

# CHAPTER 9.0

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## TRANSPORTATION AND CIRCULATION

This chapter discusses existing conditions, potential impacts, and mitigation measures associated with the proposed project. A traffic impact analysis (MRO Engineers, Inc., 2008) and grade separation feasibility study for the Athens Avenue/Union Pacific Railroad (UPRR) intersection (Kimley-Horn and Associates, Inc. [KHA], 2007) were prepared for the proposed project. These studies are attached as **Appendix F** and **Appendix G**, respectively, and serve as the basis for the discussion below. Proposed future roadway improvements, and anticipated cumulative (year 2025) traffic projections both with and without the proposed project, are included in **Chapter 16.0**, along with appropriate mitigation measures.

### 9.1 ENVIRONMENTAL SETTING

#### 9.1.1 STUDY AREA ROADWAYS

Major roadways in the project vicinity are shown on **Figures 9-1A** and **9-1B** and are described below.

*Athens Avenue* is the primary project access road, which runs in an east-west direction along the southern edge of the project site. It extends between Fiddymont Road to the west and Industrial Avenue to the east of the proposed project. Along the project area frontage and east to its terminal at Industrial Avenue, it has been widened to four lanes and signalized. West of the project area, Athens Avenue is a two-lane road, classified by the Placer County General Plan as a rural arterial.

*Industrial Avenue* is a two-lane, north-south roadway that meets Athens Avenue at a signal-controlled T-intersection just east of the proposed project. It begins at Washington Boulevard in Roseville and ends at SR 65 north of the project site. In the vicinity of the project site, Industrial Avenue runs parallel to SR 65 and adjacent to the east side of the UPRR tracks. It is classified as a minor arterial in the Placer County General Plan.

*State Route 65 (SR 65)* is a north-south highway traversing Placer and Yuba Counties. SR 65 is a four-lane freeway from I-80 to the Blue Oaks Boulevard interchange south of the project area, then transitions to a conventional highway. SR 65 has at-grade intersections at Sunset Boulevard (signalized), Industrial Avenue (unsignalized), Sterling Parkway (signalized), Westlake Boulevard (signalized) and a number of other roadways to the north. A grade-separated interchange with Twelve Bridges Drive is located south of the Industrial Avenue terminus. The Placer County General Plan classifies the section of SR 65

**Figure 9-1A:** Peak Hour Traffic Volumes: Existing Conditions (1)

**Figure 9-1B:** Peak Hour Traffic Volumes: Existing Conditions (2)

between I-80 and Industrial Avenue as a freeway and the segment north of that as an arterial. SR 65 narrows to two lanes as it passes through downtown Lincoln.

*Sunset Boulevard* runs generally in the east-west direction south of the project site. West of SR 65, it is a two-lane arterial that serves various industrial uses, extending approximately ½ mile west of Cincinnati Avenue before ending in an elbow turn onto Foothills Boulevard North. Immediately east of SR 65, Sunset Boulevard widens to a median-divided, four-lane roadway with turn lanes. East of Atherton Road, the road transitions to a six-lane, median-divided roadway serving the Stanford Ranch area of Rocklin. Sunset Boulevard has a signalized, at-grade interchange with SR 65, and is grade-separated from the UPRR tracks and Industrial Avenue via an overpass. The portion of Sunset Boulevard located west of SR 65 is designated as a minor arterial in the Placer County General Plan.

*Foothills Boulevard North* is a newly completed roadway that connects Sunset Boulevard south of the project area with Athens Avenue west of Thunder Valley Casino. The road was fully funded by the United Auburn Indian Community as specified in the Memorandum of Understanding with Placer County (**Appendix A**). The roadway is one lane in each direction, except at the stop-sign controlled intersection with Athens Avenue, where two northbound lanes are provided. A raised median extends the length of Foothills Boulevard North.

*Fiddymment Road* is a two-lane rural roadway that runs in a north-south direction to the west of the project site. It connects Roseville to the south with Lincoln to the north, via connections with other roadways. Recent construction on Fiddymment Road north of Blue Oaks Boulevard has widened the roadway and realigned a pair of substandard curves. Athens Avenue terminates at Fiddymment Road near the Western Placer Sanitary Landfill. The Placer County General Plan classifies Fiddymment Road as a minor arterial (south of Sunset Boulevard West) and a rural arterial north of that point.

*Blue Oaks Boulevard* extends west from SR 65 to Fiddymment Road, and northeast from SR 65 to Sunset Boulevard. Blue Oaks Boulevard provides access to residential areas and several large employment centers in north Roseville. This four-lane facility is grade-separated from the UPRR and Industrial Avenue, with an overpass interchange at SR 65. It is classified as a thoroughfare in the Placer County General Plan.

*Baseline Road* begins at Foothills Boulevard in the City of Roseville and extends west into Sutter County where it becomes Riego Road, intersecting with State Route 99. West of Fiddymment Road, Baseline Road has one lane in each direction, though to the east of that point it has two westbound lanes and one eastbound lane. East of Foothills Boulevard, it becomes Main Street. Baseline Road is designated an arterial in the City of Roseville General Plan.

*Foothills Boulevard* is a four-to-six lane major arterial in Roseville that extends north from Cirby Way and terminates about one-half mile north of Blue Oaks Boulevard. To the south of Cirby Way, Foothills

Boulevard becomes Roseville Road, and continues south into Sacramento County. It provides access to residential developments and various employment centers in Roseville. The City of Roseville General Plan classifies Foothills Boulevard as an arterial.

*Atherton Road* is a two-lane, median-divided road serving the Atherton Tech Center business park. It runs generally north-south and is signalized at its intersection with Sunset Boulevard. North of Sunset Boulevard it becomes University Avenue, serving William Jessup University and areas of Rocklin further to the north.

*Stanford Ranch Road* is a four-to-six lane roadway in the study area, primarily serving recent residential developments by providing connections to major through roads such as SR 65, Roseville Parkway, and I-80 via Galleria Boulevard. It intersects Sunset Boulevard at two locations within the study area: once as West Stanford Ranch Road (between Atherton Road and West Oaks Boulevard) and again further to the southeast, east of Park Drive.

*Park Drive* extends as a four-lane roadway northeasterly from Sunset Boulevard to its intersection with Stanford Ranch Road. From that point, it continues as a six-lane road, narrowing to four lanes again at Wyckford Boulevard. South of the intersection with Sunset Boulevard, it becomes Pleasant Grove Boulevard, with a grade-separated interchange at SR 65.

Various grants from the Indian Gaming Special Distribution Fund have been provided to the City of Lincoln and the Placer County Department of Public Works for local infrastructure improvements. These include expansion of the Twelve Bridges Drive overcrossing and interchange (\$40,000 granted in 2004), Fiddymont Road resurfacing (\$65,000 granted in 2004), Industrial Boulevard resurfacing (\$48,000 granted in 2005), and road repair and lime treatment at the East Catlett Road/Sunset Boulevard intersection (\$159,068.93 granted in 2006). As per Section 4.3.3 of the amended Tribal-State Compact (**Appendix B**), the Tribe has also contributed an annual amount of \$33,800,000 toward the State of California's Transportation Improvement Bond initiative since 2005, to assist in long-term funding for upgrades to the State roadway system.

### 9.1.2 EXISTING TRAFFIC LEVELS OF SERVICE

Based on discussion with staff in the Placer County Department of Public Works, comments received on the Notice of Preparation, and consultation with representatives of other jurisdictions, the following 40 existing intersections were evaluated:

1. State Route 65/State Route 193/McBean Park Drive,
2. State Route 65/Third Street,
3. State Route 65/First Street,
4. State Route 65/Ferrari Ranch Road,
5. State Route 65/Sterling Parkway,

6. State Route 65 Southbound Ramps/Twelve Bridges Drive,
7. State Route 65 Northbound Ramps/Twelve Bridges Drive,
8. Industrial Avenue/Twelve Bridges Drive,
9. Athens Avenue/Fiddymment Road,
10. Athens Avenue/Foothills Boulevard North,
11. Athens Avenue/Casino Driveway No. 1,
12. Athens Avenue/Casino Driveway No. 2,
13. Athens Avenue/Thunder Valley Court/Casino Driveway No. 3 (Main Driveway),
14. Athens Avenue/Casino Driveway No. 4,
15. Athens Avenue/Industrial Avenue,
16. Industrial Avenue/Ace Hardware,
17. Industrial Avenue/Placer Corporate Drive,
18. Industrial Avenue/South Loop Road,
19. Industrial Avenue/Alantown Road,
20. Industrial Avenue/Packard Drive,
21. Industrial Avenue/Washington Boulevard,
22. Pleasant Grove Boulevard/Washington Boulevard,
23. Sunset Boulevard/Cincinnati Avenue,
24. Sunset Boulevard/Placer Corporate Drive/South Loop Road,
25. State Route 65/Sunset Boulevard,
26. Sunset Boulevard/Atherton Road/University Avenue,
27. Sunset Boulevard/West Stanford Ranch Road/Lone Tree Road,
28. Sunset Boulevard/West Oaks Boulevard,
29. Sunset Boulevard/Blue Oaks Boulevard,
30. Sunset Boulevard/Park Drive,
31. Sunset Boulevard/Stanford Ranch Road,
32. Blue Oaks Boulevard/Alantown Drive,
33. Blue Oaks Boulevard/Packard Drive,
34. Blue Oaks Boulevard/Foothills Boulevard,
35. Blue Oaks Boulevard/Fiddymment Road,
36. Pleasant Grove Boulevard/Foothills Boulevard,
37. Pleasant Grove Boulevard/Woodcreek Oaks Boulevard,
38. Pleasant Grove Boulevard/Fiddymment Road,
39. Baseline Road/Foothills Boulevard,
40. Baseline Road/Fiddymment Road/Walerga Road.

