostly cloudy, with wind speeds ranging from 5 to 21 mph.

The highest recorded temperature on June 25, 2022, was 104 degrees Fahrenheit for the day and the lowest recorded temperature was 79 degrees Fahrenheit. The historical average high temperature for this day is 102.1 degrees Fahrenheit and the historical average low temperature is 78.7 degrees Fahrenheit. The weather was generally reported to be fair, with wind speeds ranging from 0 to 10 mph.

The weather conditions for the two observation days were typical and not found to impact tourist or mobile billboard activities along Las Vegas Boulevard.

### 3.2.4. Roadway Conditions

Prior to initiating data collection and field observations, the existing conditions within the study limits of Las Vegas Boulevard were observed/reviewed to identify conditions that could impact mobile billboard operations and/or traffic flow of the Strip.

During the Thursday, May 19, 2022 (Typical Weekday) observations, the following conditions were identified and noted for the study:

- For the entirety of the data collection period, Lane 3 and Lane 4 were closed between Siren's Cove Boulevard and Fashion Show Drive northbound and southbound due to construction.

During the Saturday, May 28, 2022 (Memorial Day Weekend) observations, the following conditions were identified and noted for the study:

- Both Lane 3 and Lane 4 were closed due to construction between Siren's Cove Boulevard and Fashion Show Drive in the northbound direction and between Fashion Show Drive and Siren's Cove Boulevard in the southbound direction for the entirety of the data collection period.
- A bus broke down in Lane 2 between 4:00 PM and 5:00 PM.

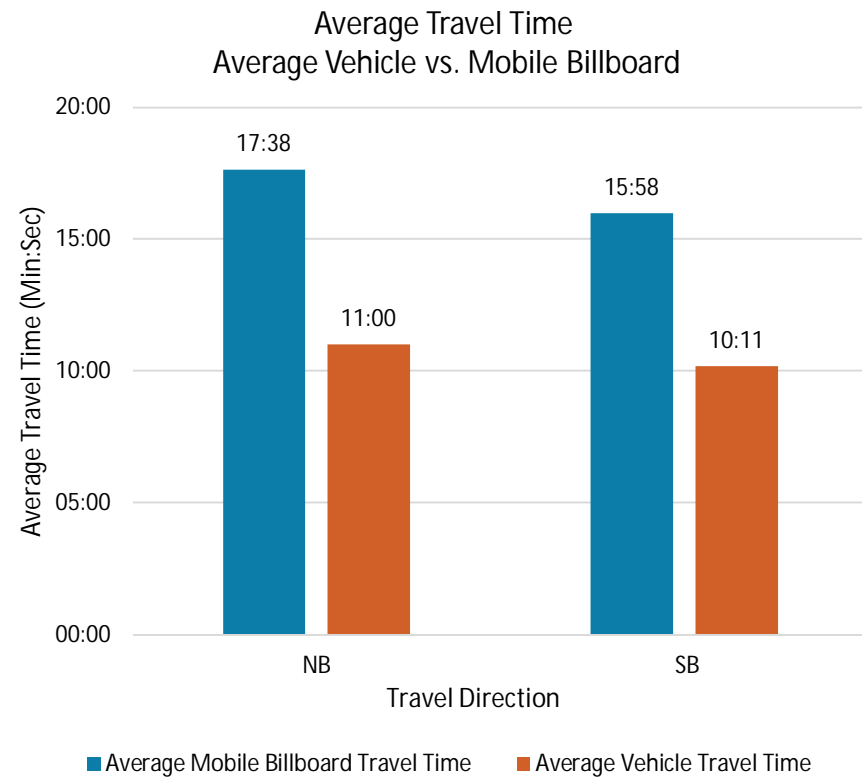
During the Saturday, June 25, 2022 (Non-Holiday Weekend) observations, the following conditions were identified and noted for the study:

- All northbound lanes were open; however, southbound Lane 3 and Lane 4 were closed from Fashion Show Drive to Siren's Cove Boulevard.
- A vehicle crash occurred in the northbound lanes south of the intersection of Las Vegas Boulevard and Tropicana Avenue around 6:15 PM. The crash was not within the study limits but created significant congestion that reduced the number of runs completed within the data collection period.

### 3.3. Field Observations

The following field observations were noted during the data collection periods on Thursday, May 19, 2022 (Typical Weekday), Saturday, May 28, 2022 (Memorial Day Weekend), and Saturday, June 25, 2022 (Non-Holiday Weekend). These observations represent approximately 300 person-hours of field time by trained staff within the traffic flows of Las Vegas Boulevard or by street-side observations from sidewalks and pedestrian bridges. Additionally, 144 hours of video data was collected for traffic counts and approximately 135,000 vehicles were observed. From these efforts, the following general observations are worthy of note:

- Under typical weekday conditions (Thursday, May 19, 2022), mobile billboards were observed to be driving slower than the general flow of traffic at about 10 to 15 mph below the speed limit.
- As shown in **Graph 3.1**, mobile billboards were found to travel approximately 35% slower than a typical vehicle in non-peak hour conditions, taking about 6 minutes longer to travel the study corridor than an average vehicle.



**Graph 3.1 – Average Travel Time – Average Vehicle versus Mobile Billboard**

- Mobile billboards were typically slow to accelerate when traffic signals turn green and quick to decelerate/stop when lights turn yellow/red.
- Other vehicles on Las Vegas Boulevard generally avoided driving behind mobile billboards and change lanes from behind them when open lanes are available.
- Vehicles were observed to have difficulty changing lanes/passing mobile billboards under free flow conditions as vehicles in adjacent lanes were traveling faster than the mobile billboards.
- As a result of vehicles changing lanes to avoid driving behind mobile billboards, platoons of mobile billboards would form, as depicted in **Photo 3.9** and **Photo 3.10**.



**Photo 3.9 – Three Mobile Billboards in Southbound Lane 3 – (Thursday, May 19, 2022, 5:50 PM)**



**Photo 3.10 – Four Mobile Billboards in Southbound Lane 3 – (Thursday, May 19, 2022, 5:40 PM)**

- Mobile billboards were generally found to drive Las Vegas Boulevard from Mandalay Bay Road to Fashion Show Drive. No U-turns were observed from licensed mobile billboards as the vehicles generally use Frank Sinatra Drive, Sammy Davis Jr. Drive, Fashion Show Drive, Genting Boulevard, Reno Avenue, Giles Street, and Koval Lane to turn around.
- Mobile billboards were also observed to purposefully travel in groups of four or five as shown in **Photo 3.11**.



**Photo 3.11 – Four Mobile Billboards in a Row in Northbound Lane 2 Displaying the Same Advertisement and One in Lane 3 – (Thursday, May 28, 2022, 5:30 PM)**

- Mobile billboards were observed to drive primarily in Lane 2. Lane 2 is generally considered the fastest lane as it is typically not impacted by vehicles:
  - Stopping to turn right into driveways (Lane 3 or Lane 4)
  - Stopping to wait for pedestrians crossing access drives (Lane 3 or Lane 4)
  - Emergency vehicles stopping (Lane 3)
  - Left-turning vehicles queuing back into the through lane (Lane 1)
- Mobile billboard drivers were found to take breaks at the Arco and Shell gas stations as well as behind the shopping plaza at the Las Vegas Boulevard and Four Seasons Drive intersection on the south end of the Strip.
- Typically, mobile billboards were observed to stop at intersections with 30- to 60-feet of space with the potential to accommodate 1 to 3 additional vehicles. **Figure 3.6** illustrates the gapping created by the mobile billboards at a red signal and was documented in the field as shown in **Photo 3.12** and **Photo 3.13**. At 35 mph, the stopping sight distance is calculated to be 250 feet. The observed spacing from mobile billboards was seen to be on the order of 30 to 100 feet, allowing more vehicle separation than is typically provided by average vehicle spacings in the study limits.
- Mobile billboards were observed to also stop at least one car length before the stop bar at intersections.

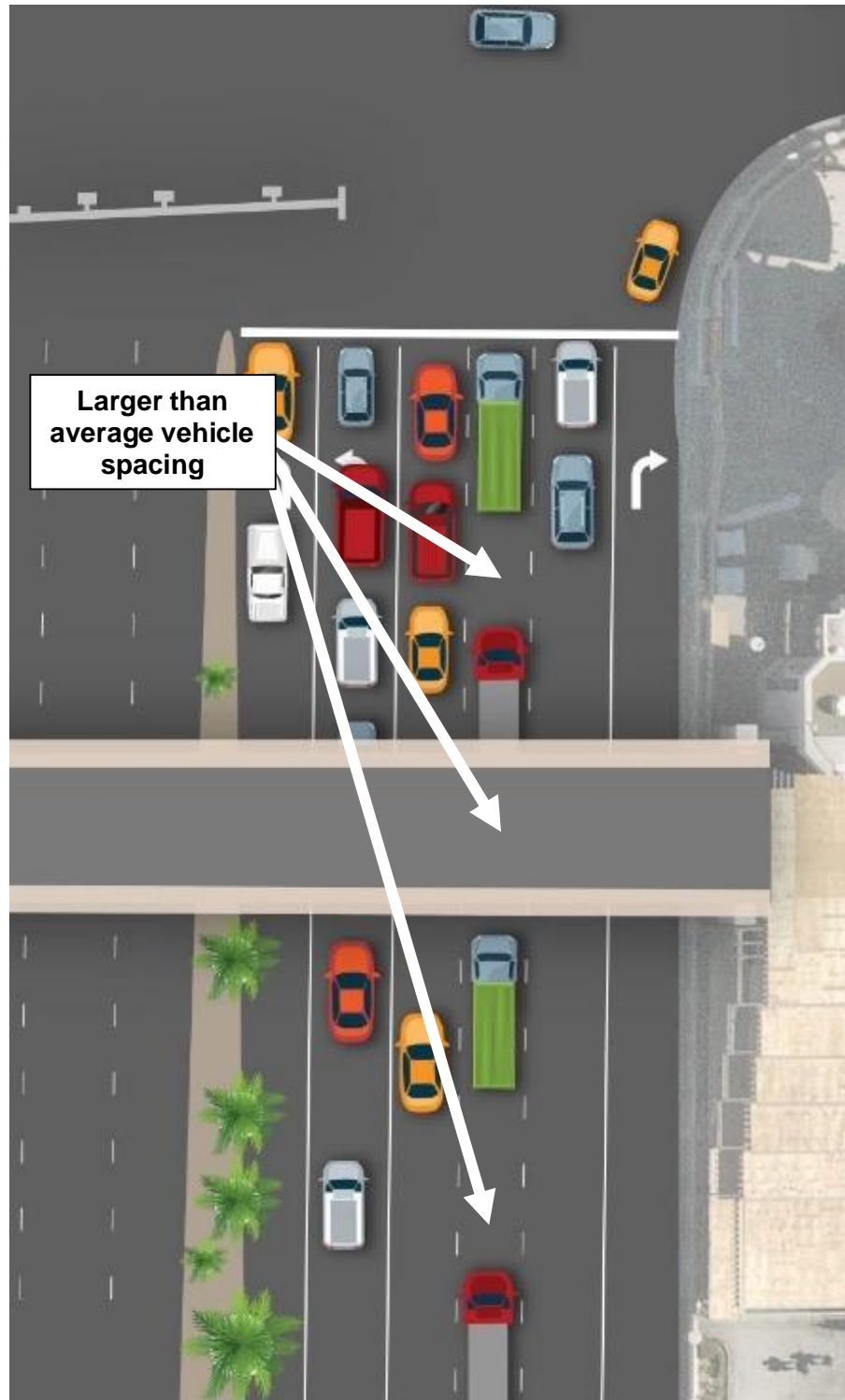


Figure 3.6 – Illustration of Spacing Between Mobile Billboards at Signalized Intersections



Photo 3.12 – Spacing Between Mobile Billboard Vehicles at a Red Signal

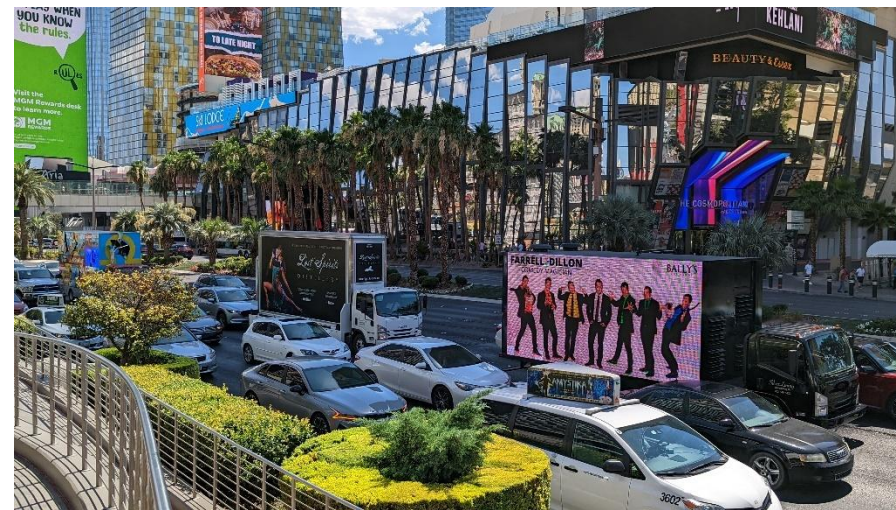


Photo 3.13 – Mobile Billboard Vehicles at a Red Signal

- Several mobile billboards were observed to be playing sounds and to have flashing lights which were considered distracting and caused eye strain to drivers in evening hours.
- It was observed that the mobile billboards without a Clark County license decal typically drove in Lane 3, while most other mobile billboards drove in Lane 2. A vehicle without a Clark County license was observed making U-turns on the Strip.
- The highest number of mobile billboards observed within the study limits between Elvis Presley Boulevard and Tropicana Avenue from all observations was 33 vehicles in the northbound direction.
- As illustrated in **Figure 3.7**, approximately 372 mobile billboards would fill the entirety of Lane 2 within the study corridor.
- Emergency response vehicles were observed throughout the study limits of the Strip during the data collection periods.
- Police cars were observed blocking Lane 3 or Lane 4 within the study corridor providing public protection/incident response.
- From observations conducted following mobile billboards at the end of a work shift, it was seen that the mobile billboards would leave the study limits to return directly to their respective company's parking area. It was observed that illuminated advertising was not turned off as the ambient lighting off the Strip was greatly reduced. This resulted in the mobile billboard becoming a significant visual distraction with its illuminated advertising (see **Photo 3.14** and **Photo 3.15**).



Photo 3.14 – Typical LED Mobile Billboard Leaving the Gaming Corridor



Photo 3.15 – Typical LED Mobile Billboard Far Beyond the Gaming Corridor (Charleston Boulevard and Indigo Drive)

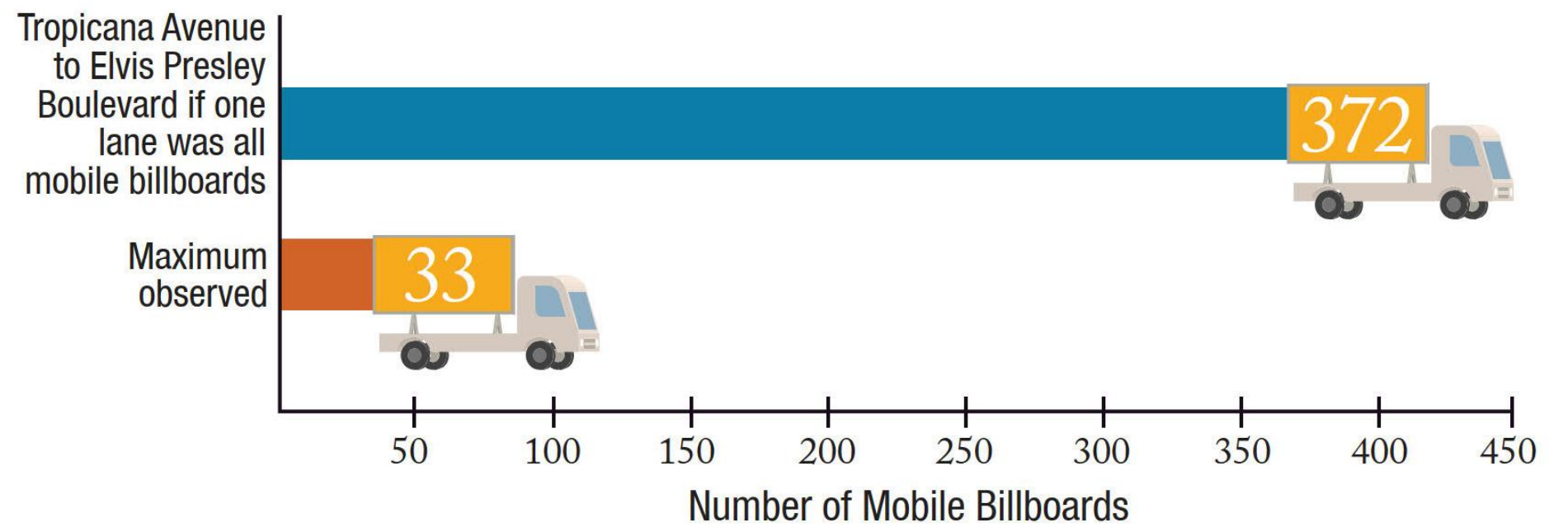


Figure 3.7 – Maximum Observed Billboards and Maximum Single Lane Queue within the Study Corridor

## 4. DATA EVALUATION

This section summarizes the evaluation methodology and the analyses conducted with the collected travel time runs, vehicle volume counts, and light intensity measurements. The collected data is also visually represented in graphs and tables to aid in identifying trends and results.

### 4.1. Analysis Methodology

#### 4.1.1. Vehicle Travel Time and Volume Analysis Methodology

The 2.6-mile study corridor from Tropicana Avenue to Elvis Presley Boulevard was divided into six segments, each with a length of approximately 0.5 miles to evaluate differences in travel time that may approximate individual vehicle behavior, as most vehicles along Las Vegas Boulevard do not typically travel the length of the study corridor although that was the observed route of the mobile billboards. Each of the six segments, identified by their beginning and ending intersections, as well as the length of each segment in feet is summarized in **Table 4.1**.

