

CLARK COUNTY PEDESTRIAN STUDY

Las Vegas Boulevard

Russell Road to Sahara Avenue

2015 UPDATE



Kimley»Horn

Expect More. Experience Better.

Agenda

- Introduction
- Pedestrian LOS Overview
- 2012-2015 Resort Corridor Improvements
- 2015 Study Update
- Non-Permanent Obstructions
- Conclusions, Recommendations and Best Practices



Introduction

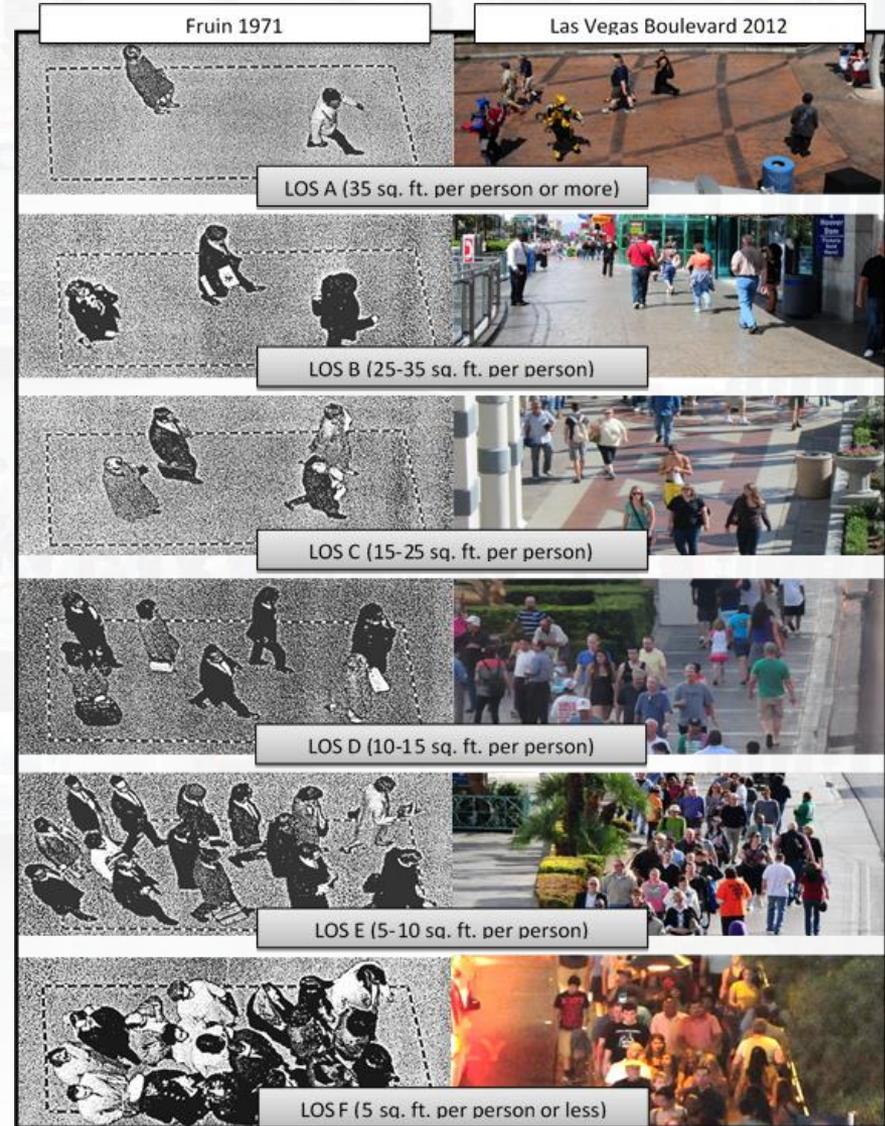
- Purpose: reevaluate walkway segments and time periods of pedestrian congestion on The Strip
- Pedestrian mobility is key to maintaining economic vitality and the visitor experience



Pedestrian LOS Overview

- Pedestrian LOS established by Highway Capacity Manual (HCM)
- Ordinance for Obstructive Uses of Public Sidewalks is based upon maintaining LOS of “C” or higher

A
B
C
D
E
F



Source: Adapted from Fruin 1971.



