

9.0

TRAFFIC AND CIRCULATION

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This section provides a description of the traffic and circulation conditions in the area surrounding the project site and identifies the potential environmental impacts of implementing the proposed project associated with traffic and circulation. The analysis provided in this section focuses on potential project- and program-level impacts to area intersections and roadway segments, as well as pedestrian and bicycle circulation, safety, and the provision of public transit. This section also evaluates the project's consistency with the Placer County General Plan and Martis Valley Community Plan as they relate to traffic and circulation. Where necessary, mitigation measures are identified to address significant impacts. The analysis in this section is based on the Transportation Impact Analysis (TIA) prepared for the proposed project by LSC Transportation Consultants on November 20, 2013. The TIA is included as **Appendix 9** of this Draft EIR.

9.1 EXISTING SETTING

9.1.1 STUDY AREA CIRCULATION SYSTEM

Roadways

The Northstar California Ski Resort is located in the southern portion of the Martis Valley Community Plan area. The resort is served primarily by State Route 267, Northstar Drive, Ridgeline Drive, and Big Springs Drive. Following are brief descriptions of these roadways. **Figure 9-1** shows the locations of these roadways as well as the lane configuration and traffic control at the study intersections.

State Route 267

State Route (SR) 267 is a two-lane highway running in a general northwest–southeast alignment between the Interstate 80 (I-80)/SR 89 North/SR 267 interchange in Truckee and SR 28 in Kings Beach. SR 267 is of local and regional significance, providing access to residential, industrial, commercial, and recreational land uses. It serves as the major route between the I-80 corridor and the North Lake Tahoe communities of Kings Beach and Tahoe Vista, California, and Incline Village, Nevada. It also serves as the primary access to the Northstar California Ski Resort and adjacent residential neighborhoods. The peak month Average Daily Traffic (ADT) volume along this roadway is approximately 10,700–16,600 vehicles per day.

Northstar Drive

Northstar Drive is a two-lane arterial roadway connecting SR 267 on the east to the Northstar California Ski Resort community and its associated residential, commercial, and resort areas on the west. The posted speed limit along Northstar Drive is 35 mph. Residential street intersections along the roadway are controlled by stop signs on the side street approaches. Northstar Drive ends at the west in the Northstar Village area, which is the major commercial and resort center within the Northstar California resort in both the summer and winter seasons. A traffic control program conducted by Northstar California is in place on peak days of winter traffic. As a part of this program, traffic control officers are stationed at the Northstar Drive/Castle Peak Lot/Ridgeline Drive roundabout and Northstar Drive/Big Springs Drive intersection on peak ski days.

Ridgeline Drive

Ridgeline Drive forms the southern leg of the Northstar Drive/Castle Peak Lot/Ridgeline Drive roundabout. This two-lane roadway connects Northstar Drive on the north to Northstar Highlands Drive on the south, and it provides access to the Northstar Administrative Facility and various other County services buildings on the south side of Northstar Drive. On the north side of Northstar Drive opposite Ridgeline Drive is the Castle Peak Parking Lot and gas station access driveway.

Big Springs Drive

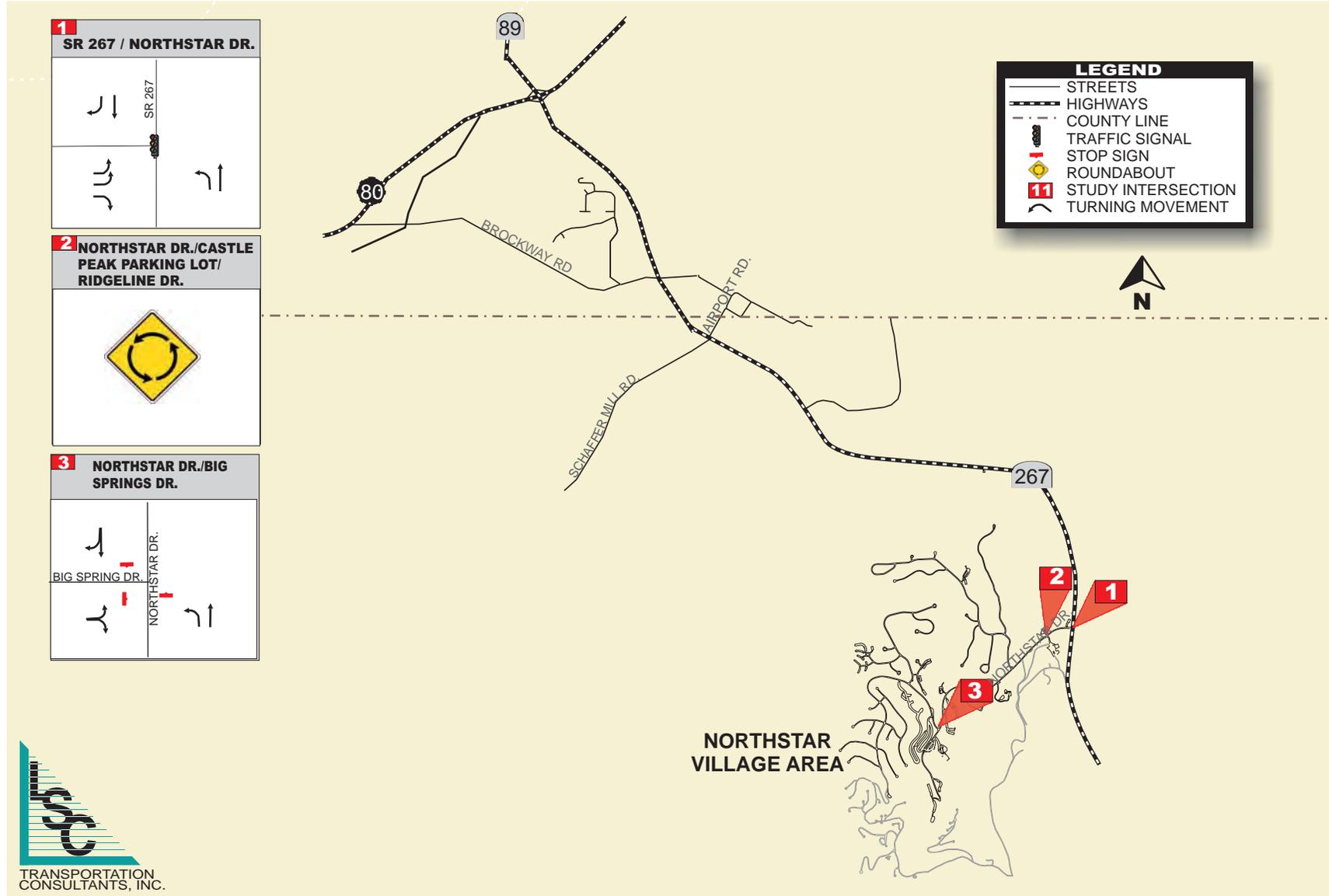
Big Springs Drive is a two-lane major collector roadway, approximately one-half mile long, looping up from its intersection with Northstar Drive at the Village area north past its intersection with Martis Landing Drive, and then around to the west and south to its terminus southwest of the Village area. Uphill from its intersection with Martis Landing Drive, Big Springs Drive provides access to a single-family residential neighborhood via a series of small local streets and cul-de-sacs. Downhill from Martis Landing to Northstar Drive, access is provided to the day-use skier lots. Big Springs Drive is controlled by a stop sign at Northstar Drive (LSC Transportation Consultants 2013).

9.1.2 LEVEL OF SERVICE

Level of Service Defined

Level of service (LOS) is a concept that was developed by transportation engineers to quantify the level of operation of intersections and roadways (Transportation Research Board 2010). LOS measures are classified in grades A through F, indicating the range of operation. LOS A signifies the best level of operation, while LOS F represents the worst. In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- **LOS A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
- **LOS B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.
- **LOS C** is in the range of stable flow, but marks the beginnings of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.



Source: LSC Transportation Consultants, Inc.

Figure 9-1
Site Location and Lane Configuration

- **LOS D** represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
- **LOS E** represents operating conditions at or near the capacity level. All speeds are reduced to a low but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
- **LOS F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more and then be required to stop in a cyclic fashion. LOS F is issued to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow, which causes the queue to form, and LOS F is an appropriate designation for such points.

For signalized intersections, LOS is primarily measured in terms of average delay per vehicle entering the intersection. LOS at unsignalized intersections is quantified in terms of delay per vehicle for each movement. For purposes of this analysis, the LOS delay criteria for unsignalized intersections are assumed to be applicable to roundabouts on a worst movement basis. Unsignalized intersection LOS is based on the theory of gap acceptance for side-street stop sign-controlled approaches, while signalized intersection LOS is based on the assessment of volume-to-capacity ratios and control delay (LSC Transportation Consultants 2013).

Level of Service Methodology

All study locations were evaluated to determine existing operational conditions for the 2012 winter and summer PM peak hours without the proposed project.

9.1.3 EXISTING TRAFFIC CONDITIONS

Existing Traffic Volumes

The TIA prepared for the proposed project analyzes potential impacts on study roadways by measuring the effect that site-generated traffic has on traffic operations at key intersections and along roadways during the following periods:

- Winter 30th highest PM peak hour
- Summer weekday PM peak hour

The winter peak hour is technically defined as the 30th highest hour of travel demand during the ski season (Placer County 2003). The 30th highest winter PM peak hour generally corresponds to

a busy (but not the busiest) weekend day during ski season during the hour that ski areas are closing and skiers departing ski areas mix with local and inter-regional traffic. Summer peak is defined as the peak times of travel within the study area during the summer months, which generally occurs on Fridays. Peak traffic volumes considered in the TIA are both ADT and the peak hour of demand, which occurs during the afternoon hours.

The existing traffic volumes were estimated based on traffic counts conducted between 2010 and 2012. The estimation of winter 30th highest PM peak-hour and summer weekday PM peak-hour traffic volumes are described separately below (LSC Transportation Consultants 2013).

Existing Winter Traffic Volumes

The existing winter 30th highest peak-hour traffic volumes were estimated as follows:

Intersection PM peak-hour turning movement counts were conducted at the following three study intersections:

- SR 267/Northstar Drive (Saturday, January 15, 2011)
- Northstar Drive/Castle Peak Parking Access/Ridgeline Drive (Saturday, December 22, 2012)
- Northstar Drive/Big Springs Drive (Saturday, March 27, 2010)

California Department of Transportation (Caltrans) hourly traffic count data collected at a point on SR 267 just south of the intersection with Brockway Road/Soaring Way in the Town of Truckee for the entire 2010/2011 winter was reviewed in order to identify the 30th highest hour design period. A factor of approximately 1.15 was applied to the traffic count data at the SR 267/Northstar Drive intersection, in order to adjust it to 30th-highest hour design period. Next, the traffic volumes along Northstar Drive were balanced through the adjacent Northstar Drive/Castle Peak Parking Access/Ridgeline Drive roundabout. The north and south legs of the roundabout were adjusted by the same factor as the east and west Northstar Drive legs, in order to reflect 30th-highest hour conditions. Finally, the count data at the intersection of Big Springs Drive/Northstar Drive was adjusted by the same factor applied to the roundabout intersection.

