

LAS VEGAS NFL STADIUM SITES TRAFFIC ASSESSMENT



PREPARED FOR
NEVADA DEPARTMENT
OF TRANSPORTATION



PREPARED BY
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OCTOBER 4, 2016

Summary of Findings

LAS VEGAS NFL STADIUM SITES - TRAFFIC ASSESSMENT

Purpose

- » A major development like an NFL stadium will have regional transportation implications, which should be approached proactively, rather than reactively
- » Our goal - to determine the high-level range of state highway improvement needs that can support a new stadium, as well as future regional transportation needs.
- » Answer the question - What projects on **state-maintained roadways** can be considered for acceleration to improve access and mobility to a stadium site?

Approach

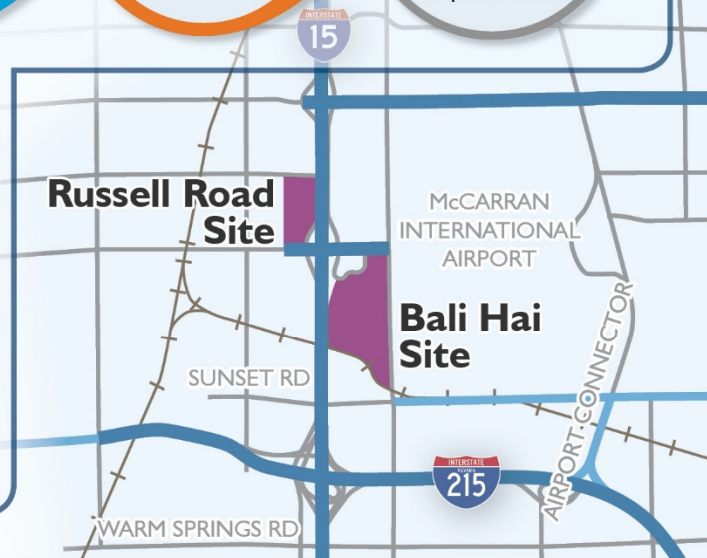
Trip Generation:
estimate the total number of additional vehicles expected on the roadway network

Mode Choice:
predict how attendees are traveling the event

Traffic Assignment:
decide what routes people will take to the stadium

Determination of Traffic Effects:
understand what roadways may be more constrained than others and the necessary improvements

- » Two preferred stadium sites (shown on the map here)
- » Determine how trips are made (car, bus/shuttle, bike, walk) and what roads they will use
- » Assess the traffic effects on state highways (2019 and 2035/Sunday and Monday nights)
- » Inventory planned and programmed improvements in the stadium sites vicinity



Summary of Findings

LAS VEGAS NFL STADIUM SITES - TRAFFIC ASSESSMENT

Advancing Projects

Projects that may be considered for acceleration include:

- » Addition of HOV interchanges on I-15 (Harmon Ave, Hacienda Ave)
- » I-15 and I-215 operational improvements, including HOV lanes and interchange reconstruction projects (I-15/Tropicana Ave)
- » Monorail extension to Mandalay Bay, and pedestrian bridge/walkway extensions to preferred stadium site (by others, with opportunity for NDOT collaboration on NEPA, preliminary engineering, and ROW)

All projects are identified from existing plans or programs, with some project elements already underway (e.g., planning, NEPA).

Game days and other major events could add 15,000 to 18,000 additional vehicles to the roadway system

Next Steps

- | | |
|--|--|
| Once a preferred stadium site is selected, follow-on studies to comprehensively understand transportation improvements needs as part of the stadium development process include: | » Traffic impact analysis |
| | » Parking needs analysis |
| | » Traffic management plan |
| | » Plan for transit expansion during special events (by others) |



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This document was prepared for NDOT by CH2M specialists in planning, travel demand modeling, traffic operations engineers, economic analysts, and project development and implementation.

Introduction and Overview

Las Vegas, Nevada is under consideration as a potential location for the development of a sports stadium complex to support a National Football League (NFL) team. This stadium would seat approximately 65,000 fans, and be used for playing home games during the NFL season; as well as host other professional, collegiate, and amateur sports, concerts, and other major events.

More than one-third of Las Vegas' local economy is dependent on the region's leisure and hospitality industry and its 42 million annual patrons (LVCVA 2015). Development of a new NFL stadium would be an attraction for locals and visitors alike.

1.1 Purpose

This traffic assessment was commissioned by the Nevada Department of Transportation (NDOT) to provide a high-level overview of stadium traffic effects on state-maintained roadways and to understand opportunities that address potential traffic demands. While there are some similarities, this assessment is not a typical traffic impact study (TIS) that assesses project-related deficiencies to develop a specific list of mitigation measures. A more detailed TIS will need to be submitted by the stadium development team once the preferred site has been selected and a site plan developed. Instead, this report summarizes a non-traditional high-level evaluation of traffic effects and recommendations for accelerating transportation projects that have already been planned/programmed or are in the conceptual phase. The overarching goal is to determine the high-level range of state highway improvement needs in this region that can be accelerated or initiated to support a new stadium. Other potential improvement needs (e.g., transit, local streets, pedestrian and bicycle facilities) are addressed as well.



1.2 Background

NDOT maintains portions of the regional freeway system and major arterials in the Las Vegas valley. Although the Las Vegas region is not new to addressing transportation concerns with hosting major high-volume events, the development of a new NFL stadium will invariably affect the performance and operations of the regional roadway network during special events.

Based on experiences in other cities, it is typical for a stadium developer to construct transportation improvements in the immediate area surrounding the stadium, including addressing such issues as access, parking, and circulation in and out of the stadium site. NDOT plans for and is interested in transportation solutions that meet regional demands. This traffic assessment considers transportation projects from various sources, including the Statewide Transportation Improvement Program (STIP, short-term), Regional Transportation Plan (RTP, long term), the Transportation Investment



Business Plan (TIBP), projects that may be funded contingent on the continuation of Fuel Revenue Indexing in Clark County (FRI-2 Ballot Question No. 5, November 2016) and other modes of regional transportation such as transit, high-speed rail and extensions to the Las Vegas Monorail. It is recognized that these projects have various project sponsors and differing timelines for project development and construction, but they present an opportunity for collaboration. The timeline for major freeway improvements can traditionally stretch 5 to 10 years to complete planning, National Environmental Policy Act (NEPA), design, right-of-way acquisition, and construction.

1.3 Potential Stadium Sites and Affected Roadways

Seven candidate stadium sites were initially under consideration by the stadium developer and used as the starting point for this analysis. Those seven sites illustrated in **Figure 1-1** are listed below:

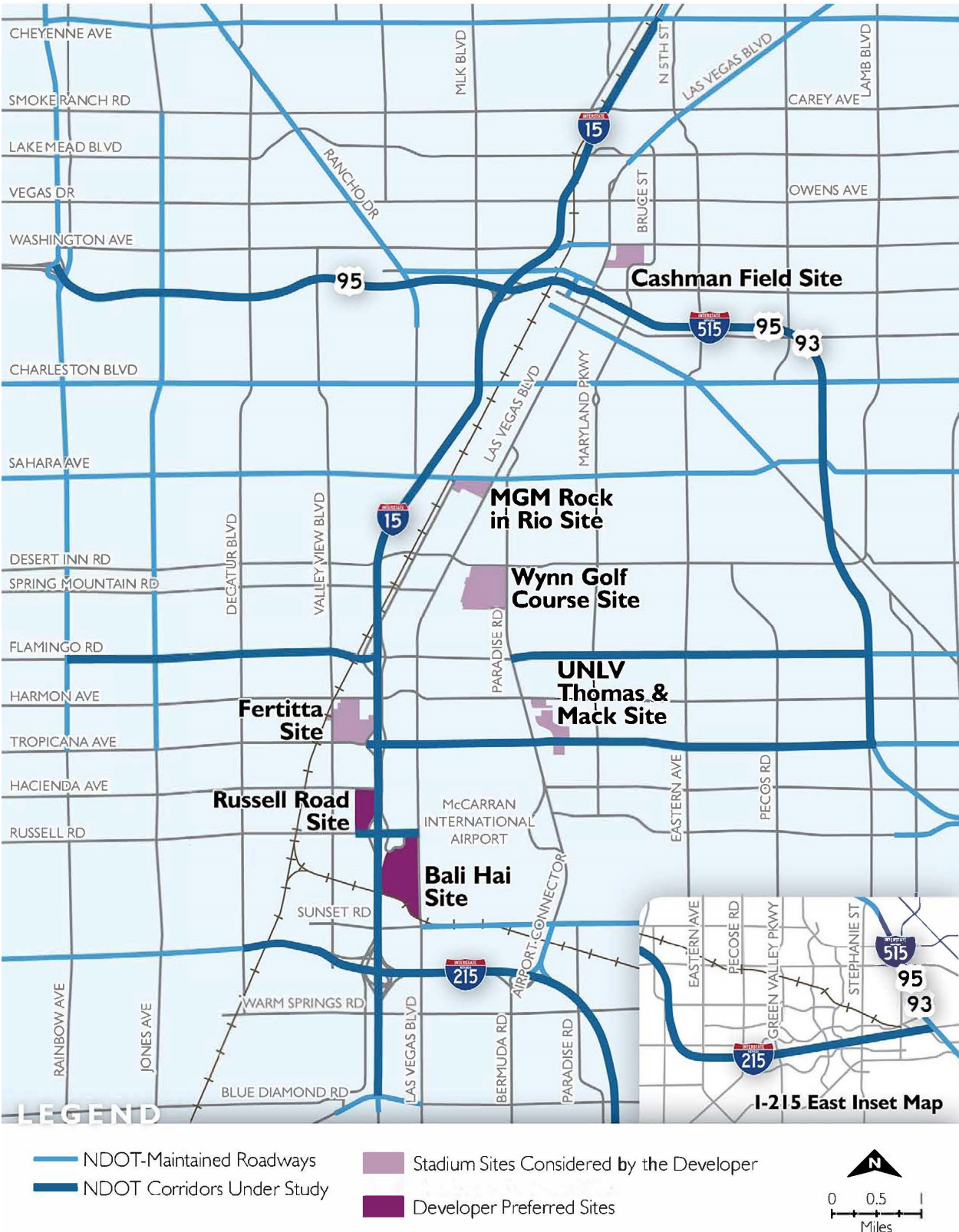
- Bali Hai Golf Course Site
- Russell Road Site
- Fertitta Site
- UNLV, Thomas and Mack Center Site
- Wynn Golf Course Site
- MGM Rock in Rio Site
- Cashman Field Site

While they are all located within the metropolitan core, each site was found to have different opportunities and issues related to transportation and other factors. As of September 2016, the Bali Hai Golf Course and Russell Road sites have been identified by the Developer as the preferred options, with the Russell Road site as the preferred choice. The analysis provided here focuses on both of these two sites since a formal site selection has not been announced.

Figure 1-1 also illustrates (dark blue lines) those roadways under NDOT's jurisdiction that were considered to be the corridors that are most likely be affected by either of the two stadium locations. These corridors are the primary focus of this analysis. The light blue lines show the broader network of state-maintained roadways in the study area.

Note that the freeway analysis was focused on the mainline lanes only. Express lanes, High Occupancy Vehicle (HOV), and Collector-Distributor (C-D) roads are important parts of the freeway system, but analysis at that level of detail is more appropriate for future, more detailed studies.

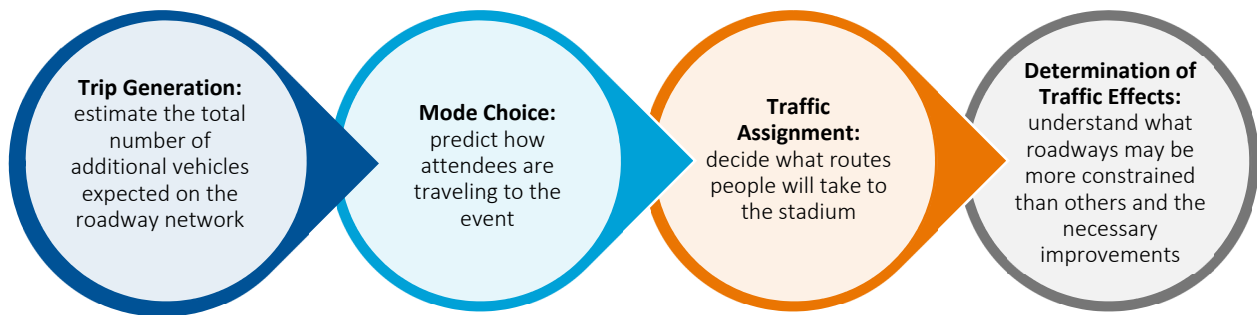
Figure 1-1. Study Area Map



Stadium-Related Traffic Assessment

The proposed stadium is expected to seat 65,000 people. To understand the effects of a sold-out event on the regional transportation system, the analysis followed a series of steps to determine the effects of stadium traffic, as illustrated in **Figure 2-1**. This is a planning level analysis and these assumptions will be refined upon final site selection, site plan, and a discussion of planned accommodations.