**Table 4.1 – Roadway Segments**

| Segment Number | South Boundary                       | North Boundary                       | Length (feet) |
|----------------|--------------------------------------|--------------------------------------|---------------|
| 1              | Tropicana Avenue                     | Harmon Avenue                        | 2,887         |
| 2              | Harmon Avenue                        | Flamingo Road                        | 2,154         |
| 3              | Flamingo Road                        | S. Siegfried and Roy Drive (Private) | 1,963         |
| 4              | S. Siegfried and Roy Drive (Private) | Spring Mountain Road                 | 2,187         |
| 5              | Spring Mountain Road                 | Genting Boulevard                    | 2,305         |
| 6              | Genting Boulevard                    | Elvis Presley Boulevard              | 2,171         |
| <b>Total</b>   | <b>Tropicana Avenue</b>              | <b>Elvis Presley Boulevard</b>       | <b>13,667</b> |

The average travel speed along each segment was calculated using the length of each segment and the documented average travel time for vehicles in each lane for that segment. The average travel speed was used to highlight areas that experience congestion and provide an understanding of road conditions along Las Vegas Boulevard during the data collection period. A statistical analysis was also

conducted for the vehicle travel times, the results of which are outlined in **Section 4.2**.

After the statistical evaluation, an outlier analysis was completed. Any existing outliers were examined for explanatory field notes included in the original data; however, no outliers were removed from the statistical evaluation. The decision not to remove data was made after reviewing the original data collection forms to verify accuracy and to verify that the outlying data points were consistent with reported travel times along the entire northbound or southbound driving runs along the study limits.

Traffic volumes, including mobile billboard volumes, were collected during the study periods. The vehicle volume data was compared to the number of mobile billboards on the street network in the same time period. Graphs illustrating traffic volumes by time of day per lane and segment are shown in **Appendix I**.

#### 4.1.2. Mobile Billboard Headway Analysis Methodology

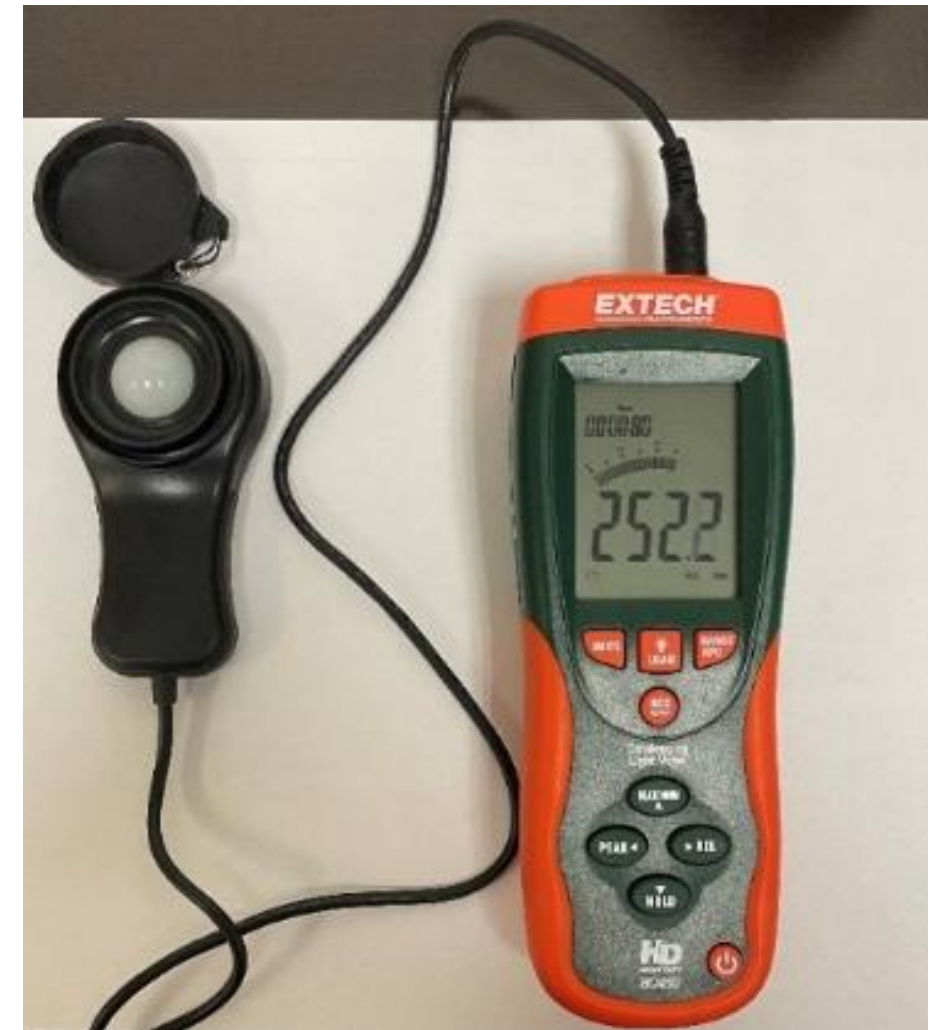
Mobile billboard headways were defined based on the data collected by Clark County staff. Headways were calculated per lane as well as combined across the three-four lanes in each direction (northbound and southbound). A headway analysis was conducted for both Saturday, May 28, 2022 (Memorial Day Weekend) and Saturday, June 25, 2022 (Non-Holiday Weekend).

#### 4.1.3. Mobile Billboard Illuminance

Light levels can be measured in luminance or illuminance metrics. Illuminance is the amount of light that recorded on the metering device or reflected from a surface while luminance is the amount of light created (light that leaves the bulb). Illuminance is measured in foot-candles. The relationship between nits, lux, and foot-candles is shown in the equation below:

$$1 \text{ nit} = 1 \text{ lux} = 0.09 \text{ fc}$$

To be consistent with the Clark County Code, light levels in this study were also measured in metrics of foot-candles. Illuminance data collection was performed using an EXTECH Instruments light meter. The light meter used in this evaluation is shown in **Photo 4.1**.



**Photo 4.1 – EXTECH Instruments Light Meter**

The light meter features a light sensor which converts the light energy detected into an electrical charge that is displayed as a numerical value on the light meter's digital screen. The EXTECH Instruments light meter has the capability to measure light levels in both lux and foot-candles.

Light level readings were taken by pointing the light sensor in the direction perpendicular to the emitting light source. The foot-candle measurement was then displayed on the light meter screen. Dozens of data samples were collected with the light sensor measuring ambient light levels while driving along Las Vegas Boulevard, and hundreds of data samples were collected with the light sensor measuring light levels along Las Vegas Boulevard while driving next to a mobile billboard. Examples of how the light meter readings were taken are shown in **Photo 4.2** and **Photo 4.3**.



Photo 4.2 – Ambient Light Reading

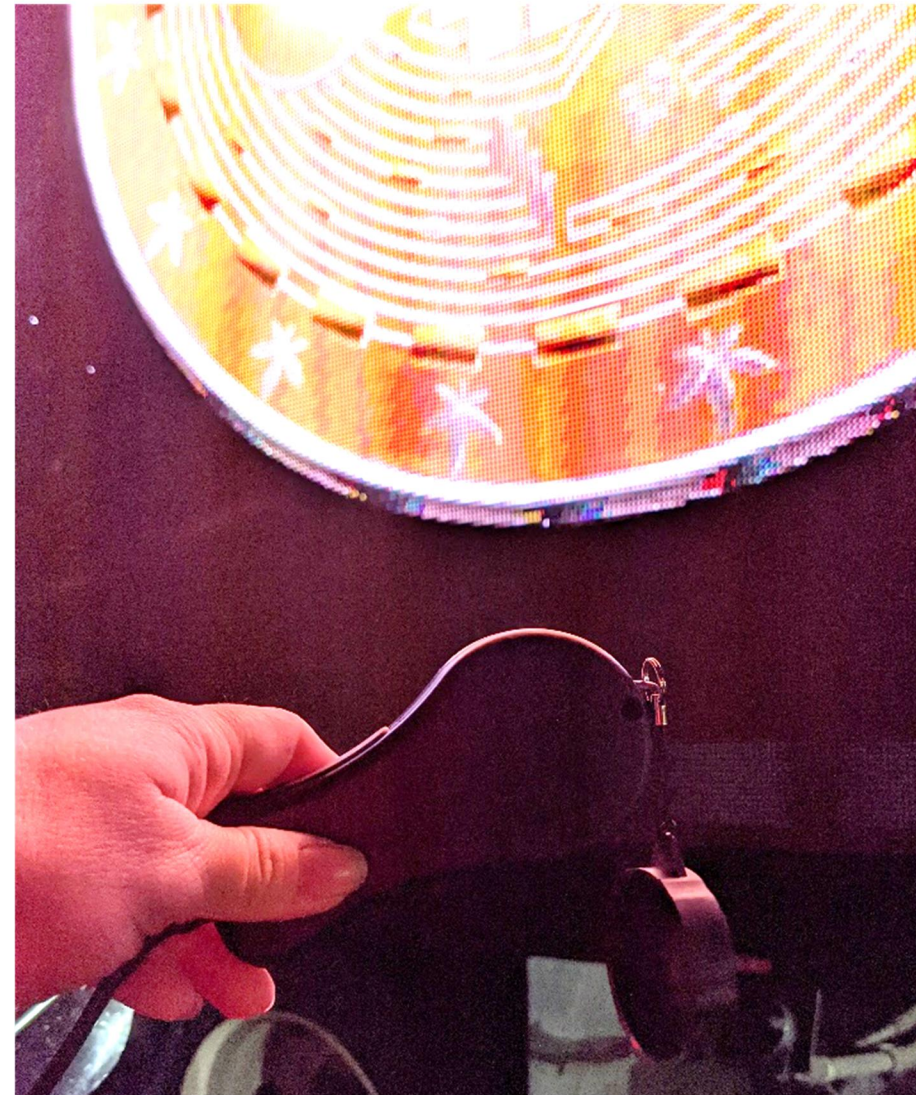


Photo 4.3 – Mobile Billboard Light Reading

#### 4.2. Vehicle Travel Time Evaluation

The first step in the travel time evaluation was to determine if the collected data was statistically different based on which day it was collected, i.e., if the travel times are significantly different on a holiday Saturday compared to a normal Saturday. A statistical analysis defined a null hypothesis that the difference in recorded average travel time between the two study days is equal to 0.00 minutes. If the null hypothesis is disproved, then the analysis shows that the two means are statistically different. To do this, a two-tailed Welch's t-test was carried out on both the north- and southbound data for each of the collection days. The alpha value chosen for this test was 0.05 (a 95% confidence interval). The data collected on May 28, 2022, includes 51 northbound and 52 southbound samples, while the data collected on June 25, 2022, includes 30 northbound and 33 southbound samples. A Welch's t-test was chosen for this analysis because the sample sizes collected on each day were unequal. The results of these tests are shown in **Table 4.2** and **Table 4.3**.

For the northbound t-test, the absolute value of the test statistic on a 95% confidence interval is equal to 8.49 and is greater than the critical two-tail value of 1.99. Additionally, the two-tailed p-value is equal to 0.00000000000114, which is smaller than the alpha value (0.05) and confirms that there is sufficient variation and evidence that the data sets are statistically different. The southbound t-test reported similar overall results, with the absolute value of the test statistic on a 95% confidence interval equal to 4.01, which is greater than the critical two-tail value of 1.98. Here again, the two-tailed p-value (equal to 0.00013) is smaller than the alpha value (0.05). The analysis conducted on both the northbound and southbound travel times indicates that the null hypothesis (that there is no difference in travel time between the two days) should be rejected. Thus, the difference in travel times between the two collection days was significant.

In other words, the statistical analysis determined that the observed travel times between the holiday and non-holiday Saturday are statistically different from each other.

**Table 4.2 – Welch’s t-test on Northbound Travel Times for a Holiday and a Non-Holiday Saturday in 2022**

| Statistical Measures         | Saturday May 28, 2022 | Saturday June 25, 2022 |
|------------------------------|-----------------------|------------------------|
| Mean                         | 0.020917              | 0.014151               |
| Variance                     | 1.82E-05              | 8.33E-06               |
| Observations                 | 51                    | 30                     |
| Hypothesized Mean Difference | 0                     | -                      |
| df                           | 77                    | -                      |
| t Stat                       | 8.492322              | -                      |
| P(T<=t) one-tail             | 5.72E-13              | -                      |
| t Critical one-tail          | 1.664885              | -                      |
| P(T<=t) two-tail             | 1.14E-12              | -                      |
| t Critical two-tail          | 1.991254              | -                      |

**Table 4.3 – Welch’s t-test on Southbound Travel Times for a Holiday and a Non-Holiday Saturday in 2022**

| Statistical Measures         | Saturday May 28, 2022 | Saturday June 25, 2022 |
|------------------------------|-----------------------|------------------------|
| Mean                         | 0.019062              | 0.015439               |
| Variance                     | 2.53E-05              | 1.09E-05               |
| Observations                 | 52                    | 33                     |
| Hypothesized Mean Difference | 0                     | -                      |
| df                           | 83                    | -                      |
| t Stat                       | 4.01376               | -                      |
| P(T<=t) one-tail             | 6.52E-05              | -                      |
| t Critical one-tail          | 1.66342               | -                      |
| P(T<=t) two-tail             | 0.00013               | -                      |
| t Critical two-tail          | 1.98896               | -                      |

After the statistical analysis and verification that the data was significantly different between the two collection days, the average travel speed was calculated, and an outlier analysis was conducted.

The outlier analysis was conducted to help identify trends in the data and assist in understanding the general distribution of the recorded travel times and estimated travel speeds. Some outliers were present in both the travel time and travel speed, and the notes collected by the field team were reviewed for each of the identified outliers. Many of

<sup>7</sup> Highway Capacity Manual 6<sup>th</sup> Edition: A guide for Multimodal Mobility Analysis. Washington, DC: The National Academies Press.

the identified outliers did not have any notes associated with them, however, in some instances, the field team identified causes behind the outlying travel times and speeds. These factors included emergency response vehicles, lane closures due to construction, traffic crashes, or vehicles blocking an intersection. The notes gathered by the field team along with the recorded travel times are included in **Appendix C**. The outliers were not removed from the data. The decision not to remove data was made after reviewing the original data collection forms to verify accuracy and to verify that the outlying data points were consistent with reported travel times along the entire northbound or southbound driving runs along the study limits.

A second statistical analysis compared the travel times recorded for each lane with respect to the other lanes to determine if there was a statistical difference between the travel times in each lane. From this analysis, it was determined that the differences in travel times by lane for the northbound lanes were not statistically significant based on the t-test analysis, regardless of which day the data were collected on. In the southbound direction, the test results indicate that there is a statistical difference between the travel times of lanes 1 and 3 for both the May and June collection days. The results for all other lanes in the southbound direction indicated that there was no statistical difference in travel time. Based on this analysis, little if any differences in travel times exist between the lanes at a given time. More detailed results of this analysis are included in **Appendix D**.

The data was further examined for trends along the entire study corridor, along each segment, or in each individual lane. The travel time, travel speed, and traffic volumes (including the number of mobile billboards observed) were also examined for trends. The general corridor conditions were examined, and the data was broken into smaller segments to try and gain a better understanding of roadway conditions at different locations and at different times of day during the collection period. Based on the calculated travel speeds, a LOS was determined for the corridor according to the procedure outlined in the *Highway Capacity Manual*<sup>7</sup> and shown in **Table 4.4**. Two mobile billboards in the traffic flow on Las Vegas Boulevard are shown in **Photo 4.4**.

**Table 4.4 – Highway Capacity Manual Level of Service (LOS) Criteria**

| LOS | Travel Speed Threshold by Base Free-Flow Speed (mi/h) |     |     |     |     |     |     | Volume-to-Capacity Ratio |
|-----|---|-----|-----|-----|-----|-----|-----|--------------------------|
|     | 55  | 50  | 45  | 40  | 35  | 30  | 25  |                          |
| A   | >44   | >40 | >36 | >32 | >28 | >24 | >20 | ≤1.0                     |
| B   | >37   | >34 | >30 | >27 | >23 | >20 | >17 |                          |
| C   | >28   | >25 | >23 | >20 | >18 | >15 | >13 |                          |
| D   | >22   | >20 | >18 | >16 | >14 | >12 | >10 |                          |
| E   | >17   | >15 | >14 | >12 | >11 | >9  | >8  |                          |
| F   | ≤17   | ≤15 | ≤14 | ≤12 | ≤11 | ≤9  | ≤8  |                          |
| F   | Any   |     |     |     |     |     |     | >1.0                     |



**Photo 4.4 – Mobile Billboards on Las Vegas Boulevard**



**4.2.1. Typical Weekday General Corridor Overview (Thursday, May 19, 2022)**

The travel times along the entirety of the 2.6-mile study corridor were calculated and plotted to visualize the conditions along Las Vegas Boulevard on a typical weekday in both the northbound and southbound direction. It was found that Lane 1 had the shortest average travel time at 12 minutes and 4 seconds. Lane 3 was found to have the highest average travel time at 17 minutes and 0 seconds. Based on the values in **Graph 4.1** the range of average speeds along the corridor in the northbound direction was between 9.14 and 12.87 mph. As previously noted, the statistical analysis found that there was not a significant difference in travel time per lane, but this section summarizes the recorded data.

In the southbound direction, the average travel time varied between 15 minutes and 41 seconds to 24 minutes and 16 seconds as seen in **Graph 4.2**. These longer travel times result in slightly slower average travel speeds along the corridor ranging between 6.40 and 9.90 mph in the southbound direction. A summary of the calculated average speeds in each lane of the corridor is shown in **Table 4.5**. The observed travel times and travel speeds differed on Thursday, May 19 from those on a typical Saturday or holiday weekend. The travel times were generally faster than the Saturday runs with a faster travel speed. This is likely due to the decreased vehicle and pedestrian volumes characteristic of a typical weekday versus those of a weekend day.

On Thursday, May 19, 2022, the data was collected from 4:00 PM to 6:00 PM, the typical, commuter weekday PM peak hour.

To determine if there was an impact in certain segments within the study corridor, the travel time by segment was reviewed. The travel times within each segment were generally found to be consistent with the average for the study corridor. The graphs illustrating average travel time by segment can be found in **Appendix E**.

