

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

APPROACH

An Environmental Assessment (EA) is being prepared under the Tahoe Regional Planning Agency (TRPA) Code of Ordinances and Rules of Procedure. This chapter addresses the potential environmental impacts of the implementation of the Tahoe South Events Center Project (Proposed Action), the No Action Alternative, and Alternatives A, B, and C. Each environmental topic area, the existing environmental setting, the associated thresholds and standards to evaluate project effects, and an analysis of environmental impacts and recommended mitigation measures are addressed in Sections 3.1 through 3.13 of this chapter.

ORGANIZATION OF EACH RESOURCE SECTION

Sections 3.1 through 3.13 are organized to include the following subsections:

Affected Environment - This section describes the existing environmental conditions, especially as they relate to the various impact analyses.

Impact Evaluation Criteria - This section identifies relevant local, state, and federal environmental standards/thresholds (i.e., water quality standards, air quality standards, zoning provisions, etc.) and other criteria by which a change in the environment can be assessed.

Environmental Consequences and Recommended Mitigation - Expected consequences (impacts) that would be associated with implementation of the No Action, Proposed Action, and project alternatives are discussed in this section. For each impact, there is an analysis of potential or expected changes in the environment that would result from implementation of the Proposed Action or project alternatives. The No Action alternative would maintain existing conditions of the project area. The level of detail provided in the analysis is commensurate with the detail provided in the project description. Where the Proposed Action or project alternative would result in impacts that are considered significant, modifications to the action are proposed to reduce the impact to a level that is less than significant.

References - This section provides a list of the references used to prepare the analysis, and persons contacted.

3.1 SOILS, GEOLOGY AND SEISMICITY

This section contains an evaluation of the potential impacts of the construction and operations of the Tahoe South Events Center Project (Project) and Alternatives on soils, geology, land capability and land coverage. The existing site conditions and current TRPA and local jurisdictional regulatory settings are described, which provide the basis for the establishment of the impact evaluation criteria for changes in soil and geologic conditions and TRPA land coverage and capability. Analyses of potential impacts are based on data, results and conclusions provided in the following reports and associated mapping:

- *Geotechnical Investigation – Tahoe South Events Center, Douglas County, NV (Black Eagle Consulting, Inc. September 2017)*
- *Custom Soil Resource Report for Tahoe Basin Area, California and Nevada – Tahoe South Events Center (NRCS 2018)*
- *TRPA Staff Report for Edgewood Companies Land Capability Challenge; 55 Highway 50, Douglas County, Nevada APN: 1318-27-001-007, TRPA File No. LCAP2017-0325 & APN 1318-27-002-006, TRPA File No. LCAP2017-0376 (March 22, 2018 TRPA Hearings Office)*
- *Land Capability Report for APNs 1318-27-001-007 and 1318-27-002-006 (37,26 total Acres) The Edgewood Companies, Zephyr Cove, NV (RJ Poff and Associates March 2018)*
- *Geotechnical Evaluation/Review of Liquefaction Potential Based on Nearby Projects – Tahoe South Events Center, Douglas County, NV (Black Eagle Consulting Inc. April 2018)*
- *Soils/Hydrology Scoping Report Tahoe South Events Center Stateline Douglas County Nevada (McGinley and Associates January 2018)*
- *Soils/Hydrologic Final Report Tahoe South Events Center Stateline Douglas County Nevada (McGinley and Associates April 2018)*

Section 3.2, Hydrology and Water Quality, addresses the Project's potential effects to surface water hydrology, water quality, and groundwater.

The Project is located outside of the shorezone of Lake Tahoe, and the project area contains no river or stream channels. Therefore, the Project would have no effects to river or stream channels, deposition or erosion of beach sand, natural littoral processes, or changes in siltation, deposition or erosion. The project area contains no expansive soils or slopes that could become unstable or generate landslides or avalanche. These topics are not discussed further in this EA.

AFFECTED ENVIRONMENT

Topography

The Lake Tahoe Basin lies within the Sierra Nevada in a region of complex terrain. The lake has a maximum elevation of 6,229 feet above mean sea level (msl) with surrounding mountain peaks ranging from approximately 8,000 to 10,000 feet msl. The Lake Tahoe Basin trends north to south with an average width of approximately 18 miles.

The project area (Figure 1-1) is located in the Stateline area of Douglas County, Nevada and is entirely contained within Section 27, Township 13 north, Range 18 East, Mount Diablo Meridian and is mapped within the United States Geological Society (USGS) South Lake Tahoe 7.5-minute Quadrangle (USGS 1992). The average project area elevation is 6,320 feet msl with a site elevation difference of around 50 feet from east to west. The eastern two-thirds of the project area is steeper, with gradients of 6 to 7 percent. The western one-third of the project area has slopes of 3 to 4 percent. Drainage primarily occurs as sheet flow across the existing asphalt parking lot and into pre-treatment facilities prior to discharging into the Stateline Stormwater System (SSWS) or infiltrates into soils of the landscaped areas.

Geology and Seismicity

The Lake Tahoe Basin was formed two to three million years ago by geologic block faulting between the northwest-trending Sierra Nevada to the west and the north-trending Carson Ridge to the east. Lake Tahoe occupies the depression, or graben, between the convergence of these two up-faulted mountain ranges. The southern end of the Basin consists of a flat plain of lake bed deposits, glacial outwash, and glacial moraines, bounded by high peaks composed of granite and metamorphic rocks.

The Lake Tahoe Basin is located in a region of Holocene age (Present to 11,000 years before the present), which are defined as active by the California State Mining and Geology Board, and early Quaternary age (between 11,000 and 1.6 million years before the present), sometimes referred to as potentially active faults, as evidenced by the features and historical data published in Natural Hazards of the Lake Tahoe Basin (Cooper, Clark and Associates 1974) and Preliminary Maps of Pleistocene to Holocene Faults in the Lake Tahoe Basin, California and Nevada (Saucedo 2005):

- Movements have taken place along faults adjacent to the basin within historical time (Lawson 1912; Kachadoorian 1967);
- Sediments at the bottom of Lake Tahoe show recent offsets which are indicative of faulting (Hyne 1972);
- Steep cliffs (30 to 45 degree slopes) and other topographic features associated with active faulting are found on both sides of Lake Tahoe (Lindgren 1896, 1897; Louderback 1924; Birkeland 1963; Hyne et al, 1972); and
- Earthquake epicenters, which indicate probable faults, have been located in and around the basin; however, none had Richter magnitudes greater than 6.0.

The primary north-south fault zone that separates the eastern edge of the Sierra Nevada from the parallel fault-block mountains of Nevada and Utah is located about six miles east of the Lake Tahoe Basin. The north-south faults along the shores of Lake Tahoe appear to be the longest continuous faults traversing the basin area. Of these faults, the fault along the west side of the lake appears to be the longest, with a surface length of approximately 50 miles. A fault of this length could potentially generate a 7.5 magnitude earthquake (Cooper, Clark and Associates 1974). A very young fault scarp on the east side of the Carson Range provides evidence that large and potentially destructive earthquakes have occurred in this region.

The West Tahoe-Dollar Point fault zone, the North Tahoe fault, and the Incline Village fault are mapped as active and exhibiting Holocene activity, which is activity within the last 11,000 years (Kleinfelder 2007). As defined by the Alquist-Priolo Earthquake Fault Zoning Act (1972), an active fault is one that has had surface displacement within the last 11,000 years. No active faults are mapped within or in the vicinity of the TSEC project area, which is located on the South Lake Tahoe USGS 7.5-minute Quadrangle. Additionally, no Quaternary age faults (i.e., less than 1.8 million years old) are mapped across lands comprising this quadrangle.

The potential for seismic activity within a Project area is primarily related to the proximity of faults. Faults are fractures or zones of related fractures where the rocks on one side have been displaced with respect to rocks on the other side. The potential for fault rupture is related to concepts of recency and recurrence (Holdrege and Kull 2010a), meaning that the more recently a fault has ruptured, the more likely that the fault could rupture again.

Numerous earthquakes have occurred in the Lake Tahoe Basin during the past 100 years of record keeping. These earthquakes have generally measured less than 5.0 on the Richter Scale. A catalog search of the USGS National Earthquake Information Center (<http://earthquake.usgs.gov/regional>; Accessed on April 18, 2018) revealed approximately 15 major earthquakes of magnitude 5.0 or greater have occurred in the Basin since 1974.

The major north-south faults along the shores of Lake Tahoe appear to be the longest continuous faults traversing the basin area. Of these faults, the fault along the west side of the lake appears to be the longest, with a surface length of approximately 50 miles. Theoretically, a fault of this length could generate a 7.5 magnitude earthquake (Natural Hazards of the Tahoe Basin 1974). A very young fault scarp on the eastside of the Carson Range provides evidence that large and potentially destructive earthquakes have occurred in this region.

The Lake Tahoe Basin is classified as Zone III (major) on the State of California's Earthquake Epicenters, Faults, and Intensity Zone Map (Burnett 1973). The International Building Code's Seismic Zone Map of the United States places Douglas County, including the project area, within Seismic Hazard Zone 3, which corresponds to an area that may experience damage due to earthquakes having moderate intensities of V or more on Modified Mercalli Scale.

The Project design must comply with the regulations of the Federal Earthquake Hazards Reductions Act and Douglas County building codes, which include the following:

- 2012 International Building Code (IBC);
- 2012 International Residential Code (IRC);
- 2012 Uniform Plumbing Code (UPC);
- 2012 Uniform Mechanical Code (UMC);
- 2011 National Electrical Code (NEC);
- 2012 International Energy Conservation Code (IECC);
- 2012 International Fire Code (IFC); and
- 2012 International Urban Wildfire Interface Fire Code for the Lake Tahoe area.

Mapping by the United States Geological Society (USGS) in 2017 indicates a 2 percent probability that a bedrock ground acceleration of 0.644g will be exceeded in any 50-year interval (Black Eagle Consulting 2017).

Soils and Geomorphology

Lake Tahoe Basin soils are complex and diverse. Variability in relief, vegetative cover, and climate are major factors influencing this region's soil diversity. Soils in the Lake Tahoe Region have been mapped by the Natural Resource Conservation Service (NRCS) and are described in the Soil Survey of the Tahoe Basin Area, California and Nevada (NRCS 2007). Project area soil map units are mapped on the NRCS Web Survey website (accessed February 5, 2018; <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>). These map units are identified and named according to taxonomic classification of the dominant soils. Project area soil map units were reported as primarily Urban land (Map Unit 7061) with

some small portions of Tahoe Complex, 0 to 2 percent slopes (Map Unit 7041) and Oneidas coarse sandy loam, 5 to 15 percent slopes (Map Unit 7492) along the project area boundary with Lake Parkway.

Table 3.1-1 presents the soil characteristics of the project area soil types. Generally, soils on the steep slopes adjacent to Lake Parkway are field mapped as Cagwin soils and complexes of Cagwin-Rock Outcrop. The small areas of created fill slopes along Lake Parkway are included with the Cagwin soils. Cagwin soils are moderately deep soils derived from granodiorite.

The upland soils on the relatively flat slopes of the project area were developed in alluvium that has been reworked by historic shoreline processes. These soils, called Soil XXX-1, -2, and -3 in the land capability report, are deeper than Cagwin soils, or have finer textures, or are redder in color, and do not have fragipans. These soils were not established as a separate series in the 1974 Soil Survey (Rogers 1974).

Project area non-SEZ soil types are generally well to excessively well drained with low erosion potential and low shrink-swell potential. The potential for soil liquefaction across the project area has been determined to be low because of the density of the subsurface soils, the presence of bedrock at shallow depth, and the depth to groundwater (Black Eagle Consulting 2017, 2018).

The soils in the SEZ areas (**Figure 3.1-1**) are somewhat poorly, poorly, and very poorly drained. They are mostly mineral soils with some organic soils occurring in the wettest parts of the SEZs. The boundaries of the SEZ that is largely covered by pavement were delineated and verified using aerial photo interpretation, as based on a 1940's photo that predates the construction of the casino corridor and four backhoe pits. In APN 1318-27-002-006 (and the small uncovered area in the south corner of APN 1318-27-001-007), the SEZ boundaries were located using the presence of primary (key) vegetation indicators and confirmed by observing soil redox concentrations and depletions in auger borings. The indication of a seasonal high water table within 20 inches of the surface was used along with indicator vegetation to confirm the location of SEZ boundaries. No reliance on secondary SEZ indicators was necessary for the mapping (RJ Poff and Associates 2018).

RJ Poff and Associates state that the project area falls within Bailey Geomorphic units E2 (Outwash, till, and lake deposits), and C1 (Granitic foothills) (Bailey 1974) and that the project area geomorphology and soils have been affected by ancient water levels in Lake Tahoe. As Lake Tahoe rose and then receded numerous shoreline features such as wave-cut and alluvial beaches were created.

The Nevada Bureau of Mines and Geology (NBMG) has mapped the project area as Artificial fill with areas around the primarily paved project area classified as Fluvial deposits and Decomposed granodiorite. The soils encountered during geotechnical explorations are noted to generally match regional geology maps with the exposed soil profile consisting of 2.5 to 10 feet of fill materials that are underlain by 2 to 7.7 feet of native granular spoils, which consist of silty sand and poorly graded sand with silt. Granite bedrock underlies the entirety of the project area at depths between 5 to 15 feet below ground surface (bgs) (Black Eagle Consulting, Inc. 2017).

Figure 3.1-1 Project Area TRPA-Verified Land Capability

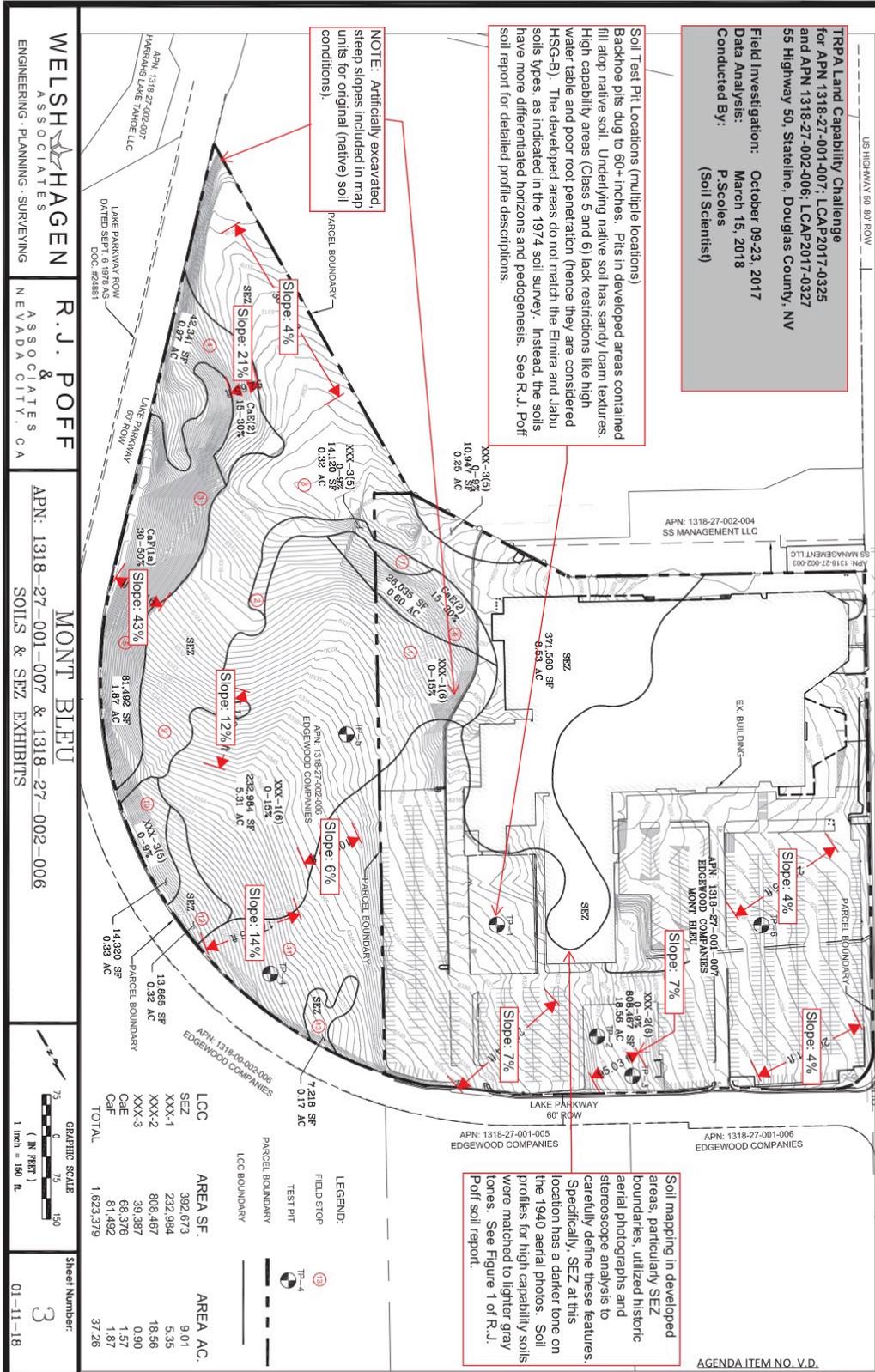


Table 3.1-1

Soil Characteristics in the Project Area

Soil Type ¹	Parent Material ²	Surface Runoff Class ³	Shrink-Swell Potential ⁴	Permeability ⁵	Drainage Class ⁶	Available Water Capacity ⁷	Seasonal High Water Table	Bailey Class ⁸	NRCS Class ⁹
CaD – Cagwin-Rock outcrop complex 5 to 15% slopes, extremely stony	Colluvium over grus derived from granodiorite	Low	Low	Very Slow	Somewhat Excessively Well Drained	Very Low	None	4	B
CaE – Cagwin-Rock outcrop complex, 15 to 30% slope, extremely stony	Colluvium over grus derived from granodiorite	Low	Low	Very Slow	Somewhat Excessively Drained	Very Low	None	2	B/C
CaF – Cagwin-Rock outcrop complex, 30-50% slopes, extremely stony	Granitic colluvium/ Lake sediments	Medium	Low	Very Slow	Somewhat Excessively Drained	Very Low	None	1a	B/C
EfB – Elmira-Gefo loamy coarse sand, 0 to 5% slope	Outwash derived from granodiorite	Very Low	Low	Rapid	Somewhat Excessively Drained	Low	None	6	A
JeD – Jabu coarse sandy loam, shallow variant, 5 to 15% slope	Outwash derived from granodiorite	Low	Low	Very Slow	Well Drained	Moderate	Present	4	A
Soil XXX-1 – Coarse-loamy, mixed, active, frigid Pachic Humixerept, 0 to 15% slope	Granitic colluvium/ Lake sediments			Moderate to High	Well Drained		No Indicators	6	B

Soil Type ¹	Parent Material ²	Surface Runoff Class ³	Shrink-Swell Potential ⁴	Permeability ⁵	Drainage Class ⁶	Available Water Capacity ⁷	Seasonal High Water Table	Bailey Class ⁸	NRCS Class ⁹
Soil XXX-2 – Coarse-loamy, mixed, active, frigid Typic Humixerept, 0 to 9% slope	Granitic colluvium/ Lake sediments			Moderate	Well to Moderately Drained		No Indicators to 60 inches bgs	6	B
Soil XXX-3 – Coarse-loamy, mixed, active, frigid, Aquic Haploxeralf, 0 to 9% slope	Granitic colluvium/ Lake sediments				Poorly to Moderately Well Drained		SHGW between 20-40 inches bgs	5	C

Source: Soil Survey of Tahoe Basin – California-Nevada (SCS 1974; NRCS 2007); for APNs 1318-27-001-007 and 1318-27-002-006 Land Capability Report (RJ Poff and Associates 2017)

1. See Figure 3.1-1 for locations
2. Parent material. The unconsolidated and chemically weathered mineral and organic material in which the solum of a soil is formed as a result of pedogenic processes. Granitic. A textural term commonly pertaining to an igneous intrusive rock of felsic to intermediate composition. Referring to granite like rock, but not necessarily true granite. Commonly applied to granite, quartz monzonite, granodiorite, and diorite. Granodiorite. An igneous intrusive rock that is intermediate between felsic and mafic in composition and contains quartz and somewhat more plagioclase than orthoclase.
3. Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
4. Shrink/Swell Potential provides criteria for determination of expansive soil properties.
5. Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality.
6. Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the “Soil Survey Manual.”
7. Available water capacity (AWC) (available moisture capacity). The volume of water that should be available to plants if the soil, inclusive of fragments, were at field capacity. It is commonly estimated as the difference between the amount of water at field capacity and the amount at wilting point with adjustments for salinity, fragments, and rooting depth. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as: Very low 0 to 2.5; Low 2.5 to 5.0; Moderate 5.0 to 7.5; High 7.5 to 10.0; Very high more than 10.0.
8. See Table 3.1-3.
9. Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Hydrologic Soils Group Definitions: A =low runoff potential (0.30 to 0.45 in/hr); B=moderate runoff potential (0.15 to 0.30 in/hr); C=moderately high runoff potential (0.05 to 0.5 in/hr); D=high runoff potential (less than 0.05 in/hr)

Land Coverage and Land Classification System

The project area comprises two parcels in Douglas County that are owned by Edgewood Companies: APN 1318-27-002-006 and APN 1318-27-001-007. APN 1318-27-001-007 is a developed parcel that is currently the site of the MontBleu Resort Casino and Spa and APN 1318-27-002-006 is the adjacent undeveloped parcel. With exception to minor parking improvements, the proposed Project will be situated on APN1218-27-001-007.

The TRPA has established a soil classification system based upon the Bailey Land Classification System (1974). Land capability classification delineates the amount of impermeable development coverage that may exist within a capability district. Table 3.1-3 displays runoff potential, disturbance hazards, and allowable coverages for each capability district. Lands in classes 4 through 7 are considered suitable for development. These lands consist of moderately to excessively drained coarse soils on generally level ground. Classes 1 to 3 are more sensitive to development and consist of SEZ or wetland soils, and soils with high erosion potential.

Land Coverage Verification (LCV) was completed for the project area and a Land Capability Challenge (LCC) was approved on March 22, 2018, which are filed under TRPA File No. LCAP2017-0325 for APN 1318-27-001-007 and File No. LCAP2017-0376 for APN 1318-27-002-006. **Table 3.1-1** details the soil types and Land Capability classifications that were verified through field and mapping efforts of Edgewood Companies' Land Capability Challenge for APNs 1318-27-001-007 and 1318-27-002-006. Note that the TSEC project area is primarily located on APN 1318-27-001-007.

Table 3.1-2

TRPA Verified Land Capability and Soil Groups

Land Capability Class	Soil Type	Current Area (acres)	Verified Area (acres)	Difference (acres)
1b	SEZ	6.11	9.01	2.90
4	CaD, 5-15%	1.71	0	-1.71
2	CaE, 15-30%	0	1.57	1.57
1a	CaF, 30-50%	0	1.87	1.87
7	EfB, 0-5%	7.97	0	-7.97
3	JeD, 5-15%	21.47	0	-21.47
6	XXX-1, 0-15%	0	5.35	5.35
6	XXX-2, 0-9%	0	18.56	18.56
5	XXX-3, 0-9%	0	0.90	0.90
Total		37.26	37.26	0

Source: TRPA Staff Report for March 22, 2018 Hearings Officer

There are four (4) SEZ features mapped within the Edgewood Companies' parcels: two (2) small SEZs along the east edge of APN 1318-27-002-006 just below Lake Parkway and two (2) large swales that merge near the west edge of APN 1318-27-002-006, which drain to a large culvert that extends under the MountBleu structure to an offsite outlet. Precipitation is the primary hydrology source for these features, but the SEZ along the west property line appears to be sustained by seasonal high groundwater (LCAP2017-0325 and LCAP2017-0376; March 22, 2018 TRPA Staff Report). Vegetation types found within these SEZs consists of Sedge, Baltic rush, bentgrass, wild rose, willows, aspen, and lodgepole pine. The land capability challenge decision documented above increased LCD 1b lands by 2.9 acres.

This increase in SEZ area is located primarily on APN 1318-27-002-006 and would not be altered by the Proposed Action or Alternatives.

Table 3.1-3 displays runoff potential, disturbance hazards and base percent allowable coverage for each LCD within the Project area. Lands in LCDs 4 through 7 are considered suitable for development. LCDs 1 to 3 are more sensitive to development, with LCD 1 being the most environmentally fragile and sensitive to development. LCD 1b (also referred to as Stream Environment Zones) is assigned whenever land is influenced by a stream or high groundwater. New land coverage within LCD 1b (stream environment zones –SEZ) is generally prohibited.

Table 3.1-3

Bailey System Basis of Capability for Lake Tahoe Basin Lands

Capability Level	Tolerance for Use	Slope	Erosion Potential	Runoff Potential	Disturbance Hazards	Allowable % Cover
7	Greatest	0-5%	Slight	Low to moderately low	Low hazard lands	30%
6		0-16%	Slight	Low to moderately low	Low hazard lands	30%
5		0-16%	Slight	Moderately high to high	Low hazard lands	25%
4		9-30%	Moderate	Low to moderately low	Moderate hazard lands	20%
3		9-30%	Moderate	Moderately high to high	Moderate hazard lands	5%
2		30-50%	High	Low to moderately low	High hazard lands	1%
1a	Least	30+	High	Moderately high to high	High hazard lands	1%
1b			Poor natural drainage		High hazard lands	1%
1c			Fragile flora and fauna		High hazard lands	1%

Source: Land Capability Classification of the Lake Tahoe Basin, California – Nevada (Bailey 1974)

Table 3.1-4 details existing land coverage for the project area and the resultant land coverage for the Proposed Action. The Proposed Action would result in a slight reduction of land coverage in LCD 6 (0.7%). Alternatives A and C would have the same footprint as the Proposed Action and would also result in a slight reduction of land coverage in LCD 6 (0.7%). Alternative B would not reduce coverage in LCD 6 as no landscape area would be developed along the US 50 frontage, and the event center structure and service access would be located partially on undeveloped LCD 6 lands. Under all project Alternatives, existing land coverage in LCDs 1b, 2, and 6 would remain above the base allowable land coverage for those districts.

Table 3.1-4

TRPA Land Coverage Within the Project Area

Land Capability District (LCD)	Percent Allowable Coverage	Total Area Within LCD	Base Allowable Coverage	Existing Land Coverage	Resultant Land Coverage - Proposed Action	Change in Land Coverage – Proposed Action
1b	1%	393,496.0	3,935.0	152,939.4	152,939.4	0.0
1a	1%	82,546.8	825.5	0	0	0.0
2	1%	68,468.3	684.7	1,725.2	1,725.2	0.0
5	25%	40,066.6	10,016.6	2,176.2	2,176.2	0.0
6	30%	1,041,977.1	312,593.2	610,775.7	606,423	-4,352.7 (-0.7%)
TOTAL		1,626,554.8	328,054.9	767,616.5	763,263.8	4,352.7 (-0.7%)

Source: Design Workshop, August 14, 2018

IMPACT EVALUATION CRITERIA

This analysis assumes that the Proposed Action and Alternatives would comply with federal, state, TRPA regional, and local ordinances and regulations.

Topography

There are no numeric TRPA criteria for topographic impact assessment. For the purposes of this EA, a change in ground surface relief features that is inconsistent with the surrounding topographic conditions would be considered a potential significant impact. The Project’s location and design features avoid this potential impact.

Geology and Seismicity

There are no TRPA criteria specifically for geologic or seismicity impact assessment. For purposes of this EA, the exposure of people or property geologic hazards, such as earthquakes, landslides, mudslides, avalanches or groundshaking, would be considered to be a significant impact. Seismic hazards that cannot be overcome by reasonable engineering, construction, or maintenance methods would be considered a significant impact. Also, alteration of geologic substructures would be considered a significant impact.

The most significant geologic hazards associated with the project area would be from earthquakes and their associated effects. Earthquakes present direct (primary) and indirect (secondary) hazards; both of which can occur locally or at locations distant from the earthquake source. Direct, local earthquake hazards include damage caused by fault displacements either by ground surface rupture or gradual fault creep. The damage caused by ground shaking is also a direct effect; however, shaking can occur locally or at remote locations. Indirect hazards presented by earthquakes include liquefaction and earthquake-induced landslides, both of which are triggered by ground shaking.

The severity of ground shaking due to an earthquake is determined by several factors including the size of the earthquake, fault rupture characteristics, and proximity of the earthquake to the site of interest.

Additionally, the type of soil or bedrock beneath the site will determine the strength of ground shaking. Ground shaking is described by two methods: ground acceleration as a fraction of the acceleration of gravity (g) or the Modified Mercalli scale, which is a more descriptive method involving 12 levels of intensity denoted by Roman numerals. The scale relates human perception and amount of damage. Modified Mercalli intensities range from I (shaking that is not felt) to XII (total damage).

Liquefaction occurs in water-saturated sediments that are shaken by moderate to large earthquakes. The liquefied soil loses shear strength when subjected to cyclic loading and may become unstable and fail, causing damage to all types of structures.

Soils

There are no numeric TRPA criteria specifically for soil impact assessment. For purposes of this EA, unstable soil conditions or the erosion of soils, within or off of the project area, that result from Project implementation would be considered a significant impact. Grading in excess of five-foot depth bgs would be considered a significant impact unless findings for TRPA Code Subsection 64.7.B can be made, in which case such grading is permissible.

There are additional grading standards set forth in Chapter 64 of the TRPA Code of Ordinances. Limitations include no excavation, filling, or clearing of vegetation or other disturbance of the soil between October 15 and May 1 of each year, unless approval is granted by TRPA. Excavation limitations from Chapter 64 are discussed further in Section 3.2 – Hydrology, Water Quality and Groundwater.

TRPA has established soil conservation thresholds related to impervious cover (i.e., land coverage) and SEZs: Preserve natural stream environment zones (SEZ), restore 25% of disturbed urban SEZ areas (1,100 acres), and reduce total land coverage. The TRPA Goals and Policies intended to maintain and enhance the soil resource environmental thresholds are as follows:

Protection of the Region's soil is important for maintaining soil productivity and vegetative cover and preventing excessive sediment and nutrient transport to the streams and lakes. Soil protection is especially critical in the Region where the soils are characteristically shallow and highly susceptible to erosion. Strategies for soil conservation are consistent with thresholds established for soil, water, and vegetation.

GOAL S-1 MINIMIZE SOIL EROSION AND THE LOSS OF SOIL PRODUCTIVITY

POLICIES:

S-1.1 ALLOWABLE IMPERVIOUS LAND COVERAGE SHALL BE CONSISTENT WITH THE THRESHOLD FOR IMPERVIOUS LAND COVERAGE.

The Land Use Subelement establishes policies which limit impervious land coverage consistent with the impervious land coverage limits set forth in the "Land-Capability Classification of the Lake Tahoe Basin, California-Nevada, a Guide for Planning," Bailey, 1974.

S-1.2 NO NEW LAND COVERAGE OR OTHER PERMANENT DISTURBANCE SHALL BE PERMITTED IN LAND CAPABILITY DISTRICTS 1-3 EXCEPT FOR THOSE USES AS NOTED IN A, B, AND C BELOW:

C. Public service facilities are permissible uses in land capability districts 1- 3 if:

i. The project is necessary for public health, safety or environmental protection;

ii. *There is no reasonable alternative, which avoids or reduces the extent of encroachment in land capability districts 1-3;*

iii. *The impacts are fully mitigated;*

iv. *Land capability districts 1-3 lands are restored in the amount of 1.5 times the area of land capability districts 1-3 which is disturbed or developed beyond that permitted by the Bailey coefficients; and*

v. *Alternatively, because of their public and environmental benefits, special provisions for non-motorized public trails may be allowed and defined by ordinances.*

Development within Land Capability Districts 1-3 is not consistent with the goal to manage high hazard lands for their natural qualities and shall generally be prohibited except under extraordinary circumstances involving public works. Each circumstance shall be evaluated based on the above four-point test of this policy. The restoration requirements of this policy can be accomplished on-site or off-site, and shall be in lieu of any coverage transfer or coverage mitigation provisions elsewhere in this plan.

S-1.3 THE LAND CAPABILITY MAP MAY BE REVIEWED AND UPDATED.

TRPA shall provide for a procedure to allow land capability challenges for reclassification of incorrectly mapped areas.

S-1.4 TRPA SHALL DEVELOP SPECIFIC POLICIES TO LIMIT LAND DISTURBANCE AND REDUCE SOIL AND WATER QUALITY IMPACTS OF DISTURBED AREAS.

Like impervious surfaces, disturbed and compacted areas result in increased soil loss and surface runoff. The Regional Plan sets policies designed to reduce existing surface disturbance and avoid new disturbance. TRPA shall set guidelines defining "disturbance" and determine what types of disturbed and compacted areas should be counted as impervious surfaces for purposes of applying land coverage limits. Coverage limits shall not be applied so as to prevent application of best management practices to existing disturbed areas.

S-1.5 PRIORITIZE WATERSHEDS OR OTHER AREAS IMPAIRED BY EXCESS LAND COVERAGE AND INCENTIVIZE THE REMOVAL AND TRANSFER OF COVERAGE FROM APPROPRIATE LOCATIONS WITHIN PRIORITY WATERSHEDS.

TRPA shall maintain specific programs to address the problem of excess coverage and may include limits on new coverage, coverage removal, and remedial erosion and runoff control projects.

S-1.6 MAINTAIN SEASONAL LIMITATIONS ON GROUND DISTURBING ACTIVITIES DURING THE WET SEASON (OCTOBER 15 TO MAY 1) AND IDENTIFY LIMITED EXCEPTIONS FOR ACTIVITIES THAT ARE NECESSARY TO PRESERVE PUBLIC HEALTH AND SAFETY OR FOR EROSION CONTROL.

Impacts related to soil disturbance are highly exaggerated when the soil is wet. For precautionary reasons, all project sites must be adequately winterized by October 15 as a condition for continued work on the site. Exceptions to the grading prohibitions will be permitted in emergency situations where the grading is necessary for reasons of public safety or for erosion control.

S-1.7 ALL EXISTING NATURAL FUNCTIONING STREAM ENVIRONMENT ZONES SHALL BE RETAINED AS SUCH AND DISTURBED STREAM ENVIRONMENT ZONES SHALL BE RESTORED WHENEVER POSSIBLE AND MAYBE TREATED TO REDUCE THE RISK OF CATASTROPHIC WILDFIRE.

Stream Environment Zones (SEZs) shall be managed to perpetuate their various functional roles, especially pertaining to water cleansing and nutrient trapment. This requires enforcement of a non-degradation philosophy. This policy is common to the Water Quality, Vegetation, Stream Environment Zone, and Wildlife Subelements and shall be implemented through the Land Use Element and Environmental Improvement Program (EIP).

Land

TRPA has adopted development restrictions limiting land coverage to a range of impervious land coverage coefficients. Land coverage standards are set forth in Chapter 30 of the TRPA Code of Ordinances. The classification of lands is based on the report titled Land Capability Classification of the Lake Tahoe Basin, California-Nevada (Bailey 1974). The land classification system ranks lands into seven levels of capability according to the frequency and magnitude of natural hazards (i.e., floods, landslides, high water tables, poorly drained soils, fragile flora and fauna, and easily erodible soils). An exceedance of TRPA's allowable base land coverage limitations would be considered a significant impact.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

**Impact: Geologic Hazards and Unstable Soil Conditions from Construction Activities
(TRPA IEC 1.c, g)**

Analysis: There are no portions of the project area that are located on or near steep terrain and subject to slope instability (i.e., landsliding, both gravitational or earthquake-induced) hazards. Because of the developed state and the relatively flat topography of the project area, the possibility of landslides and seismically induced slope instability is considered very low.

Unstable soil conditions do not currently exist within the project area. Under the No Action alternative, the existing conditions of the project area would remain unchanged. The potential impact level is less than significant based on the past record of no loss, injury or death within the project area involving geologic hazards.

Under the Proposed Action and Alternatives A, B, and C, the potential for soil liquefaction is low because of the density of the subsurface soils, the presence of bedrock at shallow depths, and the depth to groundwater. Additionally, project area soils have a low shrink-swell potential and low to very low surface runoff class. Geomorphic mapping for the project area indicates outwash, till and ancient lake deposits, which are low hazard lands.

The Proposed Action and Alternatives site locations, compliance with Douglas County building codes and design standards, and implementation of geotechnical recommendations, project design features and the TRPA Erosion and Sediment Control Plan would avoid the creation of unstable soil conditions. Also, according the Geotechnical Report (Black Eagle Consulting Inc. 2017), the Proposed Action and Alternatives would not alter geologic substructures.

Mitigation: No mitigation is required.

Impact: Creation of Impervious Surface Coverage Beyond IPES Limits (TRPA IEC 1.a)

Analysis: The existing project area TRPA verified land coverage would be maintained under the No Action alternative, no change in impervious surface coverage or TRPA land coverage would occur, and no temporary disturbance would occur within LCD 1b. The land capability challenge decision increased LCD 1b lands by 2.9 acres, across the total area of the two parcels in which the project area is located. This increase in SEZ area is located primarily on APN 1318-27-002-006 and would not be altered by the Proposed Action or Alternatives A or C.

Under the Proposed Action and Alternatives A and C, which would have the same footprint as the Proposed Action, net land coverage in LCD 6 would be reduced slightly by 4,352.7 square feet or 0.7%, as compared to existing impervious surface conditions. The total coverage reduction in LCD 6 on APN 1318-27-001-007 (totaling 7,731 square feet) under the Proposed Action and Alternatives A and C accounts for the 3,379 square feet of new land coverage in LCD 6 on the portion of APN 1318-27-001-008 within the Project Area. However, even with the coverage reduction, total land coverage in LCD 6 (606,423 square feet) under the Project Action and Alternatives A and C would still exceed coverage limits (312,593 square feet) by 293,830 square feet. No new temporary disturbance or permanent land coverage within LCD 1b, 1a, 2, or 5 lands would occur under the Proposed Action or Alternatives A or C. Net land coverage within LCD 1b would not change under the Proposed Action or Alternatives A or C, but the existing 152,939 square feet of land coverage that is in excess of the TRPA allowable base land coverage in LCD 1b (3,935 square feet) would remain (Table 3.1-4). No opportunity for LCD 1b land coverage restoration exists on the project area because it consists of the Montbleu casino structures. Existing land coverage that exceeds TRPA base allowable land coverage is considered a significant impact requiring mitigation in compliance with TRPA Code Section 30.6, Excess Land Coverage Mitigation Program.

Implementation of Alternative B would result in 2.26 acres (approximately 98,450 square feet) of disturbance to undeveloped Class 6 land. Actual coverage would be greater than the coverage calculated for the Proposed Action or Alternatives A or C because no coverage reduction would occur in the lower parking lot area and new coverage would occur north and east of the parking garage. Development of the service loop road would be located on undisturbed land and a portion of the event center would extend beyond the existing upper parking lot limits. These coverage additions would occur on LCD 6 lands on both parcels APN 1318-27-001-007 and 1318-27-002-006. No new temporary disturbance or permanent land coverage within LCD 1b, 1a, 2, or 5 lands would occur under Alternative B. Net land coverage within LCD 1b would not change, but the existing land coverage that is in excess of the TRPA allowable base land coverage in LCD 1b would remain (Table 3.1-4). Existing land coverage that exceeds TRPA base allowable land coverage is considered a significant impact requiring mitigation in compliance with TRPA Code Section 30.6, Excess Land Coverage Mitigation Program.

Mitigation: Excess Coverage Mitigation Fee

The Excess Coverage Mitigation Fee applies to projects where the amount of TRPA-verified land coverage existing in the project area prior to the project exceeds the base land coverage prescribed by Code Subsection 30.4.1. Land coverage in excess of the base allowable land coverage shall be mitigated by the transfer of land coverage pursuant to Code Subsection 30.4.3 or the land coverage mitigation program set forth in Code Section 30.6. Except as otherwise provided by Code Subsection 30.6.2, all projects on parcels or other project areas with unmitigated excess land coverage are subject to the land coverage mitigation program set forth in this section. Projects subject to the program

shall reduce land coverage by the amounts specified in subparagraphs 30.6.1.A and B. Excess land coverage equals the amount of TRPA-verified existing land coverage, less the total of the following: the maximum allowable amount of base coverage, the amount of coverage approved by transfer, and the amount of coverage previously mitigated under this section.

In the event land coverage reduction is required, the applicant may choose any of the following options, or combinations thereof, to comply with the requirements of this section.

1. **Reduce Land Coverage Onsite** Coverage may be reduced onsite as part of the project approval. Land subject to reductions shall be restored pursuant to subsection 30.5.3.
2. **Reduce Land Coverage Offsite** Coverage may be reduced offsite as part of the project approval. Coverage may be reduced in a different hydrologically related area provided the restoration occurs on more sensitive land than the project area. Land subject to reductions shall be restored pursuant to subsection 30.5.3.
3. **Land Coverage Mitigation Fee** A land coverage mitigation fee may be paid to TRPA in lieu of reducing land coverage pursuant to subparagraphs 1 or 2 above. The fee may be used outside of the hydrological related area from which it is collected to achieve more strategic environmental benefits. The fee shall be forwarded by TRPA to a land bank to provide land coverage reduction. The nonrefundable fee shall be calculated pursuant to subparagraph 30.6.1.C.
4. **Parcel Consolidation or Parcel Line Adjustment** The amount of excess land coverage may be reduced by parcel consolidation or parcel line adjustment with a contiguous parcel as part of the project approval.

Coverage Reduction Mitigation. For purposes of calculating the square footage reduction of excess coverage to be credited the parcel pursuant to Chapter 6: *Tracking, Accounting, and Banking*; the land coverage reduction square footage shall be calculated by determining the reduction percentage from Table 30.6.1-2 below, based on the amount of TRPA-verified existing excess land coverage on the parcel or project area. The reduction percentage from Code Table 30.6.1-2 shall be multiplied by the estimated coverage mitigation construction cost of the project and then divided by the mitigation factor of eight.

The following calculations use a 5.0% factor based on 151,217 square feet LCD 1b and 376,017 square feet in LCD 6. A factor of 5% is applied when excess coverage is equal to or greater than 174,240 square feet. Therefore, the additional coverage under Alternative B would still fall within the 5% factor range and the mitigation fee would be the same as the Proposed Action and Alternatives A and C.

Land Coverage Reduction (square feet) = (Fee Percentage X Land Coverage Construction Costs (\$)) / Mitigation Factor of 8.

- *Proposed Action: (5.0% X \$11,619,195)/8 = 72,619.97*
- *Alternatives A/B/C: (5.0% X \$11,619,195)/8 = 72,619.97*

The excess coverage mitigation fee shall be calculated by determining the amount of required land coverage reduction (sq. ft.), in accordance with subparagraph 1 above. The land coverage reduction square footage shall then be multiplied by the appropriate Mitigation Fee Coverage Cost Factor to determine the Excess Land **Coverage**

Mitigation Fee. The Mitigation Fee Land Coverage Cost Factor(s) shall be established by TRPA staff using an Annual Percentage Growth Rate (APGR) calculation (or best available alternate methodology) based on the best available residential sales information for the Tahoe Region. The APGR shall be calculated regularly, at least every 4 years. The fee shall be updated annually utilizing the most recently calculated APGR. Fee adjustments are limited to increases, even in instances when the APGR calculation may result in a negative percentage growth, to preserve the intent of the Excess Land Coverage Mitigation Fee program, and maintain consistency with the land bank's cost to acquire and restore land coverage under this program. The current excess land coverage fee shall be included within the schedule provided in the Rules of Procedure in subsection 10.8.5. The excess land coverage fee shall be as follows:

The following calculations use the excess land coverage fee for Area 4 – South Stateline (Nevada side) of \$15.00 per square foot.

Mitigation Fee (4) = Land Coverage Reduction (square feet) X Mitigation Fee Land Coverage

- *Proposed Action: 72,619.97 X \$15 = \$1,089,299.53*
- *Alternatives A/B/C: 72,619.97 X \$15 = \$1,089,299.53*

Impact: Soil Erosion and Sedimentation as a Result of Construction Activities (TRPA IEC 1.e, f)

Analysis: The No Action alternative would create no change to the existing conditions of the project area, and therefore, would not have impacts to soils.

Construction activities, such as removal of pavement, fill and landscaping, trenching and grading, and other disturbance actions that are necessary construction of the Proposed Action and alternatives could cause water and wind erosion of soils and result in sedimentation. Disturbed and denuded soils in the Lake Tahoe Basin are a known erosion hazard. Soils without mulch or vegetative cover are highly susceptible to particle detachment, granulation destruction, and transportation due to raindrop impact and overland flow (Brady 1990). One can predict soil loss in a given region using the universal soil-loss equation ($A=RKLSCP$), where:

- A = predicted soil loss,
- R = climatic erosivity,
- K = soil erodibility,
- L = slope length,
- S = slope gradient or steepness,
- C = cover and management, and
- P = erosion control practices.

In the Tahoe region, several of the ambient natural environmental soil loss factors "R", "K" and "S" (climatic erosivity, soil erodibility, and land-form gradient) are relatively high, providing a setting conducive to high potential soil loss. The Proposed Action and Alternatives would primarily be constructed on LCD 6 lands that are considered Low Hazard Lands with slight erosion potential and low to moderately low runoff potential. Factors "C" and "P" (cover/management and erosion control practices) can be controlled through source control and erosion and sediment control BMPs, which will be detailed in the Project's TRPA Erosion and Sediment Control Plan that is a standard TRPA project permit condition. Plan Sheet C2-00 (Appendix B) details the construction BMP plan.

Dust potential for the project area will be moderate during dry periods. The contractor will prevent dust from being generated during construction in compliance with federal, state, Douglas County, TRPA regulations.

These two latter factors can be lessened at the project site to reduce the soil-loss coefficient "A". To accomplish this, implementation of cover management and sediment and erosion control during construction will occur. Following Project completion, a majority of the project area will be covered with the TSEC building, asphalt parking areas, driveways and access roads. Unpaved portions of the project area will be revegetated.

The TRPA public service project permit will require consistency with the South Shore Area Plan guidelines and the implementation of source control and erosion and sediment control measures to protect and cover disturbance areas during construction and to stabilize soils and slopes for long term operations. Based upon the use of site-specific BMPs and compliance with permit conditions, the potential impacts associated with soil erosion and sedimentation are avoided and reduced to a level of less than significant.

Mitigation: No mitigation is required.

Impact: Create a Change in Topography or Ground Surface Relief Features Inconsistent with the Natural Surroundings (TRPA IEC 1.b)

Analysis: The No Action alternative would create no change to the existing conditions of the project area, and therefore, would have no impact.

The Proposed Action and Alternatives A and C would be located on the existing parking lot and would reconfigure the parking lot and landscaping to accommodate the new facility and parking layout, including creation of a landscaped lawn area and other landscape features. Grading would occur and the topography would change to accommodate entrances and layout; however, the overall site slope would be retained as depicted in the site plans.

Alternative B would be located farther away from US 50 in back of the existing MontBleu parking garage. Site slopes increase in this area. While the parking lot at US 50 would be retained, placement of the event center at the rear of the site results in extensive cut slopes to accommodate the event center and the service loop road. Cuts of at least 14 feet in depth and retaining walls would be required. Although the event center structure would be recessed into the slope, 2 to 10-foot tall retaining walls would be needed to maintain a flat exterior patio and pedestrian walkway, and the loop road would require development of 17 foot tall retaining walls. The developed area would be stepped to maintain the overall slope and the structures would be integrated as much as possible into the natural slope to blend with the undeveloped portion of the parcel. While Alternative B is primarily located on the existing disturbed upper parking lot area, it would result in 55,000 cubic yards of excavation and more extensive grading than the Proposed Action or Alternatives A or C.

Mitigation: No mitigation is required.

REFERENCES

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- Black Eagle Consulting Inc. 2018. Geotechnical Evaluation/Review of Liquefaction Potential Based on Nearby Projects – Tahoe South Events Center, Douglas County, NV. April 2018.
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- TRPA Staff Report for Edgewood Companies Land Capability Challenge; 55 Highway 50, Douglas County, Nevada APN: 1318-27-001-007, TRPA File No. LCAP2017-0325 & APN 1318-27-002-006, TRPA File No. LCAP2017-0376 (March 22, 2018 TRPA Hearings Office)
- USDA NRCS. 2018. Custom Soil Resource Report for Tahoe Basin Area, California and Nevada – Tahoe South Events Center.
- USGS National Earthquake Information Center (<http://earthquake.usgs.gov/regional>; Accessed on April 18, 2018

3.2 HYDROLOGY, SURFACE WATER QUALITY AND GROUNDWATER

This section describes the existing surface hydrology and drainage, water quality and groundwater conditions of the Tahoe South Events Center (TSEC) project area and evaluates the potential effects that may result from implementation of the Tahoe South Events Center Project (Project) and Alternatives. Section 3.1 addresses geology, soils and TRPA land capability and land coverage, including land coverage in Stream Environment Zones (SEZ). Section 3.4, Biological Resources, details the absence of SEZ supported wildlife habitat within the project area.

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. The existing site conditions and current TRPA and local jurisdictional regulatory settings are described, which provide the basis for the establishment of the impact evaluation criteria for changes in surface water hydrology and site drainage, groundwater, and water quality. Analyses of potential impacts are based on data, results and conclusions provided in the following reports and associated mapping:

- *Tahoe South Events Center Pollutant Load Reduction Model (PLRM) Analysis (Northwest Hydraulics March 2018)*
- *Geotechnical Investigation – Tahoe South Events Center, Douglas County, NV (Black Eagle Consulting, Inc. September 2017)*
- *Custom Soil Resource Report for Tahoe Basin Area, California and Nevada – Tahoe South Events Center (NRCS 2018)*
- *TRPA Staff Report for Edgewood Companies Land Capability Challenge; 55 Highway 50, Douglas County, Nevada APN: 1318-27-001-007, TRPA File No. LCAP2017-0325 & APN 1318-27-002-006, TRPA File No. LCAP2017-0376 (March 22, 2018 TRPA Hearings Office)*
- *Land Capability Report for APNs 1318-27-001-007 and 1318-27-002-006 (37,26 total Acres) The Edgewood Companies, Zephyr Cove, NV (RJ Poff and Associates March 2018)*
- *Geotechnical Evaluation/Review of Liquefaction Potential Based on Nearby Projects – Tahoe South Events Center, Douglas County, NV (Black Eagle Consulting Inc. April 2018)*
- *Soils/Hydrology Scoping Report Tahoe South Events Center Stateline Douglas County Nevada (McGinley and Associates January 2018a)*
- *Soils/Hydrologic Final Report Tahoe South Events Center Stateline Douglas County Nevada (McGinley and Associates April 2018b)*
- *Revised Technical Memorandum Regarding Groundwater Interception Tahoe South Event Center Douglas County, Nevada (Welsh Hagen Associates September 2019)*
- *Construction Dewatering Plan, Tahoe South Event Center Douglas County, Nevada (Welsh Hagen Associates November 2019)*

The project area is not located within 600 feet of a drinking water source; the closest TRPA source water is source water 007003003I11, which is located in the shorezone of Lake Tahoe near Edgewood Golf Course and is over 3,000 feet away. The Project would result in a reduction in stormwater volume to the Stateline Stormwater Association's existing treatment facilities that outfall to the constructed wetland system in Edgewood Golf Course and would not cause an adverse change in the amount of surface water in a water body. The Project would result in no change in the amount of water otherwise available for public water supply. In summary, because the project area contains no active perennial, intermittent or ephemeral stream channels or surface water bodies and no mapped flood hazard zones (FEMA FIRM Map No. 32005C0205G, revised January 20, 2010), the following topics are not applicable to the Proposed Project and Alternatives and are not analyzed in this EA.

- Changes in currents or the course or direction of water movements (TRPA IEC 3.a);
- Change in the amount of surface water in any water body (TRPA IEC 3.d);
- Place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary, FIRM or other flood hazard delineation map (TRPA IEC 3.i);
- Place structures or fill within a 100-year flood hazard area that would impede or redirect flood flow (TRPA IEC 3.c);
- Substantial reduction in the amount of water otherwise available for public water supplies (TRPA IEC 3.h); and
- Location of a project within 600 feet of a drinking water source (TRPA IEC 3.k).

AFFECTED ENVIRONMENT

Hydrology

The Lake Tahoe Basin comprises a bowl-shaped watershed, characterized by steep, north/south trending mountain ranges to the east and west, with Lake Tahoe occupying nearly 40 percent of the area. Within the basin, 63 individual watersheds (110 when the intervening areas that flow directly to the lake are included in the count) contribute surface water flow to Lake Tahoe. The climate consists of long, relatively mild winters with short, dry summers. Most of the area's precipitation comes in the form of snow, with occasional thunderstorms during the summer months. The western portions of the basin receive between 35 and 80 inches of precipitation per year, while the eastern portions receive between 20 and 35 inches. Higher amounts of precipitation occur in the upper elevations and are predominantly in the form of snow.

Lake Tahoe is one of the largest oligotrophic (low productivity) lakes in the world. Very low levels of plant nutrients, saturated oxygen conditions, and relatively small amounts of slowly decaying organic materials characterize the lake water. However, water near shore has shown recent substantial increases in nutrient levels. In addition, microscopic unicellular and filamentous algae have become common in shallow waters. There is an interdependent relationship between water, vegetation, and soils that has important consequences for water quality. In general, water quality is poorer offshore from developed areas than from undeveloped areas.

Natural drainage systems surrounding Lake Tahoe convey surface and subsurface runoff from rain and melting snow that slowly erodes the land. Sediment, dissolved minerals, organic litter, and nutrients are transported through the drainage courses and stream environment zones (SEZ) to the lake. Delta marshes of tributary streams filter these sediments and nutrients whereby they are used for plant growth. Organic materials are decomposed in the oxygen-rich lake and stream waters and nutrients are used by aquatic biota. Water quality in Lake Tahoe and its tributary streams can be adversely affected by excessive runoff from surrounding lands. Accumulated suspended soil particles can cause turbidity and sedimentation and

excessive suspended and dissolved nutrients can stimulate algal growth and deplete the lake of oxygen in the natural process of eutrophication (increasing biologic material and depletion of oxygen over time).

The project area is located approximately 3,200 linear feet east of and 90 feet elevation above the maximum Lake Tahoe lake elevation of 6229 feet mean sea level (msl). The project area is within the greater Edgewood Creek TRPA priority watershed and tributary to the Stateline Stormwater Association treatment area. Site hydrology has been altered by past development in the south Stateline Casino Core area with surface hydrology features having been graded and covered with asphalt parking areas for over 50 years. The nearest SEZs are located approximately 300 feet to the south and 680 feet to the north of the project area.

The elevation of the proposed project is approximately 6,320 feet msl. The topography in the vicinity of the proposed project slopes toward Lake Tahoe to the west. No evidence of wetlands or surface water features were observed at the site during geotechnical investigations in September 2017 (Black Eagle Consulting 2017; McGinley and Associates 2018) or during spring runoff site observations on April 17, 2018 and April 20, 2018 by Hauge Brueck Associates' staff.

