

**11.1.8 Existing Parking Facilities**

The Project area has approximately 942 on-site parking spaces in seven surface parking lots. Approximately 280 additional on-street parking spaces are within the public right-of-way on SR 89 and the neighboring residential streets, however these spaces are not considered part of the Homewood property, and are not included in the official parking space count for the site. Parking is not legally allowed on Placer County roadways from November 1<sup>st</sup> through April 30<sup>th</sup>; however, parking is legal along SR 89.

**11.2 REGULATORY SETTING**

Numerous transportation-related standards and criteria apply to the Project area, reflecting the number of jurisdictions with regulatory authority over transportation conditions. Overall transportation system standards and performance targets applicable to the Project area are identified in Mobility 2030: Lake Tahoe Basin Regional Transportation Plan, August 27, 2008 (Mobility 2030) which is a long range planning document that shapes the future of the Lake Tahoe Basin transportation system.

The Tahoe Regional Planning Agency (TRPA) has jurisdiction over aspects of transportation planning in the Lake Tahoe Basin with Caltrans overseeing California’s State highway system. An overview of the transportation and circulation standards applicable to the Project is identified in Table 11-7.

**Table 11-7**

Applicable Transportation, Parking and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
Tahoe Regional Planning Compact	The goal of transportation planning shall be: (A) To reduce the dependency on the automobile by making more effective use of existing transportation modes and public transit to move people and goods within the region; and (B) To reduce to the extent feasible air pollution which is caused by motor vehicles.
Mobility 2030: Lake Tahoe Basin Regional Transportation Plan (Mobility 2030)	The Goals and Policies of the Mobility 2030 reflect the consideration of environmental, social and economic factors in making transportation-related decisions. Specific goals of Mobility 2030 include the following: 1) reduce reliance on the private automobile; 2) provide for alternative modes of transportation; 3) serve the basic transportation needs of the citizens of Lake Tahoe; 4) support the economic base of the region; and 5) minimize adverse impacts on man and the environment.
Federal Planning Guidelines	In 1999, the Lake Tahoe Basin became a federal metropolitan planning organization (MPO). Federal regulations, pertaining to transportation, require that the MPO planning process provide for the consideration of projects and strategies that will: <ul style="list-style-type: none"> <li>- increase the safety and security of the transportation system for motorized and non-motorized users;</li> <li>- enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;</li> <li>- promote efficient system management and operation;</li> <li>- emphasize the preservation of the existing transportation system.</li> </ul>

**Table 11-7**

Applicable Transportation, Parking and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
TRPA Goals and Policies	<p>Establish LOS criteria for various roadway categories and signalized intersections. LOS criteria during peak periods shall be:</p> <ul style="list-style-type: none"> <li>- LOS C on rural recreational/scenic roads;</li> <li>- LOS D on rural developed area roads;</li> <li>- LOS D on urban developed area roads;</li> <li>- LOS D for signalized intersections;</li> <li>- LOS E may be acceptable during peak periods in urban areas, not to exceed four hours/day.</li> </ul> <p>The policies and objectives of this document also place high priority on constructing pedestrian and bicycle facilities in urbanized areas and encouraging waterborne transportation measures.</p>
TRPA Thresholds	<p>TRPA has nine threshold categories: water quality, air quality, noise, scenic, vegetation, soils, wildlife, recreation, and fisheries. There is no threshold for transportation; however transportation system projects in the Lake Tahoe Basin can not degrade any of the thresholds. Rather, TRPA must make findings that projects attain or maintain existing thresholds.</p>
TRPA Thresholds: Air Quality	<p>Air Quality has two transportation related standards: vehicle miles traveled (VMT) and traffic volumes on US 50.</p> <ul style="list-style-type: none"> <li>- AQ-5 US 50 Traffic Volumes – 7% reduction in traffic volume on the US 50 corridor from 1981 base year values, winter, 4 p.m. to 12 a.m. (25,173 vehicles at the US 50/Park Avenue intersection.)</li> <li>- AQ-7 VMT – 10% reduction in VMT in the Lake Tahoe Basin from 1981 base year values. (1,648,466 VMT for a peak summer day.)</li> </ul>
TRPA Code of Ordinances	<p>Adherence to Chapter 14 requirements for traffic considerations, including VMT reduction policies and LOS goals for street and highway traffic, and Chapter 93 requirements for traffic analyses; the Code sections require reducing significant impacts to a less than significant level.</p>
Tahoe City Community Plan	<p>The Plan’s overall goal for transportation is to reduce dependency on the automobile and improve the movement of people, goods, and services within Tahoe City and the Region consistent with the economic and environmental goals of the Community Plan.</p>
West Shore Area General Plan	<p>The Circulation Element of the West Shore Area General Plan provides transportation objectives and policies associated with communities on the west shore of Lake Tahoe in Placer County. The objectives and policies are generally consistent with other applicable plans.</p>
Caltrans District 3 Thresholds	<p>Requires that measures be identified to mitigate significant impacts caused by project traffic on State highways. The following are considered to be significant impacts:</p> <ul style="list-style-type: none"> <li>- Vehicle queues at intersections exceeding the existing storage lane length;</li> <li>- Project impacts that cause the highway or intersection LOS to deteriorate beyond LOS D. If LOS is already “E” or “F”, then quantitative measure of increased queue lengths and delay should be used to determine appropriate mitigation measures.</li> </ul>
Placer County	<p>Minimum parking spaces required.</p>

**Table 11-7**

Applicable Transportation, Parking and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
Other	Signal warrant criteria as established by the Federal Highway Administration Manual on Uniform Traffic Control Devices.

Source: Fehr & Peers 2009

**11.2.1 Key Transportation Impact Areas**

The TRPA Environmental Checklist for transportation and circulation and CEQA Appendix G Checklist are provided below. These checklists were used to develop the key transportation impact areas and significance criteria.

***TRPA Environmental Checklist***

Will the Project:

- Result in the generation of 100 or more new Daily Vehicle Trip Ends (DVTE)?
- Result in an increase in VMT?
- Result in changes to existing parking facilities, or demand for new parking?
- Result in a substantial impact upon the existing transportation systems, including roadways and intersections, transit, bicycle or pedestrian facilities?
- Result in a substantial impact upon the existing transportation systems due to construction traffic?
- Result in alterations to present patterns of circulation or movement of people and/or goods?
- Result in an increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

***CEQA Appendix G Checklist***

Will the Project:

- 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?

- 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?
- 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?
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

### 11.2.2 LOS Standards

Generally, Caltrans is responsible for the operation of the State Highway system and Placer County is responsible for the County roadways. Each jurisdiction has defined LOS standards for their facilities; however, TRPA has jurisdictional authority of roadways within the Lake Tahoe Basin. TRPA LOS standards were used to determine significant impacts for the project. Based on TRPA standards, LOS D was used as the threshold.

#### ***TRPA Standards***

Regional traffic operations and LOS standards for the Lake Tahoe basin, established in Chapter 24 – Transportation Element of the TRPA Goals and Policies, require that peak-period traffic flow not exceed the following:

- LOS C on rural recreational/scenic roads
- LOS D on rural developed area roads
- LOS D on urban developed area roads
- LOS D for signalized intersections
- LOS E may be acceptable during peak periods in urban areas, not to exceed four hours per day

TRPA currently has no adopted standard for unsignalized intersections.

#### ***Tahoe City Community Plan***

For intersections and roadway segments within the Tahoe City Community Plan area, the Transportation Objectives and Policies section states:

The LOS on major roadways (i.e., arterial and collector routes) shall be LOS D, and signalized intersections shall be at LOS D. (LOS “E” may be acceptable during peak periods, not to exceed 4 hours per day.)

**West Shore Area General Plan**

The Circulation Element of the West Shore Area General Plan states:

Strive to maintain a Level of Service D or better conditions on the Plan area roadways. Due to the high degree of peak recreation travel through the area, LOS E may be acceptable during peak periods, not to exceed 4 hours per day.

**Caltrans Guide for Preparation of Traffic Impact Studies**

Caltrans Guide for Preparation of Traffic Impact Studies states:

“Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE (measures of effectiveness) should be maintained.”

**Caltrans District 3**

For roadways and intersections in California, Caltrans District 3 considers the following to be significant project impacts:

- Deterioration of State highway or intersection LOS beyond LOS D.

Caltrans has prepared Transportation Concept Reports (TCR) for each State Route (SR). The TCR defines existing level of service by segment and provides the concept (target) level of service by segment. The SR 89 TCR (Caltrans District 3, August 2001) and the SR 28 TCR (Caltrans District 3, July 2004) identify the following existing and concept level of service for segments within the Project area:

- SR 89 – Just South of Camp Richardson to the Placer County/El Dorado County Line: Existing LOS D; 20 year Concept LOS D
- SR 89 – Placer County/El Dorado County Line to the Y in Tahoe City: Existing LOS F; 20 year Concept LOS F.
- SR 89 – Y in Tahoe City to Placer County/Nevada County Line: Existing LOS F; 20 year Concept LOS F.
- SR 28 – Y in Tahoe City to Estates Drive in Tahoe Vista: Existing LOS E; 20 year Concept LOS F.

**Placer County**

Placer County requires LOS C on rural and urban/suburban roadways, except within 0.5 mile of State highways where the standard is LOS D, as stated in the Placer County General Plan.

### 11.2.3 Air Quality and Vehicle Miles of Travel

VMT is a computed value, which correlates to the extent of an area's reliance on private automobile for trip-making. The TRPA transportation model forecasts the number of trips made on the highway network and the distance between trip origins and destinations for each trip purpose. Total VMT is the sum of all these trip lengths. VMT is often used to estimate vehicle emissions and impacts to air quality.

#### ***TRPA Thresholds Evaluation Report Standards***

The 2006 Threshold Evaluation Report (TRPA) includes the following two air quality management threshold standards that relate to transportation facilities in the Region: 1) a reduction in VMT by 10% from the 1981 base year conditions to reduce nitrate deposition, and 2) a reduction in VMT by 10% from 1981 base year conditions to improve visibility.

The Tahoe Metropolitan Planning Organization (TMPO) "utilizes a new GIS-based traffic model package (TransCAD) that began development in 2004. The model utilizes an activity-based model that was informed by an extensive travel survey that collected household travel data as well as travel diary information from over 1,200 households. The survey effort focused on residents, overnight-visitors, and day-visitors within the summer and winter months to capture seasonality patterns" (Mobility 2030).

Previously, an older, less detailed TranPlan model was used to calculate VMT based the number of trips made on the highway network and the distance between trip origins and trip destinations. Based on the previous travel demand model, TRPA's assessment of VMT indicates that the 1981 level of 1,648,466 VMT on a peak summer day decreased by approximately 4% to 1,580,000 in 2004. To attain the desired 10% reduction, a target of 1,483,619 VMT, based on the original model, must be attained.

TRPA's "new TransCAD model is based on an expanded and more complex street network than the old TranPlan model. For that reason, the new model results are not directly comparable to the old model and should be considered a worse case VMT analysis. Future forecasts will be made using the new model, but comparisons to past VMT estimates must be made using an updated method to the old model. Using actual traffic counts to update previous estimates, VMT has been estimated to have decreased by 6.5% from 1981 levels" (Mobility 2030).