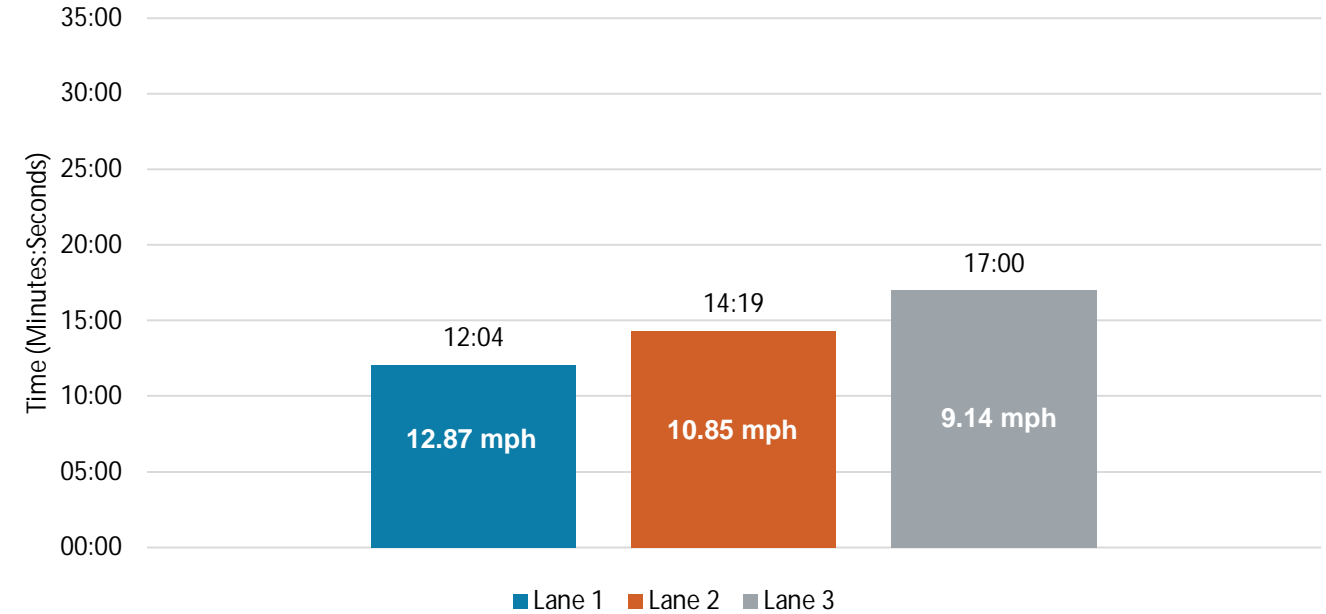
**Table 4.5 – Average Travel Speeds by Lane (Thursday, May 19, 2022)**

| Direction  | Lane Number | Average Number of Mobile Billboards (4:00 PM to 6:00 PM) | Average Speed (mph) | LOS* |
|------------|-------------|--|---------------------|------|
| Northbound | Lane 1      | 7  | 12.87               | E    |
|            | Lane 2      | 30   | 10.85               | F    |
|            | Lane 3      | 3  | 9.14                | F    |
| Southbound | Lane 1      | 4  | 9.90                | F    |
|            | Lane 2      | 63   | 6.39                | F    |
|            | Lane 3      | 7  | 7.22                | F    |

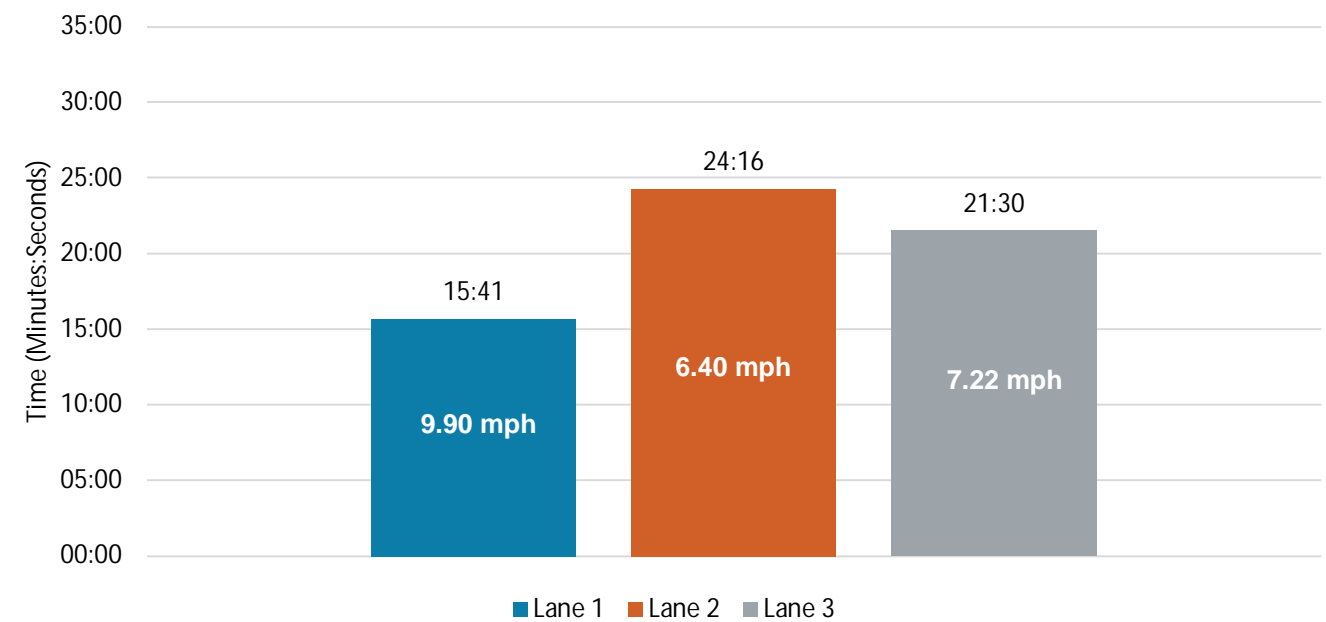
\*Note: Based on a posted speed limit of 35 mph

As seen in **Table 4.5**, Lane 1 was found to have the fastest travel average travel speeds in both the northbound and southbound direction. Lane 1 is the travel lane generally without any mobile billboards within its vehicle flows. Lane 3 was found to have the slowest average travel speeds in the northbound direction, and Lane 2 was found to have the slowest average travel speeds in the southbound direction. Lane 2 was observed to have the majority of the mobile billboards (82%) within its vehicle flow. It should also be noted that Lane 3 was impacted by construction in the northbound and southbound directions. Average cumulative travel times can also be seen in **Graph 4.3** and **Graph 4.4**. In the northbound direction, Lane 1 had the fastest overall travel time; however, Lane 2 was faster for the first two segments of the study corridor. In the southbound direction, Lane 2 was the slowest overall, however Lane 3 was slower for the first several segments.

From the average corridor travel speeds, all lanes provided LOS E or F.



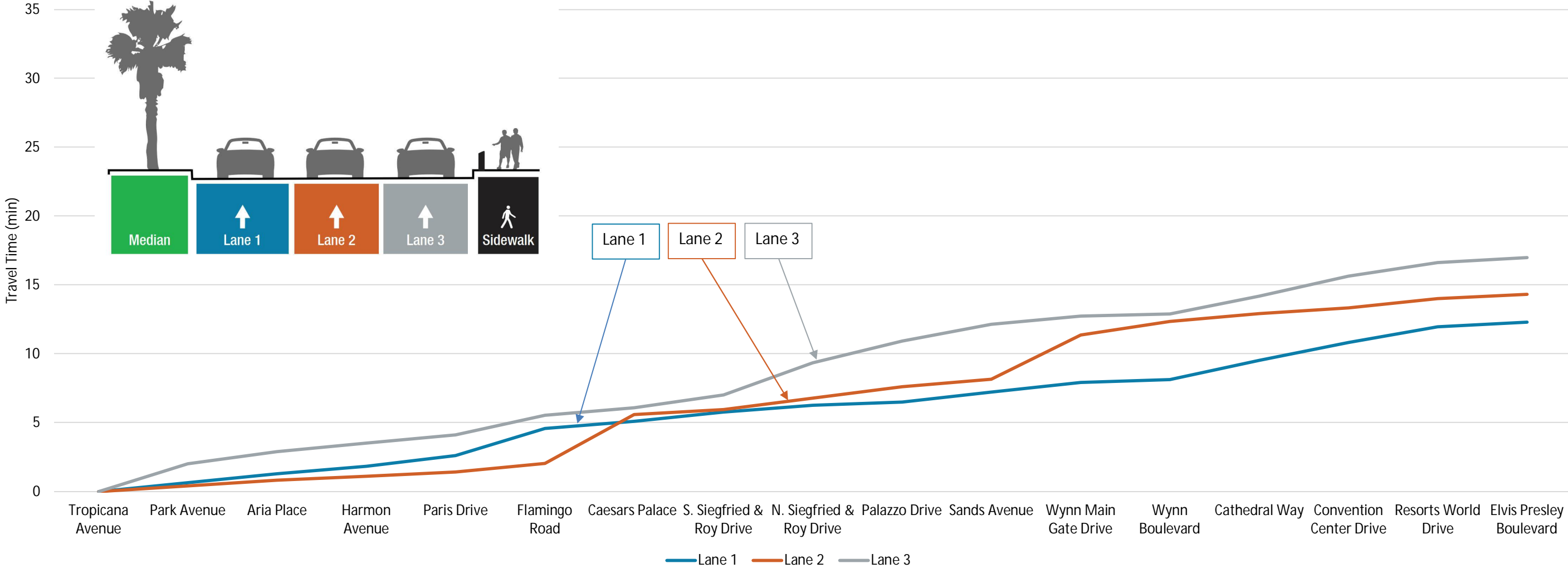
**Graph 4.1 – Northbound Average Travel Times for the Study Limits (Thursday, May 19, 2022)**



**Graph 4.2 – Southbound Average Travel Times for the Study Limits (Thursday, May 19, 2022)**



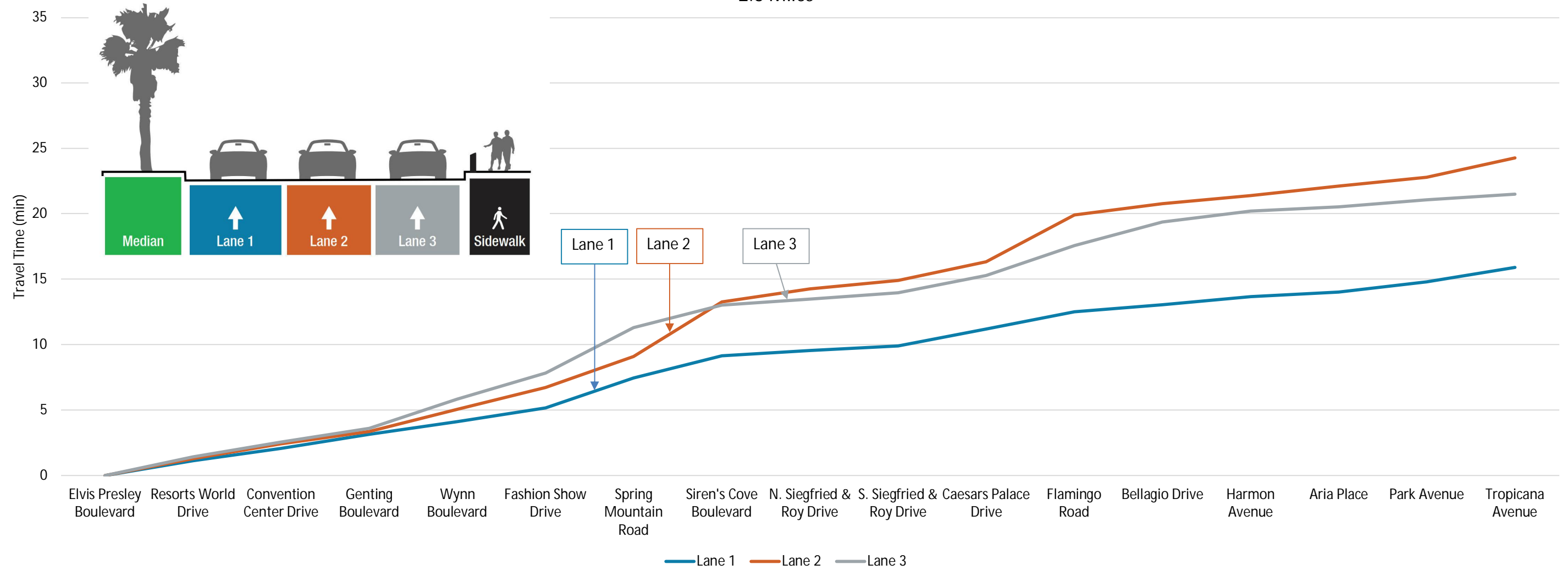
Tropicana Avenue to Elvis Presley Boulevard  
2.6 Miles



Note: A steeper line illustrates slower travel speeds within the study limits.

Graph 4.3 – Average Northbound Cumulative Travel Times by Lane (Thursday, May 19, 2022)

Elvis Presley Boulevard to Tropicana Avenue  
2.6 Miles



Note: A steeper line illustrates slower travel speeds within the study limits.

Graph 4.4 – Average Southbound Cumulative Travel Times by Lane (Thursday, May 19, 2022)

**4.2.2. Holiday Weekend General Corridor Overview (Saturday, May 28, 2022)**

The average travel times along the entire 2.6-mile study corridor were found and visualized to assist in the review of conditions along the corridor in both the northbound and southbound directions. It was found that the average travel time for each of the three lanes in the northbound direction varied between 29 minutes and 28 seconds to 30 minutes and 31 seconds. Based on the values in **Graph 4.5**, the range of average speeds along the corridor in the northbound direction was between 5.04 and 5.27 mph. As previously noted, the statistical analysis found that there was not a significant difference in travel time per lane, but this section summarizes the recorded data.

In the southbound direction the average travel time varied between 24 minutes and 25 seconds, and 29 minutes and 4 seconds as seen in **Graph 4.6**. These shorter travel times result in slightly faster average speeds along the corridor ranging between 5.34 and 6.36 mph. A summary of the calculated average speeds in each lane of the corridor is shown in **Table 4.6**. From the average corridor travel speeds, all lanes provided LOS F.

Recognizing the differences in travel time and vehicle volumes between 5:00 PM and 11:00 PM, the travel time over the data collection period was broken down by hour and by lane to review and determine the trends at different times throughout the data collection period.

Additional analysis was conducted on a segment-by-segment basis for each lane to identify potential time of day impacts by mobile billboards. The results of the analysis found that the individual analyses by time of day resulted in similar trends as the overall average. The graphs illustrating average travel time by segment can be found in **Appendix E** while those illustrating travel times by time of day per segment and lane are displayed in **Appendix F**.

**Table 4.6 – Average Travel Speeds by Lane (Saturday, May 28, 2022)**

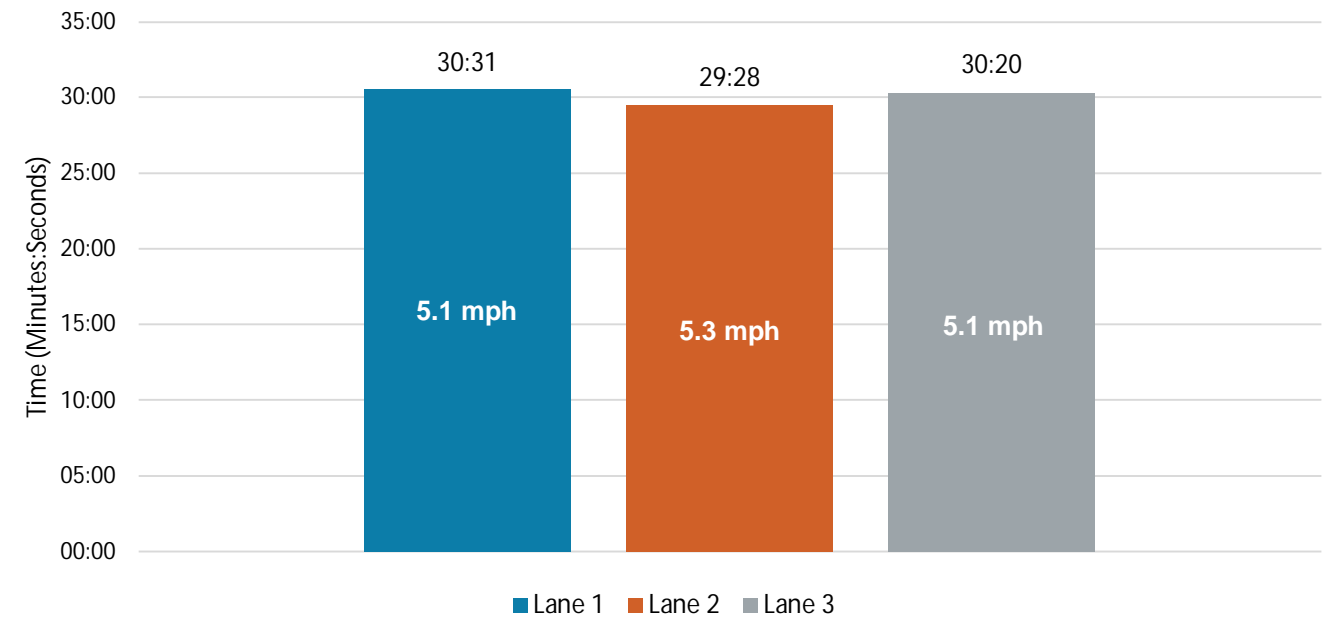
| Direction  | Lane Number | Average Number of Mobile Billboards (5:00 PM to 11:00 PM) | Average Speed (mph) | LOS* |
|------------|-------------|---|---------------------|------|
| Northbound | Lane 1      | 14**  | 5.08                | F    |
|            | Lane 2      | 32  | 5.27                | F    |
|            | Lane 3      | 1   | 5.12                | F    |
| Southbound | Lane 1      | 0   | 6.36                | F    |
|            | Lane 2      | 40  | 5.34                | F    |
|            | Lane 3      | 31  | 5.34                | F    |

\*Note: Based on a posted speed limit of 35 mph

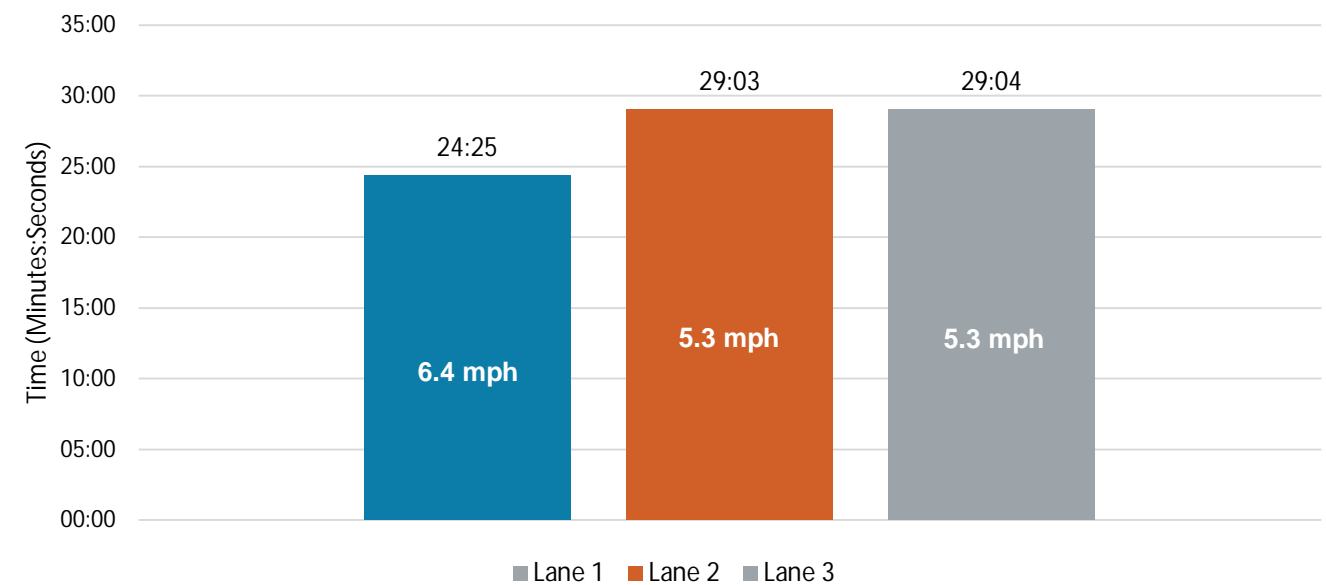
\*\*Generally, mobile billboard volumes in Lane 1 were minimal. However, the team observed that the mobile billboards were changing from Lane 2 to Lane 1 ahead of the left turn at Fashion Show Drive. So, an appreciable number of mobile billboards were observed in Lane 1 (55 mobile billboards).