Drainage

The project area currently drains to the stormwater drainage system of the MontBleu Resort Casino and Spa's front surface parking lot. Montbleu, Harrah's, Harvey's, Hard Rock, Edgewood Companies, Douglas County (Lake Parkway), and the Nevada Department of Transportation (NDOT) (Highway 50) are members of the Stateline Stormwater Association (SSWA) that was created to construct and operate a common stormwater treatment system to serve the Stateline casino corridor. The common stormwater treatment facilities associated with the SSWA include a series of sediment vaults under the Hard Rock parking lot and a constructed wetland treatment system on the Edgewood Tahoe Golf Course. Each member of the SSWA is responsible for the capture and conveyance of stormwater runoff that is generated from their property or right-of-way, and for pre-treatment of the captured stormwater prior to discharge to the common SSWA treatment facilities.

Under the existing conditions of the project area, stormwater runoff from the MontBleu surface parking lot is collected in storm drains and routed to pre-treatment facilities on the MontBleu property. The pre-treatment facilities include three (3) subsurface sedimentation vaults that are equipped with oil/grease separator baffles. The MontBleu pre-treatment system is pumped, cleaned, and inspected annually by a third-party contractor. Typical maintenance activities include the replacement of oil absorbent booms within each pre-treatment vault and proper disposal of the old oil absorbent booms and materials collected in the system (NWH 2018).

The stormwater runoff and conveyance that would result under the Proposed Action alternative was modeled for comparison to the existing drainage and conveyance across the project area. Results and conclusions are reported in the Tahoe South Events Center Pollutant Load Reduction Model (PLRM) Analysis (Northwest Hydraulics 2018).

Groundwater

Generally, seasonal high groundwater measurements across the project area range from 13.5 feet to over 25 feet below ground surface (bgs) where excavations are proposed with groundwater levels generally higher at the eastern portions and lower at the western portions of the site (McGinley and Associates 2018a; McGinley and Associates 2018b; Black Eagle Consulting 2017). Geotechnical explorations encountered groundwater at 4.5 feet just west and down gradient of the existing turf grass area/picnic area that is impervious and landscaped. Water encountered at this boring location (B-02 at 4.5 feet) does not correlate

with other site data and is not thought to be representative of groundwater. Based on historic photographs, a ditch or irrigation channel existed along the project area boundary prior to commercial development.

Historical groundwater data collected by Broadbent and Associates, Inc. between 1995 through 2014 proximal to the project area indicate a typical seasonal high groundwater level of 13.5 to 14 feet bgs (McGinley and Associates 2018; NDEP internal file review). The majority of the excavation depths are not anticipated to extend to the seasonal high groundwater level. However, because of seasonal fluctuation and the timing of construction, variable depth to bedrock, and slope topography across the site, the need for construction dewatering is anticipated.

The Proposed Action requires a maximum excavation depth of approximately 25.5 feet, which would extend approximately 12 feet below the seasonal high groundwater levels at the eastern extent of the proposed structure (located at the back of house and vehicle service area). Groundwater is expected to be intercepted during construction and seasonally over long term operations of the facility.

To estimate typical and maximum interception volumes McGinley and Associates calculated the groundwater flow rate using Darcy's Law where flow rate, $Q = KiA$. The hydraulic conductivity (K) is estimated to be 12.0 ft/day, which is a published value typical for silty-sand soil characteristics described in the Black Eagle Consulting boring logs (2017). To create low and high water table contour maps, historic groundwater levels were consulted and this data combined with site-specific measurements and using Kriging interpolation GIS software to map the contours. Hydraulic gradient, 0.10 feet/feet, was calculated by dividing the vertical and horizontal distances between these groundwater contours (e.g., the low and high water level contours). An interception width of 250 feet (the building width plus an additional 5 feet) and a maximum depth of the proposed TSEC building below typical and maximum groundwater contour levels were used to estimate groundwater interception rates ranging from 24.8 to 28.2 gallons per minute or gpm. This is a mid-range value for silty sand soils. Peak groundwater levels are expected to occur from March or April through early July.

Table 3.2-1

Groundwater Interception Calculations, Flow Rate

Parameter	Unit	Low	High
Hydraulic conductivity (K)	ft/day	12.0	12.0
Hydraulic Gradient (i)	foot/foot	0.10	0.10
GW elevation	feet msl	6306.7	6308.88
Low level of site	feet msl	6290.8	6290.8
Length of eastern wall	feet	250	250
Area of Interception (A)	square feet	3975	4520
Flow rate	cubic feet/day	4770	5424
Flow rate	gallons/minute	24.8	28.2

Source: McGinley and Associates 2018b

Hydraulic conductivity estimates can also be made using the grain size analyses from the geotechnical investigation. As provided in the Welsh Hagen Associates Memo (2019), conservative inspection of the grain size analyses indicates the grain size may be as high as 0.1 mm representing fine sand. Using a grain size range of 0.04 mm to 0.1 mm yields a range of values from 4.5 ft/day to 28.3 ft/day, placing the estimate shown in Table 3.2-1 within this range. Therefore, the range in flow rates for groundwater interception ranges from 11 gpm using a hydraulic connectivity of 4.5 ft/day to 67 gpm using a conservative high value of hydraulic conductivity of 28.3 ft/day.

Since Alternatives A and C have the same footprint and layout as the Proposed Action (but with a reduced building height and/or elimination of the microtransit shuttle and paid parking systems), they would require the same maximum excavation depth of approximately 25.5 feet as the Project, which would extend approximately 12 feet below the seasonal high groundwater levels at the eastern extent of the proposed structure. Groundwater is expected to be intercepted during construction and seasonally over long-term operations of the facility.

Alternative B would require excavation beyond 25.5 feet bgs due to the location of the structure on a sloped area. The size and design of the structure would be the same as the Proposed Action, but due to the slope at the alternative building site, the eastern side of the building would be recessed approximately 14 feet below ground, with additional depth needed for support footings. Groundwater is expected to be intercepted during construction and seasonally over long-term operations of the facility.

Water Quality

No active perennial, intermittent, or ephemeral stream channels are mapped within or adjacent to the project area. There is a seasonal channel that has headwater in Heavenly Mountain Resort's operational boundary and Van Sickle Bi-State Park lands, flows during spring runoff through a culvert under Lake Parkway and onto a portion of APN 1318-27-001-007 where flow is then collected at a point outside the project area and conveyed under the Mont Bleu property.

The nearest active stream channel is Edgewood Creek, which is just over 1,500 feet to the north of Lake Parkway. The potential for direct discharge into Edgewood Creek or a contribution to the alteration of surface water quality in Edgewood Creek is minimal. Stormwater runoff from the project area is first treated onsite in proposed pretreatment facilities and then treated again through the SSWA stormwater treatment system before comingled stormwaters discharge to the constructed wetland treatment system on Edgewood Golf Course.

IMPACT EVALUATION CRITERIA

The TSEC would result in a significant impact on hydrology, groundwater or water quality and the attainment of TRPA environmental thresholds if construction or operation of the Project results in:

- Changes in the absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20-year, 1-hour storm runoff volume, which equates approximately 1 inch/hour) cannot be contained on the site
- Discharge into surface waters or in any alteration of surface water quality, including by no limited to temperature, dissolved oxygen or turbidity
- Alteration of the direction or rate of flow of groundwater

- Change in the quality of groundwater, either through direct additions or withdrawals or through the interception of an aquifer by cuts or excavations
- The potential discharge of contaminants to the groundwater or any alteration of groundwater quality

The applicable regulations, codes and guidelines are as follows.

Tahoe Regional Planning Agency

Water Quality

TRPA's Regional Plan and Code of Ordinances specify policies and regulations directed at protecting and improving water quality in Lake Tahoe and the Tahoe Region, which includes grading and construction standards (Chapter 33), design standards (Chapter 36), water quality control and mitigation (Chapter 60), source water protection (Section 60.3), and best management practice (BMP) requirements (Section 60.4). Additionally, TRPA has established Environmental Threshold Carrying Capacities specific to water quality. At the state level, the NDEP, Bureau of Water Quality Planning is responsible for water quality protection functions, including the development and implementation of the Lake Tahoe Total Maximum Daily Load (TMDL). The TRPA goals and policies that are applicable to the project area and Proposed Action are as follows:

GOAL WQ-1 FEDERAL, STATE, REGIONAL, LOCAL AND PRIVATE WATER QUALITY MANAGEMENT PROGRAMS SHOULD BE IMPLEMENTED IN A COORDINATED MANNER TO RESTORE AND MAINTAIN LAKE TAHOE'S UNIQUE TRANSPARENCY, COLOR AND CLARITY IN ACCORDANCE WITH ENVIRONMENTAL THRESHOLD CARRYING CAPACITY STANDARDS.

POLICIES:

1. WQ-1.1 ACHIEVE AND MAINTAIN WATER QUALITY THRESHOLDS THROUGH COMPREHENSIVE REGIONAL PLANNING AND THROUGH COORDINATION WITH OTHER PUBLIC AGENCIES AND THE PRIVATE SECTOR.
2. WQ-1.2 COORDINATE A MULTI-AGENCY EFFORT TO PRIORITIZE AND FUND WATER QUALITY IMPROVEMENT PROJECTS IN THE LAKE TAHOE REGION THROUGH THE ENVIRONMENTAL IMPROVEMENT PROGRAM (EIP).
3. WQ-1.3 REQUIRE THAT DEVELOPMENT AND OTHER ACTIVITIES IN THE LAKE TAHOE REGION MITIGATE ANTICIPATED WATER QUALITY IMPACTS.
4. WQ-1.4 SUPPORT AND SEEK TO EXPEDITE ACTIVITIES TO REDEVELOP NON- CONFORMING PROPERTIES IN A MANNER THAT IMPROVES WATER QUALITY AND TO RELOCATE OR RETIRE DEVELOPMENT RIGHTS ON SENSITIVE LANDS.
5. WQ-1.5 SUPPORT THE LAKE TAHOE TOTAL MAXIMUM DAILY LOAD (TMDL) PROGRAMS IN CALIFORNIA AND NEVADA AND THE TMDL POLLUTANT/STORMWATER LOAD REDUCTION PLANS FOR EACH LOCAL GOVERNMENT IN THE REGION.
6. WQ-1.6 SUPPORT FEDERAL, STATE, LOCAL AND PRIVATE WATER QUALITY IMPROVEMENT PROGRAMS THAT IMPROVE WATER QUALITY IN THE REGION.

7. WQ-1.7 COORDINATE WITH PUBLIC AND PRIVATE ENTITIES TO MAXIMIZE THE EFFICIENCY AND EFFECTIVENESS OF WATER QUALITY PROGRAMS.

GOAL WQ-2 REDUCE OR ELIMINATE POINT SOURCES OF POLLUTANTS WHICH AFFECT, OR POTENTIALLY AFFECT, WATER QUALITY IN THE TAHOE REGION.

POLICIES:

WQ-2.1 DISCHARGE OF MUNICIPAL OR INDUSTRIAL WASTEWATER TO LAKE TAHOE, ITS TRIBUTARIES, OR THE GROUNDWATERS OF THE TAHOE REGION IS PROHIBITED, EXCEPT FOR EXISTING DEVELOPMENT OPERATING UNDER APPROVED ALTERNATIVE PLANS FOR WASTEWATER DISPOSAL, AND FOR FIRE SUPPRESSION EFFORTS IN ACCORDANCE WITH APPLICABLE STATE LAWS.

This policy states a fundamental premise of water quality protection at Lake Tahoe; that the Region's surface and groundwater cannot accept municipal or industrial wastewaters and meet adopted thresholds and state water quality standards.

WQ-2.2 DISCHARGES OF SEWAGE TO LAKE TAHOE, ITS TRIBUTARIES, OR THE GROUNDWATERS OF THE LAKE TAHOE REGION ARE PROHIBITED. SEWAGE COLLECTION, CONVEYANCE AND TREATMENT DISTRICTS SHALL HAVE APPROVED SPILL CONTINGENCY, PREVENTION, AND DETECTION PLANS.

Sewage discharges, regardless of their cause, not only contribute unnecessary nutrient loads to Lake Tahoe, but may also cause public health problems. Accidental discharges may be minimized through proper design, construction, and maintenance practices and comprehensive spill contingency, prevention, and detection plans. All agencies which collect or transport sewage should have plans for detecting and correcting exfiltration problems.

WQ-2.3 UNDERGROUND STORAGE TANKS FOR SEWAGE, FUEL, OR OTHER POTENTIALLY HARMFUL SUBSTANCES SHALL MEET STANDARDS SET FORTH IN TRPA ORDINANCES, AND SHALL BE INSTALLED, MAINTAINED, AND MONITORED IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES HANDBOOK.

Leaking underground tanks are a nationwide water quality problem. In the Tahoe Region, the environmental impacts of leaking tanks may be especially noticeable and harmful to the environment

WQ-2.4 NO PERSON SHALL DISCHARGE SOLID WASTES IN THE LAKE TAHOE REGION BY DEPOSITING THEM ON OR IN THE LAND, EXCEPT AS PROVIDED BY TRPA ORDINANCE.

Landfilling or other practices for disposing of solid wastes can add harmful biological oxygen demand, nutrients, and toxic substances to the watershed of Lake Tahoe. Therefore, the control of solid waste disposal is necessary to protect and enhance water quality. Existing state policies and laws will continue to govern solid waste disposal in the Tahoe Region.

WQ-2.5 TRPA SHALL COOPERATE WITH OTHER AGENCIES WITH JURISDICTION IN THE LAKE TAHOE REGION IN THE PREPARATION, EVALUATION, AND IMPLEMENTATION OF TOXIC AND HAZARDOUS SPILL CONTROL PLANS.

A single spill of a toxic or hazardous material in the Region could reverse progress in attaining water quality goals gained at great local expense and effort. TRPA will cooperate with the U.S. Forest Service, the EPA, and state water quality and health agencies to prevent and control toxic and hazardous spills.

GOAL WQ-3 REDUCE OR ELIMINATE NON POINT SOURCES OF POLLUTANTS WHICH AFFECT, OR POTENTIALLY AFFECT, WATER QUALITY IN THE TAHOE REGION IN A MANNER CONSISTENT WITH THE LAKE TAHOE TMDL, WHERE APPLICABLE.

POLICIES:

WQ-3.1 REDUCE LOADS OF SEDIMENT, NITROGEN, AND PHOSPHORUS TO LAKE TAHOE; AND MEET WATER QUALITY THRESHOLDS FOR TRIBUTARY STREAMS, SURFACE RUNOFF, AND GROUNDWATER.

The quality of the littoral zone is important because these waters are the most vulnerable to aesthetic degradation and most visible to those who enjoy the lake. Data show that water quality tends to be worse in areas adjacent to development and especially in relatively shallow bays and shelves. Tributary, surface runoff, and groundwater quality also display the negative impacts of development of the watershed.

WQ-3.2 RESTORE AT LEAST 80 PERCENT OF THE DISTURBED LANDS WITHIN THE REGION (FROM THE 1983 BASELINE; EXCLUDING HARD COVERAGE).

It is the Agency's intent to have at least 80 percent of these lands restored by application and maintenance of Best Management Practices.

WQ-3.3 UNITS OF LOCAL GOVERNMENT, STATE TRANSPORTATION DEPARTMENTS, U.S. FOREST SERVICE AND OTHER IMPLEMENTING AGENCIES SHALL RESTORE 25 PERCENT OF THE SEZ LANDS (FROM THE 1983 BASELINE) THAT HAVE BEEN DISTURBED, DEVELOPED, OR SUBDIVIDED IN ACCORDANCE WITH THE ENVIRONMENTAL IMPROVEMENT PROGRAM.

Stream Environment Zones have many beneficial effects on water quality, vegetation, scenic, wildlife and fisheries thresholds. The development of Stream Environment Zones in the Tahoe Region has adversely affected water quality, in many cases permanently. Stream Environment Zone restoration is a cost-effective policy for improving water quality and other thresholds and is a priority for the Environmental Improvement Program as well as TRPA policies and ordinances.

WQ-3.4 IN ADDITION TO OTHER POLICIES AND REGULATIONS THAT ARE INTENDED TO MINIMIZE WATER QUALITY IMPACTS OF DEVELOPMENT ON-SITE, MAINTAIN MITIGATION FEE PROGRAMS TO FINANCE ACTIVITIES THAT MITIGATE THE WATER QUALITY IMPACTS OF DEVELOPMENT ACTIVITIES. THE MITIGATION FEE PROGRAMS SHALL REFLECT DIRECT AND INDIRECT WATER QUALITY IMPACTS AND BENEFITS RESULTING FROM DIFFERENT TYPES OF DEVELOPMENT AND REDEVELOPMENT ACTIVITIES, AS WELL AS GEOGRAPHIC DIFFERENCES.

WQ-3.5 PROMOTE INFILTRATION FACILITIES AND FUNCTIONING FLOOD PLAINS ALONG STREAM CORRIDORS AS A STRATEGY FOR REMOVING INSTREAM LOADS OF SEDIMENT AND NUTRIENTS.

WQ-3.6 ALL PERSONS ENGAGING IN PUBLIC ROAD MAINTENANCE OR SNOW DISPOSAL OPERATIONS IN THE TAHOE REGION SHALL MAINTAIN ROADS AND DISPOSE OF SNOW TO MINIMIZE THE DISCHARGE OF DEICERS, FINE PARTICULATES AND OTHER CONTAMINANTS TO STREAM ENVIRONMENT ZONES, GROUNDWATER AND SURFACE- WATER IN ACCORDANCE WITH SITE CRITERIA AND MANAGEMENT STANDARDS IN THE BEST MANAGEMENT PRACTICES HANDBOOK.

WQ-3.7 INSTITUTIONAL USERS OF ROAD TRACTION ABRASIVES AND DEICERS IN THE LAKE TAHOE REGION SHALL KEEP RECORDS SHOWING THE TIME, RATE, LOCATION, AND TYPE OF TRACTION ABRASIVES AND DEICERS APPLICATION. STORAGE OF ROAD SALT SHALL BE IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES HANDBOOK.

WQ-3.9 RESTRICT APPLICATION OF FERTILIZER WITHIN THE TAHOE REGION TO USES, AREAS, AND PRACTICES IDENTIFIED IN THE CODE OF ORDINANCES AND THE BEST MANAGEMENT PRACTICES HANDBOOK. FERTILIZERS SHALL NOT BE USED IN OR NEAR STREAM AND DRAINAGE CHANNELS, OR IN STREAM ENVIRONMENT ZONES, INCLUDING SETBACKS, AND IN SHOREZONE AREAS EXCEPT FOR MAINTENANCE OF PREEXISTING LANDSCAPING. MAINTENANCE OF PREEXISTING LANDSCAPING SHALL BE MINIMIZED IN STREAM ENVIRONMENT ZONES AND ADJUSTED OR PROHIBITED IF FOUND, THROUGH EVALUATION OF CONTINUING MONITORING RESULTS, TO BE IN VIOLATION OF APPLICABLE WATER QUALITY DISCHARGE AND RECEIVING WATER STANDARDS. ADDITIONALLY, ENCOURAGE THE PHASE OUT THROUGH EDUCATION AND OUTREACH OF THE SALE AND USE OF CHEMICAL FERTILIZER CONTAINING PHOSPHORUS FOR LAWNS IN THE REGION, WITH LIMITED EXCEPTIONS, BY 2017.

Since one of Lake Tahoe's water quality problems is an imbalance in the Lake's nutrients, control of artificial chemical fertilizers (which add nutrients to the Lake) is an essential component of TRPA's water quality policy.

WQ-3.10 IMPLEMENT LAND USE, TRANSPORTATION AND AIR QUALITY MEASURES AIMED AT REDUCING AIRBORNE NITROGEN EMISSIONS AND ENTRAINED DUST IN THE TAHOE REGION.

There is evidence that atmospheric sources of nitrogen and entrained dust may be a major contributor of nutrients to Lake Tahoe, and that local emissions of oxides of nitrogen and entrained dust, primarily from automobiles, account for most of these atmospheric inputs. The land use, transportation and air quality measures aimed at reducing emissions of oxides of nitrogen and entrained dust should be carried out to ensure that atmospheric sources do not degrade Lake Tahoe's water quality.

WQ-3.11 REQUIRE ALL PERSONS WHO OWN LAND AND ALL PUBLIC AGENCIES WHICH MANAGE PUBLIC LANDS IN THE LAKE TAHOE REGION TO INSTALL AND MAINTAIN BEST MANAGEMENT PRACTICES (BMPs) IMPROVEMENTS IN ACCORDANCE WITH A BMP MANUAL THAT SHALL BE MAINTAINED AND REGULARLY UPDATED BY TRPA. BMP REQUIREMENTS SHALL PROTECT VEGETATION FROM UNNECESSARY DAMAGE; RESTORE THE DISTURBED SOILS AND BE CONSISTENT WITH FIRE DEFENSIBLE SPACE REQUIREMENTS. AS AN ALTERNATIVE, AREA-WIDE WATER QUALITY TREATMENT FACILITIES AND FUNDING MECHANISMS MAY BE IMPLEMENTED IN LIEU OF CERTAIN SITE SPECIFIC BMPs WHERE AREA-WIDE TREATMENTS CAN BE SHOWN TO ACHIEVE EQUAL TO OR GREATER WATER QUALITY BENEFITS.

This policy guarantees continuing reductions in pollutant loads through the application of Best Management Practice improvements (BMPs). The Best Management Practices Handbook identifies the recommended BMPs for various situations. Application of BMPs requires a flexible approach involving evaluation of site-specific considerations and defensible space requirements. In some situations, area-wide treatments and funding mechanisms may provide greater water quality benefits than site specific BMPs. BMP compliance requires proper installation and regular maintenance to preserve BMP function and help prevent pollution discharges. Regularly performed maintenance activities are described in the Best Management Practices Handbook. In all aspects of the BMP retrofit program, TRPA shall emphasize voluntary compliance with the ordinance provisions, the provision of technical assistance through the Resource Conservation Districts, and public information campaigns to inform the public about basic BMP requirements and benefits. Areas targeted for accelerated BMP implementation should occur in coordination with local government Pollution/Stormwater Load Reduction Plans.

WQ-3.12 PROJECTS SHALL BE REQUIRED TO MEET TRPA BMP REQUIREMENTS AS A CONDITION OF APPROVAL FOR ALL PROJECTS.

All projects shall be required, as a condition of approval, to apply Best Management Practices to the project parcel during construction and as follows upon completion of construction:

A. New projects on undeveloped parcels shall require application and maintenance of temporary and permanent BMPs as a condition of project approval.

B. Projects which expand structures or land coverage shall require application and maintenance of temporary and permanent BMPs to the project area.

C. Rehabilitation projects, other than minor utility projects, shall require the preparation of a plan and schedule for application and maintenance of temporary and permanent BMPs to the entire parcel. The amount of work required pursuant to the project approval shall consider the cost and nature of the project. D. Where area-wide treatments are approved, projects shall install improvements in accordance with the approved area-wide BMP plan.

Additionally, TRPA has established a threshold for water quality: Return the lake to 1960s water clarity and algal levels by reducing nutrient and sediment in surface runoff and groundwater. Thresholds for water quality shall be achieved and maintained through a coordinated federal, state, regional, local and private effort to retrofit existing infrastructure, redevelop poorly designed development sites, and restore degraded natural processes to minimize the impacts of all activities in the Region. The goals and policies are generally grouped to address this coordinated effort, point sources and non-point sources of pollution. The Lake Tahoe Total Daily Maximum Load (TMDL) identifies loads of fine sediment particles, nitrogen, and phosphorus discharging to Lake Tahoe from urban uplands runoff, atmospheric deposition, forested upland runoff, and stream channel erosion as the primary sources of pollution impairing Lake Tahoe's deep water transparency and clarity. These pollutants of concern may also affect Lake Tahoe's nearshore water quality, which is an equal priority for protection given the exceptional scenic quality and significant recreational and ecological values it provides.

Stormwater Drainage

TRPA Code Subsection 60.4.6 (A) Standard BMP Requirements details the standard conditions of approval for projects for treatment and infiltration of surface runoff, also called stormwater runoff. Runoff water from impervious surfaces shall meet the discharge standards of Section 60.1 and except as provided in Code Subsection 60.4.8, infiltration facilities to discharge runoff to groundwater shall be required. Infiltration facilities shall be designed to accommodate the volume from a 20-year, one-hour storm. An average intensity of one inch per hour is used for this calculation. Infiltration facilities are designed utilizing the methodology set forth in the BMP Handbook. The bottom of infiltration trenches or dry wells need to be a minimum of one foot above the seasonal high water table. Runoff in excess of that infiltrated must be controlled in accordance with the method and design standards in the BMP Handbook. If TRPA finds that the runoff from impervious surfaces from a 20-year, one-hour storm will infiltrate naturally on the parcel, TRPA may waive the requirement to install infiltration facilities.

Code Subsection 60.4.6(A) also requires that drainage conveyances through a parcel to be designed for at least a 10-year, 24- hour storm. Storm drain culverts and drain channels must be designed by a qualified professional. Any drainage conveyances through a SEZ shall be designed for a minimum of a 50-year storm.

Groundwater

According to the TRPA Code, Chapter 64, groundwater impacts are considered significant if implementation of a project would result in the interception or interference of groundwater by:

1. Altering the direction of groundwater;

2. Altering the rate of flow of groundwater;
3. Intercepting groundwater;
4. Adding or withdrawing groundwater; or
5. Raising or lowering the water table.

TRPA Code Subsection 33.3.6A states the TRPA may approve exceptions to prohibition of groundwater interception or interference if TRPA finds that:

- a. Retaining walls are necessary to stabilize an existing unstable cut or fill slope;
- b. Drainage structures are necessary to protect the structural integrity of an existing structure;
- c. It is necessary for the public safety and health;
- d. It is a necessary measure for the protection or improvement of water quality;
- e. It is for a water well;
- f. There are no feasible alternatives for locating mechanical equipment, and measures are included in the project to prevent groundwater from leaving the project area as surface flow, and any groundwater that is interfered with is rerouted in the ground water flow to avoid adverse impacts to riparian vegetation;
- g. It is necessary to provide two off-street parking spaces, there is no less environmentally harmful alternative, and measures are taken to prevent groundwater from leaving the project area as surface flow;
- h. It is necessary to provide below grade parking for projects that qualify for additional height under subsection 37.5.4 or 37.5.9 to achieve environmental goals, including scenic improvements, land coverage reduction, and area-wide drainage systems. Measures shall also be included in the project to prevent ground water from leaving the project area as surface flow and that any groundwater, that is interfered with is rerouted into the groundwater flow to avoid adverse impacts to hydrologic conditions, SEZ vegetation, and mature trees; or
- i. It is necessary for a marina expansion approved pursuant to Chapter 14: *Specific and Master Plans*, and the environmental documentation demonstrates that there will be no adverse effect on water quality.

Seasonal high groundwater measurements across the project area range from 13.5 feet to over 25 feet bgs where excavations are proposed (McGinley and Associates 2018a; McGinley and Associates 2018b; Black Eagle Consulting 2017). The interception of or interference with groundwater is generally prohibited in the Tahoe Basin. (TRPA Code of Ordinances (“Code”) subsection 33.3.6.A.1.) However, the Code prescribes certain circumstances in which the TRPA may approve groundwater interception and/or interference. TRPA may approve exceptions to the prohibition (1) where excavation is required by the International Building Code or local building code for minimum depth below natural grade for above ground structures (Code subsection 33.3.6.A.2.a) or (2) if there are no feasible alternatives for locating mechanical equipment, and measures are included in the project to prevent groundwater from leaving the project area as surface flow, and any groundwater that is interfered with is rerouted in the ground water flow to avoid adverse impacts to riparian vegetation (Code subsection 33.3.6.A.2.g). TRPA Code, Chapter 64, Section 64.7.B prohibits excavations in excess of five feet in depth unless certain findings can be made.

Nevada Department of Environmental Protection (NDEP)

The Clean Water Act (CWA, Public Law 92-500) consists of the Federal Water Pollution Control Act of 1972 and subsequent amendments. Federal agencies must comply with the provisions of the CWA, which establishes the basic structure for regulation of discharges of pollutants to surface waters within the United States and authorizes the U.S. Environmental Protection Agency (USEPA) to set effluent limits for discharges and set water quality standards for contaminants in surface waters. The USEPA has delegated

responsibility to the State of Nevada to implement the National Pollutant Discharge Elimination System (NPDES) program authorized by the CWA. This is carried out by the NDEP, Bureau of Water Pollution Control, along with the development, implementation and monitoring and reporting of the Lake Tahoe TMDL.

The Water Management Quality Plan for the Lake Tahoe Basin (TRPA 2013), which has been adopted by California, Nevada, and EPA, identifies water quality problems, proposes solutions or mitigation measures, identifies those entities responsible for implementing solutions, and determines agencies or jurisdictions responsible for enforcement.

Douglas County

The Douglas County General Plan and Development Code outline water quality and stormwater drainage regulations as applicable at the local level. The Design Criteria and Improvement Standards detailed the requirements for dewatering during construction.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

Impact: Changes in the absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20-year, 1-hour storm runoff volume, which equates approximately 1 inch/hour, cannot be contained on the site (TRPA 3.b)

Analysis: Stormwater runoff rates and volumes can be affected by the changes in the type of existing impervious surface, the creation of new impervious surfaces, changes in site topography, and changes in the drainage collection and conveyance systems.

The No Action alternative would construct no new buildings or facilities and thus no impacts from construction activities would occur and no reduction in stormwater volume to the SSWA stormwater system would be achieved. Operations and maintenance activities will continue in support of existing conditions of the project area.

Implementation of the Proposed Action would result in an approximately 7,732 square foot (1.3%) reduction in impervious land coverage on APN 1318-27-001-007 and 3,379 square feet of new impervious land coverage associated with parking improvements on APN 1318-27-002-006, which currently has no existing land coverage. Runoff patterns would primarily be altered by the addition of the TSEC structure with some changes associated with the reconfigured parking lot. The existing SSWA stormwater facilities capture, treat, and infiltrate at least the 20-year, 1-hour storm volume.

Figure 3.2-1 illustrates site drainage under the Proposed Action, which will reduce impervious surface area slightly. Runoff from the TSEC building (approximately 121,000 square feet) will be collected and routed to a new subsurface infiltration facility sized to detain and infiltrate the TRPA 20-year, 1-hour storm event or roughly 11,500 cubic feet of runoff. The runoff volume exceeding this volume would then be routed from the new infiltration facility to the existing pre-treatment facility southwest of the proposed stormwater basin. Runoff from the reconfigured surface parking lots will continue to be collected and routed to the existing pretreatment facilities through a combination of existing and proposed storm drains. Construction and operation of the Proposed Action will not alter the existing surface water drainage patterns or cause increased runoff resulting in flooding or stream bank erosion or contribute runoff in rates or volumes that will exceed the capacity of existing or planned storm water drainage systems so that a 20-year, 1-hour storm runoff (approximately one inch per hour) cannot be contained on the site.

Alternatives A and C would have relatively the same impact as the Proposed Action as both share the same footprint with the Proposed Action and are essentially the same facility, with the only difference being the reduced height of the structure under Alternative A and the exclusion of the microtransit shuttle and paid parking program under both Alternatives A and C. Runoff and drainage would be the same for Alternatives A and C as the Proposed Action; therefore, Alternatives A and C will not alter the existing surface water drainage patterns or cause increased runoff resulting in flooding or stream bank erosion or contribute runoff in rates or volumes that will exceed the capacity of existing or planned storm water drainage systems so that a 20-year, 1-hour storm runoff (approximately one inch per hour) cannot be contained on the site.

Alternative B relocates the project toward the back of the property behind the MontBleu facilities. Although most of the buildings footprint under this alternative occupies the existing access road and back parking lot, 2.26 acres of pervious, undeveloped land lies within the footprint of Alternative B. Since not all of this portion of the property has been previously graded, 14 feet of vertical hillside cut would be required and a plaza wall would be developed on the east side of the TSEC, ranging from six feet to two feet above the natural grade. The TSEC would create a barrier to natural surface runoff and runoff would be directed around the structure. An 11-foot wall/grade break would also be located at the service dock between the TSEC and MontBleu, a seven to ten-foot tall wall would be located around the access round turn around point at the southeast end of the facility, and an eight to 13-foot wall/grade break is proposed around the new parking area, from the parking garage and around the west side of the new parking area to the Lake Parkway access driveway. Since a portion of Alternative B would be located on undisturbed land, the amount of site runoff will increase and the permeable area will decrease, as compared to the Proposed Action. Development of Alternative B would require appropriately sized infiltration facilities, and an infiltration and stormwater treatment system similar to the facilities included for the Proposed Action would be associated with Alternative B. Runoff from the reconfigured surface parking lots will continue to be collected and routed to the existing pretreatment facilities through a combination of existing and proposed storm drains. Alternative B will not alter the existing surface water drainage patterns or cause increased runoff resulting in flooding or stream bank erosion or contribute runoff in rates or volumes that will exceed the capacity of existing or planned storm water drainage systems so that a 20-year, 1-hour storm runoff (approximately one inch per hour) cannot be contained on the site.

No change in surface water movement, surface waters, or alteration to the course of floodwaters would occur as a result of the Proposed Action or the Alternatives.

Mitigation: No mitigation is required.

Impact: **Discharge into surface waters or in any alteration of surface water quality, including by no limited to temperature, dissolved oxygen or turbidity (TRPA 3.e)**

Analysis: Under the existing condition, stormwater runoff from the MontBleu surface parking lots is collected in storm drains and routed to pre-treatment facilities on the MontBleu property. The pre-treatment facilities include three (3) subsurface sedimentation vaults that are equipped with oil and grease separator baffles. The MontBleu pre-treatment system is pumped, cleaned, and inspected annually. Maintenance activities include the replacement of oil absorbent booms within each pre-treatment vault and proper disposal of the old oil absorbent booms and materials collected in the system. The treated stormwater then discharges to the SSWA treatment facilities. No direct discharge from the project area to surface waters currently occurs.

The No Action alternative would construct no new buildings or facilities, and therefore, no impacts from construction activities would occur and no reduction in stormwater volume to the SSWA stormwater system would be achieved. Operations and maintenance activities will continue in support of existing conditions of the project area.

No direct discharge to surface waters would occur under the Proposed Action or Alternatives A, B, or C. Figure 3.2-1 illustrates how stormwater runoff would be collected and conveyed under the Proposed Action alternative. The amount of impervious surface would be reduced slightly under the Proposed Action as compared to existing conditions. Runoff volume would decrease by 3.4 acre-feet/year under the Proposed Action. Additionally, more runoff volume would originate from the roof of the proposed TSEC building instead of surface parking lots (NWH 2018). Northwest Hydraulics utilized the PLRM to analyze the Proposed Action within the context of the SSWA treatment system to assess any change in pollutant loading, as estimated at the outfall of the SSWA treatment system at Edgewood Golf Course and reported in **Table 3.2-2**.

Table 3.2-2

Estimated Reductions in Fine Sediment Particle (FSP) Loading

Drainage Area/Treatment System	FSP Loading Estimates (lb/yr)		
	Existing Condition/No Action	Proposed Action	Load Reduction
Project Area	11,723	9,967	1,756
SSWA Treatment System @ Outfall	5,131	4,946	185

Source: NWH 2018

The Proposed Action would provide for a reduction in FSP loading and stormwater runoff from the project area. The FSP load reduction at the outfall of the SSWA treatment system is smaller than the reduction in FSP loading leaving the MontBleu property. This situation is a result of the existing SSWA treatment system is removing a large fraction of the current load generated by the MontBleu property and because the change in pollutant loading,

when measured at the outfall of the SSWA treatment system, accounts for the high performance of the SSWA treatment system in the existing condition.

The Proposed Action would result in a notable reduction in the stormwater runoff volume (3.7 acre-feet/year) compared to volumes currently conveyed to and treated by the SSWA treatment system. This is because the SSWA treatment system doesn't infiltrate runoff, and therefore, upstream detention and infiltration of runoff on the MontBleu property would result in an overall runoff reduction. While the Proposed Action would not provide a large pollutant load reduction within the context of the existing SSWA treatment system's performance and the Lake Tahoe TMDL, it would increase source control BMPs and actions on the MontBleu property and as a result would route less pollutant load and stormwater volume to the SSWA treatment system. At this time, PLRM version 2.1 does not capture and quantify the benefits of a reduced maintenance regime and costs and improved efficiency of the SSWA (Northwest Hydraulics 2018).

Credits are used by the Lake Tahoe Total Maximum Daily Load (TMDL) program as the metric for tracking and reporting progress towards load reductions targets. The current definition of a Credit equates to roughly 200 pounds of FSP load reduction per year to Lake Tahoe. Using this definition, the FSP reduction that could be achieved by the Proposed Action, as measured at the outfall of the SSWA treatment system, equates to roughly one (1) Credit. For context with this calculation: the 10-year load reduction milestone for Douglas County under the Lake Tahoe TMDL in the year 2021 is 101 Credits (NDEP 2016). Therefore, the Proposed Action would contribute roughly 1% of the Credits needed to meet Douglas County's load reduction milestone by the year 2021.

Site improvements will not be accepted as complete until a stormwater monitoring plan is developed and approved by Douglas County.

Mitigation: No mitigation is required.

Impact: **Groundwater: 1) Alteration of the direction or rate of flow of groundwater (Interfere with groundwater movement or reduce groundwater infiltration, except as permitted under TRPA code Section 33.3.6(A)(2)); 2) Change in the quality of groundwater, either through direct additions or withdrawals or through the interception of an aquifer by cuts or excavations; or 3) The potential discharge of contaminants to the groundwater or any alteration of groundwater quality (TRPA 3.f/1.d, 3.g, and 3.j)**

Analysis: The No Action alternative would construct no new buildings or facilities, and therefore, no impacts to groundwater from construction activities would occur. Operations and maintenance activities will continue in support of existing conditions of the project area.

Operational Groundwater Interception: A technical memorandum regarding groundwater interception was prepared by Welsh Hagen Associates in 2019 and can be found in Appendix D. The Proposed Action and Alternatives A, B, and C would require excavations in excess of 5 feet bgs with maximum excavation depths of up to 25.5 feet bgs (McGinley 2018a, 2018b; Black Eagle Consulting 2017). Seasonal high groundwater levels are measured to range from 13.5 feet to more than 25 feet bgs where foundation footings for the TSEC building would be sited. Foundations and retaining walls would likely intercept and alter the direction of groundwater, primarily along the eastern portion of the proposed building. Groundwater flow generally follows the decomposed granite surface, flowing toward the northwest under a hydraulic gradient of 0.1 feet under both high and low water table conditions. Welsh and Hagen Associates found that the groundwater surface and the proposed TSEC would intersect at an elevation of 6,308.9 feet, with the lowest portion of the structure at elevation 6,290.8 feet. Under TRPA Code Chapter 64, the proposed

excavation would be prohibited and the potential impacts to groundwater from construction and operation of the Proposed Action or Alternatives would be considered significant.

For the Proposed Action and Alternatives, TRPA may approve exceptions to the prohibition of groundwater interception or interference because proposed excavations are required by the Uniform Building Code or local building code for minimum depth below natural ground for above ground structure, no feasible alternatives exist for locating mechanical equipment, and there are measures included in the project design to prevent groundwater or sub surface flow from leaving the project area as surface flow. Intercepted groundwater is rerouted in the groundwater flow to avoid adverse impacts to riparian vegetation, if any would so be affected. Excavations in excess of five feet in depth or where there exists a reasonable possibility of interference or interception of a water table shall be prohibited unless TRPA finds that:

1. *A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of groundwater will occur as a result of the excavation;*

McGinley and Associates, Inc. prepared the Soils/Hydrology Scoping Report for the TSEC and the report was submitted to TRPA on January 18, 2018. Soil Hydrologic Approval (TRPA File Number LCAP2018-0016) was granted on March 20, 2018. Maximum excavation depths of 12 feet (to allow for one foot of separation between the foundation and groundwater) were approved. The Soils/Hydrologic Final Report was completed on April 4, 2018 (McGinley and Associates) to present estimates for flow rates of 25 to 28 gpm of groundwater that would be intercepted by the proposed foundations (Table 3.2-1). However, further geotechnical investigation and analysis was conducted and Welsh Hagen Associates prepared a *Memorandum Regarding Groundwater Interception* in September 2019. Based upon further investigation into grain size analysis, Welsh Hagen Associates found that the range in grain size of the soil samples was from 0.04 mm to 0.06 mm, but as high as 0.1 mm, producing a range of potential hydraulic conductivity from 4.5 ft/day to 28.3 ft/day. Therefore, groundwater interception flow rates are now reported to range from 11 gpm to 67 gpm. Conservative estimated flow rates (67 gpm) were used to design, size and locate a subsurface groundwater recharge basin that has been added as a measure included in the project design to reroute intercepted groundwater into the down gradient groundwater flow (Plan Sheet C4-00). Riparian vegetation does not exist within the project area and would not be affected.

2. *The excavation is designed such that no damage occurs to mature trees, except where tree removal is allowed pursuant to subsection 33.6.5: Tree Removal, including root systems and hydrologic conditions of the soil. To ensure the protection of vegetation necessary for screening, a special vegetation protection report shall be prepared by a qualified professional identifying measures necessary to ensure damage will not occur as a result of the excavation; and*

The tree protection and removal plan is described on Plan Sheet L3-00 (Appendix B). The project area contains very few trees and the trees that would possibly be impacted by excavation will be approved for removal and removed along with the root system prior to construction of the TSEC building and facilities that require such excavations. The planting plan and the vegetation protection plan are provided on Plan Sheet L7-00 and C2-00, respectively. Black Eagle Consulting recommends that during site preparation that all trees and associated roots greater than 0.5-inch diameter be

removed to a minimum of 12-inches below finished grade. Large roots (e.g., greater than 6-inches diameter) should be removed to the maximum depth possible.

3. *Excavated material is disposed of pursuant to subsection 33.3.4: Disposal of Materials, and the project area's natural topography is maintained pursuant to subparagraph 36.5.1.A. If groundwater interception or interference will occur as demonstrated by a soils/hydrologic report prepared by a qualified professional, then the excavation can be made as an exception pursuant to subparagraph 33.3.6.A.2, provided measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation and to prevent any groundwater or subsurface water flow from leaving the project area as surface flow.*

As reported in the Soils Hydrologic Scoping Report (McGinley and Associates 2018a), approximately 54,000 cubic yards of spoil material will be excavated to construct the Proposed Action. Reuse of some of this material on the area surrounding the TSEC and disposal of the remaining unneeded spoils will be completed to comply with TRPA Code subparagraph 36.5.1.A (retain natural features outside of a building site). The Soils/Hydrologic Scoping and Final Reports demonstrate that groundwater interception will occur during construction and seasonally throughout operation of the Proposed Action. TRPA may approve an exception for the maximum proposed excavation depths because such excavations are required by the Uniform Building Code or local building code for minimum depth below natural ground for above ground structure, no feasible alternatives exist for locating mechanical equipment, and measures are included in the project design to prevent groundwater or subsurface flow from leaving the project area as surface flow.

Due to the existing topography of the site, excavation is necessary to provide a loading dock/service area at the TSEC ground floor level, which is critical to the mechanical operations of the building. Certain mechanical equipment must be placed in the loading dock area for either regular access or servicing. Mechanical functions inseparable from the loading dock and service area include: the trash compactor that is associated with the ground facility rooms and serviced twice a week by a large vehicle at the loading dock area; a diesel backup generator that must be located outside the building, but in close proximity to the electrical room and must be refueled regularly by a truck in the service area; and the grease interceptor for the kitchen located in the TSEC servicing area at the rear of the building, which must be accessed by a grease pump vacuum truck for regular servicing.

The Welsh Hagen Associates Memo in **Appendix D** details the calculations for sizing the subsurface recharge basin that is illustrated on Plan Set Sheet C4-00. The recharge basin will be sized to reinfiltrate a groundwater flow rate of 67 gpm, which is the conservatively estimated flow allowing for excess capacity to prevent overflow into the stormwater system that will be intercepted by building foundations, collected and conveyed down gradient, as described in the Geotechnical Report's recommendations for foundation drainage and in the Groundwater Interception Memorandum (Black Eagle Consulting 2017; Welsh Hagen Associates 2019). The sub surface foundation drain will be installed along the exterior south and east perimeter of the structure foundations, particularly along the upslope side of the building. The dewatering system would include a dewatering well and monitoring well installed 40-feet deep in the TSEC loading dock area. The dewatering well could be constructed of 6-inch diameter PVC well casing with a screen and the monitoring well would be constructed of 2-inch diameter PVC. Discharged waters would be returned to the groundwater system through 690 feet of 4-inch diameter discharge pipe leading to a groundwater recharge

basin. The four-inch diameter perforated pipe would be placed with a 36-inch thick gravel blanket wrapped in Mirafi filter fabric. Waters would be collected in the groundwater recharge basin covering a 6,500 square foot area excavated at a depth of 7.5 to 12 feet below the existing grade to an elevation of 6,283 feet and an average of three to eight feet above the seasonal high groundwater levels in the area of the basin. The groundwater recharge basin would be located beneath the TSEC lawn approximately 120 feet from U.S. Highway 50 and would be northeast of the stormwater runoff basin to prevent interference between the two basins. This design would prevent daylighting of water downgradient of the groundwater recharge basin.

The recharge basin is sized to capture seasonal groundwater volumes so that there are no excess volumes that would need to be routed to the stormwater runoff infiltration basin.

Construction and operation of Alternatives A and C would result in the same impact as described for the Proposed Action as the only difference between the Proposed Action and Alternatives A and C lies in the overall building height (Alternative A) and in the provision of a microtransit shuttle and paid parking system (Alternatives A and C). Excavation depths and quantities, groundwater interception, and project components to address groundwater impacts, such as the groundwater recharge basin are the same for the Proposed Action and Alternatives A and C.

Alternative B relocates the TSEC to the rear of the MontBleu facilities, places the east side of the structure recessed below ground surface level, requires the installation of extensive walls around the east side of the TSEC and around the parking lot, requires excavation of approximately 14 feet of vertical hillside cut, and removes 127 trees. Approximately 55,000 cubic yards of excavation would be removed under this alternative. While the TSEC structure is the same as the Proposed Action, the location of Alternative B on a partially undeveloped and sloped portion of the property requires a more extensive series of walls and excavation. The amount of cut and the potential to encounter groundwater is greater for Alternative B than the Proposed Action, particularly since the TSEC would be partially recessed below the ground surface. Like the Proposed Action, Alternative B would include development of infiltration and groundwater recharge basins. These systems would be sized and designed based on the additional runoff volumes of Alternative B and the site limitations of this sloped location. Particularly, runoff would be routed around the east side of the TSEC where the structure is recessed below ground surface and collection points would be needed around the service access point and roadway.

Groundwater Quality. The existing groundwater quality within the project area is not well characterized. Given that up-gradient lands are mostly undeveloped and forested, the surface parking lots are well maintained, and stormwater runoff is captured and pre-treated before discharging to the SSWA treatment system, groundwater quality is assumed to be good. The TRPA BMP Handbook requires that the bottom of infiltration facilities, which would include underground infiltration basins, be a minimum of one foot (12 inches) above the seasonal high groundwater table. The underground infiltration basin is designed and sited to have a minimum of 18-inches of separation, with a planned separation range of three to eight feet. The infiltration basin would be sited within the project area as shown on Plan Sheet C5-00, which is an area where groundwater levels measure at 13 feet bgs or greater (Borings B-08 and B-09).

The Proposed Action and Alternatives A and C will relocate landscaped areas as shown on Plan Sheet L1-02 to the event lawn and Aspen Grove area (Area D). Alternative B will

relocate landscaped areas toward Lake Parkway. Nitrogen and phosphorus inputs or loading in the project area could increase if components of fertilizer leach past the root uptake zone towards seasonal high groundwater. To avoid this potential impact to groundwater quality, the Project would comply with Douglas County Title 20 consolidated Development Code Section 20.694, Landscape Standards and would implement the landscaping, revegetation, irrigation, and fertilizer management plans that are detailed avoid and reduce potential impacts to groundwater quality from landscaped areas.

Construction Dewatering. Based on boring results during geotechnical explorations and groundwater contours developed to design the project measures necessary to capture, convey and reinfiltrate intercepted groundwater, seasonal high groundwater is expected to be encountered during construction activities. The construction process may cause variations in the groundwater level, specifically with respect to shallow groundwater seepage that may occur as a result of sloping topography combined with a stratigraphy that consists of surficial soils overlying relatively impermeable bedrock (Black Eagle Consulting 2017). Seepage may be compounded in areas of cuts during grading of the project area.

This is a potentially significant impact, if groundwater or sub surface flows should leave the project area as surface flows. To avoid and minimize potential impacts to groundwater during construction, a construction dewatering plan shall be developed and implemented until the operational system is constructed and goes online. The construction dewatering plan shall also address dewatering operations to be implemented for compliance with Douglas County design criteria and improvement standards specific for trenching.

Mitigation: **HYDRO-1. Construction Dewatering Plan:** Since groundwater will be intercepted during excavation of the TSEC foundation, dewatering shall be implemented onsite.

The construction dewatering plan will initially construct four construction dewatering wells, Dewatering Well 1 through Dewatering Well 4 by excavating a test pit to depths of 15 to 23 feet to the following elevations:

Construction Dewatering Well	Ground Elevation	Depth	Well Base Elevation
Dewatering Well 1	6316	23	6293
Dewatering Well 2	6324	15	6309
Dewatering Well 3	6328	23	6305
Dewatering Well 4	6325	22	6303

Construction dewatering wells will be constructed as shown in Figure 2-3 (Chapter 2) by wrapping 12-inch diameter, Schedule 80 well screen with 0.010 inch perforations and end caps in Mirafi filter fabric, and placing to the base of each test pit. Drain rock consisting of ¾ inch gravel will then be placed in each test pit to within 18 inches of ground surface. Top soil will then be placed to ground surface. The well casing will stick up two feet.

Each construction dewatering well will be tested by placing a 1 horsepower, 8-inch diameter sump pump in each well and pumping at a rate of up to 100 gallons per minute (gpm) for approximately one hour. Water levels will be monitored in the pumping well and adjacent non-pumping dewatering wells. This testing will allow evaluation of the dewatering rate necessary to dewater the excavation area.

The sump pump will be connected to a 2-inch diameter flex camlock force main which will discharge into a 4-inch diameter HDPE temporary dewatering line. This 4-inch diameter

line will cross Lake Parkway and discharge into a 21,000 gallon Baker sedimentation tank with baffles for temporary storage.

Groundwater samples will be collected from each well, placed in laboratory-supplied bottles, stored on ice, submitted under chain of custody documentation to a Nevada-certified laboratory, and analyzed for Nevada Division of Environmental Protection (NDEP) Profile 1 water quality parameters. After groundwater sample results have been received, a temporary discharge permit application will be submitted to the NDEP for approval to discharge to the property north of Lake Parkway through a system of sprinklers and a dewatering waiver application will be prepared for submittal to the Nevada Division of Water Resources (NDWR).

The construction dewatering system will then be designed after testing to consist of cut-off trenches around the perimeter of the cut slope that are sloped to the north and northeast at inclinations of 2% from the area of Dewatering Well 2 to Dewatering Well 3 and then to Dewatering Well 4 as shown in Figure 2-3. Dewatering Well 1 will be utilized for construction dewatering of the loading dock area and Dewatering Well 4 will be utilized for dewatering of the cut slope as the cut-off trenches will transmit groundwater towards Dewatering Well 4.

Water will be pumped through the 4-inch discharge line to the Baker tank. After settlement in the Baker tank, water will be discharged using a transfer pump capable of pumping 200 gpm to a sprinkler system. The sprinkler system was designed for a maximum flow rate of 200 gpm and an infiltration rate of 1 inch per hour. The sprinkler system will consist of 24 sprinkler heads each capable of discharging 8.3 gpm. Each sprinkler will cover a diameter of 30 feet. A second sprinkler field will be prepared for use should soils become saturated in the first field used for dewatering. Straw wattles will be installed around the perimeter of the sprinkler system for BMP's.

The Construction Dewatering Plan shall also include measures to comply with Douglas County (Section 4.5.20) dewatering requirements for trenches. Dewatering, sufficient to maintain the groundwater level at or below the surface of the trench bottom or base of the bedding course, shall be accomplished prior to pipe laying and jointing of water pipe. The dewatering operation shall be carried out so that it does not destroy or weaken the strength of the soil under or alongside the trench. Water pumped from excavations shall be disposed of by the contractor in such a manner as will not cause injury to public or private property or constitute a nuisance or menace to the public. At all times, the manner employed to discharge and to dispose of water pumped from an excavation shall be subject to the approval of the County and the appropriate permitting agency (i.e. Nevada Division of Environmental Protection - Bureau of Water Pollution Control, U.S. Army Corps of Engineers, Nevada State Lands, Division of Water Resources). All surface waters shall be prevented from entering open ditches or excavations by proper grading of the ground surface in the vicinity of the excavation.

REFERENCES

Black Eagle Consulting, Inc. 2017. Geotechnical Investigation – Tahoe South Events Center, Douglas County, NV. September 2017.

Black Eagle Consulting Inc. 2018. Geotechnical Evaluation/Review of Liquefaction Potential Based on Nearby Projects – Tahoe South Events Center, Douglas County, NV. April 2018.

McGinley and Associates. 2018a. Soils/Hydrology Scoping Report Tahoe South Events Center Stateline Douglas County Nevada. January 2018.

McGinley and Associates. 2018b. Soils/Hydrologic Final Report Tahoe South Events Center Stateline Douglas County Nevada. April 2018.

Northwest Hydraulics. 2018. Tahoe South Events Center Pollutant Load Reduction Model (PLRM) Analysis. March 2018.

NRCS. 2018. Custom Soil Resource Report for Tahoe Basin Area, California and Nevada – Tahoe South Events Center.

RJ Poff and Associates. 2018. Land Capability Report for APNs 1318-27-001-007 and 1318-27-002-006 (37,26 total Acres) The Edgewood Companies, Zephyr Cove, NV. March 2018.

TRPA Staff Report for Edgewood Companies Land Capability Challenge; 55 Highway 50, Douglas County, Nevada APN: 1318-27-001-007, TRPA File No. LCAP2017-0325 & APN 1318-27-002-006, TRPA File No. LCAP2017-0376 (March 22, 2018 TRPA Hearings Office)

Welsh Hagen Associates. 2019. Revised Technical Memorandum Regarding Groundwater Interception Tahoe South Event Center Douglas County, Nevada. September 30, 2019.

3.3 HAZARDS AND PUBLIC SAFETY

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan, on the existing asphalt concrete paved parking lot adjacent to the MontBleu Casino and Resort. This paved site is located at the intersection of U.S 50 and Lake Parkway. Surrounding land uses include the adjacent Montbleu Casino and Resort, Hard Rock Hotel and Casino, Wells Fargo Bank, Edgewood Golf Course, and undeveloped land to the east. The Project is located at the northern end of the casino/tourist area and is a northern gateway into this commercial area of hotels, shops, restaurants and entertainment. While this is a highly urbanized area, there are meadow and forested areas nearby.