A review of Caltrans traffic volumes along SR 267 at Postmile 3.76 (Northstar Drive) over the last five years shows that traffic has increased at an average annual rate of approximately 1.6 percent. This growth rate was applied to the 2011 volumes at the SR 267/Northstar Drive intersection to estimate 2012 traffic conditions. The resulting existing winter PM peak-hour traffic volumes are show in **Figure 9-2**.

The roadway analysis segments located in Placer County are evaluated based on ADT volumes. Consistent with other traffic studies in the Northstar area, the existing peak-season ADT on each study roadway was estimated by applying a factor to the peak-hour volume on each roadway, as follows:

- ADT-to-peak hour factors for SR 267 for winter was estimated based on data obtained from the Caltrans permanent traffic trend station located at a point on SR 267 south of Brockway Road. Average ADT-to-peak-hour factors were calculated for the winter (December through April) count period.

- The winter ADT-to-peak-hour factor for Northstar Drive was estimated based on daily winter counts conducted on Squaw Valley Road, as no daily winter counts are available on Northstar Drive. Because Squaw Valley Road has similar characteristics to Northstar Drive (number of lanes, accessed at a T-intersection with a state highway) and serves very similar land uses (ski resort with village, lodging, and residential properties), the winter ADT-to-peak-hour factor along Squaw Valley Road was assumed to also be applicable to Northstar Drive.

The ADT-to-peak-hour factors were then multiplied by the respective peak-hour roadway volumes to estimate the winter ADT on the study roadway segments, as shown in **Table 9-1**.

**TABLE 9-1
2012 EXISTING ROADWAY SEGMENT VOLUMES**

Roadway Study Segment		Jurisdiction	Unit	Summer Design Volume	Winter Design Volume
SR 267	Between Brockway Summit and Northstar Drive	Placer County/Caltrans	ADT	13,350	13,340
SR 267	Between Northstar Drive and Airport Road/Schaffer Mill Road	Placer County/Caltrans	ADT	14,630	17,910
SR 267	Between Airport Road/Schaffer Mill Road and Nevada County Line	Placer County/Caltrans	ADT	20,160	18,360
SR 267	Between Nevada County Line and Brockway Road/Soaring Way	Town of Truckee	Peak Hour, Peak Direction/Lane	846	1,370
SR 267	Between Brockway Road/Soaring Way and I-80	Town of Truckee	Peak Hour, Peak Direction/Lane	766	1,202
Northstar Drive	Between SR 267 and Ridgeline Drive/Castle Peak Parking Lot	Placer County	ADT	5,110	15,700
Northstar Drive	Between Ridgeline Drive/Castle Peak Parking Lot and Big Springs Drive	Placer County	ADT	5,090	13,200

Source: LSC Transportation Consultants 2013

Existing Summer Traffic Volumes

Existing summer peak-hour intersection turning movement volumes were estimated at the study intersections as described below.

Intersection PM peak-hour turning movement counts were conducted at the following three study intersections:

- SR 267/Northstar Drive (Friday, August 26, 2011)
- Northstar Drive/Castle Peak Parking Access/Ridgeline Drive (Friday, August 12, 2011)
- Northstar Drive/Big Springs Drive (Friday, July 9, 2010)

Based on a review of Caltrans continuous hourly traffic count data for the entire summer of 2011 at a point on SR 267 just south of the intersection with Brockway Road/Soaring Way in Truckee, it was determined that the intersection counts conducted on August 12, 2011, reflect busy (but not absolute peak) summer PM peak-hour conditions. Therefore, the count data at the other two study intersections was adjusted to match the intersection that was counted on August 12, 2011.

Finally, a review of Caltrans traffic volumes along SR 267 at Postmile 3.76 (Northstar Drive) over the last five years shows that traffic has increased at an average annual rate of approximately 1.6 percent. This growth rate was applied to the 2011 volumes at the SR 267/Northstar Drive intersection to estimate 2012 traffic conditions. The existing 2012 summer PM peak-hour traffic volumes are shown in **Figure 9-2**.

For the roadway segment volumes, the existing peak-season ADT on each study roadway was estimated by applying a factor to the peak-hour volume on each roadway, as follows:

- ADT-to-peak-hour factors for SR 267 for summer were estimated based on data obtained from the Caltrans permanent traffic trend station located at a point on SR 267 south of Brockway Road. Average ADT-to-peak-hour factors were calculated for the summer (May through September) count period.
- The summer ADT-to-peak-hour factor for Northstar Drive was estimated based on daily traffic count data collected during the summer of 2011.

The ADT-to-peak-hour factors were then multiplied by the respective peak-hour roadway volumes to estimate the summer ADT on the study roadway segments, as shown in **Table 9-1**.

1 SR 267/NORTHSTAR DR.

390 (615)	SR 267	NORTHSTAR DR.	91 (76) ↑	307 (404)
193 (126)				
866 (161)	SR 267	NORTHSTAR DR.	91 (76) ↑	307 (404)
520 (97)				

2 NORTHSTAR DR./CASTLE PEAK PARKING LOT/ RIDGELINE DR.

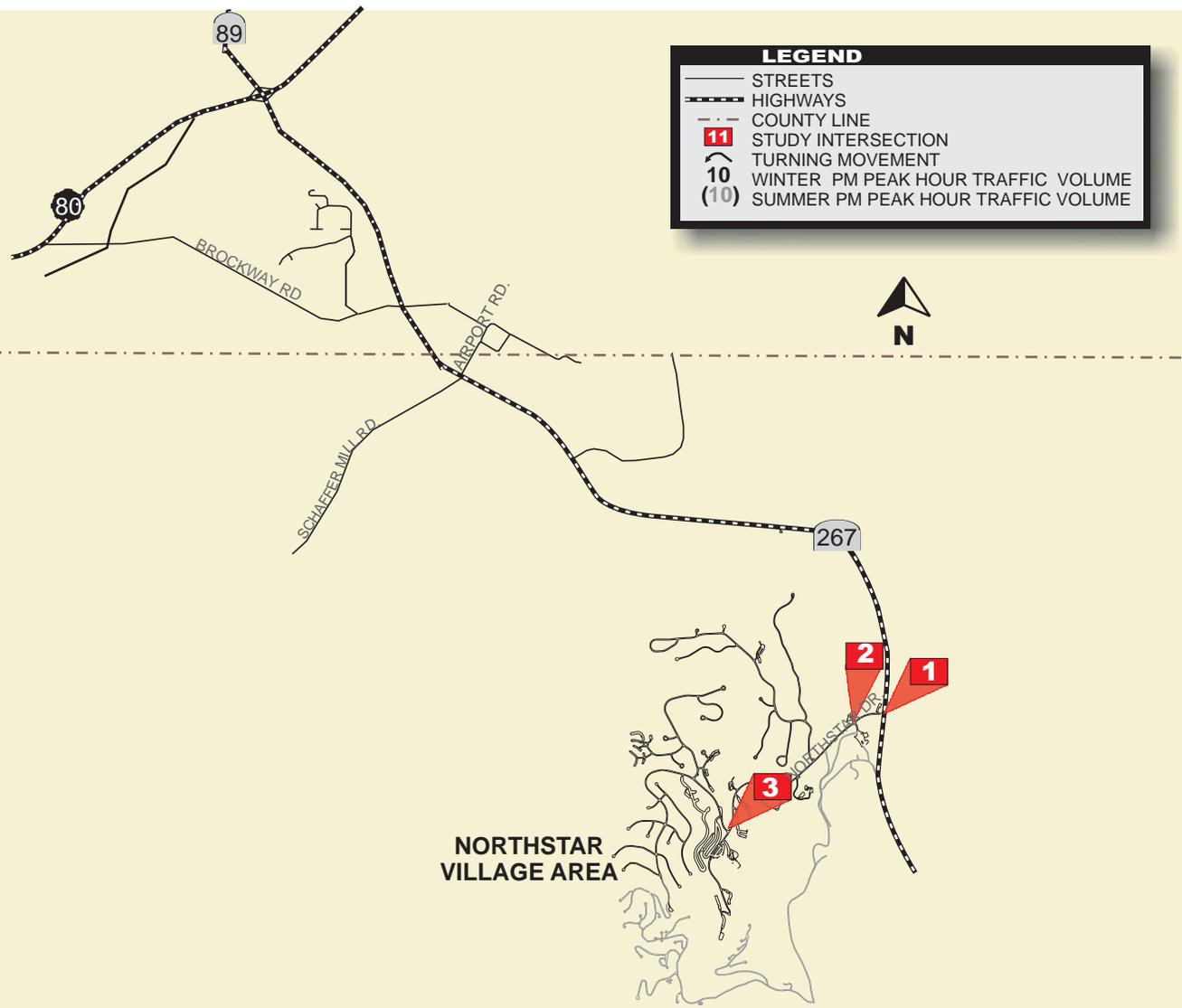
65 (3)	36 (1)	330 (4)	4 (4)	← 267 (192)	↖ 13 (6)
NORTHSTAR DR.					
50 (4)	902 (224)	86 (27)	34 (9)	25 (30)	154 (1)

3 NORTHSTAR DR./BIG SPRINGS DR.

335 (171)	NORTHSTAR DR.	BIG SPRINGS DR.	71 (43) ↑	591 (157)
66 (66)				
382 (57)	NORTHSTAR DR.	BIG SPRINGS DR.	71 (43) ↑	591 (157)
112 (20)				

LEGEND

- STREETS
- HIGHWAYS
- - - COUNTY LINE
- 11** STUDY INTERSECTION
- () TURNING MOVEMENT
- 10** WINTER PM PEAK HOUR TRAFFIC VOLUME
- (10)** SUMMER PM PEAK HOUR TRAFFIC VOLUME



Source: LSC Transportation Consultants, Inc.

Figure 9-2
Existing (2012) Winter and Summer
Intersection Volumes Without Project

Existing Intersection Level of Service

Each of the study intersections was evaluated to determine existing operational conditions for the 2012 winter and summer PM peak hours, without the proposed project. The existing LOS at each of the study intersections is shown in **Table 9-2**.