As seen in **Table 4.6**, Lane 2 was found to have the fastest travel average travel speeds in the northbound direction and Lane 1 was found to have the fastest travel speeds in the southbound direction. Lane 1 is the travel lane generally without any mobile billboards within its vehicle flows. However, the team observed that the mobile billboards were changing from Lane 2 to Lane 1 ahead of the left turn at Fashion Show Drive so an appreciable number of mobile billboards were observed in Lane 1 (55 mobile billboards). Lane 3 was found to have the slowest average travel speeds in both the northbound and southbound directions. According to Clark County Code Chapter 7.95, it is unlawful to drive a mobile billboard with dynamic displays

in any lane except the right lane. Average cumulative travel times can also be seen in **Graph 4.7** and **Graph 4.8**. In the northbound direction all three lanes had similar travel times. In the southbound direction, Lane 3 was the slower overall than Lane 2 for the middle segments of the study area, however, Lane 2 and Lane 3 had similar cumulative travel times. Lane 1 was the fastest in the southbound direction.

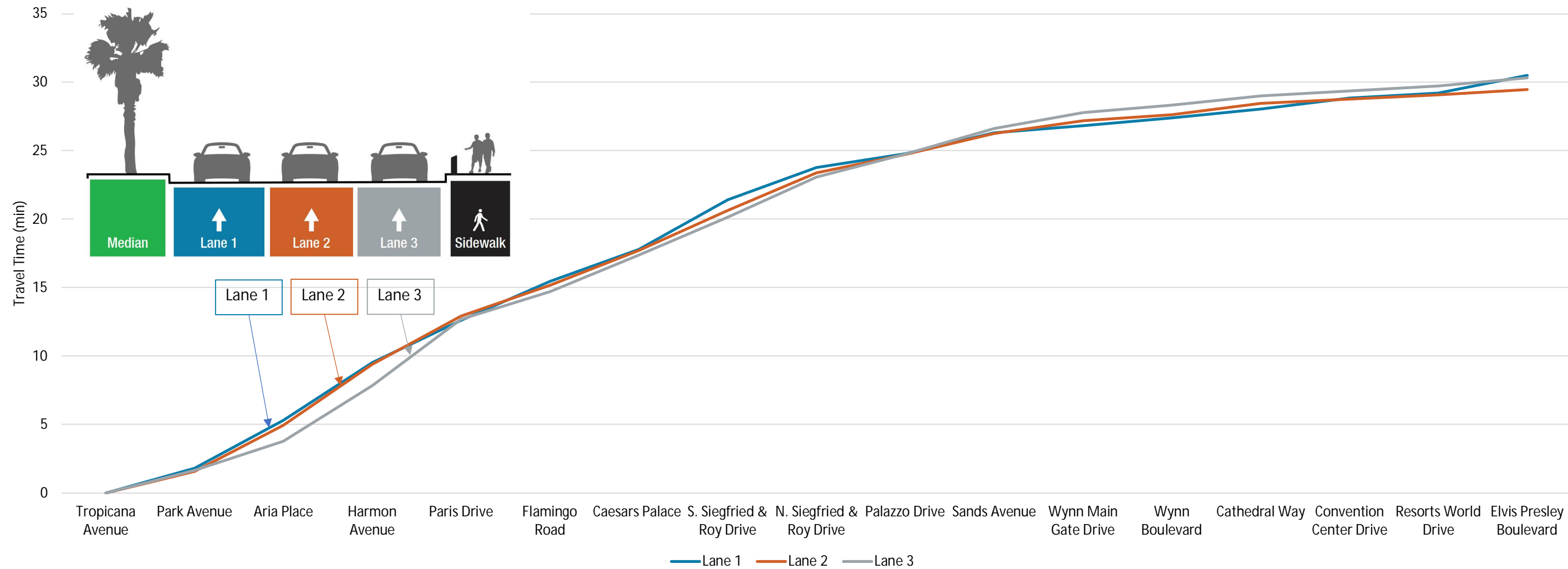


**Graph 4.5 – Northbound Average Travel Times for the Study Limits (Saturday, May 28, 2022)**



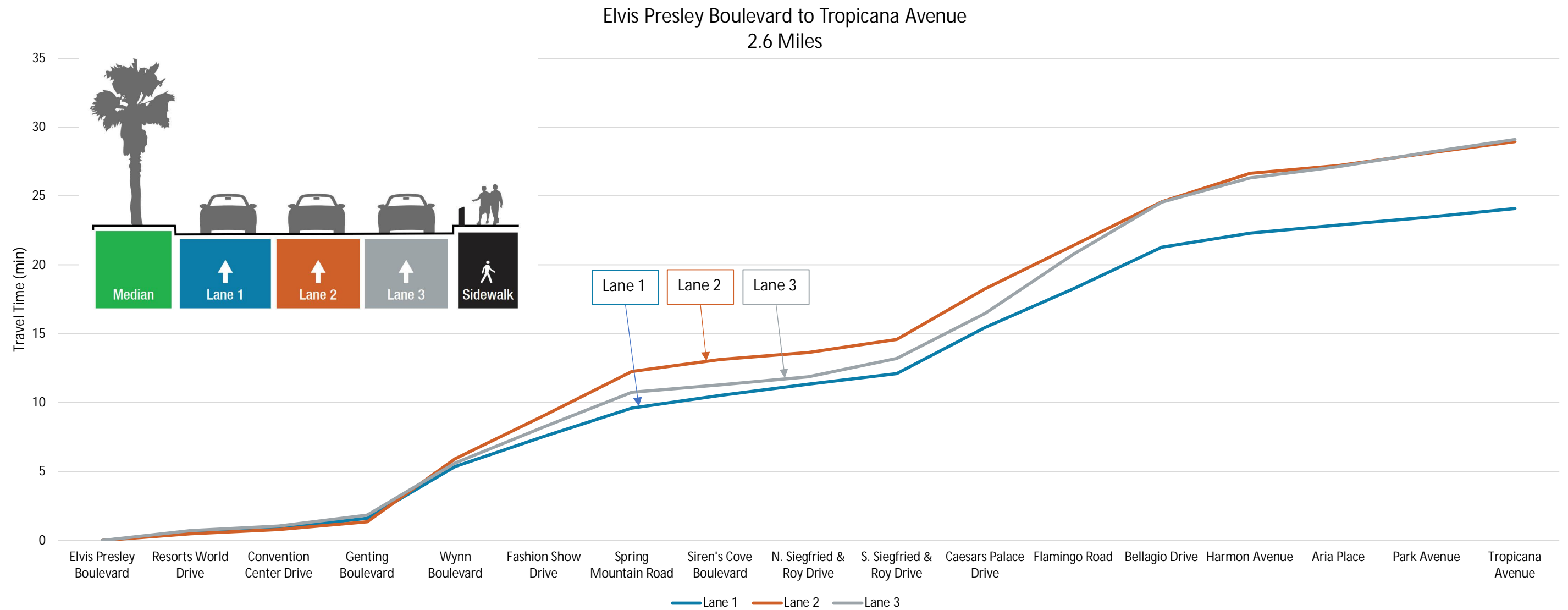
**Graph 4.6 – Southbound Average Travel Times for the Study Limits (Saturday, May 28, 2022)**

Tropicana Avenue to Elvis Presley Boulevard  
2.6 Miles



Note: A steeper line illustrates slower travel speeds within the study limits.

Graph 4.7 – Average Northbound Cumulative Travel Times by Lane (Saturday, May 28, 2022)



*Note: A steeper line illustrates slower travel speeds within the study limits.*

**Graph 4.8 – Average Northbound Cumulative Travel Times by Lane (Saturday, May 28, 2022)**

**4.2.3. Non-Holiday Weekend General Corridor Overview (Saturday, June 25, 2022)**

Similar to the procedure performed for the May 28 data, the average travel times on Las Vegas Boulevard from Elvis Presley Boulevard to Tropicana Avenue (2.6 miles) were determined and visualized to assist in the review of conditions along the corridor in both the northbound and southbound directions. It was found that the average travel time for each of the three lanes in the northbound direction varied between 19 minutes and 23 seconds to 21 minutes and 7 seconds. Based on the values in **Graph 4.9**, the range of average speeds along the corridor in the northbound direction was between 7.36 and 8.01 mph. As previously noted, the statistical analysis found that there was not a significant difference in travel time per lane, but this section summarizes the recorded data.

In the southbound direction, the average travel time varied between 19 minutes and 50 seconds and 24 minutes and 14 seconds as seen in **Graph 4.10**. These longer travel times resulted in slightly slower average speeds along the corridor ranging between 6.4 and 8.0 mph. A summary of the calculated average speeds in each lane of the corridor is shown in **Table 4.7**. From the average corridor travel speeds, all lanes provided LOS F.

Recognizing the differences in travel time and vehicle volumes between 5:00 PM and 11:00 PM, the travel time over the data collection period was broken down by hour and by lane to review and determine the trends at different times throughout the data collection period.

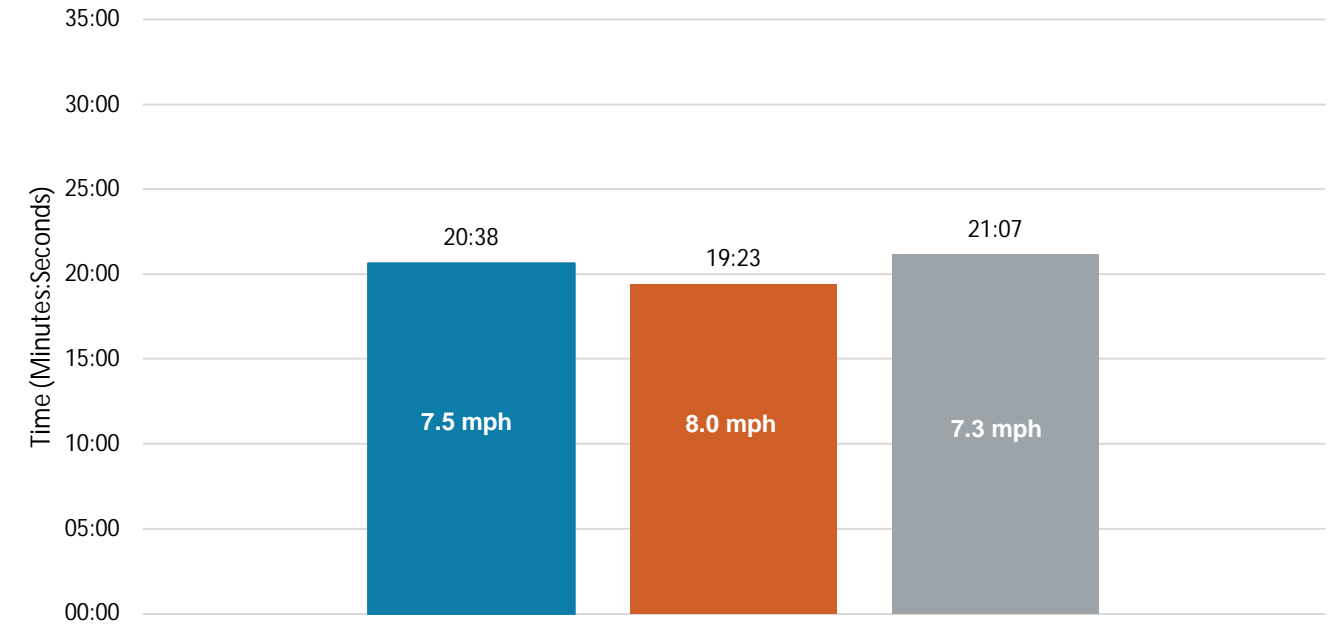
Additional analysis was conducted on a segment-by-segment basis for each lane to identify potential time of day impacts by mobile billboards. The results of the analysis found that the individual analyses by time of day resulted in similar trends as the overall average. The graphs illustrating average travel time by segment can be found in **Appendix G** while those illustrating travel times by time of day per segment and lane are displayed in **Appendix H**.

**Table 4.7 – Average Travel Speeds by Lane (Saturday, June 25, 2022)**

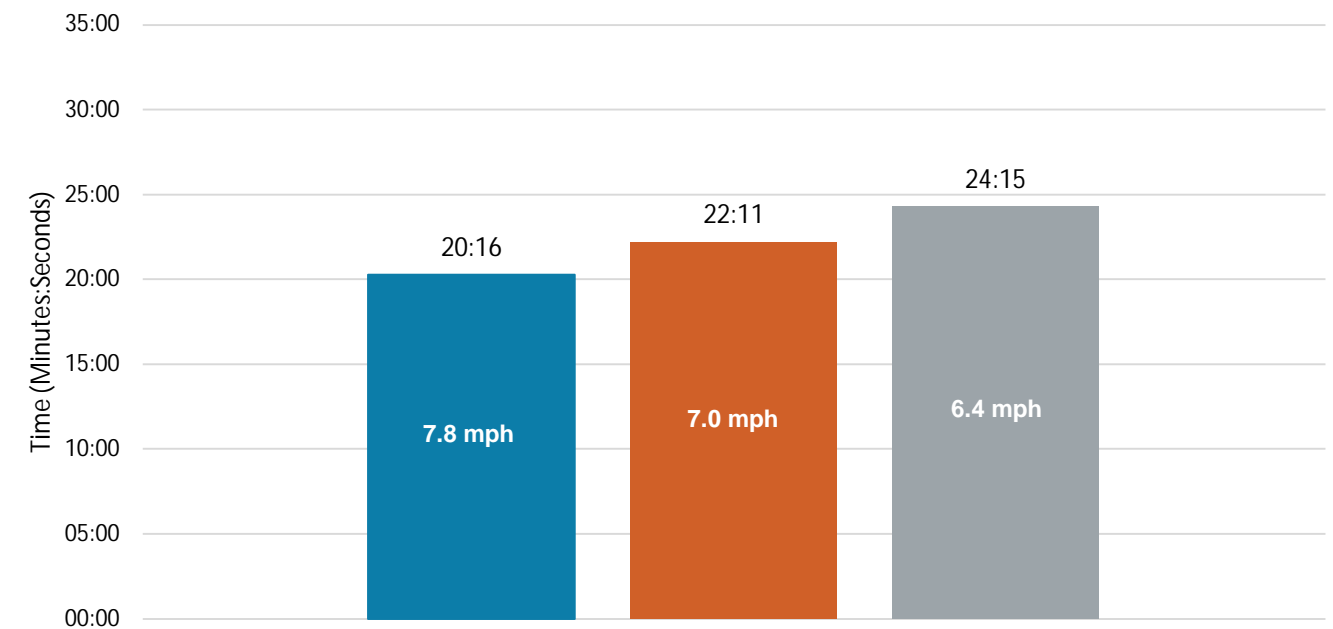
| Direction  | Lane Number | Average Number of Mobile Billboards (5:00 PM to 11:00 PM) | Average Speed (mph) | LOS* |
|------------|-------------|---|---------------------|------|
| Northbound | Lane 1      | 0   | 7.52                | F    |
|            | Lane 2      | 29  | 8.01                | F    |
|            | Lane 3      | 1   | 7.34                | F    |
| Southbound | Lane 1      | 15  | 7.83                | F    |
|            | Lane 2      | 27  | 6.97                | F    |
|            | Lane 3      | 0   | 6.41                | F    |

\*Note: Based on a posted speed limit of 35 mph

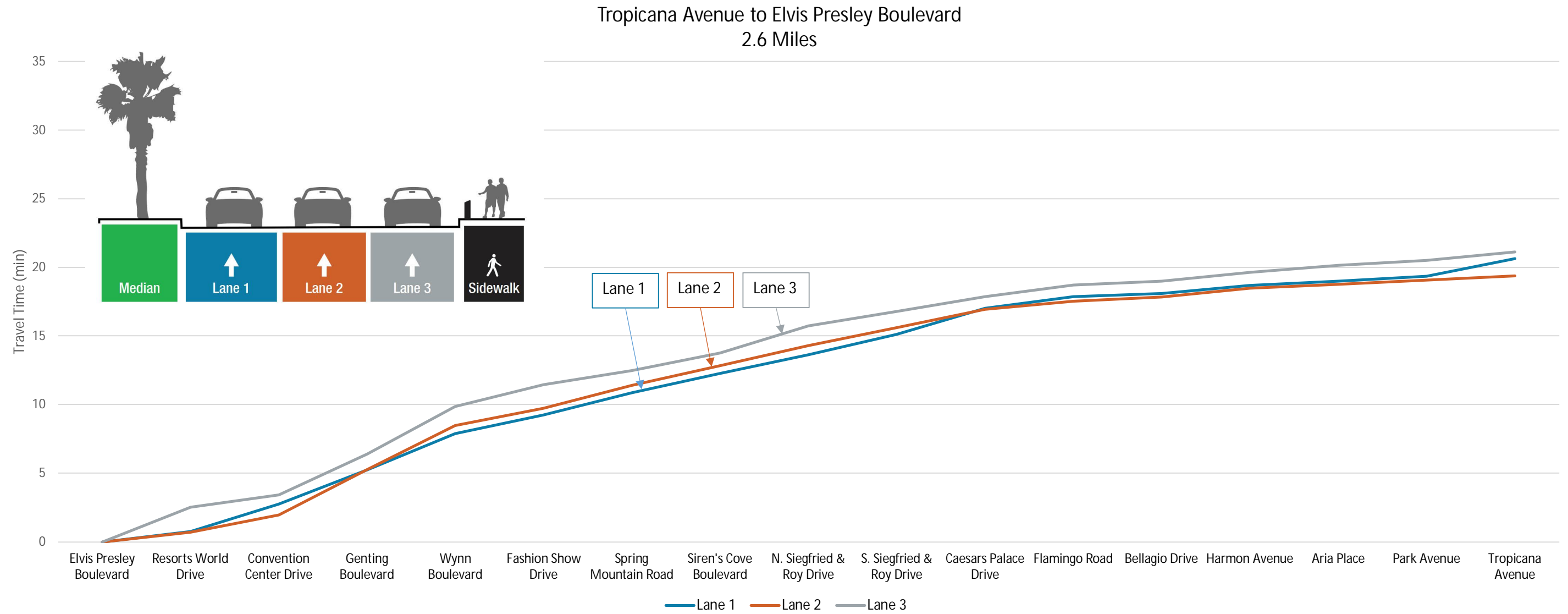
As seen in **Table 4.7**, Lane 2 was found to have the fastest travel average travel speeds in the northbound direction. Lane 1 had the fastest travel speeds in the southbound direction. Lane 3 was found to have the slowest average travel speeds in both the northbound and southbound direction. The posted speed limit along the Las Vegas Boulevard is 35 mph. Average cumulative travel times can also be seen in **Graph 4.11** and **Graph 4.12**. In the northbound direction, Lane 2 was slightly slower than the other lanes. In the southbound direction, Lane 1 had the fastest travel time, while Lane 2 and Lane 3 has similar travel times throughout the study period.