According to the Nevada Department of Environmental Protection, there are three active cleanup sites in the vicinity of the Project, all of which are leaking underground storage tank (LUST) sites located on Kingsbury Grade and in Zephyr Cove. Two of the sites are gas station sites and one is a resort site, all of which experienced a gasoline leak. None of these sites are on or adjacent to the Project area. A number of reported closed/completed cleanup sites are also located in the vicinity of the Project, although none are located on the MontBleu Casino and Resort parking lot. Numerous completed cleanup sites are located in Douglas County in the vicinity of the Project. When the MontBleu Casino and Resort was Caesars Tahoe Hotel and Casino, a non-LUST corrective action was taken between 1994 and 1997 regarding a solvent spill. In 1993 another solvent spill was corrected and cleaned within the year. In 1994 a LUST case was also opened at Caesars regarding a total petroleum hydrocarbon (TPH) or crude oil leak, and the leak was corrected, cleaned, and the case closed in 2016 after extensive groundwater monitoring. Other completed cleanup sites near the Project include Harvey's Resort Hotel Casino and Edgewood Tahoe Golf Course. There are no open cases within the proposed construction site boundaries. The project area has been used as a parking lot since its initial development.

A Phase I ESA was conducted on the project area (APN 1318-27-001-007) including the Montbleu Resort & Spa by Partner Engineering and Science, Inc. (Partner), dated May 22, 2015. The project area reportedly maintained one 2,000-gallon gasoline underground storage tank (UST) formerly located immediately west of the parking garage building at a location near the auto entrance lanes. The UST was removed from the subject property on October 4, 1994 with over excavation to a depth of 14.5 feet below ground surface (bgs). Approximately 131 tons of soil was removed and disposed off-site. A release of petroleum products was reported to the Nevada Division of Environmental Protection (NDEP) under Facility ID: 2-000031. Two soil samples collected from trenches at each end of the UST during the tank removal activities indicated total petroleum hydrocarbons for gasoline (TPH-G) concentrations below the State of Nevada action level of 100 milligrams per kilogram (mg/kg). However, the sample from the base of the excavation contained a TPH-G concentration above the action level at 1,790 mg/kg. Over excavation was stopped due to very hard conditions consisting of weathered granite bedrock. It was estimated that 16.5 cubic yards of soil contaminated with TPH-G above the State of Nevada action level remains on site. However, this quantity cannot be verified.

The project area also maintained one 10,000-gallon gasoline UST located to the west of the 2,000-gallon UST under existing surface parking. The UST was double-wall fiberglass construction, and was installed on October 1, 1994, and was removed from property on May 5, 2003. Groundwater was encountered at the base of the UST excavation at a depth of 11 feet bgs. Therefore, no soil samples were collected from the base of the UST excavation. Soil samples collected from the sidewalls of the excavation were below

detection for TPH-G, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl-tertiary butyl ether (MTBE) in the south sidewall but MTBE was detected in the north sidewall sample at a low concentration of 5.6 micrograms per kilogram (ug/kg). A grab groundwater sample from the base of the excavation was below detection for TPH-G but contained concentrations of benzene (0.79 micrograms per liter (ug/l) and MTBE (5.7 ug/l) that were below the maximum contaminant level (MCL) and secondary MCL.

The Project area is considered a “Classic” wildfire risk area by the 2013 Douglas County Natural Hazard Disaster Mitigation Action Plan and is located outside the seiche/tsunami threat area. This is also not an identified avalanche risk area. The nearest airport is located in South Lake Tahoe, CA and the Project area is not within the airport land use plan or airport safety hazard zone.

U.S. 50 is the primary travel route through Stateline and South Lake Tahoe and serves as the main access road and evacuation route through Lake Tahoe’s South Shore. Located at the intersection of Lake Parkway and U.S. 50, the Project area is located along a prime evacuation area. Kingsbury Grade/SR 207 is less than a half mile north of the Project area and Pioneer Trail is within one mile south of the Project.

IMPACT EVALUATION CRITERIA

An impact involving hazards or related to public safety can occur through the routine transport or use of hazardous materials, location on a hazardous site, the creation of or exposure to human health hazards, and interference with emergency evacuation plans.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts to public safety or hazards associated with the No Action alternative.

Impact: Release Hazardous Substances in the Event of an Accident or Upset Conditions, Create Potential Health Hazards or Expose People to Potential Health Hazards (TRPA 10.a, 17.a, 17.b)

Analysis: Construction will involve the use of hazardous materials, such as fuels and oils; however, use of these materials would be typical of construction activities in the urban environment. Use of such materials during construction would occur in compliance with local, state, and federal regulations. Likewise, the mechanical equipment used to operate the building, such as heating and cooling systems, would utilize oils and other materials necessary for the equipment to operate. The volume of material would be similar to that of other commercial uses in the area and building mechanical equipment would be used according to manufacturer specifications and in compliance with regulations. While attendance would concentrate populations within the building for small periods, the presence of such mechanical equipment, which would be similar to the equipment used in other large commercial facilities, would not expose people to health hazards. Likewise, the location of the Project within an existing parking lot in an urbanized area would not increase potential health hazards associated with wildfire. The Project area is not within a flood hazard zone as discussed in Section 3.2 of this EA and is outside the seiche impact zone as shown on Figure 5-12 of the 2013 Douglas County Natural Hazard Disaster Mitigation Action Plan.

During the removal of USTs in the past, contaminated soils were discovered west of the existing parking garage entrance. The possibility exists that soils contaminated with total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs) may be encountered during grading and utility installation required for the proposed TSEC parking and onsite circulation improvements. Any soil contamination encountered during grading for the TSEC construction must be reported to the NDEP and must be properly disposed of per state regulations. If soil contamination is encountered, it is unknown if the NDEP will require the horizontal and vertical extent of contamination to be defined, as the previous UST site is closed and proposed excavation for parking and circulation improvements will not go to the depths of the former UST in this portion of the project area. Mitigation is required to ensure this impact is less than significant.

Alternatives A and C would have the same onsite footprint, construction activities, and operations as the Project; therefore, Alternatives A and C would have the same impacts as the Project.

Alternative B would relocate the facility to the southeast, behind the MontBleu parking garage. This alternative would occupy approximately 2.26 acres of undisturbed landscape as well as the existing parking lot and would place the facility closer to the undeveloped forest area. While there are no active hazardous spills in this location, a 20,000 gallon underground diesel fuel tank is located behind MontBleu engineering near the loading dock. If the tank requires relocation to accommodate reconfiguration of the access road at this location, the risk of accidental release increases during construction. Likewise, encountering or disturbing the tank increases if the tank remains in place during work, such as grading, along the access road. However, no substantially increased hazard risk would occur during operations.

Mitigation: Construction Hazardous Materials Management Plan

For the Project and Alternatives A and C, a construction hazardous materials management plan shall be developed to address potentially contaminated soil that may be encountered during project construction activities. The construction hazardous materials management plan shall include provisions for agency notification, managing contaminated materials, sampling and analytical requirements, and disposal procedures. The plan shall include identification of construction site BMPs to minimize the potential for any offsite water quality impacts.

The construction hazardous materials management plan shall cover, at a minimum, the following:

- Petroleum hydrocarbon-contaminated soils that may be encountered during project construction activities in areas where construction depths exceed 2 feet below ground surface (bgs) in the vicinity of the previously removed USTs;
- Guidance for relocation, removal, or repair of hazardous materials storage facilities (USTs or ASTs) that may be affected by project construction; and
- Information on assessment and potential handling of presently unknown contaminated soils found during construction.

The plan shall include procedures to stop work if evidence of potential hazardous materials or contamination of soils or groundwater is encountered during construction, including the applicable requirements of the Comprehensive Environmental Response, Compensation, and Liability Act and CCR Title 22 regarding the disposal of wastes.

In addition to preparation of a construction hazardous materials management plan, mitigation under Alternative B includes development of a UST relocation plan, if needed, and receipt of the appropriate state approvals/permits prior to construction activity. The existing UST must be properly identified and mapped on the construction plans, including location, depth, and proximity to other utility lines. The Applicant shall work with MontBleu to ensure no service disruption occurs and that work is completed to federal, state, and local standards.

Impact: Interfere with an Emergency Evacuation Plan (TRPA 10.b)

Analysis: Located at the intersection of U.S. 50 and Lake Parkway, the Project would be adjacent to primary access and evacuation routes through the area. Since the Project is proposed on an existing parking lot, construction and operation of the Project would not alter or revise evacuation regulations or plans. The 2013 Douglas County Hazard Mitigation Plan identifies emergency strategies.

The Project does not provide housing and would not significantly increase resident traffic during an evacuation situation, as approximately 12 new full-time positions would be created by the Project. While tourist or TSEC patron populations would increase during events, the majority of these populations are anticipated to be in the area already either because they are already staying in area hotels or vacation units or are existing residents. The presence and operation of the Project at the intersection of U.S. 50 and Lake Parkway would not alter evacuation routes or evacuation volumes.

Development of a 6,000 person capacity TSEC could be beneficial to evacuation planning, as it adds a new shelter-in-place opportunity for use by emergency personnel and the public during emergency events. The Centers for Disease Control and Prevention

identifies potential shelter sites as public and private school buildings, city-owned facilities such as community centers, senior centers, and recreational facilities/auditoriums, and congregations. These are all facilities with large floor areas/capacity, restrooms, and are ADA accessible. Ideal spaces include space for parking, sleeping (40 square feet per person), toilet and shower facilities, kitchen/cooking facilities, an emergency generator, fire safety features (sprinklers, alarms, extinguishers), heating and cooling, telephones, secured storage areas, separate rooms within the facility, and accessibility (Alameda County, 2003). Since the main floor of the facility would not be utilized or occupied on a daily basis, this facility has the potential to be used as a shelter or emergency service location during emergency events such as fires, floods, or other disasters that have the potential to displace persons from their residence. In addition to the 29,000 square feet of event floor area, the Project facility would include 16 restroom facilities (92 stalls/urinals), not including the locker room bathrooms (10 stalls) and showers (16), a first aid station, commercial kitchen facilities, food storage facilities, a laundry room, trash compaction, fire safety features, heating/cooling, and would be ADA accessible. It is recommended that TDVA, Douglas County, TRPA, Tahoe Douglas Fire Protection District, and other local emergency response entities discuss the potential to use the facility as an emergency shelter or in conjunction with other designated emergency shelters and emergency planning in the area.

Alternatives A and C would result in the same impacts as described for the Project, including the beneficial impact of potential use of the facility during emergency events.

Under Alternative B, the facility could also be used during emergency events; however, the configuration of Alternative B and associated reconfiguration of existing MontBleu access behind Montbleu and the parking garage may also reduce emergency access. While the Project and Alternatives A and C would be located at the intersection of U.S. 50 and Lake Parkway, with access to the structure available on all sides, access to the structure under Alternative B would be limited on each of the sides facing Lake Parkway. The area between the structure and the existing MontBleu structure and parking garage would have no parallel aerial fire apparatus access, as no vehicular access would be present within this section. Emergency access would be limited to the southwest and northeast corners of the TSEC and emergency vehicular access would be limited to the MontBleu access road from U.S. 50, the entry on U.S. 50, and the parking lot access point from Lake Parkway. While this would not interfere with an emergency evacuation plan, it would interfere with emergency response access to the proposed TSEC and also with access to the eastern portion of MontBleu. Emergency service access would no longer be continuous around the building. This cannot be mitigated without relocating the TSEC further east, causing more significant impacts to hydrological and biological resources and ground coverage. In addition, fire emergency water lines and backflow preventers may need to be relocated if the TSEC is developed in this location; however those actions do not constitute a significant impact and would be appropriately permitted and relocated during construction.

Mitigation: No mitigation is required for the Project or Alternatives A or C. No mitigation is feasible to address emergency vehicle access to the TSEC or MontBleu under Alternative B and this is a significant and unavoidable impact for Alternative B.

REFERENCES

- NDEP. 2018. Site Cleanup Database. <https://ndep.nv.gov/environmental-cleanup/site-cleanup-program/site-cleanup-database>. Accessed May 1, 2018.
- Douglas County. 2013. Douglas County Hazard Mitigation Plan. <https://www.douglascountynv.gov/DocumentCenter/View/2255/DC-HMP-2013-Update-Final>.
- Alameda County. 2003. A Guide for Local Jurisdictions in Care and Shelter Planning.
- Welsh Hagen Associates. 2019. Phase I Environmental Site Assessment Update, Tahoe South Event Center Project Area, Portion of APN 1318-27-001-007 and APN 1318-27-002-008.

3.4 BIOLOGICAL RESOURCES (VEGETATION AND WILDLIFE)

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. Surrounding parcels have land use classifications of Resort Recreation and Recreation, while the existing developed project area is classified as Tourist land use. The project area is primarily covered by asphalt pavement (i.e., MontBleu Casino Spa and Resort surface parking lot) with some areas covered by ornamental trees, shrubs, lawn and a few native pine trees. A small portion of the eastern project area has forest cover. There are several groups of trees located within the turf grass area of the existing surface parking lot, as depicted on Plan Sheet L3-00 in Appendix B). The vacant adjacent parcel to the east of the surface parking lot contains Jeffrey pine, sagebrush, rabbit brush, currant species, mixed grasses and forbs.

The land capability is Class 1a, Class 1b, Class 2, Class 5 and Class 6. The Project and Alternatives are not located on Class 1b soils or SEZ.

Because of the location and the urban characteristics of the project area, existing conditions do not support wildlife communities or associated habitats, native vegetation communities, sensitive or uncommon plant species, riparian vegetation or vegetation associated with critical wildlife habitat, riparian vegetation, trees of 30-inch diameter breast height (dbh) or greater, or old growth ecosystem. The following topics are not applicable to the project area and are not analyzed in this EA:

- Introduction of new vegetation that will provide a barrier to the normal replenishment of existing species;
- Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants);
- Reduction of the numbers of any unique, rare or endangered species of plants;
- Removal of streambank and/or backshore vegetation, including woody vegetation such as willows;
- Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications;
- A change in the natural functioning of an old growth ecosystem;
- Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna);
- Reduction of the number of any unique, rare or endangered species of animals;
- Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table;

- Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals; and
- Deterioration of existing fish or wildlife habitat quantity or quality.

Sensitive Plant Species

A number of sensitive plant species have been recorded within the Lake Tahoe Region (Table 3.4-1). For the purposes of this document, these sensitive plant species are defined to include:

- Federally listed, proposed, and candidate threatened and endangered species (Federal Register 50 of Federal Regulations Part 17.11 and 17.12);
- Plant species listed on the Critical Endangered Species List, a fully protected species of native flora in NAC Section 527.010;
- Designated as an At-risk Species by the Nevada Natural Heritage Program or considered by NNHP as a threatened species or “watch list” species; and
- TRPA sensitive plants list that includes *Arabis rigidissima* var. *demota* – Galena Creek rockcress, *Draba asterophora* var. *asterophora* – Tahoe draba, *Draba asterophora* var. *macrocarpa* – Cup Lake draba, *Lewisia pygmaea longipetala* – Long-petaled lewisia, and *Rorippa subumbellata* – Tahoe yellow cress.
- Plants listed as rare Sensitive Plant Surveys.

Stream Environment Zones (SEZs)

There are four (4) SEZ features mapped within the Edgewood Companies’ parcels: two (2) small SEZs along the east edge of APN 1318-27-002-006 just below Lake Parkway and two (2) large swales that merge near the west edge of APN 1318-27-002-006, which drain to a large culvert that extends under the MontBleu structure to an offsite outlet. Precipitation is the primary hydrology source for these features, but the SEZ along the west property line also appears to be sustained by seasonal high groundwater (LCAP2017-0325 and LCAP2017-0376; March 22, 2018 TRPA Staff Report). Vegetation types found within these SEZs consists of Sedge, Baltic rush, bentgrass, wild rose, willows, aspen, and lodgepole pine.

Wildlife Communities

The Lake Tahoe Region provides habitat for over 250 species of resident and migratory vertebrate wildlife species. Each of these species of mammals (64), birds (168), and reptiles and amphibians (23) occurs in the Region because certain habitats are available to meet their needs. The quality and size of these habitats generally determine the abundance of any one species or animal population.

A wide variety of resident and migratory bird species nest and forage in Van Sickle Bi-State Park and Heavenly Mountain Ski Resort properties that are east of the TSEC project area. Clark’s nutcrackers (*Nucifraga columbiana*) and Stellar’s jays (*Cyanocitta stelleri*) can be found year-round throughout the project area and surrounding forested lands. Mountain chickadee (*Parus gambeli*), evening grosbeak (*Coccothraustes vespertinus*), and white-breasted nuthatch (*Sitta carolinensis*) may also be found year-round, while other species such as western tanager (*Piranga ludoviciana*) and western wood pewee (*Contopus sordidulus*) are summer residents only. A variety of woodpeckers, including common flicker (*Colaptes auratus*) and hairy woodpecker (*Picoides villosus*) are commonly observed in association with

forested habitats adjacent to the project area. Typical raptors include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), and turkey vulture (*Cathartes aura*).

Special-Status Wildlife Species

A number of special-status wildlife species have been recorded or are known to occupy the natural vegetation associations that occur within and adjacent to the Lake Tahoe Region. For the purposes of this EA, these species are defined to include:

- Federally listed, proposed, and candidate threatened and endangered species (Federal Register 50 of Federal Regulations Part 17.11 and 17.12);
- Species listed by the TRPA as Special Interest Species
- Designated as protected I Nevada, classified as endangered or sensitive under Section 501 of the Nevada Revised Statutes and Section 503 of the NAC;
- Identified as a species of conservation priority in the Nevada Wildlife Action Plan, prepared by Nevada Department of Wildlife (NDOW).

Reviewing information provided by the United States Fish and Wildlife Service's (USFWS) Information for Planning and Conservation tool (IPaC), special-status species known to occur near the project area or for which potentially suitable habitat is present in the vicinity of the project area include:

- North American Wolverine (*Gulo gulo luscus*);
- Sierra Yellow-Legged Frog (*Rana sierrae*); and
- Lahontan Cutthroat Trout (*Oncorhynchus clarkia henshawi*).

The project area, which is currently developed, and the lands immediately adjacent to the project area, which are bordered by Stateline Boulevard, contain no potentially suitable habitat these species. Specifically, there are no stream channels, water bodies, or riparian zones that would support frog and fish species. There are no recent records of wolverine sightings from the project area, the vicinity of the project area, or within the Lake Tahoe Basin. Therefore, no impacts to this species would be anticipated.

Certain birds are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (16 USC 668 et seq). The Migratory Bird Treaty Act (MBTA) of 1918 as amended (16 USC 703-712) implements the original 1918 statute that implemented the 1916 Convention between the United States and Great Britain (for Canada) for the protection of migratory birds. Specific provisions in the statute include the establishment of a federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." Forest lands provide a substantial portion of breeding habitat and land management activities can have an impact on local populations. A USFWS species list (Appendix E) and nest protection measures have been prepared for the Project in fulfillment of the requirements of this act and Executive Order 13186.

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention:

- Bald Eagle (*Haliaeetus leucocephalus*) – Breeds January 1 to August 31;
- Cassin's Finch (*Carpodacus cassinii*) – Breeds May 15 to July 15;
- Golden Eagle (*Aquila chrysaetos*) –Breeds December 1 to August 31;

- Lewis's Woodpecker (*Melanerpes lewis*) – Breeds April 20 to September 30;
- Olive-sided Flycatcher (*Contopus cooperi*) – Breeds May 20 to August 31;
- Rufus Hummingbird (*Selasphorus rufus*) – Breeds elsewhere;
- Williamson's Sapsucker (*Sphyrapicus thyroideus*) – Breeds May 1 to July 31; and
- Willow Flycatcher (*Empidonax traillii*) – Breeds May 20 to August 31.

No critical habitats are mapped within or adjacent to the project area (<https://ecos.fws.gov/ipac/user/login>; Accessed April 11, 2018).

The Nevada Natural Heritage Program conducted a records search of the Project area and two-kilometer radius around the Project area. No at-risk plant or animal taxa are recorded in the Project area, but habitat may be present for the following species:

- Silver-haired bat (*Lasionycteris noctavagans*) - Nevada Bureau of Land Management Sensitive Species; and
- Douglas's squirrel (*Tamiasciurus douglasii*) - State of Nevada Protected Mammal

IMPACT EVALUATION CRITERIA

An environmental impact is defined as a change in the existing environmental conditions. For the purpose of this EA, an impact is considered significant if it does not comply with the Goals, Policies, and Ordinances of the TRPA Regional Plan Update or Douglas County Code, or exceeds TRPA Environmental Thresholds, or meets the criteria for a significant effect as defined by the Federal Endangered Species Act (ESA) Guidelines. The significance criteria that are applicable to the TSEC Project are detailed in the section below.

Douglas County

Douglas County Code Section 20.703.250.0 implements TRPA Code Section 33.6. Douglas County Code Section 20.694.100 details the landscaping design standards for projects, while Section 20.703.106 requires the use of lawn and landscaping species listed in the TRPA-recommended and approved Native and Adapted Plants for the Tahoe Basin, with the exception of accent plantings.

In accordance with Section 20.703.270 of the Douglas County Code, the South Shore Area Plan implements the resource management provisions for the protection of wildlife that are contained in Chapters 61, 62 and 63 of the TRPA Code.

Tahoe Regional Planning Agency (TRPA)

TRPA Code of Ordinances, Section 33.6, Vegetation Protection During Construction

The following vegetation protection provisions shall apply to construction:

33.6.1. Vegetation

Vegetation shall not be disturbed, injured, or removed except in accordance with the Code or conditions of project approval. All trees, major roots, and other vegetation, not specifically

designated and approved for removal in connection with a project shall be protected according to methods approved by TRPA. All vegetation outside the construction site boundary, as well as other vegetation designated on the approved plans, shall be protected by installing temporary fencing pursuant to subsections 33.6.9 and 33.6.10.

33.6.2. Equipment

Use of equipment of a size and type that under prevailing site conditions will do the least amount of damage to the environment may be specified as a condition of approval. Construction equipment and materials shall be restricted to the construction site boundary.

33.6.3. Debris

Slash, trees cut for the project, uprooted stumps, or other vegetative debris shall not remain on the project area after October 15 of each year, or final inspection, whichever comes first, except trees bucked into firewood in TRPA-designated areas. Any remaining stump shall be cut within six inches of the ground on the uphill side of the tree.

33.6.4. Tree Treatment Plan

A plan to treat trees on the project area, in accordance with Section 61.1: Tree Removal, may be required as a condition of approval. At a minimum, the plan shall include the following:

- A. Provisions for identification and treatment of diseased or insect infested trees;*
- B. Provisions for identification and removal of hazardous trees; and*
- C. Provisions for optimum stocking levels of trees including the protection and establishment of younger-aged trees.*

33.6.5. Tree Removal

Trees may be removed from within six feet of a foundation, or when other approved construction activities involving soil compaction, excavation, or paving encroach into more than 25 percent of a tree's dripline. Falling, uprooting, or removal of trees and other materials shall be accomplished to avoid damage to remaining trees, vegetation, and soil.

33.6.6. Tree Roots

Tree roots four inches in diameter and larger encountered during excavation of utility trenches shall not be severed, if avoidable. All tree roots four inches in diameter or larger severed during excavation shall be cut flush with the surface of the excavation.

33.6.7. Prohibition

Trees shall not be used for the purpose of sign posts, telephone wires or temporary power, bracing for forms, or other similar types of uses.

33.6.8. Revegetation Plan

Areas outside the construction site boundary that sustain vegetation damage during construction shall be revegetated according to a revegetation plan in accordance with Section 61.4.

33.6.9. Standards for Soil and Vegetation Protection

- A. The location and type of protective fencing shall be shown on approved plans.*
- B. No material or equipment shall enter or be placed in the areas protected by fencing or outside the construction areas without prior approval from TRPA.*
- C. Protective fencing for soil and vegetation shall be constructed with metal posts and industry-standard mesh fencing that is least four feet tall, unless an alternative protection method is approved by TRPA.*
- D. All protective fencing shall be adequately maintained and provide a functional barrier during construction.*

33.6.10. Standards for Retained Tree Protection

All trees designated to be retained during construction shall be protected as follows:

- A. Fencing shall be placed no closer than the dripline of the tree(s) unless an alternative placement is approved prior by TRPA.*
- B. The location and type of the protective fencing shall be shown on approved plans.*
- C. No material or equipment shall enter or be placed in the areas protected by fencing or outside the construction areas without prior approval from TRPA.*
- D. Protective fencing for trees shall be constructed with metal posts and industry- standard mesh fencing that is at least four feet tall, unless an alternative method is approved by TRPA.*
- E. All protective fencing shall be adequately maintained and provide a functional barrier during construction.*
- F. An alternative method of tree protection may be required if conditions warrant due to location of tree or the importance of the tree for visual screening. A tree treatment plan may be required per subsection 33.6.4.*

TRPA Code of Ordinances, Chapter 62 - Wildlife Resources

Section 62.4 Special Interest, Threatened, Endangered and Rare Species

Special interest species that are locally important because of rarity or other public interest, and threatened, endangered, or rare species as designated under state and federal endangered species acts shall be protected from habitat disturbance from conflicting land uses. These special interest species are: goshawk, osprey, bald eagle, golden eagle, peregrine, water fowl, and deer. The habitat locations of these species are depicted on TRPA maps. At a minimum, the following standards shall apply for the protection of special interest, threatened, endangered and, rare species and associated habitat:

62.4.1. Disturbance Zones

Perching sites and nesting trees of goshawks, peregrines, eagles, and osprey as shown in the TRPA Regional Plan Map layers shall not be physically disturbed in any manner nor shall the habitat in the disturbance zone be manipulated in any manner unless such manipulation is necessary to enhance the quality of the habitat. The threshold shall apply not only to the number of known population sites but also to the disturbance and influence zone buffers to sites found in the future.

- A. The disturbance zone for goshawks is the 500 acres of best suitable habitat surrounding a population site, which shall include a 0.25-mile radius around each nest site.*
- B. The disturbance zone for osprey and peregrines is 0.25 mile radius around each nest site.*
- C. The disturbance zones for wintering bald eagles are as shown on the TRPA maps.*
- D. The disturbance zone for nesting bald eagles is 0.5 mile radius around each nest.*
- E. The disturbance zone for golden eagles is 0.25 mile radius around each nest site.*

62.4.2. Adverse Impacts

Uses, projects, or activities outside existing urban areas and within the disturbance zone of special interest, threatened, endangered, or rare species shall not, directly or indirectly, significantly adversely affect the habitat or cause the displacement or extirpation of the population.

62.4.3. Environmental Documents

Applicants for projects within disturbance zones shall submit with their applications appropriate environmental documentation prepared by a biologist that includes specific recommendations for avoiding significant adverse impacts to the special interest, threatened, endangered, or rare species.

62.4.4. Special Conditions

Special conditions of project approval may be required to mitigate or avoid significant adverse impacts to special interest species listed by TRPA or the U.S. Forest Service for the Lake Tahoe Basin, or for threatened, endangered, and rare species.

62.4.5. Developed Parcels

Subsections 62.4.1 through 62.4.3, inclusive, shall not apply to situations where special interest, threatened, endangered, or rare species choose to live in close proximity to existing developed parcels.

TRPA Environmental Thresholds

The TRPA has established Environmental Thresholds for common vegetation (including richness, relative abundance, and pattern), uncommon plant communities, and sensitive plants. These environmental thresholds are used to establish the significance of an environmental affect to vegetation resources in the Lake Tahoe Region. TRPA environmental thresholds for vegetation preservation are defined as follows.

Common Vegetation

MANAGEMENT STANDARD - Increase plant and structural diversity of forest communities through appropriate management practices as measured by diversity indices of species richness, relative abundance, and pattern.

- *Maintain the existing species richness of the Basin by providing for the perpetuation of the following plant associations:*

Yellow Pine Forest: Jeffrey pine, White fir, Incense cedar, Sugar pine.

Red Fir Forest: Red fir, Jeffrey pine, Lodgepole pine, Western white pine, Mountain hemlock, Western juniper.

Subalpine Forest: Whitebark pine, Mountain hemlock, Mountain mahogany.

Shrub Association: Greenleaf and Pinemat manzanita, Tobacco brush, Sierra chinquapin, Huckleberry oak, Mountain whitethorn.

Sagebrush Scrub Vegetation: Basin sagebrush, Bitterbrush, Douglas chaenactis.

Deciduous Riparian: Quaking aspen, Mountain alder, Black cotton-wood, Willow.

Meadow Associations (Wet and Dry Meadow): Mountain squirrel tail, Alpine gentian, Whorled penstemon, Asters, Fescues, Mountain brome, Corn lilies, Mountain bentgrass, Hairgrass, Marsh marigold, Elephant heads, Tinker's penney, Mountain Timothy, Sedges, Rushes, Buttercups.

Wetland Associations (Marsh Vegetation): Pond lilies, Buckbean, Mare's tail, Pondweed, Common bladderwort, Bottle sedge, Common spikerush.

Cushion Plant Association (Alpine Scrub): Alpine phlox, Dwarf ragwort, Draba.

- *Relative Abundance - of the total amount of undisturbed vegetation in the Tahoe Basin;*

- 1. Maintain at least four percent meadow and wetland vegetation.*
- 2. Maintain at least four percent deciduous riparian vegetation.*
- 3. Maintain no more than 25 percent dominant shrub association vegetation.*
- 4. Maintain 15-25 percent of the Yellow Pine Forest in seral stages other than mature.*
- 5. Maintain 15-25 percent of the Red Fir Forest in seral stages other than mature.*

- *Pattern - Provide for the proper juxtaposition of vegetation communities and age classes by;*

- 1. Limiting acreage size of new forest openings to no more than eight acres.*
- 2. Adjacent openings shall not be of the same relative age class or successional stage to avoid uniformity in stand composition and age.*

A nondegradation standard to preserve plant communities shall apply to native deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations to be consistent with the SEZ threshold.

Native vegetation shall be maintained at a maximum level to be consistent with the limits defined in the Land Capability Classification of the Lake Tahoe Basin, California-Nevada, A Guide For Planning, Bailey, 1974, for allowable impervious cover and permanent site disturbance.

POLICY STATEMENT - It shall be a policy of the TRPA Governing Board that a nondegradation standard shall permit appropriate management practices.

Late Seral and Old Growth Forest Ecosystems

NUMERICAL STANDARD - Attain and maintain a minimum percentage of 55 percent by area of forested lands within the Tahoe Region in a late seral or old growth condition, and distributed across elevation zones. To achieve the 55 percent, the elevation zones shall contribute as follows:

- The Subalpine zone (greater than 8,500 feet elevation) will contribute 5 percent (7,600 acres) of the forested lands;*
- The Upper Montane zone (between 7,000 and 8,500 feet elevation) will contribute 30 percent (45,900 acres) of forested lands;*
- The Montane zone (lower than 7,000 feet elevation) will contribute 20 percent (30,600 acres) of forested lands.*

Forested lands within TRPA designated urban areas are excluded in the calculation for threshold attainment. Areas of the montane zone within 1,250 feet of urban areas may be included in the calculation for threshold attainment if the area is actively being managed for late seral and old growth conditions and has been mapped by TRPA. A maximum value of 40 percent of the lands within 1,250 feet of urban areas may be included in the calculation.

Because of these restrictions the following percentage of each elevation zone must be attained to achieve this threshold:

- 61 percent of the Subalpine zone must be in a late seral or old growth condition;*
- 60 percent of the Upper Montane zone must be in a late seral or old growth condition;*
- 48 percent of the Montane zone must be in a late seral or old growth condition;*

Uncommon Plant Communities

NUMERICAL STANDARD - Provide for the nondegradation of the natural qualities of any plant community that is uncommon to the Basin or of exceptional scientific, ecological, or scenic value. This threshold shall apply but not be limited to (1) the deepwater plants of Lake Tahoe, (2) Grass Lake (sphagnum bog), (3) Osgood swamp, (4) the Freel Peak Cushion Plant community, (5) Taylor Creek Marsh, (6) Pope Marsh, (7) Upper Truckee Marsh, and (8) Hell Hole.

Sensitive Plants

NUMERICAL STANDARD - Maintain a minimum number of population sites for each of five sensitive plant species.

<u>Species</u>	<u>Number of Population Sites</u>
<i>Lewisia pygmaea longipetala</i>	2
<i>Draba asterophora v. macrocarpa</i>	2
<i>Draba asterophora v. asterophora</i>	5
<i>Rorippa subumbellata</i>	26
<i>Arabis rigidissima v. demote</i>	7

The TRPA has established Environmental Thresholds for wildlife that address special interest species, habitats of special significance, stream habitats, and instream flows. These environmental thresholds are used to establish the significance of an environmental affect to wildlife resources in the Lake Tahoe Region. TRPA environmental thresholds for wildlife resources, as cited in TRPA Resolution 82-11 Exhibit A, are defined below.

Special Interest Species

NUMERICAL STANDARD - Provide a minimum number of population sites and disturbance zones for the species identified in Table 3.5-1.

Table 3.4-1

TRPA Environmental Thresholds for Special Interest Species

Species of Interest	# of Population Sites	Disturbance Zone (miles)	Influence Zone (miles)
Goshawk	12	Most suitable 500 acres surrounding nest site including a 0.25 mile buffer centered on nest sites	3.50
Osprey	4	0.25	0.60
Bald Eagle (Winter)	2	Mapped Areas	Mapped Areas
Bald Eagle (Nesting)	1	0.50	Variable
Golden Eagle	4	0.25	9.0
Peregrine falcon	2	0.25	7.6
Waterfowl	18	Mapped Areas	Mapped Areas
Deer	--	Meadows	Meadows

Source: TRPA Threshold Study Report, 1982

Habitats of Special Significance

MANAGEMENT STANDARD - A non-degradation standard shall apply to significant wildlife habitat consisting of deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations.

Federal Endangered Species Act

Section 7 of the Endangered Species Act (ESA) requires that federal agencies “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of habitat of such species which has been designated as critical.” A listed species is any species of fish, wildlife or plant that has been determined to be endangered or threatened.

Section 4 of the Federal ESA determines listing status by:

- The present or threatened destruction, modification, or curtailment of its habitat or range;
- Overutilization for commercial, recreational, scientific, or educational purposes;
- Disease or predation;
- The inadequacy of existing regulatory mechanisms; or
- Other natural and manmade factors affecting its continued existence.

For purposes of this EA, threatened or endangered species and critical habitat are defined by Section 3 of the Federal ESA Guidelines, as follows:

- “Endangered” when any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man; or
- “Threatened” when any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- “Critical habitat” is the specific areas within the geographical area occupied by the species, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species that are essential for the conservation of the species. Except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area, which can be occupied by the threatened or endangered species.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts to biologic resources associated with the No Action alternative.

Impact: **Removal of Native Vegetation in Excess of the Area Utilized for the Actual Development Permitted by the Land Capability/IPES System or Removal of Trees as a Result of Construction (TRPA 4.a, g, h)**

Analysis: Under the Proposed Action, Alternative A, Alternative B and Alternative C, the vegetation in the project area will not be disturbed, injured, or removed during construction except in accordance with the conditions of project approval (TRPA Code Section 33.6). Trees, major roots, and other vegetation not specifically designated and approved for removal in connection with the Project will be protected through application of TRPA approved

methods. Temporary construction fencing will be installed to clearly delineate the project area boundary and protect vegetation outside of the designated project area.

Forested areas of the project area and the South Shore Area Plan boundary in general are within the area of the Tahoe Region that is defined as an “eastside forest type” as defined in TRPA Code Chapter 90. TRPA Code Chapter 61 defines the provisions for old growth protection and enhancement, prohibiting the cutting of live, dead, or dying tree larger than 24-inch dbh in eastside forest types on lands designated Conservation and Recreation land uses or within SEZ areas, except under certain defined conditions. The project area and the greater South Shore Area Plan boundary contain no lands designated Conservation or Recreation. Tree removal necessary for construction of the Proposed Action, Alternative A, Alternative B or Alternative C will be conducted in accordance with TRPA Code Chapter 61 and Douglas County Code Section 20.703.270 and comply with the vegetation and forest health resource management provisions. No tree removal is proposed within SEZs.

Mitigation: No mitigation is required.

Impact: Introduction of New Vegetation That Will Require Excessive Fertilizer or Water (TRPA 4.b)

Analysis: The Project will comply with TRPA Code Section 61.4, Revegetation, and the Goals and Policies provisions that prohibit the release of non-native species in the Tahoe Region. Landscaping with native species is preferably because native plants usually require less fertilizer and water than non-native species over the long term. The Proposed Action, Alternative A, Alternative B, and Alternative C would comply with Section 3.1.7 of the South Shore Design Standards and Guidelines, which requires a landscaping maintenance plan that details efficient watering methods to support the long-term growth of landscape. The Proposed Action and Alternatives propose landscapes that will be irrigated to establish plantings and to provide the correct water levels to support the long-term growth of landscape. The irrigation systems will use efficient watering methods, group planting into similar hydro-zones, and use moisture sensors to control the application of water. Native vegetation will be utilized whenever possible, consistent with TRPA Landscape Standards and Fire Defensible Space Requirements, listed in Table 5-2: Site Type Recommended Species List of the TRPA BMP Handbook, and with the exception of accent plantings proposes the use of lawn and landscaping species that are included in the TRPA-approved Native and Adapted Plants for the Tahoe Basin.

The Proposed Action and Alternatives will include a fertilizer management plan that addresses the type, quantity, and frequency of use of fertilizers in compliance with TRPA Code Section 60.1.8. As detailed on project Plan Sheets G1-00 and G1-01, no new vegetation is proposed that would require excessive fertilizer or water, or provide a barrier to the normal replenishment of existing species.

Mitigation: No mitigation is required.

Impact: Potential Loss or Degradation of Special-Status Plant Species or Their Habitats (TRPA 4.b, d, e, f, h)

Analysis: No special-status plant species or associated habitats are found within the project area, and therefore, no special-status plant species or habitats would be affected by construction and operation of the Proposed Action or Alternatives.

Mitigation: No mitigation is required.

Impact: Potential Disturbance of Habitat for North American Wolverine (TRPA 5.a, b, d)

Analysis: There are no recent records of wolverine sightings from the project area, the vicinity of the project area or the Lake Tahoe Basin. Therefore, no impacts to this species would be anticipated. Additionally, the project area includes no potentially suitable habitat. The potential for construction and operations, under the Proposed Action or Alternatives, to impact this species is considered to be less than significant.

Mitigation: No mitigation is required.

Impact: Potential Disturbance to Migratory Bird Species, Nesting or Foraging Habitat (TRPA 5.b, c)

Analysis: The project area is currently developed and the construction and operation of the Proposed Action would not result in physical disturbance to surrounding forest habitat; thus avoiding and minimizing potential impacts to special status species or BCCs. Due to the location of construction activities, which are either within existing asphalt pavement or within the existing road ROWs, only four (4) trees of greater than 24-inch would require removal and potential impacts to habitat or nesting pairs would be avoided through implementation of the Project's resource protection measures. Total tree removal would be up to 34 trees (18 trees between 14-inch and 24-inch dbh and 12 trees less than 14-inch dbh). Because of the urban characteristics and management of the project area, there are no snags.

Since Alternative A and Alternative C utilize the same footprint as the Proposed Action, they would require the removal of up to 34 trees.

Alternative B would require the removal of 52 trees greater than 24-inch diameter, 70 trees between 14 and 24 inches in diameter, and 5 trees with diameters less than 14 inches. A total of 127 trees would be removed, most of which is associated with the modifications to the service access road behind MontBleu and the removal of the landscape area within the existing parking lot. This forested area is adjacent to the existing service access road and the operational service access to the MontBleu facilities. Proximity to these service access features reduces potential utilization of the forested area as nesting habitat, but does not eliminate potential use of the area for nesting or foraging. Potential impacts to habitat or nesting pairs would be avoided through implementation of the Project's resource protection measures and implementation of **Mitigation Measure BIO-1**.

Project construction will incorporate the appropriate resource protection measures to avoid impacts to migratory birds during nesting periods in accordance with TRPA Chapter 62. Should there be a discovery of a TRPA-designated sensitive species or species of interest, or the location of a nest or den of such a species, this discovery would be immediately reported to TRPA. Nests, dens, or plant locations would be protected in accordance with TRPA regulations, and construction work within the project area would cease until TRPA identifies under what conditions the Project may again commence and implementation continue.

Mitigation: BIO-1: Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program.

The Program shall include surveys, consultation, and protective actions. Pre-construction surveys, conducted during the nesting/breeding season immediately prior to initial project construction (e.g., excavation, grading and tree removal), shall be conducted to identify any active raptor or migratory bird nest sites and wildlife nursery sites (bat roosts) within

the Project area. During initial construction activities (tree removal and excavation for construction), a qualified biological monitor shall be onsite to evaluate whether any raptors or migratory birds are occupying trees or whether any wildlife den/nursery sites are within the Project area. The biological monitor will have the authority to stop construction near occupied trees or nursery sites if it appears to be having a negative impact on nesting raptors or migratory birds or their young observed within the construction zone. If construction must be stopped, the monitor must consult with TRPA and/or NDOW staff within 24 hours to determine appropriate actions to restart construction while reducing impacts to identified nursery sites, raptors or migratory bird nests.

Impact: **Potential Disturbance of Roosting/Nesting or Foraging Habitat of Special-status Bats or Douglas's squirrel (TRPA 5.b, c, d)**

Analysis: The Proposed Action and Alternatives A and C would not result in physical disturbance to surrounding forest or riparian habitat and thus no impacts to roosting/nesting or foraging habitat. Additionally, due to the location of construction activities, which are within a previously developed area, no significant impacts to protected species are expected to occur as a result of the Proposed Action or Alternatives A or C. Therefore, this impact is considered to be less than significant.

Alternative B would result in the removal of 127 trees and disturbance to 2.26 acres of undeveloped natural landscape. This forested area is adjacent to the existing service access road and the operational service access to the MontBleu facilities. Proximity to these service access features reduces potential utilization of the forested area as roosting/nesting habitat and no populations of these species are known to occur within the Project area; however, this does not eliminate potential use of the area for roosting/nesting or foraging. Project construction would incorporate the appropriate resource protection measures to avoid impacts to roosting/nesting or foraging habitat in accordance with Nevada Department of Wildlife and NAC 503. Should there be a discovery of a listed sensitive species or species of interest, or the location of a roost of such a species, this discovery would be immediately reported to NDOW. Roost/nest locations would be protected in accordance with state regulations, and construction work within the project area would cease until NDOW identifies under what conditions the Project may again commence and implementation continue.

Mitigation: **BIO-1: Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program.** A description for this measure is provided above.

REFERENCES

Miskow, Eric. 2018. Nevada Natural Heritage Program. Personal correspondence. June 4, 2018.

United States Fish and Wildlife Service (USFWS). 2018. Birds of Conservation Concern <https://ecos.fws.gov/ipac/user/login>. Accessed April 11, 2018.

3.5 TRANSPORTATION, PARKING AND CIRCULATION

This section describes the existing traffic, parking, and circulation system in the vicinity of the project site, presents the regulations applicable to the study area, identifies significance criteria for traffic, parking, and circulation impacts, and evaluates the potential impacts associated with “no project” and “plus project” conditions. In addition, future cumulative transportation impacts are presented.

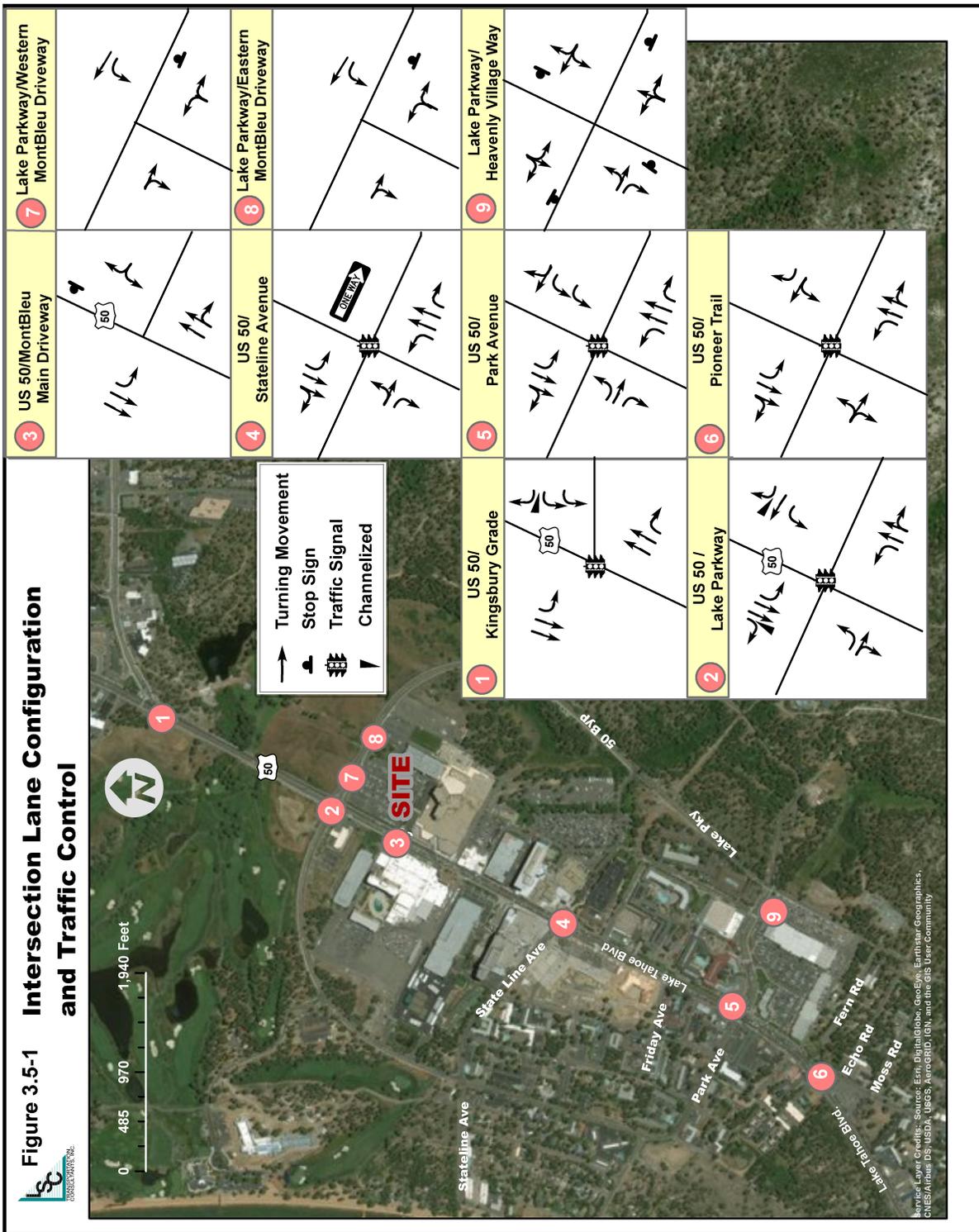
AFFECTED ENVIRONMENT

This section identifies the existing transportation facilities and describes traffic conditions for the roadway network within the vicinity of the project site. The private automobile is the primary mode of transportation in the Lake Tahoe Basin. Figure 3.5-1 illustrates the site location, the study area intersection configurations, and traffic controls. Existing transit, pedestrian, and bicycle facilities are also described.

Existing Roadways and Study Intersections

The following is a description of the key roadways within the study area:

- **U.S. 50** is the primary highway serving Lake Tahoe’s south shore. As part of its transcontinental route, within the region it connects Carson City on the east with Sacramento on the west. Although U.S. 50 is primarily aligned east-west, it assumes an orientation closer to north-south throughout the study area. Therefore, for the purposes of this study, U.S. 50 is assumed to be aligned in the north-south direction within the study area. Within the vicinity of the project, U.S. 50 has two through lanes in each direction and exclusive left-turn lanes at major intersections. A central two-way left-turn lane (TWLTL) is provided south of Lake Parkway through the study area. The posted speed limit throughout the study area is 35 miles per hour (mph), except the segment between Stateline Avenue and Lake Parkway has a posted speed limit of 25 mph.
- **Kingsbury Grade (Nevada State Route 207)** serves as the major access to commercial and residential areas along the Kingsbury corridor, as well as the Nevada base of Heavenly Ski Resort. In addition, this road serves as regional access between the Tahoe Basin and the Minden/Gardnerville area to the east. Near U.S. 50, this roadway consists of a single travel lane in each direction, with a TWLTL and a grade of approximately 6 percent. The posted speed limit on Kingsbury Grade is 35 mph.
- **Lake Parkway** is a loop roadway that provides access to the project site on the east side of U.S. 50, as well as to the casino properties on the west side of U.S. 50. Lake Parkway provides a secondary means of travel around the casino core. East of U.S. 50, Lake Parkway is a two-lane roadway with left-turn lanes at the MontBleu and Harrah’s parking lot entrances on the Nevada side. On the California side, Lake Parkway is continuous with Montreal Road, which intersects Heavenly Village Way to complete the loop. West of U.S. 50, Lake Parkway has a three-lane cross section with one through lane for each direction of travel, and a TWLTL along the segment in Nevada from the state line to U.S. 50. On the California side, Lake Parkway is continuous with Pine Boulevard, which intersects Park Avenue to complete the loop



- **Stateline Avenue** is a two-lane roadway located immediately adjacent to and parallel to the California-Nevada state line. Stateline Avenue provides access to Harvey's Resort and Casino on the northeast side and to motel properties and residences, located in California, on the southwest side. The posted speed limit is 25 mph. East of U.S. 50, Stateline Avenue is a one-way eastbound access road to the Harrah's parking lot and Embassy Suites.
- **Park Avenue** is a two-lane roadway providing access to lodging and residential properties west of U.S. 50. Park Avenue also provides access to the west side of the Lake Parkway loop.

Heavenly Village Way is a two-lane roadway providing access to the Heavenly Village and the Raley's shopping area on the east side of U.S. 50. Heavenly Village Way also provides access to the east side of the Lake Parkway loop, the residential neighborhood along Montreal Road, and Van Sickle Bi-State Park. The posted speed limit is 25 miles per hour. The following study intersections are included in this analysis:

- 1) U.S. 50/Kingsbury Grade
- 2) U.S. 50/Lake Parkway
- 3) U.S. 50/MontBleu Main Driveway
- 4) U.S. 50/Stateline Avenue
- 5) U.S. 50/Park Avenue
- 6) U.S. 50/Pioneer Trail
- 7) Lake Parkway/MontBleu West Driveway (driveway to be removed)
- 8) Lake Parkway/MontBleu East Driveway (driveway to remain)
- 9) Lake Parkway/Park Avenue/Heavenly Village Way

The existing lane configuration and traffic controls at these study intersections are illustrated in Figure 3.5-1.

Existing Traffic Volumes

Existing Traffic Volume Trends

NDOT maintains a permanent automatic traffic recorder (ATR) count station at a point on U.S. 50 located 0.6 mile east (north) of the state line (between Lake Parkway and Kingsbury Grade) that yields useful information regarding traffic patterns in the project area. The monthly variation in average daily traffic (ADT) volumes is presented in Table 3.5-1. Traffic levels are highest in July (135.8 percent of annual average) and August (124.8 percent of annual average). In comparison, the average daily traffic volume in the winter month of greatest daily traffic activity (December) is 94.9 percent of annual average. As summer traffic conditions on U.S. 50 represent the peak season, the technical analysis focuses on peak summer traffic volumes. A limited analysis of traffic conditions in off-peak summer periods as well as other seasons is conducted in the intersection Level of Service (LOS) impact section of this chapter. As the area experiences the highest traffic volume during the PM peak hours, this study focuses on PM peak-hour traffic only.

Table 3.5-1 Monthly Traffic Volumes on U.S. 50 (0.6 Miles North of the State Line)		
Month	Monthly Average Daily Traffic Volumes (Total of Both Directions)	Percent of Annual Average Daily Traffic (%)
January	25,138	88.6
February	26,545	93.6
March	25,748	90.8
April	24,293	85.6
May	26,031	91.8
June	32,334	114.0
July	37,958	133.8
August	34,593	121.9
September	31,227	110.1
October	25,712	90.6
November	23,640	83.3
December	26,489	93.4
Source: NDOT 2016		

Existing Intersection Volumes

Based on a review of NDOT traffic data along U.S. 50 within the site vicinity, the highest summer traffic volumes typically occur on Fridays and Saturdays. Existing summer peak-hour traffic volumes were developed for the study intersections based upon traffic counts conducted on Saturday August 12, 2017 from 3:30 PM to 5:30 PM. The raw count data is included in Appendix F-1. Consistent with other recent studies conducted in the south shore area, the 30th-highest traffic hour of the summer season is used as the design period for determining the need for intersection and roadway improvements. The count data was increased by a factor of approximately 4.5 percent to reflect the 30th-busiest hour of vehicular traffic. These adjustments were derived based upon a review of NDOT hourly traffic volumes at a point on U.S. 50 between Lake Parkway and Kingsbury Grade (the closest available count location) for the entire summer of 2017. The resulting 'existing no project' peak-hour traffic volumes are presented in Figure 3.5-2.

Note that the existing traffic volumes reflect some level of development at the Project 3/Chateau site (in the southwest corner of the intersection of Stateline Avenue and U.S. 50), including approximately 24,820 square feet of retail uses and 10,640 square feet of restaurant uses, for a total existing floor area of 35,460 square feet. Finally, the volumes reflect conditions without an official paid parking program at the casinos. The casinos began charging for parking in 2017 and 2018 (Harvey's started on 7/30/18, Harrah's on 11/13/18, Hard Rock in 2018 and MontBleu in 2017). The casinos were not charging for parking during the traffic counts that were completed for the Project in 2017.

Existing Roadway Traffic Volumes

Daily traffic volumes (ADT) on Lake Parkway without the project were estimated based on the 2017 peak-hour volumes and the ratio of daily-to-peak-hour volumes. Based upon a review of the NDOT hourly traffic volumes on U.S. 50, the ratio of daily-to-peak-hour volumes in the study area during the summer season is approximately 12.5. Applying this factor to the peak-hour volumes along Lake Parkway yields an estimated ADT of about 12,340 at a point west of the MontBleu driveways and 11,410 at a point east of the driveways.

For purposes of the roadway LOS analysis, peak-hour directional traffic volumes were estimated based upon the volumes at the adjacent study intersections. The existing peak-hour roadway volumes by direction are presented below in the roadway LOS section of this Chapter.

Existing Intersection Operations

Level of Service (LOS) is a quantitative and qualitative measure of traffic conditions on isolated sections of roadway or intersections. LOS ranges from “A” (with no congestion) to “F” (where the system fails with gridlock or stop-and-go conditions prevailing). Detailed LOS descriptions are included in Appendix F-2. As is the standard for traffic engineering analyses, intersection LOS is analyzed based upon the procedures presented in the Highway Capacity Manual, 6th Edition (Federal Highway Administration, 2017) using the Synchro software (Version 10, Trafficware 2017). A saturation flow rate of 1,750 vehicles per hour per lane is used in this analysis, consistent with other traffic studies by LSC in this area. This is lower than the default value (1,800), reflecting the relatively high level of tourist traffic and pedestrian activity in the casino core during the summer season. The LOS standards for the jurisdictions with regulatory authority in the study area are described below in the Regulatory Setting section of this Chapter.

The existing LOS at the study intersections is summarized in Table 3.5-2, and the LOS calculations are contained in Appendix F-3 for further reference. All study intersections currently operate at an acceptable level of service (LOS D or better).