17 Segments with Poor LOS in 2012



SEE BELOW LEFT



SEE ABOVE RIGHT

Legend

 LOS < C

 Segment Reference Number



Resort Corridor Improvements 2012-2015

- County has completed projects to improve and enhance the walkway conditions which include 17 identified walkway segments with poor LOS per 2012 study. This has reduced the LOS<C frontage from 17% to 12%
- Improvements include:
 - removing permanent obstructions within walkways, such as fire hydrants, trash cans, sign posts, etc
 - improving capacity by widening sidewalks
 - pedestrian safety enhancements, such as containment fencing, LED lighting, ADA ramps, etc
- \$5 million for design and construction



Completed Improvements

2012



2015



New York-New York Walkway



Completed Improvements

2012



2015



Monte Carlo Bus Stop – Walkway Widening



Completed Improvements

2012



2015



Paris/Sugar Factory - Walkway



Completed Improvements

2012



2015



Harley Davidson Cafe Walkway Widening

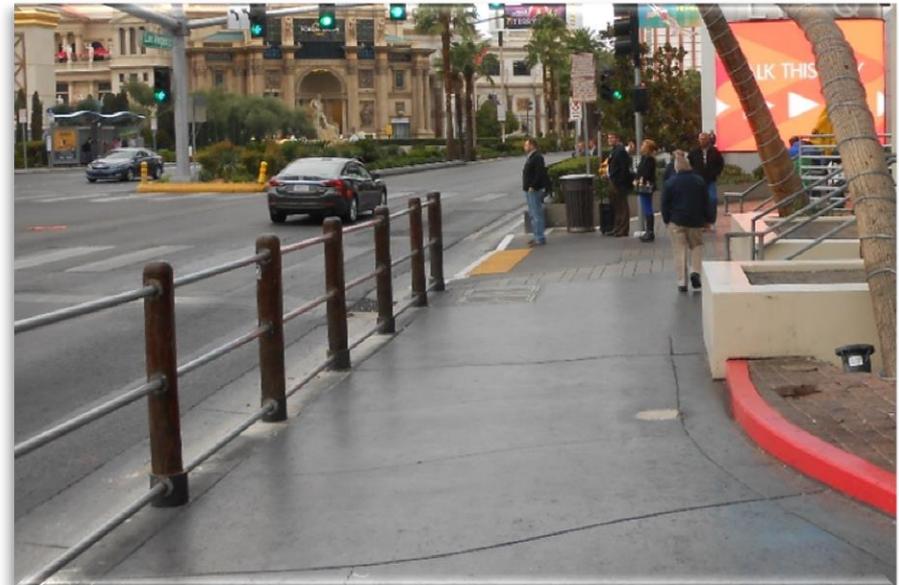


Completed Improvements

2012



2015



Margaritaville - Removing Obstructions



Completed Improvements

2012



2015



Caesars Palace North - Widening Walkways



Completed Improvements

2012



2015



Casino Royale/Venetian – Removing Obstacles



Completed Improvements

2012



2015



Mirage/Treasure Island Bus Stop - Walkway Widening



2015 Study Update

- Purpose: Evaluate walkways for LOS < C
- Data Collection
 - Time periods:
 - May 23, 2015 (Memorial Day Weekend)
 - June 20, 2015 (typical Summer weekend)
 - 2.65 Million pedestrians counted
 - 21 count locations
 - 840 hours video data collection
 - 288 hours in-field observation
- Identify types and locations of obstructions
- Summary of Restudy



Walkway Segments Exceeding LOS C

Tropicana to Flamingo

2012



2015



Legend

- New Segment, LOS < C in 2015
- LOS < C
- R# Segment Reference Number
- R# Segment No Longer Less than LOS C in 2015