Level of service (LOS) designations for signalized intersections were calculated based on the volume/capacity (V/C) ratio of isolated intersections, or from the average control delay experienced by each vehicle at intersections that are more closely spaced or subject to high levels of congestion. Unsignalized intersections were evaluated for LOS by using the “two-way stop-controlled intersection” method or the “all-way stop-controlled intersection” method, as appropriate. LOS analyses for freeway segments were based on traffic density, expressed as passenger cars per mile per lane, as a quantitative measure of maneuverability. Ramp interchanges were evaluated for LOS based on the density of traffic in the “ramp influence area” and the corresponding ease of merge-diverge movements within the two right-most lanes of the freeway. **Appendix F** contains more details on the LOS analysis methodology. Intersection turning movements were counted during May and June, 2007, for the weekday PM peak hour and Saturday PM peak hour, defined as the single hour between 4:00 PM and 6:00 PM with the highest traffic volume (**Figures 9-1A and B**). Casinos and related recreational facilities generally have a minimal

effect on AM peak hour traffic. The PM peak hour would be the time period most likely to be affected by traffic related to the casino. Three of the intersections within the study area currently fail to meet the minimum LOS standard during the weekday PM peak hour. These intersections include Sunset Boulevard/SR 65 (LOS E), Baseline Road/Foothills Boulevard (LOS D), and Baseline Road/Fiddymont Road/Walerga Road (LOS D). All forty of the study area intersections currently operate at LOS C or better during the Saturday PM peak hour.

Traffic movement in both directions along three existing freeway mainline segments were also analyzed. These segments are SR 65 north of Twelve Bridges Drive, SR 65 between Twelve Bridges Drive and Sunset Boulevard, and SR 65 between Sunset Boulevard and Blue Oaks Boulevard. In addition, an evaluation was conducted of “merge-diverge” operations at the existing ramps of the SR 65/Twelve Bridges Drive interchange. Analysis of future anticipated grade-separated interchanges is included in **Chapter 16.0**. Under existing conditions, all evaluated segments of the SR 65 freeway mainline operated at LOS B or C in both directions during both the weekday PM and Saturday PM peak hours. Northbound and southbound on-ramps at the Twelve Bridges Drive interchange currently operate at LOS B during both weekday PM and Saturday PM peak hours, and off-ramps at the interchange operate at LOS A.

### **9.1.3 EXISTING TRANSIT SERVICE**

Placer County Transit (PCT), which is operated by Placer County, provides fixed route service throughout western Placer County. The Lincoln-Rocklin-Sierra College route provides regular fixed route service along Highway 65 between downtown Lincoln, the Roseville Galleria and other commercial centers, ending at the Sierra College campus south of Rocklin. A stop has been designated along this route at Thunder Valley Casino. This route connects to other PCT routes (including the Auburn/Light Rail Express Route) and Consolidated Transportation Services Agency (CTSA) Dial-A-Ride services at the Roseville Galleria. Transit buses stop at the casino once an hour in each direction during regular hours of operation Monday through Saturday. Transit ridership by casino patrons and/or employees has grown steadily since service was initiated in 2005.

Shuttles operated by Thunder Valley Casino run on a looping route from the City of Sacramento to provide a free transit option for local patrons. Shuttle bus stops are located across from the Florin Mall on 65<sup>th</sup> Street, and on Freeport Boulevard near the Sacramento Executive Airport. Service to the casino from these stops is provided four times a day, seven days a week between 8:45 AM and 12:55 AM.

### **9.1.4 EXISTING PEDESTRIAN AND BICYCLE FACILITIES**

Walking and bicycling activity is limited in the immediate vicinity of the project site, due to the largely rural/industrial surroundings. Athens Avenue provides sidewalks and pedestrian crosswalks along the Thunder Valley Casino frontage; however, these facilities do not continue beyond the immediate project area. Although various bicycle facilities are located to the south of the project site (primarily in the cities

of Roseville and Rocklin), no such facilities are provided in the immediate vicinity of the proposed project.

The *Placer County Bikeways Master Plan* (Placer County, 2002) calls for a Class II on-street bikeway along the entire length of Industrial Avenue (approximately 10 miles). No other bicycle facilities exist or are proposed for the roads within the project vicinity.

### 9.1.5 EXISTING RAIL SYSTEM

The tracks of the UPRR Valley Subdivision Main Line extend south from Lincoln, intersecting in a “T” with a major transcontinental line just north of the Roseville classification yard. Near the project site, the tracks are located parallel to and immediately west of Industrial Avenue. A four-lane wide at-grade crossing exists at Athens Avenue slightly east of the project site. A railroad track overcrossing is provided at Sunset Boulevard, approximately 1.5 miles south of the casino. Approximately 1,000 to 1,100 vehicles cross the UPRR tracks on Athens Avenue in the weekday PM peak hour, and slightly more during the Saturday PM peak hour. During each time period, about 55 percent of the vehicles are westbound, while the remaining 45 percent are eastbound.

The UPRR tracks in the vicinity of the project site carry approximately 20 to 25 trains per day, with a maximum capacity and projected future increase of 40 to 50 trains. The majority of these are freight trains, which do not operate on a set schedule. The maximum permitted speed on this section of track is 70 miles per hour (MPH) for passenger trains and 65 MPH for freight trains. Train lengths vary from 6,000 feet to 7,000 feet. Thus, a 7,000-foot long train traveling at 60 MPH would require 80 seconds to completely cross Athens Avenue. Considering the time needed to lower the crossing arms in advance of a train and to lift the arms after the train has passed, it is reasonable to expect that a train crossing Athens Avenue at 60 MPH could stop vehicular traffic for up to two minutes. However, not all trains passing through this at-grade crossing are traveling at 60 MPH, particularly those that will be stopping at or have just left the J. R. Davis Classification Yard in Roseville.

The at-grade crossing at Athens Avenue currently has several features to enhance the safety of the crossing. Standard flashing-light signals and a standard crossbuck sign are present on the left and right side of the approach to the crossing. Cantilever flashing-lights are also present and consist of an additional set of lights mounted over the roadway on a cantilever arm directed at approaching traffic. These lights provide increased visibility to approaching traffic, especially when trucks obstruct visibility of the standard flashing lights. Automatic gates at the crossing that are fully reflectorized on both sides provide supplemental visual display. The gates have a tip light that is continuously lit and two additional lights that alternately flash when the gate is activated and lowered. A wide non-mountable median is located between the eastbound and westbound lanes on Athens Avenue. The curb is 6-9 inches tall, which minimizes the potential of drivers going around the automatic gate arms when they are lowered. The traffic signal at the Athens Avenue/Industrial Avenue intersection is equipped with special railroad

preemption equipment that allows the signal to operate in coordination with the automatic railroad gates. The signal clears traffic from the rail crossing when the train approaches and prohibits traffic from passing through the crossing while the train passes. Advance traffic signals for the eastbound movement supplement the traffic signals at the Athens Avenue/Industrial Avenue intersection. The crossing also includes several signs to improve the operation and safety of the intersection as well as a buffer area between the advance traffic signal and the tracks at the eastbound crossing.

## **9.2 REGULATORY SETTING**

This section summarizes the applicable regulations and guidelines regarding traffic and circulation impacts related to the proposed project. General and community plans for each relevant jurisdiction are included, as well as transportation-specific plans and programs.

### **9.2.1 PLACER COUNTY**

#### ***PLACER COUNTY GENERAL PLAN***

The Placer County General Plan (1994) includes several goals and policies related to providing a transportation system that is safe, efficient, and satisfies the County’s LOS policy. Roadway design, construction, and regulation shall be consistent with the classification system found in the General Plan, and new developments shall be required to provide parking and fund or construct improvements necessary to mitigate the effects of project-related traffic increases. Specific language in the General Plan regarding traffic and circulation can be found in **Table 4-2**.