#### ***TRPA Code of Ordinances***

The TRPA Code of Ordinances – Chapter 93 implements TRPA's Air Quality Plan. The TRPA Code of Ordinances states that a "significant increase" is an increase of more than 200 daily vehicle trips, a "minor increase" is an increase of 100 to 200 daily vehicle trips, and an "insignificant increase" is an increase of less than 100 daily trips. If a project results in a significant increase in daily vehicle trips, all traffic and air quality impacts must be mitigated consistent with the environmental thresholds, the Goals and Policies, the Regional Transportation Plan and the 1992 Air Quality Plan.

### 11.2.4 Project Access and Circulations Standards

#### ***TRPA Standards***

Mobility 2030 states that driveways shall be designed and sited to minimize impacts to regional traffic flow and safety, as well as on public transportation, adjacent roadways and intersections,

and bicycle and pedestrian facilities. Limiting or controlling access to major regional travel routes and major local roadways shall reduce traffic conflicts.

### 11.2.5 Bicycle and Pedestrian Circulation

#### ***TRPA Standards***

The goal of Mobility 2030 is to promote redevelopment that encourages walking, bicycling, and easy access to transit.

Mobility 2030 also states that intersections and driveways shall be designed and sited to minimize impacts on public transportation, adjacent roadways and intersections, and conflicts with bicycle and pedestrian facilities. Bicycle and pedestrian linkages shall be provided between residential and non-residential areas.

#### ***Placer County***

The goal of the Placer County 2027 Regional Transportation Plan is to promote a safe, convenient, and efficient non-motorized transportation system, for bicyclists, pedestrians, and users of low speed vehicles, as part of a balanced overall transportation system.

The Placer County General Plan states that the County will continue to require developers to finance and install pedestrian walkways, equestrian trail, and multi-purpose paths in new developments, as appropriate.

#### ***West Shore Area General Plan***

The Circulation Element of the West Shore Area General Plan states:

Pedestrian and bicycle facilities/amenities shall be encouraged where appropriate.

### 11.2.6 Transit Access

#### ***TRPA Standards***

Mobility 2030 actively encourages the development and implementation of services and programs to expand the operation and use of environmentally conscious public transit in the Lake Tahoe region. Public or private mass transit shall be given preference in mitigating traffic and transportation related impacts for new projects or redevelopment areas.

Mobility 2030 also states that transit service shall be provided to major summer and winter recreational areas, and the expansion of private and public transit excursion services shall be encouraged in the region.

#### ***Placer County***

The goal of the Placer County 2027 Regional Transportation Plan is to provide effective, convenient, regionally and locally coordinated transit service that connects residential areas with employment centers, serves key activity centers and facilities, and offers a viable option to the drive-alone commute.

The Placer County General Plan states that 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.

The County shall also, where appropriate, require new development to provide sheltered public transit stops, with turnouts.

### **11.2.7 Construction Traffic**

#### ***TRPA Standards***

Construction activity may result in a significant impact if it generates traffic above that which will be generated under normal operation. If construction traffic exceeds traffic generated in the normal operating condition, LOS must be analyzed for the construction condition. Site grading in the Lake Tahoe basin is strictly regulated by TRPA Code of Ordinances, Chapter 64, and not allowed during the winter season from October 15 to May 1. Construction activity is a temporary condition and will not permanently affect the environmental setting.

### **11.2.8 Parking Requirements**

#### ***TRPA Standards***

TRPA's *Mobility 2030* expresses the desire for parking to be screened from street view (behind structures) and structured within buildings below grade. In addition, the Parking Goal is to "develop parking management strategies for the Lake Tahoe region, including minimum/maximum parking standards, shared parking, bicycle parking, among others.

#### ***Placer County***

The Placer County General Plan states that new developments shall be required to provide off-street parking, either on-site or in consolidated lots or structures. The County supports the development of parking areas near access to hiking and equestrian trails.

## **11.3 EVALUATION CRITERIA WITH POINTS OF SIGNIFICANCE**

Based on the environmental thresholds, standards, and transportation related criteria of the TRPA, Caltrans, and Placer County, Table 11-8 presents the evaluation criteria and significance thresholds used to analyze the Project. An impact is considered significant if conditions presented in Table 11-8 are met or exceeded.

**Table 11-8**

Evaluation Criteria with Point of Significance – Transportation, Parking and Circulation

Evaluation Criteria	Significance Threshold	Justification
TRANS-1. Will the Project result in generation of 200 or more new Daily Vehicle Trip Ends (DVTE)?	An increase of 200 or more new daily vehicle trips	TRPA Code of Ordinances – Chapter 93; TRPA Initial Environmental Checklist II-13a
TRANS-2. Will the Project result in changes to existing parking facilities, or demand for new parking?	<p>a) Unsightly visual predominance of parking lots and asphalt</p> <p>b) Parking management that does not recognize minimum and maximum parking standards, shared parking between uses, handicapped-disabled parking, bicycle parking and the implementation of localized parking management programs that focus on transit, bicycle, and pedestrian improvements</p> <p>c) Adequate off-street parking not provided either on-site or in consolidated lots or structures based on Placer County minimum requirements for project land uses</p>	<p>a) TRPA Initial Environmental Checklist II-13b</p> <p>b) TRPA Mobility 2030</p> <p>c) Placer County Code Chapter 17, Zoning</p>
TRANS-3. Will the Project result in a substantial impact upon the existing transportation systems, including roadways and intersections?	<p>Signalized and Unsignalized Intersections:</p> <p>a) Deterioration of LOS to unacceptable levels (LOS E for more than 4 hours during peak travel periods or LOS F).</p> <p>b) If an intersection is already operating unacceptably, any increase in delay is unacceptable and the intersection must be mitigated to the ‘before project’ level</p> <p>c) Vehicle queues at intersections that exceed existing turn lane storage</p>	<p>a and b) TRPA Regional Plan, Goals and Policies, Chapter 3; TCCP, Chapter 3; Caltrans District 3; TRPA Initial Environmental Checklist II-13c; CEQA Appendix G Checklist XVI (a, b); Placer County General Plan Chapter 3, West Shore Area General Plan</p> <p>c) Caltrans, District 3</p>
TRANS-4. Will the Project result in a substantial impact upon the existing transportation systems, including transit facilities?	<p>a) Creates impacts or delays to transit services</p> <p>b) Adequate transit not provided for major summer and winter recreational activities</p> <p>c) Transit service does not meet demand of ski resort</p> <p>d) Conflicts with adopted policies, plans, or programs supporting alternative transportation</p>	<p>a) TRPA Initial Environmental Checklist II-13c, e; TRPA Regional Plan, Goals and Policies, Chapter 3; CEQA Appendix G Checklist XVI (a)</p> <p>b) TRPA Mobility 2030</p> <p>c) Placer County General Plan Chapter 3</p> <p>d) CEQA Appendix G Checklist XVI (f)</p>

**Table 11-8**

Evaluation Criteria with Point of Significance – Transportation, Parking and Circulation

Evaluation Criteria	Significance Threshold	Justification
TRANS-5. Will the Project result in a substantial impact upon the existing transportation systems, including bicycle or pedestrian facilities?	a) Creates conflicts between bicycles/pedestrians and vehicles b) Impedes planned bicycle and pedestrian plans c) Adequate pedestrian walkways and multi-purpose paths not provided	a and b) TRPA Mobility 2030; TRPA Initial Environmental Checklist II-13c; CEQA Appendix G Checklist XVI (f) c) Placer County General Plan Chapter 3
TRANS-6. Will the Project result in a temporary impact upon existing transportation systems due to construction traffic?	Construction related traffic causes unacceptable LOS at study intersections	CEQA Appendix G Checklist XVI (a)
TRANS-7. Will the Project result in alterations to the present patterns of circulation or movement of people and/or goods?	Driveway interference with regional traffic flow, safety, public transportation, adjacent roadways and intersections, and bicycle and pedestrian facilities	TRPA Mobility 2030; TRPA Initial Environmental Checklist II-13d
TRANS-8. Will the Project result in an increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?	a) Inadequate intersection and driveway design that causes impacts on public transportation, adjacent roadways and intersections, conflicts with bicycle and pedestrian facilities, traffic flow and safety b) Substantially increase hazards due to a design feature or incompatible uses c) Results in inadequate emergency access	a) TRPA Mobility 2030; Engineering standards, professional judgment b) CEQA Appendix G Checklist XVI (d) c) CEQA Appendix G Checklist XVI (e)

Source: Fehr & Peers 2009

## 11.4 PROJECT ANALYSIS METHODOLOGY

### 11.4.1 Summer Trip Generation

#### *Summer Study Period*

Typically, traffic volumes in the Lake Tahoe Basin are highest during the summer months. The Friday PM peak hour is usually selected for analysis, as it is generally when peak traffic volumes occur on the roadways. In addition, the TRPA regional transportation model evaluates traffic on a typical summer Friday.

#### *Project (Alternative 1) Land Uses*

The following land uses were included in the summer trip generation analysis of the Project (Alternative 1):

*North Base*

- Hotel - 75 rooms
  - Accessory uses include: Meeting Space – 3,005 square feet (sf)
  - Fitness Center/Spa – 10,590 sf
  - Restaurant – 1,800 sf
  - Bar – 1,260 sf
- Condo/Hotel Rooms – 60 units (40 units, 20 2-bedroom units with lock-off units assumed to be 100% locked off)
- Penthouse Condos – 30 units
- Residential Condos – 36 units
- Fractional Condos (Timeshares) - 20 units
- Townhomes – 16 units
- Apartment (Workforce Housing – 2 bedroom units) – 13 units
- Retail – 25,000 sf (CFA)
- Miniature Golf Course – 12 holes
- North Base Lodge/Skier Services – 30,000 sf (winter only)
- Outdoor Amphitheater – 1,500 seats (special events only – infrequent use)

*South Base*

- Residential Condos – 99 units
- Skier Services – 2,000 sf (winter only)

*Mid-Mountain*

- Day Lodge – 15,000 sf (winter only)

***Trip Generation Rates/Characteristics***

Vehicle trips were generated for the Project area using trip generation rates from *Trip Generation, Eighth Edition* (Institute of Transportation Engineers (ITE), 2008) and the TRPA Trip Table (Tahoe Regional Planning Agency 2004).

A daily trip generation rate is not provided by TRPA or ITE for a Miniature Golf Course (summer only land use). It is a typical practice methodology to assume that the PM peak hour rate is 10% of the daily rate; therefore, this assumption was used to determine the daily trip generation rate for the Miniature Golf Course.

The ITE description of the hotel land use category includes accessory uses such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational

facilities (pool, fitness room), and/or other retail and service shops. Based on this definition, the restaurant, bar, meeting space, and fitness center/spa uses were included as accessory uses to the hotel for analysis purposes.

### ***Analysis Methodology***

Trip generation estimates for the Project area were developed through comprehensive evaluation of the variety of land uses within the resort, the internal interaction of these uses, and the interaction between the Project and the surrounding community. The assumptions and trip generation process are intended to provide a worst-case scenario evaluation of the Project (Alternative 1) trip generation.