Walkway Segments Exceeding LOS C

Flamingo to Spring Mountain

2012



2015



Legend

 New Segment, LOS < C in 2015

 LOS < C

 R#

Segment Reference Number

 R#

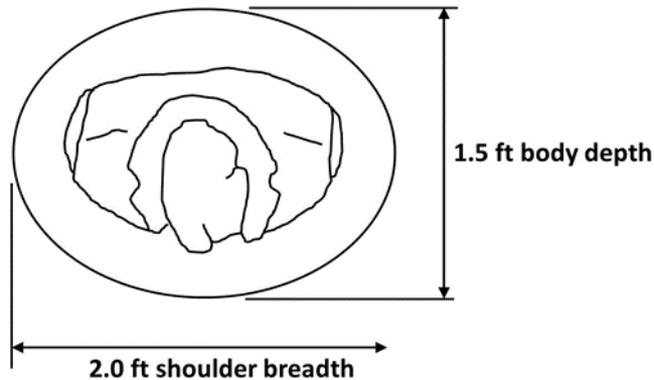
Segment No Longer Less than LOS C in 2015



Non-Permanent Obstruction

The term “**non-permanent obstruction**”, is defined as an individual who could obstruct the pedestrian walkway while engaging in any of the following activities within the walkway:

- Hand billing
- Performing
- Soliciting
- Selling



Pedestrian Body Ellipse

Non-Permanent Obstruction

- Non-permanent obstructions observed:

Holiday Saturday

Time Period	West Side		East Side		Total		% Change
	2012	2015	2012	2015	2012	2015	
1 PM - 4 PM	65	104	104	164	169	268	58.58
5 PM - 8 PM	103	126	156	152	259	278	7.33
9 PM - 12 PM	92	117	133	141	224	258	15.18

Typical Saturday

Time Period	West Side		East Side		Total		% Change
	2012	2015	2012	2015	2012	2015	
1 PM - 4 PM	51	61	88	62	139	123	-11.51
5 PM - 8 PM	80	79	145	80	225	159	-29.33
9 PM - 12 PM	103	131	149	95	252	226	-10.31



Non-Permanent Obstructions Continued



Performers



Non-Permanent Obstructions Continued



Vendor



Non-Permanent Obstructions Continued



Handbiller



Non-Permanent Obstructions Continued



Handbiller/Sign-holder



Non-Permanent Obstructions Continued



Performers

Non-Permanent Obstructions Continued



Vendor

Non-Permanent Obstructions Continued



Illegal Street Gambling



Walkway Segments Exceeding LOS C with One NPO Present Tropicana to Flamingo

2015 – NPO Absent



2015 – 1 NPO Present



Legend

- LOS < C
- Segment where LOS < C when 1 NPO is present
- R# Segment Reference Number
- R# Segment No Longer Less than LOS C in 2015

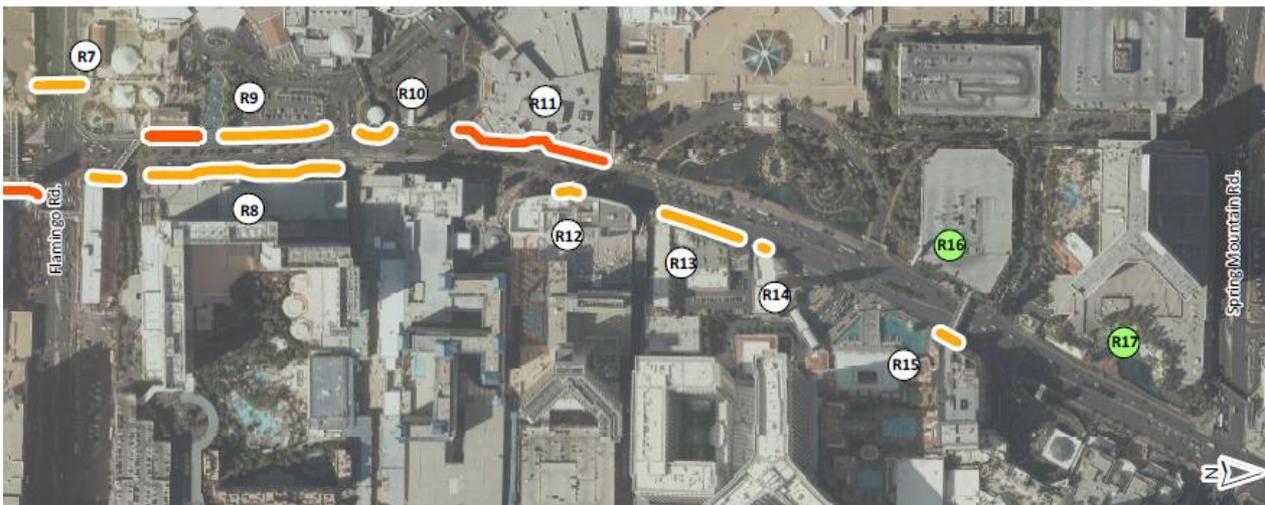


Walkway Segments Exceeding LOS C with One NPO Present Flamingo to Spring Mountain