Existing Roadway Operations

The TRPA Regional Plan Update EIS provides maximum allowable two-way peak-hour volumes to achieve a specific LOS for each type of roadway. These volume thresholds were developed based on standard Highway Capacity Manual methodologies. This roadway LOS “lookup table” is contained in Appendix F-4, and the allowable traffic volumes are displayed in the middle portion of Table 3.5-3. The roadway LOS standards for the jurisdictions with regulatory authority in the study area are described below in the Regulatory Setting section of this Chapter. For any roadway segment operating at LOS E, it is necessary to determine whether LOS E operations occur for more than four hours per day. Existing roadway LOS is shown in Table 3.5-3 for the following key roadway locations in the study area:

- U.S. 50 between Kingsbury Grade and Lake Parkway
- U.S. 50 between Lake Parkway and MontBleu
- U.S. 50 between MontBleu and Stateline Avenue
- U.S. 50 between Stateline Avenue and Park Avenue/Heavenly Village Way
- U.S. 50 between Park Avenue/Heavenly Village Way and Pioneer Trail

As indicated in the table, all study roadway segments currently operate at LOS D or better, with the exception of the following two segments:

- U.S. 50 between Kingsbury Grade and Lake Parkway – LOS E
- U.S. 50 between Park Avenue and Pioneer Trail – LOS E

As these segments currently operate at LOS E for not more than four hours per day, the LOS is considered to be acceptable according to the applicable standards.

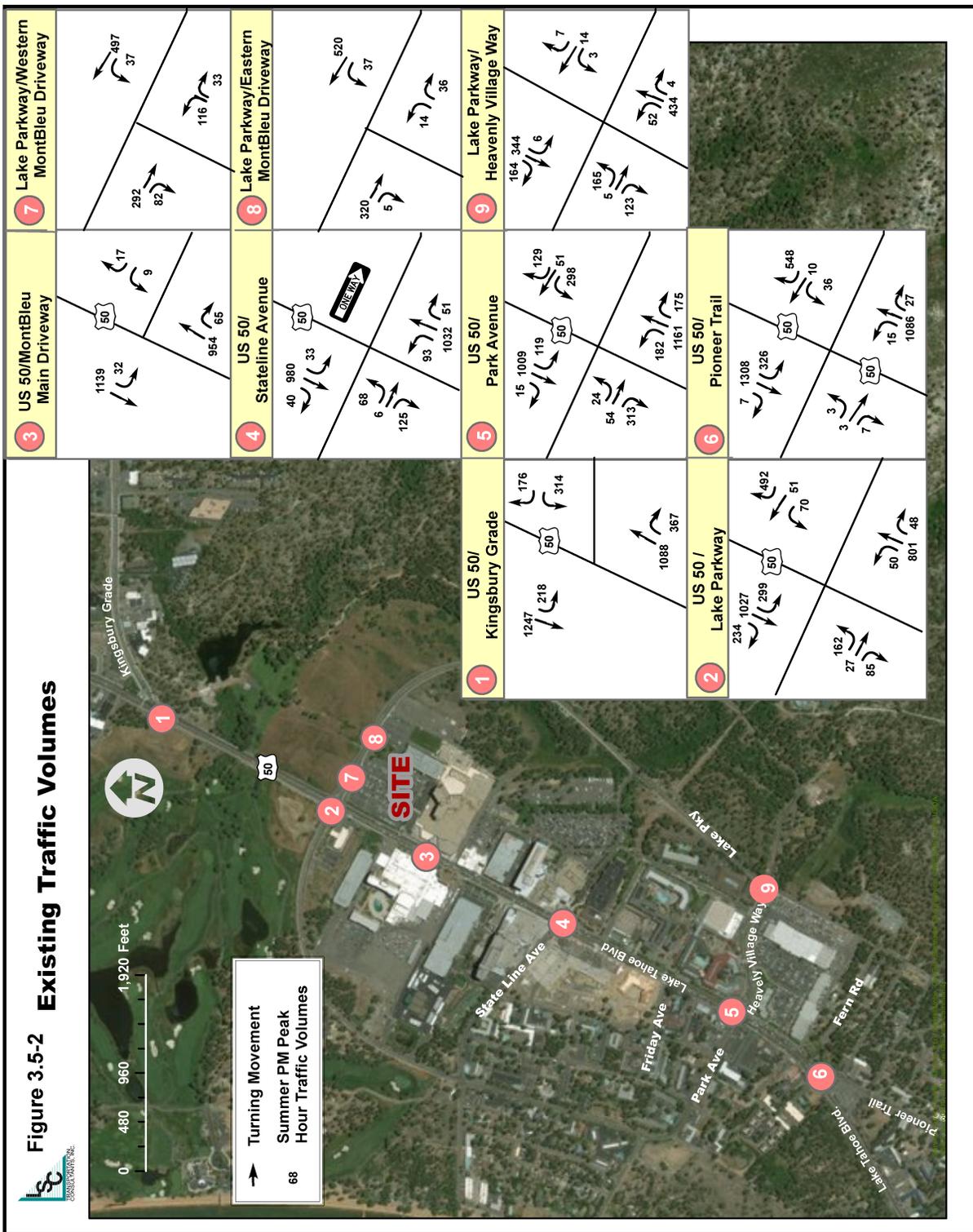


Table 3.5-2: Existing Intersection Level of Service

Intersection	Control	LOS Standard ¹	Applies to	Existing Without Project	
				LOS	Delay (sec/veh)
US 50/Kingsbury Grade	Signal	D/E	total intersection	B	19.1
US 50/Lake Parkway	Signal	D/E	total intersection	C	30.0
US 50/Montbleu Main Driveway	TWSC	E	worst movement	D	27.8
US 50/Stateline Avenue	Signal	D/E	total intersection	D	43.5
US 50/Park Ave/Heavenly Village Way	Signal	D/E	total intersection	D	48.1
US 50/Pioneer Trail	Signal	D/E	total intersection	C	29.6
Lake Parkway/Western Montbleu Driveway	TWSC	E	worst movement	C	24.7
Lake Parkway/Eastern Montbleu Driveway	TWSC	E	worst movement	B	13.1
Lake Parkway/Heavenly Village Way	AWSC	D/E	total intersection	D	28.8

Note: TWSC = Two-Way Stop-Controlled; AWSC = All-Way Stop-Controlled
 Note: **Bold** indicates the LOS standard is exceeded. A bold LOS "E" indicates LOS E for more than 4 hours per day, which exceeds the LOS standards.
 Note 1: "D/E" indicates an LOS standard of "D", but "E" may be allowed for not more than 4 hours per day.
 Source: LSC Transportation Consultants, Inc.

Planned Major Roadway Projects

The approved U.S. 50/South Shore Community Revitalization Project (also referred to as the “Loop Road” Project) will modify the roadway network. The selected alternative, Alternative B (also referred to as the “Triangle Alternative”), would construct a new four-lane alignment for U.S. 50 along the mountain-side portion of the Lake Parkway loop. With implementation of this alternative, the following key improvements are assumed:

- A new dual-lane roundabout would be provided at the U.S. 50/Lake Parkway intersection. As an option, this intersection would remain signalized and be upgraded for the modified lane configuration.
- New traffic signals would be installed along New U.S. 50 at the Harrah’s Driveway and at Heavenly Village Way.
- The U.S. 50/Pioneer Trail intersection would be relocated to the west of its existing location.
- Existing U.S. 50 would be reduced to one lane in each direction from Lake Parkway to Park Avenue, with landscaped medians, left turn pockets, bike lanes, and sidewalks. Between Park Avenue and Pioneer Trail, existing U.S. 50 would either remain a 5-lane roadway or be reduced to a three-lane roadway.
- The posted speed limit on New U.S. 50 would be 40 mph. The posted speed limit on existing U.S. 50 is assumed to be reduced to 25 mph.

Although the Loop Road Project is currently subject to funding approvals, this study includes scenarios with the Loop Road Project under existing year and future cumulative year conditions with the proposed TSEC Project.

Table 3.5-3: Existing Roadway Level of Service on U.S. 50

Roadway Segment	Between	And	Classification	LOS Threshold	Maximum Allowable Two-Way Peak-Hr Volume to Achieve LOSD	Existing Without Project	
						Peak-Hour Two-Way Volume	Exceeding LOS Threshold?
U.S. 50	Kingsbury Grade	Lake Parkway	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	3,016	E ² No
U.S. 50	Lake Parkway	MontBleu	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	2,153	D No
U.S. 50	MontBleu	Stateline Ave	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	2,256	D No
U.S. 50	Stateline Ave	Park Ave/Heavenly Village Wy	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	2,457	D No
U.S. 50	Park Ave/Heavenly Village Wy	Pioneer Trail	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	3,278	E ² No

Note 1: LOS E may be acceptable during peak periods in urban areas, not to exceed four hours per day
 Note 2: This roadway segment does not exceed LOS E for 4 hours a day
 Source: LSC Transportation Consultants, Inc.

Existing Driver Sight Distance

Driver sight distance was reviewed at the existing MontBleu driveways. Driver sight distance standards are categorized under two basic types: intersection and stopping sight distance. Intersection sight distance (also known as corner sight distance) is the distance a driver waiting at a cross street (or a driveway) should be able to see in either direction along the main roadway in order to accurately identify an acceptable gap in through traffic. A clear line of sight should be maintained between the driver pulling out of the driveway and any approaching vehicles on the major street. Sight distance should be sufficient to provide at least 7.5 seconds for the driver on the crossroad to complete the necessary maneuver while the approaching vehicle travels at the assumed design speed of the main roadway. The second type of driver sight distance is stopping sight distance, which is the distance required by the driver of a vehicle moving along the main roadway (such as Lake Parkway) to safely bring a vehicle to a stop after an object on the road becomes visible. This is the minimum distance needed for a driver to see an object in his/her path (such as a vehicle turning onto the roadway) and safely come to a stop.

Currently, Lake Parkway is a Douglas County roadway with a functional classification of Local Road. According to the *Douglas County Design Criteria and Improvement Standards*, intersection sight distance should be evaluated using the definitions in the American Association of State Highways and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Based upon a speed of 40 miles per hour along Lake Parkway, the minimum corner sight distance for left turns from the driveway is 445 feet. For right turns, 305 feet of corner sight distance is needed. At the eastern driveway location, Lake Parkway has a grade of approximately 6 percent. Considering the grade, the required stopping sight distance along Lake Parkway is 333 feet in the downhill direction (toward U.S. 50) and 278 feet in the uphill direction (away from U.S. 50). (No adjustment of the corner sight distance value is needed because both the major- and minor-road vehicle will be on the same grade when departing from the intersection.)

No driver sight distance concerns are identified at the existing western MontBleu driveway on Lake Parkway. The eastern driveway on Lake Parkway currently provides about 445 feet of corner sight distance to the right, which meets the standard. Looking to the left, over 450 feet of corner sight distance is provided. Furthermore, stopping sight distance in exceedance of 350 feet is available along Lake Parkway for both directions of travel. As the actual sight distance values meet or exceed the requirements, no driver sight distance issues are identified at the existing MontBleu driveways. Finally, at the main driveway on U.S. 50, at least 265 feet of corner sight distance is provided looking to the right (north), and at least 545 feet looking to the left (south). No driver sight distance concerns are identified at the main driveway.

Existing Transit Conditions

Transit services in the South Shore area are provided through the Tahoe Transportation District. The MontBleu site is served by Route 19X, Route 22, Route 50 and Route 55 and in winter is also served by a skier shuttle.

- Route 19X provides a single daily round-trip between Carson City and the Stateline Transit Center, via Minden and Gardnerville.

- Route 22 extends from Stateline Transit Center on the west to Gardnerville on the east. This route runs from 5:50 AM to 8:17 PM. A total of 14 runs are operated daily in each direction, with 6 runs (in commute periods) extending to Gardnerville and 8 (mid-day) serving the Tahoe Basin portion of the route only. Service is generally provided hourly.
- Route 50 serves a corridor U.S. 50 between Kingsbury Transit Center in the east, the Stateline Transit Center in the casino core and the “Y” Transit Center in the west. It operates between 6:30 AM and 8:28 PM, providing two runs per hour in each direction between the 8 AM and 5 PM hours and hourly service in other times.
- Route 55 also connects the Kingsbury Transit Center on the east with the South Y Transit Center on the west, but serves areas south of the U.S. 50 corridor (such as Lake Tahoe Community College) between the South Y Transit Center and Stateline Transit Center. This route operates hourly between 6:00 AM and 6:50 PM.

There is one bus stop in front of MontBleu, on U.S. 50 east of the MontBleu driveways. Across the highway there are bus stops in front of the Hard Rock Casino and in front of Harvey’s. Each of these bus stops have benches but no shelters.

The TTD routes and schedules were reorganized in March of 2019. The previous routes serving the MontBleu site carried a total of 356,620 passenger-trips per year. Of this total ridership, 75 percent was on the routes serving California and 25 percent on the routes serving Nevada.

Additionally, the South Tahoe Airporter provides a schedule of 10 runs per day between the Casino Core and Reno-Tahoe International Airport, providing a viable option to the private automobile for overnight guests arriving in Reno. There is also a single daily round-trip connecting Stateline with Sacramento.

Existing Bicycle and Pedestrian Conditions

Sidewalks are provided along both sides of U.S. 50 and along the south side of Lake Parkway (adjacent to MontBleu in the vicinity of the site). In addition, there are on-street bike lanes along Lake Parkway. Protected pedestrian crossing of U.S. 50 is provided at the traffic signals in the study area. There are two intersections in the Casino Core with “pedestrian only” phases (also called “pedestrian scrambles”) – one at the U.S. 50/Stateline Avenue intersection, and another approximately 700 feet north of this location (at the MontBleu Service Driveway).

REGULATORY SETTING

Numerous transportation-related standards and criteria apply to the study area. Key transportation regulations and standards are summarized below.

Tahoe Regional Planning Agency

Lake Tahoe Regional Plan

Chapter 3, Transportation Element, of the Regional Plan provides goals and policies that are intended to establish a safe, efficient, and integrated transportation system that provides quality mobility options for all sectors of the population, supports the region’s economic base, enhances quality of life, and

maximizes opportunities for environmental benefits. The Transportation Element includes transportation goals, policies, and implementation measures that address multiple aspects of transportation planning and interact to create a successful multi-modal transportation system. TRPA's Goals and Policies sets standards for vehicle "Level of Service (LOS)." A more detailed definition of LOS is provided in the previous section of this Chapter. 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; and
- ▲ LOS E may be acceptable during peak periods in urban areas, not to exceed 4 hours per day.

These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways. While the Tahoe Regional Planning Compact looks to "reduce the dependency on the private automobile" there are currently no adopted requirements or standards regarding the quality of service of other travel modes (i.e. transit, biking, or walking) that could potentially reduce the demand on the roadway system. While TRPA does not have specific standards for roundabouts, the TRPA LOS standards for signalized intersections are assumed to apply to the roundabout worst movement. TRPA has no standards specific to unsignalized intersections.

Regional Transportation Plan

The *2017 Linking Tahoe: Regional Transportation Plan* (TRPA, 2017) is Lake Tahoe's blueprint for a regional transportation system that enhances the quality of life in the Tahoe region, promotes sustainability, and offers improved mobility options for people and goods. The 2017 Regional Transportation Plan's (RTP) vision is a first-class transportation system that prioritizes bicycling, walking, and transit, and serves residents and visitors while contributing to the environmental and socioeconomic health of the Region. Important objectives of the plan are to reduce the overall environmental impact of transportation in the region, create walkable, vibrant communities, improve transportation safety, manage transportation operations and congestion, and provide real alternatives to driving.

Environmental Threshold Carrying Capacities

Vehicle Miles Traveled

VMT is a computed value which correlates to the extent of an area's reliance on the private automobile for trip-making. The TRPA TransCAD Travel Demand Model provides a forecast of 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.

The TRPA's *Threshold Evaluation Report* includes two air quality management threshold standards that relate to transportation facilities in the region: (1) the reduction in VMT by 10 percent from 1981 base year conditions to reduce nitrate deposition; and (2) the reduction in VMT by 10 percent from 1981 base year conditions to improve visibility. The VMT threshold is periodically updated whenever TRPA updates

its transportation model. The most recent VMT threshold was calculated at 2,030,938 for a peak summer day, as indicated in the Regional Transportation Plan (TRPA, 2017), and the existing VMT in the Tahoe Basin over the course of a peak summer day is approximately 1,937,070. Based on the 2017 calculation, which in turn uses a 2014 base year, the daily VMT is “Meeting Target, Indicator Improving”. However, to remain conservative in the analysis of project impacts, the existing VMT in the Tahoe Basin over the course of a peak summer day is assumed to be over the threshold.

The TRPA’s *Guidance for Assessment of Vehicle Miles Traveled (VMT) Impacts of Projects in the Tahoe Basin* (2019) establishes a methodology for determining the VMT impacts of projects proposed in the Tahoe Region, in order to provide consistency for applicants when developing environmental documents to meet TRPA requirements and to better align environmental analyses with the modeling tools used to generate the VMT threshold standard.

Code of Ordinances

Transportation and mobility requirements for Area Plans are included in Code Section 13.5, Contents of Area Plans. Changes in daily vehicle trip ends (DVTE) as a result of a change in project operation are discussed in Section 65.2, Traffic and Air Quality Mitigation Program, of the TRPA Code. Temporary activities are governed by section 2.3.6, and construction projects are required to comply with TRPA’s standard conditions of approval.

South Shore Area Plan

The *South Shore Area Plan* (TRPA and Douglas County, 2013) is a component of the Regional Plan used for implementing land use goals, policies and ordinances in the Stateline and Kingsbury areas of Douglas County, Nevada. The South Shore Area Plan (SSAP) sets goals for improving walkability and bike-ability while improving the aesthetic character of the Douglas County town center areas.

Tourist Core Area Plan

The *Tourist Core Area Plan* (City of South Lake Tahoe, 2013) is a component of the Regional Plan used for implementing land use goals, policies and ordinances in the area of the City of South Lake Tahoe that was previously guided by the Stateline/Ski Run Community Plan. The Tourist Core Area Plan (TCAP) encourages general improvement and enhancement for the built environment and it provides a framework that will change the existing conditions into opportunities for redevelopment with a focus on achieving on- the-ground environmental improvements consistent with the City’s General Plan and environmental thresholds goals of the 2012 Regional Plan. The TCAP’s transportation objectives include enhancement of mobility patterns by enabling users to satisfy their travel needs while supporting the area’s environmental, social, and recreational goals.

Policy T-1.2 in the TCAP states, “*Strive to maintain a level of service (LOS) D or better on all arterials, collectors and at signalized intersections. This LOS standard may be exceeded during peak periods, not to exceed 4 hours per day when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users.*”

State

Although the Nevada Department of Transportation (NDOT) and California Department of Transportation (Caltrans) provide Level of Service (LOS) standards for intersection and roadway operations, the standards

set forth by the TRPA typically govern over the state standards for projects located within the Tahoe Basin, but any projects affecting a state highway are also subject to NDOT and Caltrans review. The standards set forth by Caltrans and NDOT are similar to those established by TRPA. The LOS standards set forth by the TRPA are applied in the analysis herein.

Douglas County

The Douglas County *Design Criteria and Improvement Standards* (2019) provide the following applicable roadway standards:

“A traffic LOS C or better, in the context of providing a safe, efficient, and convenient transportation system, shall be maintained through mitigation of impacts from all conditions on all County, Town, and District maintained arterial and collector roads and at County road intersections, except as noted in Implementation Strategies 10.11.01.2 and 10.11.01.3 of the Douglas County Master Plan.”

The Douglas County Master Plan also establishes traffic capacity and LOS criteria for various types of highways, and an operational level of service for signalized intersections, as discussed below:

- ▲ LOS “C” on all principal arterial roads maintained by the County, Town, and District (Implementation Strategy 10.11.01.1)
- ▲ LOS “D” on all principal arterial roads maintained by the Nevada Department of Transportation (NDOT) (Implementation Strategy 10.11.01.2)

The existing applicable parking code for the project is presented in the Douglas County Consolidated Development Code, Title 20 (Douglas County 1998).

City of South Lake Tahoe

Policy TC-1.2 in the South Lake Tahoe General Plan says that the City shall establish a minimum LOS standard of “D” for all City streets and intersections. Up to four hours per day of LOS “E” shall be considered acceptable. LOS shall be considered based on average delay for the intersection as a whole for signalized intersections, and for the worst approach for intersections controlled by stop signs or roundabouts. LOS shall be evaluated for a busy, but not peak, traffic day in the peak seasons.

IMPACT EVALUATION CRITERIA

Based on the “Transportation and Circulation” criteria from TRPA’s Initial Environmental Checklist, the proposed project would result in a significant impact to transportation and circulation if it would substantially impact existing highway systems or alter present patterns of circulations, defined here as:

- ▲ Cause a study roadway within a rural area to worsen from LOS D or better to LOS E or worse;
- ▲ Cause a study roadway within an urban area to degrade as follows:
 - worsen from LOS E or better to LOS F;
 - worsen from LOS D or better to LOS E for 5 hours or more;
 - worsen from LOS E (for 4 hours per day or less) to LOS E for 5 hours or more; or

- worsen an LOS F condition.
- ▲ Cause a study intersection controlled by signal or roundabout to worsen from LOS A through D or less than 5 hours per day of LOS E to LOS F or to LOS E for 5 or more hours per day;
- ▲ Cause a study intersection not controlled by signal or roundabout to worsen from LOS A through E to LOS F, or to increase delay where LOS F currently exists; or
- ▲ Cause total VMT within the Tahoe region to exceed the TRPA Air Quality Threshold value of 2,030,938;
- ▲ Cause a net increase in total VMT within the Tahoe region;
- ▲ Result in inadequate transit service to meet demand or substantively negatively impact existing transit operations;
- ▲ Result in inadequate parking conditions;
- ▲ Substantially increase traffic hazards to bicyclists and pedestrians, or substantially impact existing bicycle/pedestrian facilities; or
- ▲ Substantially increase hazards due to a design feature or incompatible uses.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

Impact: Intersection LOS Under 'Existing Year With Project' Conditions – Proposed Project and Alternatives A, B and C: Intersection LOS under 'existing year with project' conditions would exceed the LOS threshold at some study area intersections.

Analysis: First, the trip generation of the proposed project is analyzed for the summer "design day". Next, the project's summer trip distribution pattern is estimated and the project traffic is assigned through the study intersections. The resulting traffic volume impacts and traffic operational impacts are evaluated, including the following issues:

- Daily traffic (ADT) impacts on Lake Parkway
- Intersection Level of Service (LOS) and Queuing
- Roadway LOS
- Analysis of the Need for New or Expanded Turn Lanes

Trip Generation

Trip generation is the evaluation of the number of vehicle-trips that would have either an origin or destination at the project site. Daily vehicle-trip ends (DVTE) and peak-hour vehicle trips are determined in order to analyze the potential impacts from the proposed project. As standard trip rates are not

available for an event venue, the estimation of daily and PM peak-hour trip generation is developed based on a “person-trip” analysis. That is, the persons expected on-site over the course of the day are factored by the expected automobile travel mode split and divided by the vehicle occupancy rate to estimate the number of vehicle trips accessing the site.

To date, the *Feasibility Study for a New Multipurpose Entertainment and Conference Center Development on the South Shore* was prepared by the firm of Convention Sports and Leisure (January 20, 2015), and a Scoping Notice was prepared in January 2018. These documents provide useful background information on the potential facility, as summarized in Table 3.5-4. A review of this data indicates the following:

- A market for approximately 130 events per year was identified, with most of the events likely occurring in spring, early summer and fall months. Of these, the majority of events are corporate/association meetings (45) and banquets and receptions (40), serving up to 1,200 attendees. In addition, about 30 concert/entertainment events are expected per year.
- Surveys of potential conference and corporate clients provide an indication of the distribution of such events by size. For instance, while the largest corporate event client indicated an average attendance of 4,800, 90 percent of these potential clients reported an average attendance of 2,300 or less. This indicates the number of large events per year would be relatively limited, raising the potential for scheduling in periods of high parking availability to avoid parking issues.
- Surveyed organizations indicated that their interest in holding events in South Tahoe is greatest in the spring and fall, and relatively low in Tahoe’s busiest summer and winter seasons. In fact, none of the potential convention organizations indicated an interest in holding their convention in July, August or December. TSEC events could take advantage of the region’s current seasons of low lodging utilization and gaming activity.

Trip Generation on Summer Design Day

The trip generation analysis for the proposed TSEC is based upon expected attendee and employee levels and a review of available information regarding travel characteristics in the vicinity. For purposes of this analysis, the “design day” assumes a 2,500-attendee concert/entertainment or sporting event occurs at the proposed venue on a busy summer day, along with implementation of the proposed paid parking program and microtransit service. A concert/entertainment or sporting event is assumed, rather than a convention/conference event, in order to yield conservative results regarding impacts (conservatively high traffic volumes). A convention/conference event would not be expected to generate as much vehicular traffic going to/from the event venue as an entertainment or sporting event, because the majority of convention/conference attendees are overnight visitors, generally within walking distance of the facility.

The trip generation analysis of the proposed uses at the project site over the course of the summer design day is based on the following information/assumptions:

- Only one event per day is assumed to occur at the proposed event center during the busy summer season. The design day assumes no concert event at Harvey’s.

Table 3.5-4: Background Information on Event Center Expected Use

Type of Event	Events per year
Concerts and Entertainment	30
Conventions and Conferences	5
Public/Consumer Shows	5
Corporate Meetings	45
Sporting Events	5
Banquets/Receptions/Other Events	40
TOTAL	130

Size of Events	Percentile of		Number of Persons	
	Maximum Event			
Conventions/ Conferences	100%	2,100	Average Attendees of Surveyed Organizations (Includes Exhibitors)	
	90%	1,900		
	50%	450		
Corporate Events	100%	4,800		
	90%	2,300		
	50%	450		
Concerts/Entertainment	Up to	6,000	Attendees	
Sporting Events	Up to Mid-Tier Events	4,200	Participants & Spectators	
		2,100		

Source: Event Center Project Description and *Feasibility for a New Multi-Purpose Entertainment & Conference Center Development on the South Shore*, Conventions Sports and Leisure, January 20, 2015.

PM peak-hour trip generation is estimated for two scenarios: an event starting during the peak hour, and an event letting out during the peak hour (in order to identify the worst-case scenario regarding traffic impacts).

- An average vehicle occupancy rate of 2.77 persons per vehicle is assumed for event attendees on the summer design day, based on the average of the vehicle occupancy rates provided in the LTVA Summer 2017 Concert Surveys for concert/entertainment events, public/consumer shows, and sporting events.
- Approximately 75 part-time employees are assumed to report to the venue for the event.
- Approximately 10 full-time employees are assumed to be on-site on the summer design day. Each full-time employee is assumed to commute to and from work, plus one-third of the full-time employees are assumed to make an additional round-trip off-site during their shift for lunch, errands, etc.
- About 20 delivery/service/ utility vehicles are assumed to be on-site over the course of the day.

MODE SPLIT ANALYSIS

A portion of trips made to/from the event venue are expected to be made via modes other than the private automobile. First, “base” reductions are analyzed, reflecting existing non-auto travel modes in the project area. Next, reductions are evaluated for the proposed paid parking program for the Casino Core (per Program agreement) and microtransit service (described below). Finally, the resulting overall reduction for non-auto modes is calculated.

BASE REDUCTIONS FOR NON-AUTO TRAVEL

The following “base” reductions do not reflect the additional reduction in vehicle trips resulting from the proposed paid parking program and microtransit service.

- Attendees - Approximately 82 percent of event attendees are assumed to travel to/from the event via private automobile, based on the results of the LTVA Summer 2017 Concert Survey. The remaining 18 percent are assumed to access the event via existing non-auto transportation modes (transit, pedestrian, bicycle).
- Employees - Some trips made by employees are via non-auto modes. The Stateline area has an observed high level of non-auto travel that tends to reduce the vehicular trip generation of workers. Fortunately, the TRPA periodically conducts surveys of persons at commercial and recreational centers throughout the region, including in the Stateline area. A review of the TRPA 2018 and 2014 Summer Travel Mode Share Surveys conducted in the Stateline area indicates that 46 percent of work trips are made via private automobile and the remaining 54 percent are made via non-auto modes. This level of non-auto travel is already accounted for in the ‘existing no project’ traffic volumes. To result in conservatively high traffic volumes with the proposed project, however, a 45 percent reduction for non-auto commuting is applied to employees of the proposed event venue.

REDUCTIONS FOR PAID PARKING

Impact of Paid Parking on Existing Casino Core Traffic Volumes

The proposed project includes implementation of a paid parking program for the Casino Core¹. Specifically, as part of Events Center operations, the TDVA would secure agreement from the four Stateline casino resort properties (Harvey’s, Harrah’s, MontBleu and Hard Rock Hotel and Casino) to institute a year-round paid parking program. Employees are exempted from the paid parking program.

It is therefore necessary to evaluate the impact of this element of the project on traffic conditions. This analysis focuses on a busy summer day, consistent with the TRPA air quality VMT threshold. The parameters of the paid parking program are as follows:

- Paid parking is assumed for Harvey’s, Harrah’s, MontBleu and Hard Rock Hotel and Casino.

¹ For purposes of this discussion, the Casino Core is defined as the area in Nevada encompassed by Lake Parkway (east and west) and the California/Nevada state line.

- A flat parking fee of \$20 per day, at a minimum, is assumed. This includes all guests/customers, including club card holders.
- No other changes in parking supply and controls are assumed. The existing paid parking at the Heavenly Village Parking Garage and along Transit Way and Bellamy Court are assumed to stay in place, along with other existing parking limitations. No other parking management measures (such as additional parking duration limits) are assumed.
- Parking passes or permits are provided to all employees (including employees associated with the proposed event venue).

This analysis first focuses on identifying the appropriate proportionate reduction in existing vehicle-trips due to the paid parking program. Available traffic count data was then summarized to identify the existing summer daily trip generation, and these proportions applied.

Evaluation of Percentage Impact on Trip Generation

Total vehicle-trips generated by the casino properties were considered in three categories for purposes of this analysis: employee trips, visitor/customer trips, and service trips. Employee and service trips (such as deliveries, maintenance activities and refuse hauling) would not be impacted by paid parking. For the other two categories, a review of available professional literature was conducted. While the bibliography at the end of this document identifies all studies reviewed, the following focuses on those studies found to be pertinent to the Stateline analysis.

Due to the unique setting of the proposal (imposition of a district-wide paid parking program in a recreation/gaming-focused activity center set in a mountain resort area), there are no case studies or previous research projects that generate findings that can be directly applied². Instead, it is necessary to conduct a two-step evaluation. For each type of trip, the professional literature is first reviewed to identify a “generic” reduction for the context in which the studies were conducted (larger urban settings). The various transportation factors specific to the Stateline area of the Tahoe Region are then considered. The potential shifts in travel mode are then evaluated, based on data regarding trip patterns and transit system capacity, to identify if a reasonable scenario that accomplishes the shift can be defined. Finally, a “capacity constrained” overall mode shift is identified.

Paid Parking Impact on Existing Visitor Trips

The available literature regarding the traffic impact of imposing paid parking is limited. As summarized in *Impacts of Parking Pricing and Parking Management on Passenger Vehicle Use and Greenhouse Gas Emissions Policy Brief* by Steven Spears of University of California, Irvine; Marlon G. Boarnet of University of Southern California; Susan Handy, University of California, Davis: “The available evidence on the direct impact of parking pricing on VMT is relatively scarce. In addition, much of the evidence that does exist was obtained from studies that are now at least 15 years old.” In addition, a literature review

² No quantitative before-and-after studies of traffic impacts have been conducted for other mountain resort commercial centers such as Aspen, Park City or Breckenridge that have implemented paid parking over the last 20 years.

conducted by LSC indicated that much of the research has focused on employee/commute trips (2014). Studies that address how drivers making recreational/lodging/commercial trips respond to paid parking are very limited. No specific “before and after” studies of the impacts of initiating a parking fee to a gaming, lodging or recreational site with free parking were found to be available. However, other studies that considered the impact of a change in parking fees were found:

- Pricing and Parking Management to Reduce Vehicle Miles Traveled (Caltrans Division of Research, Innovation and System Information, 2018) recognizes increasing parking prices may reduce VMT.
- A study of parking prices in San Francisco conducted in 2013 by the San Francisco County Transportation Authority indicated an average elasticity of -0.53 in the Fisherman’s Wharf area. In comparison, the downtown San Francisco business district had an elasticity of -0.40³. This indicates higher sensitivity to paid parking among persons traveling to a recreation/entertainment area than to an employment area.
- A study in Dublin, Ireland indicated much lower price sensitivity during a well-known late night shopping/nightlife period than during the day.
- A synthesis paper prepared by the Canadian Parking Association identifies a typical elasticity for shoppers with regards to a change in parking cost of -0.30.
- Parking price elasticity impacts on VMT was found in a 1999 study by TRACE to be -0.04 for commuters and -0.15 for “other”, indicating that other trips are relatively sensitive to parking pricing.

These studies indicate that a reasonable “base” reduction factor (prior to consideration of local factors) is a 30 percent reduction. To assess the impact of local Tahoe factors, it is necessary to consider three types of visitor trips: the regional access trip (to/from the Tahoe Region from a visitor’s area of residence), local trips within the Tahoe Region for gaming purposes and day visitors.

Regional Access Trip by Overnight Visitors Lodged in Casino Core

The majority of overnight visitors staying in the Stateline area consists of persons either driving directly from their home or flying into regional airports and using rental cars to drive to the area. Local factors to consider are as follows:

- The Lake Tahoe Visitors Authority Four Season Visitor Profile Study 2015/16 indicates an average per-party daily expenditure of \$833 in summer. A \$20 per day parking fee increases this figure by only 2.4 percent, indicating a relatively modest impact on auto use. This tends to significantly decrease the potential for a reduction in auto use.⁴

³ For instance, in simple terms an elasticity factor of -0.53 indicates that a 100 percent increase in parking charges would result in a 53 percent reduction in parking demand. The larger the absolute value of the elasticity factor, the more sensitive demand is to price. These figures are based on the cost of parking, not the total cost of a visitor trip. Also note that elasticity cannot be directly applied to the Stateline analysis, as a percentage increase cannot be calculated for the imposition of a cost on a previously free good or service.

⁴ Note that direct application of the elasticity factors discussed above to this change in total trip costs is not valid,

- Another consideration is that the large majority of visitors patronizing the Stateline casinos also take advantage of other Tahoe attractions (such as sightseeing, day cruises or hiking/biking) as part of their stay. This tends to reduce the potential for other gaming centers to attract Tahoe visitors simply because of the implementation of paid parking. This also tends to decrease the impact of paid parking on auto use.
- Many Tahoe visitors live in larger urban areas where paid parking at activity centers is the norm. This is confirmed in the Bay to Tahoe Basin Recreation and Tourism Travel Impact Study (El Dorado County Transportation Commission, 2014), which indicates that a substantial number of Tahoe visitors come from Sacramento and the greater San Francisco Bay Area. This likely decreases the sensitivity of out-of-town visitors to paid parking.
- The South Tahoe Airporter provides a schedule of 10 runs per day between the Casino Core and Reno-Tahoe International Airport, providing a viable option to the private automobile for overnight guests arriving in Reno. There is also a single daily round-trip connecting Stateline with Sacramento. The availability of these services tends to increase the potential for paid parking to reduce auto trips.

Note that once a visitor has paid the parking fee for on their arrival at the lodging property, no additional fees for further use of their vehicle while in the area would be charged. As a result, this small reduction also applies to local trips made by visitors staying at the Stateline casino properties for other trips. Given these factors, a 1 percent reduction in auto trips is appropriate for the regional access trip by overnight visitors lodged in the casino core. A reasonable estimate is that 40 percent of this 1 percent reduction would come from visitor groups arriving in fewer vehicles (ridesharing), 35 percent from increase airport shuttle or Amtrak Thruway use, and 25 percent from existing visitors choosing not to make the trip.

Customer Trips Generated by Overnight Visitors Staying Outside the Casino Core or Local Residents

Another proportion of customer trips to/from the Stateline gaming properties consist of visitors lodging in the Tahoe Region outside the Stateline area or local residents making trips to/from the four casinos for gaming, dining, shopping and other forms of entertainment. The local factors to be considered for this group are as follows:

- One potential shift to avoid paying a parking fee is to choose another destination that fulfills the desired trip purpose. The availability of alternative gaming options is therefore important, as persons choosing to drive to another gaming property would not reflect a reduction in VMT. Considering the region as a whole, the Crystal Bay/Incline Village properties on the North Shore are an option. However, the long travel time/costs of substituting a Crystal Bay/Incline Village gaming visit for a Stateline gaming visit indicates that few Stateline patrons would shift to North Shore casinos. Similarly, few Stateline casino patrons would be expected to shift to casinos outside the Tahoe Basin (such as Casino Fandango in Carson City), given the additional travel time and cost of fuel. In addition, the limited lodging options in areas along the West Shore and East Shore that have relatively similar travel distances to the South Shore and North Shore casino areas also reduces the proportion of gaming customers that could be expected to

as the observed elasticity factors were based on change in parking charge only, not change in total trip cost.

substitute a North Shore casino visit for a South Shore casino visit. Within the South Shore, the Stateline paid parking properties reflect a large proportion of the gaming opportunities. Only the Lakeside Inn and Casino is a significant gaming opportunity that would not charge for parking under the proposed project. TRPA land use files indicates that Lakeside is only 2 percent of the total gaming capacity in the South Shore (based on the proportion of gaming employees). This indicates that some existing Stateline casino patrons would be expected to shift their gaming location, but that the large majority will not. This factor would tend to increase the modal shift associated with paid parking.

- The number of free, legal parking spaces within a reasonable walk distance of the paid parking area for use by casino core motorists was estimated. TRPA staff conducted a walkshed analysis using a ¼ mile and ½ mile network and buffer. As shown in Table 3.5-5, counts conducted over two busy summer days in 2017 augmented by counts conducted in June of 2019 indicates that there are an average of 494 parking spaces available within a half-mile walk distance of the paid parking area for use by casino core motorists. It can be expected that, absent any active parking control program, these spaces would be used by motorists shifting from the casino properties due to paid parking. Absent any future changes in parking control programs, visitor motorists will use these spaces during peak times. Given the overall existing parking activity at the casino properties (approximately 3,882 vehicles, based on LSC counts conducted on August 11 and 12, 2017), this is a relatively small proportion (13 percent) of overall travel impacted by the paid parking program. This factor would tend to decrease the impact of paid parking, within the limitation of available offsite parking.
- Another shift in travel patterns resulting from the implementation of paid parking is a shift in travel mode – so long as attractive alternative modes are available. To better identify the potential for mode shifts, TRPA TransCAD model input data regarding the number of lodging units in each Transportation Analysis Zone (TAZ) was analyzed, yielding the following proportions:
 - Of all lodging units in the South Shore area excluding the Casino Core, 4 percent are within a 10 minute (half-mile) walk distance of the Casino Core.
 - Of all lodging units in the South Shore area excluding the Casino Core, 32 percent are within a comfortable (3 mile) bicycling/scooter distance of the Casino Core, excluding areas in the upper portion of Kingsbury.
 - Of all lodging units in the South Shore area excluding the Casino Core, 47 percent are within the service area of TTD Routes 22, 50 and 55.
 - Of all lodging units in the South Shore area excluding the Casino Core, 23 percent are within the proposed microtransit service area.

TABLE 3.5-5: Tahoe South Events Center - Existing Free Legal Parking Availability Within a 10-Minute Walk Distance

Description	Parking Area ¹			Total
	On- Street	Douglas County Pkg Garage & Lots	Stateline Medical Center Lot	
Parking Supply ²	349	246	98	693
Weekday Evening				
Peak Parking Count	133	56	29	218
Parking Utilization	38%	23%	30%	31%
Free Available Legal Spaces	216	190	69	475
Weekend				
Peak Parking Count	116	35	29	180
Parking Utilization	33%	14%	30%	26%
Free Available Legal Spaces	233	211	69	513
Average Free Available Legal Spaces	225	201	69	494
<p>Note 1: On-street parking counts conducted Friday August 11, 2017 and Saturday August 12, 2017. County and medical center lots counted Friday June 14, 2019 from 4 PM to 6 PM.</p> <p>Note 2: Parking supply includes spaces within a 1/2-mile walking distance from the Event Center (Montbleu) site.</p> <p>Source: LSC Transportation Consultants, Inc. VMT Impact of Paid Parking at Stateline.xlsx</p>				

The limited proportions of total visitor lodging units in the various transportation mode service areas tends to decrease the auto reduction impact of paid parking.

With two factors tending to decrease the auto mode shift versus one tending to increase the shift, overall a modest reduction from the base value of 30 percent is expected.

The specific reduction factor can be defined based upon a mode shift analysis, applying the following assumptions:

- The additional cost of driving a private auto to the Casino Core would tend to encourage more use of TNCs and cabs. 5 percent of the mode shift is assumed to consist of increased TNC/cab trips. Each group arriving or departing the Casino Core via TNC/taxi is assumed to generate 2 one-way vehicle trips (1 entering and 1 exiting). As such, the shift from private auto mode to TNC/taxi generates a net increase in vehicle trips (because an arrival or departure via private auto only generates 1 one-way vehicle trip).

- 35 percent of the guests lodging in the microtransit service area would shift to the microtransit service. Factored by the proportion staying or living in the area and multiplying by existing vehicle-trips, 36 percent of the vehicle-trips eliminated by paid parking would shift to microtransit.
- 10 percent of the casino guests staying/living in the TTD local route (Routes 50, 55 and 22) service area would shift to the TTD services, generating 20 percent of the total shift in 1-way vehicle-trips.
- Visitors arriving in the Tahoe region in more than one car as well as local resident customers in the Casino Core would have an encouragement to squeeze into fewer vehicles for the trip to the Casino Core. Ten percent of the trip reduction is assumed to consist of increased ridesharing.
- 10 percent of Casino Core customers staying/living in South Lake Tahoe east of Ski Run Boulevard and in the lower Kingsbury area would shift from driving to walking. As this is a small proportion of overall customers, this yields only 4 percent of the reduction in total auto use.
- 5 percent of customers staying or living within a convenient bicycle/scooter area (from the Bijou/Al Tahoe area to Round Hill, but excluding upper Kingsbury due to the grades) would shift from driving to traveling via bicycle or scooter. This generates 7 percent of the mode shift.
- 20 percent of the reduction in auto use is assumed to be a result of persons choosing not to make a trip to the Casino Core due to the parking fee. This is likely to largely consist of Tahoe visitors that currently stop at the Casino Core as a secondary purpose of their trip, or who choose to shop or dine elsewhere.

In total, this analysis of mode shifts supports a 24 percent reduction in existing vehicle-trips made by Casino Core customers staying or living in South Shore exclusive of the Casino Core properties, as shown in Table 3.5-6.

Multiplying the auto trip shift to the TTD transit mode by an average auto occupancy of 2.5 visitors per auto vehicle-trip yields an increase of 568 daily TTD transit riders, while a similar factoring of the microtransit auto shift yields a microtransit ridership increase of 1,063 per day. The comparison of total ridership to capacity on these transit systems is discussed below.

Day Visitor Trips

Local factors considered for day visitors to the Stateline area (those visiting Stateline as part of a visit to the Tahoe region that does not include an overnight stay) are as follows:

- The Lake Tahoe Visitors Authority's *VisaVue* data indicates that the average South Shore visitor from the Sacramento region (a prime generator of day visitors) spends an average of \$38 per charge at restaurants. Assuming the travel group makes two restaurant meals over the course of the day trip and including 210 miles of travel at the current IRS rate of \$0.58 per mile (including depreciation), a group making a day trip to Tahoe spends on the order of \$200. A \$20 parking

Table 3.5-6

Analysis of Mode Shift of Existing Casino Core Peak Summer Day Vehicle-Trips Resulting From Paid Parking				
	Overnight Visitor Lodged in Casino Core	Overnight Visitor Lodged Elsewhere or Local Guest	Day Visitor Guest	Total
Total Existing 1-Way Vehicle-Trips (Excludes Service Trips)	15,730	4,731	9,630	30,091
% Impact of Paid Parking	1%	24%	20%	
Total 1-Way Vehicle-Trips Eliminated by Paid Parking	157	1,136	1,927	3,220
Proportion of Total Mode Shift				
TTD Transit	0%	20%	0%	
Microtransit	0%	34%	2%	
Airport Shuttle/Intercity Transit	35%	0%	0%	
Ridesharing	40%	10%	5%	
TNC/Taxi	0%	5%	0%	
Walking	0%	4%	2%	
Bicycling/Scooters/Other Mobility Devices	0%	7%	2%	
Trip Not Made	25%	20%	89%	
Total	100%	100%	100%	
Change in Existing 1-Way Auto Daily Vehicle-Trips				
TTD Transit	0	-227	0	
Microtransit	0	-386	-39	
Airport Shuttle/Intercity Transit	-55	0	0	
Ridesharing	-63	-114	-96	
TNC/Taxi ¹	0	57	0	
Walking	0	-45	-39	
Bicycling/Scooters/Other Mobility Devices	0	-80	-39	
Trip Not Made	-39	-227	-1,714	
Total	-157	-1,022	-1,927	
<i>Remaining Trips (Including Those Made to Nearby Free Parking)</i>	<i>15,573</i>	<i>3,709</i>	<i>7,703</i>	
Analysis of Transit Ridership and Capacity				
Average Travel Group Size	2.5	2.5	2.5	
Comparison With TTD Transit Capacity				
TTD Transit Available Capacity				2,720
Change in Person-Trips	0	-568	0	-568
% of Available Capacity Used				21%
Comparison with Microtransit Capacity				
Microtransit Available Capacity (Person-Trips)				2,160
Change in Person-Trips	0	-965	-98	-1,063
% of Available Capacity Used				49%
<small>Note 1: Trips shifting to TNC/Taxi don't reduce vehicle trips. Rather, each trip made via TNC/Taxi is assumed to generate 2 vehicle trips (to account for the previous stop and next stop).</small>				
<small>Source: LSC Transportation Consultants, Inc.</small>			<small>VMT Impact of Paid Parking.xlsx</small>	

fee is therefore roughly a 10 percent increase in the total cost of a day trip. This tends to decrease the impact of paid parking on auto use.

- The Lake Tahoe Visitors Authority *Visitor Profile Study 2015/16* indicates that most visitors participate in more than one activity, combining a gaming activity with other activities such as

sightseeing⁵. A common travel pattern for summer day visitors is instead to visit Tahoe primarily for the scenery and beaches, with a stop at a Stateline casino as an added secondary activity. For these types of trips, the additional cost of the secondary stop in the Casino Core is low. As an example, a group visiting Camp Richardson for the day from Sacramento that chooses to make a secondary stop at the Casino Core (and that would make two restaurant stops in either case) currently adds only the cost of the additional 10 miles round trips to/from the Y, equal to only \$6.00 in total additional costs. A \$20 parking charge is therefore a very substantial increase in the costs for this secondary trip decision, which tends to increase the impact of paid parking on auto use.

- As discussed above regarding other traveler types, the availability of free parking within a 10-minute walk of the paid parking area would tend to decrease the auto reduction benefits of paid parking, within the limits of the available number of spaces.

With two factors decreasing the impact and one increasing the impact, the overall results of this evaluation of local factors on this traveler type indicates a reduction from the generic value of 30 percent to a value appropriate for the study area of 20 percent. The mode shifts made by this travel category are estimated as follows:

- Someday visitor travel groups coming in more than one vehicle will choose to use fewer vehicles. Five (5) percent of the 20 percent reduction (or 1 percent of total vehicle-trips) are assumed to be as a result of ridesharing.
- A small proportion of day visitors coming to Tahoe primarily for other reasons (such as visiting Nevada Beach or Ski Run Marina) will find themselves in a local alternative mode area. Two (2) percent each are assumed for day visitors choosing to leave their vehicle at their primary destination and walking, cycling or using the micro shuttle for their trip to the Casino Core.
- The remainder (89 percent of the 20 percent) are assumed to be existing day visitor that choose to not visit the Casino Core. The large proportion of these are expected to be day visitors with a primary trip purpose other than visiting the Casino Core, such as outdoor recreationalists that shift to another dining or shopping opportunity.

Capacity of Transit Services to Accommodate the Mode Shift Associated with Paid Parking

An important “check” on the mode shift analysis is whether the existing TTD and proposed microtransit systems have adequate capacity to accommodate the new passengers shifting from the auto mode. This analysis is shown in the bottom portion of Table 3.5-6. For each of the traveler categories, the reduction in daily auto vehicle-trips shifting to the transit mode is multiplied by the appropriate average vehicle occupancy to identify the associated increase in daily transit ridership. Summing over the four traveler categories yields the total increase in transit ridership generated by paid parking.

⁵ This document presents survey results in which summer visitors were asked to rank the importance of various factors in their decision to make a trip to Tahoe, on a scale of 1 (most important) to 5 (not at all important). Scenic beauty ranked highest at 1.1 and “the lake itself” was 1.3, while gaming rated an average score of 3. This document also indicates that 32 percent of summer visitors to the South Shore area are day visitors.

For the TTD local routes, the increase in ridership totals 568 daily passenger-trips. As discussed above, the available capacity of the local TTD services, considering total capacity and existing ridership, is 2,720 one-way passenger-trips to or from the Casino Core per day. This indicates that 21 percent of the available capacity would be filled by the new passengers, leaving more than adequate excess capacity.

The capacity of the proposed microtransit, as analyzed below, is 2,160 person-trips to and from the Casino Core. Compared with the total ridership generated by the paid parking of 965, 49 percent of the daily capacity of this service would be utilized by the shift in existing traveler travel mode. Again, the available capacity is adequate to support the mode shifts.

Summary of Impact on Visitor/Guest Trips

The overall reduction of visitor/guest vehicle-trips associated with paid parking is dependent on the proportion of trips associated with the categories discussed above. As shown in Table 3.5-7, this is calculated as follows:

- The PM peak-hour trip generation of MontBleu was identified, based upon counts conducted in August 2017 for the TSEC project. Note that full counts at all driveways is not available for other Stateline properties. A total of 486 one-way vehicle-trips were counted.
- The peak-hour factor was multiplied by a factor of 14.0 to estimate total daily MontBleu vehicle-trips. As standard sources for trip generation (such as Institute of Transportation Engineers data) is not available for both peak-hour and daily trip generation, this figure is based upon the average ratios identified in the Boulder Bay EIR/EIS (14.9) as well as a detailed study of Reno casinos presented in *Hotel/Casino Trip Generation Study: Reno, Nevada* by Barton-Aschman Associates, Inc. (13.1). The resulting estimate of daily vehicle-trips is 6,804.
- Daily vehicle-trips for the other three properties was estimated based upon the relative number of hotel rooms. In total, the four properties are estimated to generate 34,828 one-way daily vehicle-trips.
- The *Reno Casino Trip Generation Study* also identified the proportion of trips generated by employees at 11.3 percent, by service trips (such as food delivery and refuse trucks, and maintenance vehicles) at 2.3 percent and by visitors/guests at 86.4 percent. Multiplying the total daily vehicle-trips by this latter proportion, visitors/guests generate 30,091 one-way vehicle-trips per day.
- The trips generated by guests staying in the casino hotels can be estimated by applying the standard non-casino hotel trip rate (8.36 one-way vehicle-trips per day per room divided by a 82% occupancy rate to result in 10.20 vehicle-trips per occupied room⁶) times the 86.4 percent that are guests times the total number of hotel rooms (2,242) and factored by 0.80 to reflect a

⁶ While ITE *Trip Generation* provides a rate for occupied hotels rooms, this figure is the result of only two studies with large differences in the observed rate (8.10 and 17.44) and is thus not a reliable rate. Using the per-room rate (with six data points and an R-squared value of 0.92) factored by the reported 82 percent occupancy rate results in a more valid value.

TABLE 3.5-7: Analysis of Trip Generation Impacts of Paid Parking on Existing Casino Trips

Property	PM Peak-Hour Total Vehicle- Trips	Daily Total Vehicle-Trips	Hotel Rooms	Proportion of Daily Vehicle-Trips by Type		Daily Vehicle- Trips by Type	% Impact of Paid Parking	Change in Daily Vehicle-Trips from Paid Parking
MontBleu	486	6,804	438	Visitor/Guest	86.4%	5,879	-11%	-629
				Employee	11.3%	769	0%	0
				Service	2.3%	156	0%	0
				Total				-629
Hard Rock		8,373	539	Visitor/Guest	86.4%	7,234	-11%	-774
				Employee	11.3%	946	0%	0
				Service	2.3%	193	0%	0
				Total				-774
Harveys		11,495	740	Visitor/Guest	86.4%	9,932	-11%	-1,063
				Employee	11.3%	1,299	0%	0
				Service	2.3%	264	0%	0
				Total				-1,063
Harrah's		8,155	525	Visitor/Guest	86.4%	7,046	-11%	-754
				Employee	11.3%	922	0%	0
				Service	2.3%	188	0%	0
				Total				-754
Total		34,827	2,242	Visitor/Guest		30,091		-3,220
				Employee		3,936		0
				Service		801		0
				Total		34,828	-9%	-3,220
Subtotal by Visitor/Guest Type								
<i>Overnight Visitor - Lodged In Casino Core (1)</i>								
-157								
<i>Overnight Visitor - Lodged Elsewhere or Local</i>								
-1,136								
<i>Day Visitor</i>								
-1,927								
Total								
-3,220								

Note 1: Considering both the regional access trip to the Tahoe Region as well as local trips made within the Region.
Source: LSC Transportation Consultants, Inc.

20 percent non-auto travel mode proportion for Stateline hotel guests. This latter figure is based on an analysis of 133 surveys conducted throughout the Tahoe Region in the summers of 2014 and 2018 by TRPA staff, selected for overnight guests that indicated their trip origin within the Tahoe Region was one of the four Stateline hotels. Dividing the resulting 15,730 trips by the total visitor/guest trips yields a proportion equal to 52 percent of all visitor/guest trips, as shown in Table 3.5-8.

- The proportion of visitor/guest trips that are day visitors is assumed to be 32 percent (or 9,630 trips per day), consistent with the regional summer average identified in the Lake Tahoe Visitors Authority *Visitor Profile Study 2015/16*.
- The remaining 16 percent of visitor/guest trips (30,091 – 15,730 – 9,630 = 4,731 vehicle-trips) consist of either visitors lodging elsewhere in the Tahoe region or local residents.⁷

⁷ The 16 percent figure defined for the sum of local residents and visitors staying elsewhere in Tahoe is consistent with data provided by MontBleu staff, which indicates that 11 percent of total casino customers are local Tahoe residents and the remaining 89 percent are visitors.

TABLE 3.5-8: Analysis of Average Visitor Paid Parking Impact

Visitor Type	% Impact of Paid Parking	Estimated Daily Vehicle-Trips	Proportion of All Visitor Vehicle-Trips	Weighted Average
Overnight Visitor - Lodged In Casino Core (1)	1.0%	15,730	52%	
Overnight Visitor - Lodged Elsewhere or Local	24.0%	4,731	16%	
Day Visitor	20.0%	9,630	32%	
<i>Total</i>		<i>30,091</i>	<i>100%</i>	<i>10.7%</i>
Note 1: Considering both the regional access trip to the Tahoe Region as well as local trips made within the Region.				
<i>Source: LSC Transportation Consultants, Inc.</i>				

Factoring the paid parking impacts by these proportions yields an overall reduction of 11 percent of visitor/guest vehicle-trips. This reduction is applied to both the existing visitor trips and the visitor trips made to/from the proposed TSEC.