The following steps were taken to develop summer trip generation estimates for the Project (Alternative 1):

- The first step to developing summer trip generation is to consider resort occupancy and the fluctuation or “turnover” of resort residents and guests. This study takes a conservative approach and assumes that 100% of the lodging units are occupied on peak weekends. Monday and Thursday occupancy rates are estimated at 50% with mid-week occupancies around 35%. Data collected by the Park City Chamber of Commerce (and referenced in the *Dyer Mountain Resort Transportation Impact Analysis*, Fehr & Peers, 2005) indicates that the length of a typical stay at a ski resort is 3 to 5 days, with most arrivals on Fridays and the majority of departures on Sundays. Based on this information, it was assumed that 50% of the lodging guests will arrive at the resort on Friday. To present a conservative analysis, it was further assumed that 50% of the lodging guests arriving on Friday (25% of the total lodging guests) will arrive during the PM peak hour. A trip generation rate of 1.5 vehicles per lodging unit was estimated, based on average parking rates for a Resort Hotel, Rental Townhouse, and Condominium in *Shared Parking, 2<sup>nd</sup> Edition* (Urban Land Institute, 2005). Note that the *Homewood Mountain Resort Parking Study* (LSC Transportation Consultants, 2011) provides an average parking demand of 1.2 spaces per hotel and condo-hotel lodging unit; therefore, the trip generation of 1.5 accounts for lodging guests arriving at the resort, as well as the potential for these guests to make an additional trip the same day that they arrive.
- Trips were generated for the remaining 50% of lodging units (not arriving on Friday) and the residential units using typical TRPA and ITE trip generation rates. Trips were also generated for the retail uses using these rates. Internal capture, pass-by trips, and transit trip reductions were applied as appropriate.
- The North Base Lodge, Mid-Mountain Day Lodge, and other skier services buildings are generally winter-only uses. Any summer operation of these uses is expected to be 100% internalized. The purpose of these uses is to accommodate skiers (in the winter) and resort guests.

### ***Internal Capture***

In a mixed-use development, it is expected that some trips will be made internally within the Project area. For example, people who live in the residential units on-site will travel to the retail

or restaurant uses, and then return home. Their trip making activity never ventures to the external roadway network. By applying an internal capture reduction rate to the overall trip generation, the number of estimated vehicle trips added to the surrounding roadway network is reduced.

The National Household Travel Survey was used as the basis for determining how the mix of land uses will interact with each other. The survey provides information about the type of trips people make from home. The survey results indicate that for residential uses 18% of trips are work related, 27% of trips are for social or recreational purposes, 45% of trips are for personal business (e.g. errands and shopping), and 10% are school or church related.

The residential land uses were analyzed using this breakdown of trip type, as well as the following assumptions:

*Residential Units*

- 18% - work/work-related
  - 25% of trips are made internally
  - 75% of trips are made externally
- 27% - recreational/social
  - 60% of trips are made internally (includes walking and bicycling recreational trips that occur within the Project area such as hiking or using the bicycle share program)
  - 40% of trips are made externally
- 45% - personal business
  - 40% of trips are made internally (includes trips to the on-site commercial/retail uses)
  - 60% of trips are made externally
- 10% - school or church related
  - 100% of trips are made externally

Total Internal Trip Reduction (Residential): 39%

*Employee Housing Units*

- 18% - work/work-related
  - 100% of trips are made internally
- 27% - recreational/social
  - 60% of trips are made internally (includes walking and bicycling recreational trips)
  - 40% of trips are made externally
- 45% - personal business
  - 40% of trips are made internally (includes trips to the on-site commercial/retail uses)
  - 60% of trips are made externally
- 10% - school or church related
  - 100% of trips are made externally

Total Internal Trip Reduction (Employee Housing): 52%

The lodging units were analyzed under the assumption that 50% of trips would be for social or recreational purposes, and 50% of trips would be for other personal business (e.g. shopping).

#### *Lodging Units*

- 50% - recreational/social (includes walking and bicycling trips)
  - 50% of trips are made internally (includes walking and bicycling on-site such as hiking or using the bicycle share program)
  - 50% of trips are made externally
- 50% - personal business
  - 40% of trips are made internally
  - 60% of trips are made externally

Total Internal Trip Reduction (Lodging): 45%

The internalized retail trips were determined based on the number of trips internalized by the residential and lodging units that go to the retail use. For example, 20% of the lodging trips are internal to the retail uses (50% of trips are made for personal business x 40% of personal business trips are internal). Therefore, the trips generated by the lodging units were multiplied by 20% to determine the number of internal trips to the retail uses.

The overall internal capture reduction for the Project (Alternative 1), during the Friday PM peak hour, is approximately 30%, which is lower than the above internal capture rates for the project land uses because the overall project trip generation includes the lodging guests arriving during the peak hour that do not have internal trips associated with them.

#### ***Alternative Modes of Travel***

Alternative modes of travel are also considered when analyzing Project areas that are located near accessible bicycle and pedestrian paths and transit stops. Alternative mode reductions account for trips that are made by means other than a personal vehicle.

HMR is proposing to provide a shuttle service between Homewood and Tahoe City, a Dial-A-Ride service, a water taxi, and a free bike-share service during the summer season. The number of personal vehicle trips reduced by these services was calculated assuming an average vehicle occupancy of 1.82 for visitors, and 1.42 for residents, based on the TRPA travel demand model. The number of vehicle trips created by these travel modes was also calculated and accounted for in the trip generation analysis.

The HMR shuttle service will operate one bus, hourly from 7:00 AM to 11:00 PM (16 hours). Trips generated at the HMR driveways by the shuttle service (32 daily trips, 2 PM peak hour trips) were added to the trip generation estimates. The reduction in vehicle trips due to the operation of the shuttle service was also calculated and subtracted from the overall trip generation. Assuming a shuttle capacity of 12 passengers, 50% occupancy during the two peak hours (AM and PM), 25% occupancy during the 14 off-peak hours, and a visitor vehicle occupancy rate 1.82, it was estimated that daily vehicle trips will be reduced by 59, and PM peak hour trips will be reduced by 7.

A Dial-A-Ride service will be provided and will include the operation of three, 20-passenger buses. The service will be provided for 10 hours per day (8:00 AM to 6:00 PM). It is estimated that 1 roundtrip will be made each hour by each bus, creating 6 new peak hour trips, and 60 new daily trips on the roadways. Assuming each bus is 25% occupied (5 people per bus per trip), and an average vehicle occupancy rate of 1.82, the reduction in vehicle trips will include 165 daily trips and 16 PM peak hour trips.

The operation of a water taxi on Lake Tahoe will not produce additional vehicle trips on the roadway network, but will decrease vehicle trips during the daily and PM peak hour analysis periods. One water taxi, with a 25-passenger capacity, will operate hourly from 9:00 AM to 8:00 PM (11 hours). It is reasonable to assume that the taxi will be at least 50% occupied during the two peak hours (AM and PM), and 25% occupied during the 9 off-peak hours. Again, using a vehicle occupancy rate of 1.82 (based on the TRPA travel demand model), the reduction in daily vehicle trips will be 86, and the reduction in PM peak hour trips will be 13.

HMR will provide free bicycles for guests and residents, to borrow for up to a week at a time, through a bike-sharing program. The Project (Alternative 1) will also integrate a Tahoe City Public Utility District (TCPUD) bike path into the North Base area. Walking and bicycling trips created were accounted for in the internal capture analysis as residential to recreational, or lodging to recreational trips.

### ***Pass-By***

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. For example, someone who regularly drives on SR 89 to go home from work stops at the retail use and then continues on their regular route would be considered a pass-by trip. No additional vehicle trips are added to the external roadway network.

The following pass-by rate, presented in Table 5.4 of the Trip Generation Handbook (ITE 2004), was used for the analysis:

- Shopping Center – 34%.

The pass-by rate is only applied to the shopping center use and not to any other use within the project.

### ***Summer Trip Generation Summary***

Tables 11-9 through 11-12 present summer trip generation summaries for the Project (Alternative 1) and Alternatives 3, 4, 5, and 6, including internal capture, mode splits, and pass-by reductions. Alternative 2 (No Project) will not include any changes to the existing Homewood Mountain Resort. The primary existing use at Homewood is a day-use ski resort with complimentary skier services buildings. The following special events occur during the summer months: Lake Tahoe Music Festival, outdoor wedding ceremonies, farmers' markets, outdoor arts and crafts fairs, and private parties.

Please see Appendix K-2 for the complete trip generation spreadsheets for each alternative.

**Table 11-9**

Proposed Project (Alternative 1) and Alternative 3 – Summer Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
<i>50% of lodging guests arrive on Friday *</i>									
Hotel	38 rooms	1.5	0.75	100%	0%	57	29	29	0
Condo/Hotel	30 rooms	1.5	0.75	100%	0%	45	23	23	0
Penthouse Condos	15 units	1.5	0.75	100%	0%	23	11	11	0
Timeshare	10 units	1.5	0.75	100%	0%	15	8	8	0
<i>Remaining 50% of lodging units, all residential units, and retail use analyzed using typical TRPA and ITE trip generation rates</i>									
Hotel (310)	37 rooms	8.92	0.7	49%	51%	330	26	13	13
Condo/Hotel (310)	30 rooms	8.92	0.7	49%	51%	268	21	10	11
Penthouse Condos (230)	15 units	5.86	0.52	67%	33%	88	8	5	3
Timeshare (265)	10 units	10.1	0.79	40%	60%	101	8	3	5
Residential Condos/ Townhomes (230)	52 units	5.86	0.52	67%	33%	305	27	18	9
Apartment (220)	13 units	6.72	0.62	65%	35%	87	8	5	3
Shopping Center (820)	25 ksf	42.94	3.75	48%	52%	1,074	95	45	49
Meeting Space	3.005 ksf	Accessory Use to Hotel							
Fitness Center/Spa	10.59 ksf	Accessory Use to Hotel							
Restaurant	1.80 ksf	Accessory Use to Hotel							
Bar	1.26 ksf	Accessory Use to Hotel							
Miniature Golf Course (431)	12 holes	3.30	0.33	33%	67%	40	4	1	3
<u>South Base</u>									
Residential Condos (230)	99 units	5.86	0.52	67%	33%	580	51	34	17
Total "Raw" Trip Generation						3,013	319	205	113
Internal Capture Trips						(-1,121)	(-94)	(-57)	(-39)
External Project Trips						1,892	225	148	74
Alternative Mode Trips						(-218)	(-31)	(-16)	(-15)
External Vehicle Trips						1,674	194	132	59
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-208)	(-18)	(-8)	(-11)
<b>Total Net New External Roadway Trips</b>						<b>1,466</b>	<b>176</b>	<b>124</b>	<b>48</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