**Graph 4.9 – Northbound Travel Times for the Study Limits (Saturday, June 25, 2022)**



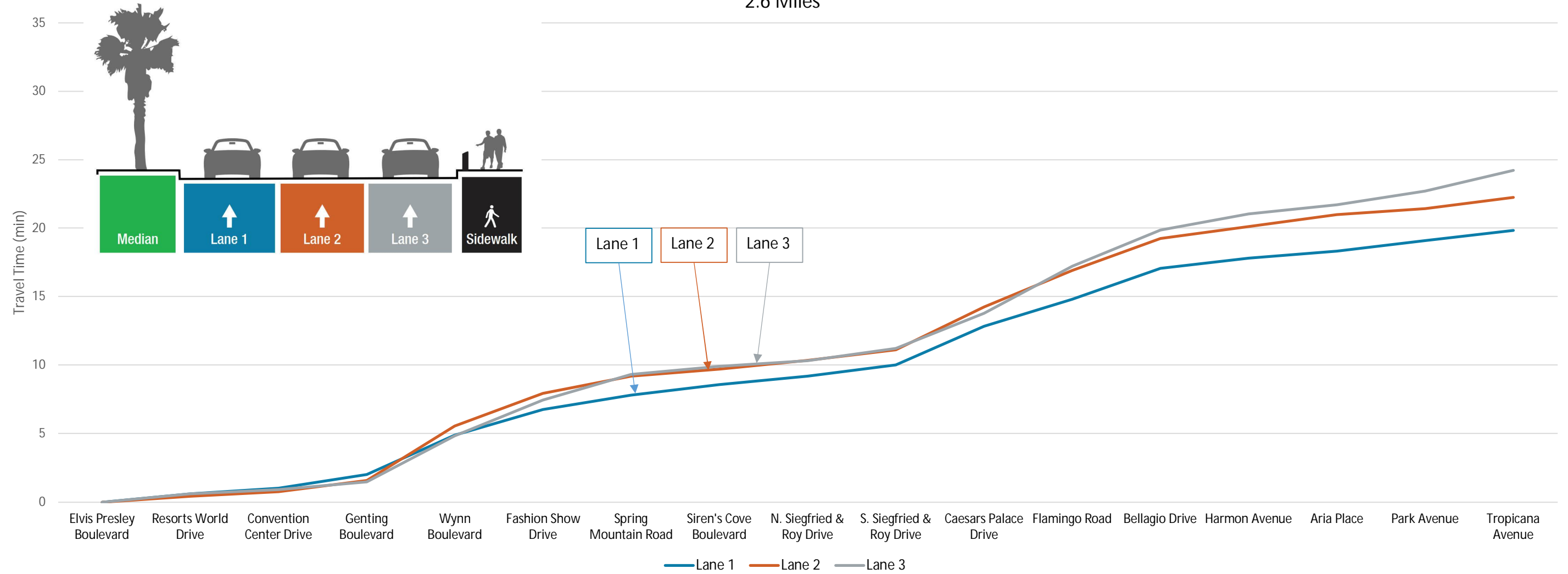
**Graph 4.10 – Southbound Travel Times for the Study Limits (Saturday, June 25, 2022)**



Note: A steeper line illustrates slower travel speeds within the study limits.

**Graph 4.11 – Average Northbound Cumulative Travel Times by Lane (Saturday, June 25, 2022)**

Elvis Presley Boulevard to Tropicana Avenue  
2.6 Miles



Note: A steeper line illustrates slower travel speeds within the study limits.

Graph 4.12 – Average Northbound Cumulative Travel Times by Lane (Saturday, June 25, 2022)



**4.2.4. Vehicle Travel Times Results**

As previously noted, the statistical analysis found that there was not a significant difference in travel time per lane, but these sections summarize the recorded data.

**4.2.4.1. Thursday, May 19, 2022**

The travel time results for the May 19, 2022 data collection are summarized in **Table 4.8**.

**Table 4.8 – May 19, 2022 (Typical Weekday) Travel Time Results**

| Direction  | Fastest Travel Time | Slowest Travel Time |
|------------|---------------------|---------------------|
| Northbound | Lane 1              | Lane 2              |
| Southbound | Lane 1              | Lane 3              |

Generally, travel times throughout the study period illustrate that travel times increased later into the evening, with travel times slowest in the later hours. The fastest northbound travel time for the study limits in any lane was 08:08 while the slowest travel time was 13:32. The fastest southbound travel time along the entire study corridor was 07:04 while the slowest travel time was 17:44.

**4.2.4.2. Saturday, May 28, 2022**

The travel time results for the May 28, 2022 data collection are summarized in **Table 4.9**.

**Table 4.9 – May 28, 2022 (Memorial Day Weekend) Travel Time Results**

| Direction  | Fastest Travel Time | Slowest Travel Time |
|------------|---------------------|---------------------|
| Northbound | Lane 1              | Lane 1              |
| Southbound | Lane 3              | Lane 2              |

Generally, travel times throughout the study period illustrate that travel times increased later into the evening, with travel times slowest in the later hours. The segments with the slowest travel times are summarized in **Table 4.10**. It should be noted that both the fastest and slowest travel times in each direction were significantly higher than those on Thursday, May 19, 2022.

**Table 4.10 – May 28, 2022 (Memorial Day Weekend) Segment with Slowest Travel Times**

| Direction  | Segment with Slowest Travel Times         |
|------------|---|
| Northbound | Tropicana Avenue to Harmon Avenue         |
| Southbound | Genting Boulevard to Spring Mountain Road |

The fastest and slowest average travel times by lane in the northbound and southbound direction are shown in **Table 4.11**.

**Table 4.11 – May 28, 2022 (Memorial Day Weekend) Fastest and Slowest Travel Time by Lane (Min:Sec)**

| Direction  | Fastest Travel Time |        |        | Slowest Travel Time |        |        |
|------------|---------------------|--------|--------|---------------------|--------|--------|
|            | Lane 1              | Lane 2 | Lane 3 | Lane 1              | Lane 2 | Lane 3 |
| Northbound | 16:50               | 21:50  | 21:50  | 45:48               | 41:35  | 37:58  |
| Southbound | 17:13               | 17:44  | 16:45  | 36:03               | 49:18  | 41:11  |

The fastest northbound run occurred around 5:30 PM and approximately 33 mobile billboards were observed in the northbound lanes. The slowest northbound run occurred around 10:00 PM and approximately 7 mobile billboards were observed in the northbound lanes.

Similarly, the fastest southbound run occurred around 5:30 PM and approximately 28 mobile billboards were observed in the southbound lanes. The slowest southbound run occurred around 10:30 PM and approximately 9 mobile billboards were observed in the southbound lanes.

It should be noted that for the northbound runs between Genting Boulevard and Elvis Presley Boulevard, Lane 3 experienced four longer than average runs, however, no mobile billboards were documented in that segment of roadway during those times.

In the southbound direction, Lane 1 experienced longer than average runs in the following segments, however, no more than one mobile billboard was recorded in that segment of roadway during those times:

- Elvis Presley to Genting
- Spring Mountain to S. Siegfried and Roy (Private)
- Flamingo to Harmon
- Harmon to Tropicana

Lane 2 experienced longer than average runs in the following segments, however, no more than one mobile billboard was observed in that segment of roadway during those times:

- Elvis Presley to Genting
- S. Siegfried and Roy (Private) to Flamingo
- Flamingo to Harmon

During the longer than average run in Lane 2 between S. Siegfried and Roy (Private) and Flamingo, emergency response vehicles were in Lane 4 forcing those traveling in Lane 4 to merge with Lane 3.

For the southbound runs, Lane 3 between Harmon Avenue and Tropicana Avenue experienced longer than average travel runs but experienced zero mobile billboards in that segment of roadway during that time.

**4.2.4.3. Saturday, June 25, 2022**

The travel time results for the June 25, 2022 data collection are summarized in **Table 4.12**.

**Table 4.12 – June 25, 2022 (Non-Holiday Weekend) Travel Time Results**

| Direction  | Fastest Travel Time | Slowest Travel Time |
|------------|---------------------|---------------------|
| Northbound | Lane 2              | Lane 2              |
| Southbound | Lane 1              | Lane 2              |

Generally, travel times throughout the study period illustrate that travel times increased later into the evening, with travel times slowest in the later hours. The segments with the slowest travel times are summarized in **Table 4.13**.

**Table 4.13 – June 25, 2022 (Non-Holiday Weekend) Segment with Slowest Travel Times**

| Direction  | Segment with Slowest Travel Times |
|------------|-----------------------------------|
| Northbound | Tropicana Avenue to Harmon Avenue |
| Southbound | Flamingo Road to Harmon Avenue    |

The longest and shortest average travel times by lane in the northbound and southbound direction are shown in **Table 4.14**.

**Table 4.14 – June 25, 2022 (Non-Holiday Weekend) Fastest and Slowest Travel Time by Lane (Min:Sec)**

| Direction  | Fastest Travel Time |        |        | Slowest Travel Time |        |        |
|------------|---------------------|--------|--------|---------------------|--------|--------|
|            | Lane 1              | Lane 2 | Lane 3 | Lane 1              | Lane 2 | Lane 3 |
| Northbound | 16:17               | 14:14  | 16:19  | 26:07               | 29:57  | 28:31  |
| Southbound | 15:03               | 17:27  | 17:17  | 27:48               | 33:02  | 30:37  |

The fastest northbound run occurred around 6:00 PM and approximately 27 mobile billboards were observed in the northbound lanes. The slowest northbound run occurred around 9:30 PM and approximately 2 mobile billboards were observed in the northbound lanes.

Similarly, the fastest southbound run occurred around 5:00 PM and approximately 25 mobile billboards were observed in the southbound lanes. The slowest southbound run occurred around 10:00 PM and approximately 4 mobile billboards were observed in the southbound lanes.

In general, there were no segments on the typical Saturday of June 25, 2022 in the northbound or southbound direction that experienced drastically shorter or longer travel times.

Over all three of the data collection periods the following trends were observed:

- Travel times were fastest in the earlier hours of the study period and slowest in the later hours of the study periods.
- It was observed that mobile billboard counts were highest earlier in the evening (4:00 PM to 6:00 PM) while travel times along the study corridor were fastest. When travel times were slower (9:00 PM to 11:00 PM), fewer mobile billboards were observed.

**4.2.4.4. Results Summary**

Recognizing the differences in travel time and vehicle volumes between 5:00 PM and 11:00 PM, the travel time over the data collection period was broken down by hour and by lane. Additional analysis was conducted on a segment-by-segment basis. The results of the analysis found that the individual analyses by time of day and segment by segment resulted in similar trends as the overall average. The graphs illustrating average travel time by segment can be found in **Appendix E** for Saturday, May 28, 2022, and **Appendix G** for Saturday, June 25, 2022. The graphs illustrating travel times by time of day per segment and lane are displayed in **Appendix F** for Saturday, May 28, 2022, and **Appendix H** for Saturday, June 25, 2022.

The travel times on the holiday Saturday were recorded as slower than those for the non-holiday Saturday.

The fastest travel times between the two Saturdays were similar. For both the non-holiday Saturday and the holiday Saturday, Lane 2 had the fastest northbound travel time and Lane 1 had the fastest southbound travel time. As previously noted, the statistical analysis found that there was not a significant difference in travel time per lane, but this section summarizes the recorded data.

The mobile billboards could not be found to quantitatively impact travel times, travel speeds, LOS or capacity.

**4.2.5. Vehicle Volume Results**

On Saturday, May 28, 2022, traffic volumes were generally consistent for each study segment over the data collection period. The highest number of vehicles were traveling in Lane 2 and Lane 4. Mobile billboards were typically observed traveling in Lane 2.

Similarly, for Saturday, June 25, 2022, traffic volumes were generally consistent for each study segment over the data collection period with the exception of the northbound segment between Spring Mountain Road and Genting Boulevard which saw the number of vehicles in Lane 1 increase dramatically later into the data collection period. The highest number of vehicles were traveling in Lane 2 and Lane 4. Mobile billboards were typically observed traveling in Lane 2.

The Saturday, May 28, 2022 volumes are summarized in **Table 4.15** and **Table 4.16** and the Saturday, June 25, 2022 volumes are summarized in **Table 4.17** and **Table 4.18**.

The number of vehicles entering the study limits were generally found to increase as the evening progressed on Saturday, May 28, 2022 but decreased into the evening on Saturday, June 25, 2022. The number of mobile billboards was generally found to drop off significantly as the evening progressed on both Saturdays. The graph depicting vehicle volumes by hour and by segment during the data collection period are included in **Appendix I**.

**Table 4.15 – Saturday, May 28, 2022 Northbound**

| Lane | Tropicana |                | Spring Mountain |                | Flamingo |                |
|------|-----------|----------------|-----------------|----------------|----------|----------------|
|      | Vehicles  | Mobile Bboards | Vehicles        | Mobile Bboards | Vehicles | Mobile Bboards |
| 1    | 709       | 1              | 3,064           | 56             | 2,292    | 0              |
| 2    | 990       | 32             | 3,039           | 41             | 2,282    | 40             |
| 3    | 761       | 0              | 3,150           | 3              | 2,515    | 0              |
| 4    | 899       | 0              | 762*            | 0              | 3,295    | 0              |

\*It should be noted that portions of this lane were closed due to construction activity.

**Table 4.16 – Saturday, May 28, 2022 Southbound**

| Lane | Tropicana |                | Spring Mountain |                | Flamingo |                |
|------|-----------|----------------|-----------------|----------------|----------|----------------|
|      | Vehicles  | Mobile Bboards | Vehicles        | Mobile Bboards | Vehicles | Mobile Bboards |
| 1    | 4,689     | 0              | 3,893           | 0              | 4,689    | 0              |
| 2    | 2,689     | 25             | 4,367           | 48             | 2,689    | 45             |
| 3    | 2,194     | 40             | -               | -              | 2,194    | 32             |
| 4    | 1,772     | 5              | -               | -              | 1,772    | 0              |

**Table 4.17 – Saturday, June 25, 2022 Northbound**

| Lane | Tropicana |                | Spring Mountain |                | Flamingo |                |
|------|-----------|----------------|-----------------|----------------|----------|----------------|
|      | Vehicles  | Mobile Bboards | Vehicles        | Mobile Bboards | Vehicles | Mobile Bboards |
| 1    | 1,911     | 0              | 2,250           | 2              | 2,863    | 0              |
| 2    | 2,674     | 23             | 1,124           | 53             | 3,452    | 33             |
| 3    | 2,658     | 2              | 1,995           | 2              | 4,329    | 0              |
| 4    | 3,539     | 0              | 1,187*          | 0              | -        | -              |

\*It should be noted that portions of this lane were closed due to construction activity.

**Table 4.18 – Saturday, June 25, 2022 Southbound**

| Lane | Tropicana |                | Spring Mountain |                | Flamingo |                |
|------|-----------|----------------|-----------------|----------------|----------|----------------|
|      | Vehicles  | Mobile Bboards | Vehicles        | Mobile Bboards | Vehicles | Mobile Bboards |
| 1    | 4,237     | 0              | 4,380           | 0              | 2,275    | 0              |
| 2    | 2,800     | 1              | 4,153           | 50             | 2,539    | 53             |
| 3    | 2,152     | 44             | -               | -              | 2,659    | 6              |
| 4    | 1,796     | 0              | -               | -              | 3,324    | 0              |

Generally, peaks in volume were typically observed during typical peak periods around 6:00 PM. However, secondary peaks were typically observed at or after 10:00 PM, which may be explained by scheduled events coming to an end.

Lane volume distributions were typically similar, however, there were instances where one lane carried significantly more volume than another. The lanes located in the middle of the roadway (Lane 2 and sometimes Lane 3) almost always carried consistent percentages of vehicle volume.

### 4.3. Headway Analysis Results

The mobile billboard headway data (time between mobile billboards) was used to calculate the maximum, minimum, median, and average headway between mobile billboards by lane in each direction during the study period. Times are either listed in HH:MM:SS (hours:minutes:seconds) or MM:SS format if the value was less than one hour. For reference, the Deuce on the Strip RTC Bus Route has a headway of approximately 10 to 15 minutes during the study period.

The vehicle headway data collection sheets are included in **Appendix J**. The mobile billboard headway analysis results by lane are summarized in **Table 4.19**, **Table 4.20**, **Table 4.21**, and **Table 4.22**, for the northbound and southbound direction on May 28, 2022 and June 25, 2022.