Total Impact of Paid Parking on Existing Vehicle-Trip Generation

Table 3.5-7 presents the total impacts of paid parking on existing daily trip generation, applying the proportions defined above to the trip generation of the four major properties and the area as a whole. As shown, paid parking is estimated to eliminate 3,220 existing one-way vehicle-trips in the casino core per busy summer day. Of this total, 1,927 (or 60 percent) is reduction in day visitor trips, 157 (5 percent) by overnight visitors lodged in the casino core and the remaining 1,136 are visitors lodged elsewhere or local resident guest trips.

REDUCTIONS FOR MICROTRANSIT SERVICE

The description of the proposed action (Section 2.4) indicates that a microtransit shuttle program would be funded by the TDVA as part of the project, with the following parameters:

- Medium to large sized vehicles would be used to provide on-request service within a core service area extending from the Casino Core on the northeast to Al Tahoe Boulevard and the Harrison Avenue area on the southwest (a map of the service area is included in Section 2.4). Service requests would be received through an app or by phone and would provide up to 15 minute headways (wait times).

Initially, service would be provided for the peak summer and winter periods (defined in Section 2.4), from 7 AM until 9 PM on Mondays through Fridays, and from 9 AM to 10 PM on Saturdays and

Sundays. When major TSEC events end after 10 PM, the service hours would be extended to serve departing attendees. At year 6 of TSEC operations, microtransit service would operate year-round.

- No fares would be charged.
- The service would be operated using enough vehicles and with proper capacity to meet the headway requirements.

Over the course of a 16-hour operating day and assuming an estimated 6 hours of traffic congestion increasing travel times, this service would have the capacity to serve at least 1,080 passenger round-trips to the Stateline area (120 arriving trips X 9 seats per trip), or 2,160 one-way passenger-trips.

The potential daily ridership on this service can be estimated based on the current productivity (passengers per vehicle-hour) of existing services adjusted to reflect the specific characteristics of the proposed service, as follows:

The peak summer month (July) productivity of the TTD transit routes serving the microtransit area (50 and 55) in 2019 was 18.7 passenger-trips per vehicle-hour, per data provided at the TRPA monitoring page (<https://monitoring.laketahoeinfo.org/Transit>).

- The additional transit service would effectively double the frequency of service within the microtransit shuttle service area. The elasticity⁸ factors identified in *Forecasting Incremental Ridership Impacts from Bus Route Service Changes* (National Cooperative Transit Research and Development Program, 1991) indicate that this improvement in frequency would result in a 60 percent increase in ridership.
- The provision of transit service at no fare would also increase ridership. Transit services that have shifted from fare systems to free-fare have generally seen ridership increases on the order of 50 percent:
 - The Corvallis Transit System in Oregon saw a 38 percent increase in ridership in the first year after the elimination of fares in 2011.
 - The Mountain Line system in Missoula, Montana eliminated fares in January 2015, which generated a 43 percent increase in ridership over the first year.
 - Glenwood Springs, Colorado saw a 125 percent increase in ridership after a few months.
 - Asheville, North Carolina conducted a demonstration three-month fare-free program in 2006 that resulted in a 58 percent increase in ridership.
 - The Truckee TART fixed route service has seen a 65 percent increase in ridership between March-May 2018 and March-May 2019, after the elimination of fares in September 2018.

⁸ “Elasticity” is the microeconomic concept that relates the change in demand for a good or service to the change in cost of that good or service, and is a standard methodology for evaluating the ridership impact of a change in service levels or fare.

- In addition, the downtown shuttle system in Santa Barbara imposed a 25-cent fare on their previously-fare-free system in the late 1990's, which resulted in a 45 percent loss in ridership.
- Given the additional convenience of free-fare service to residents and visitors in Truckee, a 50 percent ridership increase is reasonable.
- Ridership on the microtransit program would also be increased by the provision of paid parking requirements, as discussed above. However, to avoid "double counting" this benefit, no additional increase is assumed.

Multiplying the existing 18.7 passenger-trips per hour productivity by 0.60 to reflect the marginal net productivity of the new service and increasing by 50 percent to reflect free fares, the productivity of the microtransit program is estimated to be 16.9 passenger-trips per vehicle-hour. Multiplied by 32 vehicle-hours of transit service per day yields a ridership estimate on an average day in the peak summer month of 944 one-way passenger-trips per day. Based on TTD passenger surveys and the area to be served by the microtransit program, over the course of a day 70 percent of microtransit riders are estimated to be visitors/guests and 30 percent are employees. Factored by average vehicle occupancies of 2.5 and 1.3, respectively, the average weighted vehicle occupancy for trips eliminated by the microtransit program is 2.1. Dividing the ridership by this average vehicle occupancy yields the daily trip-reduction associated with the microtransit program of approximately 450 one-way vehicle-trips.

The proportion of total daily microtransit passengers that are event attendees will be limited by the capacity of the microtransit program as well as the limited period when attendees are traveling to and from the event. Over the course of a day, an estimated 5 percent of microtransit riders would consist of event attendees. This equates to a reduction of 17 daily one-way vehicle trips associated with event attendees, or a 1 percent reduction in event attendee vehicle trips due to the proposed microtransit service.

For purposes of evaluating traffic impacts, it is also necessary to estimate the microtransit reduction during the PM peak hour for the two event scenarios: (1) when an event begins and (2) when an event ends. Multiplying the 16.9 average peak summer microtransit passengers per vehicle-hour by 4 transit vehicles yields approximately 68 inbound or outbound passengers per hour. Factoring this figure by the 60 percent of passengers traveling in the peak direction yields 41 passengers per hour in the peak direction. Subtracting 41 passengers from the inbound capacity of the microtransit service (60 passengers per hour) yields a capacity of 19 passengers per hour available for the event. This equates to approximately 2 percent of the 1,276 total persons entering the site during the PM peak hour before an event begins. This is much lower than what would typically be expected from a free transit service where an attendee would otherwise pay a \$20 charge for parking, indicating that this reduction will be limited by the proposed capacity of the microtransit service. Dividing by the average vehicle occupancy rate of 2.77 attendees per vehicle yields a reduction in PM peak-hour vehicle trips of approximately 1 percent. Applying the same methodology to persons leaving the site when an event ends in the PM peak hour also yields a 1 percent reduction in vehicle trips.

Table 3.5-9

Analysis of Reductions for Non-Auto Trips								
Description	Base Reduction for Non-Auto Modes	Percent Reduction in Vehicle Trips Due to Paid Parking	Percent Reduction in Vehicle Trips Due to Microtransit		Total Reduction Due to Microtransit & Paid Parking		Overall Reduction for Non-Auto Trips (Base & Microtransit & Pd Pkg)	
			Daily	PM	Daily	PM	Daily	PM
EXISTING TRIPS IN CASINO CORE								
Total Existing Trips	n/a	9%	1%	1%	10%	10%	n/a	n/a
PROPOSED EVENT CENTER TRIPS								
Event Attendees	18%	22%	2%	1%	24%	23%	38%	37%
Employees	45%	0%	3%	0%	3%	0%	47%	45%
<small>Source: LSC Transportation Consultants, Inc.</small>								

TOTAL REDUCTIONS FOR NON-AUTO MODES

An analysis of the total reductions for non-auto travel is summarized in Table 3.5-9. The base reduction for non-auto modes of event attendees and employee trips (without microtransit and paid parking), and the paid parking reductions are shown in the left-hand columns of the table. The microtransit reductions are shown in the middle columns. Adding the microtransit reduction to the paid parking reduction⁹ yields a combined reduction in event attendee daily vehicle trips of 23 percent and a reduction in employee daily vehicle trips of 2 percent. During the PM peak hour, the reduction in vehicle trips due to microtransit and paid parking would be 23 percent for attendee vehicle trips and zero for employee vehicle trips.

As shown in the far right columns in the table, the overall reduction for event attendees traveling to/from the proposed event venue via non-auto modes, including the base reduction, microtransit and paid parking reductions, is 38 percent over the course of the day and 37 percent during the PM peak hour (regardless of whether the event starts or ends in the peak hour). The overall reduction for employees traveling to/from the venue via non-auto modes is 47 percent over the course of the day and 45 percent during the PM peak hour.

IMPACT ON TRIP GENERATION AT CASINO ACCESS POINTS

The trip generation analysis for the proposed uses over the course of the summer “design day” (including a 2,500-attendee event) is presented in Table 3.5-10. Applying the reductions for non-auto trips to the number of persons, multiplying by the number of one-way person-trips per day and dividing by the average vehicle occupancy yields the number of daily one-way vehicle trips made to/from the event parking areas (casino access points). As shown in the middle column of the table, a total of 1,302 daily one-way vehicle trips would be generated at the casino access points as a result of the proposed

⁹ As discussed above, the microtransit ridership analysis does not include a factor for the ridership reductions associated with paid parking. The total impact of microtransit and paid parking can therefore be identified by simply adding the two figures.

TABLE 3.5-10

South Tahoe Event Center - Trip Generation on Summer Design Day															
Description	Persons	Percent Reduction for Non-Auto Trips		Average Vehicle Occupancy	Daily One-Way Vehicle Trips at Casino Access Points ^{1,2}	Summer PM Peak Hour Trips at Casino Access Points ^{2,3}									
		Daily	PM			Event Starting in Peak Hour		Event Ending in Peak Hour		Total Trips					
						% IN	% OUT	Trips IN	Trips OUT		% IN	% OUT	Trips IN	Trips OUT	
PROPOSED EVENT VENUE															
Attendees	2,500	38%	37%	2.77	1,186	50%	6%	284	34	318	6%	70%	34	398	432
Venue Employees	75	47%	45%	1.30	65	33%	6%	10	2	12	6%	33%	2	10	12
Full-Time Employees	10	47%	45%	1.30	11	15%	15%	1	1	2	15%	15%	1	1	2
Delivery/Service	20	0%	0%	1.00	40	25%	25%	5	5	10	25%	25%	5	5	10
Total Proposed Venue	2,605				1,302			300	42	342			42	414	456
REDUCTION IN EXISTING TRIPS TO/FROM CASINO ACCESS POINTS															
Total Reduction in Existing Trips at Casino Access Points					-3,670					-246					-246
PROJECT NET IMPACT ON TRIPS AT CASINO ACCESS POINTS															
					-2,368					96					210
<p>Note 1: Assumes 1/3 of full-time employees make a round-trip off-site during their shift.</p> <p>Note 2: LTVA 2017 Summer Concert Surveys indicate 4% of attendees arrive to the venue via taxi/limo plus 2% arrive via drop-off. There figures are assumed to include those using a TNC such as Uber or Lyft. Based on this, a total of 6% of attendees and venue employees arriving via auto mode are assumed to be dropped-off/picked-up, generating 2 additional vehicle trips (as each drop-off or pick-up generates 2 one-way vehicle trips, one entering and one exiting).</p> <p>Note 3: Summer PM peak hour of adjacent street traffic typically occurs between 3:30 and 5:30 PM.</p> <p>Source: LSC Transportation Consultants, Inc.</p>															

S:\Tahoe Event Center Trip Gen.xlsx

event venue. If the event starts in the PM peak hour, approximately 342 one-way vehicle trips (300 entering and 42 exiting) would be generated at the casino access points over the course of the hour. Similarly, if the event ends in the PM peak hour, approximately 456 one-way vehicle trips (42 entering and 414 exiting) would be generated at the casino access points over the course of the hour. (Supplemental analysis for Alternative C can be found in Appendix F-5.)

In order to determine the “net impact” of the project on trips at the casino access points, the reduction in existing trips due to the proposed microtransit and paid parking program must be quantified. As previously shown in Table 3.5-7, approximately 3,220 existing daily one-way vehicle trips at the casino access points would be eliminated as a result of the paid parking program. To estimate the number of PM peak-hour trips that would be eliminated, it is first necessary to estimate the total existing PM peak-hour trips at the casino access points. Multiplying the 486 PM peak-hour vehicle trips generated at the MontBleu access points by the ratio of total casino hotel rooms-to-MontBleu rooms (5.12) yields a total of 2,488 existing PM vehicle trips. Applying the 9 percent reduction for paid parking equates to a reduction of approximately 224 existing PM trips at the casino access points. This is summarized in Table 3.5-11.

Next, the reduction in existing vehicle trips as a result of the proposed microtransit service is considered. As mentioned above, the total daily trip-reduction associated with the microtransit program is approximately 450 vehicle-trips. The PM peak-hour reduction in existing trips is 22 (46.8 “non-event” passengers per hour divided by the average vehicle occupancy rate of 2.1). Adding the paid parking and microtransit reductions yields a total reduction in existing trips at the casino access points of 3,670 daily one-way vehicle trips and 246 PM peak-hour vehicle trips.

As shown in the lower portion of Table 3.5-10, subtracting the reductions in existing trips from the project-generated trips yields a net reduction of 2,368 daily one-way vehicle trips (DVTE) made to/from the casino access points. Compared to the existing 34,828 daily casino core trips, this reflects a reduction of about 7 percent. During the PM peak hour, the project would result in a net increase of 96 one-way trips to/from the casinos when an event starts in the PM peak hour. When an event ends in the PM peak hour, there would be a net increase of 210 trips.

Trip Generation of a Maximum Concert Event

The trip generation of a maximum 6,000-attendee concert event is analyzed, based on the travel characteristics assumed for the summer design day. The maximum event is assumed to have 225 venue employees, and 12 full-time employees are assumed to report to the site over the course of the day. As shown in the middle column of Table 3.5-12, a total of 3,154 daily one-way vehicle trips would be generated at the casino access points as a result of the proposed event venue. If the event starts in the PM peak hour, approximately 829 one-way vehicle trips (727 entering and 102 exiting) would be generated at the casino access points over the course of the hour. Similarly, if the event ends in the PM peak hour, approximately 1,102 one-way vehicle trips (102 entering and 1,000 exiting) would be generated at the casino access points over the course of the hour.

Subtracting the existing trips eliminated as a result of the proposed microtransit and paid parking program from the project trips yields a net reduction of 516 daily trips at the casino access points. However, during the PM peak hour, the project would result in a net increase of 583 one-way trips to/from the casinos when an event starts in the PM peak hour. When an event ends in the PM peak hour, there would be a net increase of 856 trips.

Table 3.5-11

South Tahoe Event Center - Reduction in Existing Trip Generation						
Description	Reduction in Vehicle Trips Due to Paid Parking		Reduction in Vehicle Trips Due to Microtransit		Total Reduction in Vehicle Trips Due to Microtransit & Paid Parking	
	Daily	PM	Daily	PM	Daily	PM
Reduction in Existing Trips at Casino Access Points	-3,220	-224	-450	-22	-3,670	-246

Source: LSC Transportation Consultants, Inc. S Tahoe Event Center.xlsx

Trip Assignment

First, the reductions in existing PM peak-hour intersection turning-movement volumes resulting from paid parking and microtransit (total reduction of 246 one-way vehicle trips, per Table 3.5-11) are estimated by applying the 9-percent reduction (as shown in Table 3.5-9) to the applicable turning movements and adjusting for the fact that some of the through traffic along U.S. 50 consists of regional through trips, rather than trips made to/from the casino driveways.

Next, the turning-movements generated by the proposed use are estimated by factoring the ‘project net impact’ volumes from the previously analyzed alternative (Alternative C) to reflect the reductions due to paid parking and microtransit. Consistent with the previously analyzed alternative, when the MontBleu lots are full, the remaining event attendees are assumed to park at other nearby properties, such as Harrah’s, Dotty’s, Hard Rock and Harvey’s.

Adding the reductions in existing traffic to the traffic generated by the proposed use yields the ‘project net impact’ on PM peak-hour intersection volumes, which are illustrated in Figure 3.5-3. Adding these volumes to the existing traffic volumes without the project yields the ‘existing with project’ peak-hour traffic volumes illustrated in Figure 3.5-4.

Trip Assignment With Loop Road

With implementation of the Loop Road, the trip assignment assumptions are estimated by factoring the volumes developed for the previously analyzed alternative. The resulting ‘project net impact’ on summer PM peak-hour intersection traffic volumes with the Loop Road is illustrated in Figure 3.5-5 and the ‘existing with project with Loop Road’ peak-hour traffic volumes are illustrated in Figure 3.5-6.

Project Impact on Traffic Volumes

A comparison with the existing summer peak-hour volumes indicates that implementation of the proposed project would result in a change in total two-way peak-hour traffic volumes on nearby roadway segments as follows:

- Lake Parkway between U.S. 50 and MontBleu access – 15 percent increase
- Lake Parkway between MontBleu access and Heavenly Village Way – 14 percent increase

TABLE 3.5-12

South Tahoe Event Center - Trip Generation of Maximum Concert Event

Description	Persons	Percent Reduction for Non-Auto Trips		Average Vehicle Occupancy	Daily One-Way Vehicle Trips at Casino Access Points ^{1,2,3}	Summer PM Peak Hour Trips at Casino Access Points ^{2,3}									
		Daily	PM			Event Starting in Peak Hour			Event Ending in Peak Hour						
						% IN	% OUT	Trips IN	Trips OUT	Total Trips	% IN	% OUT	Trips IN	Trips OUT	Total Trips
MAXIMUM CONCERT EVENT															
Attendees	6,000	38%	37%	2.77	2,847	50%	6%	682	82	764	6%	70%	82	955	1037
Venue Employees	225	47%	45%	1.30	194	33%	6%	31	6	37	6%	33%	6	31	37
Full-Time Employees	12	47%	45%	1.30	13	15%	15%	1	1	2	15%	15%	1	1	2
Delivery/Service	50	0%	0%	1.00	100	25%	25%	13	13	26	25%	25%	13	13	26
Total Proposed Venue	6,287				3,154			727	102	829			102	1,000	1,102
REDUCTION IN EXISTING TRIPS TO/FROM CASINO ACCESS POINTS															
Total Reduction in Existing Trips at Casino Access Points					-3,670					-246					-246
PROJECT NET IMPACT ON TRIPS AT CASINO ACCESS POINTS															
					-516					583					856

Note: Assumes same travel characteristics as summer design day analysis, including paid parking and microtransit.
 Note 1: Assumes 1/3 of full-time employees make a round-trip off-site during their shift.
 Note 2: LTVA 2017 Summer Concert Surveys indicate 4% of attendees arrive to the venue via taxi/limo plus 2% arrive via drop-off. There figures are assumed to include those using a TNC such as Uber or Lyft. Based on this, a total of 6% of attendees and venue employees arriving via a auto mode are assumed to be dropped-off/picked-up, generating 2 additional vehicle trips (as each drop-off or pick-up generates 2 one-way vehicle trips, one entering and one exiting).
 Note 3: Summer PM peak hour of a adjacent street traffic typically occurs between 3:30 and 5:30 PM.
 Source: LSC Transportation Consultants, Inc.

S Tahoe Event Center Trip Gen.xlsx

- U.S. 50 between Lake Parkway and MontBleu access – 2 percent reduction
- U.S. 50 between MontBleu access and Stateline Avenue – 5 percent reduction

The project’s impact on existing Average Daily Traffic (ADT) along Lake Parkway is estimated, and the results are shown in Table 3.5-13. Implementation of the proposed project would result in a reduction in existing ADT due to paid parking and microtransit, while the proposed event venue use would increase ADT. The project’s ‘net impact’ on ADT along Lake Parkway between U.S. 50 and MontBleu is an increase of approximately 0.5 percent under existing summer conditions. However, the project would result in a net reduction in ADT of approximately 1.9 percent on Lake Parkway east of MontBleu.

TABLE 3.5-13: ADT Impact on Lake Parkway – Proposed Project				
Roadway Segment	Average Daily Traffic Volume (ADT)			
	Existing Year Without Project	Project Net Impact	Existing With Project	Percent Change
Lake Parkway between U.S. 50 and MontBleu	12,340	60	12,400	0.5%
Lake Parkway, east of MontBleu	11,410	-220	11,190	-1.9%
<i>Source: LSC Transportation Consultants, Inc.</i>				

Project Impact on Existing Intersection Level of Service and Queuing

Both site driveways are proposed to provide separate left- and right-turn lanes for exiting traffic. The LOS at each study intersection was evaluated under ‘existing year with project’ conditions, assuming separate lanes on the site driveways. Appendix F-3 contains the LOS output. Table 3.5-14 presents the existing year summer PM peak-hour intersection LOS, with and without the proposed project. As shown, all study intersections would continue to operate at acceptable levels (LOS D or better) with the addition of traffic generated by the proposed project, except the following intersections:

- Lake Parkway/Eastern MontBleu Driveway – LOS F
- Lake Parkway/Heavenly Village Way – LOS F

The left-turn movement from the Eastern MontBleu Driveway is expected to operate at LOS F during the PM peak hour when an event starts or lets out. This LOS F is due to the northbound left turning vehicles searching for gaps in the flow of westbound through traffic.

- The Lake Parkway/Heavenly Village Way intersection would degrade to LOS F when an event lets out.

TABLE 3.5-14: Existing Year Intersection Level of Service with Project

Intersection	LOS Standard ¹	Control	Apply to	Existing Without Project		Existing With Project		Existing With Project With Loop	
				LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
US 50/Kingsbury Grade	D/E	Signal	total intersection	B	19.1	Acceptable, per previous analysis.	n/a	Acceptable, per previous analysis.	n/a
US 50/Lake Parkway	D/E	Signal	total intersection	C	30.0	n/a	n/a	n/a	n/a
		Roundabout	worst movement ²	n/a	n/a	n/a	n/a	n/a	n/a
US 50/Montbleu Main Driveway	E	TWSC	worst movement	D	27.8	D	28.5	C	17.3
US 50/Stalene Avenue	D/E	Signal	total intersection	D	43.5	Acceptable, per previous analysis.	n/a	Acceptable, per previous analysis.	n/a
US 50/Park Ave/Heavenly Village Way	D/E	Signal	total intersection	D	48.1	n/a	n/a	n/a	n/a
US 50/Pioneer Trail	D/E	Signal	total intersection	C	29.6	n/a	n/a	n/a	n/a
Lake Parkway/Western Montbleu Driveway	E	TWSC	worst movement	C	24.7	n/a	n/a	n/a	n/a
Lake Parkway/Eastern Montbleu Driveway	E	TWSC	worst movement	B	13.1	F	123.2	F	OVF
Event Starting in Peak Hour	E	TWSC	worst movement	n/a	n/a	F	74.3	F	OVF
Mitigated - Add TWLTL; OR	E	TWSC	worst movement	n/a	n/a	D	34.1	D	OVF
Mitigated - TCO	E	TCO	worst movement	n/a	n/a	Acceptable, per previous analysis.	n/a	B	16.9
Lake Parkway/Heavenly Village Way	D/E	AWSC	total intersection	D	28.8	F	57.1	n/a	n/a
	D/E	Signal	total intersection	n/a	n/a	n/a	n/a	C	30.0
Event Starting in Peak Hour	D/E	AWSC	total intersection	n/a	n/a	Acceptable, per previous analysis.	n/a	n/a	n/a
Event Starting in Peak Hour	D/E	Signal	total intersection	n/a	n/a	n/a	n/a	n/a	n/a
Mitigated - Add SBR Lane When Event Ends; OR	D/E	AWSC	total intersection	n/a	n/a	D	28.8	n/a	n/a
Mitigated - TCO When Event Ends	D/E	TCO	total intersection	n/a	n/a	Acceptable, per previous analysis.	n/a	n/a	n/a

Note: TWSC = Two-Way Stop-Controlled; AWSC = All-Way Stop-Controlled; TCO = Traffic Control Officer; TWLTL = Central 2-Way LT Lane
 Note: **Bold** indicates the LOS standard is exceeded. A bold LOS "E" indicates LOS E for more than 4 hours per day, which exceeds the LOS standards.
 Note: Results are reported for an event ending during the summer PM peak hour. In cases near or exceeding the LOS threshold, an event starting during the peak hour is also analyzed.
 Note: OVF = One-flow conditions, where average delay per vehicle exceeds 300 seconds.
 Note 1: "D/E" indicates an LOS standard of "D", but "E" may be allowed for not more than 4 hours per day.
 Note 2: For roundabouts in Nevada, the worst movement is reported, and a signalized LOS criteria is applied to the worst movement delay.
 Source: LSC Transportation Consultants, Inc.

Intersection LOS with Loop Road

With implementation of the Loop Road and the proposed TSEC under existing year conditions, the Lake Parkway/Heavenly Village Way intersection would be signalized and would operate at LOS C with an event starting or ending during the peak hour. The intersection of Lake Parkway and the Eastern MontBleu Driveway would operate at a LOS F. All other study intersections would operate at an acceptable level.

Intersection Queuing Analysis

Traffic queues at specific intersections that exceed the storage capacity of turn lanes, 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 was reviewed at locations where queuing could potentially cause traffic problems, and no queuing concerns are identified under summer peak periods with the project.

Summary

Implementation of the proposed project would cause the following study intersections to exceed the LOS threshold during busy summer periods of event-related traffic activity:

- Lake Parkway/MontBleu Driveway – LOS F
- Lake Parkway/Heavenly Village Way – LOS F (only when an event lets out)

With implementation of the Loop Road and the proposed TSEC project, only the following intersection would exceed the LOS threshold during busy summer periods of event-related traffic activity:

- Lake Parkway/MontBleu Driveway – LOS F

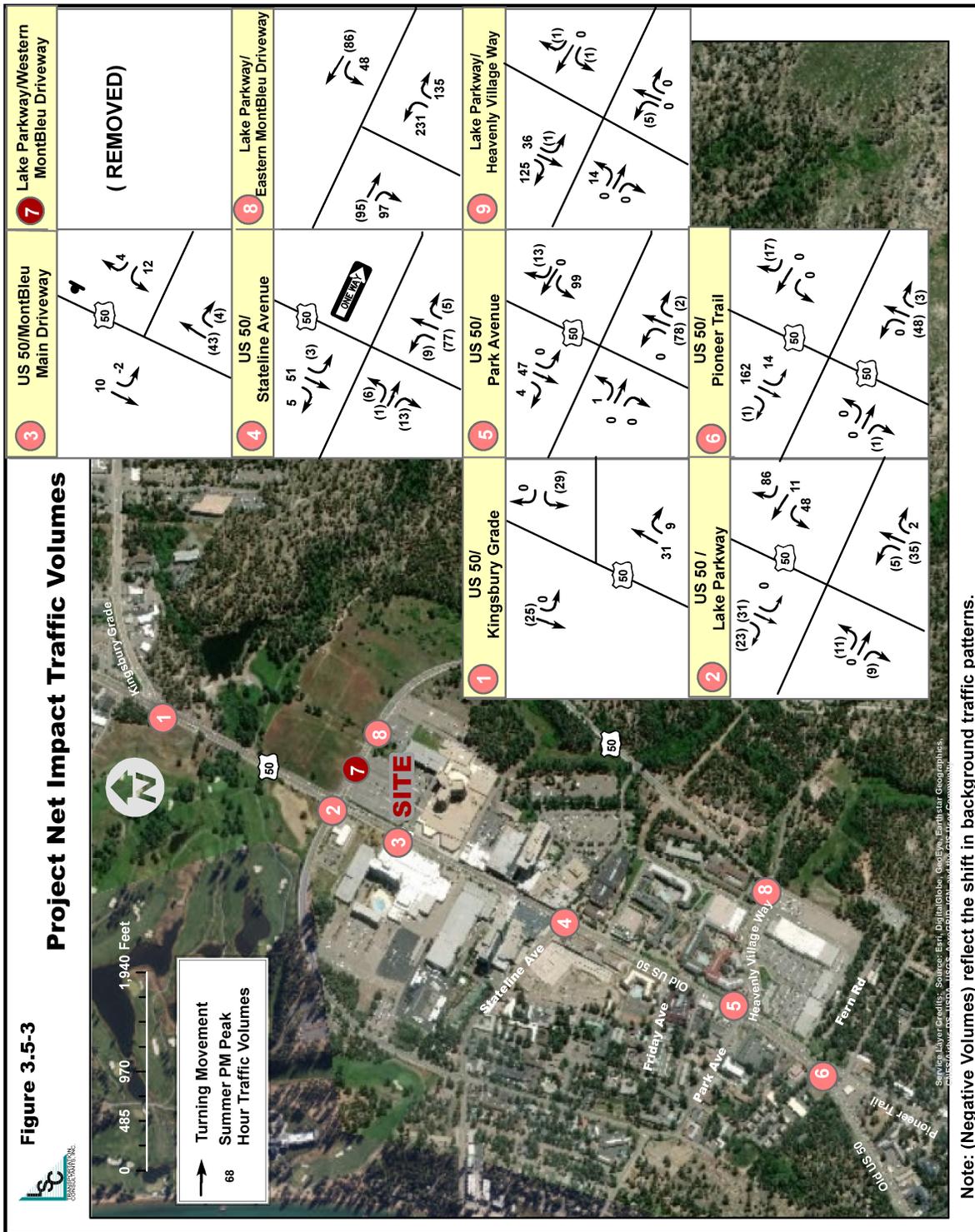
No intersection queuing concerns are identified.

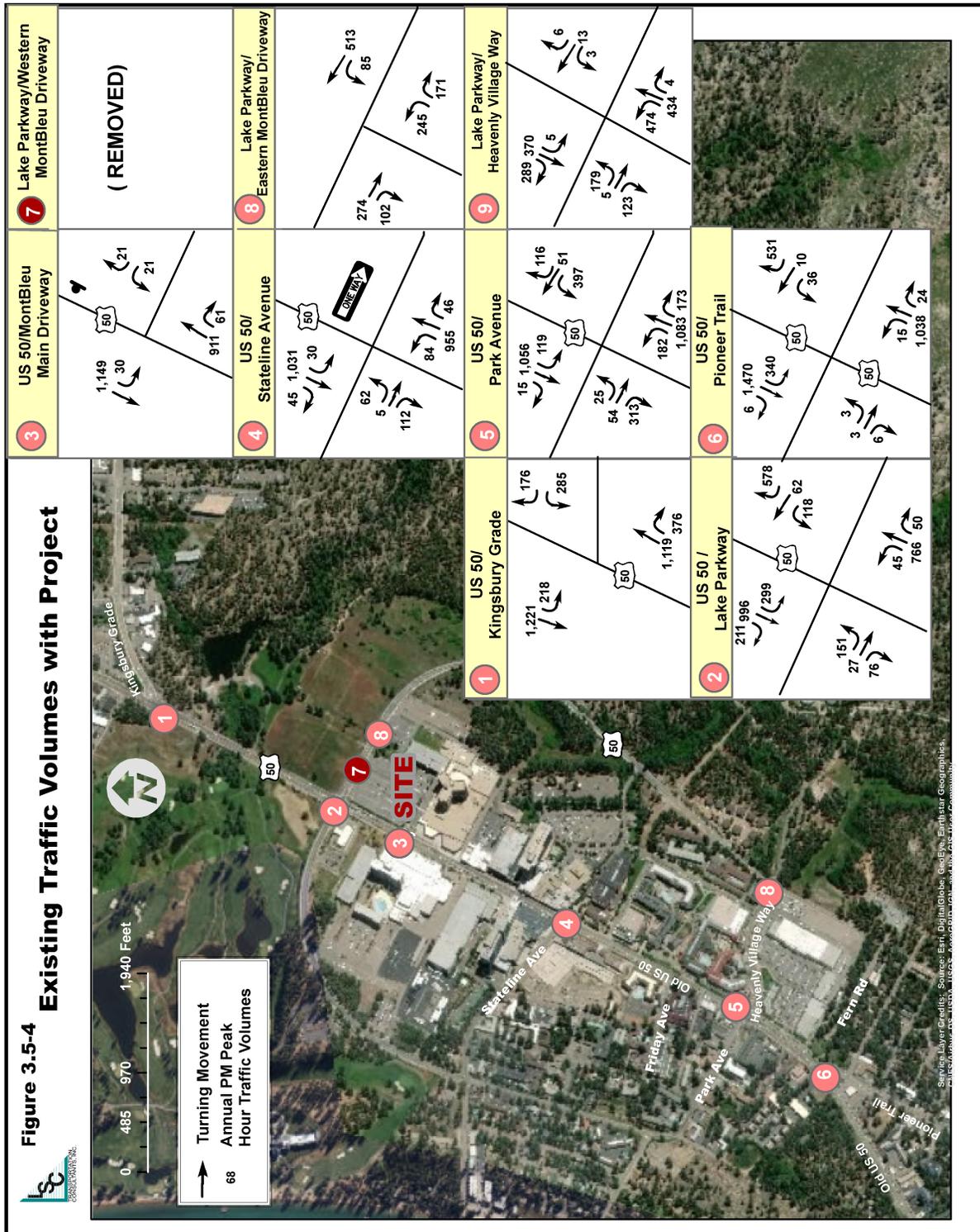
Alternatives A and C would have the same LOS results as the Proposed Project, although the average vehicular delays would generally be longer. Under Alternative B, more traffic going to/from the event venue would use Lake Parkway than under the Proposed Project. However, the same intersections would be expected to exceed the LOS threshold as under the Proposed Project.

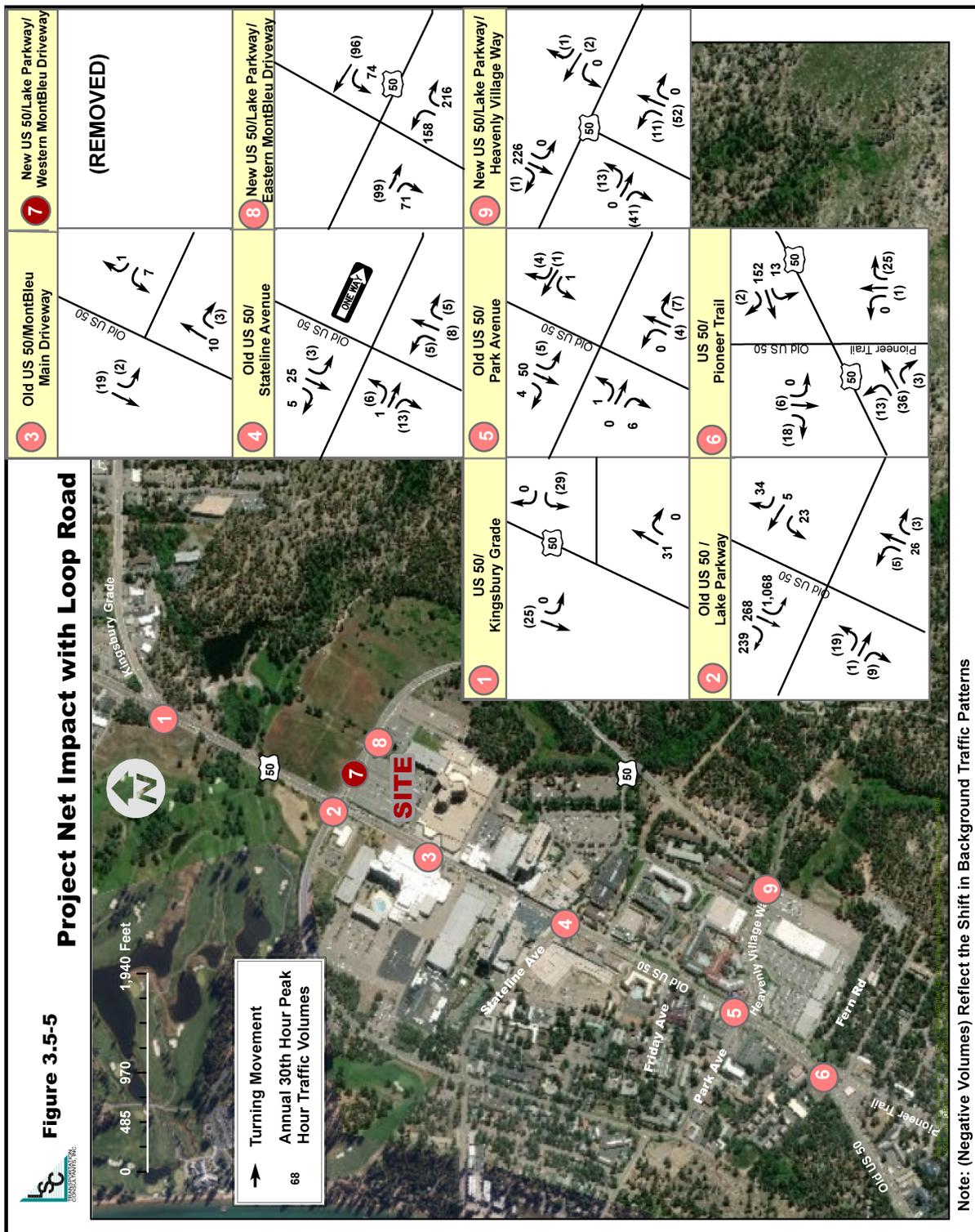
Mitigation

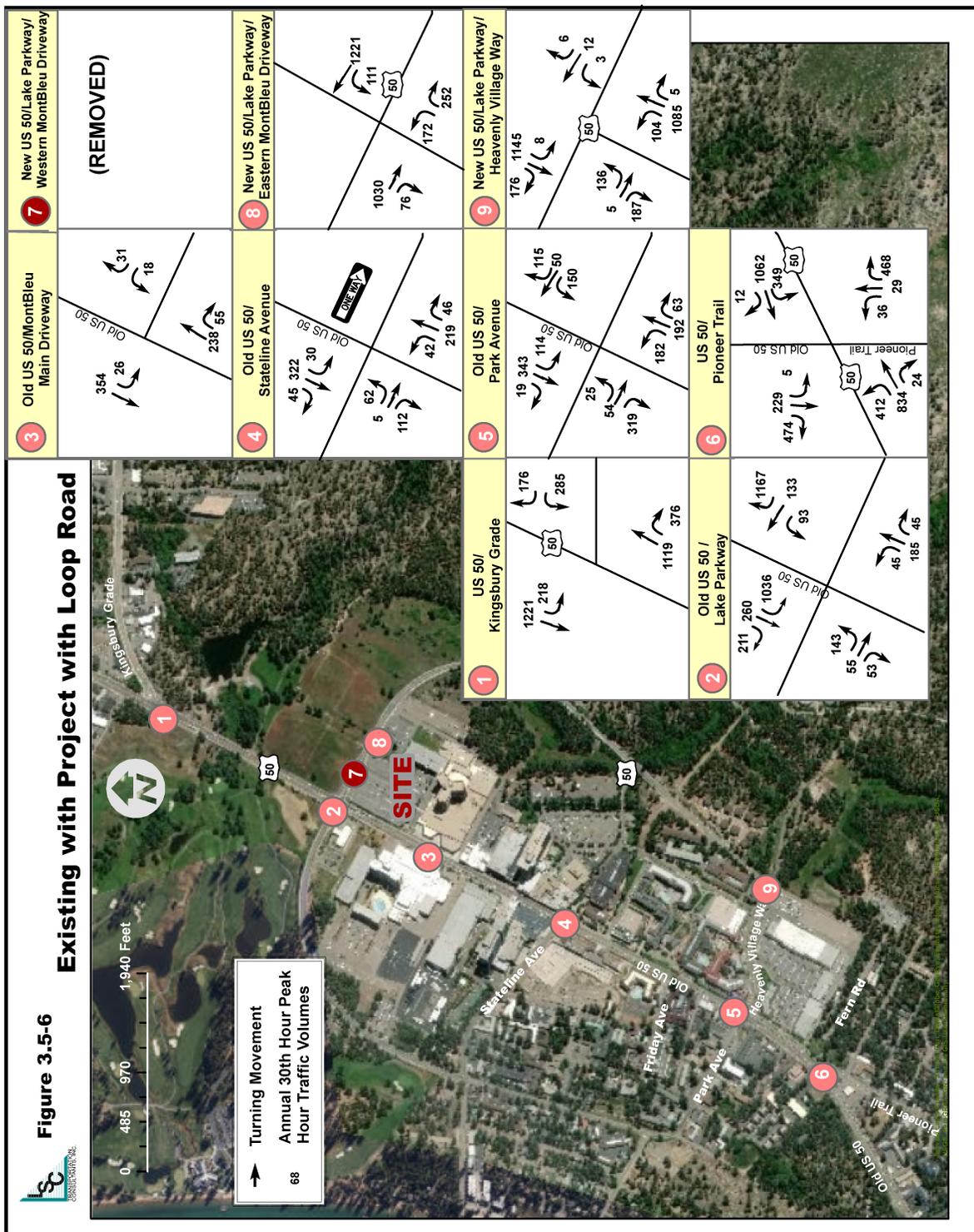
Intersection LOS

Traffic and parking management measures should be provided during peak periods of event-related traffic. The following traffic management measures are needed in order to provide acceptable intersection LOS:









- Lake Parkway/MontBleu Driveway intersection –
 - Provide a central two-way left-turn lane (TWLTL) on Lake Parkway for left turns from MontBleu; or
 - A Traffic Control Officer (TCO) should be provided.

This measure is needed during summer peak periods both when an event starts and lets out, with or without the Loop Road.

- Lake Parkway/Heavenly Village Way intersection – When an event lets out:
 - Either a southbound right-turn lane (with at least 75 feet of storage length) should be provided on Lake Parkway; or
 - TCO should be provided.

This measure is needed during summer peak periods without the Loop Road. No intersection LOS measures are needed at this location when an event starts. Furthermore, with the Loop Road, no LOS measures are needed at this intersection.

With implementation of parking management and the above intersection LOS measures on event days, an acceptable LOS would be provided at all study intersections.

Alternatives A and C have the same mitigation measures as the Proposed Project, except that the southbound right-turn lane at the Lake Parkway /Heavenly Village Way intersection would need to provide at least 100 feet of storage length. Alternative B would have similar mitigation measures, although additional lane improvements and/or traffic control measures may be needed at the easternmost driveway on Lake Parkway.

Impact: Intersection LOS Under ‘Future Cumulative Year With Project’ Conditions – Proposed Project and Alternatives A, B and C: Intersection LOS under ‘future year with project’ conditions would exceed the LOS threshold at some study area intersections.

Analysis:

Future Cumulative Traffic Volumes

To analyze cumulative impacts related to traffic and circulation, the future roadway configuration is described, cumulative traffic volumes are developed, and intersection LOS and queuing are evaluated. This information is used to analyze the cumulative impacts of the project and mitigation measures are provided.

Roadway Configuration

With the exception of the U.S. 50/South Shore Community Revitalization Project (Loop Road Project), there are currently no other planned Nevada Department of Transportation (NDOT) or California Department of Transportation (Caltrans) construction projects that would affect the intersection operations or future traffic volumes within the vicinity of the project area. First, the potential impacts of

the TSEC Project are evaluated under future cumulative conditions assuming no changes to the existing roadway network. Next, the impacts of the proposed project are addressed under conditions with the Loop Road Project.

Future Cumulative Traffic Volumes

Future long-term baseline traffic volumes without the proposed project are estimated using data from the TRPA's TransCAD model developed as a part of the TRPA's 2017 Regional Plan Update. TRPA staff provided output from the existing (2014) and future (2040) models. The TransCAD model output provides turning movement volume estimates for a 3-hour peak period, based upon projected land uses. For the purposes of this analysis, the volumes have been adjusted to reflect a 1-hour PM peak period, based upon a review of continuous hourly traffic count data on U.S. 50. Next, future model volumes were compared to existing model volumes to estimate the future "growth" in traffic volumes. This growth was added to the 'existing no project' design volumes to estimate 'future no project' volumes.

As the TRPA TransCAD model is a regional model, it is not refined to reflect the traffic generated on side streets in the casino core due to future development projects. In order to remain conservative (conservatively high traffic volumes) in this analysis, the traffic estimated to be generated by the following two approved development projects is added to the future cumulative volumes:

- Gondola Vista – 22 townhomes (under construction at the time of this study)
- Chateau/Project 3 – Trip generation based on 2007 approved uses, minus convention center

The Project 3 2007 approved uses are listed in Appendix F-6. The resulting "future no project" summer PM peak-hour traffic volumes are shown in Figure 3.5-7. Next, the 'future project net impact' and 'future with project' volumes are estimated with and without the Loop Road, by factoring the 'future with project' volumes from the previously analyzed alternative (Alternative C) to reflect the reductions due to paid parking and microtransit. The resulting future volumes are illustrated in Figures 3.5-8 through 3.5-11.

Project Impact on Future Year Traffic Volumes

The project's impact on future cumulative ADT along Lake Parkway is estimated, and the results are shown in Table 3.5-15. Implementation of the proposed project would result in a net increase in ADT along Lake Parkway between U.S. 50 and MontBleu of about 1 percent under future cumulative summer conditions. A net reduction in ADT on Lake Parkway east of MontBleu of about 2 percent is expected.

Project Impact on Future Intersection Level of Service

The LOS at each study intersection was evaluated under 'future year with project' conditions, using the same methodology as under existing year conditions. Appendix F-3 contains the LOS output. Table 3.5-16 presents the future year summer PM peak-hour intersection LOS, with and without the proposed project. As shown, all study intersections would continue to operate at acceptable levels with the addition of traffic generated by the proposed project, except the Lake Parkway/Eastern MontBleu Driveway intersection. The left-turn movement from the Eastern MontBleu Driveway is expected to operate at LOS F during the PM peak hour when an event lets out. Note that the Lake Parkway/Heavenly

Village Way intersection would operate at LOS E in the future with the project. According to the TRPA's LOS standards, LOS E may be acceptable during peak periods in urban areas, not to exceed 4 hours per day. Based on the NDOT hourly count station data, the 5th-highest hour traffic volumes along U.S. 50 between Lake Parkway and Kingsbury Grade on the design day equates to approximately 90 percent of that during the peak hour. If the peak-hour traffic volumes are reduced by 10 percent, the Lake Parkway/ Heavenly Village Way intersection would operate at an acceptable LOS D or better during the 5th-busiest hour. Therefore, it can be concluded that LOS E conditions would occur for not more than 4 hours on a typical busy summer day.

Future Intersection LOS with Loop Road

With implementation of the Loop Road and the proposed TSEC under future year conditions, the New U.S. 50/Eastern MontBleu Driveway intersection would operate at LOS F, with or without the TSEC project. All other study intersections would operate at an acceptable level.

Future Intersection Queuing Analysis

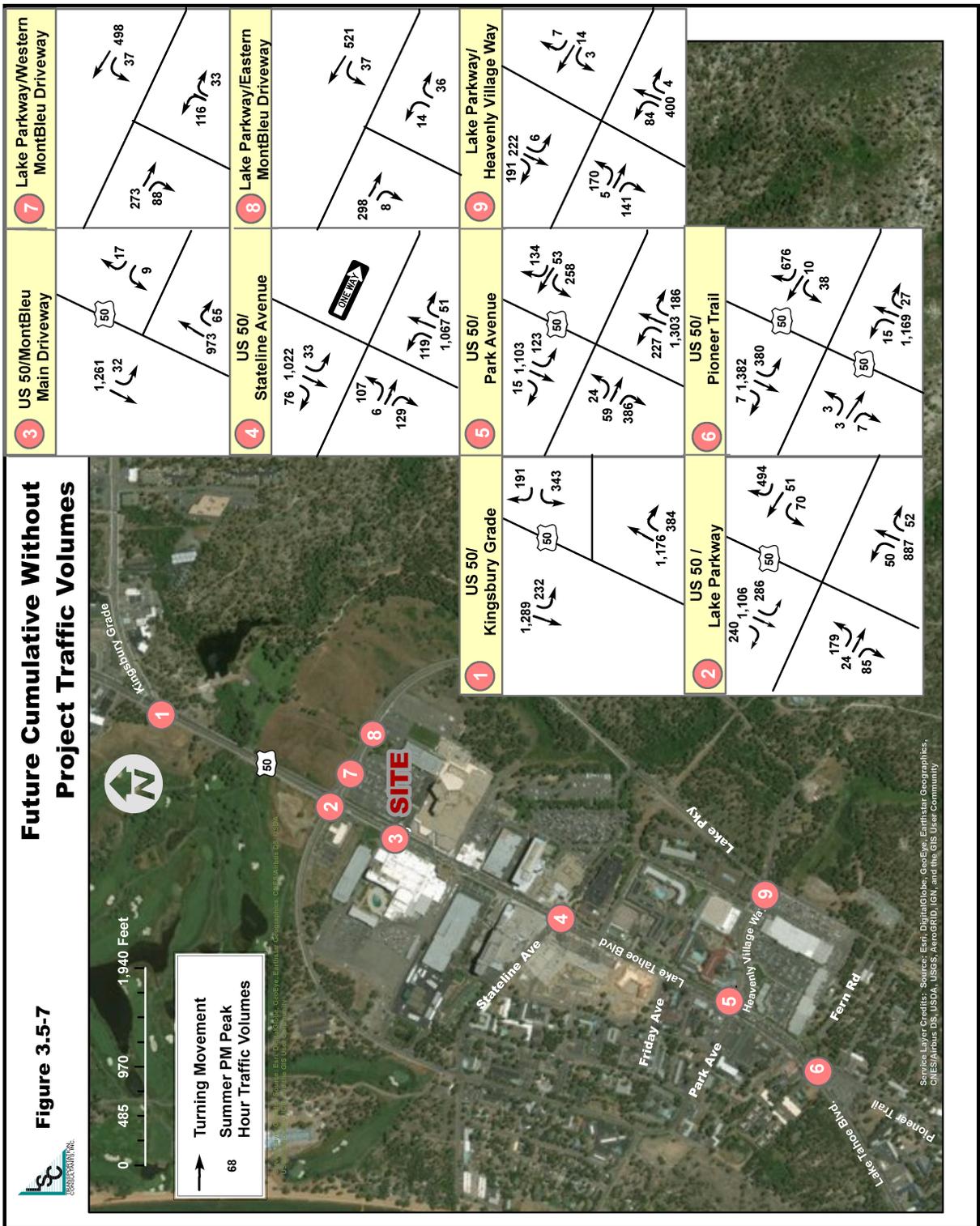
The 95th-percentile traffic queue lengths under future cumulative conditions were reviewed at locations where queuing could potentially cause traffic problems. The longest traffic queue occurring on the westbound approach to the U.S. 50/Lake Parkway intersection during the summer PM peak hour would be less than 680 feet (under future with project scenarios with and without Loop Road). As about 735 feet of length is provided in the westbound direction along Lake Parkway to accommodate this queue without interfering with operations at the Eastern MontBleu Driveway, no queuing concerns are identified at this location.

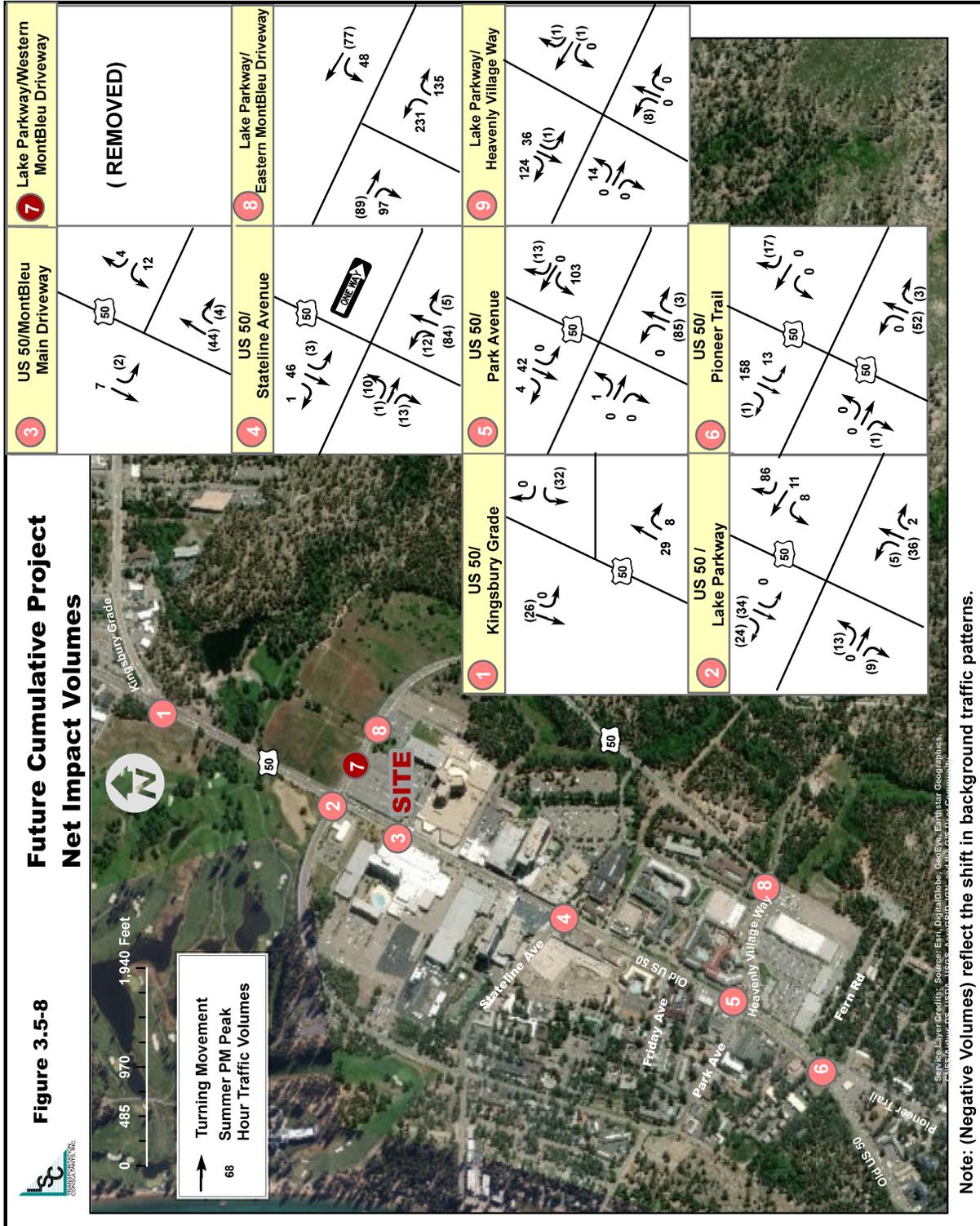
Additionally, the 95th-percentile traffic queues in the existing left-turn lanes along U.S. 50 and Lake Parkway at the site access points were reviewed. The existing southbound left-turn lane at the MontBleu Main Driveway on U.S. 50 is expected to accommodate the queue during summer peak periods with the project. Similarly, no queuing concerns are identified at the existing westbound left-turn lane on Lake Parkway at the Eastern Driveway intersection. As such, no queuing concerns are identified under future cumulative summer peak periods with the project.