**Table 11-10**

Alternative 4 – Summer Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
Single Family Residential (210)	8 units	10	1.01	63%	37%	80	8	5	3
Shopping Center (820)	15 ksf	42.94	3.75	48%	52%	644	56	27	29
<u>South Base</u>									
Single Family Residential (210)	8 units	10	1.01	63%	37%	80	8	5	3
Total "Raw" Trip Generation						804	72	37	35
Internal Capture Trips						(-82)	(-8)	(-5)	(-3)
External Project Trips						722	64	32	32
Alternative Mode Trips (5%)						(-36)	(-3)	(-2)	(-2)
External Vehicle Trips						686	61	30	30
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-196)	(-17)	(-8)	(-9)
<b>Total Net New External Roadway Trips</b>						<b>490</b>	<b>44</b>	<b>22</b>	<b>21</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

**Table 11-11**

Alternative 5 – Summer Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
<i>50% of lodging guests arrive on Friday *</i>									
Hotel	38 rooms	1.5	0.75	100%	0%	57	29	29	0
<i>Remaining 50% of lodging units, all residential units, and retail use analyzed using typical TRPA and ITE trip generation rates</i>									
Hotel (310)	37 rooms	8.92	0.7	49%	51%	330	26	13	13
Residential Condos (230)	225 units	5.86	0.52	67%	33%	1,319	117	78	39
Shopping Center (820)	25 ksf	42.94	3.75	48%	52%	1,074	95	45	49
<u>South Base</u>									
Single Family Residential (210)	16 units	10	1.01	63%	37%	160	16	10	6
Total "Raw" Trip Generation						2,940	283	175	107
Internal Capture Trips						(-1,131)	(-99)	(-63)	(-36)
External Project Trips						1,809	184	112	71
Alternative Mode Trips						(-218)	(-31)	(-16)	(-15)
External Vehicle Trips						1,591	153	96	56
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-200)	(-17)	(-7)	(-11)
<b>Total Net New External Roadway Trips</b>						<b>1,391</b>	<b>136</b>	<b>89</b>	<b>45</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

Following completion of trip generation modeling, Alternative 5 was modified to include 12 Employee Housing units that were not included in the original traffic analysis. As a result of the addition of 12 affordable housing units, Alternative 5 summer trip generation will increase by 25 daily trips and 2 Friday PM peak hour trips. This increase in trip generation over what is reported in Table 11-11 will not adversely affect operations at the study intersections.

**Table 11-12**

Alternative 6 – Summer Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
<i>50% of lodging guests arrive on Friday *</i>									
Hotel	25 rooms	1.5	0.75	100%	0%	38	19	19	0
Condo/Hotel	13 rooms	1.5	0.75	100%	0%	20	10	10	0
<i>Remaining 50% of lodging units, all residential units, and retail use analyzed using typical TRPA and ITE trip generation rates</i>									
Hotel (310)	25 rooms	8.92	0.7	49%	51%	223	18	9	9
Condo/Hotel (310)	12 rooms	8.92	0.7	49%	51%	107	8	4	4
Residential Condos (230)	145 units	5.86	0.52	67%	33%	850	75	50	25
Apartment (220)	12 units	6.72	0.62	65%	35%	81	8	5	3
Shopping Center (820)	25 ksf	42.94	3.75	48%	52%	1,074	95	45	49
<u>South Base</u>									
Residential Condos (230)	50 units	5.86	0.52	67%	33%	293	26	17	9
Single Family Residential (210)	14 units	10	1.01	63%	37%	140	14	9	5
Total "Raw" Trip Generation						2,826	273	168	104
Internal Capture Trips						(-1,071)	(-94)	(-60)	(-35)
External Project Trips						1,755	179	108	69
Alternative Mode Trips						(-218)	(-31)	(-16)	(-15)
External Vehicle Trips						1,537	148	92	54
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-206)	(-18)	(-7)	(-11)
<b>Total Net New External Roadway Trips</b>						<b>1,331</b>	<b>130</b>	<b>85</b>	<b>43</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

## 11.4.2 Winter Trip Generation

### *Winter Study Period*

Typically, traffic volumes in the Lake Tahoe Basin are highest during the summer months; therefore, traffic analysis is usually performed for the summer condition. However, the Project (Alternative 1) is a major winter trip generator due to the ski operation. Therefore, the winter trip generation was evaluated. Three winter study periods were considered for analysis of the Project – Friday, Saturday, and Sunday. Each study period was qualitatively evaluated to determine which period would result in the highest net new trip generation.

- Friday - The Friday PM peak hour is expected to have the biggest change in operations compared to existing conditions. Currently the resort is occupied by day skiers who arrive in the morning and leave in the afternoon/evening. The Project will include skier accommodations, residential and lodging units, and retail uses. These uses will change the distribution of vehicle trips in to and out of the Project area. Currently, the majority of vehicle trips exit the resort during the PM peak hour; however, with the Project, the day skiers will still leave at the end of the day, but a large portion of the lodging guests will arrive during the Friday PM peak hour.
- Saturday - The Project is expected to generate fewer trips than the existing HMR on Saturday. The number of day skier parking spaces will be reduced by approximately 55%. The ski resort is expected to be occupied primarily by resort guests and residents who will not generate new vehicle trips on Saturday, as they will already be at the resort. Additionally, the majority of hotel guests will likely arrive and leave, prior to and after, Saturday.
- Sunday – As mentioned, the number of day skier parking spaces will be reduced by approximately 55%, and the Project is expected to generate fewer vehicle trips due to the mix of attendees. Currently, all of the skiers are day skiers who leave the resort at the end of the day. With the Project, the smaller number of day skiers will still be leaving during the Sunday peak hour, as well as the people who are lodging at the Project area. The trip generation on a winter Sunday will be similar for the Project and the existing facility; therefore, the Project will not result in new trips to the roadway network.

Based on this qualitative assessment, Friday PM peak hour conditions were analyzed for winter conditions.

### *Assumed Accessory Uses*

The ITE description of the hotel land use category includes accessory uses such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops; therefore, the restaurant, bar, meeting space, and fitness center/spa uses were included as accessory uses to the hotel for analysis purposes.

### *Project (Alternative 1) Land Uses*

The following land uses were included in the winter trip generation analysis of the Project (Alternative 1):

*North Base*

- Hotel - 75 rooms
- Accessory uses include:
  - Meeting Space – 3,005 sf
  - Fitness Center/Spa – 10,590 sf
  - Restaurant – 1,800 sf
  - Bar – 1,260 sf
- Condo/Hotel Rooms – 60 units (40 units, 20 with lock-offs)
- Penthouse Condos – 30 units
- Residential Condos – 36 units
- Fractional Condos (Timeshares) - 20 units
- Townhomes – 16 units
- Apartment (Workforce Housing) – 13 units
- Retail – 25,000 sf
- Miniature Golf Course – 12 holes (summer only)
- North Base Lodge/Skier Services – 30,000 sf
- Outdoor Amphitheater – 1,500 seats (summer only)
- Day Skier Parking – 400 spaces

*South Base*

- Residential Condos – 99 units
- Skier Services – 2,000 sf

*Mid-Mountain*

- Day Lodge – 15,000 sf

**Trip Generation Rates/Characteristics**

Vehicle trips were generated for the Project area using trip generation rates from *Trip Generation, Eighth Edition* (Institute of Transportation Engineers 2008) and the TRPA Trip Table (Tahoe Regional Planning Agency 2004).

Standard trip generation rates are not available for a destination ski resort; therefore, the foundation for winter season trip generation calculations in this analysis is resort occupancy, maximum carrying capacity of the mountain, the fluctuation or “turnover” of resort residents and guests, and trips generated by other land uses on the Project area.

The ITE description of the hotel land use category includes accessory uses such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops; therefore, the restaurant, bar, meeting space, and fitness center/spa uses were included as accessory uses to the hotel for analysis purposes.

### **Analysis Methodology**

Winter trip generation estimates for the Project (Alternative 1) were developed through comprehensive evaluation of the variety of land uses within the Project area, the internal interaction of these uses, and the interaction between the Project and the surrounding community. Standard trip generation rates are not available for a destination ski resort, and therefore land use specific trip analysis considering internal trip making is necessary for the Project (Alternative 1).

The foundation for trip generation calculations in this analysis is resort occupancy, skier characteristics and accommodations, and the fluctuation or “turnover” of resort residents and guests. This study takes a conservative approach and assumes that 100% of the lodging units are occupied on peak weekends. Monday and Thursday occupancy rates are estimated at 50% with mid-week occupancies around 35%. Based on data collected by the Park City Chamber of Commerce, the length of a typical stay at a ski resort is 3 to 5 days, with most arrivals on Fridays and the majority of departures on Sundays.

The number of day skier parking spaces will be reduced to 400 (approximately 55% of existing). This indicates that the majority of skiers at the Project area will also be lodging at the resort, or residents on the property.

The following steps were taken to develop winter trip generation estimates for the Project (Alternative 1):

- Day skier trip generation was calculated assuming the 400 day skier parking spaces are fully occupied on a peak Friday. A daily trip generation rate of 2 was used to account for the entering trip and exiting trip made by each vehicle. The PM peak hour trip generation estimate was determined using driveway count data collected at the existing HMR site by a consultant hired by the project applicant (LSC Transportation Consultants) in 2006. (The driveway count data is provided in Appendix K2 and shown in Table 11-2.) The driveway count data indicates that 789 vehicles were parked in the day skier parking lot the day the counts were collected. During the PM peak hour 356 vehicles associated with day skiers parked on site during the day exited the parking lot. The PM peak hour trip generation rate used for the day skier parking lot was 0.45 ( $356 / 789 = 0.45$ ). In addition, day skiers will be dropped-off in the morning and picked-up in the afternoon. Given current drop-off/pick-up activity at HMR, 100 day skiers (2 per vehicle) are assumed to be dropped-off/picked-up (i.e. during the morning 50 vehicles enter the site, drop off skiers, and leave the site and return in the afternoon to pick up the skiers).
- It is assumed that 50% of the lodging guests will arrive at the resort on Friday. To present a conservative analysis, it was further assumed that all 50% of the lodging guests will arrive during the PM peak hour. A trip generation rate of 1.5 trips per lodging unit was estimated, based on average parking rates for a Resort Hotel, Rental Townhouse, and Condominium in *Shared Parking, 2<sup>nd</sup> Edition* (Urban Land Institute, 2005). Note that the *Homewood Mountain Resort Parking Study* (LSC Transportation Consultants, 2011) provides an average parking demand of 1.2 spaces per hotel and condo-hotel lodging unit; therefore, the trip generation of 1.5 accounts for lodging guests arriving at the resort, as well as the potential for these guests to make an additional trip the same day that they arrive.

- Trips were generated for the remaining 50% of lodging units and the residential units using typical TRPA and ITE trip generation rates. Trips were generated for the retail uses using these rates.
- Trips generated by the North Base Lodge, Mid-Mountain Day Lodge, and other skier services buildings are expected to be 100% internalized. The purpose of these uses is to accommodate skiers and resort guests.
- The same methodology used for summer trip generation was used to determine the internal capture, alternative mode, and pass-by reductions for the winter analysis.

***Internal Capture***

The mix of land uses for the Project (Alternative 1) is expected to create internal trip making opportunities. The National Household Travel Survey was used as the basis for determining how the mix of land uses will interact with each other. The survey provides information about the type of trips people make from home. The survey results indicate that for residential uses 18% of trips are work related, 27% of trips are for social or recreational purposes, 45% of trips are for personal business (e.g. errands and shopping), and 10% are school or church related.