**TABLE 9-2
EXISTING INTERSECTION LEVEL OF SERVICE**

Intersection	Control Type	Total Intersection		Worst Movement	
		Delay	LOS	Delay	LOS
Summer PM Peak Hour					
Northstar Dr/SR 267	Signalized	10.9	B	N/A	
Northstar Dr/Castle Peak Parking Lot ¹	Roundabout	4.6	A	4.8	A
Northstar Dr/Big Springs	All-Way Stop	8.9	A	9.1	A
Winter PM Peak Hour					
Northstar Dr/SR 267	Signalized	29.9	C	N/A	
Northstar Dr/Castle Peak Parking Lot ²	Roundabout	11.1	B	19.0	C
Northstar Dr/Big Springs ³	TCO ⁴	23.3	C	N/A	

Source: LSC Transportation Consultants 2013

Notes:

1. Analysis assumes single-lane roundabout with single lane approaches.
2. Analysis assumes roundabout is coned to provide dual entry and circulating lanes for eastbound traffic.
3. Winter analysis of Northstar Drive/Big Springs Drive intersection assumes operations with a traffic control officer (TCO).
4. TCO operation is estimated using a signalized intersection analysis with a protected northbound left turn and a 90-second cycle length.

SR 267/Northstar Drive Intersection

As indicated, the signalized SR 267/Northstar Drive intersection operates at an acceptable LOS (LOS C or better) during the winter and summer PM peak hours, without the proposed project.

Northstar Drive/Castle Peak Parking Access/Ridgeline Drive Roundabout

For the purposes of this analysis, the Northstar Drive roundabout was modeled as a single-lane roundabout for summer conditions. During peak winter AM and PM conditions, Northstar has the option of optimizing the performance of the intersection by coning special lane configurations. The 30-foot circulating lane provides sufficient width for the roundabout to operate as a dual-lane roundabout. During peak AM conditions, the westbound lane is coned to be a dual approach lane. The right westbound lane becomes a right-turn bypass lane that feeds directly into the Castle Peak parking lot, while the left lane services through and left-turning vehicles. During peak PM conditions, the outgoing eastbound leg is coned into two lanes. Dual approach and departure lanes allow an increased number of eastbound vehicles to egress through the intersection.

Traffic control personnel are on-site during peak periods to aid buses making an eastbound left-turn movement, as they require the full 30-foot width in order to perform the turning maneuver. Traffic control personnel also aide those leaving the Castle Peak parking area and making a

southbound left turn into the flow of traffic. The gaps created for the southbound left also benefits those waiting to make a northbound right turn onto Northstar Drive.

Because of the actions of the traffic control personnel, the intersection can perform better than the Synchro model predicts. Turning movements which are hindered by the large volume of eastbound through traveling vehicles are aided by traffic controls which are not incorporated into the roundabout model. Much like traffic signal timing at an actuated signal can shift to minimize overall delay, the traffic control personnel manage traffic at this roundabout to aid overall traffic flow. Thus, the overall intersection delay and LOS should be used as a gauge of intersection performance, rather than the worst approach.

As shown in **Table 9-2**, the Northstar Drive/Castle Peak Parking Access/Ridgeline Drive roundabout operates at an acceptable LOS, as long as a traffic control officer is provided during busy winter periods. Note that Northstar's Traffic and Parking Management Plan includes provision of traffic control personnel during peak winter periods.

Northstar Drive/Big Springs Drive Intersection

The Northstar Drive/Big Springs Drive intersection operates at an acceptable LOS in 2012 so long as a traffic control officer continues to be provided during busy winter periods (LSC Transportation Consultants 2013).

Existing Roadway Segment Level of Service

Each of the study roadway segments was evaluated to determine existing (2012) operational conditions, without the proposed project. The existing LOS for each roadway segment is shown in **Table 9-3**.

**TABLE 9-3
EXISTING ROADWAY SEGMENT LEVEL OF SERVICE**

Roadway Study Segment		Jurisdiction	LOS Standard	Unit	Threshold Volume	Design Volume	Deficient?	Volume/Capacity Ratio
Summer								
SR 267	Between Brockway Summit and Northstar Drive	Placer County/Caltrans	D	ADT	11,400	13,350	Yes	1.17
SR 267	Between Northstar Drive and Airport Road/Schaffer Mill Road	Placer County/Caltrans	D	ADT	15,500	14,630	No	0.94
SR 267	Between Airport Road/Schaffer Mill Road and Nevada County Line	Placer County/Caltrans	D	ADT	15,500	20,160	Yes	1.30
SR 267	Between Nevada County Line and Brockway Road/Soaring Way	Town of Truckee	D	Peak Hour, Peak Direction/Lane	1,891	846	No	0.45
SR 267	Between Brockway Road/Soaring Way and I-80	Town of Truckee	D	Peak Hour, Peak Direction/Lane	1,891	766	No	0.41
Northstar Drive	Between SR 267 and Ridgeline Drive/Castle Peak Parking Lot	Placer County	D	ADT	24,300	5,110	No	0.21
Northstar Drive	Between Ridgeline Drive/Castle Peak Parking Lot and Big Springs Drive	Placer County	C	ADT	14,400	5,090	No	0.35
Winter								
SR 267	Between Brockway Summit and Northstar Drive	Placer County/ Caltrans	D	ADT	11,400	13,340	Yes	1.17
SR 267	Between Northstar Drive and Airport Road/Schaffer Mill Road	Placer County/ Caltrans	D	ADT	15,500	17,910	Yes	1.16
SR 267	Between Airport Road/Schaffer Mill Road and Nevada County Line	Placer County/ Caltrans	D	ADT	15,500	18,360	Yes	1.18

Northstar Mountain Master Plan EIR

Roadway Study Segment		Jurisdiction	LOS Standard	Unit	Threshold Volume	Design Volume	Deficient?	Volume/Capacity Ratio
SR 267	Between Nevada County Line and Brockway Road/Soaring Way	Town of Truckee	D	Peak Hour, Peak Direction/Lane	1,891	1,370	No	0.72
SR 267	Between Brockway Road/Soaring Way and I-80	Town of Truckee	D	Peak Hour, Peak Direction/Lane	1,891	1,202	No	0.64
Northstar Drive	Between SR 267 and Ridgeline Drive/Castle Peak Parking Lot	Placer County	D	ADT	24,300	15,700	No	0.65
Northstar Drive	Between Ridgeline Drive/Castle Peak Parking Lot and Big Springs Drive	Placer County	C	ADT	14,400	13,200	No	0.92

Source: LSC Transportation Consultants 2013

As shown in **Table 9-3**, the following study roadway segments currently exceed Caltrans' concept LOS (LOS D):

- SR 267 between Brockway Summit and Northstar Drive (summer and winter)
- SR 267 between Northstar Drive and Airport Road (winter only)
- SR 267 between Airport Road and Placer/Nevada County Line (summer and winter)

Placer County defers to Caltrans LOS standards for state facilities.

Public Transit Facilities

There are a number of publicly operated or funded transit programs serving the Northstar area:

- The Northstar area is served by the hourly SR 267 Tahoe Area Regional Transit (TART) route, between 7:21 AM and 5:25 PM, in the winter season only. This route provides connections both to Truckee and to Kings Beach/Crystal Bay in the winter, as well as to Kings Beach/Crystal Bay in the summer.
- The Night Rider service operated through the Truckee-North Tahoe Transportation Management Association provides winter evening service on an hourly basis from 6:30 PM to 1:30 AM.
- The North Lake Tahoe Express offers up to nine runs a day connecting Northstar with the Reno-Tahoe International Airport.

In addition, Northstar California operates internal shuttles and regional skier shuttles, and also participates in public transit programs. Northstar provides the following transit incentives:

- Free TART bus tickets for all Northstar employees.
- Free shuttles serving all Northstar resort parking lots.
- Free shuttle to the residential neighborhoods along Northstar Drive between 8 AM and 10 PM daily during the ski season.
- Free shuttle service between Sawmill Heights and the Village, departing every half hour between 6:30 AM and 6:40 PM daily during the ski season.
- Once daily, free service skier shuttle between Hyatt Incline, Kings Beach, and Tahoe Vista in the morning, and returning in reverse order at the end of the ski day.

Northstar contracts with Old Greenwood to provide daily bus service between Old Greenwood and Northstar, December 16 through April 14. This route departs Old Greenwood three times in the morning and departs Northstar three times in the afternoon.

Northstar partners with companies for bus and lift ticket packages from the Bay Area and Sacramento, with bus service provided by others (LSC Transportation Consultants 2013).

Bicycle and Pedestrian Facilities

At present, there are no designated pedestrian/bicycle routes along the SR 267 corridor through the Martis Valley. Limited pedestrian activity occurs in the area due to the dispersed pattern of land use. Bicycle activity is also limited in the area, with the exception of summer recreational trips (LSC Transportation Consultants 2013).

Placer County Regional Bikeway Plan

The Placer County Transportation Planning Agency's Placer County Regional Bikeway Plan identifies the provision of Class II bike lanes along SR 267 between the Town of Truckee and Kings Beach.

Martis Valley Regional Trail

The planned Martis Valley Regional Trail would provide Class I paved trail access between the Placer/Nevada County Line in Placer County and the Village at Northstar. The trail, at its northern terminus at the SR 267/Airport Road intersection, would connect to other trails proposed in Truckee. Two potential alignments were studied for the trail through Martis Valley. One alignment closely follows the alignment of SR 267 and the other follows Martis Creek and then ascends into the Northstar residential area. The Northstar Community Services District recently determined that the highway alignment is the more viable of the two alternatives. The trail is also planned to continue to the south of Northstar to the Fiberboard Freeway and into the Tahoe Basin. The Final EIR for the Martis Valley Regional Trail was adopted in October 2012. Segment 1 trail construction is anticipated in summer 2014.

Town of Truckee Trails and Bikeways

Truckee's existing trail and bikeway system includes recreational trails/Class I (separated) bike paths that are in place through the Truckee River Regional Park between Brockway Road and SR 267, east of SR 267 to the Riverview Sports Park, and in short sections north of the Pioneer Commerce Center, Gray's Crossing and Old Greenwood developments, along Brockway Road, and along Deerfield Drive. Class II bike lanes are also provided along Donner Pass Road through the Gateway area. A Class I bike path is provided adjacent to The Rock retail center along the north side of Brockway Road, and additional trails/Class I bike paths will be built in conjunction with smaller development projects in the Brockway Road area.

Several other facilities are proposed in the 2002 Trails and Bikeways Master Plan, which describes a comprehensive system of bikeways located along Truckee's existing and future roadways, as well as a dedicated network of trails and pathways for use by pedestrians, equestrians, cyclists, and cross-country skiers. The facilities proposed in the Master Plan include a major east-west recreational trail, multi-user recreational trails, Class I bike paths, Class II bike lanes, and Class III bike routes.

Truckee North Tahoe Transportation Management Association

The Northstar California Resort and its development partners support the Truckee North Tahoe Transportation Management Association (TNT/TMA). The mission of the TNT/TMA is to foster public-private partnerships and resources for the advocacy and promotion of innovative solutions to the unique transportation challenges of the Truckee-North Lake Tahoe Resort Triangle. Northstar is currently a TNT/TMA member in good standing (Tohlen 2013).