2015 – NPO Absent



2015 – 1 NPO Present



Legend

- LOS < C
- Segment where LOS < C when 1 NPO is present
- Segment Reference Number
- Segment No Longer Less than LOS C in 2015



Walkway Segments Exceeding LOS C with Two NPO's Present Tropicana to Flamingo

2015 – NPO Absent



2015 – 2 NPO's Present



Legend

- LOS < C
- LOS < C when 2 NPOs are present
- R# Segment Reference Number
- R# Segment No Longer Less than LOS C in 2015



Walkway Segments Exceeding LOS C with Two NPO's Present Flamingo to Spring Mountain

2015 – NPO Absent



2015 – 2 NPO's Present



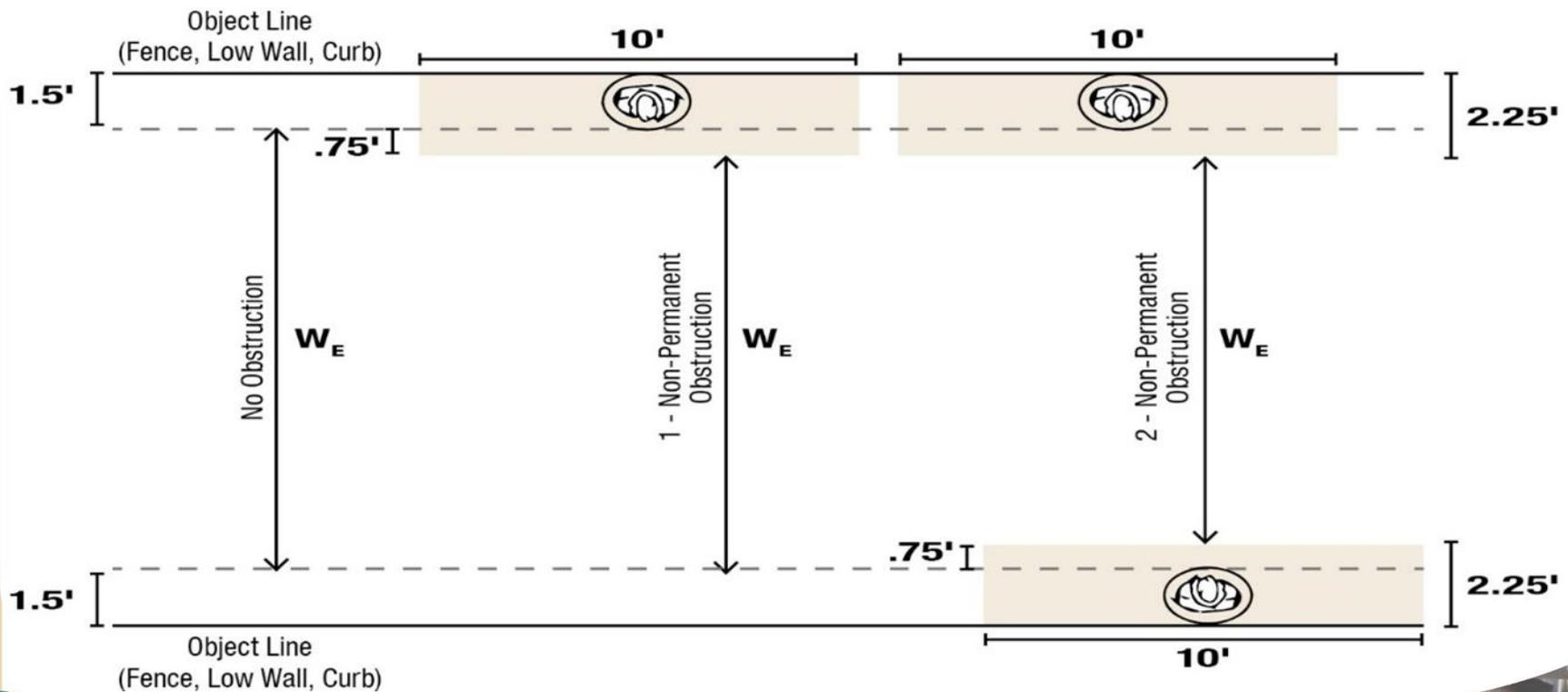
Legend

- LOS < C
- LOS < C when 2 NPOs are present
- R# Segment Reference Number
- R# Segment No Longer Less than LOS C in 2015



Non-Permanent Obstruction

- LOS impact of:
 - 1 NPO on the side of the walkway
 - 2 NPO's on opposite sides of the walkway



Conclusions, Recommendations and Best Practices

- Conclusions
- Recommended Infrastructure Improvements
- Updates to No-Obstructive Use Zones
- Suggested Resort Corridor Best Practices



General Conclusions

- Restudy continues to support the no-obstruction zone recommendations of the 1994 Lee Engineering Pedestrian Study and 2012 study by KHA as incorporated into Clark County Code Chapter 16.11
- Continue to require pedestrian walks to be designed for a minimum effective walkway width of 15' or a pedestrian walkway LOS of C or better



General Conclusions Continued