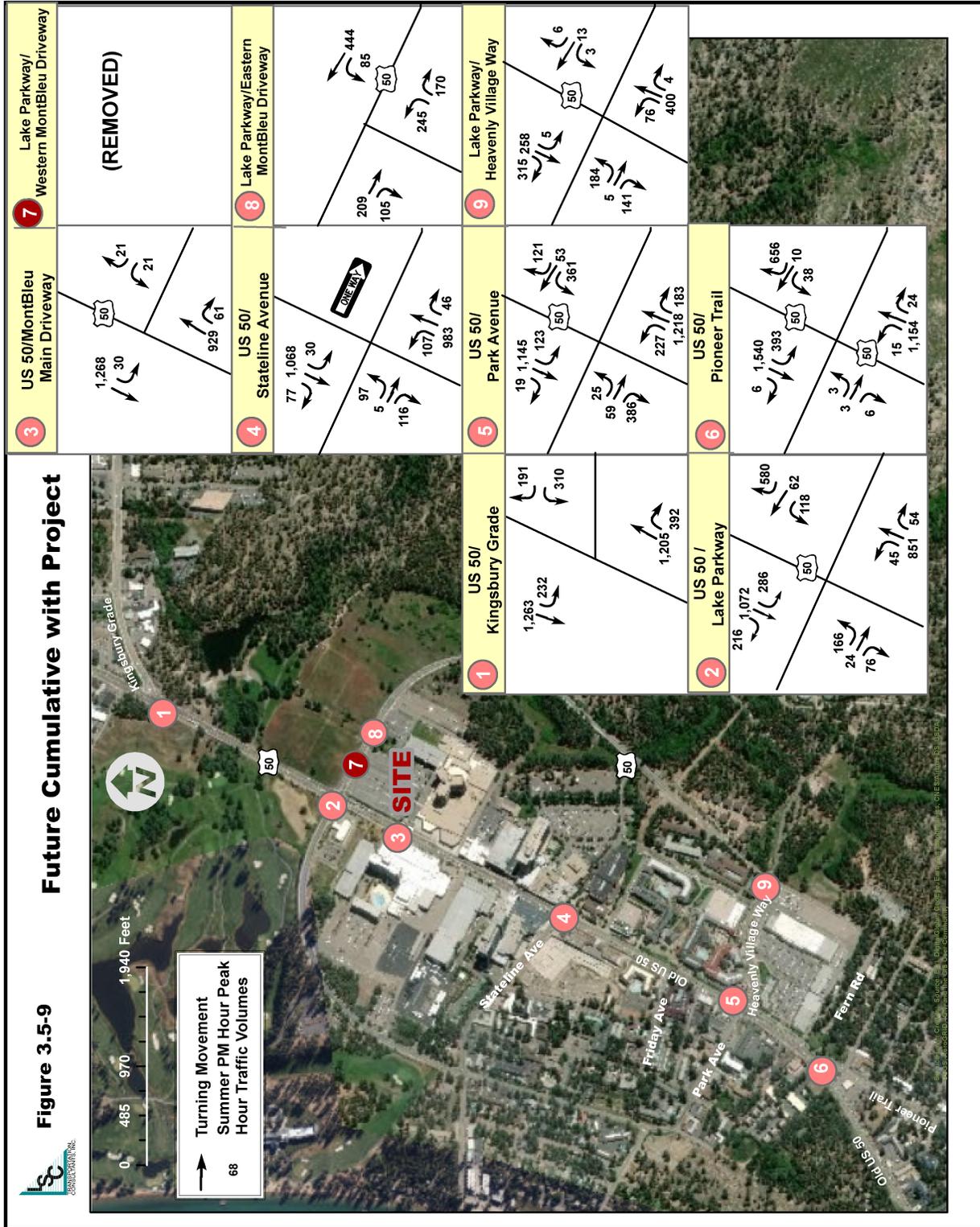
Summary

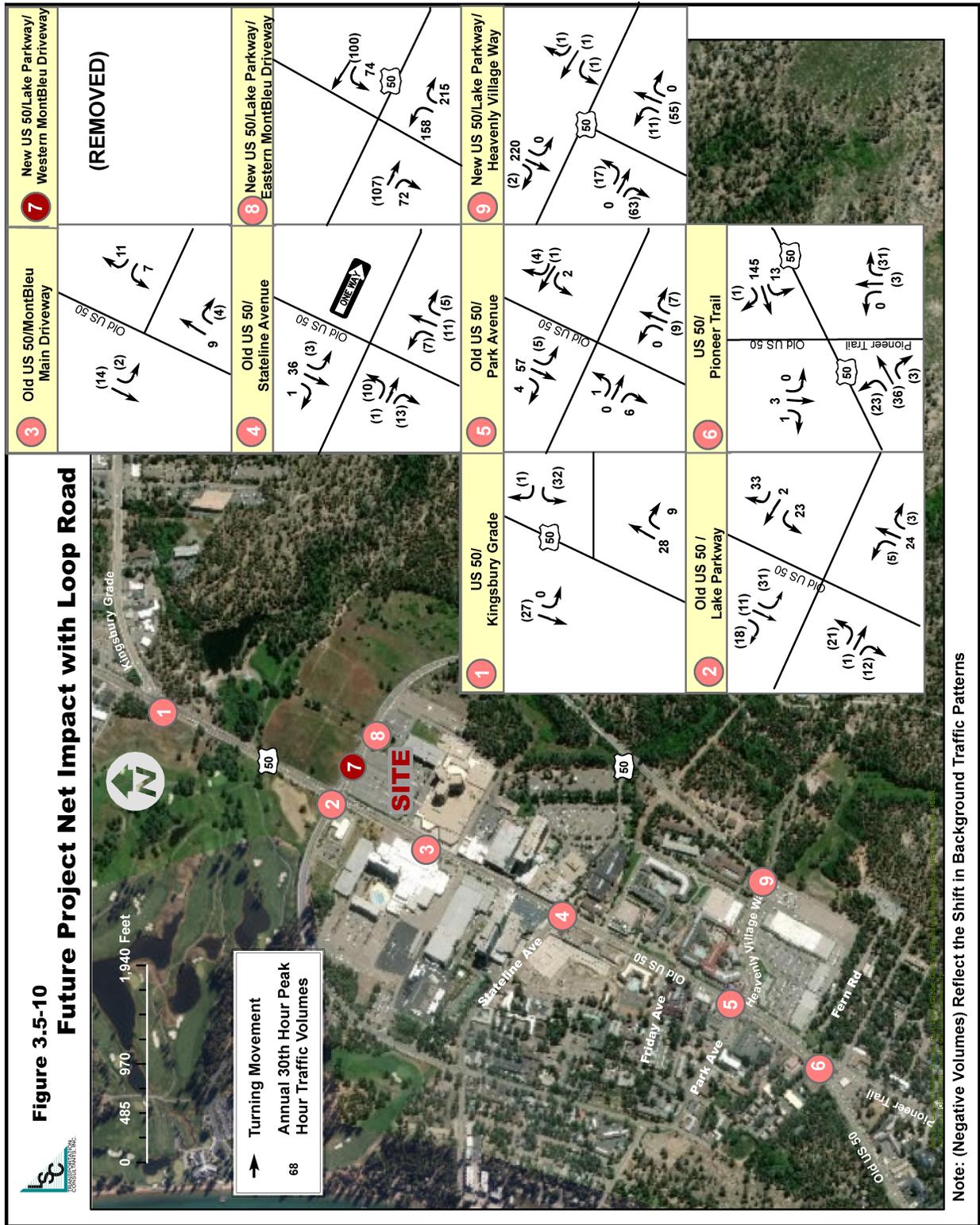
Under the 'future with project' scenario, the Lake Parkway/MontBleu Driveway intersection would exceed the LOS threshold during busy summer periods of event-related traffic activity. With implementation of the Loop Road, this intersection would exceed the LOS threshold during busy summer periods, regardless of whether the proposed TSEC project is implemented.

No intersection queuing concerns are identified.









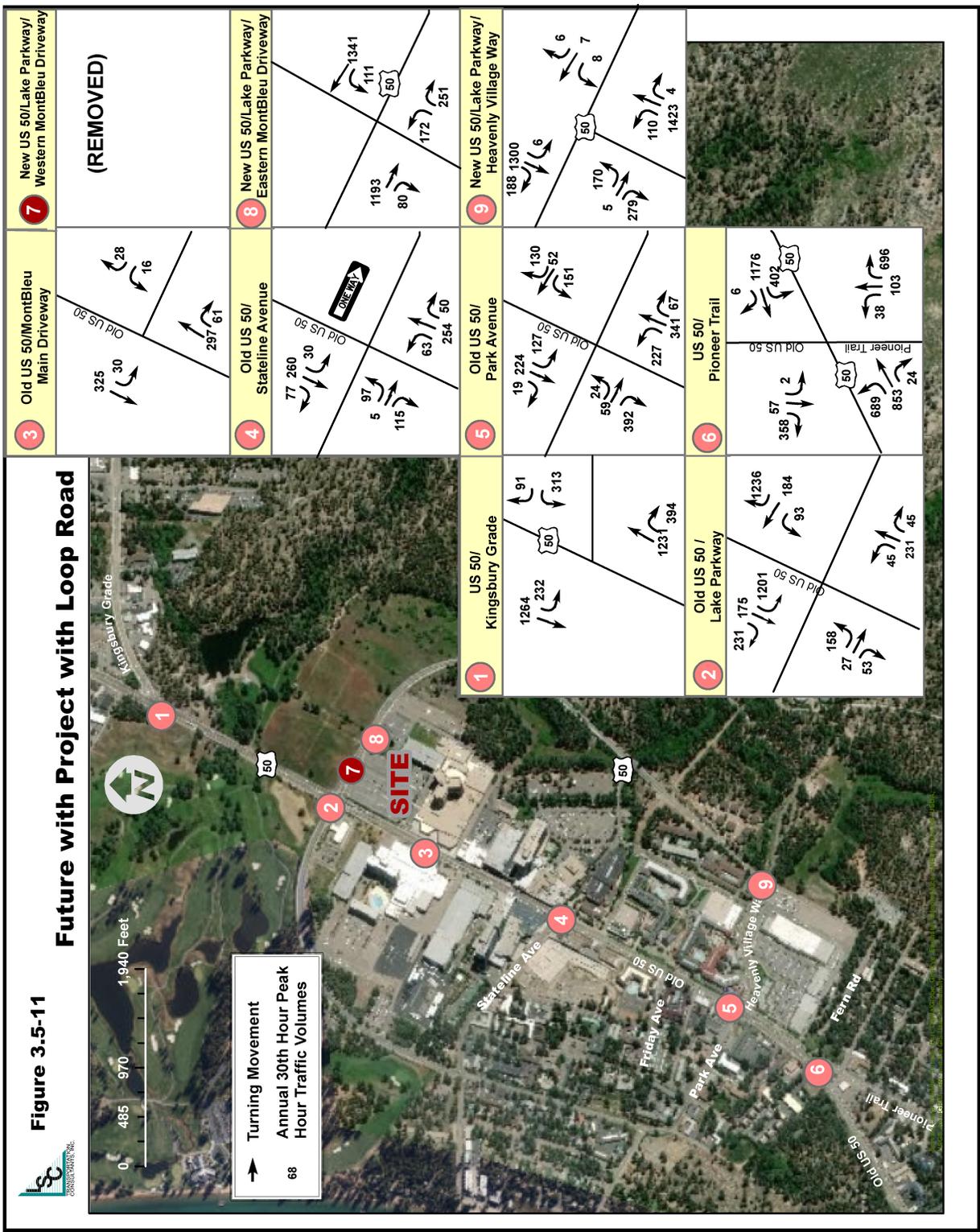


TABLE 3.5-15: Future ADT Impact on Lake Parkway – Proposed Project				
Roadway Segment	Average Daily Traffic Volume (ADT)			
	Future Year Without Project	Future Project Net Impact	Future With Project	Percent Change
Lake Parkway between U.S. 50 and MontBleu	12,200	60	12,260	1%
Lake Parkway, east of MontBleu	11,150	-230	10,920	-2%
<i>Source: LSC Transportation Consultants, Inc.</i>				

Alternatives A and C

Under Alternatives A and C, the following three intersections would exceed the LOS threshold during busy summer periods of event-related traffic activity:

- Lake Parkway/MontBleu Driveway
- Lake Parkway/Heavenly Village Way

With implementation of the Loop Road and the proposed TSEC project, the following two intersections would exceed the LOS threshold during busy summer periods of event-related traffic activity:

- Lake Parkway/MontBleu Driveway
- Lake Parkway/Heavenly Village Way (only when an event lets out)

Alternative B

Under Alternative B, more traffic going to/from the event venue would use Lake Parkway than under the Proposed Project. The Lake Parkway/Eastern MontBleu Driveway intersection would not only exceed the LOS threshold when an event lets out during the peak hour but may also exceed the threshold when an event starts during the peak hour. Additionally, the Lake Parkway/Heavenly Village Way could potentially exceed the LOS threshold when an event lets out.

Note that with the Loop Road, the LOS at the MontBleu Driveway on New U.S. 50 exceeds the standards regardless of whether the proposed TSEC project is implemented.

Mitigation

Future Intersection LOS

Traffic and parking management measures should be provided during peak periods of event-related traffic. The following traffic management measures are needed in order to provide acceptable intersection LOS:

- Lake Parkway/MontBleu Driveway intersection –
- Provide a TWLTL on Lake Parkway for left turns from MontBleu; or
- A Traffic Control Officer (TCO) should be provided.

This measure is needed during summer peak periods when an event lets out. With the Loop Road, this measure is needed when an event starts or lets out under all future scenarios. Note that with the Loop Road, the LOS at the MontBleu Driveway on New US 50 exceeds the standards regardless of whether the proposed TSEC project is implemented. No mitigation is needed at the Lake Parkway/Heavenly Village Way intersection. With implementation of parking management and the above intersection LOS measures, an acceptable LOS would be provided at all study intersections.

Alternatives A and C

Under Alternatives A and C, the mitigation measures are the same as the Proposed Project, with the following additions (without Loop Road):

- Lake Parkway/MontBleu Driveway intersection –
 - The TWLTL on Lake Parkway would need to accommodate 2 cars, or
 - A TCO would be needed not only when an event lets out, but also when one starts.
- Lake Parkway/Heavenly Village Way intersection – When an event lets out:
 - Either a southbound right-turn lane (with at least 125 feet of storage length) should be provided on Lake Parkway; or
 - Provide TCO.

Alternative B

In comparison with Alternatives A and C, Alternative B may require additional mitigation measures for the study intersections along Lake Parkway.

Impact: Roadway LOS Under ‘Existing Year With Project’ Conditions – Proposed Project and Alternatives A, B and C. One study roadway segment along U.S. 50 would operate at LOS E for more than four hours per day under ‘with project’ conditions. This exceeds the applicable standard.

Analysis: Existing year roadway LOS is summarized in Table 3.5-17. As indicated in the table, the segment of U.S. 50 between Park Avenue and Pioneer Trail would degrade from an acceptable LOS E without the project to an unacceptable LOS E (LOS E for more than 4 hours per day) with implementation of the proposed project. This exceeds the applicable standard.

TABLE 3.5-16: Future Cumulative Intersection Level of Service with Project

Intersection	Control	LOS Standard ¹	Applies to	Worst Approach						
				Future Without Project		Future With Project		Future With Project With Loop Rd		
				LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	
US 50/Kingsbury Grade	Signal	D/E	total intersection	C	21.3	Acceptable, per previous analysis.	Acceptable, per previous analysis.	Acceptable, per previous analysis.	n/a	n/a
US 50/Lake Parkway	Signal	D/E	total intersection	C	30.2	n/a	n/a	n/a	n/a	46.1
US 50/Montbleu Main Drive	Roundabout	D/E	worst movement ²	n/a	n/a	n/a	n/a	n/a	n/a	n/a
US 50/Montbleu Main Drive	TWSC	E	worst movement	D	29.4	D	30.2	C	16.5	Acceptable, per previous analysis.
US 50/Stateline Avenue	Signal	D/E	total intersection	C	34.2	Acceptable, per previous analysis.	Acceptable, per previous analysis.	Acceptable, per previous analysis.	n/a	n/a
US 50/Park Ave./Heavenly Village Way	Signal	D/E	total intersection	D	41.3	n/a	n/a	C	20.7	n/a
US 50/Pioneer Trail	Signal	D/E	total intersection	D	46.8	n/a	n/a	C	20.7	n/a
Lake Parkway/Western Montbleu Drive	TWSC	E	worst movement	D	25.8	n/a	n/a	n/a	n/a	n/a
Lake Parkway/Eastern Montbleu Drive	TWSC	E	worst movement	B	13.0	F	66.8	F	OVF	n/a
Event Starting in Peak Hour	TWSC	E	worst movement	n/a	n/a	D	26.1	D	20.7	n/a
Mitigated - TCO; OR	TCO	E	worst movement	n/a	n/a	D	34.3	C	20.7	n/a
Mitigated - Add TWLTL	TWSC	E	worst movement	n/a	n/a	D	34.3	C	20.7	n/a
Lake Parkway/Heavenly Village Way	AWSC	D/E	total intersection	C	22.9	E	39.1	n/a	n/a	n/a
Event Starting in Peak Hour	Signal	D/E	total intersection	n/a	n/a	n/a	n/a	C	28.9	n/a
Event Starting in Peak Hour	AWSC	D/E	total intersection	n/a	n/a	C	20.7	n/a	n/a	n/a

Note: TWSC = Two-Way Stop-Controlled; AWSC = All-Way Stop-Controlled; TCO = Traffic Control Officer

Note: **Bold** indicates the LOS standard is exceeded. A bold LOS "E" indicates LOS E for more than 4 hours per day, which exceeds the LOS standards.

Note: Results are reported for an event ending during the summer PM peak hour. In cases near or exceeding the LOS threshold, an event starting during the peak hour is also analyzed.

Note: OVF = Overflow conditions, where average delay per vehicle exceeds 300 seconds.

Note 1: "D/E" indicates an LOS standard of "D", but "E" may be allowed for not more than 4 hours per day.

Note 2: For roundabouts in Nevada, the worst movement is reported, and signalized LOS criteria is applied to the worst movement delay.

Source: LSC Transportation Consultants, Inc.

While this segment would operate at an unacceptable LOS, the key intersections adjacent to this facility would operate at an acceptable LOS. These intersections provide turn lane improvements and other capacity-enhancements to meet the travel demand. The proposed project would not affect roadway LOS on the remaining segments, which would continue to operate at an acceptable LOS E or better.

Roadway LOS with Loop Road

The existing year roadway LOS with the TSEC and implementation of the Loop Road Project is shown in the far right columns of the table. The segment of New U.S. 50 between Lake Parkway and Heavenly Village Way would operate at LOS E for not more than 4 hours a day, which is considered to be acceptable. Additionally, New U.S. 50 between Heavenly Village Way and Pioneer Trail would operate at an acceptable LOS D with the TSEC project. Implementation of the Loop Road Project would mitigate the LOS concern on the segment of Old U.S. 50 between Park Avenue and Pioneer Trail. As such, no LOS deficiencies are identified with the Project and Loop Road Project.

Alternatives A, B and C would have the same LOS results as the Proposed Project.

Mitigation

The Regional Plan indicates that *“These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways.”* With provisions for adequate multi-modal amenities and/or services that meet these criteria, the project impact on roadway LOS would be less than significant, without the Loop Road. However, while the Tahoe Regional Planning Compact looks to “reduce the dependency on the private automobile” there are currently no adopted requirements or standards regarding the quality of service of other travel modes (i.e. transit, biking, or walking) that could potentially reduce the demand on the roadway system.

The TSEC Project could potentially provide a transit capacity improvement to reduce traffic on U.S. 50. For example, the TSEC Project could provide the subsidy cost (payment to TTD) for an additional fixed route bus operating during the peak summer and winter seasons. Or, the TSEC Project could provide payments to TTD to offset the loss of revenue associated with making some or all TTD routes free to the rider.

Note that further reducing maximum event size during summer peak periods would mitigate the LOS on U.S. 50 between Park Ave and Pioneer Trail to an acceptable level. Alternatively, implementation of the Loop Road Project would mitigate the LOS on this segment.

No roadway LOS mitigation measures are required with the Loop Road Project.

Alternatives A, B and C would have the same mitigation as the Proposed Project.

TABLE 3.5-17: Existing Year Roadway Level of Service Summary

Roadway Segment	Between	And	Classification	LOS Threshold	Maximum Allowable Two-Way Peak-Hr Volume to Achieve LOS	Existing Without Project		Existing With Project		Existing With Loop Road With Project	
						Peak-Hour Two-Way Volume	Exceeding LOS Threshold?	Peak-Hour Two-Way Volume	Exceeding LOS Threshold?	Peak-Hour Two-Way Volume	Exceeding LOS Threshold?
US 50	Kingsbury Grade	Lake Parkway	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	3,016	E ²	No	3,001	E ²	No
US 50	Lake Parkway	MontBleu	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	2,153	D	No	2,111	D	No
US 50	MontBleu	StateLine Ave	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	2,256	D	No	2,139	D	No
US 50	StateLine Ave	Park Ave/Heavenly Village Wy	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	2,457	D	No	2,418	D	No
US 50	Park Ave/Heavenly Village Wy	Pioneer Trail	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	3,278	E ²	No	3,388	E	Yes
New US 50	Lake Parkway	Heavenly Village Wy	4-Lane Urban Undivided Arterial	D/E ¹	2,600	-	-	-	-	-	-
New US 50	Heavenly Village Wy	Pioneer Trail	4-Lane Urban Arterial w/Center Lane	D/E ¹	3,000	-	-	-	-	-	-

Note 1: LOS E may be acceptable during peak periods in urban areas, not to exceed four hours per day

Note 2: This roadway segment does not exceed LOS E for more than 4 hours a day

Source: LSC Transportation Consultants, Inc.

Impact: Roadway LOS Under ‘Future Cumulative Year With Project’ Conditions – Proposed Project and Alternatives A and B. One study roadway segment along U.S. 50 would operate at LOS F under ‘with project’ conditions. A different segment along U.S. 50 would operate at an unacceptable LOS E with the Loop Road. This exceeds the applicable standard. Alternative C would have the same impact as the Proposed Project, except one additional segment would exceed the LOS threshold with the Loop Road.

Analysis: Future year roadway LOS is summarized in Table 3.5-18. As indicated in the table, the segment of U.S. 50 between Park Avenue and Pioneer Trail would operate at LOS F, regardless of whether the proposed TSEC project is implemented. This exceeds the LOS standard.

While this segment operates at LOS F, the key intersections adjacent to this facility operate at an acceptable level. These intersections provide turn lane improvements and other capacity-enhancements to meet the travel demand. The proposed project would not affect roadway LOS on the remaining segments, which would continue to operate at an acceptable LOS E or better.

Roadway LOS with Loop Road

The future year roadway LOS with the TSEC and implementation of the Loop Road Project is shown in the far right columns of the table. The following segment of New U.S. 50 between Lake Parkway and Heavenly Village Way would operate at LOS E for more than four hours per day. This exceeds the LOS standard. Implementation of the Loop Road Project would mitigate the LOS concern on the segment of Old U.S. 50 between Park Avenue and Pioneer Trail. All other study segments would operate at an acceptable level under this scenario.

Alternatives A and B have the same LOS as the Proposed Project. However, under Alternative C, the segment of US 50 between Kingsbury Grade and Lake Parkway would also exceed the LOS threshold with the Loop Road Project.

Mitigation

The Regional Plan indicates that *“These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways.”* With provisions for adequate multi-modal amenities and/or services that meet these criteria, the project impact on roadway LOS would be less than significant, with or without the Loop Road. However, while the Tahoe Regional Planning Compact looks to “reduce the dependency on the private automobile” there are currently no adopted requirements or standards regarding the quality of service of other travel modes (i.e. transit, biking, or walking) that could potentially reduce the demand on the roadway system.

TABLE 3.5-18: U.S. 50 Future Roadway Level of Service

Roadway Segment	Between	And	Classification	LOS Threshold	Maximum Allowable Two-way Peak Hour Volume to Achieve LOS D	Future Without Project			Future With Project			Future With Project With Loop Road		
						Peak Hour Two Way Volume	LOS	Exceeding LOS Threshold	Peak Hour Two Way Volume	LOS	Exceeding LOS Threshold	Peak Hour Two Way Volume	LOS	Exceeding LOS Threshold
U.S. 50	Kingsbury Grade	Lake Parkway	4-Lane Urban Arterial w/ Center Lane	D/E ¹	3,000	3,193	E ²	No	3,171	E ²	No	3,232	E ²	No
U.S. 50	Lake Parkway	MontBleu	4-Lane Urban Arterial w/ Center Lane	D/E ¹	3,000	2,283	D	No	2,248	D	No	-	-	-
U.S. 50	MontBleu	Stacteline Ave	4-Lane Urban Arterial w/ Center Lane	D/E ¹	3,000	2,444	D	No	2,278	D	No	-	-	-
U.S. 50	Stacteline Ave	Park Ave / Heavenly Village Way	4-Lane Urban Arterial w/ Center Lane	D/E ¹	3,000	2,702	D	No	2,651	D	No	-	-	-
U.S. 50	Park Ave / Heavenly Village Way	Pioneer Trail	4-Lane Urban Arterial w/ Center Lane	D/E ¹	3,000	3,618	F	Yes	3,716	F	Yes	-	-	-
New U.S. 50	Lake Parkway	Heavenly Village Way	4-Lane Urban Unidivided Arterial	D/E ¹	2,600	-	-	-	-	-	-	2,896	F	Yes
New U.S. 50	Heavenly Village Way	Pioneer Trail	4-Lane Urban Arterial w/ Center Lane	D/E ¹	3,000	-	-	-	-	-	-	3,135	E ²	No

Note 1: LOS E may be acceptable during peak periods in urban areas, not to exceed four hours per day.

Note 2: This roadway segment does not exceed LOS E for more than 4 hours a day.

Source: LSC Transportation Consultants, Inc.

The TSEC Project could potentially provide a transit capacity improvement to reduce traffic on U.S. 50. For example, the TSEC Project could provide the subsidy cost (payment to TTD) for an additional fixed route bus operating during the peak summer and winter seasons. Or, the TSEC Project could provide payments to TTD to offset the loss of revenue associated with making some or all TTD routes free to the rider.

Implementation of the Loop Road would improve the LOS on US 50 between Park Ave and Pioneer Trail to an acceptable level. With the Loop Road, further reducing the maximum event size during summer peak periods would mitigate the LOS on New US 50 between Lake Parkway and Heavenly Village Way.

Alternatives A, B and C would have the same mitigation as the Proposed Project.

SITE ACCESS CONDITIONS

Impact: With the Proposed Project or Alternatives A, B or C, a right-turn lane would be marginally or fully warranted on Lake Parkway at the MontBleu driveway(s) under existing and future 'with project' conditions when an event is starting during PM peak periods. With the Loop Road Project, the existing and future year summer peak-hour traffic volumes meet the warrant for provision of a right-turn lane on New U.S. 50 at the MontBleu driveway, with or without the proposed Events Center project. Under Alternative B, the western driveway on Lake Parkway does not meet the required functional distance to/from the US 50/Lake Parkway intersection.

Analysis: First, the need for new turn lanes at the site access points is analyzed. Next, driver sight distance conditions are reviewed. Finally, site access and internal circulation conditions are evaluated.

Turn Lane Warrants

Traffic volumes at the site access intersections were reviewed regarding the need for new right-turn lanes along Lake Parkway. (Analysis of the need for new left-turn lanes is not necessary, given that left-turn lanes are already provided at the site access points.) The need for a right-turn lane on a major roadway is evaluated in NCHRP 457: *Evaluating Intersection Improvement: An Engineering Study Guide* (TRB, 2001). The criteria used to determine the need for a right-turn lane are speed of the roadway, the total approach traffic volume, and the volume of right-turns. Based on this methodology using a speed of 35 mph on Lake Parkway eastbound, a right-turn lane would be marginally warranted on Lake Parkway at the Eastern MontBleu driveway under existing and future 'with project' conditions when an event is starting during the PM peak hour (but not when an event lets out).

Turn Lane Warrant With Loop Road

The *NDOT Access Management System and Standards* (2017) provides right-turn lane warrant criteria for NDOT roadways. With the Loop Road and an increased speed limit of 40 mph on New U.S. 50, the right-turn lane volume warrant would be met at the Eastern MontBleu driveway intersection during the existing and future summer PM peak hour. Note that without the proposed TSEC Project, a new right-turn lane would be warranted on New U.S. 50 at the Western MontBleu driveway with the Loop Road.

That is, this warrant would be met at MontBleu with the Loop Road, regardless of whether the TSEC project is implemented.

The turn lane warrants under Alternative A are the same as the Proposed Project. Under Alternative B, the right-turn warrant may be fully met (with or without Loop Road). Under Alternative C, the right-turn lane warrant would be fully met (with or without Loop Road).

Driver Sight Distance

Driver sight distance is evaluated at the proposed site access driveways. Driver sight distance standards are categorized under two basic types: intersection and stopping sight distance. Intersection sight distance (also known as corner sight distance) is the distance a driver waiting at a cross street should be able to see in either direction along the main roadway in order to accurately identify an acceptable gap in through traffic. A clear line of sight should be maintained between the driver pulling out of the site driveway and any approaching vehicles on the major street. Sight distance should be sufficient to provide at least 7.5 seconds for the driver on the crossroad to complete the necessary maneuver while the approaching vehicle travels at the assumed design speed of the main roadway. The second type of driver sight distance is stopping sight distance, which is the distance required by the driver of a vehicle moving along the main roadway (such as Lake Parkway) to safely bring a vehicle to a stop after an object on the road becomes visible. This is the minimum distance needed for a driver to see an object in his/her path (such as a vehicle turning onto the roadway) and safely come to a stop.

Currently, Lake Parkway is a Douglas County roadway with a functional classification of Local Road. According to the *Douglas County Design Criteria and Improvement Standards*, intersection sight distance should be evaluated using the definitions in the American Association of State Highways and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Based upon a speed of 40 miles per hour along Lake Parkway, the minimum corner sight distance for left turns from the proposed driveway is 445 feet. For right turns, 385 feet of corner sight distance is needed. At the proposed driveway location, Lake Parkway has a grade of approximately 6 percent. Considering the grade, the required stopping sight distance along Lake Parkway is 333 feet in the downhill direction (toward U.S. 50) and 278 feet in the uphill direction (away from U.S. 50). (No adjustment of the corner sight distance value is needed because both the major- and minor-road vehicle will be on the same grade when departing from the intersection.)

The proposed driveway on Lake Parkway (the existing MontBleu eastern driveway) currently provides about 445 feet of corner sight distance to the right, which meets the standard. Looking to the left, over 450 feet of corner sight distance is provided. With the proposed project, as the retaining wall east of this driveway would be below the elevation of the existing sidewalk on Lake Parkway, no foreseeable corner sight distance issues are expected. Stopping sight distance in exceedance of 350 feet is available along Lake Parkway for both directions of travel. As the actual sight distance values exceed the requirements, no sight distance issues are identified at the existing eastern driveway on Lake Parkway. Finally, no driver sight distance concerns are identified at the main driveway on U.S. 50.

Driver Sight Distance With Loop Road

If the Loop Road alternative of converting Lake Parkway into the new U.S. 50 alignment is implemented, New U.S. 50 would be under NDOT jurisdiction. Additionally, New U.S. 50 would have a 4-lane cross section and the speed limit would be increased to 40 miles per hour. For purposes of driver sight

distance, a speed of 45 mph is assumed. Based on NDOT sight distance standards (which are based on AASHTO standards), a corner sight distance of 530 feet for left turns from the site driveway and 463 feet for right turns along a four-lane highway is recommended. Stopping sight distance of 331 and 400 feet for an up and down grade of 6% is specified.

The NDOT stopping sight distance standards are expected to be met with implementation of the 4-lane new U.S. 50. Additionally, the corner sight distance requirements are expected to be met, so long as the final landscaping plans do not hinder the corner sight distance.

No driver sight distance concerns are identified at the main driveway on old U.S. 50 under the Loop Road alternative.

No driver sight distance concerns are expected under Alternatives A, B and C.

Site Access and Internal Circulation

The project proposes to eliminate the existing Western MontBleu Driveway on Lake Parkway. Reducing the number of access points would improve the traffic flow conditions along Lake Parkway. According to the NDOT Access Management Systems and Standards (2017), driveways should be located outside the functional area of an intersection. The minimum upstream and downstream functional distances on Lake Parkway east of the U.S. 50/Lake Parkway intersection based on a posted speed limit of 35 mph are approximately 565 feet and 720 feet, respectively. As roughly 800 feet of functional distance is provided between the U.S. 50/Lake Parkway intersection and the Eastern MontBleu Driveway, this indicates the driveway spacing is adequate.

Two-way internal circulation would be provided through the project site. No concerns are identified with regards to the internal circulation plans.

Site Access Conditions With Loop Road

The minimum upstream and downstream functional distances on New U.S. 50 east of the U.S. 50/Lake Parkway intersection based on a posted speed limit of 40 mph are approximately 575 feet and 825 feet, respectively. Roughly 800 feet of functional distance is provided between the U.S. 50/Lake Parkway intersection and the Eastern MontBleu Driveway. As the proposed project would eliminate the existing driveway closest to the U.S. 50/Lake Parkway intersection, and the other existing driveway (the Eastern Driveway) is proposed to be moved slightly farther from the U.S. 50/Lake Parkway intersection, the resulting functional distances are expected to be adequate. Furthermore, moving the proposed driveway farther to the east (to achieve the full 825 feet of downstream functional distance) would reduce the driver sight distance to the east of the driveway.

Alternatives A and C have the same site access and internal circulation conditions as the Proposed Project.

Site Access and Internal Circulation Under Alternative B

Alternative B would utilize the existing Western MontBleu Driveway on Lake Parkway, as well as an eastern driveway. As such, it would not provide the benefit of reducing the number of access points. The western driveway also does not meet the minimum functional distance to the US 50/Lake Parkway intersection as set forth in the NDOT Access Management Systems and Standards, with or without the

Loop Road. Another disadvantage of this alternative is that there would be no vehicular connectivity between the upper parking lot and the other MontBleu parking areas. That is, drivers wishing to circulate between the parking areas would impact Lake Parkway.

Summary

An eastbound right-turn lane would be marginally warranted on Lake Parkway at the Eastern MontBleu driveway under existing and future 'with project' conditions, only when an event is starting during PM peak periods.

With the Loop Road Project, the existing and future year summer peak-hour traffic volumes meet the warrant for provision of a right-turn lane on New U.S. 50 at the MontBleu driveway, with or without the proposed TSEC project.

Adequate driver sight distance conditions are expected to be provided with the proposed project, so long as the final landscaping plans do not hinder the corner sight distance.

Alternatives A and C have the same results as the Proposed Project. Under Alternative B, a right-turn lane may also be warranted at the Western MontBleu driveway on Lake Parkway. Additionally, under Alternative B there are concerns regarding driveway spacing and circulation conditions.

Mitigation

An eastbound right-turn lane should be provided on Lake Parkway at the Eastern MontBleu driveway under existing and future 'with project' conditions to address impacts when an event is starting during PM peak periods.

With the Loop Road Project, provision of a right-turn lane on New U.S. 50 at the MontBleu driveway may be needed, with or without the proposed TSEC project. Provision of a right-turn bay can significantly improve operations and safety at the intersection, as it effectively separates those vehicles that are slowing or stopped to turn from those vehicles in the through traffic lanes. The project description for the Loop Road indicates the new U.S. 50 alignment would have turn pockets at major intersections and driveways.

The final landscaping plans should be reviewed to ensure that they do not hinder the corner sight distance at the site access intersections.

Alternatives A and C have similar mitigation to the Proposed Project. Alternative B may require additional mitigation measures because of the proposed relocation of the main driveway for this location.

VMT

Impact: The Proposed Project is expected to result in a reduction in VMT on a busy summer day over existing levels and would maintain VMT levels below the adopted TRPA threshold standard. It is possible that a net increase in VMT could occur if the proposed paid parking program and microtransit service do not result in a sufficient reduction in vehicle trips to achieve a net zero increase in VMT. As this would exceed the performance standard, this is considered a potentially significant impact. Alternatives A, B and C would result in an increase in VMT and would therefore exceed the performance standard. This is considered a significant impact.

Analysis: Impact on Vehicle Miles Traveled (VMT) within the Tahoe Region can best be established based upon project trip generation and distribution to the various portions of the Tahoe Region (including external access points). The change in VMT resulting from implementation of the project is estimated based upon the net change in regional vehicle trips generated by the project factored by the average trip distance to each area. In addition, the proposed paid parking and microtransit program will result in a reduction in existing vehicle trips made to/from the Casino Core. First, this reduction in existing VMT is estimated. Next, the VMT generated by new vehicle trips made to/from the proposed event venue is analyzed. Finally, the additional daily trips and VMT generated by new overnight visitors to the Tahoe Region beyond the direct trips to/from the Events Center are estimated. Adding the project-generated VMT to the reduction in existing VMT yields the 'project net impact' on VMT within the Tahoe Basin boundaries.

VMT METHODOLOGY

VMT is a computed value which correlates to the degree of an area's reliance on the private automobile for trip-making. The TRPA TransCAD Travel Demand Model provides a forecast of the number of trips made on the roadway network and the distance between trip origins and destinations for each trip purpose within the Basin. Total VMT is the sum of all these trip lengths. The project's impact on Regional VMT over the course of a summer day is evaluated, using a spreadsheet-based method consistent with the TRPA's "Guidance for Assessment of Vehicle Miles Traveled (VMT) Impacts of Projects in the Tahoe Basin" (TRPA, April 4, 2019).

First, the proportions of trips made by different types of users are identified and multiplied by the total trip generation to identify the number of trips by user type. Next, average trip lengths within the Tahoe Basin are estimated. The trips for each user-type are multiplied by the trip lengths to estimate the VMT. Finally, effects on regional VMT are discussed.

KEY ASSUMPTIONS IN VMT ANALYSIS

The following key assumptions are applied in the VMT analysis for the summer "design day" (these assumptions are consistent with those applied in the trip generation analysis):

- A 2,500-attendee concert/entertainment or sporting event occurs at the proposed venue
- The proposed paid parking program and microtransit service are implemented
- Casino core employees are exempted from the paid parking program
- Only one event occurs at the proposed event venue over the course of the day

- No concert event occurs at Harvey's.

REDUCTION IN EXISTING VMT

The reduction in existing VMT due to implementation of the proposed paid parking and microtransit programs is evaluated first for existing Casino Core visitors and then for Casino Core employees. This is based on the impacts of paid parking and microtransit on existing (employee and visitor) trip generation.

REDUCTION IN EXISTING VISITOR VMT

To estimate the VMT reduction associated with existing Casino Core visitors, their average trip lengths must be identified. The TRPA *VMT Guidance* provides average trip lengths for overnight visitors in the Casino Core Traffic Analysis Zones. The proportion of trips by trip-type is also provide for overnight visitor uses. Applying these proportions to the length for each trip-type yields an overall weighted average trip length for visitors lodged in the Casino Core of 5.3 miles, as shown in Table 3.5-19. To estimate average trip lengths for the other two types of visitors (for which specific trip lengths are not defined in the TRPA *VMT Guidance*), trip distribution patterns are analyzed and the results are summarized in Table 3.5-20 and illustrated in Figure 3.5-12.

The distribution of trips made by overnight visitors lodged outside the Casino Core/local guests is based on 2010, 2014 and 2018 TRPA Summer Mode Share Survey data for non-overnight and non-day visitors to the Casino Core (Tahoe residents and visitors staying other than in the four casinos). The distribution to the various subareas for the proportion reporting they travelled from "South Lake Tahoe" in the Mode Share Surveys was refined based on TRPA model input land use data. The distribution of day visitor trips to the Tahoe Region (that would shift modes) is based on data from the LTVA 2015/16 Visitor Profile Surveys.

Note that this does not reflect the new VMT generated by the microtransit shuttle vehicles as they circulate through the area, which is addressed in the proposed conditions section, below.

REDUCTION IN EXISTING EMPLOYEE VMT

Table 3.5-21 presents the analysis of the VMT reduction associated with existing Casino Core employees. As employees would not be subject to paid parking, the paid parking program would not be expected to affect employee vehicle trips made to/from the Casino Core.

The reduction in employee trips and VMT due to microtransit are estimated. The trip generation analysis indicates a total reduction of 450 one-way daily vehicle trips associated with the microtransit program. Of these trips, 70 percent are estimated to be visitors and 30 percent are employees. It follows that 135 daily vehicle trips are made by employees. These trips are distributed to the following five locations that would be served by microtransit, based on recent employee residence location data from Stateline resort hotels (the distribution of all employee residences is shown in Figure 3.5-13):

- Bijou/Al Tahoe
- Pioneer Trail North/Ski Run
- Casino Core
- Kingsbury

- Round Hill

The distribution to the five locations (as shown in Table 3.5-21) also reflects that the Pioneer Trail North/Ski Run and Round Hill neighborhoods would be fully served by microtransit, whereas the Bijou/Al Tahoe and Kingsbury areas would only be partially served (as some of these neighborhoods, such as Upper Kingsbury, are beyond a reasonable walking distance from the service area). Casino Core employees residing in the Casino Core are not assumed to ride the microtransit shuttles, as they live within a convenient walking distance. Multiplying the trip reductions by the corresponding trip lengths yields a reduction of 374 VMT due to employees riding microtransit. Note that this does not reflect the new VMT generated by the microtransit shuttle vehicles, which is addressed below.

TABLE 3.5-19

VMT in Tahoe Basin - Visitor Trips													
Visitor Type	Weighted Average Trip Length (miles) ¹			Daily Visitor Trips							Total Change in VMT Due to Paid Parking & Microtransit	Total Change in VMT Due to Daily Visitor in Daily Visitor VMT With Project	
	Length With Paid Parking & Microtransit ¹	Length Without Paid Parking & Microtransit	Length for Microtransit Reduction ¹	Daily Vehicle Trips Without Paid Parking & Microtransit	VMT Without Paid Parking & Microtransit	Percent Reduction in Daily Vehicle Trips Due to Paid Parking	Change in Daily Vehicle Trips Due to Paid Parking	Reduction in VMT Due to Paid Parking	Additional Change in Daily Vehicle Trips Due to Microtransit	Additional Change in VMT Due to Microtransit			
EXISTING VISITORS													
Overnight Visitor - Lodged in Casino Core ²	5.3		--	--	--	--	-157	-832	--	--	--	-832	-832
Overnight Visitor Lodged Elsewhere or Local Visitor	7.1		1.9	--	--	--	-1,136	-8,066	-315	-599	-8,665	-8,665	-8,665
Day Visitor	13.4		--	--	--	--	-1,927	-25,822	--	--	-25,822	-25,822	-25,822
Total Existing Visitors							-3,220	-34,720	-315	-599	-35,319	-35,319	-35,319
PROPOSED EVENT ATTENDEES													
Overnight Visitor - Lodged in Casino Core ³	--	--	--	0	--	0%	0	--	--	--	--	--	12,252
Overnight Visitor Lodged Elsewhere or Local Visitor	7.9	7.1	1.9	737	5,233	24%	-177	-1,398	-24	-46	-1,444	-1,444	3,789
Day Visitor	13.4	13.4	--	832	11,149	20%	-167	-2,238	--	--	-2,238	-2,238	8,911
Total Event Venue Visitors				1,569	16,382	22%	-345	-3,636	-24	-46	-3,682	-3,682	24,952

Note: Based on summer "design" day assumptions.
 Note: DVTE = Daily Vehicle Trip Ends
 Note 1: Average trip lengths for visitors lodged in Casino Core are based on TRPA VMT guidance data. Trip lengths for other visitors are provided in Table 1.
 Note 2: Considering both the regional access trip to the Tahoe Region as well as local trips made within the Region.
 Note 3: As all attendees lodged in Casino Core are expected to travel to/from the event venue via non-auto modes, there is no reduction in vehicle trips resulting from paid parking and microtransit. The 12,252 VMT is generated by the additional trips (non-event trips) made by new visitor groups over the course of the day.
 Source: ISC Transportation Consultants, Inc.

TABLE 3.5-20: Distribution and Trip Length – Visitor Trips

Origin/Destination	Average Trip Length (miles)	Trip Distribution		
		Overnight Visitor Lodged Elsewhere or Local Guest		Day Visitor
		Existing Visitor	Event Attendee	
North Shore	29.4	7%	9%	2%
West Shore	27.4	3%	3%	--
Camp Richardson/Emerald Bay	11.4	10%	10%	--
Echo Summit	13.9	0%	0%	71%
Meyers/Pioneer Trail South	9.4	8%	8%	--
Tahoe Keys	6.8	8%	7%	--
Tahoe Valley	5.8	9%	13%	--
Bijou/Al Tahoe	3.2	14%	14%	--
Pioneer Trail North/Ski Run	2.8	9%	13%	--
Casino Core	0.7	17%	9%	--
Kingsbury	1	9%	8%	--
Kingsbury Grade (Daggett Pass)	3.5	0%	0%	5%
Round Hill	2.2	2%	2%	--
East Shore (North of Round Hill)	6.6	4%	4%	--
Spooner Summit	12.8	0%	0%	22%
<i>Total</i>		<i>100%</i>	<i>100%</i>	<i>100%</i>
Weighted Average Trip Length (mi)		7.1	7.9	13.4
<p>Note: Based on summer "design" day assumptions.</p> <p>Note: Trip distribution for existing visitors lodged in the Casino Core is not shown because their average trip length is based on trip lengths provided in the TRPA VMT guidance document.</p> <p>Source: LSC Transportation Consultants, Inc.</p>				

VMT OF PROPOSED USE

The VMT generated by vehicle trips made to/from the proposed event venue is analyzed for event attendees and employees.

VMT OF PROPOSED EVENT ATTENDEES

The VMT generated by event attendees going to/from the proposed event venue is evaluated. First, the VMT generated without paid parking and microtransit is evaluated, based on the trip generation under Alternative C. Next, the VMT reductions resulting from paid parking and microtransit are analyzed and the net increase in VMT generated by event attendees is determined. The analysis is summarized in the lower half of Table 3.5-19.



Table 3.5-21

VMT Reduction in Tahoe Basin - Existing Employee Trips				
Origin/Destination	Average Trip Length (miles)	Existing Daily Casino Core Employee Trips		
		Distribution of Trips Shifting to Microtransit	Trip Reduction Due to Microtransit	Daily VMT Reduction Due to Microtransit
North Shore	29.4	--	--	--
West Shore	27.4	--	--	--
Echo Summit	13.9	--	--	--
Meyers/Pioneer Trail South	9.4	--	--	--
Tahoe Keys	6.8	--	--	--
Tahoe Valley	5.8	--	--	--
Bijou/Al Tahoe	3.2	36%	-49	-157
Pioneer Trail North/Ski Run	2.8	41%	-55	-154
Casino Core	0.7	0%	0	0
Kingsbury	1.0	3%	-4	-4
Kingsbury Grade (Daggett Pass)	3.5	--	--	--
Round Hill	2.2	20%	-27	-59
East Shore (North of Round Hill)	6.6	--	--	--
Spooner Summit	12.8	--	--	--
Total	5.4	100%	-135	-374

Note: Based on summer "design" day assumptions.
 Note 1: This is the weighted average trip length.
 Source: LSC Transportation Consultants, Inc.

The distribution of vehicle trips made by event attendees going to/from the venue is illustrated in Figure 3.5-12. As shown in Table 3.5-20, the weighted average trip length for event attendees lodged elsewhere and local visitors is 7.9 miles. Based on the trip generation analysis for Alternative C, event attendees generate a total of 1,569 daily one-way vehicle trips to/from the casino driveways without paid parking and microtransit. The split of these trips between overnight visitors and day visitors is based on the LTVA 2017 Summer Concert Surveys data. Overnight visitors lodged in the immediate Casino Core are assumed to travel to/from the event venue by non-auto modes. The allocation of the 1,569 daily attendee vehicle trips to each area (or Basin entry point) is shown in Table 3.5-20, and the resulting VMT is shown in Table 3.5-19. As indicated in the middle columns, a total of 16,382 VMT are estimated to be generated by event attendees before reductions are taken for paid parking and microtransit.

Next, the reductions in daily vehicle trips due to paid parking, as provided in the trip generation analysis, are shown for each attendee type. Multiplying the daily trips by the average trip lengths yields a total reduction of 3,636 VMT due to paid parking. Additionally, multiplying the reduction in event attendee daily vehicle trips due to microtransit (24 one-way trips, as per the trip generation analysis) by the average trip length yields a reduction of 46 VMT. The resulting total reduction in daily VMT due to paid parking and microtransit is 3,682.



ADDITIONAL VMT OF NEW OVERNIGHT VISITORS TO THE TAHOE REGION

Event Center attendees staying in the Casino Core would displace other non-event visitors to other lodging options in the South Shore area, so long as there is available lodging capacity in other properties. To address this, available occupancy data for the remainder of South Tahoe was reviewed, indicating the following:

- A major hotel in South Lake Tahoe indicates peak occupancy on early August weekend evenings of 92 to 95 percent.
- The “City of South Lake Tahoe Lodging Reporting” tabulations indicate a maximum monthly occupancy in 2019 of 47 percent.
- The “Douglas County Lodging Tahoe Township Year-over-Year Comparison” indicates a peak 2019 summer monthly occupancy of 74 percent.

The monthly occupancy data averages occupancy over all days, and peak weekend occupancy is probably higher (daily data is not available from Douglas County or the City of South Lake Tahoe). It cannot be concluded from this data, however, that there is typically no excess lodging capacity anywhere in South Shore to accommodate the additional visitor groups generated by the Event Center. It is therefore necessary to add the VMT associated with all new overnight visitor groups to the Tahoe Region (over the course of the full day, including access trips to the region and other trips), beyond the VMT associated solely with the trip to and from the Event Center event associated with event attendees staying outside the Casino Core properties (which is already included above under “VMT of Proposed Event Attendees”).

As shown in the Table 3.5-22, this additional VMT was calculated as follows:

- The TRPA Trip Table provides a daily trip rate of 10.20 vehicle-trips per occupied hotel room. (While the motel rate is lower at 8.71, the higher hotel rate is conservatively assumed). Per the Reno Casino Trip Generation Study, 86 percent of total trip generation is estimated to be generated by guests. As trips to/from the actual event are already reflected in the existing figures, the associated vehicle-trips (adjusted to reflect non-auto modes) are subtracted. This yields a daily trip rate of 7.17 additional daily vehicle-trips per visitor group.
- The TRPA TransCAD model provides average trip lengths for trips generated by lodging land uses (for four trip types), by TAZ (as provided in the TRPA Guidance for Assessment of Vehicle Miles Traveled Impacts of Projects in the Tahoe Basin). The weighted average trip length was calculated from these values, weighted by the number of hotel/motel units in each TAZ and assuming the displaced visitors shift to other available lodging in South Lake Tahoe or in Douglas County between Stateline and Round Hill. The TRPA guidance also provides the proportion of total trips by type, allowing the calculation of an average overall trip length of 6.19 miles. Note that this length reflects trips both to/from the Basin (from an external point) as well as trips within the Basin.
- Multiplying the daily additional trips by the average trip length yields a figure of 44.39 VMT per additional visitor group per day.

- It is next necessary to calculate the number of new visitor groups that would be generated by an event. The Lake Tahoe Visitors Authority's 2017 summer concert survey data indicates that 57 percent of attendees surveyed at musical events were overnight visitors, while the other 43 percent were local residents or day visitors (whose additional VMT is generated only by the trip to/from the actual event, which is already reflected in the analysis). Many of the overnight visitors also indicated that they were visiting for other reasons: Asked the importance of the concert in their decision to visit the South Shore on a scale of 1 (very important) to 7 (not at all important), 56 percent indicated a 1 or 2 (and thus are assumed to be new visitors that would not otherwise have come while the remainder are overnight visitors here for other reasons and attending a concert). Using this data and an average group size of 2.77, a 2,500-attendee event can be found to generate 288 new overnight visitor groups to Tahoe.
- Not all new visitor groups will arrive with a car. Analysis of the TRPA 2018 Travel Mode Survey for overnight visitors on the South Shore indicate that 96 percent arrived by private vehicle. Applying this mode share factor, 276 new overnight visitors with private vehicles would travel to Tahoe.
- Multiplied by the VMT per visitor group, a 2,500-attendee event generates 12,252 VMT per day above the VMT associated solely with the trip to and from the actual event. The equivalent figure for a 6,000-attendee event is 29,432 based on summer travel characteristics.

As shown in the lower right corner of Table 3.5-19, adding the 12,252 VMT generated by new visitor groups to the 16,382 VMT generated by event attendees and subtracting the 3,682 VMT reduction due to paid parking and microtransit yields a total of 24,952 daily VMT generated by event attendees and the associated new overnight visitor groups under the proposed project.

VMT OF EVENT VENUE EMPLOYEES

Table 3.5-23 presents an analysis of the VMT generated by employees/staff vehicles associated with the proposed event venue. The average trip lengths and trip distribution to the origin/destination locations shown in the left-hand portion of the table are the same as that of existing Casino Core employees. Without paid parking and microtransit, the event venue employees would generate a total of 78 daily one-way vehicle trips using the casino driveways (reference analysis of Alternative C). Applying the trip distribution pattern to these trips yields the daily vehicle trips generated to/from each origin/destination location. Multiplying these trips by the average trip lengths yields a total of 419 VMT generated by event venue employee/service vehicles.

Table 3.5-22

Analysis of Daily VMT Generated by Visitor Groups New to the Tahoe Region In Addition to Event Center Access Trip VMT					Source																																
	Gaming	Recreation	Shopping	Other		Total																															
TRPA Hotel Rate per Occupied Room					10.20																																
Percent Generated by Guests					86%																																
Guest Trips per Occupied Hotel Room					8.81																																
Daily Visitor Casino Core Access Trip (1)					1.64																																
Additional Daily Vehicle Trips per Visitor Group					7.17																																
Average Trip Length (2)	7.10	7.76	4.31	4.62																																	
Percent of all trips	14%	40%	11%	35%																																	
Weighted Average Trip Length					6.19																																
Total VMT Per Visitor Group New to the Tahoe Region Excluding Casino Trip					44.39																																
	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Number of Event Attendees</th> </tr> <tr> <th>2,500</th> <th>6,000</th> </tr> </thead> <tbody> <tr> <td>Average Group Size</td> <td>2.77</td> <td>2.77</td> </tr> <tr> <td>Total Attendee Groups</td> <td>903</td> <td>2166</td> </tr> <tr> <td>Percent Event Attendees That Are Overnight Visitors</td> <td>57%</td> <td>57%</td> </tr> <tr> <td>Percent Visitor Event Attendees New to Tahoe Region Due to Event</td> <td>56%</td> <td>56%</td> </tr> <tr> <td>Visitor Groups New to Tahoe Region Due to Event</td> <td>288</td> <td>691</td> </tr> <tr> <td>Percent Arriving by Private Vehicle</td> <td>96%</td> <td>96%</td> </tr> <tr> <td>Visitor Groups New to Tahoe Region Due to Event with Auto</td> <td>276</td> <td>663</td> </tr> <tr> <td>Additional Daily Vehicle-Trips</td> <td>1,980</td> <td>4,756</td> </tr> <tr> <td>Total VMT New to the Tahoe Region Excluding Event Center Access Trip</td> <td>12,252</td> <td>29,432</td> </tr> </tbody> </table>					Number of Event Attendees		2,500	6,000	Average Group Size	2.77	2.77	Total Attendee Groups	903	2166	Percent Event Attendees That Are Overnight Visitors	57%	57%	Percent Visitor Event Attendees New to Tahoe Region Due to Event	56%	56%	Visitor Groups New to Tahoe Region Due to Event	288	691	Percent Arriving by Private Vehicle	96%	96%	Visitor Groups New to Tahoe Region Due to Event with Auto	276	663	Additional Daily Vehicle-Trips	1,980	4,756	Total VMT New to the Tahoe Region Excluding Event Center Access Trip	12,252	29,432	
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Percent Arriving by Private Vehicle	96%	96%																																			
Visitor Groups New to Tahoe Region Due to Event with Auto	276	663																																			
Additional Daily Vehicle-Trips	1,980	4,756																																			
Total VMT New to the Tahoe Region Excluding Event Center Access Trip	12,252	29,432																																			
	<table border="1"> <tbody> <tr> <td>TRPA Trip Table</td> </tr> <tr> <td>Reno Casino Trip Generation Study Calculation</td> </tr> <tr> <td>Table 3.5-10 Calculation</td> </tr> <tr> <td>TRPA, Guidance for Assessment of Vehicle Miles Traveled (VMT) Impacts of Projects in the Tahoe Basin, October Calculation</td> </tr> <tr> <td>Calculation</td> </tr> </tbody> </table>				TRPA Trip Table	Reno Casino Trip Generation Study Calculation	Table 3.5-10 Calculation	TRPA, Guidance for Assessment of Vehicle Miles Traveled (VMT) Impacts of Projects in the Tahoe Basin, October Calculation	Calculation																												
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Note 1: Already included in trip generation tables. 2 one-way Casino Core trips/day times (1 minus percent non-auto).