Existing Traffic and Parking Management Plan

Northstar has a Traffic and Parking Management Plan that is implemented during winter operations. Overall management strategies are in place throughout the entire ski season, as are specific management strategies that are employed and adjusted throughout the winter season depending on employee levels and total expected skier visits. On peak days, Northstar provides manual traffic control at the Northstar Drive/Big Springs Drive intersection and at the Northstar Drive roundabout. When peak days are experienced and on-site parking spaces reach capacity, Northstar notifies guests that parking is unavailable. **Appendix 3.2** includes this plan.

9.2 REGULATORY FRAMEWORK

9.2.1 FEDERAL

No federal regulations or laws pertaining to traffic and circulation are applicable to the proposed project.

9.2.2 STATE

No state regulations or laws pertaining to traffic and circulation are applicable to the proposed project.

9.2.3 LOCAL

Level of Service Standards

The LOS thresholds applicable to the study area are discussed below.

Caltrans

According to the *SR 267 Transportation Corridor Concept Report* (Caltrans 2012), the minimum acceptable level of service along the entire length of SR 267 over the next 20 years is LOS D.

Placer County

Placer County defines its LOS standard as D for locations within one-half mile of a state highway, and C for other locations in the study area. Roadway LOS is measured according to ADT per travel lane, using a table in the Placer County General Plan EIR document. For the study area, Placer County requires evaluation of summer or winter ADT, whichever is higher. According to County policy, the County's LOS standards for the state highway system shall be no worse than those adopted in the Placer County Congestion Management Program (CMP). The level of service standard in the CMP for roadways and signalized intersections located along state highways is LOS E. If worst movement LOS at an unsignalized intersection in Placer County exceeds LOS standards, a peak-hour signal warrant analysis, consistent with the Manual of Uniform Traffic Control Devices (MUTCD), is required. If the intersection attains minimum signal warrant volumes, mitigation is required.

Placer County may allow exceptions to its LOS standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exceptions to established LOS standards, the County considers the following factors:

- The number of hours per day that the intersection or roadway segment would operate the conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak-hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social or economic factors on which the County may base findings to allow exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

In 2011, Placer County adopted a “Methodology of Assessment–Minimum LOS” that further clarifies the methodology of assessment of minimum LOS for roadways and intersections in the County (as defined in the General Plan and various community plans and specific plans in Placer County). The guidelines consist of the following:

For roadway segments, a project may be considered to exceed the minimum LOS policies if:

- 1) A roadway segment operating at or above the established Placer County policy without the project will decrease to an unacceptable LOS with the project; or
- 2) A roadway segment currently operating below the applicable established policy will experience an increase in V/C (volume to capacity) ratio of 0.05 or greater; or
- 3) A roadway segment experiences an increase in ADT of 100 or more project generated trips, per lane, and the LOS policy is exceeded.

For signalized intersections, a project may be considered to exceed the minimum LOS policies if:

- 1) An intersection operating at or above the established Placer County policy without the project will decrease to an unacceptable LOS with the project; or
- 2) An intersection currently operating below the acceptable LOS established policy will experience an increase in V/C (volume to capacity) ratio of 0.05 or greater; or

- 3) An intersection currently operating below the acceptable LOS policy will experience an increase in delay of 4 seconds or greater.

For unsignalized intersections, a project may be considered to exceed the minimum LOS policies if:

- 1) An unsignalized intersection which currently operates at or above the established Placer County policies without the project will deteriorate to an unacceptable LOS with the project; or
- 2) An unsignalized intersection which currently operates below the acceptable LOS established policy will experience an increase of 2.5 seconds or more with the project.

Further consideration will be given in situations where the existing level of service is just above or at the approved minimum level of service and any increase in vehicle trips, or even daily fluctuations in traffic, will deteriorate the level of service to an unacceptable level. In such cases, it may be determined by the County that part 2 or 3 of the above exceptions is more applicable and should be used to analyze a proposed project's impacts.

Martis Valley Community Plan

The adopted Martis Valley Community Plan (Placer County 2003) specifies that the County shall develop and manage its roadway system to maintain the following minimum levels of service:

- LOS C on rural roadways, except within one-half mile of state highways where the standard shall be LOS D.
- LOS C on urban/suburban roadways except within one-half mile of state highways where the standards shall be LOS D.

Town of Truckee

As stated in the Town of Truckee 2025 General Plan (2005), the Town's LOS standards are as follows:

Policy P2.1 – Establish and maintain a Level of Service D or better on road segments and for total intersection movements in portions of the Town outside of the Downtown Study Area. Establish and maintain a Level of Service E or better on arterial and collector road segments and for total intersection movements within the Downtown Specific Plan Area. Throughout the Town, individual turning movements at unsignalized intersections shall not be allowed to reach LOS F and to exceed a cumulative vehicle delay of four vehicle hours. Both of these conditions shall be met for traffic operations to be considered unacceptable.

As the study roadway segments analyzed in the TIA are outside the downtown Truckee area, the LOS D standard was applied to the segments in Truckee.

Roadway Segment Level of Service Standards

The maximum allowable traffic volumes to obtain the LOS thresholds applicable to the study roadway segments are shown in **Table 9-4**.

**TABLE 9-4
ROADWAY SEGMENT LEVEL OF SERVICE STANDARDS**

Roadway Study Segment		Jurisdiction	LOS Standard	Unit	Roadway Class	Threshold Volume
SR 267	Between Brockway Summit and Northstar Drive	Placer County/Caltrans	D	ADT	Rural Highway – Rolling	11,400
SR 267	Between Northstar Drive and Airport Road/Schaffer Mill Road	Placer County/Caltrans	D	ADT	Rural Highway – Level	15,500
SR 267	Between Airport Road/Schaffer Mill Road and Nevada County Line	Placer County/Caltrans	D	ADT	Rural Highway – Level	15,500
SR 267	Between Nevada County Line and Brockway Road/Soaring Way	Town of Truckee	D	Peak Hour, Peak Direction/Lane	Highway/Major Arterial	1,891
SR 267	Between Brockway Road/Soaring Way and I-80	Town of Truckee	D	Peak Hour, Peak Direction/lane	Highway/Major Arterial	1,891
Northstar Drive	Between SR 267 and Ridgeline Drive/Castle Peak Parking Lot	Placer County	D	ADT	Arterial – Moderate ¹	24,300
Northstar Drive	Between Ridgeline Drive/Castle Peak Parking Lot and Big Springs Drive	Placer County	C	ADT	Arterial – Moderate	14,400

Source: LSC Transportation Consultants 2013

Notes:

1. During peak periods, a three-lane cross section is assumed on Northstar Drive between SR 267 and the roundabout.

Placer County General Plan

The Placer County General Plan Policy Document was adopted by the Placer County Board of Supervisors in 1994. **Table 9-5** lists the General Plan policies that relate to transportation and the proposed project and provides an analysis of the project’s consistency with these policies. While this Draft EIR analyzes the project’s consistency with the Placer County General Plan pursuant to State CEQA Guidelines Section 15125(d), the determination of the project’s consistency with this General Plan rests with the Placer County Board of Supervisors. Any environmental impacts associated with any inconsistency with General Plan policies are addressed under the impact discussions of this EIR.

**TABLE 9-5
PLACER COUNTY GENERAL PLAN CONSISTENCY ANALYSIS – TRAFFIC AND CIRCULATION**

General Plan Goals and Policies	Consistency Determination	Analysis
Transportation and Circulation Element		
Policy 3.A.2: Streets and roads shall be dedicated, widened, and constructed according to the roadway design and access standards generally defined in Section I of this Policy Document and, more specifically, in community plans and the County's Highway Deficiencies Report. Exceptions to these standards may be necessary but should be kept to a minimum and shall be permitted only upon determination by the Public Works Director that safe and adequate public access and circulation are preserved by such exceptions.	Consistent	The proposed project-level improvements do not include the dedication, widening, or construction of any streets or roads. The proposed program-level improvements include a paved roadway that would provide access to the relocated cross-country ski center parking area. This roadway would be designed to meet all applicable Placer County standards.
Policy 3.A.3: The County shall require that roadway rights-of way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2010), as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations. Minimum right-of-way criteria for each class of roadway in the County are specified in Part I of this Policy Document (see page 29).	Consistent	No additional roadway right-of-way along the project site would be required to implement the proposed project or improvements required as mitigation.
Policy 3.A.4: On arterial roadways and thoroughfares, intersection spacing should be maximized. Driveway encroachments along collector and arterial roadways shall be minimized. Access control restrictions for each class of roadway in the County are specified in Part I of this Policy Document (see page 29).	Consistent	The proposed project-level improvements do not include any new intersections, driveways, or other site access points. The proposed program-level improvements include a paved roadway that would provide access to the relocated cross-country ski center parking area. This roadway would be designed to meet all applicable Placer County standards.
Policy 3.A.6: The County shall require all new development to provide off-street parking, either on-site or in consolidated lots or structures.	Consistent	The proposed project will provide all required parking on the project site.
Policy 3.A.7: The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS).	Consistent with Mitigation	The proposed project would not result in any significant LOS impacts to area intersections and roadway segments under current or

Northstar Mountain Master Plan EIR

General Plan Goals and Policies	Consistency Determination	Analysis
<ul style="list-style-type: none"> • LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D". • LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D". • The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors: <ul style="list-style-type: none"> • The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard. • The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations. • The right-of-way needs and the physical impacts on surrounding properties. • The visual aesthetics of the required improvement and its impact on community identity and character. • Environmental impacts including air quality and noise impacts. • Construction and right-of-way acquisition costs. • The impacts on general safety. • The impacts of the required construction phasing and traffic maintenance. • The impacts on quality of life as perceived by residents. • Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards. <p>Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.</p>		<p>cumulative year conditions (based on the County's "Methodology of Assessment-Minimum LOS"), but would be required to pay County Capital Improvement Program fees and provide payment of the project's fair-share contribution for non-CIP projects (i.e., ultimate intersection improvements to Northstar Drive/SR 267 and Northstar Drive improvements).</p>
<p>Policy 3.A.12: The County shall require an analysis of the effects of traffic from all land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include a fair share of improvements that provide benefits to others.</p>	<p>Consistent</p>	<p>The effects of traffic from the proposed project were analyzed in a traffic impact analysis prepared by LSC Transportation Consultants in 2013 (see Appendix 9), which is summarized throughout this section. Mitigation contained in this section and Section 18.0 would require funding for improvements to offset the project's effects.</p>
<p>Policy 3.A.14: The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new</p>	<p>Consistent</p>	<p>The project applicant will pay all fees assessed by the County to fund the proposed project's fair share of impacts on the local and regional transportation system.</p>