**Table 4.19 – Northbound Mobile Billboard Headway by Lane on May 28, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Lane Number | Count | Maximum Headway | Minimum Headway | Median  | Average Headway |
|-------------------------|-------------|-------|-----------------|-----------------|---------|-----------------|
| Tropicana Avenue        | 1           | 1     | -               | -               | -       | -               |
|                         | 2           | 32    | 59:17           | 00:01           | 5:25    | 11:10           |
|                         | 3           | 0     | -               | -               | -       | -               |
| Flamingo Road           | 1           | 0     | -               | -               | -       | -               |
|                         | 2           | 41    | 30:37           | 00:01           | 05:03   | 07:19           |
|                         | 3           | 0     | -               | -               | -       | -               |
| Palazzo Drive (Private) | 1           | 55    | 54:41           | 00:02           | 02:37   | 06:11           |
|                         | 2           | 42    | 31:18           | 00:01           | 06:39   | 08:30           |
|                         | 3           | 3     | 1:33:12         | 1:02:23         | 1:17:47 | 1:17:47         |
| Convention Center Drive | 1           | 0     | -               | -               | -       | -               |
|                         | 2           | 14    | 58:58           | 00:06           | 21:41   | 22:17           |
|                         | 3           | 2     | 1:41:24         | 1:41:24         | 1:41:24 | 1:41:24         |

**Table 4.20 – Southbound Mobile Billboard Headway by Lane on May 28, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Lane Number | Count | Maximum Headway | Minimum Headway | Median | Average Headway |
|-------------------------|-------------|-------|-----------------|-----------------|--------|-----------------|
| Tropicana Avenue        | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 25    | 1:02:06         | 00:08           | 05:51  | 13:53           |
|                         | 3           | 39    | 37:07           | 00:00           | 05:36  | 09:31           |
|                         | 4           | 5     | 2:00:48         | 00:16           | 09:11  | 34:51           |
| Flamingo Road           | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 45    | 39:52           | 00:00           | 05:27  | 07:42           |
|                         | 3           | 32    | 37:03           | 00:00           | 05:08  | 07:45           |
| Palazzo Drive (Private) | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 48    | 48:19           | 00:07           | 05:18  | 07:30           |
|                         | 3           | 53    | 36:37           | 00:02           | 04:56  | 06:28           |
|                         | 4           | 6     | 1:44:10         | 05:00           | 55:46  | 58:33           |
| Convention Center Drive | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 43    | 46:03           | 00:02           | 03:09  | 08:02           |
|                         | 3           | 3     | 31:10           | 26:23           | 28:46  | 28:46           |
|                         | 4           | 5     | 1:26:23         | 00:10           | 12:00  | 27:38           |

**Table 4.21 – Northbound Mobile Billboard Headway by Lane on June 25, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Lane Number | Count | Maximum Headway | Minimum Headway | Median  | Average Headway |
|-------------------------|-------------|-------|-----------------|-----------------|---------|-----------------|
| Tropicana Avenue        | 1           | 0     | -               | -               | -       | -               |
|                         | 2           | 23    | 47:22           | 00:55           | 10:36   | 14:48           |
|                         | 3           | 2     | 5:02:46         | 5:02:46         | 5:02:46 | 5:02:46         |
| Flamingo Road           | 1           | 0     | -               | -               | -       | -               |
|                         | 2           | 32    | 26:34           | 00:09           | 07:22   | 08:54           |
|                         | 3           | 0     | -               | -               | -       | -               |
| Palazzo Drive (Private) | 1           | 2     | 22:58           | 22:58           | 22:58   | 22:58           |
|                         | 2           | 53    | 58:30           | 00:00           | 03:28   | 06:26           |
|                         | 3           | 2     | 1:38:28         | 1:38:28         | 1:38:28 | 1:38:28         |
| Convention Center Drive | 1           | 0     | -               | -               | -       | -               |
|                         | 2           | 9     | 1:10:08         | 00:50           | 10:31   | 19:05           |
|                         | 3           | 0     | -               | -               | -       | -               |

**Table 4.22 – Southbound Mobile Billboard Headway by Lane on June 25, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Lane Number | Count | Maximum Headway | Minimum Headway | Median | Average Headway |
|-------------------------|-------------|-------|-----------------|-----------------|--------|-----------------|
| Tropicana Avenue        | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 1     | -               | -               | -      | -               |
|                         | 3           | 44    | 34:22           | 00:01           | 04:59  | 07:30           |
|                         | 4           | 0     | -               | -               | -      | -               |
| Flamingo Road           | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 51    | 48:54           | 00:01           | 02:58  | 06:09           |
|                         | 3           | 6     | 5:11:31         | 00:19           | 02:44  | 1:07:13         |
| Palazzo Drive (Private) | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 50    | 1:26:09         | 00:01           | 03:48  | 06:32           |
|                         | 3           | 10    | 2:03:30         | 00:11           | 05:04  | 24:18           |
|                         | 4           | 0     | -               | -               | -      | -               |
| Convention Center Drive | 1           | 0     | -               | -               | -      | -               |
|                         | 2           | 9     | 47:55           | 02:05           | 05:15  | 12:41           |
|                         | 3           | 1     | -               | -               | -      | -               |
|                         | 4           | 0     | -               | -               | -      | -               |

As shown **Table 4.19**, **Table 4.20**, **Table 4.21**, and **Table 4.22**, the headways between each mobile billboard differed drastically by lane. Often, groupings of consecutive mobile billboards were observed, with headways of about one second. Of the calculated average headways, approximately half experienced average mobile billboard headways between five and ten minutes. None experienced an average less than five minutes, and a few experienced headways greater than one hour. The headways greater than one hour can be contributed in part to the mobile billboards typically turning off Las Vegas Boulevard before Convention Center Drive. Interestingly, the median (the middle value of all calculated headways) often differed from the average by more than ten minutes, which shows that traffic conditions along Las Vegas Boulevard changed throughout the study period.

An additional vehicle headway analysis was performed for mobile billboards in all lanes, as would be seen by pedestrians. The mobile billboard headway analysis results for all mobile billboards are summarized in **Table 4.23**, **Table 4.24**, **Table 4.25**, and **Table 4.26**, for the northbound and southbound direction on May 28, 2022 and June 25, 2022.

**Table 4.23 – Northbound Mobile Billboard Headway on May 28, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Count | Maximum Headway | Minimum Headway | Median | Average Headway |
|-------------------------|-------|-----------------|-----------------|--------|-----------------|
| Tropicana Avenue        | 33    | 59:17           | 00:01           | 05:20  | 10:49           |
| Flamingo Road           | 41    | 13:02           | 00:01           | 05:03  | 07:16           |
| Palazzo Drive (Private) | 100   | 27:17           | 00:01           | 02:18  | 03:33           |
| Convention Center Drive | 16    | 58:58           | 00:06           | 14:48  | 19:19           |

**Table 4.24 – Southbound Mobile Billboard Headway on May 28, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Count | Maximum Headway | Minimum Headway | Median | Average Headway |
|-------------------------|-------|-----------------|-----------------|--------|-----------------|
| Tropicana Avenue        | 69    | 20:10           | 00:00           | 02:48  | 05:01           |
| Flamingo Road           | 77    | 02:11           | 00:00           | 02:32  | 04:27           |
| Palazzo Drive (Private) | 107   | 21:04           | 00:01           | 02:31  | 03:21           |
| Convention Center Drive | 51    | 46:03           | 00:02           | 03:19  | 06:45           |

**Table 4.25 – Northbound Mobile Billboard Headway on June 25, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Count | Maximum Headway | Minimum Headway | Median | Average Headway |
|-------------------------|-------|-----------------|-----------------|--------|-----------------|
| Tropicana Avenue        | 25    | 47:22           | 00:22           | 10:36  | 13:34           |
| Flamingo Road           | 32    | 26:34           | 00:09           | 07:22  | 09:26           |
| Palazzo Drive (Private) | 57    | 58:30           | 00:00           | 03:19  | 06:02           |
| Convention Center Drive | 9     | 1:10:08         | 00:50           | 10:31  | 19:05           |

**Table 4.26 – Southbound Mobile Billboard Headway on June 25, 2022 (Hours:Minutes:Seconds)**

| Segment                 | Count | Maximum Headway | Minimum Headway | Median | Average Headway |
|-------------------------|-------|-----------------|-----------------|--------|-----------------|
| Tropicana Avenue        | 45    | 34:22           | 00:001          | 04:59  | 07:31           |
| Flamingo Road           | 57    | 48:54           | 00:01           | 02:51  | 06:00           |
| Palazzo Drive (Private) | 60    | 1:26:09         | 00:00           | 03:06  | 05:20           |
| Convention Center Drive | 9     | 47:55           | 02:05           | 05:15  | 12:41           |

As shown **Table 4.23**, **Table 4.24**, **Table 4.25**, and **Table 4.26**, the headways between each mobile billboard differed drastically by travel direction. On both May 28, 2022, and June 25, 2022, mobile billboard headways were significantly shorter for those vehicles traveling south on Las Vegas Boulevard within the study limits at each intersection, in comparison to those traveling north. Often, groupings of consecutive mobile billboards were observed, with headways of about one second. Of the 16 calculated average headways, 3 experienced average mobile billboard headways less than 5 minutes. 9 experienced an average between 5 and 10 minutes, and 2 experienced headways greater than 1 hour.

**4.4. Illuminance Evaluation**

An illuminance (lighting) analysis was completed along Las Vegas Boulevard within the Gaming Corridor for the study limits between Tropicana Avenue and Elvis Presley Boulevard. The light measurements were reviewed for compliance with the Clark County Code Chapter 7.95 regarding mobile billboard operations although as previously noted, the ordinance is not clear on illuminance restrictions along Las Vegas Boulevard for mobile billboards. Light readings were collected Thursday, June 24, 2021, from 8:30 PM to 10:30 PM and were validated during the data collection efforts on Saturday, May 28, 2022, and Saturday, June 25, 2022. The light readings were collected using the EXTECH HD450 Digital Light Meter. This meter was shipped from the manufacturer fully tested and calibrated. It is important to note that the measured mobile billboard LED signs were bright enough to frequently overload the light sensor when near the billboard. In general, the billboards with external illumination, as opposed to LED, emitted lower light levels. The light meter readings were completed in lux and converted to foot-candles for the purpose of this report.

Mobile billboard signs are advertised to emit 10,000 nits which translates to 929 foot-candles. The purpose of the conducted light measurements was to determine whether the mobile billboards along

Las Vegas Boulevard contribute more than 0.3 foot-candles over ambient light levels as described in the Clark County Code Chapter 7.95 regarding mobile billboard advertising.

As Clark County Code Chapter 7.95 is currently written, it is unclear whether there is an exception for the light levels mobile billboards emit within the Gaming Corridor.

**4.4.1. LED Mobile Billboard**

The light from an LED mobile billboard was collected for various LED billboards for multiple advertisement screens. Examples of LED mobile billboards and associated advertisements are shown in **Photo 4.5** through **Photo 4.12**. As can be seen through the photographs, based on the color of the advertisement, some light levels vary, and thus dozens of readings were taken for varying advertisements and different mobile billboards.



**Photo 4.5 – LED Mobile Billboard Example 1**



Photo 4.6 – LED Mobile Billboard Example 2



Photo 4.8 – LED Mobile Billboard Example 4

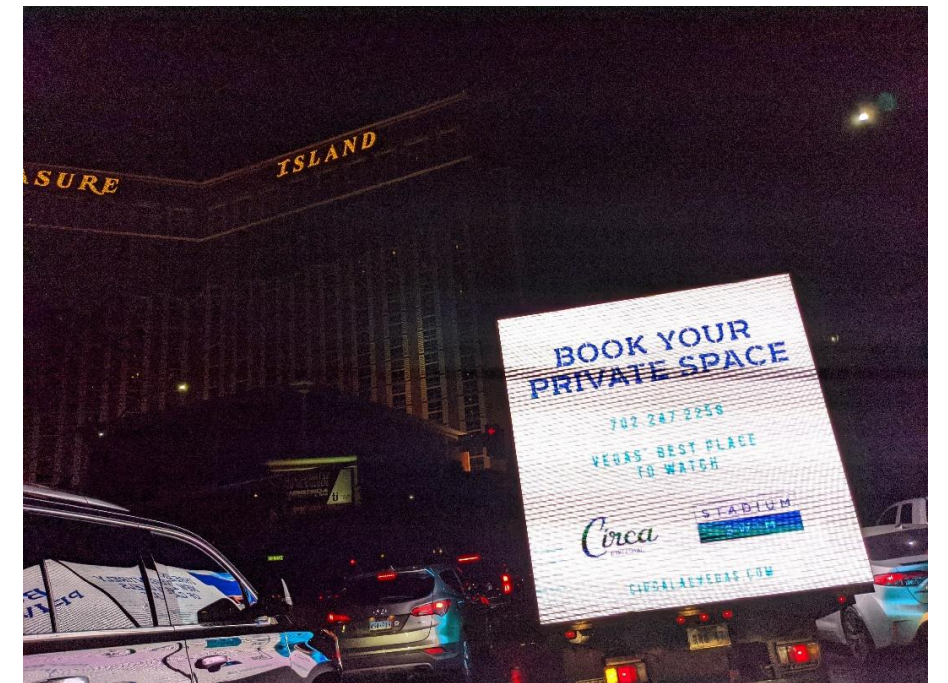


Photo 4.10 – LED Mobile Billboard Example 6

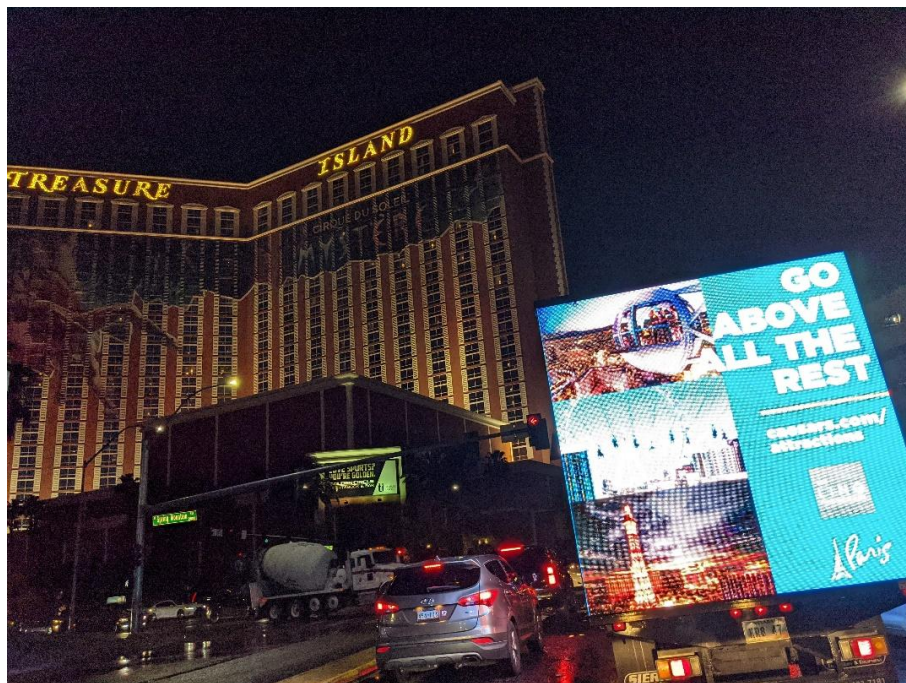


Photo 4.7 – LED Mobile Billboard Example 3

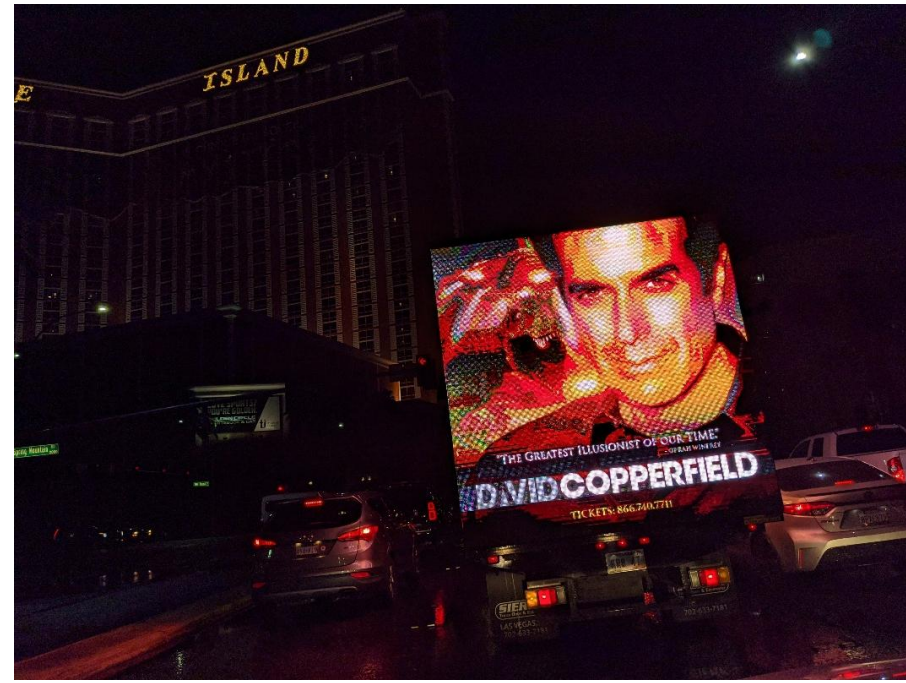


Photo 4.9 – LED Mobile Billboard Example 5



Photo 4.11 – LED Mobile Billboard Example 7



**Photo 4.12 – LED Mobile Billboard Example 8**

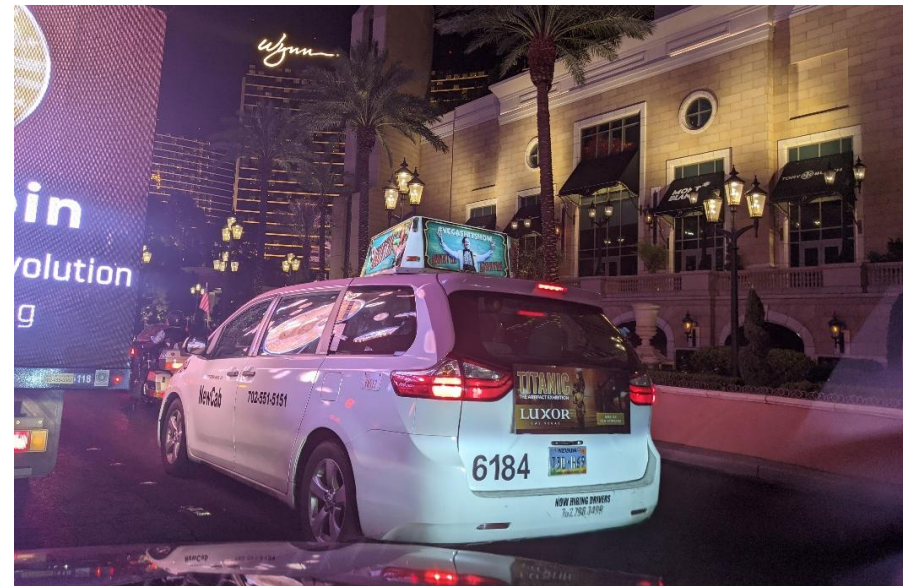
A sampling of the many Mobile Billboard light level readings and ambient light level readings are included in **Table 4.27**.