Figure 2-1. Traffic Assessment Steps



2.1 Trip Generation and Mode Choice



The first step is estimating the number of trips that will be generated by a stadium with an assumed capacity of 65,000¹ seats was to consider the various modal choices, or the means of getting to the stadium. For this step, trip generation assumptions (the number of new trips) were based on statistics from other NFL stadiums in similar urban environments, paired with the uniqueness of Las Vegas valley and local knowledge of the candidate sites' locations within the regional transportation system (i.e., proximity to the Las Vegas Strip and surrounding transportation facilities).

In Las Vegas, attendees are expected to travel to the game in one of four ways:

1. Automobile;
2. Transit or shuttles;
3. Walking or biking; or
4. Other, such as taxis, limos, or ride-share services like Uber.

Each of these options carry a different number of people per vehicle. For example, a car may average three persons, while a bus may hold more than 40. These assumptions on transportation choice, combined with number of persons per mode, equates to a total number of vehicles traveling to and from the stadium. Another important consideration in trip generation is the high percentage of event attendees (estimated at 40 to 50 percent) that are assumed to be visitors, primarily staying in the Resort Corridor. Visitors are more likely to take transit or other non-automobile modes.

Game days and other major events could add 15,000 to 18,000 additional vehicles to the roadway system.

¹ 65,000 seats was used for the analysis. A modest increase (to 70,000 seats) would not have a material effect on the results and conclusions.

While considering the 7 potential stadium sites, it was estimated that game days and other major events could add 15,000 to 18,000 additional vehicles to the roadway system. The number of new vehicle trips generated for the Bali Hai and the Russell Road sites is approximately 16,000 trips. Detailed data are provided in **Appendix A**. The estimates of anticipated new vehicle trips reflect availability of mode choices. These estimates of trips do not account for ancillary trips such as deliveries, freight, etc. Those trips are relatively minor compared to the anticipated special event trips.

2.2 Traffic Assignment

2.2.1 Baseline Scenarios

The traffic assignment step had multiple elements. Before considering the effects of new stadium traffic, it was first important to understand the expected performance of the street network **without** the stadium in place. This “baseline scenario” (without the stadium) was studied using three comparative years:

- **Existing Conditions (Year 2015):** establishes the current level of traffic and mobility conditions in the study area, using existing (available) traffic counts.
- **Baseline (Year 2019):** represents the traffic conditions expected in 2019, which is the anticipated opening year of the stadium and includes planned improvements anticipated to be complete by then.
- **Baseline (Year 2035):** represents the traffic conditions expected in 2035 without the stadium, accounting for all planned improvements; this time period evaluates the long-term effects of stadium-related traffic on the roadway network.

The RTC of Southern Nevada’s travel demand model (RTC, 2016) was used to determine the baseline scenario for years 2019 and 2035, which includes all planned improvements in the region that are expected to be complete in those timeframes, and uses that future street network to forecast transportation conditions. As the regional travel demand model is comprised of all planned land uses and improvements included in the Regional Transportation Plan (RTP), it is therefore consistent and reflects all of the approved transportation plans of NDOT, RTC of Southern Nevada, Clark County, and the cities of Las Vegas, North Las Vegas, and Henderson.

The **RTC travel demand model** includes the region’s roadway and transit networks, paired with population and employment data to calculate the expected demand for transportation facilities. Within the model, mathematical equations are used to represent each person’s trip decision-making process: where and when are they going, how will they get there, why are they traveling, and what mode/route will they take to make the trip? The model results for these individual choices are combined to understand the impact and average travel times that all these vehicles have on the roadway system.

2.2.2 Typical Days

The analysis for the baseline scenario was conducted for a weekday evening game or concert event and a Sunday afternoon NFL game.

- **Weekday PM:** is the worst case scenario. A late afternoon traffic pattern would include normal afternoon peak commuter traffic combined with the added stadium-related trips.
- **Sunday PM:** reflects Sunday game day traffic, compounded with tourists leaving town from a weekend visit to Las Vegas. This traffic is generally concentrated in the Resort Corridor/I-15 South area.

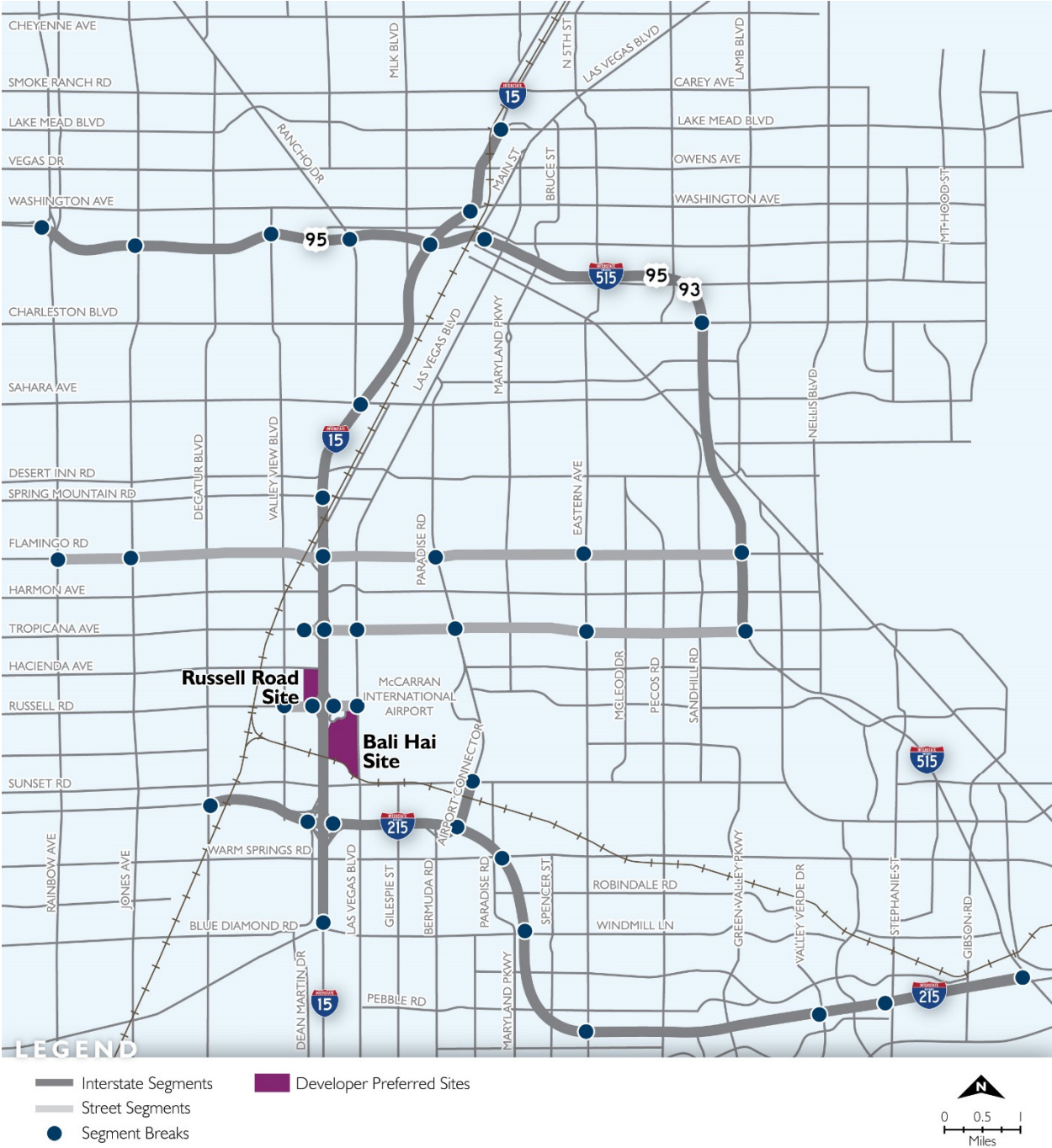
A typical community experiences two peak traffic periods each weekday: 2 to 3 hours in the morning and another 2 to 3 hours in the afternoon. These typical “rush hour” periods do not equate to the normal traffic conditions in Las Vegas. While many jobs operate Monday through Friday during the day, the preferred stadium sites are within the Resort Corridor area, which attracts visitors and convention-related business travelers. These visitors travel all week long and at all times of the day, and are supported by three local workday shifts (day, evening, night) at the hotels, casinos, and related establishments. While these peaks are less defined than in other cities, the typical day scenarios used in this analysis is representative of expected future conditions and needs.

2.2.3 Study Segments

The state-maintained corridors under review in this analysis included three freeway corridors (I-15, I-515/US 95, and I-215/Airport Connector) and segments of three arterials (Flamingo Road, Tropicana Avenue, and Russell Road).

Each roadway corridor was split into a series of segments to isolate traffic effects, resulting in 35 total segments. These corridor segments are illustrated in **Figure 2-2**.

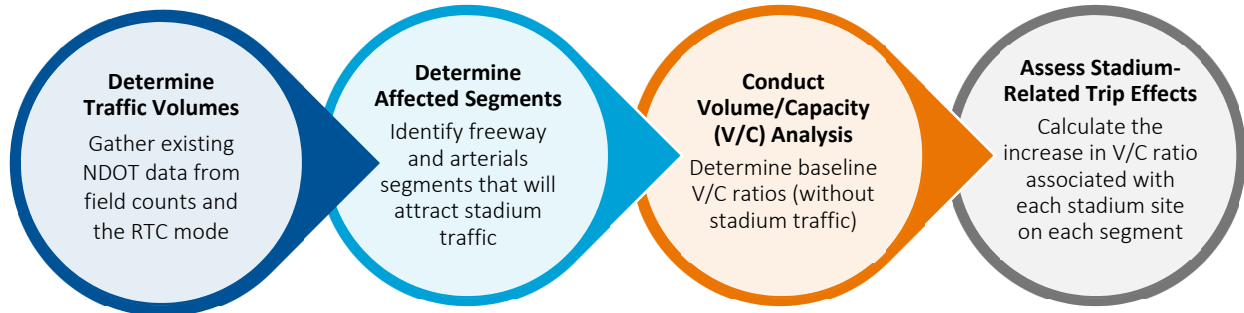
Figure 2-2. Study Corridor Segments



2.3 Determination of Traffic Effects

The determination of traffic effects for each candidate stadium site followed four steps, as illustrated in Figure 2-3.

Figure 2-3. Traffic Effects Determination



1. Determine Traffic Volumes

For the existing and baseline year scenarios, average daily traffic (ADT) and peak hour volumes were identified for each segment, each year, and each day (Table 2-1). Existing year ADT comes from NDOT traffic counts for 2015 (NDOT, 2016). Existing and projected peak traffic volumes are from the RTC travel demand model (RTC, 2016).

2. Determine Affected Segments

For each of the two stadium sites, those segments that are most likely to gain a significant amount of traffic on event days were selected as the focus of that site's analysis. The segments were determined by considering the likely origins for stadium traffic, and the route or routes they would most likely use. Trips included local residential trips, resort corridor trips, and airport trips. Capacity estimates were prepared for the affected segments.

3. Conduct Volume-to-Capacity Analysis

The projected traffic volumes and capacities were used to calculate the volume/capacity (V/C) ratio for each roadway segment. A V/C ratio of 1.0 roadway operating approximately "at capacity," although many roadways have volumes greater than capacity – they operate under congested conditions. The following graphics are summaries of conditions without the stadium-related trips (details are provided in Appendix B):

- Figure 2-4 – 2019 Weekday PM Baseline Scenario
- Figure 2-5 – 2019 Sunday PM Baseline Scenario
- Figure 2-6 – 2035 Weekday PM Baseline Scenario
- Figure 2-7 – 2035 Sunday PM Baseline Scenario

4. Assess Stadium-Related Trip Effects

The last step was to calculate the increase in V/C ratios associated with each of the two stadium sites. For the affected segments identified in Step 2, the number of vehicles to/from each site was determined. From there, the change in V/C ratio was calculated. These results are provided in Section 2.4.