The residential land uses were analyzed using this breakdown of trip type, as well as the following assumptions:

*Residential Units*

- 18% - work/work-related
  - 25% of trips are made internally
  - 75% of trips are made externally
- 27% - recreational/social
  - 60% of trips are made internally (includes trips to the ski resort)
  - 40% of trips are made externally
- 45% - personal business
  - 40% of trips are made internally
  - 60% of trips are made externally
- 10% - school or church related
  - 100% of trips are made externally

Total Internal Trip Reduction (Residential): 39%

*Employee Housing Units*

- 18% - work/work-related
  - 100% of trips are made internally
- 27% - recreational/social (includes trips to the ski resort)
  - 60% of trips are made internally
  - 40% of trips are made externally
- 45% - personal business
  - 40% of trips are made internally

- 60% of trips are made externally
- 10% - school or church related
  - 100% of trips are made externally

Total Internal Trip Reduction (Employee Housing): 52%

The lodging units were analyzed under the assumption that 50% of trips would be for social or recreational purposes, and 50% of trips would be for other personal business (e.g., shopping).

*Lodging Units*

- 50% - recreational/social
  - 70% of trips are made internally (includes trips to the ski resort)
  - 30% of trips are made externally
- 50% - personal business
  - 40% of trips are made internally
  - 60% of trips are made externally

Total Internal Trip Reduction (Lodging): 55%

The internalized retail trips were determined based on the number of trips internalized by the residential and lodging units that go to the retail use. For example, 20% of the lodging trips are internal to the retail uses (50% of trips are made for personal business x 40% of personal business trips are internal). Therefore, the trips generated by the lodging units were multiplied by 20% to determine the number of internal trips to the retail uses.

The overall internal capture reduction for the Project (Alternative 1), during the Friday PM peak hour, is approximately 18%, which is lower than the above internal capture rates for the project land uses because the overall project trip generation includes the lodging guests arriving during the PM peak hour and day skiers leaving during the PM peak hour that do not have internal trips associated with them.

**Alternative Modes of Travel**

HMR is proposing to provide alternative transportation modes to guests and residents, thereby reducing the number of personal vehicle trips created by the Project (Alternative 1)

HMR is proposing to provide a skier shuttle service and a Dial-A-Ride service during the winter season. The number of personal vehicle trips reduced by these services was calculated assuming an average vehicle occupancy (persons per vehicle) of 1.82 for visitors, and 1.42 for residents, based on the TRPA travel demand model. The number of vehicle trips created by these travel modes was also calculated and accounted for in the trip generation analysis.

The HMR shuttle service will operate one bus, hourly from 7:00 AM to 11:00 PM (16 hours). Trips generated at the HMR driveways by the shuttle service (32 daily trips, 2 PM peak hour trips) were added to the trip generation estimates. The reduction in vehicle trips due to the operation of the shuttle service was also calculated and subtracted from the overall trip generation. Assuming a shuttle capacity of 12 passengers, 50% occupancy during the two peak

hours (AM and PM), 25% occupancy during the 14 off-peak hours, and a visitor vehicle occupancy rate 1.82, it was estimated that daily vehicle trips will be reduced by 59, and PM peak hour trips will be reduced by 7.

A Dial-A-Ride service will be provided and will include the operation of up to ten, 20-passenger buses. The service will be provided for 10.5 hours per day (8:00 AM to 6:30 PM). It is estimated that 1 roundtrip will be made each hour by each operating bus, with all 10 buses in operation during the peak hours (AM and PM) and 5 buses in operation during the off-peak hours. The Dial-A-Ride buses will create 20 new peak hour trips, and 125 new daily trips on the roadways. Assuming each bus is 50% occupied during the two peak hours 25% occupied during the 8.5 off-peak hours, and an average vehicle occupancy rate of 1.82, the reduction in vehicle trips will include 453 daily trips and 110 PM peak hour trips.

**Pass-By**

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. The following pass-by rate, presented in Table 5.4 of the Trip Generation Handbook (ITE, 2004), was used for the Project (Alternative 1).

- Shopping Center – 34%.

The pass-by rate is only applied to the shopping center use and not to any other use within the project.

**Winter Trip Generation Summary**

Tables 11-13 through 11-16 present winter trip generation summaries for the Project (Alternative 1) and Alternatives 3, 4, 5, and 6 including internal capture, alternative modes of travel, and pass-by reductions. Alternative 2 (No Project) will not include any changes to the existing Homewood Mountain Resort. The existing Homewood site consists of a day-use ski resort and complimentary skier services buildings such as a rental and repair shop, food service, and ticket sales. Based on information in Table 11-2, the existing Homewood Mountain Resort generates approximately 2,535 daily vehicle trips, and 472 PM peak hour trips. Please see the Appendix K-2 for the complete trip generation spreadsheets for each alternative.

**Table 11-13**

Project (Alternative 1) and Alternative 3 – Winter Trip Generation

Land Use	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
<i>50% of lodging guests arrive on Friday*</i>									
Hotel	38 rooms	1.5	0.75	100%	0%	57	29	29	0
Condo/Hotel	30 rooms	1.5	0.75	100%	0%	45	23	23	0
Penthouse Condos	15 units	1.5	0.75	100%	0%	23	11	11	0
Timeshare	10 units	1.5	0.75	100%	0%	15	8	8	0

**Table 11-13**

Project (Alternative 1) and Alternative 3 – Winter Trip Generation

Land Use	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<i>Remaining 50% of lodging units, all residential units, and retail use analyzed using typical TRPA and ITE trip generation rates</i>									
Hotel (310)	37 rooms	8.92	0.70	49%	51%	330	26	13	13
Condo/Hotel (310)	30 rooms	8.92	0.70	49%	51%	268	21	10	11
Penthouse Condos (230)	15 units	5.86	0.52	67%	33%	88	8	5	3
Timeshare (265)	10 units	10.1	0.79	40%	60%	101	8	3	5
Residential Condos/ Townhomes (230)	52 units	5.86	0.52	67%	33%	305	27	18	9
Apartment (220)	13 units	6.72	0.62	65%	35%	87	8	5	3
Shopping Center (820)	25 ksf	42.94	3.75	48%	52%	1,074	95	45	49
Meeting Space	3.005 ksf	Accessory Use to Hotel							
Fitness Center/Spa	10.59 ksf	Accessory Use to Hotel							
Restaurant	1.80 ksf	Accessory Use to Hotel							
Bar	1.26 ksf	Accessory Use to Hotel							
Day Skier Parking	400 spaces	2.0	0.45	0%	100%	800	180	0	180
<u>South Base</u>									
Residential Condos	99 units	5.86	0.52	67%	33%	580	51	34	17
Skier Drop Off/ Pick Up	100 skiers (2 skiers per vehicle)	2	1	50%	50%	200	100	50	50
Total "Raw" Trip Generation						3,973	595	254	340
Internal Capture Trips						(-1,205)	(-102)	(-60)	(-42)
External Project Trips						2,768	493	194	298
Alternative Mode Trips						(-355)	(-95)	(-48)	(-47)
External Vehicle Trips						2,413	398	146	251
Pass-By Trips <sup>4</sup> (Shopping Center - 34%)						(-205)	(-18)	(-8)	(-11)
<b>Total New Project Trips</b>						<b>2,208</b>	<b>380</b>	<b>138</b>	<b>240</b>
Existing Homewood Volumes						(-2,535)	(-472)	(-115)	(-357)
<b>Total Net New External Roadway Trips</b>						<b>(-327)</b>	<b>(-92)</b>	<b>23</b>	<b>(-117)</b>

Source: Fehr & Peers 2009

Notes:

\* An average of 1.5 vehicles per unit was assumed.

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

**Table 11-14**

Alternative 4 – Winter Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
Single Family Residential (210)	8 units	10	1.01	63%	37%	80	8	5	3
Shopping Center (820)	15 ksf	42.94	3.75	48%	52%	644	56	27	29
<u>South Base</u>									
Single Family Residential (210)	8 units	10	1.01	63%	37%	80	8	5	3
Total "Raw" Trip Generation						804	72	37	35
Internal Capture Trips						(-82)	(-8)	(-5)	(-3)
External Project Trips						722	64	32	32
Alternative Mode Trips (5%)						(-36)	(-3)	(-2)	(-2)
External Vehicle Trips						686	61	30	30
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-196)	(-17)	(-8)	(-9)
<b>Total Net New External Roadway Trips</b>						<b>490</b>	<b>44</b>	<b>22</b>	<b>21</b>
Existing Homewood Volumes						(-2,535)	(-472)	(-115)	(-357)
<b>Total Net New External Roadway Trips</b>						<b>(-2,045)</b>	<b>(-428)</b>	<b>(-93)</b>	<b>(-336)</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates. The casino rate was developed based on other studies.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

**Table 11-15**

Alternative 5 – Winter Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
<i>50% of lodging guests arrive on Friday *</i>									
Hotel	38 rooms	1.5	0.75	100%	0%	57	29	29	0
<i>Remaining 50% of lodging units, all residential units, and retail use analyzed using typical TRPA and ITE trip generation rates</i>									
Hotel (310)	37 rooms	8.92	0.7	49%	51%	330	26	13	13
Residential Condos (230)	225 units	5.86	0.52	67%	33%	1,319	117	78	39
Apartment (220)	12 units	6.72	0.62	65%	35%	81	7	5	3
Shopping Center (820)	25 ksf	42.9 4	3.75	48%	52%	1,074	95	45	49
Skier Parking Spaces	400 spaces	2.0	0.45	0%	100%	800	180	0	180
<u>South Base</u>									
Single Family Residential (210)	16 units	10	1.01	63%	37%	160	16	10	6
Skier Drop Off/ Pick Up	100 skiers (2 skiers per vehicle)	2	1	50%	50%	200	100	50	50
Total "Raw" Trip Generation						4,021	570	230	340
Internal Capture Trips						(-1,225)	(-108)	(-68)	(-40)
External Project Trips						2,796	462	162	300
Alternative Mode Trips						(-355)	(-95)	(-48)	(-47)
External Vehicle Trips						2,441	367	114	253
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-192)	(-17)	(-6)	(-10)
<b>Total External Roadway Trips</b>						<b>2,249</b>	<b>350</b>	<b>108</b>	<b>243</b>
Existing Homewood Volumes						(-2,535)	(-472)	(-115)	(-357)
<b>Total Net New External Roadway Trips</b>						<b>(-286)</b>	<b>(-122)</b>	<b>(-7)</b>	<b>(-114)</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates. The casino rate was developed based on other studies.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