- Developers of Resort Corridor construction projects should incorporate the removal, replacement, and/or installation of no-obstructive use zone signs and markings as appropriate
- Pedestrian bridges should be maintained free of any obstructions, as well as escalator and elevator approach, and departure landing zones. It is appropriate at times to designate pedestrian bridges as no-obstruction zones
- Bus stops should be reserved for bus patrons by restricting non-permanent obstructions



General Conclusions Continued

- Pedestrian crossings should be constructed to:
 - Accommodate existing and future pedestrian volumes at grade with additional pedestrian bridges
 - Be perpendicular at street crossings
 - At-grade crosswalks should be at least 25' wide with consideration for center median refuge islands



Recommended Infrastructure Improvements

- Short-Term:
 - Enforce the no-obstructive use ordinance within the Resort Corridor
 - Update the Transportation Element of the Clark County Master Plan to provide additional pedestrian bridge systems within the Resort Corridor
- Intermediate/Long-Term:
 - Development to relocate and/or construct utility infrastructure facilities outside of adjacent pedestrian walkways
 - Construct pedestrian bridge systems to eliminate at-grade pedestrian crossings at locations with high demand



Recommended Infrastructure Improvements Continued



Venetian



Paris



MGM/Showcase



North of Circus Circus

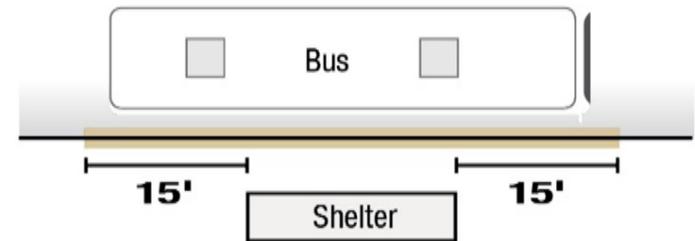
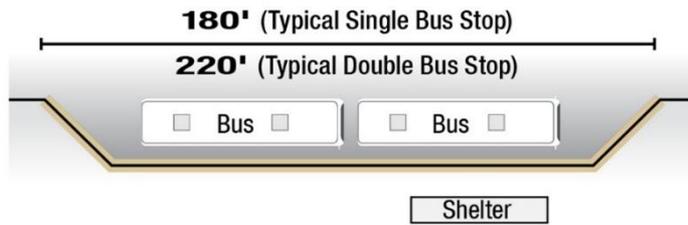
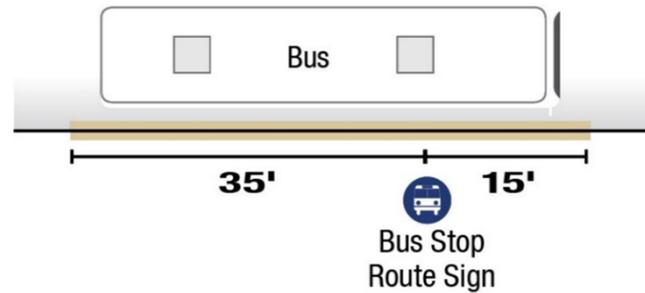