The Placer County General Plan promotes safe and efficient mass transit to reduce congestion, improve the environment, and provide viable non-automotive means of transportation. The portion of SR 65 between I-80 and Lincoln is designated as a “limited access transit corridor.” This designation is associated with the potential availability of “high-capacity transit service” and the availability of land to be developed with higher-density residential and employment uses under the General Plan. Access to high-capacity transit along this corridor would be provided by widely-spaced rail stations or park-and-ride lots along freeway corridors. Further, this designation provides guidance with respect to land use and design standards to make development more accessible to transit.

The General Plan also calls for the development of a comprehensive bikeway system that would provide connections between the major urban areas of the County, with linkages to bikeway systems in other jurisdictions. The Placer County Transportation Commission, now known as the Placer County Transportation Planning Agency (PCTPA), developed a Bikeway Master Plan in 1988 to provide guidelines for the development of a county-wide network of bicycle facilities and design standards (based on Caltrans standards) for new bicycle facilities. This plan was supplemented in 2002 by the Regional Bikeway Plan prepared by the PCTPA and approved by the Board of Supervisors.

A number of roadways in unincorporated Placer County have been designated as truck routes. Any future improvements that may be made to these roadways to accommodate subsequent development under the proposed project must consider their truck route designation and design standards.

### ***PLACER COUNTY 2027 REGIONAL TRANSPORTATION PLAN***

This plan, completed in 2005, includes policy, action, and financial elements for transportation planning in Placer County, both as an individual entity and as part of the greater Sacramento Metropolitan Area. The plan identifies partnerships, issues, and funding strategies related to transportation network improvements that are part of a comprehensive long-term plan. In addition to regional roadway networks, the Regional Transportation Plan (RTP) examines transit and non-motorized travel, rail and aviation facilities, Transportation System Management (TSM) and Intelligent Transportation Systems (ITS), recreational travel, and integration of multiple transportation modes for safe and efficient movement of goods and people. Both short-term and long-term actions are outlined in the RTP to maintain or improve LOS for area roadways, expand use of transit and alternative modes of transportation, and coordinate transportation improvements between multiple jurisdictions.

### ***CAPITAL IMPROVEMENT PROGRAM***

The Placer County Capital Improvement Program (CIP) defines roadway improvements that are needed to meet the County's LOS standards over a 20-year period. This program must be updated a minimum of every five years or with the approval of a significant level of development. Future roadway improvements that are anticipated in the SIA include widening of shoulders along Industrial Avenue, partial widening of Sunset Boulevard to four lanes, expansion of an existing overcrossing of Sunset Boulevard over Industrial Avenue and the UPRR tracks, construction of a grade-separated interchange on SR 65 at Sunset Boulevard, and improvements to SR 65 between Blue Oaks Boulevard and Industrial Avenue. Recently completed improvements include an extension of Sunset Boulevard/Foothills Boulevard to intersect with Athens Avenue (Foothills Boulevard North) and the construction of the Sunset Boulevard overcrossing of Industrial Avenue and the UPRR tracks.

### ***CONGESTION MANAGEMENT PLAN***

The Placer County Congestion Management Plan (CMP) is designed to control and/or reduce the cumulative regional traffic impacts of development. The plan employs growth management techniques, including traffic LOS requirements, standards for public transit, trip reduction programs involving transportation systems management and jobs/housing balance strategies, and capital improvement programming. State Route 65 is the only facility in the study area that is currently included within the Placer County CMP roadway system.

### ***SUNSET INDUSTRIAL AREA PLAN***

The SIA Plan (1997) contains goals and related policies for the local transportation networks, specifically, for maintaining an appropriate circulation system for approved land uses within the SIA. New development within the SIA will be required to analyze project-related impacts to the transportation system, and construct or fund appropriate mitigation. Rights of way for extensions of local through roadways have been preserved, and new at-grade intersections with SR 65 are prohibited. Policies related to the promotion of transit use, bicycle and pedestrian facilities, and increased average vehicle occupancy are similar to those found in the Placer County General Plan. Specific goals and policies of the SIA Plan are provided in detail in **Table 4-3**.

### ***CITY OF ROSEVILLE***

The City of Roseville has developed a model of future traffic conditions referred to as the City of Roseville’s “2020” traffic model. That model was used by the City to develop a Capital Improvement Program (CIP), which identified the roadway system improvements needed to accommodate the volume of traffic expected in the year 2020. The original Environmental Impact Report (EIR) for the CIP was published in 2000, at which time effects to the project year 2015 were examined. Subsequent EIRs were released in 2002 and 2007 to update information in accordance with forecasts for the year 2020. Various mitigation measures are recommended in the EIR to address impacts to LOS on area roadways, as well as a full complement of other environmental issues. The City’s General Plan also addresses traffic and circulation impacts. The primary goals of the General Plan are to promote the safe, efficient, and reliable movement of goods and people; to encourage a shift from the automobile to other forms of transportation; and to provide an adequate level of transportation service for all people traveling in or through Roseville.

### ***CITY OF ROCKLIN***

The City of Rocklin’s draft updated General Plan (2005) incorporates circulation issues and traffic volumes forecast through the year 2025. These are used as the basis for the City’s CIP, which defines the roadway and intersection improvements necessary to maintain the LOS policy. The City’s General Plan contains goals and policies related to transportation within the City’s boundaries, with acknowledgement of the need for coordinated planning between local governments and jurisdictions in order to meet the operational standards throughout the region.

### ***CITY OF LINCOLN***

The City of Lincoln is currently in the process of updating its General Plan, published in 1988. The update will assess the recent growth in the City and the City’s expanded sphere of influence. Models of future regional growth have been developed to inform the Plan’s goals and policies related to traffic volumes and circulation.

## 9.2.2 LOS CRITERIA AND STANDARDS

A number of transportation criteria and standards outlined in the above documents apply to the project area. These standards cover the primary aspects of the transportation system, including operations and design. These standards include:

### ***LEVEL OF SERVICE CRITERIA***

Under the Placer County General Plan, the County has set a standard of LOS C or better for its urban/suburban and rural roadway systems during the PM peak hour. Consequently, LOS A, B, and C are considered acceptable, while D, E and F are unacceptable. Within one-half mile of a state highway, LOS D will be considered acceptable. Exceptions to this standard may be considered, based on the number of hours per day that the intersection or roadway segment would operate below the standard LOS, and the ability of any feasible mitigation to significantly improve traffic operations, as well as other aesthetic, environmental, and safety factors. State highway facilities that are included in the County's Congestion Management Plan roadway system have a LOS E minimum standard; this includes SR 65 through the SIA.

The City of Roseville's CIP model elaborates further on the standards applicable to the project area. In particular, the intersection LOS criteria are based on relevant policies adopted by nearby jurisdictions (Reference: Policy 3.A.7 of the *Placer County General Plan (1994)*, Policy 13 of the *North Rocklin Circulation Element (1993)*, and Policy CB-1 of the *1992 City of Roseville General Plan*). The City's policy is to maintain a LOS C or better at 70 percent or more of the City's signalized intersections and roadway segments during the PM peak hour. Compliance with this policy is determined assuming buildout of currently entitled land within the City, and 2020 market rate development outside of the City (EIP Associates, 2000). In addition, the City's *General Plan* Policy CB-1 states that, "an exception to that [LOS C] standard may be considered for intersections within the infill area where the City finds that the required improvements are unacceptable based on established criteria."

The City of Rocklin has elaborated on the LOS policy set in the 1991 General Plan. The LOS standards for the City call for LOS C at all signalized intersections during the PM peak hour on an average weekday; however, exceptions to this standard are allowing in certain instances. An intersection within one-half mile of direct access to an interstate freeway may acceptably operate at LOS D. Other exceptions may be granted if the decrease in LOS is considered temporary, if no feasible improvements can be implemented by the City, or if improvements that would increase the LOS are determined to be undesirable by the City.

The City of Lincoln's LOS policy, as contained in the updated Draft General Plan (released for public comment in November 2006), calls for maintenance of LOS C "for all streets and intersections, currently operating at level of service 'C' or better, and for all new streets and intersections within the City."

Caltrans has established LOS standards for state roadways within its jurisdiction. The State Route 65 Transportation Concept Report (2001) describes the “Concept LOS” for the segment of SR 65 between I-80 and Industrial Avenue as LOS E.

### ***ROADWAY FACILITY IMPROVEMENT STANDARDS***

Roadway improvements within Placer County must conform to a set of standard plans that detail County standards for pavement width, lighting, drainage, sewer, and other roadside facilities. Caltrans’ *Manual on Uniform Traffic Control Devices* (MUTCD) also describes standards for signage, striping, signal operations, and other safety and circulation management systems (2006). Roadway facilities associated with the proposed project must meet or exceed the state and local standards.