Table 2-1. Traffic Scenarios

Scenario	Year	Day
Existing	2015	Monday PM
		Sunday PM
Baseline	2019	Monday PM
		Sunday PM
	2035	Monday PM
		Sunday PM
Stadium	2019	Monday PM
		Sunday PM
	2035	Monday PM
		Sunday PM

Figure 2-4. 2019 Weekday PM Baseline Scenario (without stadium-related trips)

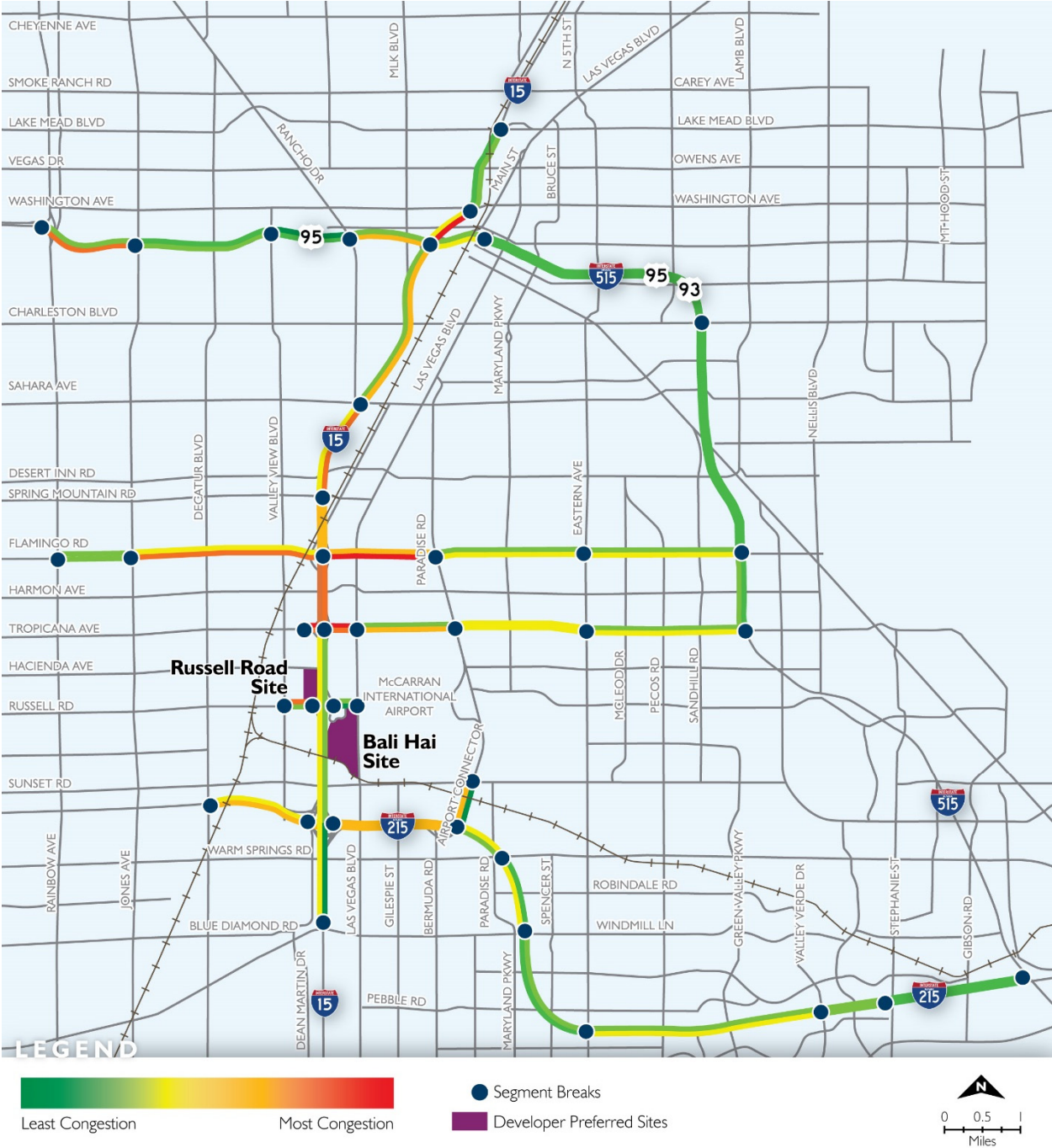


Figure 2-5. 2019 Sunday PM Baseline Scenario (without stadium-related trips)

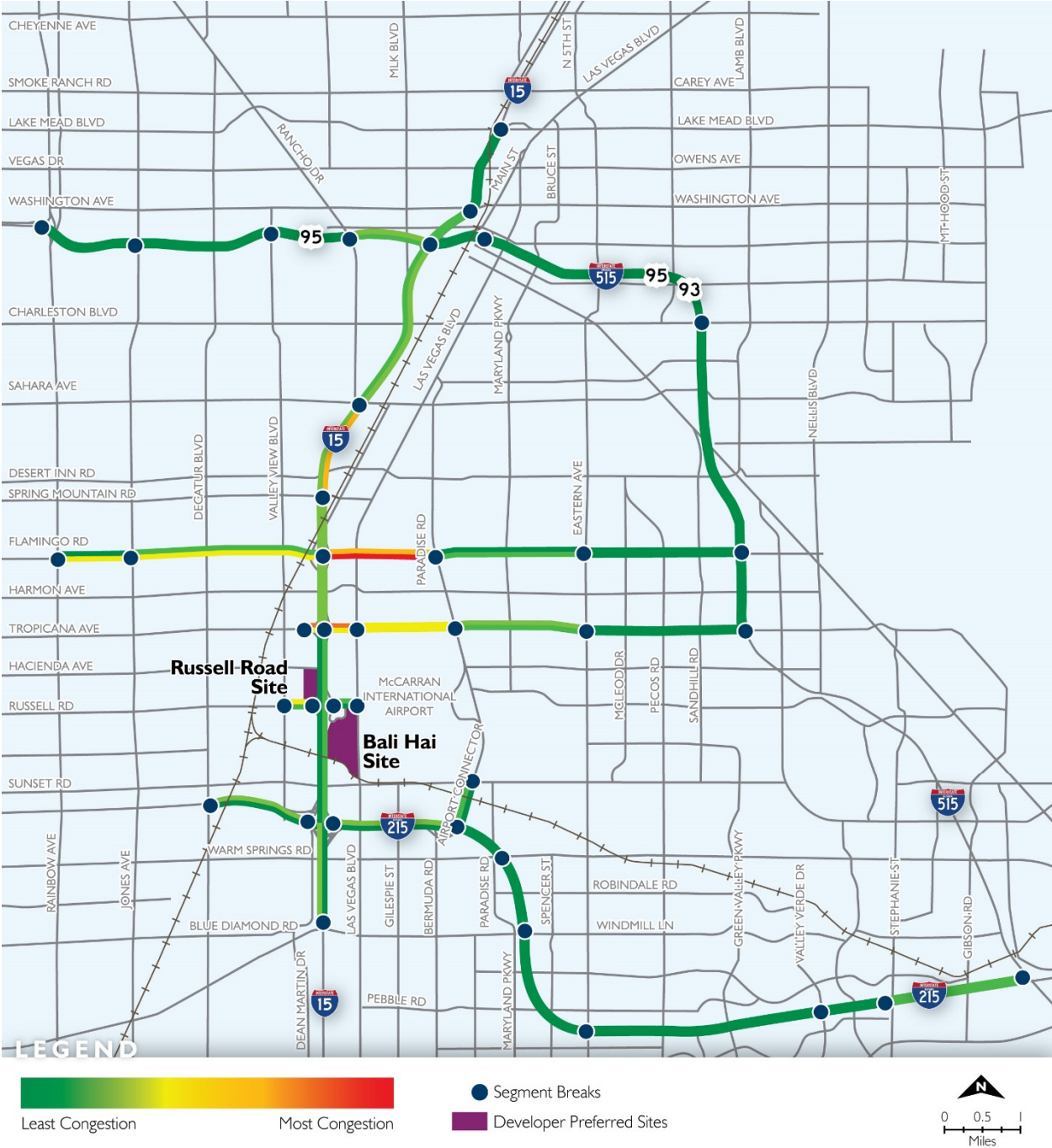
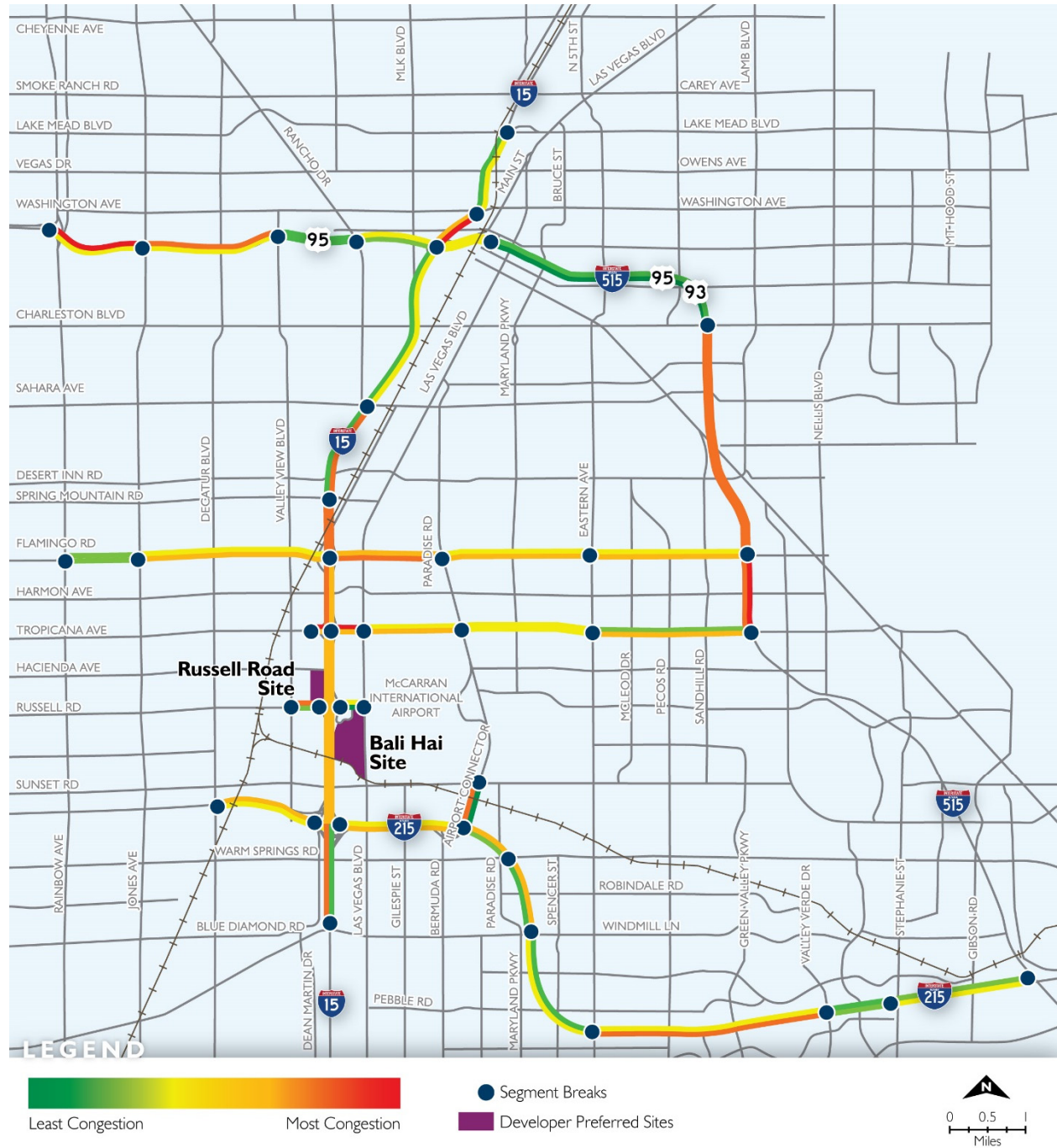
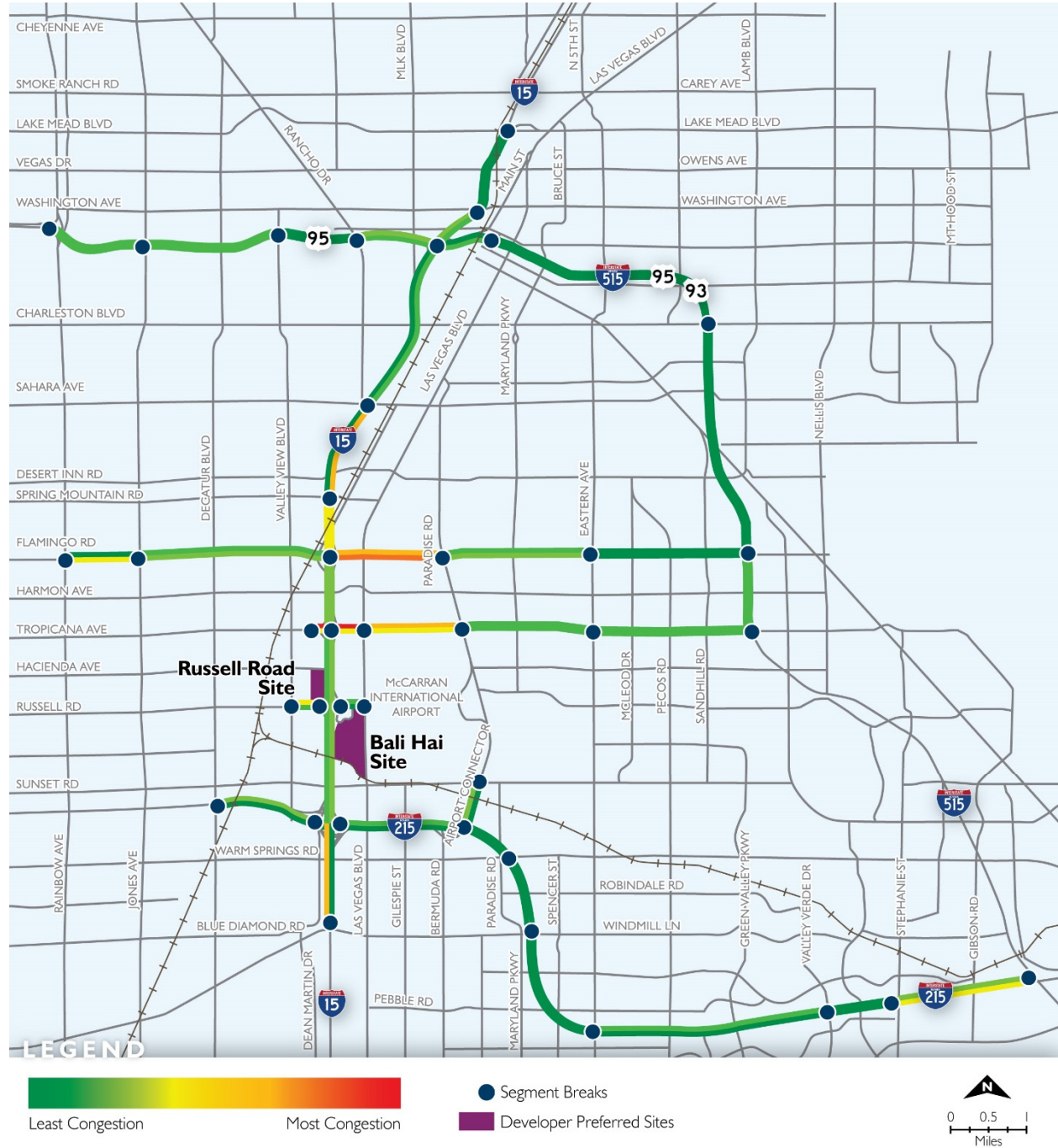