General Plan Goals and Policies	Consistency Determination	Analysis
development generates significant public benefits (e.g., low income housing, needed health facilities) and when alternative sources of funding can be identified to offset foregone revenues.		
Policy 3.B.3: The County shall consider the need for future transit right-of-way in reviewing and approving plans for development. Rights-of-way may either be exclusive or shared with other vehicles.	Consistent	The proposed project would not affect public roadways and would not interfere with future transit plans.
Policy 3.C.4: During the development review process, the County shall require that proposed projects meet adopted Trip Reduction Ordinance (TRO) requirements.	Consistent	<p>The intent of the County’s Trip Reduction Program (Article 10.20 of the Placer County Code) is for employers to strive to reach the goal of an average vehicle ridership (AVR) of 1.4 persons per vehicle in the air basin by 1999. According to the TIA, the average vehicle occupancy rate for Northstar winter employees is estimated to be approximately 1.1 employees per vehicle.</p> <p>Although Northstar California does not currently meet the program’s goal of 1.4 persons per vehicle, the resort provides private bus shuttle service for its employees, which is utilized by an estimated 10 percent of resort employees. In addition, an estimated 15 percent of Northstar employees utilize public transit. Implementation of the Northstar Traffic and Parking Management Plan (2013) would assist in meeting this requirement.</p>

Martis Valley Community Plan

Table 9-6 lists the Martis Valley Community Plan policies that relate to transportation and the proposed project and provides an analysis of the project’s consistency with these policies. While this Draft EIR analyzes the project’s consistency with the Martis Valley Community Plan pursuant to State CEQA Guidelines Section 15125(d), the determination of the project’s consistency with the Community Plan rests with the Placer County Board of Supervisors. Any environmental impacts associated with inconsistency with Community Plan policies are addressed under the impact discussions of this DEIR.

**TABLE 9-6
MARTIS VALLEY COMMUNITY PLAN CONSISTENCY ANALYSIS – TRAFFIC AND CIRCULATION**

General Plan Goals and Policies	Consistency Determination	Analysis
Transportation and Circulation Element		
Policy 5.A.6: The County shall require all new development to provide off-street parking, either on-site or in consolidated lots or structures.	Consistent	The proposed project will provide all required parking on the project site.
Policy 5.A.7: The County shall develop and	Consistent with	The proposed project would not result in any

Northstar Mountain Master Plan EIR

General Plan Goals and Policies	Consistency Determination	Analysis
<p>manage its roadway system to maintain the following minimum levels of service (LOS).</p> <ul style="list-style-type: none"> • LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D". • LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D". • The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors: <ul style="list-style-type: none"> • The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard. • The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations. • The right-of-way needs and the physical impacts on surrounding properties. • The visual aesthetics of the required improvement and its impact on community identity and character. • Environmental impacts including air quality and noise impacts. • Construction and right-of-way acquisition costs. • The impacts on general safety. • The impacts of the required construction phasing and traffic maintenance. • The impacts on quality of life as perceived by residents. • Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards. <p>Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.</p>	<p>Mitigation</p>	<p>significant LOS impacts to area intersections and roadway segments under current or cumulative year conditions (based on the County's "Methodology of Assessment-Minimum LOS"), but would be required to pay County Capital Improvement Program fees and provide payment of the project's fair-share contribution for non-CIP projects (i.e., ultimate intersection improvements to Northstar Drive/SR 267 and Northstar Drive improvements).</p>
<p>Policy 5.A13: The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., low income housing, needed health facilities) and when alternative sources of funding can be identified to offset foregone revenues.</p>	<p>Consistent</p>	<p>The project applicant will pay all fees assessed by the County to fund the proposed project's fair share of impacts on the local and regional transportation system.</p>

General Plan Goals and Policies	Consistency Determination	Analysis
<p>Policy 5.A.11: It shall be at the discretion of the County to determine if an analysis of traffic will be required for land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include the project’s fair share of improvements that may also provide benefits to others.</p>	<p>Consistent</p>	<p>The project applicant will pay all fees assessed by the County to fund the proposed project’s fair share of impacts on the local and regional transportation system.</p>
<p>Policy 5.A.16: The County shall require provision for safe, convenient access to residences, businesses, and public facilities located in Martis Valley.</p>	<p>Consistent</p>	<p>No safety issues have been identified as a result of implementation of the proposed project. The project provides adequate access. Therefore, the project is consistent with this policy.</p>
<p>Policy 5.B.5: The County shall require development of transit services by ski resorts and other recreational providers in the Sierra to meet existing and future recreational demand.</p>	<p>Consistent</p>	<p>As identified in Appendix 3.2, the Northstar Traffic and Parking Management Plan includes the utilization of 40 buses as part of its traffic and parking operations.</p>

Tahoe Regional Planning Agency

The Tahoe Regional Planning Agency (TRPA) is the federally designated Metropolitan Planning Organization (MPO) for the Lake Tahoe region, and in the State of California is the designated Regional Transportation Planning Agency (RTPA). TRPA is responsible for development of the federally and state-required Regional Transportation Plan (RTP) every four years for the Lake Tahoe region. The Regional Plan, which was updated in 2012, included a Transportation Element. The TRPA threshold for vehicle miles traveled (VMT) states that there shall be a 10 percent reduction in VMT below the 1981 peak summer day levels. The 2011 TRPA Threshold Evaluation Report notes that the Lake Tahoe region is in compliance with this threshold with 2,036,642 VMT in the Tahoe Basin in 2011 (TRPA 2012).

9.3 IMPACTS

9.3.1 STANDARDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines and Placer County’s established significance criteria, the proposed project would result in a significant impact related to traffic and circulation if it would:

- 1) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. This would include TRPA policies and standards related to VMT and level of service as well as Placer County’s “Methodology of Assessment-Minimum LOS.”
- 2) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

- 3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- 4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- 5) Result in inadequate emergency access.
- 6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impacts to Truckee Tahoe Airport operations are addressed in Section 15.0, Hazardous Materials and Hazards.

9.3.2 METHODOLOGY

Proposed Project Characteristics (Project-Level Improvements)

The project description utilized in the TIA (**Appendix 9**) is described below. The reader is referred to Section 3.0, Project Description, for a full description of the proposed project components.

The proposed project identifies planned on-mountain improvements and infrastructure to accommodate these improvements, as well as other recreation components such as camping and relocation of cross-country ski facilities. The improvements are proposed to accommodate the recreational demands internal to Northstar. No dwelling units are proposed as a part of the project. Improvements to skier facilities would increase the overall employment and therefore the site trip generation during the winter. During the summer, the level of summer visitor activity would increase, as would employment.

The proposed project includes various phases that would occur over a period of time. The TIA analyzed two levels of development: (1) the project-level improvements, which are anticipated to be constructed in the near term; and (2) the program-level improvements, which are only conceptually designed at this time. Near-term traffic and circulation impacts resulting from the project-level improvements are addressed in this section of the DEIR, while long-term impacts associated with the program-level improvements are addressed in Section 18.0, Cumulative, Growth-Inducing, and Irreversible Impacts. The land use assumptions for the project-level development scenario are summarized in **Table 9-7**.

**TABLE 9-7
LAND USE ASSUMPTIONS AND TRIP GENERATION ANALYSIS – NMMP PROJECT-LEVEL COMPONENTS**

Proposed Land Uses	Quantity	Unit	Trip Generation Rates ¹			Percentage Reduction for Non-Auto Modes	One-Way Vehicle Trips				
			Daily	PM Peak Hour			Daily	PM Peak Hour			
				In	Out			Total	In	Out	Total
WINTER											
Additional Employees ¹	72	Employees ²	1.82	0.05	0.45	0.50	25%	98	3	24	27
Additional Public Services	3	Vehicles	2.00	0.67	0.67	1.34	0%	6	2	2	4
Total Winter Project-Level								104	5	26	31
SUMMER											
Additional Employees ¹	4	Employees ³	3.32	0.08	0.38	0.46	3%	13	1	1	2
Additional Public Services	1	Vehicles	2.00	0.67	0.67	1.34	0%	2	1	0	1
Total Summer Project-Level								15	2	1	3

Source: LSC Transportation Consultants 2013

Notes:

1. Number on-site on peak days, assuming that 32 percent of winter employees and 28 percent of summer employees are half-time (based on current Northstar staffing characteristics) and that 90 percent of all employees are on-site on a peak day.
2. Winter employees are estimated to generate one daily round trip with a vehicle occupancy of 1.1 employees per vehicle, and half of employees will generate one trip during the PM peak hour.
3. The trip generation rate for summer employees is based on the Institute of Transportation Engineers (ITE) Trip Generation, 8th Edition (2008) manual, "General Office" land use.

Trip Generation

The first step in the analysis of future traffic impacts is to prepare an estimate of the number of trips generated by the proposed project. Trip generation is the evaluation of the number of vehicle trips that would either have an origin or destination at the project site.

The trip generation of the proposed project-level development during winter and summer conditions is estimated based on the following conservative assumptions:

- A total of 69 additional full-time equivalent (FTE) employees (65 winter seasonal plus 4 year-round) are expected to be associated with the project. At present, approximately 32 percent of Northstar employees are part time in the winter, with 28 percent in the summer. The number of forecast FTE employees is converted to the number of actual employees reporting to work on a peak day by applying these figures (assuming all part-time employees work half time) and that 90 percent of all new employees report to work on a peak day.
- The average vehicle occupancy rate for Northstar winter employees is estimated to be approximately 1.1 employees per vehicle, consistent with the assumptions in the the Northside Environmental Impact Report (Placer County 2005).
- The majority of employees will have day shifts, with a smaller proportion working evening/night shifts (such as snow grooming staff and cleaning staff). Of the day shift employees, many do not depart until after the peak hour of skier traffic. Based on observed employee work shift patterns at Tahoe-area resorts, 5 percent of the new employees are estimated to arrive during the PM peak hour and 45 percent are estimated to depart during the PM peak hour.
- The trip generation of summer employees is estimated based on standard Institute of Transportation Engineers (ITE) trip rates for “General Office” land use.
- According to the project description, the project may result in additional demand for public services. Over the course of a busy winter day, three additional public service trips (round trips entering and exiting Northstar) are assumed to be generated, with one additional public service trip on a summer day.

Reduction for Non-Auto Modes

During the winter, some Northstar employees travel to/from Northstar via transit. Northstar employees average about 4 percent of the total ridership (based on a review of Northstar shuttle ridership data for 2010–2013 through January 10, 2013). Approximately 280 of the total 1,827 Northstar employees are estimated to ride the Northstar shuttles on a busy winter day, or approximately 15 percent of all employees. In addition, based on a review of TART Resort Employee Ride Program data from the 2011–2012 and 2012–2013 (partial) winter seasons, about 180 employees are estimated to ride TART to/from Northstar on a busy winter day. Dividing 180 employees riding TART by a total of approximately 1,827 Northstar employees equates to about 10 percent of employees riding TART. Adding the portion of employees riding the Northstar shuttles (15 percent) to those employees riding TART to/from Northstar (10 percent) yields a total of about 25 percent of Northstar employees traveling to/from Northstar via transit. This reduction is applied in the trip generation analysis, as shown in **Table 9-7**.