## **9.3 IMPACTS**

### **METHODOLOGY**

This section documents the effects of additional traffic associated with the proposed Thunder Valley Casino Expansion Project on the LOS and safety at the study intersections, freeway mainline segments, interchange ramps, and the at-grade crossing of Athens Avenue and the UPRR tracks. The analysis assumes that no improvements have been made to any existing circulation facilities, unless stated otherwise.

### ***TRIP GENERATION RATES***

Trip generation rates for the proposed expansion project were based largely on the trip generation characteristics of the existing facility. These were confirmed during a 2005 study by KHA in which turning movements at each of the Thunder Valley Casino access driveways were documented during the weekday and Saturday PM peak hours. However, because the proposed project consists of an expansion of an existing facility, it is likely that the post-project facility will have lower trip generation rates than the existing casino, due to the potential for patrons to stay longer to participate in the expanded range of entertainment and recreation options available. This trip generation characteristic is well documented among retail shopping centers, where trip generation rates are observed to be inversely proportional to the size of the facility. Therefore, a conservative 25 percent reduction was applied to KHA’s trip generation rates for the main gaming facility. Based on this formula, the expected trip generation rates for the main casino building are 3.20 total trips per 1,000 square feet during the weekday PM peak hour, and 5.56 trips per 1,000 square feet during the Saturday PM peak hour.

Additional trips would be generated by the proposed hotel and performing arts center, although many of these will be accounted for in the traffic volume associated with the main gaming facility. A 75 percent reduction was applied to the hotel generation rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual, Seventh Edition (2003), to account for the relatively few hotel guests that

will not be primarily drawn to the location because of the gaming or other recreational facilities. This results in a rate of 0.18 trips generated per hotel room during the weekday PM peak hour, and 0.22 trips per hotel room during the Saturday PM peak hour.

Trip generation rates for the performing arts center are more difficult to quantify, as a variety of events are expected for that facility. Concerts, theater performances, sporting events, and various types of conventions and shows all generate different numbers of trips. Auto occupancy rates and arrival patterns at various types of events were used to develop expected trip generation rates for the performing arts center. The majority of the trips generated by the performing arts center are expected to occur outside the PM peak hours, as most events will likely have a start time between 7:00 and 8:00 PM. For the trip generation calculations, it was assumed that 10 percent of the patrons attending a capacity-seating event would arrive during the peak hour, with an expected vehicle occupancy rate of 2.4 persons per vehicle. Details about the project trip generation rates are presented in **Table 10** of **Appendix F**.

### ***TRIP DISTRIBUTION***

The 2005 KHA traffic study included an analysis of patron zip code information to determine the direction of arriving/departing traffic. It was determined that the casino is a regional attractor of trips, mostly from locations to the south and west of the project site, including the metropolitan Sacramento area, the Central Valley, and the San Francisco Bay Area. Smaller numbers of patrons reside in the surrounding communities of Lincoln, Roseville, and Rocklin. The majority of patrons arrive and depart along SR 65 to the south of the project location. At the time of the KHA study, most of those trips used Sunset Boulevard, then Industrial Avenue, then Athens Avenue to approach the casino. The completion of Foothills Boulevard North in Spring of 2007 has altered traffic patterns in the immediate casino vicinity; minor adjustments have been made in the trip distribution patterns to account for patrons using this route and connecting side roads. MRO conducted additional driveway and intersection turning movement counts immediately following the completion of Foothills Boulevard North, and confirmed that a higher percentage (21%) of 2007 casino patrons were arriving from or departing along Athens Avenue to the west of the casino. **Figure 9-2** shows the Existing Plus Project regional trip distribution, with specific use patterns of those roadway segments immediately surrounding the casino.

### **SIGNIFICANCE CRITERIA**

Significance criteria were utilized to determine the magnitude of transportation and circulation impacts of the proposed project. Impacts were considered significant if:

- The LOS is changed from acceptable levels (LOS A, B, or C) to unacceptable levels (LOS D or worse) at a surface street intersection more than one-half mile from State Route 65;
- The LOS is changed from acceptable levels (LOS A, B, C, or D) to unacceptable levels (LOS E or worse) at a surface street intersection within one-half mile of State Route 65;

**Figure 9-2:** Project Trip Distribution: Exiting Plus Project Conditions

- The LOS is changed from acceptable levels (LOS A, B, C, or D) to unacceptable levels (LOS E or worse) at a surface street intersection within one-half mile of State Route 65;
- Conditions are exacerbated through an increase in the V/C ratio or level of delay at a surface street intersection that already operates at an unacceptable LOS;
- The LOS along a freeway mainline segment or on any of the ramps at a freeway interchange is changed from an acceptable LOS to an unacceptable LOS, as determined by the appropriate jurisdiction;
- The ramp junction (merge-diverge) LOS is substantially lower than the adjacent freeway's LOS;
- Conflicts between vehicles and UPRR trains at the Athens Avenue at-grade crossing are increased;
- Existing transit facilities or operations of Placer County Transit are interfered with or disrupted;
- Conflicts between vehicles and pedestrians or bicyclists are increased; or
- Existing or planned bicycle facilities as identified in the Placer County Regional Bikeway Plan (1988) are interfered with or disrupted.

## CONSTRUCTION IMPACTS

<b>IMPACT 9.1:</b>	Construction activity related to the proposed project could cause traffic delays and hazards.
<b>SIGNIFICANCE:</b>	Potentially Significant
<b>MITIGATION:</b>	Mitigation Measures 9.1 through 9.4
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant

Construction activity at the project site could provide a hazard for arriving and departing vehicles, while construction of offsite project improvements may cause temporary lane shifts and/or closures and delays along Athens Avenue. Additional traffic in the project vicinity from construction workers' vehicles, transport trucks bringing materials or removing debris, and movement of heavy equipment along roadways could exacerbate traffic delays and disruptions in the casino vicinity. This would be a potentially significant, albeit temporary, impact. Implementation of Mitigation Measures 9.1 through 9.4, which include development of detailed Improvement Plans, including construction, routing, and signage/stripping plans, would reduce this impact to a less than significant level.

## OPERATIONAL IMPACTS UNDER EXISTING PLUS PROJECT CONDITIONS

<b>IMPACT 9.2:</b>	The proposed project will generate a significant traffic increase during the weekday and Saturday PM peak hour, resulting in a decrease in LOS at intersections in the vicinity of the project site.
<b>SIGNIFICANCE:</b>	Significant
<b>MITIGATION:</b>	Mitigation Measures 9.5 through 9.14
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant, except at the Athens Avenue/Driveway 4 intersection (impact here is considered Significant and Unavoidable)

Existing Plus Project Conditions weekday and Saturday PM peak hour traffic volumes are shown on **Figures 9-3A** and **9-3B**. Based on information from Placer County staff regarding improvement projects that are expected to be completed before or contemporaneous with the casino expansion, additional scenarios were examined at two intersections. The Sunset Boulevard/SR 65 at-grade signalized intersection is scheduled for replacement with a grade-separated ramp interchange by 2009; therefore, this intersection was analyzed under both possible configurations (i.e., at-grade and grade-separated) to account for possible construction delays. The intersection of Sunset Boulevard/Placer Corporate Drive/South Loop Road is tentatively scheduled to be reconfigured with a directional traffic signal allowing protected westbound left turns from Sunset Boulevard onto South Loop Road. This intersection was also analyzed under the current configuration and the proposed new directional signal. Addition of the project-generated traffic would result in increased delays or V/C ratio at most of the study intersections (**Table 11** of **Appendix F**). Of the analyzed intersections, 33 would operate at acceptable LOS during the weekday PM peak hour. The following intersections will experience a significant impact under Existing Plus Project conditions during this time:

- Industrial Avenue/Twelve Bridges Drive (LOS F),
- Athens Avenue/Fiddymment Road (LOS D),
- Industrial Avenue/Placer Corporate Drive (LOS F; LOS E under planned configuration at Sunset Boulevard/Placer Corporate Drive/South Loop Road),
- Sunset Boulevard/Placer Corporate Drive/South Loop Road (LOS F under existing configuration; LOS B with planned signal improvements),
- Sunset Boulevard/SR 65 (LOS F under existing at-grade configuration; LOS B northbound/LOS A southbound with proposed ramp interchange),
- Sunset Boulevard/Stanford Ranch Road (LOS D),
- Baseline Road/Foothills Boulevard (LOS D), and
- Baseline Road/Fiddymment Road/Walerga Road (LOS D)

**Figure 9-3A:** Peak Hour Traffic Volumes: Existing Plus Project Conditions (1)

**Figure 9-3B:** Peak Hour Traffic Volumes: Existing Plus Project Conditions (2)

For the Saturday PM peak hour projections, the following seven intersections will experience significant impacts resulting in unacceptable LOS:

- Industrial Avenue/Twelve Bridges Drive (LOS F),
- Athens Avenue/Foothills Boulevard North (LOS D),
- Athens Avenue/Casino Driveway No. 4 (LOS D),
- Athens Avenue/Industrial Avenue (LOS F),
- Industrial Avenue/Placer Corporate Drive (LOS F),
- Sunset Boulevard/Placer Corporate Drive/South Loop Road (LOS F under existing configuration; LOS B with planned signal improvements), and
- Sunset Boulevard/SR 65 (LOS F under existing at-grade configuration; LOS B northbound/LOS A southbound with proposed ramp interchange).