Recommended Updates to No-Obstructive Use Zones

- No-obstruction zone criteria should be applied to:
 - Construction zones affecting pedestrian walkways
 - Bus stops
 - Elevators, escalators and stairs

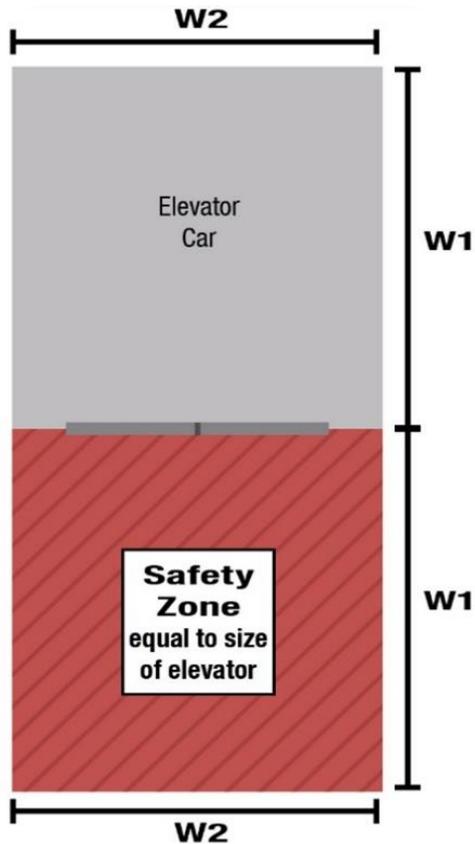


Recommended Updates to No-Obstructive Use Zones Continued

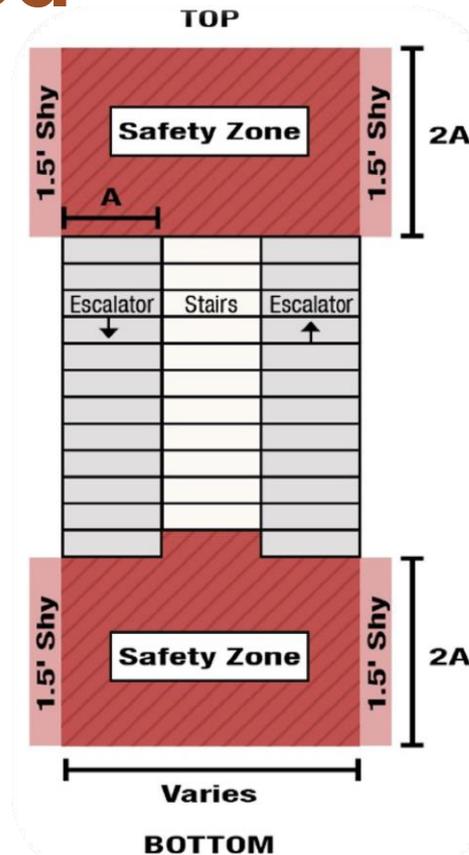


Bus Stops

Recommended Updates to No-Obstructive Use Zones Continued



Elevator



Escalator and Stairs



Resort Corridor Best Practices

- Sidewalks should be kept clear of obstructions
- Signs should be visibly placed out of pedestrian walkways in landscaping areas
- Pedestrian ramps should face toward the direction of travel
- Abandoned driveways should be replaced with curb, gutter, and sidewalk along with the removal of the associated driveway from the no-obstructive use zone



Resort Corridor Best Practices Continued

- Construction work zones should be planned so as to not negatively impact pedestrian flow on adjacent sidewalk
- Mature tree canopies for walkway shading should be encouraged while maintaining LOS C or better
- Walkways should have paving distinctions between private property and the public walkway



Complete Report:

Clark County Pedestrian Study: Las Vegas Boulevard – Russell Road to Sahara Avenue, 2015 Update

Available at:

http://www.clarkcountynv.gov/Depts/public_works/Pages/LasVegasBlvd.aspx