Figure 2-6. 2035 Weekday PM Baseline Scenario (without stadium-related trips)



Note: The 2035 baseline transportation network assumes all planned projects in the RTP are complete.

Figure 2-7. 2035 Sunday PM Baseline Scenario (without stadium-related trips)



Note: The 2035 baseline transportation network assumes all planned projects in the RTP are complete.

2.4 Effects by Preferred Stadium Sites

The evaluations for the two preferred stadium sites are presented in **Figures 2-8** and **2-9**. These two figures illustrate the relative congestion levels associated with stadium traffic on NDOT-maintained roadways, based on the anticipated increases in the V/C for the defined roadway segments. The maps show data on a combination of 2019 and 2035. The combination of the two years was used to capture both opening year and the longer-term effects when other planned and programmed projects will have been constructed.

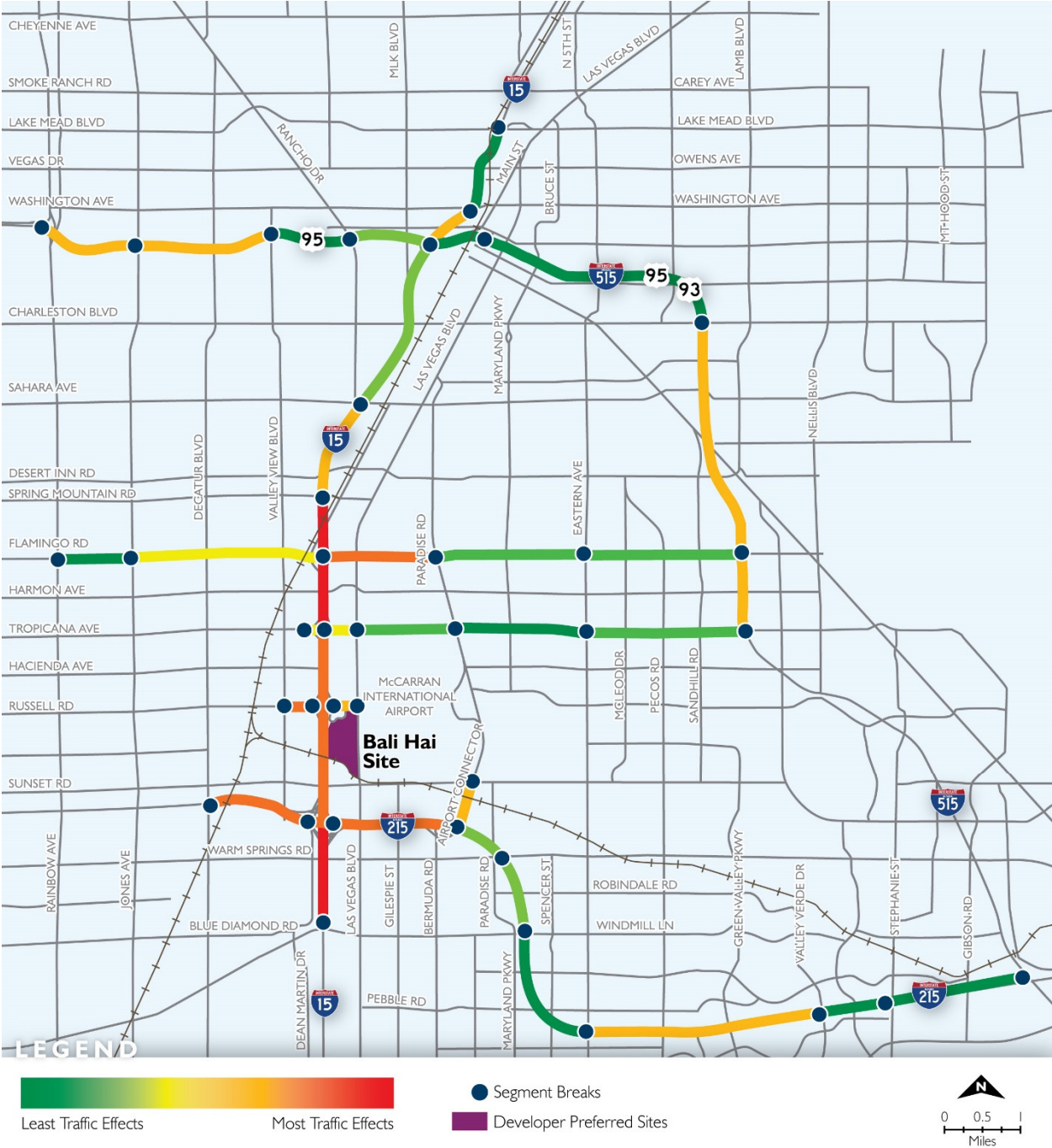
Table 2-2 is a summary of the NDOT-maintained roadway segments that are anticipated to be most affected by the two potential stadium sites.

Table 2-2. Affected NDOT-Maintained Roadways for Each Stadium Site

Most Critical Affected NDOT-Maintained Roadways			
Site	Freeways	Interchanges	Local Streets
Bali Hai Golf Course Site	<ul style="list-style-type: none"> I-15 from I-215 to Flamingo Road I-215 from Decatur Road to Airport Connector Airport Connector north of I-215 	<ul style="list-style-type: none"> I-15/Russell Road I-15/Tropicana Avenue I-15/I-215 I-215/Las Vegas Boulevard 	<ul style="list-style-type: none"> Russell Road from Valley View to I-15 Tropicana Avenue from Dean Martin to Las Vegas Boulevard
Russell Road Site	<ul style="list-style-type: none"> I-15 from I-215 to Flamingo Road I-215 from Decatur Road to Airport Connector Airport Connector north of I-215 	<ul style="list-style-type: none"> I-15/Russell Road I-15/Tropicana Avenue I-15/I-215 	<ul style="list-style-type: none"> Russell Road from Valley View to I-15 Tropicana Avenue from Dean Martin to Las Vegas Boulevard

Note that the Bali Hai site is constrained on three sides: McCarran International Airport (east), I-15 (west), and the UPRR corridor (south) – all of which limit access to the site. This may result in higher levels of congestion at spot locations near the site, as opposed to the Russell Road location, which may experience a greater dispersion of traffic, particularly to the west.

Figure 2-8. 2019 and 2035 Traffic Effects of Bali Hai Stadium Location



Note: The 2035 baseline transportation network assumes all planned projects in the RTP are complete.

Figure 2-9. 2019 and 2035 Traffic Effects of Russell Road Stadium Location



Note: The 2035 baseline transportation network assumes all planned projects in the RTP are complete.

2.5 Order-of-Magnitude Traffic Effect Assessment

Based on the type of facility (freeway, interchange, freeway mainline, major arterial) and level of V/C increase anticipated for each segment, an order-of-magnitude level of traffic effects was determined for the two stadium sites (Table 2-3).

For example, a congested freeway which experiences a 20 percent or higher V/C increase with stadium traffic was determined to be the worst case scenario. On the other end of the spectrum, an uncongested arterial which will add less than 10 percent traffic from a stadium site is not likely to dramatically affect traffic operations, and therefore the level of traffic effects of the stadium development on that roadway was determined to be low.

Table 2-3. Degree of Traffic Effects

Facility	Baseline V/C	V/C Increase		
		0 to 10%	10% to 20%	20% or more
Freeway Segment	0.0 to 0.8	1	2	4
	0.8 to 1.0	2	3	6
	1.0 to 1.1	3	5	8
	1.1 and up	5	9	10
Major Arterial	0.0 to 0.8	0	1	2
	0.8 to 1.0	0	2	5
	1.0 to 1.1	1	4	6
	1.1 and up	5	7	8
Interchange	0.0 to 0.8	0	2	3
	0.8 to 1.0	1	3	6
	1.0 to 1.1	2	5	7
	1.1 and up	6	7	9

Those underperforming segments with the highest ability to impede reliable travel offer the greatest risk to the transportation system and are a higher priority to address. Those segments that are not likely to experience much change in traffic are lower risk and can be addressed in a longer timeframe or by other projects.

Scale: 0: no effects 10: greatest effects

2.6 Traffic Effects of Each Site

The traffic effects were compiled by site on each of the 25 freeway segments and 10 arterial segments. For each segment, a relative traffic effect, on a scale from 0 to 10, was assessed, as described in Table 2-3. The freeway results (by system component and overall) and arterials were summarized separately. The results for the two preferred sites, Russell Road and Bali Hai, are identical at this level of analysis.

Improvement Needs on the Regional Transportation System

The traffic assessment builds upon the already planned transportation improvements in the region, in addition to projects that are in concept or idea stage that have not yet been fully developed or documented in any official study. The next step in the process was to determine the level of improvement needed on the state-maintained roadways and other facilities (local street, transit, non-motorized) to address the addition of event traffic – project types, schedule, and planning-level costs. A key consideration was the potential to leverage other projects “in the pipeline” that would be beneficial to be accelerated or enhanced to address stadium traffic needs, as the stadium necessitates acceleration of certain projects that could potentially provide relief and can be implemented in a reasonable timeframe ahead or shortly after the stadium’s opening in 2019. The improvement needs described in this section address areas where the addition of stadium traffic will negatively affect traffic conditions.