During the summer season, only about 1 percent of Northstar employees travel via transit, based on the TART Resort Employee Ride Program data. Overall, about 3 percent of Northstar employees are assumed to travel via non-auto modes in summer, including bicycling, walking, or transit.

Total Trip Generation

As indicated in **Table 9-6**, the project-level development is expected to result in an increase of up to approximately 104 daily one-way vehicle trips on a busy winter day, of which 31 (5 inbound and 26 outbound) would occur during the PM peak hour of skier-related traffic activity. On a busy summer day, the project-level development would result in an increase of approximately 15 daily one-way vehicle trips, of which 3 (2 inbound and 1 outbound) would occur during the PM peak hour (LSC Transportation Consultants 2013).

Trip Distribution and Assignment

The distribution of traffic arriving and departing the Northstar area is estimated based on existing turning movement patterns at the SR 267/Northstar Drive intersection and the location of the site relative to residential neighborhoods. The estimated distribution pattern for project-generated external trips during the winter and summer PM peak hours is approximately 65 percent north on SR 267, with the remaining 35 percent south of SR 267.

The assignment of project-generated traffic was conducted based on the distribution patterns and the estimated Northstar parking locations. The resulting project-level-generated PM peak-hour traffic volumes through the study intersections are illustrated in **Figure 9-3**. Adding these volumes to the “existing without project” volumes yields the “existing with project-level” volumes shown in **Figure 9-4** (LSC Transportation Consultants 2013).

Level of Service Analysis Methodology

Intersection LOS for the study intersections is largely evaluated using the methodologies documented in the 2010 Highway Capacity Manual (HCM), as applied in the Synchro software package. Computer output of detailed LOS calculations for all intersections is provided in Appendix D of the TIA (**Appendix 9**) (LSC Transportation Consultants 2013).

Roadway Capacity Analysis Methodology

Roadway capacity is evaluated in order to determine whether a specific roadway segment should be widened to accommodate existing or future traffic volumes. Different methodologies can be employed to determine capacity, but generally, the calculation will incorporate a series of factors including roadway facility type, evaluation period, and level of service thresholds. The roadway LOS was determined by applying the Placer County or Town of Truckee standard to the ADT or peak-hour, peak-directional traffic volumes on each roadway, respectively. The roadway level of service along SR 267 is also measured against the Caltrans concept LOS standard. For the purposes of this analysis, the segment of Northstar Drive between the roundabout and SR 267 is assumed to have a three-lane cross section, with two lanes provided in the peak direction during the winter season (westbound in the morning and eastbound in the afternoon).

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1 SR 267/NORTHSTAR DR.

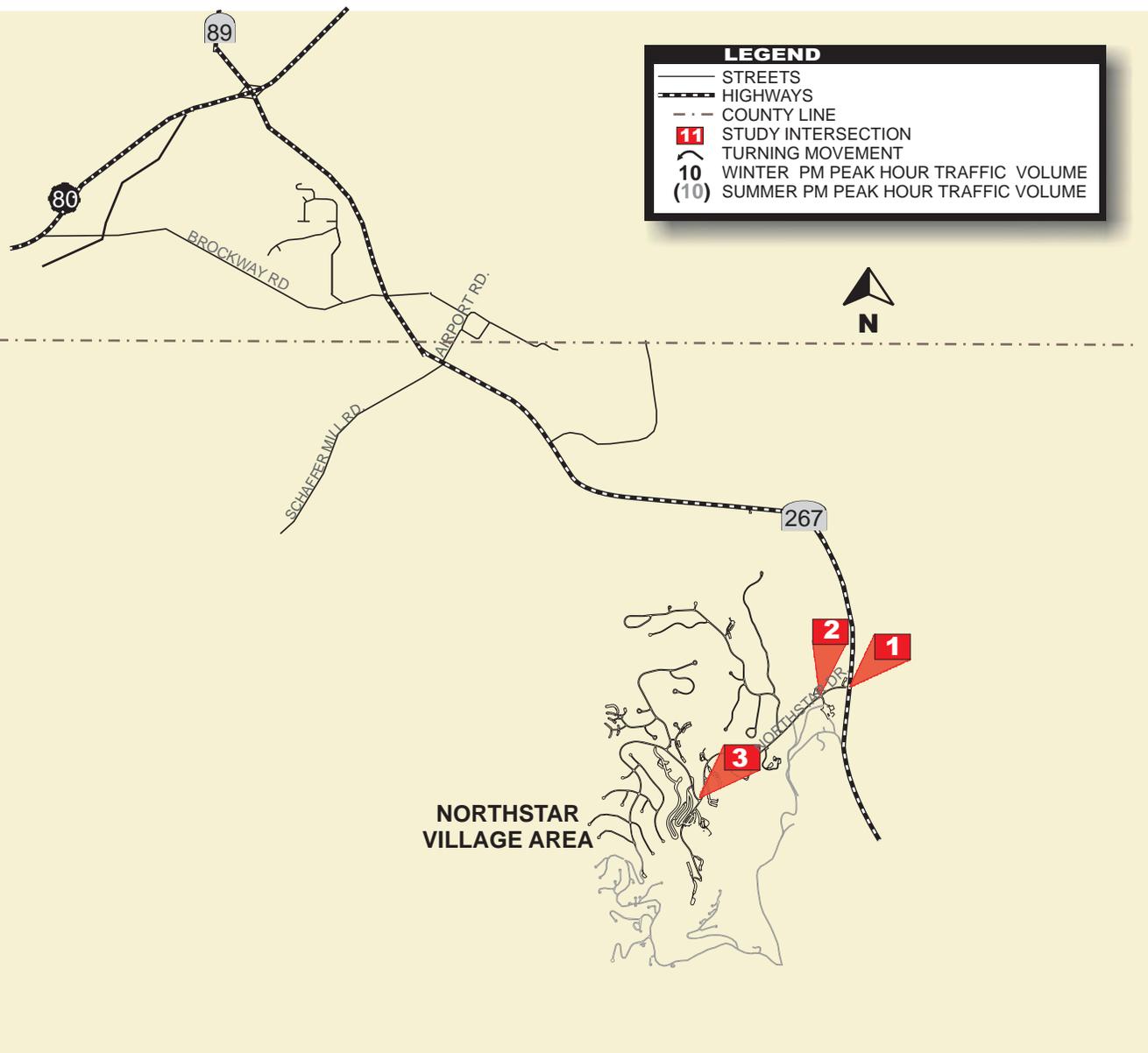
0 (0)	SR 267	NORTHSTAR DR.	2 (1)	0 (0)
3 (1)				
17 (1)				
9 (0)				

2 NORTHSTAR DR./CASTLE PEAK PARKING LOT/ RIDGELINE DR.

0 (0)	0 (0)	0 (0)	NORTHSTAR DR.	0 (0)	5 (2)	0 (0)
0 (0)	0 (0)	0 (0)				
0 (0)	26 (1)	0 (0)	NORTHSTAR DR.	0 (0)	0 (0)	0 (0)
0 (0)	0 (0)	0 (0)				

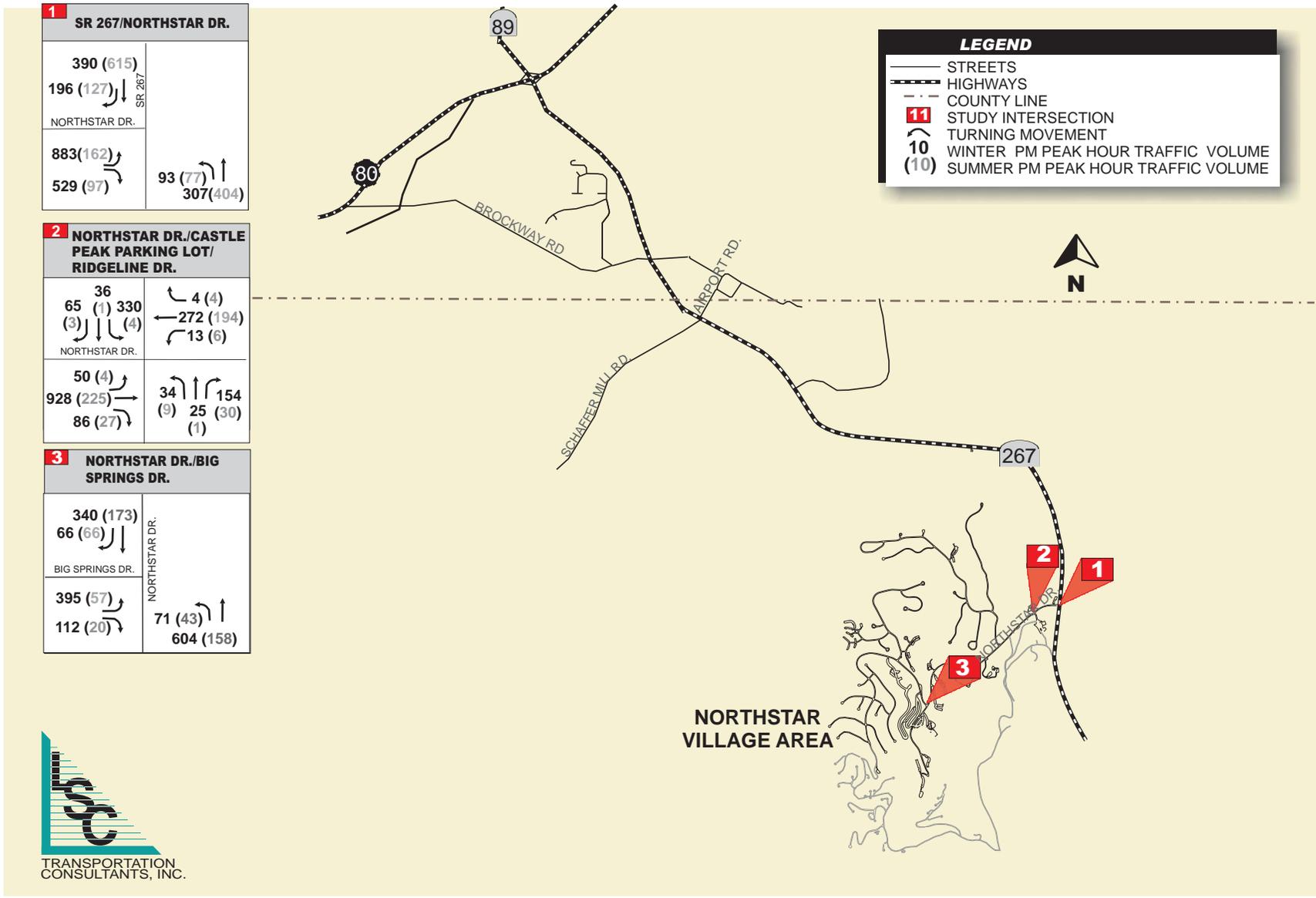
3 NORTHSTAR DR./BIG SPRINGS DR.