**Table 11-16**

Alternative 6 – Winter Trip Generation

Land Use (ITE Code)	Density <sup>1</sup>	Rates <sup>2</sup>				Trips <sup>3</sup>			
		Daily	PM	PM In	PM Out	Daily	PM	PM In	PM Out
<u>North Base</u>									
<i>50% of lodging guests arrive on Friday *</i>									
Hotel	25 rooms	1.5	0.75	100%	0%	38	19	19	0
Condo/Hotel	13 rooms	1.5	0.75	100%	0%	20	10	10	0
<i>Remaining 50% of lodging units, all residential units, and retail use analyzed using typical TRPA and ITE trip generation rates</i>									
Hotel (310)	25 rooms	8.92	0.7	49%	51%	223	18	9	9
Condo/Hotel (310)	12 rooms	8.92	0.7	49%	51%	107	8	4	4
Residential Condos (230)	145 units	5.86	0.52	67%	33%	850	75	50	25
Apartment (220)	12 units	6.72	0.62	65%	35%	81	8	5	3
Shopping Center (820)	25 ksf	42.9 4	3.75	48%	52%	1,074	95	45	49
Skier Parking Spaces	400 spaces	2.0	0.45	0%	100%	800	180	0	180
<u>South Base</u>									
Residential Condos (230)	50 units	5.86	0.52	67%	33%	293	26	17	9
Single Family Residential (210)	14 units	10	1.01	63%	37%	140	14	9	5
Skier Drop Off/ Pick Up	100 skiers (2 skiers per vehicle)	2	1	50%	50%	200	100	50	50
Total "Raw" Trip Generation						3,826	553	218	334
Internal Capture Trips						(-1,085)	(-95)	(-60)	(-35)
External Project Trips						2,741	458	158	299
Alternative Mode Trips						(-355)	(-95)	(-48)	(-47)
External Vehicle Trips						2,386	363	110	252
Pass-By Trips <sup>4</sup> (Shopping Center – 34%)						(-211)	(-18)	(-7)	(-11)
<b>Total Net New External Roadway Trips</b>						<b>2,175</b>	<b>345</b>	<b>103</b>	<b>241</b>
Existing Homewood Volumes						(-2,535)	(-472)	(-115)	(-357)
<b>Total Net New External Roadway Trips</b>						<b>(-360)</b>	<b>(-127)</b>	<b>(-12)</b>	<b>(-116)</b>

Source: Fehr & Peers 2009

Notes:

<sup>1</sup> ksf = 1,000 sf

<sup>2</sup> Daily rates are from the TRPA Trip Table and PM rates are from ITE. ITE Daily rates were used where the TRPA Trip Table did not provide rates. The casino rate was developed based on other studies.

<sup>3</sup> Numbers may differ slightly from the trip generation spreadsheet due to rounding.

<sup>4</sup> Pass-By trips were calculated after internal capture and alternative mode trips were subtracted from the total retail trips.

Following completion of trip generation modeling, Alternative 5 was modified to include 12 Employee Housing units that were not included in the original traffic analysis. As a result of the addition of 12 affordable housing units, Alternative 5 winter trip generation will increase by 25 daily trips and 3 Friday PM peak hour trips. This increase in trip generation over what is reported in Table 11-15 will not adversely affect operations at the study intersections

### **11.4.3 Total Trip Generation Summary**

Table 11-17 outlines the trip generation totals, a summary of summer and winter trip generation, for the Project (Alternative 1) and Alternatives 3, 4, 5, and 6.

**Table 11-17**

## Project Alternatives Trip Generation Summary

Trip Generation	Alternative				
	1	3	4	5	6
<b>Summer</b>					
“Raw” Daily Project Trip Generation	3,013	3,013	804	2,940	2,826
Daily Internal Capture and Alternative Mode Trips	(-1,339)	(-1,339)	(-118)	(-1,349)	(-1,289)
Daily Pass-By Trips	(-208)	(-208)	(-196)	(-200)	(-206)
<b>Net New External Daily Project Trips</b>	<b>1,466</b>	<b>1,466</b>	<b>490</b>	<b>1,391</b>	<b>1,331</b>
“Raw” PM Peak Project Trip Generation	319	319	72	283	273
PM Peak Internal Capture and Alternative Mode Trips	(-125)	(-125)	(-11)	(-130)	(-125)
PM Peak Pass-By Trips	(-18)	(-18)	(-17)	(-17)	(-18)
<b>Net New External PM Peak Project Trips</b>	<b>176</b>	<b>176</b>	<b>44</b>	<b>136</b>	<b>130</b>
<b>Winter</b>					
“Raw” Daily Project Trip Generation	3,973	3,973	804	4,021	3,826
Daily Internal Capture and Alternative Mode Trips	(-1,560)	(-1,560)	(-118)	(-1,580)	(-1,440)
Daily Pass-By Trips	(-205)	(-205)	(-196)	(-192)	(-211)
<i>Net New Project Trips</i>	<i>2,208</i>	<i>2,208</i>	<i>490</i>	<i>2,249</i>	<i>2,175</i>
Existing Daily Homewood Trip Generation	(-2,535)	(-2,535)	(-2,535)	(-2,535)	(-2,535)
<b>Net New External Daily Project Trips</b>	<b>(-327)</b>	<b>(-327)</b>	<b>(-2,045)</b>	<b>(-286)</b>	<b>(-360)</b>
“Raw” PM Peak Project Trip Generation	595	595	72	570	553
PM Peak Internal Capture and Alternative Mode Trips	(-197)	(-197)	(-11)	(-203)	(-190)
PM Peak Pass-By Trips	(-18)	(-18)	(-17)	(-17)	(-18)
<i>Net New External PM Peak Project Trips</i>	<i>380</i>	<i>380</i>	<i>44</i>	<i>350</i>	<i>345</i>
Existing PM Peak Homewood Trip Generation	(-472)	(-472)	(-472)	(-472)	(-472)
<b>Net New External PM Peak Project Trips</b>	<b>(-92)</b>	<b>(-92)</b>	<b>(-428)</b>	<b>(-122)</b>	<b>(-127)</b>

Source: Fehr &amp; Peers 2009

Notes: Detailed trip generation spreadsheets for Alternatives 1, 3, 4, 5, and 6 are provided in Tables 11-9 to 11-16.

#### 11.4.4 Trip Distribution

Vehicle trips generated by the Project (Alternative 1) were distributed to the roadway network based on travel patterns in the study area and locations of complementary land uses. Based on the types of land uses, it was assumed that the different land uses would have different trip distribution patterns. The locations of complimentary land uses, including existing households and recreational/tourist opportunities were evaluated. Aerial photography and US Census data was used to determine the locations and densities of households near Homewood (primarily for the purposes of determining the trip distribution for the commercial/retail uses). Seasonal variations in trip distribution patterns were also evaluated based on weather and road conditions in the area. The trip distribution for the Project (Alternative 1) land uses during the summer and winter is described below:

##### **Summer**

###### *Residential/Lodging Units (filled prior to the Friday PM peak hour)*

- 35% enter/exit from/to the south on SR 89
- 5% enter/exit from/to the north on SR 89 between Homewood and Tahoe City
- 60% enter/exit from/to the north on SR 89
  - 40% enter/exit from/to the west on SR 89
  - 60% enter/exit from/to the east on SR 28

This directional split is based on the location of land uses that are desirable to guests staying in the lodging units. Most trips by resort guests during the PM peak hour are assumed to be recreational based (to beaches, trails, retail, restaurants, etc.). Many of these uses are on SR 28 (in Tahoe City, Kings Beach, Tahoe Vista, etc.). The destinations that would be accessed via SR 89 are Truckee and Squaw Valley.

###### *Commercial/Retail*

- 60% enter/exit from/to the south on SR 89
- 35% enter/exit from/to the north on SR 89 between Homewood and Tahoe City
- 5% enter/exit from/to the north on SR 89 (Tahoe City)

###### *Lodging Guests Arriving on Friday*

- 35% enter/exit from/to the south on SR 89
- 65% enter/exit from/to the north on SR 89
  - 80% enter/exit from/to the west on SR 89
  - 20% enter/exit from/to the east on SR 28

##### **Winter**

###### *Residential/Lodging Units (filled prior to the Friday PM peak hour)*

- 10% enter/exit from/to the south on SR 89

- 5% enter/exit from/to the north on SR 89 between Homewood and Tahoe City
- 85% enter/exit from/to the north on SR 89
  - 40% enter/exit from/to the west on SR 89
  - 60% enter/exit from/to the east on SR 28

#### *Commercial/Retail*

- 60% enter/exit from/to the south on SR 89
- 35% enter/exit from/to the north on SR 89 between Homewood and Tahoe City
- 5% enter/exit from/to the north on SR 89 (Tahoe City)

#### *Lodging Guests Arriving on Friday*

- 10% enter/exit from/to the south on SR 89
- 90% enter/exit from/to the north on SR 89
  - 80% enter/exit from/to the west on SR 89
  - 20% enter/exit from/to the east on SR 28

#### *Day Skiers*

- 25% enter/exit from/to the south on SR 89
- 60% enter/exit from/to the north on SR 89 between Homewood and Tahoe City
- 15% enter/exit from/to the north on SR 89
  - 25% enter/exit from/to the west on SR 89
  - 75% enter/exit from/to the east on SR 28

The proposed project caters primarily to skiers staying at the resort, not day skiers. Therefore, since the day skiing is not the main use, it was assumed that the majority of day skiers will be locals who know the mountain and can easily get to the resort.

Vehicle trips entering and exiting the driveway access points of the Project area were distributed based on the locations of the land uses and parking facilities on site.

Part of the Project area commercial use will include a grocery store and potentially a hardware store; therefore, the existing traffic volumes were adjusted to account for residents who currently shop in Tahoe City that will change their patterns to shop at Homewood instead. This effect will reduce vehicle trips on SR 89 south of SR 28 by 20 during the PM peak hour for the Project.

Figures 11-7 through 11-10 show the summer project trips at the study intersections for Alternatives 1, 3, 4, 5, and 6. Figures 11-11 through 11-14 show the winter project trips at the study intersection for Alternatives 1, 3, 4, 5, and 6.