3.1 Leveraging Planned and Programmed Projects

This step in the process inventoried the planned and programmed projects that are under active study and project development in the Las Vegas valley. **Appendix C** is a detailed listing, and **Figure 3-1** and **Figure 3-2** are graphical views of the projects in the vicinity of the two high-priority stadium sites.

These projects are at varying levels of the project development stage (planning, NEPA, design, construction) and are dependent on funding and implementation by different entities (e.g., NDOT, RTC, Clark County). Together they represent the range of anticipated multimodal transportation improvements that are most likely to be completed over next 20 years:

- Figure 3-1 includes projects in the Statewide Transportation Improvement Program (STIP), a five-year program of projects that have been funded; and the Regional Transportation Plan (RTP), a 20-year program of projects that are expected, but with a range of funding availability.
- Figure 3-2 illustrates those projects proposed to be funded under the Fuel Revenue Index 2 (FRI-2) which includes other projects that are under consideration, and if passed by the voters at the ballot box, will generate substantial funding to complete hundreds of projects in Southern Nevada.

In addition, **Figure 3-3** and **Figure 3-4** shows other projects that are not yet programmed but recommended, or in the idea stage, from current planning efforts, including RTC’s Transportation Investment Business Plan (TIBP).



While many major transportation investments are underway today and others are planned in the future, these projects are needed regardless of the decision to locate an NFL stadium in Las Vegas.

Figure 3-1. Planned and Programmed Projects in the Vicinity of the Stadium Sites

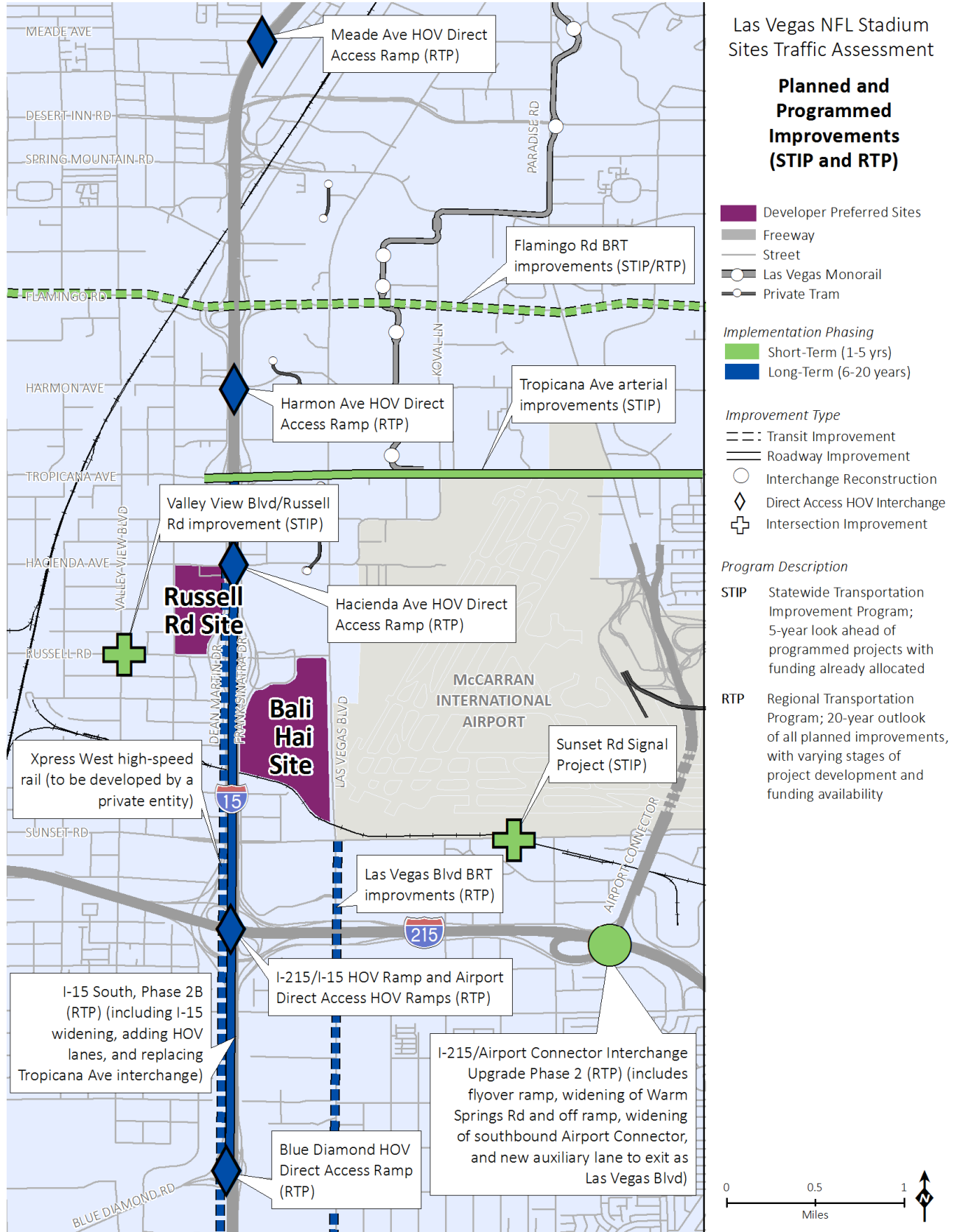
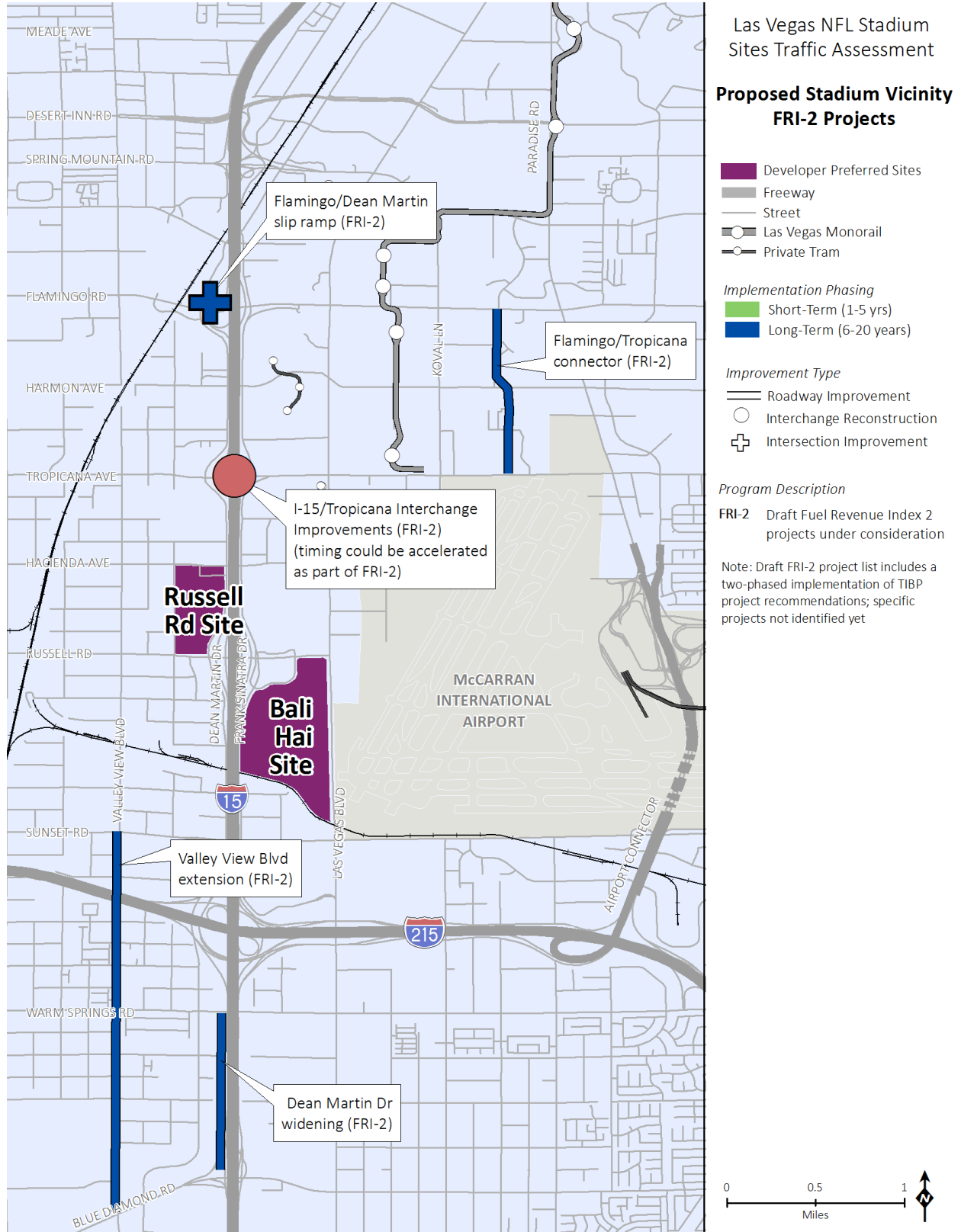


Figure 3-2. Proposed FRI-2 Projects in the Vicinity of the Stadium Sites



FRI-2 Fuel Revenue Indexing

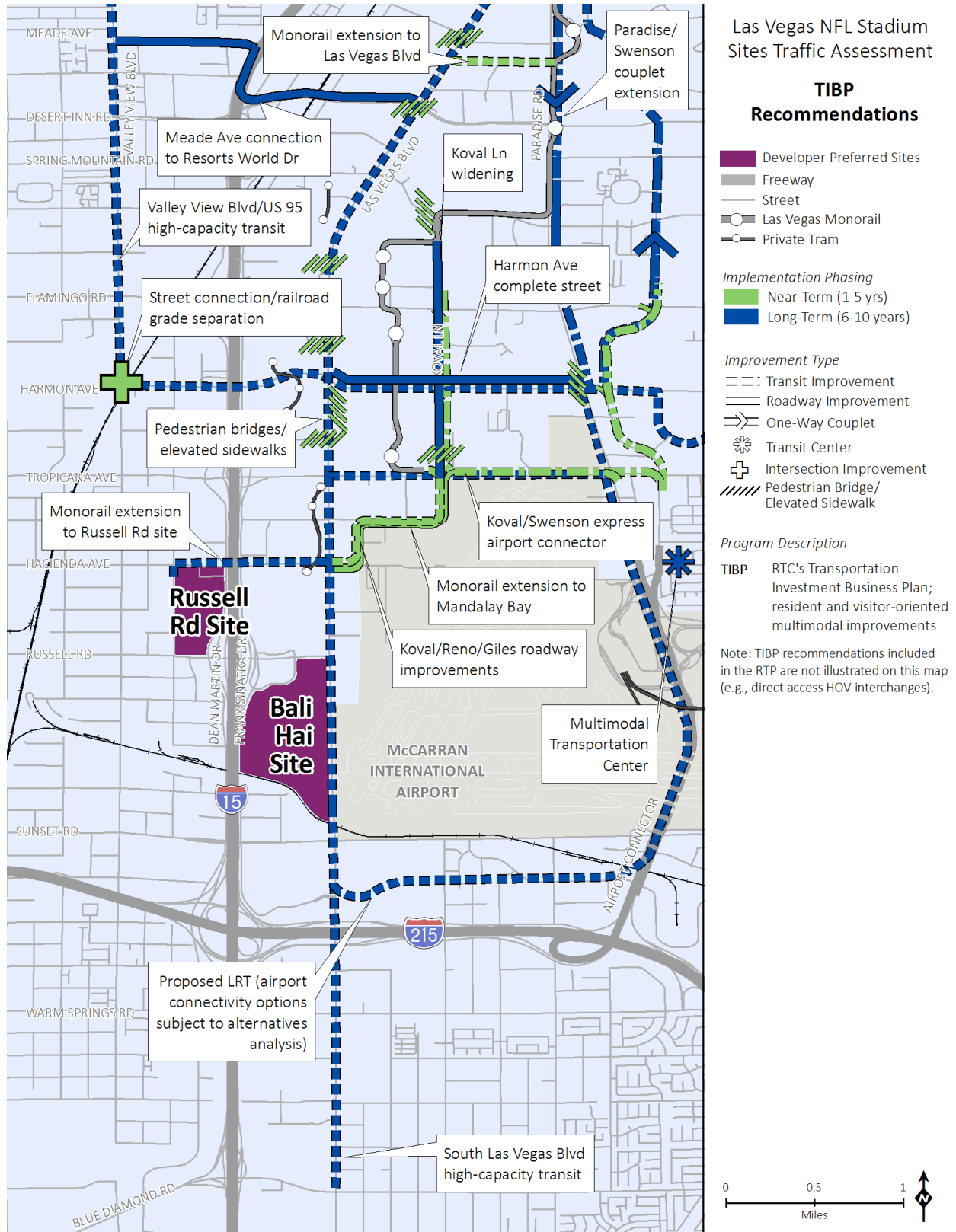
Ensuring efficient interconnectivity and mobility for more than 2 million residents in the Las Vegas valley and 41 million annual visitors is paramount to the region’s continued economic prosperity and sustainability. While costs for transportation construction projects continue to increase with inflation, budgets to complete road projects have not.