5 (2)	NORTHSTAR DR.	BIG SPRINGS DR.	0 (0)	13 (1)
0 (0)				
13 (0)				
0 (0)				



Source: LSC Transportation Consultants, Inc.

Figure 9-3
Project-Level Site-Generated Winter and Summer Intersection Volumes



Source: LSC Transportation Consultants, Inc.

Figure 9-4
Existing Winter and Summer Intersection Volumes
with Project-Level Improvements

9.3.3 IMPACTS AND MITIGATION MEASURES

IMPACT 9.1: Exceed Level of Service or Storage Capacity Standards at Study Intersections (2012)

Level of Service Analysis

All study intersections were evaluated to determine operational conditions under 2012 winter and summer PM peak hours, without (see **Table 9-2**) and with the proposed project. The resulting levels of service at each study intersection are shown in **Table 9-8**.

**TABLE 9-8
INTERSECTION LEVEL OF SERVICE WITH PROPOSED PROJECT (2012)**

Intersection	Control Type	Total Intersection		Worst Movement	
		Delay	LOS	Delay	LOS
Summer PM Peak-Hour					
Northstar Dr/SR 267	Signalized	10.9	B	N/A	
Northstar Dr/Castle Peak Parking Lot ¹	Roundabout	4.6	A	4.8	A
Northstar Dr/Big Springs	All-Way Stop	9.0	A	9.1	A
Winter PM Peak-Hour					
Northstar Dr/SR 267	Signalized	31.6	C	N/A	
Northstar Dr/Castle Peak Parking Lot ²	Roundabout	11.4	B	19.7	C
Northstar Dr/Big Springs ³	TCO ⁴	23.6	C	N/A	

Source: LSC Transportation Consultants 2013

Notes:

1. Analysis assumes single-lane roundabout with single lane approaches.
2. Analysis assumes roundabout is coned to provide dual entry and circulating lanes for eastbound traffic.
3. Winter analysis of Northstar Drive/Big Springs Drive intersection assumes operations with a traffic control officer (TCO).
4. TCO operation is estimated using a signalized intersection analysis with a protected northbound left turn and a 90-second cycle length.

SR 267/Northstar Drive Intersection

As indicated in the tables, the signalized SR 267/Northstar Drive intersection would operate at an acceptable level of service (LOS C or better) during the winter and summer PM peak hours, without or with the proposed project.

Northstar Drive/Castle Peak Parking Access/Ridgeline Drive Roundabout

As indicated in the tables, the Northstar Drive/Castle Peak Parking Access/Ridgeline Drive roundabout operates at an acceptable LOS, as long as a traffic control officer is provided during busy winter periods. Implementation of the proposed project-level improvements would slightly increase the average delays at this intersection, although the LOS would not be affected. Note that Northstar’s Traffic and Parking Management Plan includes provision of traffic control personnel during peak winter periods.

Northstar Drive/Big Springs Drive Intersection

The Northstar Drive/Big Springs Drive intersection operates at an acceptable level of service in 2012, without or with the proposed project, as long as a traffic control officer is provided during busy winter periods.

SR 28/SR 267

Impacts to the SR 28/SR 267 are discussed qualitatively. TRPA established the following standard for signalized intersections in the basin: LOS D and LOS E may be acceptable during peak periods not to exceed 4 hours per day. The SR 28/SR 267 intersection was recently analyzed by LSC Transportation Consultants as a part of the PC-3 Joerger Ranch Specific Plan EIR. The intersection currently operates at an acceptable level of service during the winter and summer PM peak hours (LOS C and LOS D, respectively). Implementation of the proposed project-level improvements is expected to increase the PM peak-hour traffic volumes through this intersection by up to 11 cars in the winter and 1 car in the summer. This level of additional traffic would not cause an exceedance of the LOS standard in 2012.

Intersection Queuing Analysis

Traffic queues at specific intersections that exceed the storage capacity of turn lanes or ramps, or that block turn movements at important nearby intersections or driveways, can cause operational problems beyond those identified in the LOS analysis. The 95th-percentile traffic queue length (the length that is only exceeded 5 percent of the time during the analysis period) was reviewed at locations where queuing could potentially cause traffic problems. Specifically, the potential for queuing problems along Northstar Drive between the Castle Peak/Ridgeline Drive roundabout and the SR 267 signal was evaluated.

**TABLE 9-9
INTERSECTION QUEUE IMPACTS WITH PROPOSED PROJECT (2012)**

Intersection	Approach	Storage Length (feet)	95th Percentile Queue Length vs. Storage Length			
			No Project		With Project	
			Queue Length (feet)	Queue Exceeds Storage?	Queue Length (feet)	Queue Exceeds Storage?
Summer PM Peak Hour						
Northstar Dr/Castle Peak Parking Lot	Westbound	780	25	No	25	No
Northstar Dr/SR 267	Eastbound	780	46	No	46	No
	Northbound Left-Turn	435	79	No	81	No
	Southbound Right-Turn	285	19	No	19	No
	Eastbound Right-Turn ¹	300	32	No	32	No
Winter PM Peak Hour						
Northstar Dr/Castle Peak Parking Lot	Westbound	780	25	No	25	No
Northstar Dr/SR 267	Eastbound	780	218	No	224	No

Intersection	Approach	Storage Length (feet)	95th Percentile Queue Length vs. Storage Length			
			No Project		With Project	
			Queue Length (feet)	Queue Exceeds Storage?	Queue Length (feet)	Queue Exceeds Storage?
	Northbound Left-Turn	435	82	No	83	No
	Southbound Right-Turn	285	35	No	35	No
	Eastbound Right-Turn ¹	300	133	No	146	No

Source: LSC Transportation Consultants 2013

Note 1: Synchro's interpretation of HCM 2010 methodology does not allow for the analysis of right-turn overlap phasing. This intersection was analyzed assuming no overlap phasing; therefore, actual queue lengths would be less than reported.

SR 267/Northstar Drive Intersection

Exclusive turn lanes are provided along SR 267 for northbound left turns and southbound right turns onto Northstar Drive. The northbound left-turn lane provides approximately 435 feet of vehicle storage. The southbound right-turn lane provides 285 feet of vehicle storage. The eastbound Northstar Drive approach to SR 267 provides two left-turn lanes and one right-turn lane. The roadway provides adequate width for a three-lane approach to the intersection for about 300 feet. Based on a review of the 95th-percentile calculated queues on these movements, the storage capacity of these turn lanes is not expected to be exceeded under any existing or future scenarios. Furthermore, the segment of Northstar Drive between the Castle Peak/Ridgeline Drive roundabout and SR 267 is approximately 800 feet long. The existing 95th-percentile traffic queue length along eastbound Northstar Drive approaching SR 267 is calculated to be approximately 218 feet in the winter PM peak hour and 46 feet in the summer PM peak hour. Therefore, ample storage length is provided in 2012. Implementation of the proposed project-level improvements would result in a minimal increase in the queue lengths at the SR 267/Northstar Drive intersection.

Northstar Drive/Castle Peak Parking Access/Ridgeline Drive Roundabout

The 95th-percentile queue length along westbound Northstar Drive approaching the Castle Peak/Ridgeline Drive roundabout is calculated to be approximately 25 feet in the winter and summer PM peak hours, without or with the proposed project. During the winter, a TCO provides traffic control at the roundabout during peak times. It is assumed that the TCO control would provide westbound phasing appropriate to the demand in real time. As about 800 feet of storage length is provided, it is assumed that any queue formed by westbound traffic would not impede traffic operations on the highway. Therefore, no traffic queuing concerns are identified, without or with the proposed project.

Based on the analysis contained in the TIA, implementation of the proposed project-level improvements would not result in the exceedance of any applicable LOS standard or the exceedance of storage capacities at any study intersections. Therefore, this impact would be **less than significant**.

IMPACT 9.2: Exceed Level of Service Standards on Study Roadway Segments (2012)

Study roadway segments were evaluated to determine operational conditions under 2012 traffic volumes, without and with the proposed project. The maximum allowable traffic volumes to obtain the LOS thresholds applicable to the study roadway segments are shown in **Table 9-4**. The

resulting LOS for each roadway segment without the proposed project is summarized in **Table 9-3**. As discussed in subsection 9.1.3, three study roadway segments currently exceed Caltrans' concept level of service (LOS D):

- SR 267 between Brockway Summit and Northstar Drive (summer and winter)
- SR 267 between Northstar Drive and Airport Road (winter only)
- SR 267 between Airport Road and Placer/Nevada County Line (summer and winter)

The resulting 2012 LOS for each roadway segment with the proposed project is summarized in **Table 9-9** below.

Based on the analysis provided in the TIA and application of the County's "Methodology of Assessment-Minimum LOS," implementation of the proposed NMMP project-level improvements would not result in the exceedance of any applicable LOS standard or increase the volume to capacity ratio to 0.05 or greater to a roadway segment that is currently exceeding its LOS standard. The project would also not result in an increase in ADT of 100 trips per lane to any roadway segment that is currently exceeding its LOS standard. Thus, this impact is **less than significant**.