Figure 11-7. Alternatives 1 and 3 Summer Project Trips (including Pass-By)

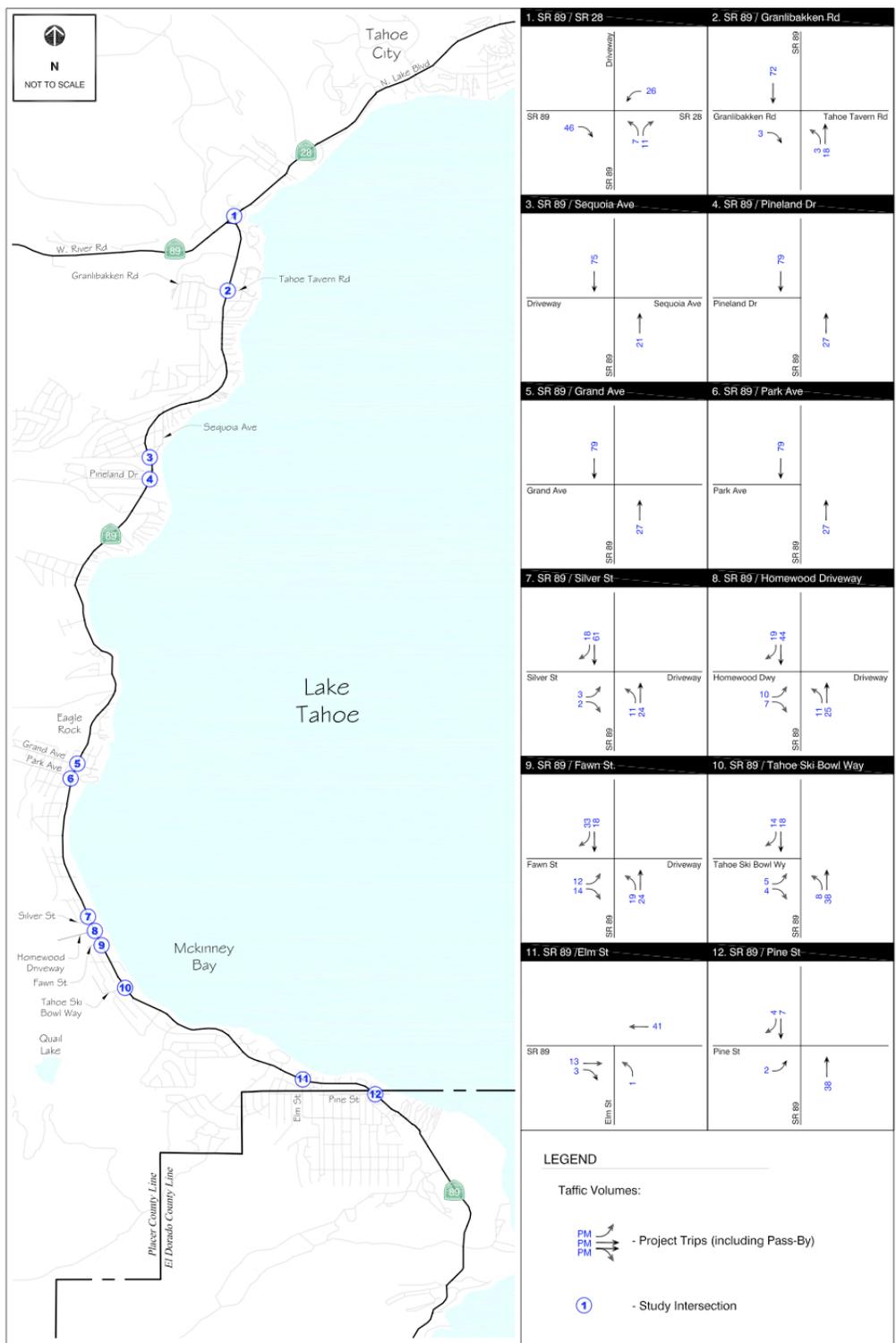


Figure 11-8. Alternative 4 Summer Project Trips (including Pass-By)

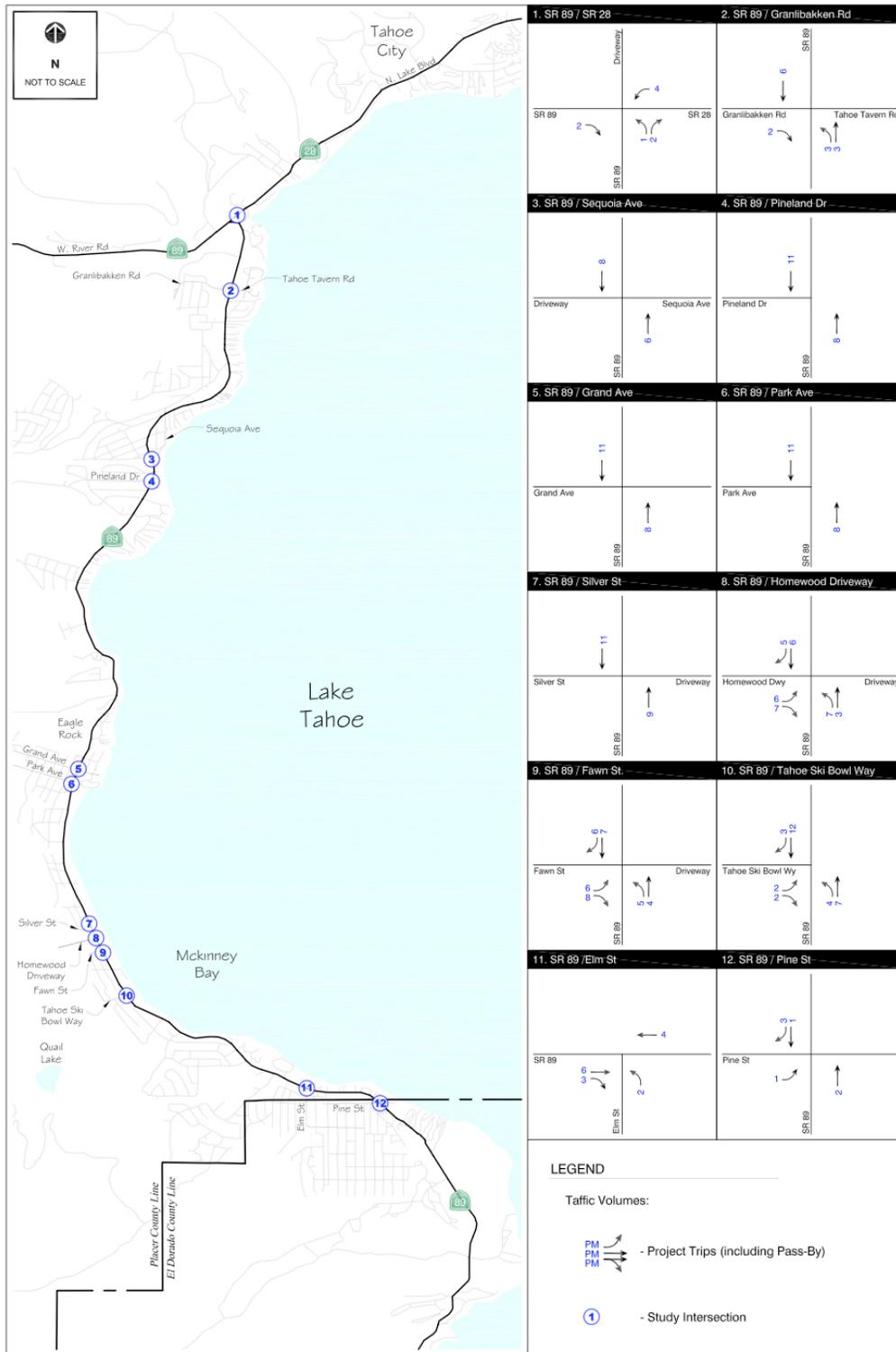


Figure 11-9. Alternative 5 Summer Project Trips (including Pass-By)

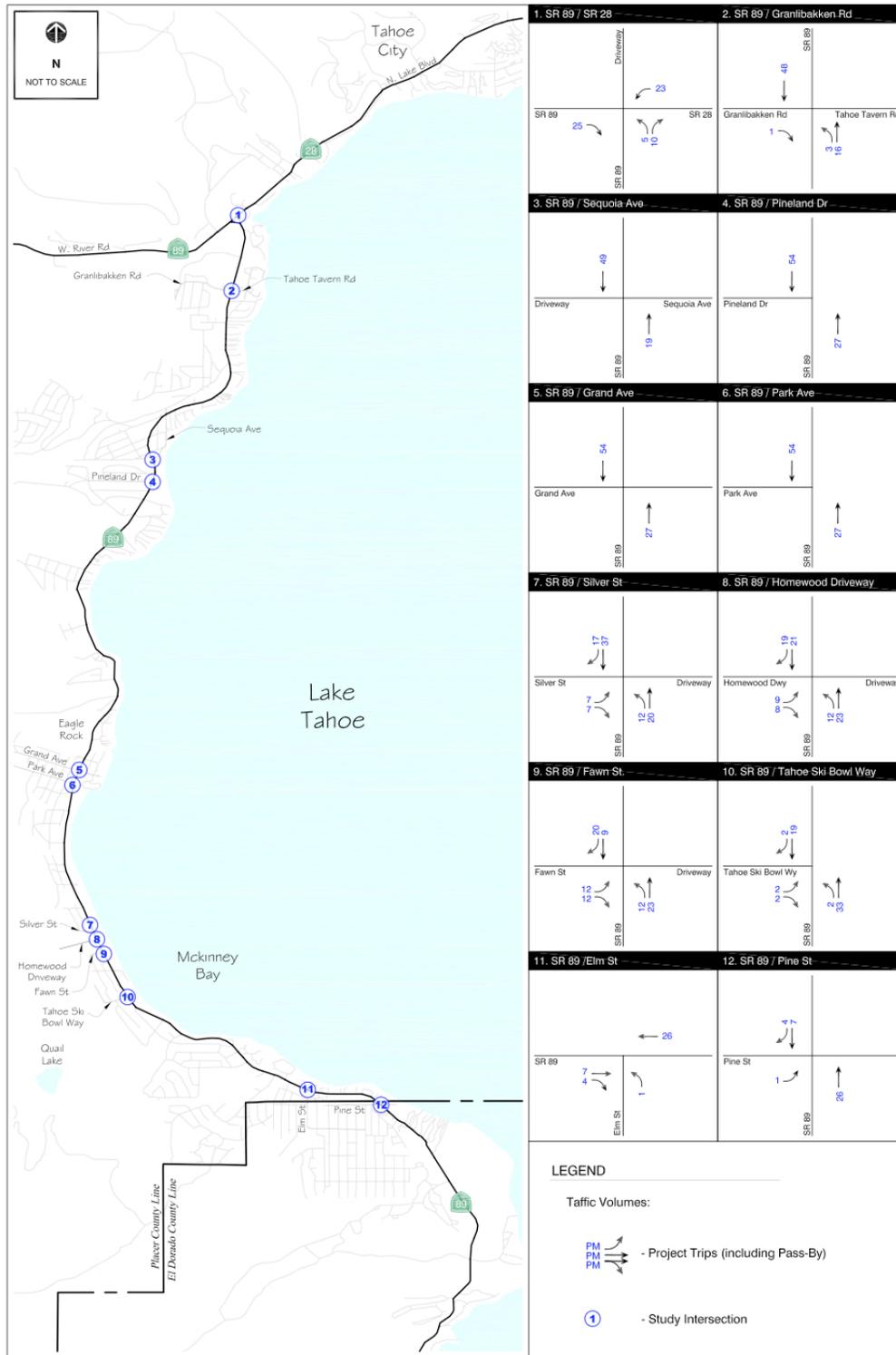


Figure 11-10. Alternative 6 Summer Project Trips (including Pass-By)