Fuel Revenue Indexing (FRI) is providing the necessary funds to move forward with transportation projects that will benefit thousands of residents and visitors every day. Each time a motorist fills up their vehicle with gas, FRI funds are generated (approximately 4 cents per day for the average motorist).

FRI-1 refers to the three-year trial occurring right now and assisting with completion of over 220 transportation projects. A 10-year extension is proposed and will be voted on in November 2016. FRI-2 refers to the proposed projects that could be funded if the extension is successful. The continuation of FRI could fund such projects as:



Figure 3-3. TIBP Recommendations in the Vicinity of the Stadium Sites



Transportation Investment Business Plan

RTC completed the Transportation Investment Business Plan (TIBP) in December 2015, which is a comprehensive blueprint for developing a modern transportation system. The plan had four purposes:

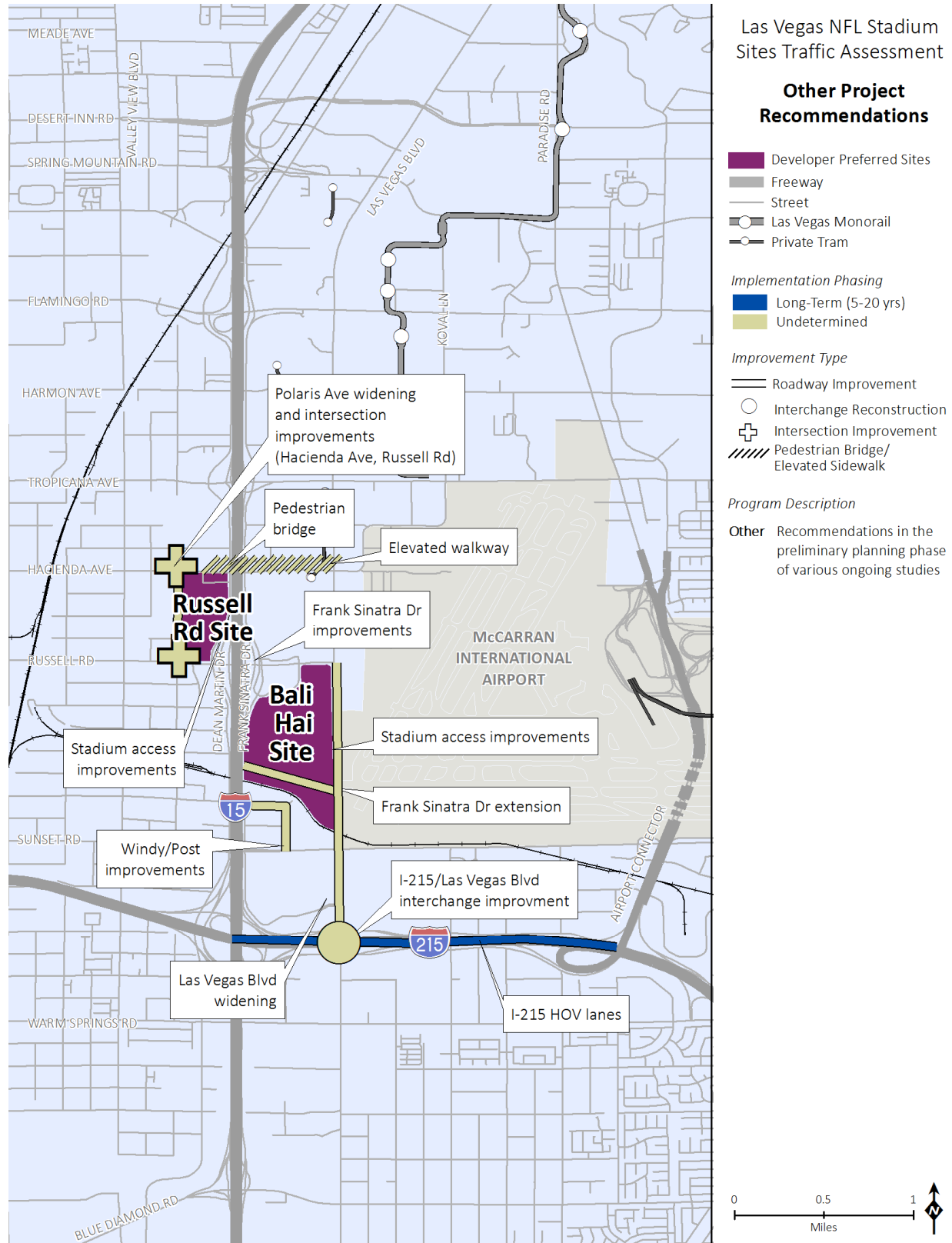
1. To maintain and grow Southern Nevada’s position as the world’s premier destination for convention and leisure travel;
2. Connect key centers of economic activity to reduce congestion and the cost of movement;
3. Position Las Vegas as an attractive place to do business and stimulate our local, regional, and state economies; and
4. Improve safety for pedestrians and autos alike.

The TIBP provides transportation and infrastructure recommendations (freeway, surface roadway, pedestrian, and high-capacity transit) for Las Vegas’ Resort Corridor and the surrounding areas. These recommendations are meant to alleviate congestion and improve connectivity in a high-growth area that continually hosts major events that draw tens of thousands of attendees at a time, similar to an NFL game.

TIBP includes over 55 policy and infrastructure recommendations, with no current funding identified for implementation. To realize the growth enabled by projects recommended in the TIBP, Las Vegas will need to leverage existing funding and financing opportunities, implement new and innovative strategies, and foster collaboration between the public and private sectors.



Figure 3-4. Other Project Recommendations in the Vicinity of the Stadium Sites



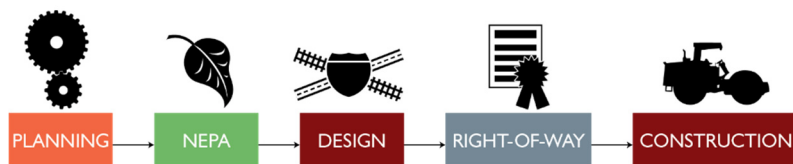
3.2 Project Development Process

Transportation projects are expensive and time-consuming, particularly on major state-maintained freeway facilities. Even a single interchange is resource-intensive, and freeway corridor projects are hundreds of millions of dollars. Some examples of construction costs for recent and ongoing projects are as follows (costs do not include pre-construction expenses such as design):

- I-15 North Design/Build (Spaghetti Bowl to Craig Road) – \$250 million (construction completed in 2009)
- I-15 South Design/Build (Blue Diamond Road to Tropicana Avenue) – \$247 million (construction completed in 2012; funded by AB 595/room tax)
- I-15 Project NEON (Sahara Avenue to Spaghetti Bowl/US 95) – \$559 million (currently under construction)
- I-15 South/Starr Avenue interchange project – \$58 to \$83 million (estimated, not including the planning and environmental phases)

Freeway projects that require federal environmental clearance have historically taken several years from the planning phases to start construction and several more years before it is completed and open to traffic. **Figure 3-5** presents the project development process and the major components that must be completed.

Figure 3-5. Transportation Project Development Process



Given the cost and time to build transportation projects, the next step in this evaluation was to assess the potential needs for large-scale (freeway, interchange, major arterial) projects, as well as smaller-scale roadway and multimodal improvements.

Note that NEPA is required only when a federal action is needed. Federal actions include projects, activities, or programs funded in whole or in part under the jurisdiction of a federal agency, the need to utilize Federal lands, and/or a change of access conditions along the Interstate Highway System. Non-federal projects become “federal actions” when the project “cannot begin or continue without prior approval of a federal agency.” For example, a pedestrian bridge might traditionally be a non-federal project, but the construction of a pedestrian bridge requiring permission to access or cross an interstate highway (i.e., I-15) would require a federal action. NDOT will assist in coordination with any federal actions

Recommendations and Next Steps

Section 2 described how the regional transportation system was assessed in light of additional traffic from the stadium sites. Section 3 outlined a range of potential improvements that may be needed and projects that would be ideal to accelerate to address deficiencies in the state highway system – as part of the current menu of planned and programmed improvements, and beyond that list. The last step, described in this section, was to assess the likely transportation needs.

4.1 NDOT Accomplishments

In recent years, NDOT has delivered multiple major transportation projects to meet Southern Nevada’s regional mobility demands. NDOT is currently constructing the State’s largest infrastructure project on I-15 (Project NEON) in the urban core of Las Vegas. Projects like the I-15 Express Lanes (Blue Diamond Road to Sahara Avenue) and I-15 South Design-Build (Silverado Ranch Boulevard to Tropicana Avenue) are two other examples of projects that have been instrumental in helping to reduce congestion, improve safety, and ease access to the Las Vegas Resort Corridor for visitors and residents.

Planning projects will ultimately lead to more construction, and NDOT recently completed and is actively engaged in several major planning efforts. These projects include the I-15 Urban Resort Corridor Study, the Southern Nevada HOV Master Plan Update, and the I-15/Tropicana Avenue Interchange Modifications Feasibility Study. Covering the whole region is the recently-initiated Southern Nevada Freeway Traffic Study by NDOT. The goal of that study is to evaluate the needs of the region’s freeway system, develop improvement strategies to meet short-term and long-term transportation needs, and maximize benefits of NDOT’s investments.

NDOT frequently works closely and partners with local agencies to implement projects, including use of local funding sources where applicable. In the case of the 2012 I-15 South Design-Build project, the project involved collaboration between NDOT, the Las Vegas Convention and Visitors Authority (LVCVA), Clark County and the RTC. The project was primarily funded by bonds issued by the LVCVA, agreed to during the 2007 Legislature to commit funds to transportation projects in the Resort Corridor. Clark County provided funding for Sunset Road from Las Vegas Boulevard to Valley View Boulevard, including a bridge over I-15. Throughout the project’s 30-month construction schedule, the RTC provided crucial traffic control coordination via the Freeway Arterial System of Transportation system.

Completed in 2012, the I-15 South Design-Build project included widening of I-15, addition of C-D roads, a direct connect ramp to Blue Diamond Road, five redesigned interchanges, 26 new bridge structures, 36 retaining walls, 1.5 miles of sound walls, 10 miles of drainage improvements, and a host of intelligent transportation system (ITS) improvements.

The level of analysis performed in this high-level assessment is not adequate to determine a detailed list of improvements needed.

Leveraging and accelerating ongoing work from other studies and projects is essential.

4.2 Leveraging Other Improvements

Improving the regional transportation network, both for stadium traffic and future growth, will require substantial investment in the regional transportation network. While the analysis in this report is a very high-level assessment and preliminary in nature, it was based on detailed traffic data (from NDOT databases and the RTC Regional Model), and leveraged substantial knowledge of the local roadway conditions and regional on-going regional planning priorities and planned/ programmed improvements.


While many projects are already in the pipeline, there may be a need and opportunity to accelerate needed projects on the state highway system. However, the recommendation here is to leverage ongoing projects that are already in the planning stages.

There is more than \$1.2 billion in planned/programmed improvements in the affected study area of the two potential stadium sites: nearly \$25 million in the STIP, \$845 million in the RTP, and \$370 million proposed under FRI-2 (TIBP and other potential projects are not included in this estimate).

The main thrust of this section is to provide a set of recommendations for improvement projects that will need to be accelerated to be delivered before or shortly after the stadium's 2019 opening year.²

Without these improvements, it will not be possible to maintain the baseline (i.e., the same operations as without the stadium on a typical day). Of course, the stadium will not operate every day, but if there is a regular calendar of sports, concerts, and other events, the transportation investment will be essential to meet the travel demand and overall visitor experience.