**TABLE 9-10
ROADWAY LEVEL OF SERVICE – WITH PROPOSED PROJECT**

Roadway Study Segment		Jurisdiction	Unit	Threshold Volume	Design Volume	Deficient?	Volume/ Capacity Ratio
Summer							
SR 267	Between Brockway Summit and Northstar Drive	Placer County/ Caltrans	ADT	11,400	13,355	Yes	1.17
SR 267	Between Northstar Drive and Airport Road/ Schaffer Mill Road	Placer County/ Caltrans	ADT	15,500	14,640	No	0.94
SR 267	Between Airport Road/Schaffer Mill Road and Nevada County Line	Placer County/ Caltrans	ADT	15,500	20,170	Yes	1.30
SR 267	Between Nevada County Line and Brockway Road/Soaring Way	Town of Truckee	Peak Hour, Peak Direction/Lane	1,891	848	No	0.45
SR 267	Between Brockway Road/Soaring Way and I-80	Town of Truckee	Peak Hour, Peak Direction/Lane	1,891	768	No	0.41
Northstar Drive	Between SR 267 and Ridgeline Drive/Castle Peak Parking Lot	Placer County	ADT	24,300	5,125	No	0.21
Northstar Drive	Between Ridgeline Drive/Castle Peak Parking Lot and Big Springs Drive	Placer County	ADT	14,400	5,105	No	0.35
Winter							
SR 267	Between Brockway Summit and Northstar Drive	Placer County/Caltrans	ADT	11,400	13,376	Yes	1.17
SR 267	Between Northstar Drive and Airport Road/Schaffer Mill Road	Placer County/Caltrans	ADT	15,500	17,978	Yes	1.16
SR 267	Between Airport Road/Schaffer Mill Road and Nevada County Line	Placer County/Caltrans	ADT	15,500	18,428	Yes	1.19
SR 267	Between Nevada County Line and Brockway Road/Soaring Way	Town of Truckee	Peak Hour, Peak Direction/Lane	1,891	1,390	No	0.74
SR 267	Between Brockway Road/Soaring Way and I-80	Town of Truckee	Peak Hour, Peak Direction/Lane	1,891	1,222	No	0.65
Northstar Drive	Between SR 267 and Ridgeline Drive/Castle Peak Parking Lot	Placer County	ADT	24,300	15,804	No	0.65
Northstar Drive	Between Ridgeline Drive/Castle Peak Parking Lot and Big Springs Drive	Placer County	ADT	14,400	13,304	No	0.92

Source: LSC Transportation Consultants 2013

IMPACT 9.3: Increase Vehicle Miles Traveled in the Tahoe Basin

The effect of the proposed project-level improvements on winter and summer daily vehicle miles traveled (VMT) in the Tahoe Basin is dependent on the number of trips made to/from the basin and the length of these vehicle trips. **Table 9-11** presents the VMT analysis. The increase in daily trips made to/from the basin (points beyond Brockway Summit) as a result of project-level improvements is approximately 36 one-way trips over the course of a busy winter day and 5 trips on a busy summer day. The VMT generated by these trips is estimated by multiplying the daily trips by the average trip length. The estimated origins/destinations within the basin for trips made by the additional Northstar California employees is shown in **Table 9-11**. The highest portion of employee trips (about 40 percent) is expected to be made to/from the Kings Beach/Crystal Bay area. Applying the trip distribution pattern to the total daily trips yields the number of trips made to each area within the basin. The average trip length between Brockway Summit and each origin/destination point in the basin is shown in the lower middle column of the table. The weighted average trip length for all project trips on basin roadways is calculated to be approximately 8.1 miles. Multiplying the trip lengths by the number of trips yields the daily VMT shown in the lower right portion of the table.

**TABLE 9-11
DAILY VEHICLE MILES TRAVELED GENERATED IN LAKE TAHOE BASIN (2012)**

Origin/Destination within Lake Tahoe Basin		Employee Trip Distribution	Number of One-Way Daily Trips Entering and Existing Tahoe Basin (Project-Level Improvements)	
<i>Employees</i>			Winter	Summer
Kings Beach/Crystal Bay		40%	14.6	2.1
Incline Village		18%	6.6	0.9
South Shore		2%	0.7	0.1
Tahoe City		22%	8.0	1.2
Tahoe Vista		12%	4.4	0.6
West Shore		6%	2.2	0.3
Total Trips		100%	36	5
VMT in Tahoe Basin to:	Reference Point ¹	Distance (miles)	Daily Vehicle-Miles Traveled in Lake Tahoe Basin	
<i>Employees</i>			Winter	Summer
Kings Beach/Crystal Bay	SR 28/Chipmunk Avenue	4.1	60	9
Incline Village	SR 28/County Club Drive	9.8	64	9
South Shore	US 50/Ski Run Blvd	34.6	25	4
Tahoe City	Lake Forest Road (east)	10.1	81	12
Tahoe Vista	SR 28/Granite Road	5.4	24	3
West Shore	Tahoe Ski Bowl Way	19.2	42	6
Total VMT			296	43

Source: LSC Transportation Consultants 2013

Notes:

1. Distances are measured from Brockway Summit on SR 267 to the points listed in this column.

As indicated, the project-level development is estimated to increase daily VMT by approximately 296 over the course of a winter day and 43 over the course of a summer day. In comparison with TRPA's 2011 estimate of 2,036,642 existing VMT on a summer day in the Tahoe Basin, the increase in region-wide VMT resulting from the project-level development is negligible and would not exceed the TRPA VMT threshold. Note that the TRPA's VMT estimate pertains to an "annual peak day," which typically occurs during August. Therefore, this impact would be **less than significant**.

IMPACT 9.4: Traffic Safety Hazards

No new roadways or site access points are included in the proposed project-level improvements. Therefore, no driver sight distance deficiencies or other traffic safety-related concerns have been identified. Further, the anticipated increase in traffic volumes on project study area roadways would be minimal and is not expected to result in a significant increase in traffic hazards. There are no specific design features that would typically result in undue accident patterns, as long as existing applicable County roadway standards are applied to new roadways. There would be **no impact**.

IMPACT 9.5: Public Transit

The increase in employment associated with the proposed project would increase demand for public transit services. As discussed previously, approximately 10 percent of existing Northstar employees currently commute using Tahoe Area Regional Transit (TART) services, while an additional 15 percent use private bus shuttle service provided by Northstar. Applying these factors to the forecast number of employees, and considering that 45 percent of employees are expected to commute in the peak direction in the peak hour, the increase in winter peak-hour peak-direction ridership on TART services is estimated to be 5 passengers if the private shuttle service is continued or 12 if the private shuttle service is not available. At present, the TART 267 Route service is at capacity at peak times in the peak directions at Northstar on peak winter days. As the employee transit demand in summer would be lower and because adequate capacity exists, there is no potential for this project to generate demand exceeding capacity in the summer.

While the additional transit demand associated with the additional employees generated by the proposed improvements may not warrant additional public transit services (and costs), it would add to the cumulative need for additional winter peak-hour transit capacity serving Northstar. Consistent with requirements placed on other development proposed proposals in Northstar over the last several years, it is appropriate for the project applicant to participate in the capital and ongoing operational requirements of additional transit service. Placer County has established County Service Area 28 (Zone of Benefit 204) to provide this funding mechanism for all development within the Martis Valley (including Northstar). By paying into this County Service Area, the project applicant would be addressing this potential impact (see **Appendix 9** pages 47 through 50 for a further discussion of fees and fee calculation). Therefore, this impact would be **less than significant**.

IMPACT 9.6: Bicycle and Pedestrian Safety and Facilities

There are currently no designated bicycle or pedestrian facilities along State Route 267 or Northstar Drive. However, the Placer County Regional Bikeway Plan proposes a Class II bike lane from Truckee to Kings Beach along SR 267. In addition, the Martis Valley Trail is a planned Class I bike path on the west side of SR 267 from Truckee to Northstar (which is not included in

the Regional Bikeway Plan). This trail would be about 5.4 miles long and would connect to Northstar Drive.

The MVCP states that Class II bike lanes should be provided along Northstar Drive. The need for this improvement may be impacted by the potential provision of the Martis Valley Trail connecting Northstar Village with Truckee, one option of which would parallel Northstar Drive. As it would increase commuting, the proposed project would slightly increase bicycling activity along the Northstar Drive corridor. The growth in traffic would also increase the need for Class II lanes. However, given that the increase in traffic during the summer (when bicycling is more prevalent) is only 0.6 percent, no significant impact would occur on bicycling and pedestrian conditions. This impact would be **less than significant**.

IMPACT 9.7: Construction Traffic

The proposed improvements would be constructed in phases, with each phase occurring during the summer season. Construction staging would occur in the day parking area to the west of Northstar Village and in the Castle Peak parking area, as well as in more project-specific areas on the mountain. It is anticipated that the project would require approximately 22 construction workers over the course of a typical busy construction day. Dividing 22 workers by an estimated average vehicle occupancy rate of 1.2 employees per vehicle (based on data from the US Census 2005–2009 American Community Survey for the Truckee area) equates to a total of approximately 19 construction worker vehicles on-site per day. Assuming one-third of the workers make a round trip off-site for lunch, errands, etc., a total of about 50 daily one-way vehicle trips made external to Northstar are expected to be generated by construction employees. About 70 percent of the employees are assumed to leave the site during the PM peak hour. Multiplying 70 percent by the 19 worker vehicles yields approximately 13 exiting trips during the summer PM peak hour. About 80 percent of the workers are assumed to commute from points north on SR 267, such as Truckee or Reno. The remaining 20 percent of workers are assumed to commute from points south on SR 267, such as the North Tahoe area. The resulting trip generation during the PM peak hour would be approximately 10 vehicles on the exiting left-turn movement from Northstar Drive and 3 vehicles on the exiting right-turn movement. Adding this traffic and any miscellaneous material or equipment delivery trips to the existing summer PM peak-hour traffic is not expected to cause any of the study intersections or roadways to exceed the applicable LOS thresholds. The project is not assumed to generate a substantial amount of import or export material. As such, no significant truck hauling trips are expected to be associated with the excavation and tree removal phases of the project. This impact would be **less than significant**.

IMPACT 9.8: Parking

Day skier parking is currently provided in the Village pay lot, the Village View lots, and the Castle Peak parking area. On peak days when the Castle Peak lots have reached capacity, vehicles are parked at the golf course lot, which is served by transit. When these lots begin to reach capacity on peak season days and resort daily pass sales reach a level indicating that on-site parking will be exceeded, Northstar notifies guests through the following means that parking is unavailable:

- Information is provided via low-wattage AM radio
- Information is provided via Northstar's website

- Changeable message signs are installed within the Caltrans or the Town of Truckee right-of-way notifying customers that Northstar parking is full and to avoid SR 267.

The capacity of the mountain is primary limited by the parking supply, rather than the capacity of the ski lifts or terrain. The parking impacts of the project-level improvements were evaluated under winter and summer conditions.

The project-level improvements do not propose to expand parking facilities, as the proposed improvements are intended to enhance the experience for visitors, rather than increase the number of day skiers. The project-level mountain improvements and skier services would not generate the need for additional skier parking spaces, as the vehicle trip generation of skier services is considered to consist of employees and service vehicles only. Based on the trip generation shown in **Table 9-6**, and assuming that 10 percent of employees work night-evening shifts and therefore do not generate demand during periods of peak demand, the project-level improvements are estimated to require approximately 44 parking spaces. According to Northstar staff, the golf course lot is rarely used. As the additional employees would park in the same lots as the day skiers, there is the potential for the project to expand the days/durations when the golf course lot (99 spaces) is utilized (see **Appendix 3.2** for a further discussion of the Northstar Traffic and Parking Management Plan). None of the other project-level improvements are expected to increase the parking demand. During the summer, the majority of the day skier parking spaces in the Village lots will be empty, thereby providing ample parking for the additional summer employees and services. Therefore, adequate parking conditions are expected to be provided with the project and this impact would be **less than significant**.