**Table 4.27 – LED Mobile Billboard Light Readings**

| Left (fc) | Back (fc) | Right (fc) | Average (fc) | Ambient (fc) |
|-----------|-----------|------------|--------------|--------------|
| MAX       | 26.8      | MAX        | 37.2+        | 0.4          |
| MAX       | 14.0      | 20.6       | 23.9         | 5.1          |
| 28.2      | MAX       | MAX        | 37.2+        | 0.9          |
| 29.9      | 4.2       | 16.3       | 16.8         | 1.5          |
| 16.0      | 4.1       | 13.7       | 11.3         | 2.2          |
| MAX       | MAX       | MAX        | 37.2+        | 5.1          |

*\*It should be noted that the light meter could not record readings over 37.2 fc (MAX)*

As shown in **Table 4.27**, the LED mobile billboards generate light levels that are consistently significantly higher than the 0.3 foot-candle threshold outlined in the Clark County Code. As shown in the example readings, the back of the mobile billboards frequently emitted less light, yet still were far beyond the ambient light levels. It should also be noted that for LED signs, most of the readings were at too high of a level for the light meter to record, or over 37.2 foot-candles. The brightness compared to a passing taxicab is shown in **Photo 4.13**.



**Photo 4.13 – Mobile Billboard Illuminance Reflecting off Adjacent Vehicle**

#### 4.4.2. Static Mobile Billboards

The light emitted from a static (externally illuminated) mobile billboard was collected for multiple billboards examples of which are shown in **Photo 4.14** and **Photo 4.15**.



**Photo 4.14 – Static Mobile Billboard Example 1**



**Photo 4.15 – Static Mobile Billboard Example 2**

A sampling of the many static mobile billboard light level readings and ambient light level readings are included in **Table 4.28**.

**Table 4.28 – Static Mobile Billboard Light Readings**

| Left (fc) | Back (fc) | Right (fc) | Average (fc) | Ambient (fc) |
|-----------|-----------|------------|--------------|--------------|
| 3.5       | 2.3       | 17.3       | 7.7          | 2.5          |
| 4.7       | 3.2       | MAX        | 21.0         | 2.2          |
| 8.9       | 2.7       | 1.5        | 1.5          | 1.1          |
| 15.8      | 4.2       | 1.9        | 1.9          | 0.9          |
| 3.7       | 2.1       | 3.9        | 3.2          | 3.1          |
| 5.2       | 2.0       | 2.7        | 3.3          | 1.5          |

#### 4.4.3. Ambient Readings

Ambient light levels vary along Las Vegas Boulevard within the Gaming Corridor. Some portions of Las Vegas Boulevard are bathed in light from large LED billboards, as shown in **Photo 4.16** and **Photo 4.17**.



Photo 4.16 – Harmon Avenue Sign

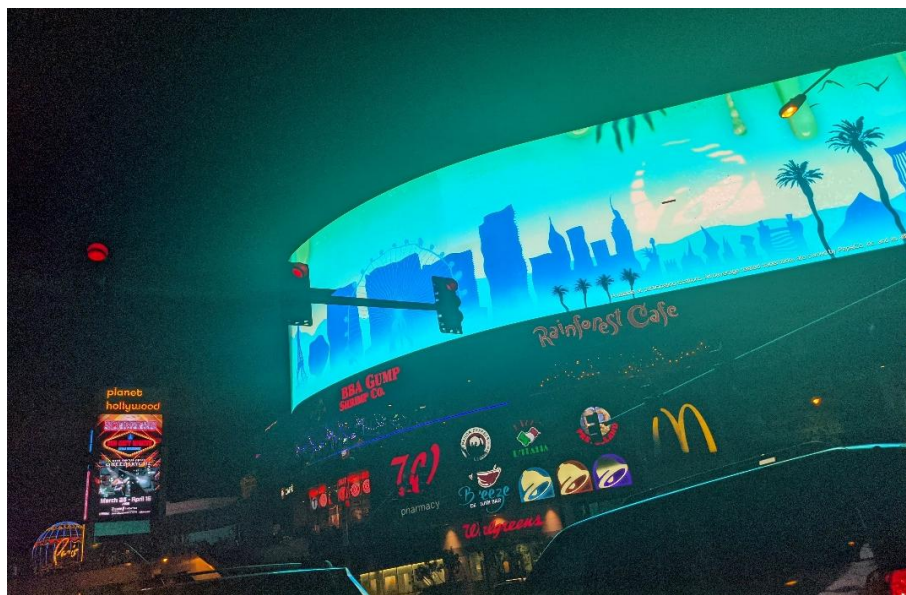


Photo 4.17 – Harmon Avenue Sign

Various readings were taken at locations within the study area with large LED roadside signs and examples of those readings are shown in Table 4.29.

Table 4.29 – Ambient Light Readings

| West (fc) | East (fc) | Inside car (fc) | Average (fc) |
|-----------|-----------|-----------------|--------------|
| 5.6       | 2.1       | 0.9             | 2.9          |
| 5.0       | 3.3       | 1.3             | 3.2          |
| 3.0       | 4.5       | 2.0             | 3.2          |
| 7.6       | 5.6       | 0.2             | 4.5          |
| 5.2       | 8.2       | 0.8             | 4.7          |
| 4.9       | 3.7       | 1.1             | 3.2          |

Due to the distance and height from the vehicle on the roadway, the illuminance of the roadside LED signs is significantly lower than the mobile billboards.

#### 4.4.4. Illuminance Results

To provide a comparative evaluation of the impact of a LED billboard to a static billboard in addition to the ambient lighting, at one location as shown in Table 4.30, the luminance impact of an LED billboard was 5 times that of a static billboard. Recognizing per the previous sections that each billboard can vary in illuminance levels.

Table 4.30 – Illuminance Data – Same Ambient Level

| LED Average (fc) | Static Average (fc) | Ambient Light (fc) |
|------------------|---------------------|--------------------|
| 16.8             | 3.3                 | 1.5                |

Table 4.31 summarizes the results of the collected data samples. The data collected using the light meter indicates that light level contributions from mobile billboards along Las Vegas Boulevard exceed the maximum allowable illuminance contribution to ambient light in Clark County although again the ordinance is unclear if mobile billboards are subject to that portion of the ordinance while within the Gaming Corridor.

Table 4.31 – Illuminance Data (Average)

| Average Ambient Light Levels (fc) | Average Ambient Light Levels Inside Car (fc) | Average Mobile Billboard Light Levels (fc) | Average Net Difference (fc) | Code Compliance |
|-----------------------------------|--|--|-----------------------------|-----------------|
| 5.0                               | 1.0  | 27.4                                       | 22.4                        | Not Compliant   |

The mobile billboards have been observed to exceed more than 0.3 foot-candles of illuminance contribution above ambient light thresholds. It is recommended to limit the allowable wattage/lumen output/LED count used on mobile billboards.

#### 4.4.5. Other Considerations

Across the Las Vegas Valley, mobile billboards have also been observed at night with LED advertising on fill display similar to that seen on Las Vegas Boulevard. A mobile billboard was observed on Wednesday, July 20, 2022 at 8:55 PM at the intersection of Charleston Boulevard and Indigo Drive as shown in Photo 4.18 and Photo 4.19. It is also recommended that the ordinance be enforced and require LED mobile billboards decrease their luminance/output outside of the Gaming Corridor.



Photo 4.18 – Mobile Billboard at Charleston and Indigo

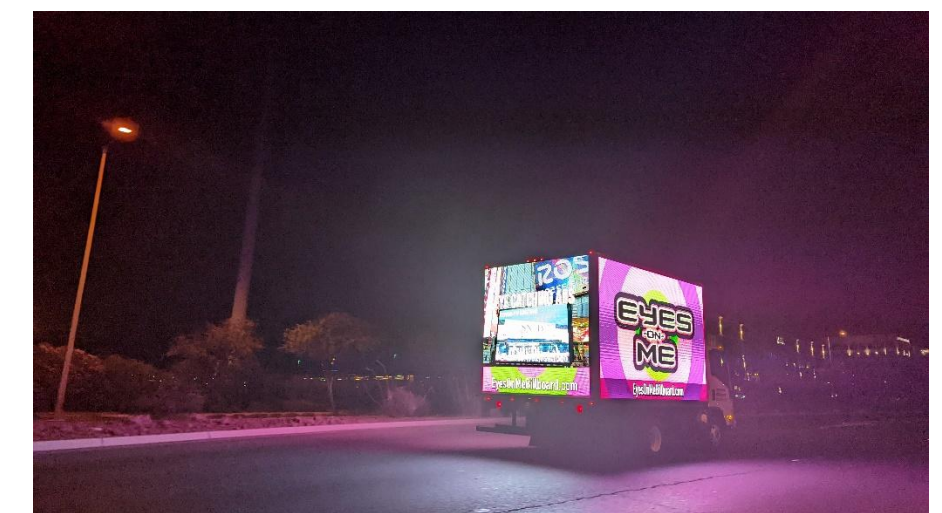


Photo 4.19 – Mobile Billboard at Charleston and Indigo

## 5. CONCLUSIONS AND RECOMMENDATIONS

Section 5 provides a discussion of conclusions and recommendations based on a review of mobile billboard literature and regulations; data collection efforts on Thursday, May 19, 2022 (Typical Weekday), Saturday, May 28, 2022 (Memorial Day Weekend), and Saturday, June 25, 2022 (Non-Holiday Weekend); and detailed data analysis and evaluation.

### 5.1. Conclusions

The goal of this study was to identify the number of mobile billboards advertising within the study area and quantify the impacts that mobile billboards have on traffic flow on Las Vegas Boulevard and for use in enforcement of and/or revisions to Clark County Code regarding Mobile Billboard Businesses outlined in Chapter 7.95.

The study efforts included approximately 300-person hours of field observation within Las Vegas Boulevard traffic flows, or streetside observations from sidewalks, pedestrian bridges, and video cameras.

#### 5.1.1. Ordinance Review

Based on the field observations, data collection, and the conducted analysis, the prohibited actions (according to the Clark County Code Section 7.95.140) that were focused on for the purposes of this study were found to either be in compliance or not in compliance with the code as summarized in **Table 5.1**. Note: A copy of Clark County Code Chapter 7.95 is provided in **Appendix A**.

**Table 5.1 – Clark County Code Compliance Evaluation (Chapter 7.95.140)**

| Ordinance Act | Prohibited Action   | Observation  | Impact   | Compliant/ Non-Compliant                      |
|---------------|---|--|--|---|
| (a)           | For any person to operate a mobile billboard using a detachable trailer-drawn billboard that is drawn or otherwise pulled by any type of vehicle;   | No mobile billboards were observed to be using a detachable trailer.   | N/A  | Compliant                                     |
| (b)           | To knowingly stop or operate a vehicle in any manner that would impede or interfere with the orderly flow of traffic on a roadway;  | Mobile billboards were observed operating 10 to 15 mph slower than surrounding traffic during free flow conditions.  | Driving slower than surrounding traffic can cause safety concerns and can cause increased travel times.  | <b>Not Compliant</b>                          |
| (d)           | For any vehicle to display or exhibit any signage that contains moving or flashing lights or animation of any kind pursuant to Section 14.10.010 of the code, including, without limitation, video or rapidly changing images, except as provided for in Subsection (p) of this section;  | Mobile billboards with changing images and animation were observed driving primarily in Lane 2. The changing images and animation were observed to be found on multiple sides of mobile billboards.  | Changing images on the driver's side or the rear of the vehicle can cause drivers to be distracted and result in safety issues.  | <b>Not Compliant</b>                          |
| (h)           | To operate a vehicle at such a slow speed as to impede the normal and reasonable movement of traffic except when reduced speed is necessary for safe operation or in compliance with law as provided for in Section 14.24.040 of the County Code;   | Mobile billboards were observed operating 10 to 15 mph slower than the posted speed limit and surrounding traffic during free flow conditions. They were also observed to stop with a 30 to 60-foot gap between vehicles at intersections and stop at least one car length before the stop bar.  | Driving slower than surrounding traffic can cause safety concerns and impedes the normal and reasonable movement of traffic.   | <b>Not Compliant</b>                          |
| (k)           | To operate a vehicle that illuminates the display or advertising by more than 0.3 foot-candles over ambient levels as measured using a foot candle meter as described in Section 30.72.040 of the code;   | While the Clark County Mobile Billboard Ordinance is unclear on restrictions for mobile billboards within the Gaming Corridor, all illuminated mobile billboards produced illuminance exceeding 0.3 foot-candles over ambient levels. The ordinance was determined, in our opinion, to be unclear with regard to the stated exception of billboards within the Gaming Corridor, so this may be interpreted as being in compliance. Further, the standards referenced in Clark County Code Section 7.95.140(k) appear to apply to stationary on-premise signs and may be inapplicable to mobile billboards. | Clark County Code Chapter 7.95 is unclear whether there is an exception for the light levels mobile billboards emit within the Gaming Corridor or what the illuminance standards should be for the Gaming Corridor since the code references standards for stationary on-premise signs. High levels of illuminance in contrast to the surroundings can distract drivers and cause eye fatigue. | <b>Unclear, 7.95.140(k) should be revised</b> |
| (l)           | To operate a vehicle that displays non-animated images with a dwell time of less than ten seconds;  | Mobile billboards with LED displays were found to generally switch advertisements every 10 seconds or greater.   | N/A  | Compliant                                     |
| (m)           | For the operator of a vehicle to make a U-turn within the public rights-of-way;   | It should be noted that U-Turns were only observed by mobile billboards without a displayed County license.  | N/A  | Compliant                                     |
| (p)           | To operate a vehicle with a mobile billboard that is equipped with a dynamic display unless:<br>(1) The vehicle is equipped with a dynamic display management system which is configured to prevent moving or flashing lights or animation of any kind except when such vehicle is within the primary gaming corridor<br>(2) The dynamic display is only visible on the passenger side of the vehicle<br>(3) The vehicle is located in the right travel lane (Lane 3 or Lane 4) | Mobile billboards with dynamic displays were observed driving primarily in Lane 2. Animations/changing images were found on multiple sides of mobile billboards.<br><br>Mobile billboards with LED displays during the study were observed to be on arterial streets within local Las Vegas Valley residential areas outside of the primary Gaming Corridor.   | Changing images on the driver's side or the rear of the vehicle or driving in Lane 1 or Lane 2 can cause drivers to be distracted and result in safety issues.   | <b>Not Compliant</b>                          |

\*See Appendix A



### 5.1.2. Illuminance Findings

Based on the field conducted illuminance (lighting) analysis the mobile billboards have been observed to exceed more than 0.3 foot-candles (fc) of illuminance contribution above ambient light thresholds. The mobile billboard illuminance data is summarized in **Table 5.2**.

**Table 5.2 – Illuminance Data (Average)**

| Average Ambient Light Levels (fc) | Average Ambient Light Levels Inside Car (fc) | Average Mobile Billboard Light Levels (fc) | Average Net Difference (fc) | Code Compliance |
|-----------------------------------|--|--|-----------------------------|-----------------|
| 5.0                               | 1.0  | 27.4                                       | 22.4                        | Unclear         |

It is recommended that the Clark County Code be revised to clearly state if mobile billboards are subject to illuminance restrictions while within the Primary Gaming Corridor and if so, what the illuminance restriction should be for mobile billboards.

It is recommended to limit the allowable wattage/lumen output/LED count used on mobile billboards.

### 5.1.3. Travel Time Findings

Evaluation of field data collected as part of this study did not quantifiably identify that mobile billboards caused an increase to average vehicle travel times, decreased travel speeds per lane, or degraded LOS along Las Vegas Boulevard within the study limits. However, with mobile billboards being driven at slower speeds than the speed limit and surrounding traffic (35% slower, about 6 minutes longer to travel the study corridor than an average vehicle), and stopping with a 30-60 foot gap between vehicles and at least one car length before the stop bar, they are contributing to the already poor level of service on Las Vegas Boulevard.

Further, with the addition of any vehicles into the travel stream, including mobile billboards, generally the travel time will increase, average vehicle delay will increase, and roadway and intersection capacity will decrease within the study limits.

Mobile billboards were one of many disruptions within the traffic flow that occurred along the dynamic and active Las Vegas Boulevard.

Billboards traveling in groups of 4 or 5 reduces the ability of vehicles to change lanes. There are times in non-congested periods where billboards do not significantly impact traffic as vehicles can go around on either side, however, multiple billboards traveling together impact vehicles attempting to make lane changes for downstream turning movements. Side by side billboards are also disruptive to vehicle travel in addition to groups driving together in the same lane. From the

conducted observations it was found that when mobile billboards are not separated from each other they can be disruptive to the flow of vehicle traffic along the congested Las Vegas Boulevard. The findings determined that with more billboards present along Las Vegas Boulevard mobile billboards clustering together is more frequent.

Billboards traveling in groups of 4 or 5 also create issues with capacity as the number of vehicles that can travel through a green signal cycle at an intersection is reduced. This lessens vehicle throughput when the vehicle queue doesn't compress during a red-light phase. With typical Las Vegas Boulevard traffic signal coordination, it is expected that a vehicle queue will compress at a signalized intersection to optimize vehicle throughput.

## 5.2. Key Recommendations

Key recommendations resulting from this study are as follows:

- Revise and limit the allowable wattage/lumen output/LED count used on mobile billboards
- Require mobile billboards to turn off the LED or exterior lighting when outside the Gaming Corridor
- Review the illuminance section within the Clark County Ordinance, Section 7.95.140 to provide clarification and revise limits for the illuminance requirements of a mobile billboard within the Gaming Corridor
- Revise the Clark County Code to require mobile billboards to travel in the travel lane closest to the outside curb/pedestrian walkways unless entering onto or departing from Las Vegas Boulevard
- No more than 100 mobile billboards licenses be permitted on Las Vegas Boulevard at any given time
- All mobile billboards should be permitted and have an appropriate permit decal on the rear bumper of the vehicle
- It is recommended that consideration be given to amending the current code of Section 7.95 with stricter code enforcement measures such as clarifying consequences or penalties for non-compliance
- Consider a designated route with mandated permit check locations
- It is recommended that mobile billboards do not travel back-to-back or side-by-side and that they should be required to provide separation between each other

## 5.3. Additional Considerations

To determine additional methods to respond to the impact of the operation of mobile billboards, the following sections provide other possibilities and considerations as a basis to limit the impact of the operations of mobile billboards. For reference, if one lane was 100%

percent full with mobile billboards that would equate to 372 mobile billboards for the study area from Tropicana Avenue to Elvis Presley Boulevard. The maximum number observed during this study was 33 mobile billboards or approximately 9% of a single lane.

### 5.3.1. Economics

A specific study would be needed to determine the possibilities for the Clark County Business License Department to determine a fair and equitable value of mobile billboard advertising within the right of way of Las Vegas Boulevard.