To determine the priorities for next steps, the planned/programmed and conceptual transportation projects identified in Section 3.1 were reviewed in light of the traffic effects assessed in Section 2. Then, assessments of the relative importance of each project were conducted using factors such as the type of transportation facility, proximity to the site, baseline V/C ratio, increased traffic due to the stadium, and magnitude of potential improvement.



Traditionally, NDOT plans and builds state highways to meet typical demand on an average weekday, not special events. Projects recommended to be accelerated should serve a broader set of regional needs.

4.3 Recommendations for Advancing Projects

A set of recommendations was developed that will serve as immediate actions. These projects are expected to provide significant mobility and access benefits to support the development of a stadium site on either of the two preferred sites (Russell Road or Bali Hai).

The specific recommendations for advancing projects are summarized in **Figure 4-1** and described thereafter.

² Given the scale and the timeframes to implement majority of these planned improvements, it is not realistic to assume that NDOT can deliver all of these planned improvements by the presumed opening year (2019).

- NDOT recommendations of Southern Nevada project priorities that will be provided to the State Transportation Board for Approval/Action may include:
 - Accelerate/fast-track NEPA and preliminary engineering for a new I-15/Hacienda Avenue HOV interchange.
 - Accelerate/fast-track the NEPA and preliminary engineering for a new I-15/Harmon Avenue HOV interchange.
 - Continue with the next phase of the I-15 South Corridor, including enhancements to the HOV and C-D road systems.
 - Identify near-term freeway and interchange operations improvements on I-15 (from Tropicana Avenue to Sahara Avenue, i.e., the Gap Study) and I-215 (from Decatur Boulevard to Airport Connector) as part of the ongoing Southern Nevada Freeway Traffic Study.
 - Continue with the next phase (NEPA) of the I-15/Tropicana Avenue interchange project. While these improvements would not be in place before the proposed stadium opening, capacity enhancements are needed as soon as possible.
- There are a number of near-term multimodal improvement projects (pedestrian, roadway and transit) under development by other private or public agencies. These efforts will have significant mobility and access benefits, and they are consistent with the multimodal transportation needs at the stadium sites. The trip generation estimates developed for this study were based on expectation of multimodal (transit/shuttle, bicycle, pedestrian, etc.) use, so there is a clear need for transportation improvements to support these modes. While these multimodal projects will not provide as much additional highway capacity as freeway improvements, they are an important part of the systemic solution. The specific multimodal improvements include:
 - Monorail extension (MGM to Mandalay Bay) (by Las Vegas Monorail Company)
 - Pedestrian bridges (across Frank Sinatra Drive/I-15/Dean Martin, and Mandalay Bay Monorail Station to I-15 pedestrian bridge). These pedestrian bridges are only for Russell Road site. They will be developed-funded, with NDOT assistance with Federal reviews and approvals.
 - RTC will evaluate the need for additional transit solutions and/or transit service changes once more details on the preferred site and access conditions are known.

Once a preferred stadium site has been chosen and a site plan has been developed, several additional steps will be necessary by others as part of the stadium development process. These include:

1. Traffic Impact Analysis – including an assessment of non-NDOT transportation facilities and improvement needs (such as pedestrian facilities and transit service expansion or enhancement).
2. Parking Needs Analysis – as determined by the developer, along with a plan identifying pedestrian and vehicular access (including bus and shuttle services) particularly if additional off-site parking is needed.
3. Comprehensive Traffic Management Plan – for event-day management of access/routing preceding and following the event

Once these steps are completed, NDOT and the local jurisdictions (in the case of the two preferred sites, Clark County, RTC of Southern Nevada, and RTC FAST) will review, comment and in collaboration with the stadium developers, determine the extent of off-site impacts, necessary improvements and costs associated with implementing them.

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Appendix A: Trip Generation

Site Location	Capacity (seats)	Mode Choice Assumptions ¹				Persons by Mode				Avg Persons/Vehicle	Avg Persons/Transit Vehicle	Total Vehicles Traveling to/from Stadium
		Auto	Transit/Shuttle ²	Walk/Bike	Other ³	Auto	Transit/Shuttle ²	Walk/Bike	Other ³			
1 Bali Hai Golf Course	65,000	62%	24%	8%	6%	44,300	15,600	5,200	3,900	2.9	42	15,613
2 Russell Road Site	65,000	60%	24%	6%	10%	39,000	15,600	3,900	6,500	2.9	42	16,061
3 Fertitta Site	65,000	68%	22%	7%	3%	44,200	14,300	4,550	1,950	3.0	42	15,724
4 UNLV, Thomas & Mack Center	65,000	66%	20%	10%	4%	42,900	13,000	6,500	2,600	3.0	42	15,476
5 Wynn Golf Course	65,000	57%	25%	13%	5%	37,050	16,250	8,450	3,250	2.8	42	14,780
6 MGM Rock in Rio	65,000	58%	25%	12%	5%	37,700	16,250	7,800	3,250	2.8	42	15,012
7 Cashman Field	65,000	76%	19%	1%	4%	49,400	12,350	650	2,600	3.0	42	17,627

Notes:

The site location mode choice matrix is a preliminary analysis based on available details for the proposed stadium project and the experience of similar stadiums in comparable markets. This preliminary analysis notwithstanding, we recognize that southern Nevada and this project are unique in many important ways including, without limitation, the stadium project's proximity to the Las Vegas Resort Corridor. As such, additional research and analysis may be required to refine these assumption as additional information about the project become available.

¹Mode Choice Sources:

- Sports Authority Field, Denver Broncos (Henao 2012)
- CenturyLink Field, Seattle Seahawks (Horton Street 2012)
- Qualcomm Stadium, San Diego Chargers (AECOM 2015)
- Levi Stadium, San Francisco 49ers (Hexagon, 2009)

²May require additional investment to support increase transit service (costs are unknown)

³"Other" includes such options as limos and ride-share services

Appendix B: Baseline Traffic Analysis

Location				Existing				Baseline - 2019				Baseline - 2035				Baseline V/C Ratio ⁴			
Facility	Segment	Length (mi)	Direction	ADT	Capacity ¹	Weekday PM ²	Sunday PM ³	ADT	Capacity ¹	Weekday PM ²	Sunday PM ³	ADT	Capacity ¹	Weekday PM ²	Sunday PM ³	2019WD	2019WE	2035WD	2035WE
Freeways																			
I-15	between Blue Diamond Road and I-215	1.38	NB	58,288	6,000	4,146	3,761	85,846	10,000	5,309	4,816	109,646	10,000	6,322	5,735	0.59	0.54	0.70	0.64
			SB	63,122	6,000	5,171	4,677	83,551	8,000	6,996	6,328	120,004	8,000	8,365	7,566	0.97	0.88	1.16	1.05
	between I-215 and Tropicana Avenue	1.01	NB	111,841	10,000	7,308	6,344	134,593	10,000	7,596	6,594	169,562	10,000	8,986	7,800	0.84	0.73	1.00	0.87
			SB	78,684	10,000	6,456	4,675	110,808	10,000	8,373	6,063	150,796	10,000	9,714	7,034	0.93	0.67	1.08	0.78
	between Tropicana Avenue and Flamingo Road	0.96	NB	147,724	10,000	9,757	7,863	166,077	10,000	9,969	8,034	192,680	12,000	11,072	8,923	1.11	0.89	1.03	0.83
			SB	141,418	10,000	9,649	7,465	147,405	10,000	9,589	7,419	172,452	10,000	10,244	7,925	1.07	0.82	1.14	0.88
	between Flamingo Road and Spring Mountain Road	0.81	NB	123,999	10,000	7,750	6,177	145,670	10,000	9,189	7,324	169,804	10,000	10,397	8,287	1.02	0.81	1.16	0.92
			SB	131,425	10,000	7,811	6,766	150,690	10,000	9,083	7,868	189,662	10,000	10,297	8,280	1.01	0.87	1.14	0.99
	between Spring Mountain and Sahara Avenue	1.39	NB	144,249	11,000	8,844	8,178	171,467	11,000	11,238	10,392	206,544	14,000	13,822	12,781	1.14	1.05	1.10	1.01
			SB	151,940	11,000	9,320	8,179	153,665	10,000	8,903	7,813	175,049	14,000	9,701	8,513	0.99	0.87	0.77	0.68
	between Sahara Avenue and US 95/I-515	1.20	NB	145,880	8,000	9,154	7,849	154,362	12,000	10,871	9,322	149,221	12,000	9,975	8,553	1.01	0.86	0.92	0.79
			SB	144,138	8,000	8,513	7,755	132,092	10,000	7,523	6,853	162,472	14,000	9,244	8,421	0.84	0.76	0.73	0.67
between US 95/I-515 and Washington Avenue	0.71	NB	73,026	6,000	5,862	3,785	101,043	6,000	6,637	4,285	99,817	6,000	6,551	4,230	1.23	0.79	1.21	0.78	
		SB	53,755	6,000	3,467	2,817	80,327	6,000	4,836	3,930	99,358	6,000	5,693	4,626	0.90	0.73	1.05	0.86	
between Washington Avenue and Lake Mead Boulevard	1.11	NB	84,976	8,000	6,743	4,384	85,979	8,000	5,932	3,856	109,291	9,000	7,810	5,078	0.82	0.54	0.96	0.63	
		SB	86,484	8,000	6,559	4,507	88,156	8,000	5,556	3,818	108,593	10,000	6,382	4,385	0.77	0.53	0.71	0.49	
between Summerlin Parkway and Jones Boulevard	1.25	WB	113,376	10,000	10,036	5,969	137,699	10,000	10,260	6,102	161,055	10,000	11,616	6,909	1.14	0.68	1.29	0.77	
		EB	114,365	10,000	7,572	5,685	145,209	10,000	7,986	5,996	168,033	10,000	8,797	6,605	0.89	0.67	0.98	0.73	
between Jones Boulevard and Valley View Boulevard	1.80	WB	116,777	10,000	10,079	6,119	135,633	10,000	6,688	4,060	148,815	10,000	10,658	6,470	0.74	0.45	1.18	0.72	
		EB	117,325	10,000	7,640	5,914	135,114	10,000	7,505	5,809	158,222	10,000	8,380	6,487	0.83	0.65	0.93	0.72	
between Valley View Boulevard and Rancho Drive	1.00	WB	116,588	12,000	9,795	6,182	124,437	12,000	9,334	5,891	149,945	12,000	8,318	5,249	0.86	0.55	0.77	0.49	
		EB	114,783	12,000	7,561	5,907	122,162	12,000	6,999	5,468	147,840	12,000	8,209	6,413	0.65	0.51	0.76	0.59	
between Rancho Drive and I-15	1.08	WB	64,711	7,000	4,326	3,786	106,243	8,000	7,284	6,375	117,896	9,000	7,827	6,850	1.01	0.89	0.97	0.85	
		EB	64,441	7,000	4,304	3,897	109,736	8,000	6,201	5,615	122,474	9,000	7,105	6,433	0.86	0.78	0.88	0.79	
between I-15 and Casino Center Boulevard	0.80	WB	72,247	6,000	5,573	3,884	73,853	6,000	5,200	3,624	73,976	6,000	5,161	3,597	0.96	0.67	0.96	0.67	
		EB	97,390	6,000	6,583	5,184	75,731	6,000	4,764	3,752	75,462	6,000	4,949	3,898	0.88	0.69	0.92	0.72	
between Casino Center Boulevard and Charleston Boulevard	3.25	NB	69,267	7,000	4,769	3,564	66,061	7,000	4,589	3,429	101,000	12,000	8,100	6,053	0.73	0.54	0.75	0.56	
		SB	66,783	7,000	5,390	3,427	68,197	7,000	4,603	2,927	85,000	11,000	6,800	4,323	0.73	0.46	0.69	0.44	
between Charleston Boulevard and Flamingo Road	3.15	NB	66,590	7,000	5,388	3,367	65,983	7,000	4,735	2,959	88,000	7,000	7,000	4,374	0.75	0.47	1.11	0.69	
		SB	68,038	7,000	5,616	3,413	68,350	7,000	4,756	2,890	90,000	7,000	7,200	4,375	0.75	0.46	1.14	0.69	
between Flamingo Road and Tropicana Avenue	1.05	NB	68,699	7,000	5,510	3,568	71,745	7,000	4,865	3,150	95,000	7,000	7,600	4,921	0.77	0.50	1.21	0.78	
		SB	69,528	7,000	5,821	3,724	71,342	7,000	5,112	3,270	94,000	7,000	7,500	4,798	0.81	0.52	1.19	0.76	
between Decatur Boulevard and I-15	1.58	EB	90,430	6,000	6,905	4,484	86,965	6,000	5,069	3,292	93,451	6,000	5,313	3,450	0.94	0.61	0.98	0.64	
		WB	88,808	6,000	6,326	4,685	85,397	6,000	5,806	4,300	94,912	6,000	5,938	4,397	1.08	0.80	1.10	0.81	
between I-15 and McCarran Airport Connector	1.75	EB	104,693	9,000	8,552	5,246	120,065	8,000	7,643	4,689	128,001	9,000	8,326	5,107	1.06	0.65	1.03	0.63	
		WB	103,125	9,000	7,524	5,629	125,121	8,000	7,815	5,847	134,780	9,000	7,934	5,936	1.09	0.81	0.98	0.73	
between McCarran Airport Connector and Warm Springs Road	1.90	NB	87,222	6,000	7,578	4,566	91,360	8,000	6,476	3,902	99,529	8,000	7,256	4,372	0.90	0.54	1.01	0.61	
		SB	68,375	6,000	5,228	3,406	107,748	8,000	6,093	3,969	115,665	8,000	6,203	4,041	0.85	0.55	0.86	0.56	
between Warm Springs Road and Windmill Lane	1.10	EB	79,858	8,000	7,270	4,205	93,437	8,000	6,744	3,901	101,605	8,000	7,434	4,300	0.94	0.54	1.03	0.60	
		WB	83,098	8,000	5,716	4,146	96,806	8,000	5,306	3,849	105,257	8,000	5,542	4,020	0.74	0.53	0.77	0.56	
between Windmill Lane and Eastern Avenue	1.85	EB	70,960	6,000	5,943	3,749	89,067	8,000	5,076	3,202	96,803	8,000	5,261	3,318	0.70	0.44	0.73	0.46	
		WB	71,889	6,000	5,231	3,683	86,808	8,000	6,418	4,519	94,485	8,000	7,065	4,974	0.89	0.63	0.98	0.69	
between Eastern Avenue and Valley Verde Drive	3.15	EB	59,917	7,000	6,844	4,269	69,972	6,000	5,037	3,142	82,931	6,000	5,961	3,718	0.93	0.58	1.10	0.69	
		WB	65,213	7,000	5,954	4,348	73,338	6,000	4,674	3,413	87,935	6,000	5,266	3,845	0.87	0.63	0.98	0.71	
between Valley Verde Drive and Stephanie Street	0.87	EB	56,842	7,000	6,443	4,079	66,272	6,000	4,620	2,925	82,072	8,000	5,735	3,631	0.86	0.54	0.80	0.50	
		WB	59,884	7,000	6,121	4,210	68,310	6,000	4,452	3,062	84,541	8,000	5,061	3,481	0.82	0.57	0.70	0.48	
between Stephanie Street and I-515	1.59	EB	48,687	7,000	3,569	3,494	54,470	6,000	3,890	3,808	68,971	6,000	5,003	4,897	0.72	0.71	0.93	0.91	
		WB	51,862	7,000	3,513	3,646	56,615	6,000	3,822	3,967	71,239	6,000	4,347	4,511	0.71	0.73	0.80	0.84	
Airport Connector	Airport Connector (SR171) between I-215 and Sunset Rd	0.64	NB	45,160	6,000	3,016	2,338	76,315	6,000	3,457	2,680	74,950	6,000	3,229	2,503	0.64	0.50	0.60	0.46
			SB	49,630	6,000	4,425	3,076	71,527	6,000	5,773	4,013	75,359	6,000	6,293	4,375	1.07	0.74	1.17	0.81