Note 2: Weighted average trip length assuming new overnight visitors are lodged in South Lake Tahoe or in Douglas County from Round Hill south, excluding Casino Core.

Next, the additional reductions in employee trips and VMT due to microtransit are estimated. The trip generation analysis indicates that there would be a 2 percent reduction in daily employee vehicle trips due to microtransit, which equates to a reduction of 1 one-way employee vehicle trip. This trip is distributed to the Pioneer Trail North/Ski Run area, which has the highest distribution of employee trips shifting to microtransit. The resulting VMT reduction due to microtransit is 3 employee VMT.

Subtracting the 3 VMT saved by microtransit from the 419 project-generated employee VMT yields a total increase of 416 VMT associated with the proposed event venue employees. As the existing Casino Core employee VMT would decrease by 374, the net increase in employee daily VMT within the Basin would be 42.

VMT OF EVENT DELIVERY/SERVICE VEHICLES

All service trips are assumed to consist of new trips to the Tahoe Basin, in order to provide a conservative estimate. In reality some service stops at the TSEC will consist of existing trips already passing by the site for existing customers. As shown in Table 3.5-24, multiplying the weighted average trip length of 12.6 miles by the 40 project-generated daily delivery/service vehicle trips yields a total of 505 VMT in the Basin.

VMT OF MICROTRANSIT SHUTTLE VEHICLES

While the proposed microtransit shuttle service will tend to reduce VMT by shifting travelers from auto trips, the transit vehicles will also generate new VMT. Table 3.5-25 presents the analysis of the daily VMT generated by the transit vehicles, based on four vehicles in operation over a 14-hour day. Approximately 72 round-trips would operate daily in the service area east of Ski Run Boulevard, while 48 round-trips would operate daily in the service area west of Ski Run Boulevard, for a total of 120 daily round-trips. At a weighted average round-trip length of 2.4 miles (including 0.5 mile every hour for deviation to specific request locations), the service generates 566 VMT per day.

TABLE 3.5-23

VMT in Tahoe Basin - Proposed Event Venue Employees

Origin/Destination	Average Trip Length (miles)	Daily Event Venue Employee Trips										Project Net Impact on Employee Daily VMT ¹
		Trip Distribution	DVTE Generated Without Paid Parking & Microtransit	VMT Generated Without Paid Parking & Microtransit	Distribution of Trips Shifting to Microtransit	Reduction in DVTE Due to Microtransit	Reduction in VMT Due to Microtransit	Total Project-Generated VMT With Microtransit				
North Shore	29.4	1%	1	24	--	--	--	24	--	--	24	24
West Shore	27.4	0%	0	0	--	--	0	--	--	--	0	0
Echo Summit	13.9	1%	1	11	--	--	11	--	--	--	11	11
Meyers/Pioneer Trail South	9.4	6%	5	42	--	--	42	--	--	--	42	42
Tahoe Keys	6.8	6%	4	30	--	--	30	--	--	--	30	30
Tahoe Valley	5.8	13%	10	59	--	--	59	--	--	--	59	59
Bijou/Al Tahoe	3.2	21%	17	53	36%	0	53	36%	0	0	53	-104
Pioneer Trail North/Ski Run	2.8	15%	12	32	41%	-1	32	41%	-1	-3	29	-125
Casino Core	0.7	0%	0	0	0%	0	0	0%	0	0	0	0
Kingsbury	1.0	3%	2	2	3%	0	2	3%	0	0	2	-2
Kingsbury Grade (Daggett Pass)	3.5	16%	13	44	--	--	44	--	--	--	44	44
Round Hill	2.2	7%	6	12	20%	0	12	20%	0	0	12	-47
East Shore (North of Round Hill)	6.6	0%	0	0	--	--	0	--	--	--	0	0
Spooner Summit	12.8	11%	9	110	--	--	110	--	--	--	110	110
Total	5.4 ²	100%	78	419	100%	-2	419	100%	-2	-3	416	42

Note: Based on summer "design" day assumptions.

Note: DVTE = Daily Vehicle Trip Ends.

Note 1: Project net impact on VMT is the sum of the project-generated VMT and the reduction in existing VMT. Reduction in VMT of existing employees is provided in Table 3.

Note 2: This is the weighted average trip length.

Source: LSC Transportation Consultants, Inc.

Table 3.5-24: VMT of Proposed Event Delivery/Service Trips

Origin/Destination	Average Trip Length (miles)	Event Venue Delivery/Service Trips		
		Trip Distribution	Daily 1-Way Vehicle-Trips	VMT
Brockway Summit	33.2	5%	2	66
Echo Summit	13.9	20%	8	111
Kingsbury Grade (Daggett Pass)	3.5	15%	6	21
Spooner Summit	12.8	60%	24	307
<i>Total</i>	<i>12.6</i>	<i>100%</i>	<i>40</i>	<i>505</i>

Note: Based on summer "design" day assumptions.
 Note: DVTE = Daily Vehicle Trip Ends.
 Note 1: This is the weighted average trip length.
 Source: LSC Transportation Consultants, Inc.

VMT OF DRIVERS SEARCHING FOR PARKING

Some event attendees are expected to look for free parking spaces within a half-mile walk distance of the paid parking area. Although this is a relatively small proportion of overall travel generated by event visitors and the paid parking program, the VMT impact of drivers circulating for free parking is estimated. Based on the number of visitors arriving to the Casino Core via private automobile (after the mode shifts resulting from paid parking and microtransit), approximately 1,519 daily 1-way trips are expected to generate an additional 0.5 miles of travel searching for free parking, for a total impact of 760 daily VMT.

SUMMARY OF VMT IMPACTS

The VMT impacts are summarized in Table 3.5-26. As shown, the proposed event venue is estimated to generate an increase of approximately 25,873 daily VMT, with an additional 566 VMT generated by the proposed microtransit shuttle vehicles for a total increase of 26,439 VMT. This increase in VMT would be well offset by the reduction of 35,693 existing VMT due to paid parking and microtransit. Summing the two figures and adding the 760 VMT generated by those searching for parking yields a net decrease of 8,494 VMT in the Tahoe Basin over the course of the summer design day. When compared to the existing summer daily VMT in the Tahoe region of 1,937,070, the proposed project is estimated to reduce region-wide VMT from existing conditions by approximately 0.4 percent.

Table 3.5-25

<i>VMT of Microtransit Service on Busy Summer Day</i>	
Number of Vehicles in Operation at All Times	4
Hours per Day of Operation	14
<u>Service Area East of Ski Run</u>	
Daily Vehicle-Round-Trips	72
Average Vehicle-Round-Trip Length (miles)	4.0
<u>Service Area West of Ski Run</u>	
Daily Vehicle-Round-Trips	48
Average Vehicle-Round-Trip Length (miles)	5.8
Daily VMT Generated by Microtransit Vehicles	566
Note 1: Includes 0.5 miles every hour for deviations.	
Source: LSC Transportation Consultants, Inc.	

Table 3.5-26

<i>South Tahoe Events Center - VMT Summary</i>	
Description	Daily VMT
<u>PROPOSED EVENT VENUE</u>	
Attendees -- Trips To/From Event Venue and Additional Trips Within Tahoe Basin	24,952
Employees	416
Delivery/Service	505
<i>Total Proposed Venue</i>	<i>25,873</i>
PROPOSED MICROTRANSIT SHUTTLE TRIPS	566
TOTAL PROPOSED PROJECT (INCLUDING PAID PARKING & MICROTRANSIT)	26,439
<u>REDUCTION IN EXISTING VMT (DUE TO PAID PARKING & MICROTRANSIT)</u>	
Visitors	-35,319
Employees	-374
<i>Total Reduction in Existing VMT</i>	<i>-35,693</i>
VMТ GENERATED BY PARKING SPACE SEARCHING	760
PROJECT NET IMPACT ON VMT IN TAHOE BASIN	-8,494
Source: LSC Transportation Consultants, Inc.	

A summary of region-wide daily summer VMT with and without the project is presented in Table 3.5-27. Implementation of the proposed project (including the proposed paid parking and microtransit program) would result in VMT levels that are below the TRPA threshold standard.

Table 3.5-27 Region-Wide Daily Summer VMT		
	Last Calculated (2014 base year)	With Proposed Project
Region-wide VMT	1,937,070	1,928,576
TRPA Threshold Standard	2,030,938	2,030,938
Standard Met	Yes	Yes
Source: LSC Transportation Consultants, Inc. 2020		

DISCUSSION OF IMPACT ON REGIONAL VMT

The TRPA’s Guidance for Assessment of VMT Impact of Projects in the Tahoe Basin (Step 9) requires consideration of the effects on regional VMT.

- Although there are existing vehicle trips made to/from the major casino driveways, to remain conservative in this analysis (conservatively high VMT), all of the vehicle trips made to/from the proposed event venue are considered to be “new” trips within the Tahoe Basin.
- Hotel data indicates that occupancy rates in the Stateline area are very high during the busy summer season. Event Center attendees staying in the Casino Core would displace other “non-event” visitors to other lodging options in the South Shore area, so long as there is available lodging capacity in other properties. Additional VMT is included in this analysis for the additional trips made by new overnight visitor groups (on the summer design day).
- The establishment of consistent and permanent paid parking on the Casino Core area will provide a strong “disincentive” for auto use in travelling to and from the activity center – both for future TSEC attendees, as well as existing visitors traveling to and from the Casino Core. This will result in a shift to transit, ridesharing and non-auto travel modes that will result in a reduction in regional VMT.
- The provision of a free-to-the-rider microtransit shuttle program within the vicinity of the Casino Core will augment the overall South Shore transit program and provide a modest additional reduction in regional VMT.

SENSITIVITY ANALYSIS

For the Draft EA, a sensitivity analysis was conducted regarding the previous VMT impacts calculations for the proposed project. Specifically, this analysis presents the results of the net VMT impact assuming variations in four key inputs that would tend to indicate a lower reduction in VMT, and potentially resulting in a net VMT increase. These four key inputs that are considered with regards to sensitivity are as follows:

- The percent reduction in daily traffic resulting from paid parking on the overnight visitors that are lodged in the casino core. *Base Value = 1 percent*
- The percent reduction in daily traffic resulting from paid parking on the overnight visitors that are lodged elsewhere in the Tahoe Basin or are local residents. *Base Value = 24 percent*
- The percent reduction in daily traffic resulting from paid parking on day visitors to the Tahoe Basin (not staying overnight in the Tahoe Basin). *Base Value = 20 percent*
- The daily ridership on the proposed new microtransit service. *Base Value = 675 daily boardings (revised to 946 in the Final EA, based on the enhanced microtransit program).*

Considering both the reductions in daily VMT associated with these travel demand management strategies, and the increase in daily VMT associated with travel to/from the proposed event center (on the design day with a 2,500-attendee event), the “base case” result was a reduction in daily VMT of 21,411 (this does not include additional VMT of new visitor groups to the Basin, as well as the recently enhanced microtransit program, which now indicates an overall reduction in daily VMT of 8,494).

Key questions addressed in this sensitivity analysis are (1) what is the relative sensitivity of this net result to changes in the four key input values and (2) to what degree can these key inputs change without resulting in a net increase in VMT. Table 3.5-28 presents the analysis that addresses these questions. Note that this table has not been revised for the Final EA and therefore does not reflect the latest calculations of Project VMT. However, the results of the sensitivity analysis are still included in the EA to document the relative importance of the different trip making inputs. Three levels of reductions in the values are shown, in the three individual boxes (for a 10 percent reduction in the factor, 25 percent reduction and 50 percent reduction). Within each of these boxes, each column represents a separate analysis scenario. The cells shaded in blue indicate the factor or factors that have been reduced, and the resulting value, while the cells not shaded indicate inputs not changed in the analysis scenario. Note that for each reduction level, one scenario is evaluated changing only one of the input values while a final scenario assumes the reduction across all four variables.

As an example, the second column in the 10 percent reduction box indicates the shaded value for the percent impact of paid parking on overnight visitors lodged in the casino core used in this scenario of 0.9 percent (which is a 10 percent reduction from the 1.0 percent base case value). The other values in this column indicate those that were not changed. The resulting net change in daily VMT (-21,298) is 113 more than the base case value of 21,411, which indicates that this 10 percent reduction in this input value yields a 0.5 percent reduction in the net VMT decrease. The right-most column in this box indicates that if all four inputs are reduced by 10 percent the net reduction in VMT would be 17,504, or 3,907 less than the base case (18.2 percent less).

A review of these results indicates the following:

- Reducing any or all of the key inputs by up to 50 percent still yields a net decrease in daily VMT on the design day. A 50 percent reduction in all four factors at the same time still yields a net reduction of 1,885 daily VMT. Put another way, the base case factors can be “too high” by a factor of at least 2 while still yielding a net VMT reduction.
- The VMT analysis is most sensitive to changes in the factor for the paid parking impact on day visitors to the Tahoe Basin. A 25 percent reduction in this factor, for example, decreases the reduction in VMT by 7,022 or 32.8 percent. The overall net VMT is roughly 3 times more sensitive to changes in this input than to changes in the paid parking impact on overnight visitors lodged outside the casino core or residents, and is about 34 times more sensitive than to changes in the microtransit ridership or the impact of paid parking on overnight visitors lodged in the casino core.

Further analysis indicates the following:

- Reducing all four factors by 55 percent results in a project net impact of no change in daily VMT. Under this scenario, the total weighted average visitor paid parking reduction in daily vehicle trips is 4.8% (compared to the 10.7% reduction applied in the technical analysis, as shown in Table 3.5-8).
- Three of the four key factors (the impact of paid parking on overnight visitors lodged in the casino core, the impact of paid parking on overnight visitors lodged elsewhere/locals and the microtransit ridership) could be completely “zeroed out” individually while still yielding a net reduction in VMT. The fourth factor (the impact of paid parking on day visitors) could be reduced by 77 percent on an individual basis before a net VMT increase would result.

In conclusion, though the sensitivity analysis shows that analysis assumptions could be overstated and trips and VMT would still decrease with operation of the Project, there is still a possibility that a net increase in VMT could occur if the proposed paid parking program and microtransit service do not produce a sufficient reduction in vehicle trips to offset new trips created by the TSEC. Therefore, this impact is considered potentially significant.

VMT OF MAXIMUM CONCERT EVENT

The VMT generated by vehicle trips made to/from the proposed event venue is analyzed for a maximum concert event with 6,000 attendees, 225 venue employees and 12 full-time employees. This analysis assumes the same travel characteristics and parameters as the summer design day analysis. First, the VMT generated by vehicle trips made to/from the proposed event venue is analyzed for event attendees and employees, based on the trip generation of a maximum concert event. Next, the VMT reductions resulting from paid parking and microtransit are analyzed and the net increase in VMT generated by event attendees is determined. The analysis is summarized in the lower half of Table 3.5-29. Based on the trip generation analysis for a maximum event, event attendees generate a total of 3,765 daily one-way vehicle trips to/from the casino driveways without paid parking and microtransit. The allocation of these daily attendee vehicle trips to each area (or Basin entry point) is shown in Table 3.5-20, and the resulting VMT is shown in Table 3.5-29. As indicated in the far-right column, a total of 39,300 VMT are estimated to be generated by event attendees before reductions are taken for paid parking and microtransit.

TABLE 3.5-28: Sensitivity Analysis of Key Paid Parking/Microtransit Reduction Analysis Inputs on Net VMT Impact
Design Day -- 2,500 attendee event

	Base Case	Shaded Volumes Changed From Base Case				
Key Input		Unshaded Volumes Unchanged				
10% Reduction in Shaded Input Value		Individual Factors Changed In Each Scenario				All Factors Changed
% Impact of Paid Parking On:						
Overnight Visitor - Lodged In Casino Core	1.0%	0.9%	1.0%	1.0%	1.0%	0.9%
Overnight Visitor - Lodged Elsewhere or Local	24.0%	24%	21.6%	24%	24%	21.6%
Day Visitor	20.0%	20%	20%	18.0%	20%	18.0%
Daily Microtransit Ridership	946	946	946	946	851	851
Project Net Impact on VMT in Tahoe Basin	-21,411	-21,298	-20,453	-18,597	-21,341	-17,504
Change in Total VMT Reduction From Base Case		113	958	2,814	70	3,907
% Change in Total VMT Reduction From Base Case		-0.5%	-4.5%	-13.1%	-0.3%	-18.2%
25% Reduction in Shaded Input Value		Individual Factors Changed In Each Scenario				All Factors Changed
% Impact of Paid Parking On:						
Overnight Visitor - Lodged In Casino Core		0.8%	1.0%	1.0%	1.0%	0.8%
Overnight Visitor - Lodged Elsewhere or Local	24.0%	18.0%	24.0%	24.0%	24.0%	18.0%
Day Visitor	20.0%	20.0%	15.0%	20.0%	20.0%	15.0%
Daily Microtransit Ridership	946	946	946	710	710	710
Project Net Impact on VMT in Tahoe Basin	-21,204	-19,013	-14,389	-21,236	-11,623	-11,623
Change in Total VMT Reduction From Base Case		207	2,398	7,022	175	9,788
% Change in Total VMT Reduction From Base Case		-1.0%	-11.2%	-32.8%	-0.8%	-45.7%
50% Reduction in Shaded Input Value		Individual Factors Changed In Each Scenario				All Factors Changed
% Impact of Paid Parking On:						
Overnight Visitor - Lodged In Casino Core		0.5%	1.0%	1.0%	1.0%	0.5%
Overnight Visitor - Lodged Elsewhere or Local	24.0%	12.0%	24.0%	24.0%	24.0%	12.0%
Day Visitor	20.0%	20.0%	10.0%	20.0%	20.0%	10.0%
Daily Microtransit Ridership	946	946	946	473	473	473
Project Net Impact on VMT in Tahoe Basin	-20,998	-16,669	-7,381	-21,056	-1,885	-1,885
Change in Total VMT Reduction From Base Case		413	4,742	14,030	355	19,526
% Change in Total VMT Reduction From Base Case		-1.9%	-22.1%	-65.5%	-1.7%	-91.2%
Note: For Summer Design Day						
Source: LSC Transportation Consultants, Inc.						

Next, the reductions in daily vehicle trips due to paid parking, as provided in the trip generation analysis, are shown for each attendee type. Multiplying the daily trips by the average trip lengths yields a total reduction of 8,705 VMT due to paid parking. Adding the reduction in event attendee VMT due to microtransit (46 VMT) yields a total reduction in daily VMT due to paid parking and microtransit of 8,751. In addition, as shown in Table 3.5-22 above, 29,432 VMT are estimated to be generated by new visitor groups to the Basin on a day with a maximum concert event (based on the conservative lodging occupancy assumptions applied on the summer design day).

As shown in the lower right corner of Table 3.5-29, adding the 29,432 VMT generated by new visitor groups to the 39,300 VMT generated by event attendees and subtracting the 8,751 VMT reduction due to paid parking and microtransit yields a total of 59,981 daily VMT generated by event attendees and the associated new overnight visitor groups with a maximum concert event.

VMT OF EVENT VENUE EMPLOYEES – MAXIMUM EVENT

Table 3.5-30 presents an analysis of the VMT generated by employees/staff vehicles associated with a maximum concert event. Without paid parking and microtransit, the event venue employees and service vehicles would generate a total of 216 daily one-way vehicle trips using the casino driveways (reference analysis of Alternative C). Applying the trip distribution pattern to these trips yields the daily vehicle trips generated to/from each origin/destination location. Multiplying these trips by the average trip lengths yields a total of 1,165 VMT generated by event venue employee/service vehicles.

Next, the additional reductions in employee trips and VMT due to microtransit are estimated. The trip generation analysis indicates that there would be a 3 percent reduction in daily employee vehicle trips due to microtransit, which equates to a reduction of 6 one-way employee vehicle trips. The resulting VMT reduction due to microtransit is 16 employee VMT.

Subtracting the 16 VMT saved by microtransit from the 1,165 project-generated employee VMT yields a total increase of 1,149 VMT associated with the proposed event venue employees. As the existing Casino Core employee VMT would decrease by 374, the net increase in employee/service daily VMT within the Basin would be 775.

VMT OF EVENT DELIVERY/SERVICE VEHICLES – MAXIMUM EVENT

All service trips are assumed to consist of new trips to the Tahoe Basin, in order to provide a conservative estimate. In reality some service stops at the TSEC will consist of existing trips already passing by the site for existing customers. As shown in Table 3.5-31, multiplying the weighted average trip length of 12.6 miles by the 100 project-generated daily delivery/service vehicle trips yields a total of 1,265 VMT in the Basin.

VMT GENERATED BY PARKING SPACE SEARCHING – MAXIMUM EVENT

The VMT impact of drivers circulating for free parking is estimated for a summer day with a maximum concert event. Based on the number of visitors arriving to the Casino Core via private automobile (after the mode shifts resulting from paid parking and microtransit), approximately 1,649 daily 1-way trips are expected to generate an additional 0.5 miles of travel searching for free parking, for a total impact of 824 daily VMT.

TABLE 3.5-29

VMT in Tahoe Basin - Visitor Trips - MAXIMUM CONCERT EVENT

Visitor Type	Weighted Average Trip Length (miles) ¹			Daily Visitor Trips						Total Change in VMT Due to Paid Parking & Microtransit	Change in Daily Visitor VMT With Project		
	Length With Paid Parking & Microtransit ¹	Length Without Paid Parking & Microtransit	Length for Microtransit Reduction ¹	Daily Vehicle Trips Without Paid Parking & Microtransit	Percent Reduction in Daily Vehicle Trips Due to Paid Parking	Change in Daily Vehicle Trips Due to Paid Parking	Reduction in VMT Due to Paid Parking	Additional Change in VMT Due to Microtransit	Additional Change in Daily Vehicle Trips Due to Microtransit				
EXISTING VISITORS													
Overnight Visitor - Lodged in Casino Core ²	5.3	--	--	--	--	-157	-832	--	--	-832	-832	-832	-832
Overnight Visitor Lodged Elsewhere or Local Visitor	7.1	--	1.9	--	--	-1,136	-8,066	-315	-599	-8,665	-8,665	-8,665	-8,665
Day Visitor	13.4	--	--	--	--	-1,927	-25,822	--	--	-25,822	-25,822	-25,822	-25,822
Total Existing Visitors						-3,220	-34,720	-315	-599	-35,319	-35,319	-35,319	-35,319
PROPOSED EVENT ATTENDEES													
Overnight Visitor - Lodged in Casino Core ³	--	--	--	0	0%	0	--	--	--	--	--	--	29,432
Overnight Visitor Lodged Elsewhere or Local Visitor	7.9	7.1	1.9	1,770	24%	-425	-3,358	-24	-46	-3,404	-3,404	-3,404	9,163
Day Visitor	13.4	13.4	--	1,995	20%	-399	-5,347	--	--	-5,347	-5,347	-5,347	21,386
Total Event Venue Visitors				3,765	22%	-824	-8,705	-24	-46	-8,751	-8,751	-8,751	59,981

Note: Assumes same travel characteristics as summer design day analysis.

Note: DVTE = Daily Vehicle Trip Ends

Note 1: Average trip lengths for visitors lodged in Casino Core are based on TRPA VMT guidance data. Trip lengths for other visitors are provided in Table 1.

Note 2: Considering both the regional access trip to the Tahoe Region as well as local trips made within the Region.

Note 3: As all attendees lodged in Casino Core are expected to travel to/from the event venue via non-auto modes, there is no reduction in vehicle trips resulting from paid parking and microtransit. The 29,432 VMT is generated by the additional trips (non-event trips) made by new visitor groups over the course of the day.

Source: ISC Transportation Consultants, Inc.

TABLE 3.5-30

Origin/Destination		Average Trip Length (miles)	Daily Event Venue Employee Trips										Project Net Impact on Employee Daily VMT ¹	
			Trip Distribution	DVTE Generated Without Paid Parking & Microtransit		VMT Generated Without Paid Parking & Microtransit		Distribution of Trips Shifting to Microtransit		Reduction in DVTE Due to Microtransit		Reduction in VMT Due to Microtransit		
North Shore	29.4	1%	2	65	--	--	--	--	--	--	65	65		
West Shore	27.4	0%	0	0	--	--	--	--	--	--	0	0		
Echo Summit	13.9	1%	2	32	--	--	--	--	--	--	32	32		
Meyers/Pioneer Trail South	9.4	6%	13	118	--	--	--	--	--	--	118	118		
Tahoe Keys	6.8	6%	12	84	--	--	--	--	--	--	84	84		
Tahoe Valley	5.8	13%	28	163	--	--	--	--	--	--	163	163		
Bijou/Al Tahoe	3.2	21%	46	147	36%	-2	41%	-6	36%	-2	141	-16		
Pioneer Trail North/Ski Run	2.8	15%	32	90	0%	0	0%	-8	41%	-3	82	-72		
Casino Core	0.7	0%	0	0	0%	0	0%	0	0%	0	0	0		
Kingsbury	1	3%	6	6	3%	6	3%	0	3%	0	6	2		
Kingsbury Grade (Daggett Pass)	3.5	16%	35	121	16%	35	20%	--	16%	--	121	121		
Round Hill	2.2	7%	15	34	7%	15	20%	-1	7%	-1	32	-27		
East Shore (North of Round Hill)	6.6	0%	0	0	0%	0	--	--	0%	--	0	0		
Spooner Summit	12.8	11%	24	305	11%	24	--	--	11%	--	305	305		
Total	5.4 ²	100%	216	1,165	100%	216	100%	-6	100%	-6	1,149	775		

Note: Assumes same travel characteristics as summer design day analysis.

Note: DVTE = Daily Vehicle Trip Ends.

Note 1: Project net impact on VMT is the sum of the project-generated VMT and the reduction in existing VMT. Reduction in VMT of existing employees is provided in Table 3.5-21.

Note 2: This is the weighted average trip length.

Source: LSC Transportation Consultants, Inc.

TABLE 3.5-31: VMT in Tahoe Basin – Event Venue Delivery/Service Trip – MAXIMUM CONCERT EVENT

Origin/Destination	Average Trip Length (miles)	Event Venue Delivery/Service Trips		
		Trip Distribution	Daily 1-Way Vehicle-Trips	VMT
Brockway Summit	33.2	5%	5	166
Echo Summit	13.9	20%	20	278
Kingsbury Grade (Daggett Pass)	3.5	15%	15	53
Spooner Summit	12.8	60%	60	768
<i>Total</i>	<i>12.6</i>	<i>100%</i>	<i>100</i>	<i>1,265</i>

Note: Assumes same travel characteristics as summer design day analysis.
 Note: DVTE = Daily Vehicle Trip Ends.
 Note 1: This is the weighted average trip length.
 Source: LSC Transportation Consultants, Inc.

SUMMARY OF VMT IMPACTS WITH MAXIMUM CONCERT EVENT

The VMT impacts are summarized in Table 3.5-32. As shown, the proposed project and paid parking/microtransit program is estimated to generate an increase of approximately 62,587 daily VMT. This increase in VMT would be offset by the reduction of 35,693 existing VMT due to paid parking and microtransit. Summing the two figures and adding 824 VMT generated by parking space searching yields a net increase of 27,718 VMT in the Tahoe Basin over the course of the maximum event day (outside of summer peak period).

Alternatives A and C (without paid parking and microtransit) are estimated to generate a total of approximately 17,306 VMT (16,382 VMT generated by event attendees plus 419 VMT generated by event venue employees/staff plus 505 VMT generated by delivery/service vehicles) on the summer design day. The VMT impacts under Alternative B would be similar to that of Alternatives A and C. As this exceeds the performance standard of no net increase in VMT, this is a significant impact.

Table 3.5-32

South Tahoe Events Center - VMT Summary Maximum Concert Event REVISED	
Description	Daily VMT
<u>MAXIMUM CONCERT EVENT</u>	
Attendees	59,981
Employees	775
Delivery/Service	1,265
<i>Total Proposed Venue</i>	<i>62,021</i>
PROPOSED MICROTRANSIT SHUTTLE TRIPS	566
TOTAL WITH MAXIMUM CONCERT EVENT (Including paid parking & microtransit)	62,587
<u>REDUCTION IN EXISTING VMT (DUE TO PAID PARKING & MICROTRANSIT)</u>	
Visitors	-35,319
Employees	-374
<i>Total Reduction in Existing VMT</i>	<i>-35,693</i>
VMT GENERATED BY PARKING SPACE SEARCHING	824
PROJECT NET IMPACT ON VMT IN TAHOE BASIN	27,718
Note: Assumes same travel characteristics as summer design day analysis. Source: LSC Transportation Consultants, Inc.	

Mitigation

As the proposed TSEC use is estimated to generate a total of approximately 17,306 VMT on the summer design day before reductions are taken for paid parking and microtransit programs proposed by the Project, mitigation measures and monitoring procedures outlined below are required to ensure that the paid parking program and microtransit service (or alternatives developed through coordination with the Main Street Management Plan process) are effective in achieving a net zero increase (or a net reduction) in VMT.

Traffic reduction measures proposed by the Project to meet the performance standard of no net increase in VMT follow and will be coordinated and integrated with the upcoming Main Street Management Plan (MSMP) process to ensure their efficacy:

- Year-Round paid parking program (results in a 1.8% reduction in existing peak summer VMT in the Tahoe Basin that offsets all new VMT generated by a summer event).

Microtransit shuttle service (0.05% additional reduction in existing summer VMT in the Tahoe Basin) that operates peak summer and winter (June 15 through Labor Day weekend and December 1 through April 1) in year 1 operations and moves to year-round operations by year 6.

- A new bus pullout on U.S. 50 with a shelter near the main entrance of the proposed event venue building.
- Project contributions to transportation infrastructure improvement projects. Pursuant to Section 65.2.5 of the TRPA Code of Ordinances, TRPA assesses an air quality mitigation fee to offset regional and cumulative impacts of a change in operation. Specific regional and local VMT reduction strategies covered by the fee include, but are not limited to transit facility construction, transportation systems management measures and transfer and retirement of offsite development rights.

Potential Additional Measures

Additional transportation demand management (TDM) measures may be required to meet the performance standard and shall be integrated with the upcoming MSMP process. Potential additional measures that may need to be considered as part of coordinating with the MSMP process or from monitoring results of proposed project traffic reduction measures are as follows:

- The maximum event size during summer peak periods could be reduced, or the total number of allowable events during summer peak periods could be limited.
- Coordinate event dates with large-scale events held at the Harvey's outdoor arena to avoid overlap with large events at the TSEC or consider reductions to the number of annual events held at the outdoor arena.
- The lack of public transit service after 8:00 PM could be addressed. For instance, the microtransit program could be augmented at the end of major events (over 500 attendees) to ensure that exiting transit riders can be adequately accommodated. The specific level of service will vary depending on specifics of the event (size of event, those generating a high proportion of local or day visitors vs. those generating a high proportion of overnight visitors, timing of the event, lodging packages marketed as part of the event, etc.). The microtransit app should be used to group passengers and organize bus trips to best serve the specific demand of the individual event. Service should be designed to attain a standard of an average wait time of no more than 15 minutes.
- Lodging and event marketing materials could clearly define the required parking fees (separate from the room rate or event ticket cost) and could also provide information regarding alternative forms of transportation.
- Secured bicycle parking could be provided as part of the Events Center facility.
- Employee showers and locker rooms could be provided.

- The TSEC Facility management could designate an Employee Transportation Coordinator (ETC), responsible for implementation and All employees could be informed as to the availability of free transit service.
- Casino Core paid parking revenues could be used to provide free TTD bus passes for Casino Core employees. All employees would then be informed as to the availability of free transit service.
- Alternative transportation information could be provided to all employees.
- A single rideshare matching program could be implemented for employees of all Casino Core major employers.
- The TSEC management firm could be a member of the South Shore Transportation Management Association.
- The TSEC Project could provide a transit capacity improvement to reduce traffic on U.S. 50. For example, the TSEC Project could provide the subsidy cost (payment to TTD) for an additional fixed route bus operating during the peak summer and winter seasons. Or, the TSEC Project could provide payments to TTD to offset the loss of revenue associated with making some or all TTD routes free to the rider. (This is also a potential mitigation measure under roadway LOS impacts.)
- Event marketing materials could encourage the use of public transit and non-auto access to the event.
- Preferential carpool/vanpool parking.
- Dedicate land for bike trails.
- Employer-sponsored vanpool/shuttle.
- Parking supply could be managed to reduce the convenience of auto access to the site. This could include expansion of carpool/vanpool parking, or reduction in total parking supply. Any spillover parking would need to be controlled, such as via parking restrictions or on-street market rate parking.
- Participation in offsite/out of basin parking efforts to facilitate transit.

The mitigation measures referenced above and refined as part of the Project conditions, or other similar measures would meet the requirements of TRPA Code of Ordinance Section 65.5.2 (Employer-Based Trip Reduction Program). In addition, the transportation demand management measures shall be required to be integrated with the upcoming MSMP process.

In summary, there are combinations and levels of the above described mitigation measure strategies

that would offset new VMT generated by the TSEC Project. As, such with implementation of the project proposal or modifications developed through coordination with the MSMP process, this impact would be considered less than significant.

Monitoring and Adaptive Management Plan

A mitigation monitoring plan that includes the recommendations below or methods refined as part of Project conditions will be required to document the benefits of the paid parking and microtransit programs. A typical means of monitoring the transportation effects of a proposed project is to conduct traffic counts and compare total traffic before and after construction of a project. In the case of the TSEC, however, there are several factors that merit consideration:

- A count program would need to be extensive, as there are a total of 17 vehicular access points into the casino properties. Data from Streetlight or other similar transportation data could also be used to replace or supplement traffic counts.
- Even if all 17 driveways were counted (over multiple days), this would not encompass all vehicle-trips generated by the casino core, as some employees and guests traveling to the casinos park outside the casino parking lots. (This is expected to increase with paid parking.) Simply counting vehicles parked in nearby on-street or other parking areas outside the core would not provide a quantitative value of casino-generated traffic volumes, as these vehicles would be mixed with trips generated by other land uses.
- There are many factors beyond paid parking, expanded transit services and other TDM strategies that can impact traffic volumes generated by the casino core, such as the following:
 - o Changes in the local and regional economy.
 - o Changes in gasoline prices.
 - o Marketing programs.
 - o Changes in competing gaming properties (such as the closure of a competing property).

These other factors may well have impacts greater than the impacts of TDM strategies.

As a result of these factors, a numeric vehicle-trip count monitoring standard would not be an effective measure of the results of TDM measures by itself. Instead, a non-auto-driver travel mode standard is recommended, defined as the proportion of all casino person-trips over a busy summer day that occur without generating an additional private vehicle-trip (including auto passengers). The TRPA has for many years conducted summer travel mode surveys at key recreational/commercial activity centers around the Tahoe Region, including the casino core area. Most recent summer surveys were conducted in 2010, 2014 and 2018. These surveys provide the basis for an existing proportion of travelers to the casino core that are not auto drivers.

Additional surveys could be conducted in the summer of 2020 not only to best define a “before Events Center” condition, but also to compare conditions in the years after implementation of formal paid parking at the major casinos to conditions without paid parking.

The Monitoring Plan could include the following components:

- Facility Management could provide funding to TRPA to fund expanded annual peak summer Mode Share Surveys for the Casino Core area over three summers. These surveys could be designed to identify individual's travel mode to the casino core (including those driving to the immediate vicinity and walking to the casino core). The results could be analyzed to identify the proportion of total person-trips by the following modes:
 - o Private auto driver
 - o Private auto passenger
 - o Walking
 - o Bicycle/scooter/other personal mobility device
 - o Transportation Network Company/Taxi passenger
 - o Public transit
 - o Private shuttle/bus service

Survey results could be compared to an analysis of previous surveys to identify trends in the ratio of auto vehicle-trips to the casino core to the total person-trips. The goal of the TDM program could be to reduce in this ratio by a specific percentage.

Facility Management could utilize a neutral party to conduct surveys of attendees at TSEC events for a minimum of three years, similar in scope to those currently conducted for the Harveys/Harrah's outdoor concert events.

- An annual survey of employee commute patterns could be conducted for the casino core major employers.
- Microtransit services could be monitored with regards to ridership, wait times, on-time performance and capacity issues. Passenger surveys could be conducted to identify trip purpose, demographics and other factors. An annual report could be prepared and provided to the public agencies that summarizes this data and identifies strategies to address deficiencies.

This monitoring approach will facilitate an adaptive management strategy that will allow for changes to the paid parking and microtransit programs in coordination with the public permitting and transit providing agencies in reaction to the monitoring results.

Additional traffic reduction measures from the list above would be necessary to achieve a net zero impact on VMT under Alternatives A, B and C, as these alternatives do not include a paid parking program and microtransit service.

PARKING

Impact: **The Proposed Project would generate a maximum parking demand of approximately 1,470 additional spaces associated with a maximum-sized concert, assuming summer travel characteristics. Alternatives A, B and C would generate a maximum parking demand of approximately 1,890 additional spaces associated with a maximum-sized concert, assuming summer travel characteristics. The existing parking supply in the casino core area well exceeds the demand throughout the year. As the existing parking supply in the casino core area can accommodate this demand on any day of**

the year without another large special event, no parking deficiencies are expected. However, under the Proposed Project with paid parking, neighborhood parking impacts would occur.

Analysis: First, the parking demand of the proposed project is estimated, assuming the anticipated program. Next, the existing and proposed parking supply at MontBleu is analyzed, and the parking supply at other gaming properties in the casino core area is estimated. Finally, the overall parking balance with the proposed project is evaluated.

Parking Demand

The parking demand analysis for the proposed TSEC is based upon expected attendee and employee levels and a review of available information regarding travel characteristics in the vicinity. The analysis of a maximum concert event is presented in Table 3.5-33, and reflects the following steps:

1. A maximum concert event would have up to 6,000 attendees.
2. The applicant indicates up to approximately 225 employees would be associated with a peak event, including food and beverage services. In addition, up to 12 full-time employees may be associated with the proposed project, including full-time event center employees and staff associated with other offices on site (such as the Tahoe Chamber of Commerce and Lake Tahoe Visitors Authority).
3. The factors for (1) the proportion of persons accessing the TSEC by auto and (2) the average vehicle occupancy of those accessing by auto are based on the assumptions in the trip generation analysis for the summer design day.
4. Next, the proportion of attendees that will be overnight visitors (non-Tahoe residents staying overnight in Tahoe), day visitors (such as Reno/Carson City residents attending an event without staying overnight) and local Tahoe Basin residents. These proportions were based upon data from the summer concert surveys and information discussed in the Feasibility Study, as well as the relative population of the Tahoe Basin versus other areas within a reasonable drive distance for a day trip. As shown in Table 3.5-34, these proportions vary significantly, reflecting the differing markets for the various types of events.
5. Multiplying the number of persons by the auto mode proportion and dividing by the average vehicle occupancy yields the number of peak parked vehicles for attendees (including vendors) and employees. Summing them provides the total peak parking demand for a maximum concert event of approximately 1,470 spaces as shown in Table 3.5-33.

Parking Demand on Summer Design Day

The parking demand on a busy summer day with a 2,500-attendee event (the “design day”) is summarized in Table 3.5-35. As shown, the attendees are estimated to generate a parking demand of approximately 570 spaces. Adding 35 spaces for venue employees plus 5 spaces for full-time employees assumed to be on-site during the event yields a total parking demand of 610 spaces.

TABLE 3.5-33: Events Center – Parking Demand Analysis – Maximum Concert Event

	Number of Persons onsite at Peak Time	Auto Travel Mode	Average Vehicle Occupancy	Maximum Parking Demand
<u>Maximum Concert Event</u>				
Attendees	6,000	63%	2.77	1,360
Venue Employees	225	55%	1.30	100
Full-Time Employees	12	55%	1.30	10
<i>Total</i>	<i>6,237</i>			<i>1,470</i>
Note: Assumes same travel characteristics as summer design day analysis, including paid parking and microtransit. Source: LSC Transportation Consultants, Inc.				

TABLE 3.5-34: Estimated Attendee Proportions by Event Type

	Event Type				
	Conventions and Corporate Conferences	Corporate Events	Concerts and Entertainment ¹	Public/ Consumer Shows	Sporting Events
Overnight Visitors	85%	97%	57%	10%	70%
Day Visitors	10%	2%	28%	70%	20%
Local Residents	5%	1%	15%	20%	10%
Note 1: Attendee proportions for concerts/entertainment events are based on LTVA 2017 summer concert survey data.					

Existing MontBleu Parking Supply

MontBleu currently has a total of 1,494 parking spaces (660 in the garage plus 834 surface spaces, including *porte cochere* areas). To provide the basis for an evaluation of available parking at MontBleu, parking counts were conducted for all parking spaces (garage and surface) at MontBleu on Saturday, August 12, 2017, from noon through 8:00 PM. The results are summarized in Table 3.5-36, and the count data is contained in Appendix F-7. The results indicated a maximum existing parking demand (at 8:00 PM) of approximately 753 spaces. This is equivalent to approximately 50 percent of the available spaces. Note that the paid parking program at the casinos was not in effect at the time of the parking counts.

TABLE 3.5-35: Events Center – Parking Demand Analysis on Summer Design Day – Proposed Project

	Number of Persons onsite at Peak Time	Auto Travel Mode	Average Vehicle Occupancy	Maximum Parking Demand
<u>Summer Design Day</u>				
Attendees	2,500	63%	2.77	570
Venue Employees	75	55%	1.30	35
Full-Time Employees	10	55%	1.30	5
<i>Total</i>	<i>2,585</i>			<i>610</i>
<i>Source: LSC Transportation Consultants, Inc.</i>				

With implementation of the proposed paid parking program and microtransit service, the existing peak parking demand at MontBleu is expected to decreased by about 80 cars, for a total demand of 673 spaces.

Proposed MontBleu Parking Supply

With implementation of the project, the total number of surface parking spaces would be reduced by 468. This would bring the MontBleu parking space total down to 1,026 (1,494 minus 468) and indicates that at 100 percent occupancy 353 spaces (1,026 minus 673) would be available at MontBleu for TSEC parking. As such, the proposed on-site parking supply could accommodate over half (58 percent) of the demand of a 2,500-attendee event during periods with 100 percent occupancy at MontBleu. Off-site parking would need to be provided for a 2,500-attendee event during periods with peak occupancy rates.

Parking Supply at Other Gaming Properties in Summer Months

As currently occurs for large events in the area (for example, Harvey’s outdoor concerts), off-site parking for the proposed event center will be coordinated with the surrounding properties. Excess parking spaces are potentially available at the other three major South Shore gaming properties (Harvey’s, Harrah’s, and Hard Rock). TRPA staff conducted a walkshed analysis using a ¼ mile and ½ mile network and buffer. The existing parking supply in the casino core area was inventoried during August 2017. Parking counts were conducted on two busy summer evenings without a Harvey’s concert event and without paid parking (Friday and Saturday, August 11-12, 2017), in order to capture a “snapshot” of parking availability for the proposed MontBleu events. Additionally, parking counts were conducted during a very large concert event (The Who) on Wednesday, August 16, 2017, in order to capture parking conditions when paid parking is in effect. Specifically, starting at roughly 8 PM (and shortly after the headliner took the stage on the concert day), every car parked in the casino core was counted, as well as in the lakeside neighborhood on the California side, including the following locations:

- The 4 major casinos
- Parking lot behind Doty’s
- On-street spaces on Lake Parkway, Stateline Ave, Bellamy Ct, and Transit Way

- On-street spaces on each side-street between Stateline Avenue and Park Avenue on the lake side of the highway
- Public parking structure at the corner of Heavenly Village Way/Bellamy Court
- Paid parking lot behind Raley's

Additionally, vehicles with "tailgaters" were counted in the Hard Rock lot and along Lake Parkway, Stateline Avenue, and adjacent on-street areas. Note that counts at the public parking garage were only conducted during the concert event. The results are summarized in Table 3.5-37, and the detailed parking count data for each property is provided in Appendix F-7.

TABLE 3.5-36: Montbleu Parking Counts and Spaces Available for Events Center Parking

Hour	Garage	Surface	Total
<i>Capacity</i>	660	834	1,494
Parking Count			
12:00 PM	175	314	489
1:00 PM	199	315	514
2:00 PM	208	377	585
3:00 PM	202	402	604
4:00 PM	246	421	667
5:00 PM	249	429	678
6:00 PM	270	435	705
7:00 PM	295	458	753
Percent Utilization			
12:00 PM	27%	38%	33%
1:00 PM	30%	38%	34%
2:00 PM	32%	45%	39%
3:00 PM	31%	48%	40%
4:00 PM	37%	50%	45%
5:00 PM	38%	51%	45%
6:00 PM	41%	52%	47%
7:00 PM	45%	55%	50%
Spaces Eliminated by Proposed Facility			-468
Total Spaces After Event Facility Constructed			1,026
Available Spaces After Event Facility Constructed: 100% Occupancy			273
Note: Counts conducted Saturday, August 12, 2017.			
Source: LSC Transportation Consultants, Inc.			

TABLE 3.5-37: Parking Counts Summary

TOTAL PARKING									
		Legal Spaces Occupied				Wells Fargo	Illegal	Total Cars Parked	Total Spaces Available
		On- Street	Lots	Total	% Occupied	Lot			
	Max Occupancy	381	7,742	8,123		32			
TOTAL	Wednesday (Event Day) 8/16/17	198	4,540	4,738	58%	31	29	4,798	3,325
	Friday 8/11/17	154	3,800	3,954	49%	0	5	3,959	4,164
	Saturday 8/12/17	139	4,079	4,218	52%	0	5	4,223	3,900

Note 1 Total legal spaces excludes the private Wells Fargo Lot, as it may not be available in the future.

As shown, the total parking supply (including MontBleu) is over 8,100 spaces. The highest number of parked cars was approximately 4,798, which occurred during the concert event. The results indicate that the casino core area parking spaces are only roughly 50 to 60 percent occupied on busy summer evenings, with or without a concert event. As indicated in the far right column of the table, approximately 3,325 parking spaces are estimated to be available in the casino core during a large concert event and at least 3,900 spaces without a concert event. That is, the existing parking supply well exceeds the demand during the summer months. Note that the parking spaces in the neighborhood south/west of Stateline that are currently in use during Harvey’s concert events would likely be less-used by TSEC attendees, given the longer walking distance to the TSEC compared to the Harvey’s outdoor venue. Consequently, tailgating is also less likely to occur in this neighborhood before/during TSEC activities.

Parking Supply at Other Gaming Properties in Non-Winter Months

The existing parking supply in the casino core area during non-winter months is also evaluated. As shown in Table 3.5-38, the other three major gaming properties can accommodate up to approximately 5,381 vehicles in the non-winter seasons. Subtracting the parking demand from the available parking supply, at peak occupancy there are an estimated 2,384 unused spaces in the non-winter seasons at the other three major gaming properties.

Comparison of Demand and Available Supply

Table 3.5-39 provides a comparison of the parking demand with the potential supply, assuming 100 percent hotel occupancy. The net balance (supply minus demand) is identified. A review of this table indicates that including all available unused spaces at the other three major properties, there would be a net positive parking balance for all potential types of events. Even with the event type of greatest parking demand (a maximum concert event in the winter season), at least 1,187 unused spaces would still be available among the four properties. This figure does not account for the increase in parking availability at the four properties as a result of the proposed paid parking program and microtransit service.

TABLE 3.5-38: Existing Parking Spaces at Other Stateline Gaming Properties

Property	Existing Parking Supply	Estimated Parking Demand at 100% Occupancy ¹	Excess Parking Availability at 100% Occupancy ²
Harrahs			
Total	1,718	1,077	641
Harveys			
Total - Non-Winter	2,313	1,161	1,152
Hard Rock Casino			
Total	1,350	759	591
TOTAL - Non-Winter	5,381	2,997	2,384
<p>Note: Excludes porte cochere and bus parking. Note: Includes space that is planned or under construction Note 1: Based on observed demand on busy summer evening (Aug 11-12, 2017) without concert event. Note 3: Assuming no special events occupying parking or generating parking demand. Source: LSC Transportation Consultants, Inc.</p>			

TABLE 3.5-39: Comparison of Events Center Parking Demand and Supply

Type of Event	Parking Demand Non-Winter	Parking Balance at 100% Occupancy -- Excess Available Spaces ¹	
		Montbleu Only	All 4 Major Casino Properties
		Non-Winter	Non-Winter
Concerts and Entertainment			
Maximum Event	1,470	-1,197	1,187
<p>Note 1: Does not reflect additional parking availability due to proposed paid parking and microtransit service. Source: LSC Transportation Consultants, Inc.</p>			

Comparing this figure with the available unused parking at the three other properties, it can be concluded that for the largest events, off-site parking would not necessarily be needed at all three other properties (even with 100 percent occupancy at these other properties). The number of other properties that would be involved, as well as the level of occupancy at these other properties.

While the figures in Table 3.5-39 present the “worst case” reflecting 100 percent occupancy of the existing hotel, occupancy in much of the year (particularly on weekdays) would provide additional unused existing parking for TSEC use. With additional information regarding daily and monthly variation in occupancy and activity levels at the major gaming properties, it would be possible to develop a detailed TSEC management strategy. This could take advantage of the available parking in off-peak periods to minimize the need for and complexity of off-site parking, and optimize the scheduling of larger events.

Neighborhood Parking Impacts

The project impact on neighborhood street parking conditions is evaluated. The parking snapshot counts indicate at least 216 free, legal on-street parking spaces are available along the neighborhood streets located in California on the lake-side of US 50 on a busy summer evening (without a Harvey's concert event). It can be expected that, absent any active parking control program, these spaces would be used by Events Center motorists shifting from the casino properties due to paid parking. This is considered a potentially significant impact.

Although Alternatives A, B and C would have a greater parking demand than the Proposed Project, the parking supply in the casino core can accommodate this demand. Note that the on-site parking supply under Alternative B would be different than the other alternatives based on its location outside of the existing surface parking area.

Mitigation: A parking management and monitoring plan shall be prepared and implemented with applicable City and County jurisdictions to address potential neighborhood parking impacts.

TRANSIT

Impact: **The project could potentially result in a surge in transit demand at event start and end times. However, the potential increase in ridership is expected to be accommodated with the existing transit system and proposed microtransit service. Furthermore, the existing TTD and proposed microtransit systems have adequate capacity to accommodate the new passengers shifting from the auto mode. The project proposes to relocate the existing eastbound bus stop on U.S. 50 farther to the east, near the main entrance of the proposed Events Center building. In addition, a new bus pullout would be provided at this location, along with a shelter. Adequate transit conditions are expected to be provided with the project.**

Analysis: The impact of the proposed project on transit systems and facilities is evaluated. There are two major transit centers in the area: the Stateline Transit Center on Transit Way at Embassy Suites, and the Kingsbury Transit Center at the Douglas County offices/Kahle Park. Neither of them is physically affected by this project. There will be a need for a bus stop that serves the proposed TSEC. The project proposes to relocate the existing bus stop in front of MontBleu farther to the east, near the main entrance of the proposed TSEC building. The project plans include a new eastbound bus pullout (with a shelter) at this location.

With implementation of the project, there could potentially be a surge in transit demand at event start and end times. Transit passengers would be paying transit fares to help support the transit system. However, based on the results of the summer concert surveys, none (0 percent) of the event attendees arrive via public transit, and only a small portion (approximately 7 percent) get to the venue via Uber/Lyft/taxi, hotel shuttle, or private shuttle. As such, the proposed project would not be expected to overwhelm the existing transit system with large increases in ridership. Additionally, as discussed in the trip generation analysis, the existing TTD and proposed microtransit systems have adequate capacity to accommodate the new passengers shifting from the auto mode.

With the project, there may be a need to re-align transit routes, but this cannot be determined until a later stage of the project. Adequate transit conditions are expected with the project.

Alternatives A, B and C have the same conclusions as the Proposed Project.

Mitigation: No mitigation is required.

PEDESTRIAN/BICYCLIST

Impact: The Proposed Project, Alternative A and Alternative C would provide adequate pedestrian and bicycle facilities. Alternative B would provide poor pedestrian connectivity.

Analysis: The existing and proposed pedestrian walkways provide connectivity throughout the site as well as to the casino core. The existing sidewalks and bike lanes along Lake Parkway are consistent with the proposed transportation network identified in the Tourist Core Area Plan. Bike racks are proposed to be provided near the TSEC building entrance, consistent with Area Plan policy (Policy T-2.4). As such, the proposed project is considered to provide adequate pedestrian and bicycle facilities.

Alternatives A and C would also provide adequate pedestrian and bicycle conditions. However, Alternative B would provide poor pedestrian connectivity, as pedestrians must navigate through the parking lot or casino to travel between US 50 and the TSEC entrance.

Mitigation: No mitigation is required.

CONSTRUCTION TRAFFIC

Impact: The project would result in temporary construction traffic. Onsite construction staging areas would be established to minimize heavy equipment trips on surrounding roadways. This impact would be less than significant.

Analysis: During the earthwork phase, the amount of cut is expected to outweigh the fill, resulting in material off-hauling activities. Also, structural fill material may be imported, generating additional truck hauling trips. A Traffic Control Plan (TCP) will be developed by the applicant in coordination with TRPA, NDOT and Douglas County staff prior to construction activities. The TCP would address project construction traffic and parking. At a minimum, the plan would address truck haul routes, truck turning movements at the project driveway(s), traffic control signage, bicycle and pedestrian traffic, restriction of hauling activities to off-peak periods, on-site circulation and staging areas, and monitoring of the in-place traffic control to implement traffic control revisions if necessary.

The impacts would be the same under Alternatives A and C. Under Alternative B, there would be more excavated material to be hauled off the site.

Mitigation: No mitigation is required.