The signalized intersection at Sunset Boulevard/SR 65 currently operates at LOS E during the weekday PM peak hour, and LOS C during the Saturday PM peak hour. Addition of project-generated traffic would cause this intersection to operate at LOS F during both peak hours. However, a new grade-separated ramp interchange is already planned and funded for this location, with scheduled completion in 2009 before the anticipated opening of the expanded Thunder Valley Casino. With the grade separation, northbound ramps would operate at LOS B during both peak hours, and southbound ramps would function at LOS A under Existing Plus Project conditions.

Although the intersection of Athens Avenue/Fiddymont Road was originally analyzed as a two-way stop-controlled intersection, Placer County has recently modified this intersection to convert it to an all-way stop. It was calculated that this improvement would raise the Existing Plus Project LOS during the weekday PM peak hour to LOS C (delay = 15.5 seconds/vehicle). It would also raise the LOS during the Saturday PM peak hour to LOS B (delay = 10.9 seconds/vehicle). Therefore, no significant project-related impacts are now anticipated at this intersection.

Improvements to reduce LOS impacts at the other intersections are recommended in Mitigation Measures 9.5 through 9.14. In all cases except at the Athens Avenue/Casino Driveway 4 intersection, implementation of the recommended mitigation measures would reduce impacts to less than significant levels, as shown in **Table 9-1**. The Saturday PM peak hour LOS at the Athens Avenue/Casino Driveway 4 intersection cannot feasibly be mitigated; impacts at this intersection are considered significant and unavoidable. At this location, the identified impact relates to southbound traffic turning right onto Athens Avenue from the stop-controlled casino exit. Increased westbound traffic along Athens Avenue would cause delays to the estimated 14 vehicles in the Saturday PM peak hour attempting the right turn at this location. Only project-related traffic would be delayed; through traffic on Athens Avenue would not experience a loss of service at this intersection.

**TABLE 9-1  
EXISTING PLUS PROJECT CONDITIONS MITIGATION MEASURE SUMMARY**

Study Location	Jurisdiction	Recommended Improvements	Time Period (PM Peak Hour)	Peak Hour Trips		Level of Service <sup>1</sup>		
				Existing	Existing Plus Project	Existing	Existing Plus Project Without Mitigation	Existing Plus Project With Mitigation
Industrial Avenue/ Twelve Bridges Drive	Placer County	<b>MM 9.5</b> Signalize the intersection; modify the northbound approach to separate the through and right-turn lanes; and provide right-turn overlap signal phasing for the northbound right-turn movement.	Weekday	580	1170	LOS B Delay = 11.8	LOS F Delay > 50.0	LOS B Delay = 10.0
			Saturday	480	1453	LOS B Delay = 10.6	LOS F Delay > 50.0	LOS B Delay = 10.0
Athens Avenue/ Foothills Boulevard North	Placer County	<b>MM 9.6</b> Modify the striping on the west leg of the intersection to provide a two-way central left-turn lane for a minimum distance of 200 feet. This may also require re-striping the edge line/shoulder stripe adjacent to the westbound through lane.	Weekday	523	897	LOS B Delay = 12.7	LOS C Delay = 21.6	LOS C Delay = 15.8
			Saturday	425	1040	LOS B Delay = 12.2	LOS D Delay = 29.6	LOS C Delay = 20.0
Athens Avenue/ Industrial Avenue	Placer County	<b>MM 9.7</b> Construct a second southbound right-turn lane; construct a second eastbound left-turn lane; widen the north leg of the intersection to contain two northbound receiving lanes; and widen the at-grade UPRR crossing on the west leg of the intersection.	Weekday	1277	2675	LOS A V/C = 0.30	LOS B V/C = 0.69	LOS A V/C = 0.53
			Saturday	1241	3545	LOS A V/C = 0.36	LOS F V/C = 1.02	LOS C V/C = 0.77
Industrial Avenue/ Placer Corporate Drive	Placer County	<b>MM 9.8</b> Construct a “free-flow” right-turn lane on the westbound approach, with a receiving lane and the appropriate length merge/taper on the north leg.	Weekday	1189	1996	LOS A V/C = 0.54	LOS F V/C = 1.08	LOS B V/C = 0.70
			Saturday	938	2268	LOS A V/C = 0.54	LOS F V/C = 1.43	LOS C V/C = 0.74
Sunset Boulevard/ Placer Corporate Drive/ South Loop Road	Placer County	<b>MM 9.9</b> Signalize the intersection <sup>2</sup> .	Weekday	1493	2445	LOS C Delay = 21.9	LOS F Delay = >50.0	LOS B Delay = 13.2
			Saturday	930	2497	LOS B Delay = 11.3	LOS F Delay = >50.0	LOS B Delay = 11.7
Sunset Boulevard/ Stanford Ranch Road	City of Rocklin	<b>MM 9.10</b> Provide a second northbound left-turn lane on Stanford Ranch Road.	Weekday	4147	4200	LOS C V/C = 0.79	LOS D V/C = 0.82	LOS C V/C = 0.73
			Saturday	2564	2652	LOS A V/C = 0.51	LOS A V/C = 0.52	LOS A V/C = 0.46
Baseline Road/ Foothills Boulevard	City of Roseville	<b>MM 9.11</b> Adjust the signal phasing to provide an eastbound right-turn overlap phase, and prohibit northbound U-turn movements.	Weekday	4309	4345	LOS D V/C = 0.82	LOS D V/C = 0.83	LOS C V/C = 0.79
			Saturday	3166	3224	LOS B V/C = 0.66	LOS B V/C = 0.68	LOS B V/C = 0.60
Baseline Road/ Fiddymont Road/ Walerga Road	Placer County/City of Roseville	<b>MM 9.12</b> Convert the southbound right-turn lane to a shared through/right-turn lane.	Weekday	3178	3285	LOS D V/C = 0.82	LOS D V/C = 0.86	LOS D V/C = 0.81
			Saturday	2143	2219	LOS A V/C = 0.51	LOS A V/C = 0.58	LOS A V/C = 0.55

Notes: 1: Delay in seconds per vehicle. 2: Signalization at this intersection is tentatively planned, depending on adjacent land development. LOS shown reflects current configuration. Source: MRO Engineering, 2008.

<b>IMPACT 9.3:</b>	The proposed project will result in increased traffic at the three signal-controlled driveways to the casino parcel, possibly exceeding queue capacity and creating safety hazards.
<b>SIGNIFICANCE:</b>	Potentially Significant
<b>MITIGATION:</b>	Mitigation Measure 9.15
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant

Existing and proposed project driveways are shown in **Figure 9-4**. Because of the relatively close spacing of the proposed project driveways, traffic operations at the three signalized locations were analyzed in detail. To determine whether excessive queuing at a particular driveway could impact operations at an adjacent driveway, Synchro software was used to model projected conditions, assuming traffic signals at each driveway are interconnected and coordinated. Queuing length was analyzed for “typical” and “peak” traffic volumes (50% and 95% of expected maximums, respectively). Queue lengths for the weekday PM peak hour are not expected to exceed the capacity of each driveway approach (**Table 12 of Appendix F**); however, during the Saturday PM peak hour, queues of westbound vehicles waiting to turn right from Athens Avenue into Driveway 1 (parking garage entrance) may exceed the 495 feet of available vehicle storage (**Table 13 of Appendix F**). This represents a potentially significant impact. Implementation of Mitigation Measure 9.15 will ensure a less than significant impact.

<b>IMPACT 9.4:</b>	The proposed project will result in increased volume/capacity ratio on area freeway mainline segments, degrading LOS.
<b>SIGNIFICANCE:</b>	Less than Significant
<b>MITIGATION:</b>	None Warranted

Analysis of freeway mainline segments was conducted to address decreased LOS associated with project-related traffic. Under Existing Plus Project conditions, both directions of the three evaluated segments of SR 65 will continue to operate at acceptable LOS (**Table 14 of Appendix F**).

During the weekday PM peak hour, the LOS will remain unchanged at the two northernmost freeway segments (north of Twelve Bridges Drive and Sunset Boulevard to Twelve Bridges Drive). Operations in both directions of the Sunset Boulevard-to-Blue Oaks Boulevard segment are projected to decrease from LOS C to LOS D. During the Saturday PM peak hour, Existing Plus Project conditions will result in a LOS decrease along the northbound direction of the Twelve Bridges Drive-to-Sunset Boulevard segment of SR 65 (from LOS B to LOS C), and in both directions of the Sunset Boulevard-to-Blue Oaks Boulevard segment (From LOS B to LOS D northbound; from LOS B to LOS C southbound).