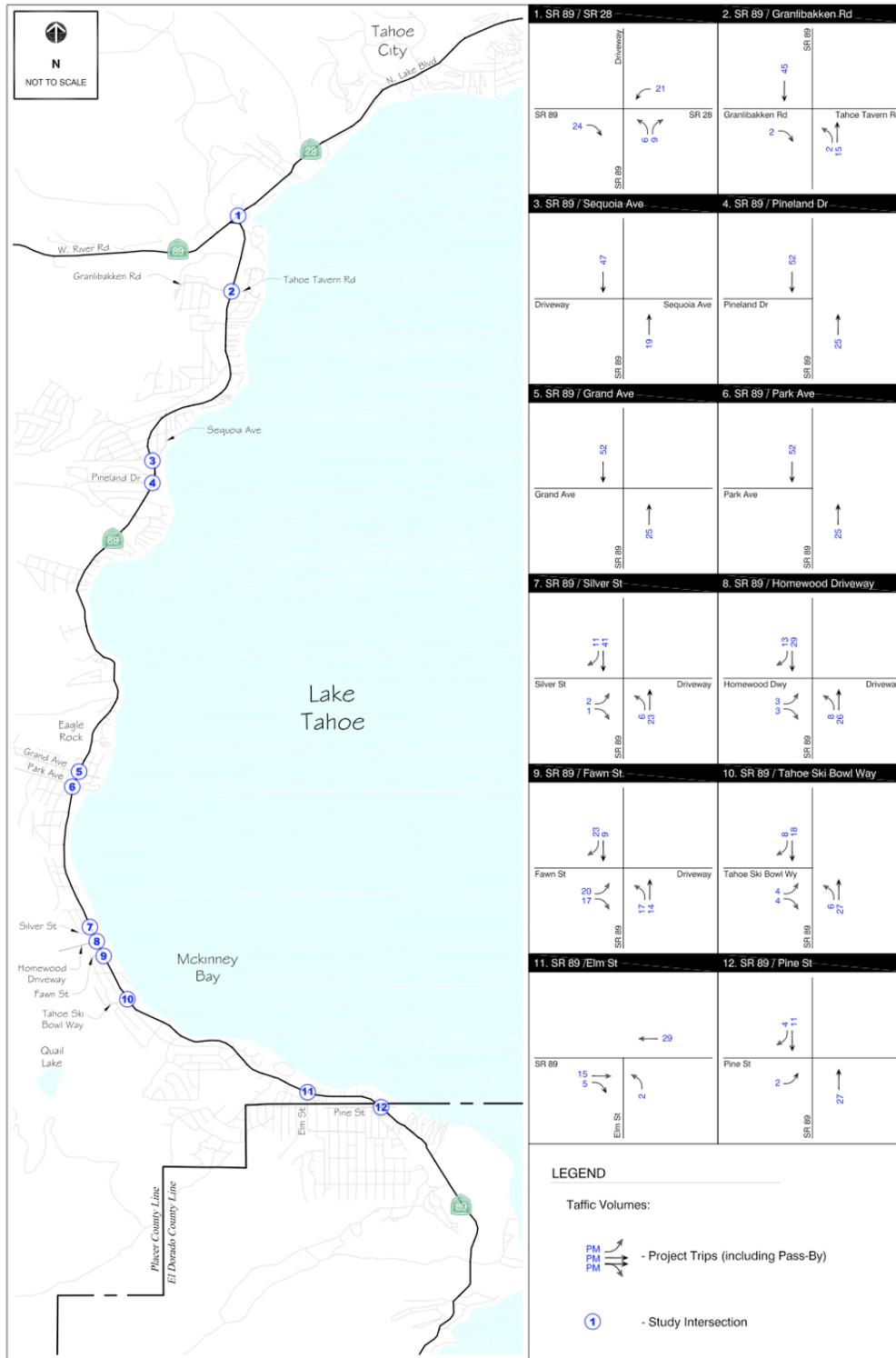


Figure 11-11. Alternatives 1 and 3 Winter Project Trips (including Pass-By)

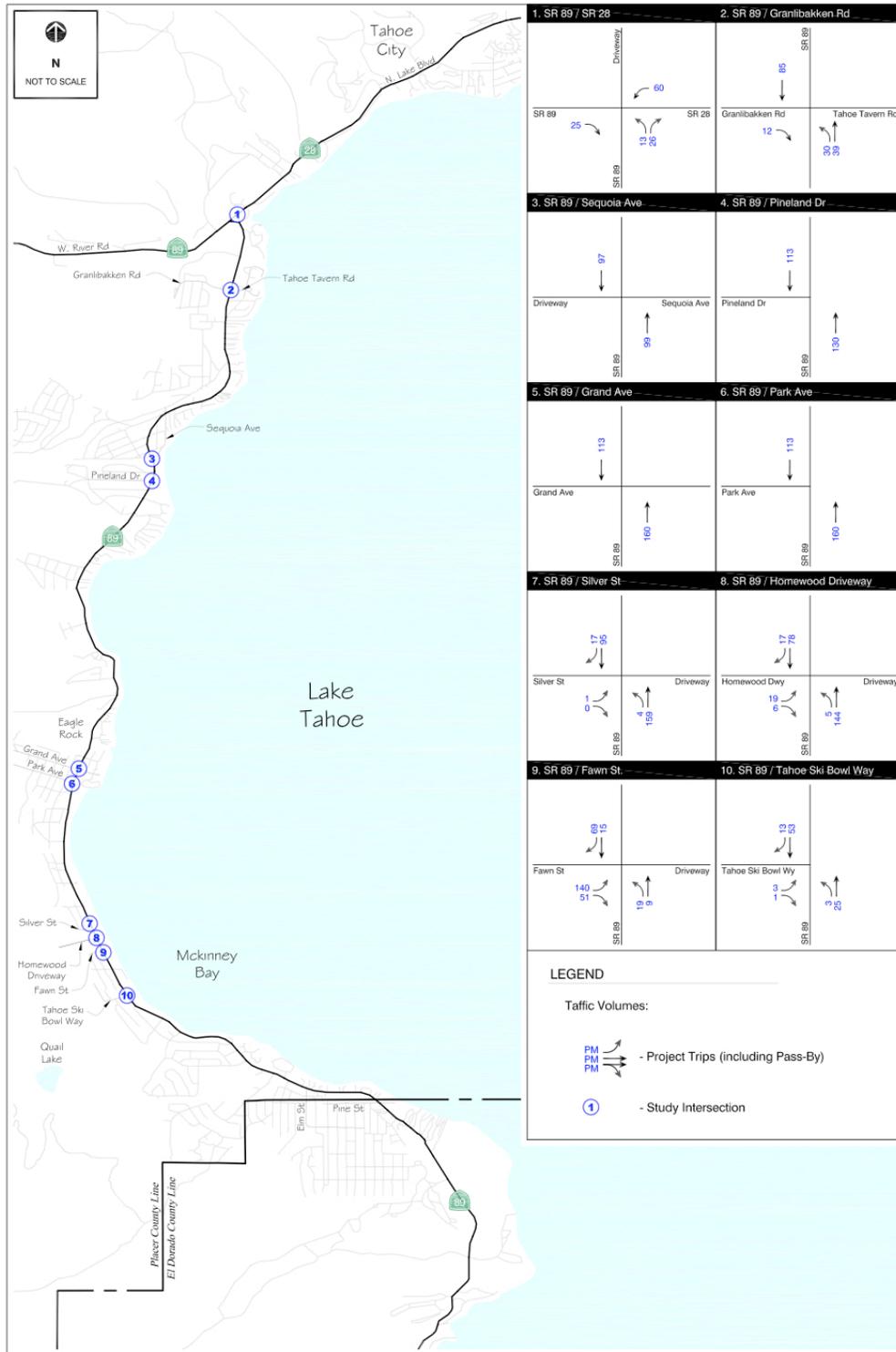


Figure 11-12. Alternative 4 Winter Project Trips (including Pass-By)

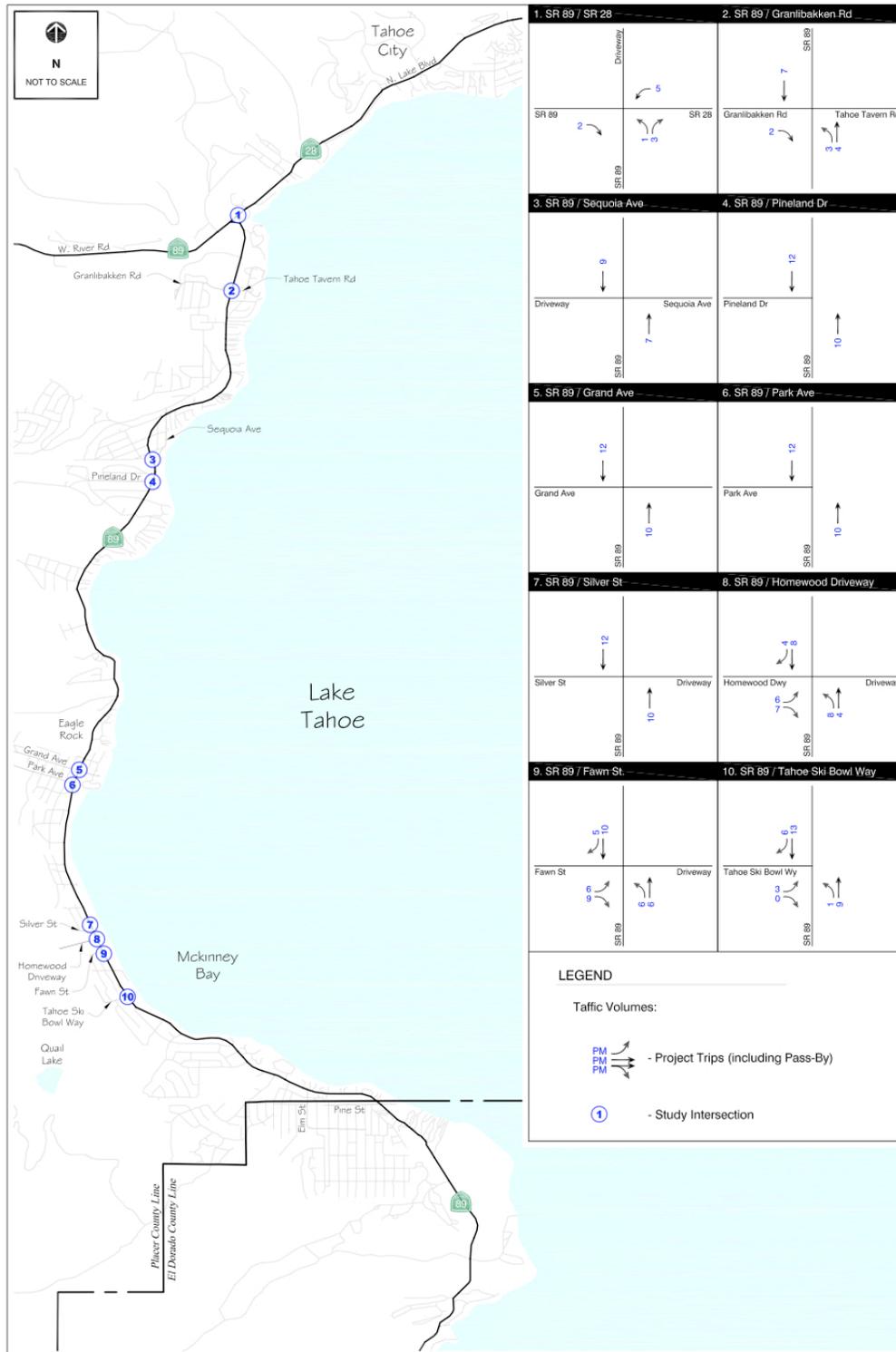


Figure 11-13. Alternative 5 Winter Project Trips (including Pass-By)