### 5.3.2. Mobile Billboard Restriction

- One option for mobile billboard restriction would be to follow in the footsteps of West Hollywood policy and enact a total mobile billboard ban within the Gaming Corridor.
- Another option for mobile billboard restriction would be a partial restriction on certain days/times of the week. Based on a review of traffic data in both the northbound and southbound directions along Las Vegas Boulevard within the study area, a mobile billboard restriction could be applied as follows, ordered from most restrictive to least restrictive:
  - Restricted on all weekends (Friday, Saturday, and Sunday)
  - Restricted on all weekends 11:00 AM to 10:00 PM
  - Restricted on all weekends 4:00 PM to 10:00 PM
  - Restricted on Holiday weekends (Friday, Saturday, and Sunday)
  - Restricted on Holiday weekends 11:00 AM to 10:00 PM
  - Restricted on Holiday weekends 4:00 PM to 10:00 PM
- Las Vegas Boulevard is a highly congested roadway and is frequently operating with low level of service with intersection and roadway segments at LOS E and F under current conditions. Restricting mobile billboards from operating during weekends within the right of way for the sole purpose of advertising would allow for all available roadway capacity and improve traffic flow.
- During weekdays, mobile billboard operations in free flow conditions were not observed to quantitatively impact the calculated LOS in the study corridor. If mobile billboards are allowed during weekdays/during free flow conditions, it is recommended that mobile billboard enforcement be increased.
- The recommendation of this study is that the Clark County Commission determine an acceptable percentage of a travel lane to be used for the sole purpose of advertising within the public right-of-way on Las Vegas Boulevard.

**APPENDIX A**  
**CLARK COUNTY CODE**  
**CHAPTER 7.95**  
**MOBILE BILLBOARD BUSINESSES**



## CHAPTER 7.95 - MOBILE BILLBOARD BUSINESSES

## 7.95.010 - Findings and purpose.

The number of mobile billboards that operate within the county has increased over the years. This form of advertising is intended to attract the attention of individuals that may be driving a vehicle, riding in a vehicle or are a pedestrian. Some mobile billboard vehicles may be susceptible to tipping over during times of strong winds and can display brightly illuminated images that may change rapidly or appear to be animated.

The purpose of this chapter of the code is to control the existing and future use of mobile billboards, as defined in Section 14.04.165 of the Clark County Code, on certain highways and roadways in the unincorporated areas of Clark County in order to protect and promote the health, safety, and welfare of the traveling public in a reasonable manner. The enactment of this chapter is necessary to further the following substantial interests:

- (a) Protection of the public investment in the highways and roadways of the county;
- (b) Promotion of safety upon such highways and roadways;
- (c) Protection of the economic well-being and general welfare of the county by attracting tourists and other travelers;
- (d) Provision of information to the traveling public relating to necessary goods and services available in the immediate vicinity of the traveler; and
- (e) Protection and encouragement of local businesses for the general economic well-being of the county.

Therefore, the board of county commissioners finds and declares that this chapter, taken as a whole, represents a balancing of the above-stated substantial interests.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020 - Definitions.

For the purpose of this chapter of the code, the following words and terms defined in this section shall apply. Terms, phrases, words, and their derivations shall have the meanings set forth herein, unless the context clearly indicates that another meaning is intended. Words used in the present tense include the future, words in the plural number include the singular number, and words in the singular number include the plural number. The words "must," "shall" and "will" are mandatory and "may" is permissive.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020.010 - Community facility.

"Community facility" means:

- (a) A facility that is licensed to provide day care to children;
- (b) A public park;
- (c) A public playground;
- (d) A public swimming pool;
- (e) A center or facility, the primary purpose of which is to provide recreational opportunities or services to children or adolescents; and
- (f) A church, synagogue, or other building, structure or place used for religious worship or other religious purpose.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020.020 - Department.

"Department" means the Clark County Department of Business License.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020.030 - Display management system.

"Display management system" means equipment or software that is designed to operate a dynamic display, including, without limitation, periodically changing the image, information or content on the dynamic display.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020.040 - Director.

"Director" means the director of the Clark County Department of Business License.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020.050 - Dwell time.

"Dwell time" means the amount of time, measured in seconds, that a non-animated image or display remains visible until transitioned to the next display or image.

(Ord. No. 4747, § 1, 12-3-2019)

## 7.95.020.060 - Dynamic display.

"Dynamic display" means equipment which is attached to a motor vehicle and which consists of at least one monitor, screen or viewer that, without limitation:

- (1) Is designed to display various images, information or other content, including, without limitation, advertisements, which change periodically; and
- (2) Is intended to be visible to the drivers and passengers of other vehicles on a highway and to persons nearby.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.070 - Employee.

"Employee" means any person who performs services for another for hire, salary, wages or any other kind of compensation, whether or not the services are casual, temporary or permanent, and whether or not the contract of service is express or implied, oral or written, and whether or not the employer withholds federal income tax. For the purposes of this chapter, the term "employee" includes any person, including an independent contractor, who is authorized to drive a vehicle for the licensee.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.080 - Licensee.

"Licensee" means a person who holds a license as a mobile billboard business issued by the department pursuant to this chapter.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.090 - Mobile billboard.

"Mobile billboard" has the same meaning as defined in Section 14.04.165 of the County Code.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.100 - Mobile billboard business.

"Mobile billboard business" means a business that provides advertising for one or more businesses, products or services on one or more vehicles which is:

- (1) Used primarily for advertising;
- (2) Owned or leased by such a business; and
- (3) Driven by an employee of the business.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.110 - Owner.

"Owner" means sole proprietor or any individual holding an ownership of any of the partnership, stock, or membership units of any form of business entity.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.120 - Primary gaming corridor.

"Primary gaming corridor" means the unincorporated areas of the county that are included in the map as provided in Section 7.95.180 and designated "primary gaming corridor." The full width of the streets that make up the boundaries of the primary gaming corridor are deemed to be within the primary gaming corridor.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.130 - Roadway.

"Roadway" means that portion of any public street, road, highway, boulevard, lane, avenue, drive or way, located within the unincorporated areas of Clark County that is open for use by the general public for the purpose of vehicular travel.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.020.140 - Vehicle.

"Vehicle" means every device in, upon or by which any person or property is or may be transported or drawn upon a highway not including devices moved by human power or used exclusively upon stationary rails or tracks.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.030 - Business license required.

It is unlawful for any person to operate any mobile billboard business without first complying with the requirements of the ordinance codified in this chapter and obtaining a business license therefor.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.040 - License application.

Prior to commencing business operations in the unincorporated areas of Clark County, the applicant shall file a written application with the director on a form to be provided by the department including the requirements of Section 6.08.010 of the code and the following:

- (a) Proof that the application has made required filings with the Nevada Department of Taxation respecting this business;
- (b) Proof that the applicant has complied with the requirements of the Nevada Division of Business and Industry relating to occupational safety and health;
- (c) A copy of the valid, unexpired vehicle registration in Nevada for each vehicle to be used by the applicant for the mobile billboard business and a list of the vehicles that shall be updated whenever a vehicle is added to or deleted from the fleet;
- (d) Proof of a drug and alcohol testing program and a substance abuse program for the employees of the applicant;
- (e) Proof of insurance as required by Section 7.95.050 of this chapter;
- (f) Proof that each vehicle operated by the mobile billboard business complies with Section 7.95.090 of this chapter; and
- (g) Any other information determined to be necessary by the director.

The application must also be accompanied by the fee prescribed in Section 7.95.070 of this chapter and a written declaration by the applicant, under penalty of perjury, that the information contained in and supplied with the application is true and correct, said declaration being duly signed and dated.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.050 - General liability insurance required.

As a condition of licensing and prior to commencing business operations, any person required to be licensed under this chapter shall file with the director and thereafter maintain general liability and auto insurance policies, issued by an insurance company authorized to do business in the State of Nevada in accordance with applicable sections of NRS Title 57. The general liability and auto insurance policies shall have policy limits that shall not be less than:

- (a) Auto for bodily injury to or the death of one or more persons in any one accident, one million dollars combined single limit; and
- (b) General liability, one million dollars per occurrence/aggregate limit.

Each mobile billboard business shall submit an insurance certificate to the director that indicates that the county will be notified no less than thirty days prior to alteration, cancellation, termination or nonrenewal of such coverage. Further, the licensee shall at all times maintain workers' compensation insurance in

compliance with NRS Chapters 616 and 617.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.060 - Change of ownership.

Every licensee shall furnish to the department complete information pertaining to any change of ownership of any interest in the licensed business at least thirty days before the date of such change. If the licensee is not a party to the transaction effecting the change of ownership, then such notice to the department must be provided by the licensee immediately upon acquiring knowledge of the change of ownership or any contemplated change of ownership.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.070 - License fees.

The annual license fee for each mobile billboard business license shall be paid annually in the amount of five hundred dollars per vehicle. This fee may be prorated whenever a vehicle is added to the fleet, but no refund shall be issued for any vehicle deleted from the fleet.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.080 - Display of business license and decals required.

The owner of a mobile billboard business shall display its business license in an open and conspicuous place on the premises of the licensed mobile billboard business, and each vehicle operated by the licensee shall display on the rear bumper of each vehicle a decal issued by the department that indicates that the mobile billboard business has a current valid license. Upon removal of a vehicle from the fleet the decal shall be removed from the vehicle.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.090 - Requirements of operators.

A licensee shall ensure that:

- (a) Every vehicle operated as a mobile billboard is maintained in a condition to be operated safely upon the highways of Clark County, is equipped with the equipment required pursuant to chapter 484D of NRS and complies with all other applicable traffic laws and regulations;
- (b) Every employee that drives a vehicle has received training in the operation of the vehicle, including, without limitation, safety precautions and procedures for emergency circumstances, and has been tested and is in full compliance with the licensee's substance

abuse program; and

(c) Every employee that drives a vehicle has a valid Nevada driver's license.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.100 - Compliance with other laws, rules and regulations.

Each owner shall operate its mobile billboard business in accordance with the provisions of this code and this chapter, the Nevada Revised Statutes, and all other applicable laws, rules and regulations.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.110 - License non-transferable.

Mobile billboard business licenses are not transferable for any reason to any other person.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.120 - Annual report.

Upon renewal of a license for a mobile billboard business a report shall be submitted to the department on a form approved by the director detailing any citations received by any owner or employee of a licensee that operated a vehicle since the initial issuance of the business license or since the last renewal, whichever is most recent.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.130 - Issuance or denial of business license.

Upon receipt of an application for a mobile billboard business license, the director shall issue a license to an applicant who meets the requirements imposed by this chapter, unless:

- (a) The application and supporting documentation is incomplete or contains false, misleading or fraudulent statements with respect to any information required;
- (b) The correct business license fee has not been received by the department;
- (c) The operation, as proposed by the applicant, would not comply with all applicable laws, including, but not limited to, all requirements of this chapter and Clark County's zoning, building, fire and health regulations;
- (d) The applicant fails to satisfy any qualification or requirement imposed by this code, or other local, state or federal law or regulation pertaining to such activities.

(Ord. No. 4747, § 1, 12-3-2019)

#### 7.95.140 - Prohibited acts.

It is unlawful:

- (a) For any person to operate a mobile billboard using a detachable trailer-drawn billboard that is drawn or otherwise pulled by any type of vehicle;
- (b) To knowingly stop or operate a vehicle in any manner that would impede or interfere with the orderly flow of traffic on a roadway;
- (c) For any person to stand, park or store a mobile billboard upon a residential roadway in unincorporated Clark County at a location within five hundred feet of:
  - (1) A dwelling, including any apartment unit or residential condominium pursuant to Section 14.10.020 of the code;
  - (2) A public or private school that provides formal education traditionally associated with preschool or kindergarten through grade 12; and
  - (3) A community facility. The distance is to be measured from the closest part of the vehicle to the applicable property line in a straight line to the closest part of the applicable property line.
- (d) For any vehicle to display or exhibit any signage that contains moving or flashing lights or animation of any kind pursuant to Section 14.10.010 of the code, including, without limitation, video or rapidly changing images, except as provided for in Subsection (p) of this section;
- (e) To knowingly allow an employee to consume alcoholic beverages or be under the influence of alcohol or drugs, whether legal or illegal, or be impaired in any manner while driving a vehicle used by the mobile billboard business;
- (f) To knowingly allow a vehicle to be driven by anyone other than the employee of the mobile billboard business;
- (g) To knowingly allow anyone to drive a vehicle to be driven in violation of local or state traffic laws;
- (h) To operate a vehicle at such a slow speed as to impede the normal and reasonable movement of traffic except when reduced speed is necessary for safe operation or in compliance with law as provided for in Section 14.24.040 of the County Code;
- (i) To operate a vehicle that the overall length exceeds thirty-two feet or the total height from the ground exceeds fourteen feet or the body of the Vehicle exceeds eight and one-half feet in width, including any part of the advertising display, pursuant to applicable sections of NRS 484D;
- (j) To knowingly allow or require an employee to drive a vehicle which, by reason of its mechanical condition, is hazardous to operate or for which operation is likely to result in the

breakdown of the vehicle;

- (k) To operate a vehicle that illuminates the display or advertising by more than 0.3 foot-candles over ambient levels as measured using a foot candle meter as described in Section 30.72.040 of the code;
- (l) To operate a vehicle that displays non-animated images with a dwell time of less than ten seconds;
- (m) For the operator of a vehicle to make a U-turn within the public rights-of-way;
- (n) To operate a vehicle that illuminates the display, either by exterior lighting or backlighting, without ambient light monitors that enable sign brightness to adjust to outside conditions;
- (o) To operate a vehicle with a mobile billboard when, according to the National Weather Service, sustained winds in excess of thirty-five miles per hour exist within the immediate vicinity of the vehicle or its proposed route;
- (p) To operate a vehicle with a mobile billboard that is equipped with a dynamic display unless:
  - (1) the vehicle is equipped with a dynamic display management system which is configured to prevent moving or flashing lights or animation of any kind except when such vehicle is within the primary gaming corridor;
  - (2) the dynamic display is only visible on the passenger side of the vehicle;
  - and (3) the vehicle is located in the right travel lane.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.150 - Penalties and license revocation.

Any person who violates any of the provisions of this chapter is guilty of a misdemeanor and upon conviction shall be punished by imprisonment in the county jail for a term not to exceed six months or by a fine not to exceed one thousand dollars, or by both such fine and imprisonment. Further, upon notice and hearing, the license of the mobile billboard business may be revoked, conditioned, or suspended for violation of or noncompliance with any law of the State of Nevada, the County of Clark, or this chapter.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.160 - Effective date.

The effective date of this chapter shall be January 1, 2020. Owners and/or principals of a mobile billboard business, that commenced operations in the unincorporated areas of Clark County prior to the effective date of this chapter, shall not be required to cease business operations permitted by the ordinance codified in this chapter in the unincorporated areas of Clark County during the time period required to process the business license, provided that:

- (a) A complete application for a mobile billboard business license is filed with the director within

thirty days of the effective date of this chapter;

- (b) The owners of such business remain in compliance with the requirements of this chapter.

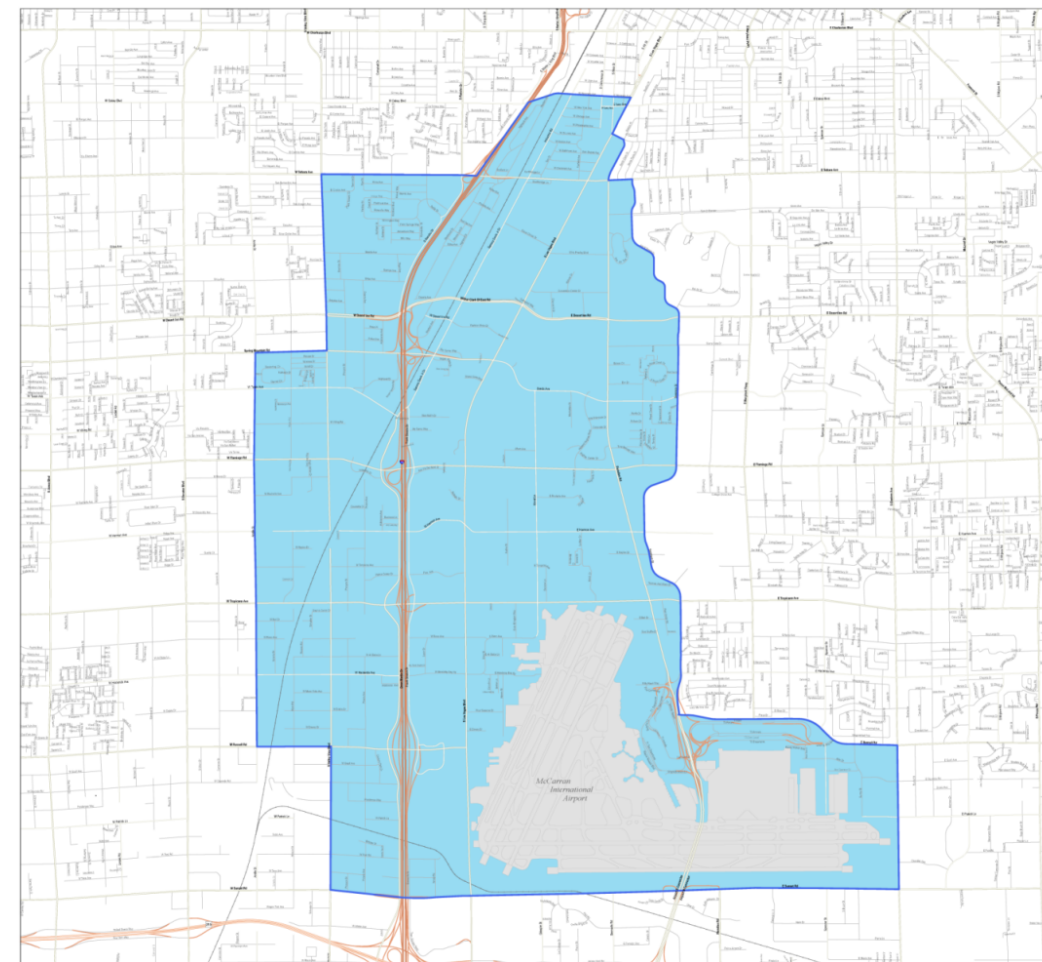
(Ord. No. 4747, § 1, 12-3-2019)

7.95.170 - Severability.

If any provision, section, paragraph, sentence, clause, or phrase of this chapter of the code is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity of the remaining portions of this chapter of the code. It is the intent of the county commission in adopting this chapter of the code that no portion or provision thereof shall become inoperative or fail by reason of any invalidity or unconstitutionality of any other portion or provision, and to this end, all provisions of this chapter of the code are declared to be severable.

(Ord. No. 4747, § 1, 12-3-2019)

7.95.180 - Primary gaming corridor map.



(Ord. No. 4747, § 1, 12-3-2019)

**APPENDIX B – APPENDIX J  
PROVIDED IN TECHNICAL APPENDIX**