Location			Existing				Baseline - 2019				Baseline - 2035								
Surface Streets																			
Tropicana Avenue	between Dean Martin Drive and Las Vegas Boulevard	0.56	EB	33,652	3,000	2,232	1,863	50,784	3,000	3,037	2,535	54,294	3,000	2,918	2,436	1.12	0.94	1.08	0.90
			WB	42,325	3,000	2,594	2,356	51,999	3,000	3,463	3,146	55,348	3,000	4,540	4,125	1.28	1.17	1.68	1.53
	between Las Vegas Boulevard and Paradise Road	1.30	EB	44,353	3,000	3,150	2,799	44,549	3,000	2,737	2,432	47,140	3,000	2,927	2,601	1.01	0.90	1.08	0.96
			WB	39,143	3,000	2,314	2,514	41,963	3,000	2,363	2,567	44,276	3,000	2,555	2,777	0.88	0.95	0.95	1.03
	between Paradise Road and Eastern Avenue	1.75	EB	26,064	2,250	2,156	1,761	26,737	2,250	1,915	1,564	29,137	2,625	2,163	1,767	0.95	0.77	0.92	0.75
			WB	32,589	2,250	2,359	1,982	33,948	2,250	1,926	1,618	36,921	2,625	2,134	1,793	0.95	0.80	0.90	0.76
between Eastern Avenue and I-515	2.00	EB	23,674	2,250	2,211	1,480	29,290	2,250	2,007	1,344	31,260	2,250	2,151	1,440	0.99	0.66	1.06	0.71	
		WB	24,309	2,250	1,718	1,446	30,546	2,250	1,646	1,386	33,195	2,250	1,731	1,457	0.81	0.68	0.85	0.72	
Russell Road	between Valley View Boulevard and I-15	0.50	EB	17,894	1,800	1,239	1,145	19,700	1,800	1,366	1,263	21,106	1,800	1,376	1,272	0.84	0.78	0.85	0.79
			WB	19,212	1,800	1,649	1,353	22,958	1,800	1,836	1,507	24,229	1,800	1,847	1,516	1.13	0.93	1.14	0.94
between I-15 and Las Vegas Boulevard	0.55	EB	10,904	1,800	829	698	13,261	1,800	702	591	14,901	1,800	912	768	0.43	0.37	0.56	0.47	
		WB	14,352	1,800	1,258	1,011	13,722	1,800	1,409	1,132	13,902	1,800	1,476	1,186	0.87	0.70	0.91	0.73	
Flamingo Road	between Rainbow Boulevard and Jones Boulevard	1.00	EB	27,708	2,250	1,382	1,505	27,189	2,250	1,668	1,816	28,418	2,250	1,751	1,906	0.82	0.90	0.86	0.94
			WB	23,986	2,250	1,776	1,357	27,073	2,250	1,658	1,266	28,425	2,250	1,765	1,348	0.82	0.63	0.87	0.67
	between Jones Boulevard and I-15	1.50	EB	32,439	2,250	2,058	1,762	41,436	2,250	2,256	1,931	35,705	2,400	2,244	1,922	1.11	0.95	1.04	0.89
			WB	29,757	2,250	2,106	1,683	42,330	3,000	2,615	2,089	39,707	2,550	2,194	1,754	0.97	0.77	0.96	0.76
	between I-15 and Paradise Road	2.50	EB	32,374	2,250	1,979	1,933	46,632	2,250	2,932	2,864	47,734	3,000	3,046	2,975	1.45	1.41	1.13	1.10
			WB	27,021	2,250	1,732	1,723	41,969	2,250	2,117	2,106	43,445	2,250	2,186	2,175	1.05	1.04	1.08	1.07
	between Paradise and Eastern Avenue	1.90	EB	22,974	2,250	1,989	1,585	28,886	2,250	1,985	1,582	31,205	2,250	2,146	1,710	0.98	0.78	1.06	0.84
			WB	22,482	2,250	1,684	1,349	31,350	2,250	1,722	1,380	33,839	2,250	1,824	1,461	0.85	0.68	0.90	0.72
between Eastern Avenue and I-515	1.00	EB	20,824	2,250	2,122	1,322	29,521	2,250	1,958	1,220	31,772	2,250	2,104	1,310	0.97	0.60	1.04	0.65	
		WB	21,323	2,250	1,810	1,150	30,980	2,250	1,745	1,109	33,871	2,250	1,854	1,177	0.86	0.55	0.92	0.58	

Notes:

¹ Hourly; directional for freeways; bi-directional for surface streets

² Monday Night Football - 4 to 6 PM - coming to stadium

³ Sunday day game ending at 4: 4 to 6 PM leaving the stadium

Appendix C: Inventory of Planned and Programmed Projects

NDOT: Las Vegas NFL Stadium Sites Traffic Assessment
STIP, RTP, and FRI-2 Planned and Programmed Projects

Project	Description	Lead Agency	Source	Project Phase	Cost	Status	Other	
<i>Programmed Projects (STIP 2016-2019)</i>								
6137	Sunset Rd reconstruction/signal project	Signal project; install cantilevers	NDOT	STIP	Construction	\$215,000	No construction date	
6182	Tropicana Ave arterial improvements, Package 2; Dean Martin Dr to Boulder Hwy	Mill and overlay with areas of concentration and ADA improvements Package 2	NDOT	STIP	Construction	\$24,000,000	Construction start 2018	
2715	Valley View Blvd/Russell Rd intersection improvement	Intersection improvement	Clark County	STIP	Construction	\$225,263	Construction start 2016	
<i>Planned Projects (RTP 2013-2035)</i>								
2790	Fleming Rd corridor improvements to accommodate BRT; Rainbow Blvd to Boulder Hwy	Roadway improvements, stations, and facilities to support implementation of BRT	RTC SNV	RTP	Construction	\$31,000,000	Complete 2020	
2100	Las Vegas Blvd corridor improvements to accommodate BRT; St. Rose Pkwy to Sunset Rd	Shelters and ancillary equipment for BRT operations in South Strip corridor	RTC SNV	RTP	Construction	\$8,000,000	Complete 2020	
247	I-15 South Phase 2B; Blue Diamond Rd to Tropicana Ave	Widen from 8 to 10 lanes, restripe C/D, replace concrete section between I-215 and Tropicana Ave, add HOV lanes, and replace Tropicana Ave interchange	NDOT	RTP	Construction	\$274,000,000	Complete 2030	NEPA complete
269	I-15 Planning and NEPA for HOV ramps; Blue Diamond Rd to Sahara Ave	Conduct planning study and NEPA evaluation for addition of HOV direct access ramps	NDOT	RTP	Planning/NEPA	\$5,000,000	Complete 2020	I-15 ramp locations recommended in Southern Nevada HOV Plan include Meade Ave, Harmon Ave, Hacienda Ave, I-215, and Blue Diamond Rd
270	I-15 HOV direct access ramps; Blue Diamond Rd to Sahara Ave	Construct HOV direct access ramps	NDOT	RTP	Construction	\$400,000,000	Complete 2035	
4153	I-15/I-215 direct connect HOV ramps	System to system direct connector HOV ramps	NDOT	RTP	Construction	\$75,000,000	Complete 2020	
221	I-215/Airport Connector interchange upgrade, Phase 2	Upgrade interchange	Clark County	RTP	Construction	\$51,500,000	Currently under construction	
<i>Anticipated Projects (FRI-2 funding)</i>								
	Fleming Rd/Dean Martin Dr slip ramp	Construct new connection to allow direct access between corridors	Clark County	RTC FRI-2 List	Construction	\$6,300,000	Medium-term (6-10 yrs)	
	Resort Corridor Area Road Improvements (TIBP) - Phase 1	Roadway specific elements, including resurfacing, bicycle and pedestrian facilities, and bottleneck relief	RTC SNV	RTC FRI-2 List	Construction	\$68,750,000	Short-term (1-5 years)	Specific projects referenced in "other project recommendations" map
	Resort Corridor Area Road Improvements (TIBP) - Phase 2	Roadway specific elements, including resurfacing, bicycle and pedestrian facilities, and bottleneck relief	RTC SNV	RTC FRI-2 List	Construction	\$121,250,000	Medium-term (6-10 yrs)	
	Fleming/Tropicana Connector	Provide a new north-south connection in Resort Corridor	Clark County	RTC FRI-2 List	Construction	\$10,000,000	Medium-term (6-10 yrs)	
	Valley View Blvd extension, Blue Diamond Rd to Sunset Rd	Extend corridor to create a continuous route	Clark County	RTC FRI-2 List	Construction	\$8,640,000	Medium-term (6-10 yrs)	
	Dean Martin Dr widening, Blue Diamond Rd to Warm Springs Rd	Widen corridor from 2 to 4 lanes	Clark County	RTC FRI-2 List	Construction	\$4,400,000	Medium-term (6-10 yrs)	
	I-15/Tropicana Ave interchange reconstruction	Reconstruct interchange to develop expanded tight diamond interchange.	NDOT	RTC FRI-2 List	Construction	\$150,000,000		

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