The LOS on all the analyzed freeway mainline segments under Existing Plus Project conditions are considered acceptable under both Placer County’s CMP and Caltrans’ operational standards. Therefore, project-related impacts to LOS on SR 65 would be less than significant; no mitigation measures are proposed.

**Figure 9-4:** Existing and Proposed Project Access System

<b>IMPACT 9.5:</b>	The proposed project will result in increased traffic density on freeway ramp interchanges, affecting ease of “merge-diverge” operations.
<b>SIGNIFICANCE:</b>	Less than Significant
<b>MITIGATION:</b>	None Warranted

The existing ramp interchange at SR 65/Twelve Bridges Drive and the planned interchange at SR 65/Sunset Boulevard were evaluated for LOS under Existing Plus Project conditions. Although traffic densities increased slightly over existing conditions at the SR 65/Twelve Bridges Drive interchange, the increases were not substantial enough to cause a decrease in LOS on any of the four ramps during either the weekday or Saturday PM peak hour. Because the SR 65/Sunset Boulevard interchange is not yet built, no comparison can be made between conditions with and without the proposed project. However, modeling shows none of the interchange ramps operating below LOS C under post-project conditions during either weekday or Saturday PM peak hour (**Table 15 of Appendix F**). Therefore, impacts to freeway ramp interchanges would be less than significant; no mitigation measures are proposed.

<b>IMPACT 9.6:</b>	The proposed project will result in increased use of alternative transportation facilities, including transit systems, bikeways and pedestrian routes.
<b>SIGNIFICANCE:</b>	Potentially Significant
<b>MITIGATION:</b>	Mitigation Measure 9.16
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant

The proposed casino expansion has the potential to increase PCT ridership on the Lincoln/Rocklin/Sierra College line and connecting routes. Most of the additional transit demand will likely be in the form of employee trips, as many casino patrons would come from outside the PCT service area. The proposed project would not have a significant impact on local bicycle or pedestrian traffic, because no existing bikeways or sidewalks connect the casino with local population centers. Given that bicycle and pedestrian activity in the SIA is generally low, no increased safety hazards to cyclists or pedestrians would occur. However, the anticipated increase in PCT use would be potentially significant. Implementation of Mitigation Measure 9.16 would reduce transit impacts to a less than significant level.

<b>IMPACT 9.7:</b>	The proposed project will increase the potential for conflicts between vehicles and trains at the at-grade UPRR crossing along Athens Avenue.
<b>SIGNIFICANCE:</b>	Significant
<b>MITIGATION:</b>	Mitigation Measures 9.17 and 9.18
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant

Implementation of the proposed project would result in increased traffic crossing the UPRR tracks along Athens Avenue. The weekday PM peak hour crossings would be 2,400 to 2,500 vehicles, while the Saturday PM peak hour would see approximately 3,400 to 3,500 vehicles crossing the tracks. With this traffic volume, two major impacts have the potential to occur: queues of vehicles could form across the tracks, raising the possibility of a car being struck by an oncoming train; or queues of vehicles on Industrial Avenue waiting to cross the tracks could extend out of their turn lanes, blocking through traffic and creating a safety hazard.

A queue length analysis for key traffic movements was completed near the at-grade crossing, including average and peak queue lengths calculated from vehicle arrival rates (**Table 16 of Appendix F**). The key traffic movements in the vicinity of the crossing include: the westbound approach to Thunder Valley Court/Driveway 3 (the first signal-controlled intersection encountered by westbound travelers on Athens Avenue); the left turn onto Athens Avenue from northbound Industrial Avenue, and the right turn onto Athens Avenue from southbound Industrial Avenue. The queue length analysis indicates that there is little potential for vehicles to form a queue along Athens Avenue extending the 1,200 feet from Thunder Valley Court/Driveway 3 to the UPRR crossing, particularly with the planned “demand-responsive” signal at the driveway intersection. However, there is a high probability for both northbound and southbound traffic on Industrial Avenue to queue beyond the vehicle storage capacity of their respective turn lanes while waiting for a train to clear the crossing. This scenario has the potential to occur during both the weekday and Saturday PM peak hours, under both the average and peak arrival rates analyzed. The potential for rear-end collisions would be increased as queues of waiting vehicles extend into lanes of through traffic along Industrial Avenue. This represents a significant impact, which can be mitigated to less-than significant levels by the implementation of Mitigation Measures 9.17 and 9.18. Implementation of Mitigation Measure 9.17 as well as the improvements recommended for the Athens Avenue/Industrial Avenue intersection (Mitigation Measure 9.7) would provide temporary improvements in LOS pending the completion of a grade separation over the UPRR tracks (Mitigation Measure 16.17).

<b>IMPACT 9.8:</b>	Special events at the proposed performing arts center will increase traffic volumes in the immediate project vicinity.
<b>SIGNIFICANCE:</b>	Potentially Significant
<b>MITIGATION:</b>	Mitigation Measure 9.19
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant

The majority of events proposed for the Thunder Valley Performing Arts Center would occur in the evenings or on weekend days. Many patrons attending events at the performing arts center will likely arrive early or stay after to take advantage of other activities within the casino complex, such as dining and/or gaming. Attendees may also stay overnight at the hotel, delaying their departure until the next day. Nonetheless, these events would generate increases in traffic on a localized, intermittent basis.

Given the variety of uses proposed for the performing arts center, trip generation rates and distribution patterns will likely vary from event to event. An informal sampling of entertainment at resorts and hotels in the Reno area demonstrates that such events are typically scheduled to begin well outside the peak traffic hours. The weekday PM peak hour would be 4:45-5:45 and the Saturday PM peak hour would be 4:15-5:15 (**Appendix B** of **Appendix F**), while most concerts, theater performances, and sporting events would begin between 7:30 and 9:00 in the evening. As the evening progresses, ambient traffic volumes in the project vicinity would decline, so that operations at key intersections would improve. This additional capacity would be available to absorb any increased traffic volume generated in conjunction with special events at the performing arts center. However, because the potential exists for significant localized increases in traffic both before and following special events, implementation of Mitigation Measure 9.19 is recommended to prevent or reduce impacts to the larger regional circulation system.

<b>IMPACT 9.9:</b>	Implementation of offsite traffic improvements could have an adverse effect on the environment.
<b>SIGNIFICANCE:</b>	Potentially Significant
<b>MITIGATION:</b>	Mitigation Measure 9.20
<b>RESIDUAL SIGNIFICANCE:</b>	Less than Significant

The offsite traffic improvements identified as mitigation would potentially result in environmental impacts. **Figure 9-5** shows the locations of all proposed offsite mitigation measures. Grading, paving, painting, utility connection, or other construction work would be required at the eight intersections shown in **Table 9-1**. These types of activities could cause impacts related to land use, biological resources, cultural resources, air quality, noise, soils and geology, water quality, public services and utilities, and hazards or hazardous materials. Mitigation Measure 9.20 is recommended to prevent environmental impacts from offsite traffic improvements.

## 9.4 MITIGATION MEASURES

**Mitigation Measure 9.1:** Prepare Improvement Plans for all offsite improvements.

Mitigation Measure 9.1 applies to Impacts 9.1 and 12.1.

Improvement Plans, specifications, and cost estimates shall be prepared and submitted to the Placer County Engineering and Surveying Department (ESD) for review and approval for all offsite roadway improvements and utility construction, per the requirements of Section II of the Placer County Land Development Manual (LDM) that are in effect at the time of submittal. The Plans shall show all conditions for the project as well as pertinent topographical features both on- and offsite. All existing and proposed utilities and easements, onsite and adjacent to the project, which may be affected by planned construction, shall be shown on the plans. All landscaping and irrigation facilities within the public right of way or easements (including landscaping within sight distance areas at intersections) shall be included in the Improvement Plans. The Tribe shall pay plan check and inspection fees (note: prior to plan

**Figure 9-5:** Locations of Offsite Traffic Mitigation Measures

approval, all applicable recording and reproduction cost shall be paid). The cost of the above-noted landscape and irrigation facilities shall be included in the estimates used to determine these fees. Any other required signatures or agency reviews or approvals shall be obtained by the Tribe prior to final County review and approval of the Improvement Plans. Record drawings shall be prepared and signed by a California Registered Civil Engineer at the Tribe's expense, and submitted to the Placer County ESD prior to acceptance by the County.

**Mitigation Measure 9.2:** Develop a detailed construction plan.

Mitigation Measure 9.2 applies to Impact 9.1.

A construction plan shall be prepared and submitted for review and approval with the Improvement Plans to the ESD to detail specific construction information; haul routes; signing for closures or detours; and public notification identifying location, scheduling, and duration of construction activities. Construction plans shall note that work on roadways and intersections shall be conducted during off-peak traffic periods whenever possible to alleviate traffic delays. Construction within a major intersection will be restricted to only half the intersection at any one time whenever possible, in order to maintain traffic flows. Stockpiling and/or staging areas shall be identified on the construction plans and located as far as practical from existing dwellings and protected resources in the area. Information regarding the schedule and duration of construction activities will be shared with local law enforcement, fire departments, and emergency medical service providers.

**Mitigation Measure 9.3:** Develop an alternative routing plan.

Mitigation Measure 9.3 applies to Impact 9.1.

Traffic routing plans shall be prepared and submitted for review and approval with the Improvement Plans to the ESD for locations that may be affected by construction. The traffic routing plan will address the specific requirements for traffic control, including construction timing for specific areas and traffic detours. Where improvements are to be constructed within the Athens Avenue right of way, road or lane closures will not be allowed unless approved by the Placer County Director of Public Works. Trenching within the right of way may require temporary lane shifts, to be demarcated by cones and/or barricades, in order to maintain at least one lane of travel in each direction. All routing plans will be approved by the Director of Public Works prior to Improvement Plan approval. Alternative routes for fire, police, and emergency medical service vehicles will be identified to avoid construction areas.

**Mitigation Measure 9.4:** Develop a striping and signage plan.

Mitigation Measure 9.4 applies to Impact 9.1.

Submit, for review and approval, a striping and signing plan with the project Improvement Plans. The plan shall include all onsite and offsite traffic control devices and shall be reviewed by the County Traffic Engineer. Temporary (during construction) and permanent traffic movements and control devices shall

be identified on the plans. All signage, striping, signal controls, and other traffic management systems will conform to the 2006 MUTCD standards and usage, as well as Placer County's standards.

**Mitigation Measure 9.5:** Industrial Avenue/Twelve Bridges Drive Intersection Improvements  
Mitigation Measure 9.5 applies to Impact 9.2.

The intersection of Industrial Boulevard/Twelve Bridges Drive is expected to operate at LOS F during both the weekday and Saturday PM peak hours under Existing Plus Project conditions. Implementation of the following improvements will result in LOS B at this intersection during both peak hours:

- Signalize the intersection. The addition of project-generated traffic causes this intersection to meet the "Peak Hour Volume" signal warrant documented in "Part 4-Highway Traffic Signals" of the California MUTCD (2006);
- Modify the northbound approach from the current shared through/right turn configuration to separate the through and right-turn lanes; and
- Provide right-turn overlap signal phasing for the northbound right-turn movement.

This mitigation may require paving of additional area along the southeast side of the intersection, to widen the roadway sufficiently for the proposed separate northbound through and right-turn lanes. Because the area to be paved would be minimal (<0.1 acres) and would be within the existing graded right of way, no significant environmental impacts would result from these improvements with the implementation of Mitigation Measure 9.20. The Tribe will construct these improvements, or contribute the full cost of these improvements to the Placer County Traffic Mitigation Fee Program, prior to the opening of the expanded casino to the general public, unless circumstances beyond the control of the Tribe delay the construction of the improvements.

**Mitigation Measure 9.6:** Athens Avenue/Foothills Boulevard North Intersection Improvements  
Mitigation Measure 9.6 applies to Impact 9.2.

During the Saturday PM peak hour under Existing Plus Project conditions, this intersection is expected to operate at LOS D. Operations could be improved to LOS C by modifying the striping on the west leg of the intersection to provide a two-way central left-turn lane for a minimum distance of 200 feet. This may also require re-striping the edge line/shoulder stripe adjacent to the westbound through lane. The two-way left-turn lane will provide a refuge for drivers making a northbound left turn from Foothills Boulevard North to westbound Athens Avenue, allowing a space to wait for westbound traffic to clear before completing the turn. The striping modification shall be completed to the specifications of the Placer County ESD.

This mitigation would not require any additional paving or other roadbed modifications. A paved center median of sufficient width already exists in the location of the proposed two-way central left-turn lane.

Therefore, no environmental impacts are expected to result from the proposed improvements with the implementation of the standards and requirements described under Mitigation Measure 9.20. The Tribe will construct these improvements, or contribute the full cost of these improvements to the Placer County Traffic Mitigation Fee Program, prior to the opening of the expanded casino to the general public, unless circumstances beyond the control of the Tribe delay the construction of the improvements.

**Mitigation Measure 9.7:** Athens Avenue/Industrial Avenue Intersection Improvements  
Mitigation Measure 9.7 applies to Impact 9.2.

As currently configured, this intersection is anticipated to operate at LOS F during the Saturday PM peak hour under Existing Plus Project conditions. The following modifications would improve operations to LOS C during this time period:

- Construct a second southbound right-turn lane;
- Construct a second eastbound left-turn lane;
- Widen the north leg of the intersection to contain two northbound receiving lanes; and
- Widen the at-grade UPRR crossing on the west leg of the intersection to accommodate the additional left-turn lane (some of the needed width may be acquired from the median) and modify the railroad crossing gate arms. Widening of the at-grade crossing will require approval from the California Public Utility Commission (PUC) and coordination with UPRR.

Additional pavement would be needed along the northwest and northeast corners of the intersection, in order to provide the recommended additional turn lanes. The right of way along both Athens Avenue and Industrial Avenue has been previously impacted and fully graded in the vicinity of the intersection, with no existing biological habitat, nearby surface waters, or other environmental issues of concern. With implementation of the standards and requirements described under Mitigation Measure 9.20, the proposed improvements would not result in significant environmental impacts. The Tribe will construct these improvements, or contribute the full cost of these improvements to the Placer County Traffic Mitigation Fee Program, prior to the opening of the expanded casino to the general public, unless circumstances beyond the control of the Tribe delay the construction of the improvements.

**Mitigation Measure 9.8:** Industrial Avenue/Placer Corporate Drive Intersection Improvements  
Mitigation Measure 9.8 applies to Impact 9.2.

The intersection of Industrial Avenue/Placer Corporate Drive is predicted to operate at LOS F during both the weekday and Saturday PM peak hours under Existing Plus Project conditions. Construction of a “free-flow” right-turn lane on the westbound approach, with a receiving lane and the appropriate length merge/taper on the north leg at the Industrial Avenue/Placer Corporate Drive intersection, would result in LOS B during the weekday PM peak hour, and LOS C in the Saturday PM peak hour.

The suggested improvements to this location would necessitate additional pavement along the northeastern corner and northern leg of the intersection. With implementation of the standards and requirements described under Mitigation Measure 9.20, the proposed improvements would not result in significant environmental impacts. The Tribe will construct these improvements, or contribute the full cost of these improvements to the Placer County Traffic Mitigation Fee Program, prior to the opening of the expanded casino to the general public, unless circumstances beyond the control of the Tribe delay the construction of the improvements.

**Mitigation Measure 9.9:** Sunset Boulevard/Placer Corporate Drive/South Loop Road Intersection Improvements

Mitigation Measure 9.9 applies to Impact 9.2.

Under the current configuration, this intersection is expected to operate at LOS F during both the weekday and Saturday PM peak hours. However, a new signalized configuration is already planned for this intersection and may be constructed based on adjacent land uses. With this new planned configuration, operations would be expected to improve to LOS B during both PM peak hours. If the proposed signalization is implemented with the development of the adjacent parcel as planned, no other mitigation is required. If the adjacent lot is not developed with an appropriate use, the signal would be installed by the Tribe to mitigate project-related impacts at this intersection.

Installation of a traffic signal would involve a minimum of ground-disturbing work for connection of utility lines and emplacement of support poles. With implementation of the standards and requirements described under Mitigation Measure 9.20, impacts resulting from the signalization would be less than significant.

**Mitigation Measure 9.10:** Sunset Boulevard/Stanford Ranch Road Intersection Improvements

Mitigation Measure 9.10 applies to Impact 9.2.

This intersection is expected to operate at LOS D during the weekday PM peak hour under Existing Plus Project conditions. Providing a second northbound left-turn lane on Stanford Ranch Road would result in LOS C in the weekday PM peak hour and LOS A during the Saturday PM peak hour. The number of weekday PM peak hour trips contributed by the project would increase the existing number of trips by approximately 1.3 percent; during Saturday PM peak hour, the addition of project trips would increase the existing volume by 3.3 percent. The Tribe would contribute a fair-share amount toward the cost of constructing these improvements.

**Mitigation Measure 9.11:** Baseline Road/Foothills Boulevard Intersection Improvements

Mitigation Measure 9.11 applies to Impact 9.2.

The intersection at Baseline Road and Foothills Boulevard currently functions at LOS D during the weekday PM peak hour; this LOS is also expected with the addition of project-generated traffic. An adjustment to the signal phasing could improve the anticipated LOS operations. By providing an eastbound right-turn overlap phase, and prohibiting northbound U-turn movements, an operation of LOS C could be expected for the weekday PM peak hour under Existing Plus Project conditions. The number of weekday PM peak hour trips contributed by the project would increase the existing number of trips by approximately 0.8 percent; during Saturday PM peak hour, the addition of project trips would increase the existing volume by 1.8 percent. The Tribe would contribute a fair-share amount toward the cost of constructing these improvements. A signal phase adjustment would not require any construction work that could result in environmental impacts.

**Mitigation Measure 9.12:** Baseline Road/Fiddymment Road/Walerga Road Intersection Improvements  
Mitigation Measure 9.12 applies to Impact 9.2.

This intersection currently operates at LOS D during the weekday PM peak hour ( $V/C = 0.82$ ), and is expected to continue to function at this level with the addition of project-generated traffic ( $V/C = 0.86$ ). Converting the southbound right-turn lane to a shared through/right-turn lane will improve the Existing Plus Project  $V/C$  ratio to 0.81 during the weekday PM peak hour. Although this still represents a LOS D, it demonstrates an improvement over existing conditions, with all project-related impacts offset. The number of weekday PM peak hour trips contributed by the project would increase the existing number of trips by approximately 3.3 percent; during Saturday PM peak hour, the addition of project trips would increase the existing volume by 3.4 percent. The Tribe would contribute a fair-share amount toward the cost of constructing these improvements. An existing southbound receiving lane already exists at this intersection, therefore implementation of this mitigation measure would require no additional paving or other ground-disturbing activities.

**Mitigation Measure 9.13:** Contribute to Placer County Traffic Mitigation Fee Program  
Mitigation Measure 9.13 applies to Impact 9.2.

The Tribe shall contribute to the Placer County traffic mitigation fee program to fund the appropriate share of offsite improvements or area-wide improvements that are beyond the scope of the proposed project. These offsite or area-wide improvements will be determined in discussions with Placer County. To the extent that any of the costs of mitigation measures implemented in connection with the proposed project are included in the CIP for the SIA or any other community plan approved by Placer County, those costs would represent a credit against the amount stated in the fee program for the relevant improvement.

**Mitigation Measure 9.14:** Preparation of a Transportation Plan  
Mitigation Measure 9.14 applies to Impact 9.2.

A Transportation Plan shall be prepared in compliance with the County Trip Reduction Ordinance (Article 10.20, formerly Chapter 16, Article XIII, Section 16.900 *et seq.* of the Placer County Code). This plan shall be submitted to the Placer County ESD for review prior to Improvement Plan approval.

**Mitigation Measure 9.15:** Signal Coordination at Project Driveways

Mitigation Measure 9.15 applies to Impact 9.3.

To reduce queuing along Athens Avenue at the three signal-controlled project driveways, the traffic signals at Driveway 1, Driveway 2, and Thunder Valley Court/Driveway 3 shall be interconnected and their operation coordinated. This coordination shall extend to the existing signal at the Athens Avenue/Industrial Avenue intersection and the future proposed signal at the Athens Avenue/Foothills Boulevard North intersection. The signal coordination system shall include appropriately located queue detectors, designed to force a green signal indication at the downstream traffic signal when queues reach a designated length. The signal coordination software and hardware should include a link to County offices in Auburn, allowing for real-time monitoring/troubleshooting of operations. The specific approach to implementing the signal coordination system, including hardware requirements, locations of queue detectors, etc., shall be determined by the Tribe with review and approval by Placer County DPW prior to Improvement Plan approval. If required by UPRR, PUC, and Placer County, specialized software/hardware shall be used (such as LA DOT/Metrolink) that allows interface and communications between railroad equipment and traffic signal controls during railroad preemption sequence.

**Mitigation Measure 9.16:** Coordination with Placer County Transit

Mitigation Measure 9.16 applies to Impact 9.6.

The Tribe shall continue to coordinate with Placer County DPW in monitoring PCT ridership at the facility. At such time as the number of casino-oriented riders, in addition to other riders, exceeds the capacity of the PCT service (based on passenger boarding and alighting data), the Tribe shall work with PCT to provide enhanced transit service, either through the provision of larger vehicles, more frequent service, a modified route, or extended span of service (hours of operation). The Tribe shall pay a fair share of the service expansion consistent with the methods of the existing transit agreement with the Placer County DPW. Additionally, Thunder Valley Casino shall make PCT passes and schedule information available to employees at the place of employment.

**Mitigation Measure 9.17:** Union Pacific Railroad Crossing Improvements

Mitigation Measure 9.17 applies to Impact 9.7

To mitigate project-related impacts at the Athens Avenue at-grade railroad crossing, the following improvements to the Athens Avenue/Industrial Avenue are recommended as an interim measure: Extend the existing dual northbound left-turn lanes from 350 feet to 500 feet each, to provide additional full-width vehicle storage in each lane; and (in conjunction with Mitigation Measure 9.7, above) extend the

length of the southbound right-turn lanes to provide 725 feet of full-width vehicle storage in each lane. These modifications will ensure that adequate storage space is available for vehicles waiting to turn while a train passes and the crossing arms are in the “down” position. A demand-responsive queue detector should be installed within westbound Athens Avenue to force a green signal at the Driveway 3/Thunder Valley Court intersection, to ensure that vehicle queues do not extend onto the UPRR tracks. In-pavement lights should be installed within the stop bar on eastbound Athens Avenue. These red lights would flash to notify drivers of an oncoming train. Casino patrons should be notified, via the Thunder Valley Casino website, signs, and printed materials at the casino, that the Foothills Boulevard North connector road is available as an alternative to the Athens Avenue/Industrial Avenue route across the UPRR tracks. The Tribe will complete these improvements prior to the opening of the expanded casino to the general public, unless circumstances beyond the control of the Tribe delay the construction of the improvements.

Additional changes to traffic movements would likely be required during the various phases of construction of the grade-separation described in Mitigation Measure 16.17; traffic engineers and Thunder Valley Casino representatives shall continue to consult with Placer County, UPRR, and the Public Utilities Commission (PUC) regarding needed alterations.

**Mitigation Measure 9.18:** UPRR Grade Separation Feasibility Study and Preliminary Designs  
Mitigation Measure 9.18 applies to Impact 9.7.

A feasibility study with three alternative preliminary designs for a grade separation at the Athens Avenue/UPRR crossing is included as **Appendix G**.

**Mitigation Measure 9.19:** Special Events Traffic Management  
Mitigation Measure 9.19 applies to Impact 9.8.

Site access and traffic information shall be provided on the Thunder Valley Casino website and at convenient locations within the casino and associated facilities. Information will include maps and directions encouraging event patrons from southern locations to utilize Sunset Avenue to Foothills Boulevard North (rather than Industrial Avenue) to arrive at and depart from the facility. Notification of peak traffic hours will be provided to patrons, along with suggestions that patrons plan their trips outside of these hours in order to minimize the concentration of traffic.

Permanent directional signs shall be provided along high-volume routes such as Interstate 80, SR 65, and County Roads, notifying drivers who may be unfamiliar with the area of the preferred route to Thunder Valley. This would reduce the number of drivers using local routes and surface streets, minimizing lost casino-bound drivers and increasing safety for local traffic as well as patrons. In addition, manual flaggers and/or electronic changeable message signs, barricades or cones will also be used to direct traffic along Athens Avenue before and after events, and signals at the three primary driveways will include a

manual “override” setting that can be controlled directly by event personnel. The interconnected traffic signals at these driveways, the Athens Avenue/Industrial Avenue intersection, and the Athens Avenue/Foothills Boulevard North intersection will be reprogrammed (with the UPRR-interfaced signal control equipment, if applicable) for special events. Traffic control personnel and devices shall be provided by the Tribe. During construction at the Sunset Boulevard/SR 65 intersection, preferred traffic travel directions in the area may be revised in consultation with Placer County and Caltrans.

**Mitigation Measure 9.20:** Offsite Traffic Improvement Standards and Requirements

Mitigation Measure 9.20 applies to Impact 9.9.

To avoid or mitigate impacts resulting from offsite traffic improvements, all work conducted within the Placer County right of way (or other jurisdiction, as applicable) will require the following:

- Proposed changes to roadway facilities must be designed to current Placer County (or other jurisdiction, as applicable) standards and specifications.
- Plans must be reviewed and approved by the Placer County ESD and DPW prior to beginning work.
- Engineering calculations, plans and reports submitted for review and approval must bear the seal and original signature of a professional engineer.
- Standard construction Best Management Practices for erosion prevention, dust control and stormwater pollution prevention will be enforced.
- Signals, signs, striping, and other traffic control devices must be implemented in accordance with the current Caltrans MUTCD manual.
- Construction inspection will be performed by Placer County (or other jurisdiction, as applicable) at the Tribe’s expense.
- Wetlands or other Waters of the U.S., if present, shall either be avoided or an appropriate permit obtained from the U.S. Army Corps of Engineers.