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3.6 AIR QUALITY / GREENHOUSE GASES

AFFECTED ENVIRONMENT

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources. Topography and climate/meteorology are also important. The meteorological conditions of wind speed, wind direction, and air temperature gradients interact with physical features of the landscape to determine the movement and dispersal of air pollutants.

The distinctive topographic features of the project area are Lake Tahoe and the Sierra Nevada mountains located adjacent to the project area. The project area also includes high-rise casino towers and an urban environment, with roadways, structural development, and asphalt areas. The Lake Tahoe Basin is considered to have an alpine climate, characterized by cold, wet winters and temperate summers, caused by seasonal movement of a Pacific high-pressure system that migrates north in the summer, and south in the winter. When the high-pressure system moves north in summer, temperatures are typically in the upper 70s and low 80s (degrees Fahrenheit), with low humidity and clear skies, although thunderstorms from tropical area generated in the south are not uncommon. Winter brings highly variable amounts of precipitation in the form of snow with freezing temperatures, winds, and lake and valley fog. Winter thermal inversions in the stable air trap pollutants near the ground, which increases air pollutant concentrations. The South Lake Tahoe area, including Stateline, NV, is prone to elevated winter air pollutant levels as a result of the thermal inversion in conjunction with vehicle and wood stove/fireplace emissions.

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. Located in the High Density Tourist District along U.S. 50, the Proposed Action is adjacent to the primary travel route through the area. Although the project area is not a particularly concentrated area for wood stove emission generation since it is a tourist/commercial area rather than a residential area, winds can blow in wood stove emissions from adjacent residential communities.

Air Quality Standards

The EPA, TRPA, and Nevada Department of Environmental Protection (NDEP) Bureau of Air Pollution Control, regulate air quality within the project area. NDEP utilizes the EPA's air quality standards and has established principal ambient air pollution standards for Nevada, most of which are the same as EPA's standards.

The EPA has established National Ambient Air Quality Standards (NAAQS) for ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), respirable particulate matter (with aerodynamic diameter less than or equal to a nominal 10 micrometers, PM₁₀), fine particulate matter (with aerodynamic diameter less than or equal to a nominal 2.5 micrometers, PM_{2.5}), and airborne lead. The NAAQS are of two types: primary and secondary. Primary standards are designed to protect human health, including the health of "sensitive" populations, such as asthmatics, children, and the elderly, with an adequate margin of safety. Secondary standards are designed to protect public welfare, including protection against decreased visibility and harm to animals, crops, vegetation, and buildings. Areas with air pollution levels above these standards can be designated by the EPA as "nonattainment areas" subject to stringent planning and pollution control requirements. TRPA and Nevada have also developed threshold standards. The standards for various pollutants are shown in Table 3.6-1. California standards

are also included for reference as California air management districts in the TRPA jurisdiction and adjacent to the Project area utilize these standards. The California standards are generally set at concentrations lower than the federal standards and in some cases have shorter averaging periods. This table also shows the TRPA 8-hour CO standard, which is more stringent than the California and national standards.

The Nevada portion of the Lake Tahoe Basin (Douglas County) is in attainment for all criteria air pollutants (EPA, 2018). TRPA designations indicate the area is at or somewhat better than target for ozone and visibility reducing particles, considerably better than target for fine particulate matter (PM_{2.5}) and carbon monoxide, somewhat worse than target for respirable particulate matter (PM₁₀), and has implemented management standards for nitrogen dioxide and odor (TRPA 2012a).

Hazardous air pollutants (HAPs) are pollutants that cause or contribute to an increase in serious illness, mortality, or are otherwise hazardous to human health. Typically, HAPs occur in trace quantities; however, human health risks can occur in response to low concentrations of these pollutants. Since there are no heavy industrial operations in the Project area, HAPs in the vicinity of the Project are attributed to diesel emissions and vehicle exhaust along area roadways, particularly U.S. 50.

Greenhouse Gases

Greenhouse gases (GHGs) are a set of compounds in the atmosphere that absorb more of the outgoing long-wave radiation from the surface of the earth than incoming short-wave solar radiation that affect the global energy balance of the atmosphere-ocean-land system, and thereby affect climate. The regulated GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

GHG emissions impact the world's climate and environment. Climate has been changing throughout history due to forces unrelated to human activity, such as solar energy input variation, volcanic activity, and changing concentrations of key atmospheric constituents like methane and carbon dioxide. Large-scale combustion of fossil fuels (i.e., coal, oil, and natural gas) by humans since the 1800s has resulted in significant increases in emissions of CO₂. The resulting increase in atmospheric levels of CO₂ corresponds to a simultaneous increase in average surface temperatures at many locations around the world.

Sensitive Receptors

A sensitive receptor is a location where people, especially children, the elderly, and persons in ill health might be found, and where there is a reasonable expectation of continuous human exposure, such as residences, hospitals, clinics, elder-care facilities and schools. The Project is adjacent to the MontBleu Casino and Resort, as well as near many other hotels. The nearest residences are located along Irwin Drive, less than 0.5 mile from the Project, while the nearest school is Bijou Community School, located approximately 2 miles southwest of the Project and Tahoe Douglas Christian Preschool approximately one mile north-northeast of the Project.

Table 3.6-1

Ambient Air Quality Standards

Pollutant	Averaging Time	TRPA Threshold Standards ^f	California ^{a,b}	Nevada	National ^c	
					Primary ^{b,d}	Secondary ^{b,e}
Ozone (O ₃)	1-hour	0.08.ppm	0.09 ppm (180 µg/m ³)	0.10 ppm (195 µg/m ³) ^e	–	Same as primary standard.
	8-hour	–	0.070 ppm (137 µg/m ³) LTAB: 0.08 ppm	–	0.075 ppm (147 µg/m ³)	
Carbon Monoxide (CO)	1-hour	–	20 ppm (23 mg/m ³) ^e	35 ppm (40 µg/m ³)	35 ppm (40 mg/m ³)	Same as primary standard.
	8-hour	9 ppm	9.0 ppm (10 mg/m ³) Lake Tahoe: 6 ppm (7 mg/m ³)	6 ppm (7 mg/m ³)	9 ppm (10 mg/m ³)	
Nitrogen Dioxide (NO ₂) ^e	Annual Arithmetic Mean	–	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary standard.
	1-hour	–	0.18 ppm (339 µg/m ³)	–	100 ppb (188 µg/m ³)	–
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	–	–	0.030 ppm ^e (80 µg/m ³)	–	–
	24-hour	–	0.04 ppm (105 µg/m ³)	0.14 ppm ^e (365 µg/m ³)	–	–
	3-hour	–	–	0.5 ppm (1,300 µg/m ³)	–	0.5 ppm (1300 µg/m ³)
	1-hour	–	0.25 ppm (655 µg/m ³) ^e	–	75 ppb (196 µg/m ³)	–
Respirable Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	–	20 µg/m ³ ^e	50 µg/m ³	–	Same as primary standard.
	24-hour	–	50 µg/m ³ ^e	150 µg/m ³	150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	–	12 µg/m ³ ^e	–	12.0 µg/m ³ ^e	15 µg/m ³
	24-hour	–	–	–	35 µg/m ³	Same as primary standard.

Pollutant	Averaging Time	TRPA Threshold Standards ^f	California ^{a,b}	Nevada	National ^c	
					Primary ^{b,d}	Secondary ^{b,e}
Lead (Pb)	Calendar Quarter	–	–	1.5 µg/m ³	1.5 µg/m ³	
	30-day Average	–	1.5 µg/m ³	–	–	Same as primary standard
	Rolling 3-Month Average	–	–	–	0.15 µg/m ³	Same as primary standard
Hydrogen Sulfide (H ₂ S)	1-hour	–	0.03 ppm (42 µg/m ³)	0.08 ppm (112 µg/m ³)	No national standard.	
Sulfates	24-hour	–	25 µg/m ³	–		
Vinyl Chloride	24-hour	–	0.01 ppm (26 µg/m ³)	–		
Visibility-Reducing Particles	8-hour (10am to 6pm PST)	Regional: Extinction coefficient of 25 Mm ⁻¹ (157 km, 97 miles) 50 percent of the year, 34 Mm ⁻¹ (115 km, 71 miles) 90 percent of the year. Subregional: 50 Mm ⁻¹ (48 miles) 50 percent of the year, 125 Mm ⁻¹ (19 miles) 90 percent of the year.	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent (0.07 per kilometer for the LTAB).	No state standard.	No national standard.	

Notes: µg/m³ = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million; TRPA = Tahoe Regional Planning Agency

- a. California standards for ozone, CO (except for 8-hour Lake Tahoe), SO₂ (1-and 24-hour), NO_x, particulate matter (PM₁₀ and PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- b. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr. ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- c. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM₁₀ 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. The PM_{2.5} 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.
- d. National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- e. National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- f. Applicable in the Lake Tahoe Basin. The CO limit is discussed in Table 3-1 of TRPA, *2011 Threshold Evaluation Report*, October 2012.
- g. The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- h. 3-year average of 98th percentile of yearly 1-hour daily maximum concentrations.
- i. 3-year average of 99th percentile of yearly 1-hour daily maximum concentrations.
- j. EPA. National Ambient Air Quality Standards for Particulate Matter, Final Rule, Federal Register, Volume 78, No.10, pp. 3086-3287, January 15, 2013.

IMPACT EVALUATION CRITERIA

The California Emissions Estimator Model (CalEEMod) version 2016.3.2, an air emissions modeling program, provides a quantification of emissions levels during construction and operation. The model also quantifies greenhouse gas emissions to determine if impacts occur. The analysis of the Proposed Action utilizes these modeling results. Modeling is based on the Project but does not account for any reduction of vehicle trips associated with the proposed paid parking and micro transit programs in order to provide a more conservative analysis. The modeling conservatively assumed that project construction/grading phases could begin as early as 2020 and project improvements are anticipated to take up to 21 to 24 months spread out over 3 calendar years, with completion in early 2022. Consistent with SMAQMD guidance and TRPA standards used for the U.S. 50/South Shore Community Revitalization Project, construction activities were summed and amortized over 25 years to represent annual emissions over the life of the project. Note that SMAQMD guidance allows non-residential projects to amortize construction emissions over 40 years. However, for a conservative estimate (i.e., to avoid the risk of understating the impact), a 25-year life span for the project was applied to the emissions modeling. For a detailed description of model input and output parameters and assumptions, refer to Appendix G.

Criteria Air Pollutants, Emission Limits, and Ambient Air Quality Standards

Neither EPA nor the State of Nevada have established quantitative environmental impact thresholds of significance for air quality under NEPA. The TRPA threshold standards are being applied in this analysis. Since mass emissions significance criteria have not been adopted by NDEP or Douglas County, a criterion of 82 pounds per day of ROG, NO_x, or PM₁₀ emissions, which is used by other adjacent jurisdictions and TRPA, is applied in this analysis to determine whether a violation of air quality standards would occur. An air quality impact is defined as a significant increase of the air emissions level in the area, resulting in air quality levels that exceed air quality thresholds listed in Table 3.6-1, generate 82 pounds per day or more of ROG, NO_x, or PM₁₀, or exacerbate existing high levels of criteria pollutants. In addition, an impact occurs if Project air emissions conflict with implementation of an applicable air quality plan, expose sensitive receptors to substantial pollutant concentrations or objectionable odors. In regard to criteria pollutants significant impacts also occur when the Project results in construction generated emissions that exceed NDEP standards for heavy-duty equipment opacity and PM emissions-fugitive dust standards.

For construction activities, the adjacent El Dorado County Air Pollution Control District (EDCAPCD) established a project-level average daily pollutant emission significance threshold of 82 lbs/day for NO_x or ROG emitted by any combination of equipment.¹ Construction emissions of PM₁₀ or CO should not violate ambient air quality standards. Heavy-duty Diesel-fueled mobile pieces of equipment are the dominant sources of criteria pollutant emissions generated by construction.

For operation of a proposed project, the same project-level average daily significance threshold of 82 lbs/day was set by the District for NO_x or ROG emissions² from all sources. The District considers CO, PM₁₀ and SO₂ emissions from operation of a land development project to be less than significant if the NO_x and ROG emissions from the project are less than the same 82 lbs/day limit.³

1 El Dorado AQMD. *Guide to Air Quality Assessment: Determining Significance of Air Quality Impact Under the California Environmental Quality Act (CEQA)*, First Edition, Chapter 4, Table 4.10, page 17, February 2002,

http://www.edcgov.us/Government/AirQualityManagement/Guide_to_Air_Quality_Assessment.aspx

2 El Dorado AQMD. *Guide to Air Quality Assessment: Determining Significance of Air Quality Impact Under the California Environmental Quality Act (CEQA)*, First Edition, Chapter 5, Table 5.1, page 2,

http://www.edcgov.us/Government/AirQualityManagement/Guide_to_Air_Quality_Assessment.aspx

3 El Dorado AQMD. *Guide to Air Quality Assessment: Determining Significance of Air Quality Impact Under the California*

The TRPA operational emission significance thresholds are also shown in Table 3.6-2.

Table 3.6-2

Construction and Operational Criteria Pollutant Emission Significance Thresholds

Pollutant	Peak 24-Hour Emission Rate, lbs		
	AQMD		TRPA
	Construction	Operation	Operation
NO _x	82	82	24.2
VOC	82	82	125.7
PM ₁₀	Does not violate AAQS	Less than significant if the above NO _x /VOC limit is not exceeded.	22.0
CO	Does not violate AAQS		220.5
SO ₂	None published.		13.2

Cumulative impact criteria have not been adopted by NDEP or TRPA; therefore, criteria used by the EDCAPCD, adjacent to Douglas County is applied for this Project. According to EDCAPCD, proposed project emissions of ROG or NO_x would be considered cumulatively significant if one or more of the following conditions is met:

- The project requires a change in the existing land use designation (i.e., general plan amendment⁴, rezone), and projected emissions (ROG, NO_x, CO, or PM₁₀) are greater than the emissions anticipated for the site if developed under the existing land use designation;
- The project would individually exceed any significance criteria in this AQMD’s Guide to Air Quality Assessment⁵;
- For impacts that are determined to be significant under this AQMD’s Guide to Air Quality Assessment, the Lead Agency for the project does not require the project to implement the emission reduction measures contained in and/or derived from the Air Quality Attainment Plan⁶; or
- The project is located in a jurisdiction that does not implement the emission reduction measures contained in and/or derived from the Air Quality Attainment Plan.

Environmental Quality Act (CEQA), First Edition, Chapter 6, page 2,
[http://www.edcgov.us/Government/AirQualityManagement/Guide to Air Quality Assessment.aspx](http://www.edcgov.us/Government/AirQualityManagement/Guide%20to%20Air%20Quality%20Assessment.aspx)
⁴ TRPA, *Lake Tahoe Regional Plan*, December 12, 2012, <http://www.trpa.org/regional-plan/>; TRPA, *Mobility 2035 Regional Transportation Plan*, December 12, 2012; <http://tahoempower.org/Mobility2035/>; and El Dorado County, *County of El Dorado Adopted General Plan*, July 19, 2004,
https://www.edcgov.us/Government/Planning/Adopted_General_Plan.aspx
⁵ El Dorado AQMD. *Guide to Air Quality Assessment: Determining Significance of Air Quality Impact Under the California Environmental Quality Act (CEQA), First Edition*, February 2002,
[http://www.edcgov.us/Government/AirQualityManagement/Guide to Air Quality Assessment.aspx](http://www.edcgov.us/Government/AirQualityManagement/Guide%20to%20Air%20Quality%20Assessment.aspx).
⁶ SMAQMD. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*, September 26, 2013, <http://www.airquality.org/plans/federal/ozone/8hr1997/2008ROP/index.shtml>

For projects that are principally development projects, or where the majority of the emissions of these pollutants is attributable to motor vehicle sources (e.g. the Project proposed herein), a project's emissions of PM₁₀, SO₂, or NO₂ will not be considered cumulatively significant if the following conditions are met:

- a. The project is not significant for "project alone" emissions of these pollutants;
- b. The project complies with all applicable rules and regulations of the District; and
- c. The project is not cumulatively significant for ROG, NO_x, and CO based on the criteria set forth above.

EDCAPCD guidance⁷ states that a project's air toxics emissions will not be considered cumulatively significant if the "project alone" air toxics emissions do not cause a significant impact.

Concerning atmospheric deposition of nitrogen or phosphorus into Lake Tahoe, neither the TRPA nor any other regulatory agency has set a criterion or threshold for the amount of deposition from project NO_x emissions that would be considered significant.

Greenhouse Gas Emissions Standards

For GHGs, the Council on Environmental Quality has established a project emissions threshold level of 25,000 MT CO₂e/GHG emissions. In addition, an air quality or GHG impact would occur if the project conflicts with applicable plan, policy, or regulation adopted for the purpose of reducing criteria pollutant or GHG emissions.

Current, more conservative, guidance indicates that a project would result in a cumulatively considerable contribution to climate change if the project results in construction-related GHG emissions that exceed the recommended threshold of 1,100 MTCO₂e per year as recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and other air districts in the area. In 2017, California Air Resources Board released *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*, which guides future actions to reach the 2030 target of a 40 percent reduction in GHG emissions below 1990 statewide GHG emissions that was established by Executive Order B-30-15 and Senate Bill 32. To assess consistency with California's 2030 GHG target of 40 percent below 1990 levels, the SMAQMD threshold of 1,100 MTCO₂e/year, established for the purpose of reducing 2020 statewide emission to 1990 levels (2020 target), has been adjusted down by 40 percent to 660 MTCO₂e/year (2030 target). It is also consistent with the standard recently used by TRPA in the US 50/South Shore Community Revitalization Project EIR/EIS/EIS and reflects the recent GHG Inventory and reduction targets issued by the State of Nevada [footnote DCNR's recent inventory.

GHG planning guidance for the the Lake Tahoe Basin is outlined in the TMPO Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) which anticipates reducing GHG emissions per person by 12% in 2020 and 7% in 2035, to be accomplished by focusing on regional land use and transportation policies. Strategies in the 2017 RTP/SCS include transit programs (free-to-the-user transit, transit priority access, transit schedule coordination, etc.), parking management, and others, some of which are proposed by this project (pedestrian improvements, microtransit shuttle service, and a casino core paid parking program).

⁷ Ibid, page 4.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

CalEEMod 2016.3.2 was run to evaluate air emissions emitted by project construction and operation, with and without built in mitigation assumptions, for the proposed Project. The inputs used to run the model and results are included in Appendix G and presented in the Tables 3.6-4 through 3.6-7. Complete trip reduction credits anticipated from implementation of the year-round paid parking and microtransit shuttle programs was not accounted for in the modeling. For the model assumptions, no new vehicle trips were included for operations, but this is considered a conservative input assumption as the traffic analysis documented in Section 3.5 demonstrates anticipated annual reductions in vehicle trips because of the year-round paid parking and microtransit programs included in the Project. Therefore, the actual operational mobile source emissions levels could have been reported as a net reduction in emissions and less than what is shown in the tables with implementation of those programs under the Proposed Action. The assumptions used to calculate daily and annual vehicle trips generated from operation of the TSEC and its associated paid parking and microtransit programs (when applicable) is provided in Table 3.6-3. The calculations show a net reduction in total annual trips based on reductions in existing casino area traffic that would result when paid parking and microtransit operations are in effect. Reductions exceed the new trips that would be generated by TSEC operations.

Table 3.6-3

Daily Vehicle Trip Ends for Annual Events Center Operations

Event Generation (Including Other Trips Made by Overnight Visitors in Tahoe on Day of Event)											
Type of Event		Attendees	Emp- loyees	Daily Trips					Days per Year	Annual Trips	
				Direct Event Attendee Trips	Additional Event Attendee Trips in Tahoe Basin	Total Attendee Trips	Event Employee Trips	Utility Trips			Total Daily Trips
Concert/ Entertainment	Peak	6,000	225	2,847	4,756	7,603	194	100	7,897	12	95,000
	Typical	2,500	75	1,302	1,980	3,282	65	40	3,387	18	61,000
Conventions/ Conferences	Peak	2,500	50	1,229	2,952	4,182	43	40	4,265	9	38,000
	Typical	450	40	221	531	753	34	10	797	6	5,000
Public/ Consumer Shows	Peak	2,500	65	1,475	347	1,822	56	40	1,918	6	12,000
	Typical	2,100	50	1,239	292	1,531	43	40	1,614	4	6,000
Corporate/ Association Meetings	Peak	4,800	130	2,492	6,468	8,961	112	80	9,153	14	128,000
	Typical	450	40	234	606	840	34	10	885	102	90,000
Sporting Events	Peak	4,200	150	2,194	4,960	7,153	129	70	7,353	4	29,000
	Typical	2,100	50	1,097	2,480	3,577	43	40	3,660	5	18,000
Banquets/ Receptions/Other	Peak	1,900	40	1,121	264	1,385	34	30	1,449	10	14,000
	Typical	1,200	30	708	167	875	26	20	920	30	28,000
									Subtotal	220	524,000
Permanent Employees									11	255	3,000
Total											527,000

Change in Existing Trips Due to Paid Parking / Microtransit			
Daily Vehicle Trip Reduction on Busy Summer Day			
Visitor Trips Impact of Paid Parking			-3,220
Visitor Trip Impact of Microtransit			-315
Employee Trip Impact of Microtransit			-135
Total			-3,670
Factor: Average Peak Summer Month (July) Day to Peak Summer Day			90%
Reduction on Average July Day			-3,303
	Percent of Peak Month Based on Lodging Occupancy	Average Daily Reduction in Month	Total Reduction Over Month
Jan	70%	-2,306	-71,000
Feb	64%	-2,117	-59,000
Mar	64%	-2,130	-66,000
Apr	61%	-2,020	-61,000
May	58%	-1,921	-60,000
Jun	84%	-2,773	-83,000
Jul	100%	-3,303	-102,000
Aug	90%	-2,974	-92,000
Sep	57%	-1,895	-57,000
Oct	66%	-2,184	-68,000
Nov	58%	-1,931	-58,000
Dec	71%	-2,348	-73,000
Total Annual			-850,000
Net Change in Annual Vehicle-Trips			-323,000

Source: Hauge Brueck Associates, TDVA, Section 3.5 Traffic Analysis

Notes:

1. Analysis assumes year-round paid parking and microtransit shuttle service.
2. Up to 130 annual events are assumed per year with total event days of 220 based on the Event Center Fiscal and Economic Analysis; EPS, July 13, 2018.
3. DVTE value used for each scenario based on calculations from Section 3.5 – traffic analysis.

Table 3.6-4

Proposed Action – Unmitigated Daily Construction Emissions (lbs/day)

Construction Year	NOx	CO	ROG	SO₂	PM₁₀	PM_{2.5}
2020	43.13	27.33	3.86	0.07	10.51	5.27
2021	21.46	20.66	10.29	0.05	2.54	1.21
2022	0.43	0.43	0.05	0.001	0.05	0.02
Maximum Daily Construction Emissions (rounded)	43.13	27.33	10.29	0.05	10.51	5.27
Significance Thresholds:	82	--a	82	--a	--a	None
Significant Impact?	No	No	No	No	No	No

Source:

Notes: lb/day = pounds per day; ROG = reactive organic gases; NOX = oxides of nitrogen; SO₂ = sulfur dioxide; PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM_{2.5} = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less

^a The EDCAPCD considers these emissions less than significant if the NOx and VOC/ROG emissions are quantitatively determined to be less than significant

Table 3.6-5

Proposed Action – Annual Unmitigated Construction Emissions (tons/year)

Construction Year	NOx	CO	ROG	SO₂	PM₁₀	PM_{2.5}	CO₂	CH₄	N₂O	MTCO_{2e}
2020	7.87	4.99	0.71	0.01	1.92	0.96	1,226	0.17	0.0	1230
2021	3.92	3.77	1.88	0.009	0.46	0.22	843	0.09	0.0	846
2022	0.08	0.08	0.009	0.0002	0.009	0.004	18	0.002	0.0	18
Total Project Construction Emissions Over a 3-Year Period (rounded)	11.87	8.84	2.51	0.02	2.39	1.18	2,087	0.26	0.0	2,094
Annual GHG Construction Emissions (amortized over 25 years)										83.76
Threshold of Significance (MTCO_{2e}/year)										660
Significant Impact?										No

Notes: lb/day = pounds per day; ROG = reactive organic gases; NOX = oxides of nitrogen; SO₂ = sulfur dioxide; PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM_{2.5} = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less; MTCO_{2e} = metric tons of carbon dioxide equivalents.

Table 3.6-6

Proposed Action – Unmitigated Maximum Daily Operation Emissions (lbs/day)

	NOx	CO	ROG	SO₂	PM₁₀	PM_{2.5}
Area	0.0001	0.01	3.26	0.00	0.00005	0.00005
Energy	0.10	0.09	0.011	0.0006	0.008	0.008
Mobile ¹	0.00	0.00	0.00	0.00	0.00	0.00
Stationary	0.15	0.51	0.037	0.003	0.039	0.039
Waste	-	-	-	-	-	-
Water	-	-	-	-	-	-
Total Daily Emissions (rounded)	0.25	0.61	3.31	0.0036	0.047	0.047
Significance Thresholds:	24.2	220.5^a	82	13.2^a	22.0^a	None
Significant Impact?	No	No	No	No	No	No

^a These emissions are less than significant if the NOx and VOC/ROG emissions are quantitatively determined to be less than significant.

Note: 1. Calculations are based on summer time peak period events capped at 2,500 persons and with year-round paid parking and microtransit programs in place. Up to 130 events anticipated to occur over a period of approximately 220 days per year.

Mobile emissions under the Proposed Action could be less than 0 based on the implementation of the year-round paid parking and shuttle programs, as documented in Table 3.6-3.

Table 3.6-7

Proposed Action – Unmitigated Annual Operation Emissions (tons/year)

	NOx	CO	ROG	SO₂	PM₁₀	PM_{2.5}	CO₂	CH₄	N₂O	MTCO_{2e}
Area	0.00002	0.0021	0.5956	0.00	0.00001	0.00001	0.00407	0.00001	0.0	0.00434
Energy	0.0187	0.0157	0.0021	0.0001	0.0014	0.0014	347.58	0.0075	0.0019	348.32
Mobile ¹	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stationary	0.0271	0.0936	0.0068	0.00054	0.0071	0.0071	96.97	0.0020	0.0	97.02
Waste	-	-	-	-	-	-	0.0426	0.0025	0.0	0.106
Water	-	-	-	-	-	-	12.49	0.011	0.0026	16.03
Total Annual Operation Emissions (rounded)	0.046	0.111	0.605	0.0006	0.0085	0.0085	457.09	0.023	0.0045	461.48
Threshold of Significance (MTCO_{2e}/year)										660
Significant Impact?										No

Notes: lb/day = pounds per day; ROG = reactive organic gases; NOX = oxides of nitrogen; SO₂ = sulfur dioxide; PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; PM_{2.5} = respirable particulate matter with an aerodynamic diameter of 2.5 micrometers or less; MTCO_{2e} = metric tons of carbon dioxide equivalents.

1. Calculations are based on summer time peak period events capped at 2,500 persons and with year-round paid parking and microtransit programs in place. Up to 130 events anticipated to occur over a period of approximately 220 days per year. *Mobile emissions under the Proposed Action could be less than 0 based on the implementation of the year-round paid parking and shuttle programs, as documented in Table 3.6-3.*

There are no impacts associated with the No Action alternative.

Impact: Create Substantial Increase in Air Pollutant Emissions, Deteriorate Existing Air Quality, or Conflict with or Obstruct Implementation of the Applicable Air Quality Plan? (TRPA 2.a, 2.b)

Analysis: The Proposed Action would establish a new regional indoor entertainment venue that would provide space for sports events, performances, and conventions/banquets. The facility would be used for scheduled, large events, with a large spectator base, such as semi-professional hockey, regional tournaments or competitions, or large sports clinics. The building would have a seating capacity for 6,000 spectators, and would also serve as an office for the TDVA and TSEC management. Events would not occur on a daily basis, but the office portion of the Proposed Action would be utilized regularly. Approximately 130 events would occur annually at varying levels of attendance over approximately 220 total days, with occupancy ranging from several hundred persons up to 6,000 attendees depending on the type of event and associated use configuration. During summer peak season periods (June 15th through Labor Day weekend), occupancy of the TSEC would be limited to 2,500 persons per day as described in the project description.

Construction emissions would result from the use of heavy mobile equipment for site preparation, grading, and construction of the TSEC and from production and delivery of building materials. Such construction sources emit criteria pollutants (PM10, PM2.5, CO, NOX, and ROG), air toxics, and GHGs from combustion of diesel fuel, and fugitive dust from the motion of wheels and tracks. Emissions can vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing weather. Construction is anticipated to occur over a three year period beginning in summer 2020, with active construction occurring during approximately 21-24 months over the 3 calendar year period, allowing for seasonal restrictions on construction activity. Demolition, site preparation and grading would occur over a five-month period, overlapped by a 20-month period for building construction, paving and architectural coatings. Equipment used during construction includes concrete saws, excavators, dozers, tractors, loaders, backhoes, graders, scrapers, cranes, forklifts, generators, welders, pavers, rollers, and air compressors.

As shown in Tables 3.6-4 through 3.6-7 above, Project construction and operation would not generate emissions that exceed applicable daily or annual standards/thresholds or deteriorate air quality or conflict with adopted air quality plans. The Proposed Action would likely result in fewer operational emissions than shown in the tables above due to implementation of the year-round paid parking program and shuttle program, which would result in a reduction of existing daily vehicle trips but was not included in the assumptions.

All alternatives would result in higher operational emissions because the paid parking and microtransit programs would not be implemented and vehicle trips for events would not be offset by reductions to existing vehicle trips from the two programs. For Alternative B, construction emissions would be higher because of greater volumes of excavation and associated haul trips associated with additional debris. The Alternative B increase in emissions associated with additional excavation and material hauling would not result in an emissions increase above thresholds. However, operational impacts under alternatives A, B and C would exceed annual GHG targets because of the increase in mobile emissions which adds approximately 1,325 MTCO₂e of emissions to the Project totals disclosed in Table 3.6-7. As discussed in the project description (Chapter 2), the

Proposed Action and Alternatives include air quality best management practices per TRPA Code. No significant impact would occur under the Project, but would occur under Alternatives A, B, and C because of no paid parking and microtransit programs.

Mitigation: Project: No mitigation is required.

Alternatives A, B, and C: Implement Paid Parking and Microtransit Programs as currently proposed for the Proposed Action.

Impact: Expose Sensitive Receptors to Substantial Pollution Concentrations

Analysis: As discussed in the setting, the nearest sensitive receptors are located within 0.5 mile from the project area. The Proposed Action and Alternatives A, B, and C would be located too far from the nearest residences to cause a significant impact. Tourist accommodations do not house permanent or long-term residents who would be measurably exposed to pollutants. Furthermore, the construction and operation of the TSEC is not anticipated to generate substantial pollutant concentrations. Up to 130 events are anticipated to take place over approximately 220 days annually. Since events would not be held on a daily basis, exposure to any levels of increased pollutants would be intermittent. No substantial pollutant concentrations are anticipated as shown on the tables above.

Mitigation: No mitigation is required.

Impact: Create Objectionable Odors (TRPA 2.c)

Analysis: The Proposed Action would develop a new community entertainment venue that accommodates a different variety of entertainment options. While banquets and small conferences can be accommodated in the existing casino facilities, the proposed TSEC would also facilitate theater and concert events, as well as a range of sporting events including hockey, volleyball, and basketball. These activities and operation of the TSEC would not generate objectionable odors. Trash generated during events would be compacted at the rear of the facility and removed regularly.

Construction would involve the use of diesel-fueled construction equipment. Odors associated with diesel-fueled construction equipment would be temporary in nature, and would be located too far from the nearest residences to cause a significant impact.

The same impacts would occur under Alternatives A, B, and C and no significant impact from construction or operation would occur.

Mitigation: No mitigation is required.

Impact: Generate More Than 660 MT CO₂e GHG Emissions to Alter Air Movement, Moisture or Temperature, or Change Climate Locally or Regionally (TRPA 2.d)

Analysis: Based on the modeling conducted and documented in Tables 3.6-5 and 3.6-7, the total annual GHG emissions from construction activities and operations would be less than the quantitative threshold selected from SMAQMD standards. Total MTCO₂e emissions over the combined 21-24 months of construction would result in 2,094 MTCO₂e, with a maximum annual construction output of 1,230 MTCO₂e during the initial demolition and grading phases of construction in 2020. When combined with all other construction phases and amortized over the life of the project, total annual construction emissions (84 MTCO₂e) would not exceed applicable thresholds of 1,100 MTCO₂e (2020 target) or 660

MTCO₂e (2030 target). CalEEMod modeling shown in Table 3.6-7 indicates operation of the TSEC is anticipated to generate 461 MTCO₂e annually, on average, with no mitigating features factored, except for the assumption of no increase in annual vehicle trips as a result of implementation of paid parking and microtransit shuttle programs. The overall annual decrease in vehicle trips documented in the traffic analysis (Section 3.5 and the LSC memo dated March 4, 2020) and Table 3.6-3 for annual operations was not factored into the analysis. For modeling purposes, zero new vehicle trips was used for TSEC operations rather than the annual reduction of 323,000 trips. Mitigating features, such as pedestrian accessibility, transit stop improvements, installation of energy and water efficient fixtures and appliances, and water-efficient landscaping and irrigation, would reduce operations emissions to 337 MTCO₂e annually. The Proposed Action will therefore not result in a significant impact.

Alternatives A and C would result in a higher level of operational GHG emissions than the Proposed Action since they do not include the microtransit shuttle or paid parking programs. Total MTCO₂e emissions over a combined three years of construction would be equal to the Project as reported above, and below the annual threshold. Under the alternatives, CalEEMod modeling calculates that operation of the TSEC would increase MTCO₂e by 1,325 annually, on average, with no mitigating features factored, because these alternatives do not include the paid parking and microtransit shuttle programs. Mitigating features, such as pedestrian accessibility, transit stop improvements, installation of energy and water efficient fixtures and appliances, and water-efficient landscaping and irrigation, would reduce annual operations emissions somewhat, but they would still exceed the 660 MTCO₂e threshold limit. Alternative B would relocate the TSEC to the rear of the parcel away from US 50. Operational impacts would be the same as Alternatives A and C as the building would provide the same capacity and operating systems. Construction would involve an increase in ground disturbance and grading and a decrease in pavement demolition. GHG emissions levels are anticipated to be essentially the same as Alternatives A and C, with some variation per pollutant, yet still well below emissions limits. However, because of annual mobile emissions associated with new trip generation, Alternatives A, B and C would each exceed operational GHG emission thresholds and this impact is significant.

Mitigation: Project: No mitigation is required.
Alternatives A, B, and C: Implement Paid Parking and Microtransit Programs as currently proposed for the Proposed Action.

Impact: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of GHGs or Increase Use of Diesel Fuel (TRPA 2.e)

Analysis: The GHG emissions from construction and operation of the Proposed Action would not conflict with the GHG-related plans, policies or regulations. The Project and Alternatives would not conflict with federal, state, or TRPA applicable plans, policies, or regulations for reducing GHG emissions. Diesel fuel consumption would occur and increased vehicle trips would likewise occur; however, the location of the TSEC adjacent to existing tourist accommodations, and near existing residential areas surrounding the tourist and commercial core improve pedestrian and transit access to the proposed facility, and reduce overall reliance on vehicle trips to access the facility. For the Proposed Action, the microtransit shuttle and paid parking programs would reduce vehicle trips and associated use of diesel fuel to better achieve GHG reduction goals.

As shown in the traffic analysis (Section 3.5), the Proposed Action (evaluated for a 2,500-attendee event in summer) results in an increase of 25,873 daily VMT with an additional 566 VMT generated by the microtransit shuttle that is offset by the reduction of 35,693 existing VMT due to the paid parking and microtransit programs. Adding 760 VMT generated by drivers searching for parking spaces to these figures results in a net decrease of 8,494 VMT in the Tahoe Basin over the course of the summer design day. This improvement represents a region-wide VMT reduction from existing conditions by approximately 0.4 percent. The paid parking program is estimated to eliminate 3,220 existing one-way vehicle trips within the casino core per busy summer day. Although some increase in peak hour trips would occur on days when maximum summertime events (2,500 attendees) are held, the net impact is an overall reduction in total summer and annual trips. When a 2,500-person summer event is held, it would generate 1,302 daily one-way vehicle trips at casino access points. These trips would be offset by the overall 3,670 daily one-way vehicle trip reduction from paid parking and microtransit operation, for a net reduction of 2,368 daily one-way vehicle trips.

The Proposed Action supports various policies of the 2017 Tahoe Metropolitan Planning Organization Regional Transportation Plan/Sustainable Communities Strategy (TMPO RTP/SCS) including Policy 1.6 (Require commercial interests to participate in transportation demand programs and projects), Policy 2.2 (Provide frequent transit service to major summer and winter recreational areas), Policy 2.4 (Improve the transit system for the user making it frequent, fun, and free in targeted locations), Policy 2.16 (Encourage parking management programs that incentivize non-auto modes and discourage private auto-mobile use at peak times in peak locations....), and promotes transit and pedestrian improvements onsite to further the goals of the RTP/SCS.

Although the Alternatives would not include the paid parking and shuttle programs, the location of the TSEC adjacent to existing tourist accommodations, near residential areas, and with the proposed improvement of the transit stop and pedestrian access, the Alternatives would not conflict with GHG reduction strategies.

Mitigation: No mitigation is required.

REFERENCES

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TRPA, *Regional Plan Update Draft EIS*, Chapter 3.5 – Greenhouse Gas Emissions and Climate Change, page 3.5-24, April 2012, http://www.trpa.org/wp-content/uploads/3.5_GHG_Climate_Change.pdf

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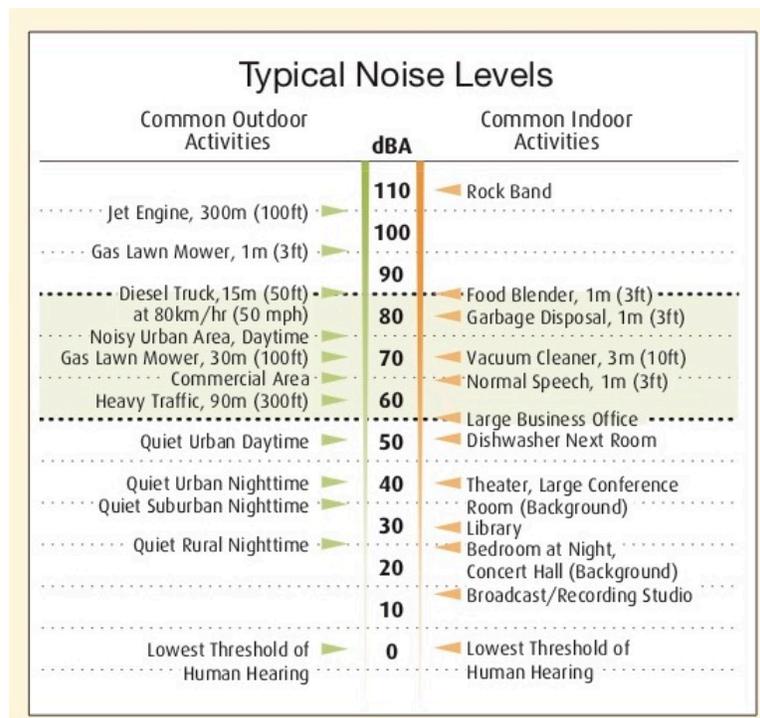
3.7 NOISE

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Sound levels are measured in logarithmic decibels. Therefore, a doubling of acoustical energy results in a change of 3 decibels (dB) which is considered to be barely perceptible. A 10-fold increase in acoustical energy yields a 10 decibel change, which is subjectively a doubling of loudness. A-weighted sound pressure levels expressed as dBA are very well correlated with community reaction to noise. Variations in sound levels over time are represented as Community Noise Equivalent Level (CNEL). The CNEL is defined as the 24-hour average noise level with noise occurring during evening hours (7:00 p.m. – 10 p.m.) weighted by a factor of three, and nighttime hours (10 p.m. – 7 a.m.) weighted by a factor of 10, prior to the averaging. The measured CNEL values generally agree within 1 dBA. Figure 3.7-1 lists several examples of the noise levels associated with common situations.

Noise sources in the vicinity of the project area are associated primarily with traffic on U.S. 50 and Lake Parkway. Since this is the most active and developed urban area at Lake Tahoe, noise generation is higher in the project area than many other Lake Tahoe locations. Sensitive receptors are within one half mile and include homes (within one half mile) and schools (approximately 1.5 miles). The adjacent hotels are more closely located sensitive noise receptors but are also sponsors of the proposed facility. The Proposed Action is also located near existing recreation areas such as Edgewood Golf Course and Van Sickle Bi-State Park.

Figure 3.7-1: Examples of Typical Noise Levels (Caltrans District 11)



According to the Regional Plan Update EIS, the existing noise level along US 50 in Stateline, NV is approximately 65 CNEL as measured 100 feet from the roadway centerline. The 2015 Threshold Evaluation Report indicated that the maximum 24-hour CNEL in 2014 was 63.9 CNEL, which is an improvement from the levels found during the 2012 Regional Plan Update EIS and indicates the area is in attainment of the noise threshold. The South Shore Area Plan indicates 65 CNEL is the maximum level allowed in the US 50/Lake Parkway corridor. Potential changes in noise levels would be primarily associated with reductions or increases in the volume of traffic on the roadway, and to a lesser degree, large outdoor events, which tend to be seasonal and sporadic in both number of events and duration.

IMPACT EVALUATION CRITERIA

A noise impact is defined as an increase in the ambient noise level above the threshold standards for the location or exposure of persons to severe noise levels. TRPA and Douglas County have adopted CNEL values for the South Shore Area Plan. The noise standard for the U.S. 50 corridor and Lake Parkway is 65 CNEL.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

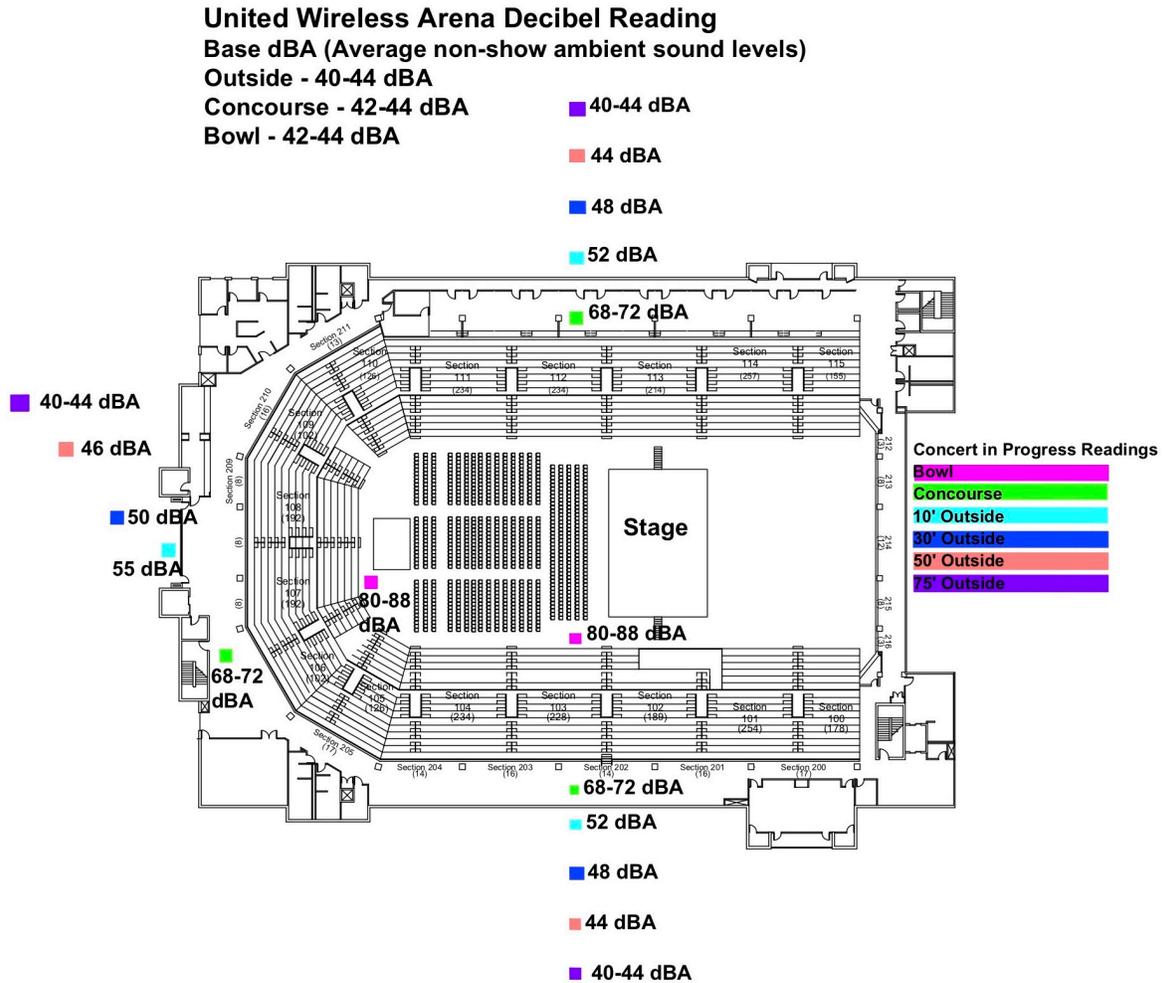
There are no noise impacts associated with the No Action alternative.

Impact: **Increase the existing Community Noise Equivalency Levels beyond those permitted in the South Shore Area Plan (TRPA 6.a)**

Analysis: The Proposed Action is construction and operation of the TSEC building, an enclosed events center and its adjacent event lawn. Noise generated within the structure would be mostly insulated from outside noise receptors. While noise producing events such as sporting events and concerts may occur in the building, they would not be substantially audible outside the building, and an events center is not considered a significant stationary source such as an industrial complex. Figure 3.7-2 documents the decibel readings that were recorded at a 2019 concert in Dodge City Kansas. The Dodge City facility was selected for the noise measurements because the building is comparable to the TSEC in size and the maximum seating capacity is also 6,000. As documented in the figure, the maximum noise level recorded outside the facility was 55 dBA and at distances of 75 feet, noise levels fell to less than 45 dBA.

Exterior noise would also include mechanical equipment noise; however, the primary noise source would be event traffic and vehicle activity associated with operation of the facility. According to Caltrans, traffic noise is mainly caused by tire contact with the road (75 to 90% of traffic noise), and to a lesser degree engines and exhaust systems. Other factors include heavy duty truck volumes, higher speeds, and roadway grades. Heavy traffic is typically associated with noise levels of 60 dBA at a distance of 300 feet. By comparison, commercial areas and normal speech (measured at a distance of three feet) are typically around 65 dBA. Traffic noise is loudest when it is free-flowing or non-stop and just before or after peak traffic hours. Congestion reduces traffic noise levels due to slower speeds.

Figure 3.7-2: Measured Noise Levels at similar Events Center Facility



Source: Rick Kozuback, President/CEO, International Coliseums Company, 11/16/19

The project area is characterized with high tourist and pedestrian traffic. Increases in traffic have the potential to affect noise levels audible to pedestrians and tourists in the hotel units along U.S. 50. Since the U.S. 50 corridor already operates near the threshold limit of 65 CNEL, additional vehicle trips have the potential to increase the measured CNEL level. Table 3.6-1 shows existing traffic noise levels recorded along US 50 in the vicinity of the Proposed Action.

The Proposed Action is designed to be pedestrian focused to capture visitors staying in nearby hotels and vacation rentals. In addition, the Proposed Action would improve the existing transit stop and support a microtransit shuttle program to encourage transit trips rather than individual vehicle trips. The traffic study (page 3.5-30) estimates the microtransit shuttle program would reduce trips by approximately 4 percent in peak hour, peak-direction travel prior to an event and approximately 1 percent following an event.

Table 3.6-1

Existing Traffic Noise Levels

Roadway	Segment	CNEL @ 100 Feet	Distance to Traffic CNEL Contours (feet)		
			55 dBA	60 dBA	65 dBA
US 50	Lake Pkwy - Kingsbury	63 dBA	365	169	79
US 50	Lake Pkwy - Casino Core	62 dBA	309	144	67
US 50	Casino Core - Stateline	63 dBA	319	148	69

Source: j.c. brennan & associates, Inc, 2014

The paid parking program under the Proposed Action would reduce existing vehicle trips as the four major casinos in the area, MontBleu, Hard Rock, Harvey’s and Harrah’s, would initiate a formal paid parking program. As reported in the traffic section (page 3.5-26), the paid parking program would encourage fewer private vehicle trips and is estimated to reduce total daily vehicle trips (currently equal to approximately 34,900 trips) generated by visitors/guests to the four casinos by approximately 11 percent for a potential reduction of 3,220 existing daily trips.

As reported in the traffic analysis (Table 3.5-10), the Proposed Action would generate approximately 1,302 new daily one-way vehicle trips for a 2,500 person event during the summer peak period (maximum sized event allowed during peak summer). Outside venue events, staff and deliveries would create approximately 51 daily vehicle trip ends. The addition of approximately 51 daily trips would cause no audible difference in noise levels and no difference in noise level would occur the majority of the time. Traffic generated during venue events would be heaviest at the peak hours immediately before and after event start and end times. The traffic study indicates that trips at summer peak hours (event start and end hours) would range from about 342 trips to 456 trips. With concentrated high levels of traffic, congestion and slower vehicle movement occurs, which reduces traffic vehicle noise due to slow speeds. Decreased speeds, and therefore decreased vehicle noise, offsets noise caused by the potential increase in traffic volume.

Existing daily traffic numbers along U.S. 50 in the vicinity of the TSEC range from 22,000 to nearly 38,000 trips (in both directions). For increased traffic to be noticeable and have a potential to exceed existing CNEL measurements, the number of vehicles in the TSEC area along U.S. 50 would have to double. With the proposed paid parking program there is no opportunity for vehicle trips to double in the project vicinity, and for noise levels to increase by 3 dB (and be a noticeable change), vehicle trips along U.S. 50 in the vicinity of the TSEC would have to increase far greater than the calculated daily trips reported in Section 3.5 (Table 3.5-10).

Alternatives A, B and C would each result in a similar level of impact, and would result in greater increase in vehicle trips and therefore traffic noise in the vicinity of the TSEC. Traffic studies originally conducted for Alternative C (original Project) indicate this alternative would result in approximately 1,687 new daily one-way vehicle trips during average sized events during the summer. Outside venue events, staff, and deliveries would create approximately 51 daily vehicle trip ends, which would cause no perceptible difference in noise levels. The traffic study indicates that trips at summer peak hours

(event start and end hours) would range from about 439 trips to 587 trips. However, under these alternatives there would be no paid parking program and microtransit operations that would offset the trip generation associated with the TSEC operations. However, neither alternative would result in large enough traffic volume increases that would double the number of vehicles on the roadway at one time and result in measurable changes to traffic noise levels – this is a result of the high baseline traffic volumes on U.S. 50.

Alternative B would have slightly different localized traffic noise levels, as it would relocate the TSEC away from U.S. 50, while maintaining the access to the parking areas from U.S. 50 and Lake Parkway. This would result in the same traffic -generated noise levels as Alternatives A and C. But by locating the TSEC behind the MontBleu parking area and hotel, the outdoor noise levels in this area would increase during events due to patrons entering and exiting the facility farther away from U.S, 50 and its noise levels. While the noise level around the TSEC would increase slightly during events under Alternative B, it would not be at a level that would exceed CNEL limits or result in substantial disturbance to MontBleu visitors or operations. Alternative B would eliminate the service vehicle access that runs from the alley to Lake Parkway, requiring all service trips to utilize the alley access from U.S. 50 rather than the service access point on Lake Parkway. This too has the potential to increase service noise within the alley corridor, although it would not result in substantially elevated or continuous noise levels, noticeable to sensitive receptors.

Mitigation: No mitigation is required.

Impact: Expose People to Severe Noise Levels or Create a Single Noise Level Greater Than the Noise Environmental Threshold (TRPA 6.b, 6.c)

Analysis: Construction would result in temporary noise increases; however, no extraordinary noise level above typical construction noise is anticipated. Construction activities could potentially expose noise-sensitive receptors to levels that exceed Douglas County and TRPA noise standards. Demolition of the existing parking lot, clearing, excavation, grading, foundation work, paving, utility installation, building construction, and cleanup involve heavy equipment that produce noise. Equipment such as excavators, graders, dump trucks, generators, loaders, compactors, and cranes produce noise levels between 70 and 85 dBA L_{max} at 50 feet. If blasting or pile driving is needed, noise levels could reach 101 dBA L_{max} at 50 feet. Construction noise levels are exempt between the hours of 8:00 a.m. and 6:30 p.m. Construction noise would be most audible to patrons on the MontBleu Casino and Resort, the Hard Rock Hotel and Casino and patrons of the Edgewood Golf Course. If construction occurred outside this time, guests of the adjacent hotels could be exposed to severe noise levels. As discussed in the Project Description, construction measures include noise best management practices. Active construction would be limited to between the hours of 8:00 a.m. and 6:30 p.m., except during potential continuous concrete pours, which would occur during overnight hours if required for the project’s foundation. Exceptions to the construction limitation (exceedance of CNEL levels outside the hours of 8:00 a.m to 6:30 p.m.) will need to be acquired to allow certain types of construction work outside the exemption hours. Equipment would be equipped with mufflers and engine shrouds per the manufacturers’ specifications and vehicle idling for construction equipment should be kept to a maximum of five minutes.

Single event noise standards are established in Douglas County Code Section 20.703.205 and TRPA Code Section 68.31 for aircraft, watercraft, motor vehicles, motorcycles, off-

road vehicles, and snow vehicles. Activities that would use these types of vehicles are not proposed, and no impact related to their use would occur.

The same impacts anticipated for the Proposed Action would occur for Alternatives A, B, and C. Alternative B, however, would be located closer to the existing MontBleu and has increased potential to disturb guests of the hotel during construction.

Mitigation: **NOISE-1: Reduction of Nighttime Construction Noise.** While TRPA Code prohibits noise-generating construction activity that exceeds CNEL limits (e.g., 65 in the casino core) outside the hours of 8:00 am to 6:30 pm, some nighttime construction activity may be necessary in order to construct the TSEC. To address construction noise created during overnight hours for certain types of construction activities, such as continuous concrete pours, the applicant shall implement the following noise reduction measures. In addition to implementing TRPA's Best Construction Practices Policy for the Minimization of Exposure to Construction-Generated Noise and Ground Vibration, the following measures shall be implemented during nighttime construction (6:30 pm to 8:00 am) operations to avoid noise impacts.

1. Provide advance notice to owners of tourist accommodations and commercial land uses within 1,000 feet of the nighttime activity. The notice shall include construction schedules and hours for the nighttime construction, and shall include the name and number of the applicant and contractor's communications and complaint liaison.
2. A communications and complaint liaison shall be designated, and their contact information posted around the construction site and listed on public notifications. The liaison shall be responsible for receiving and responding to public complaints, including determining the cause of the complaint and implementing feasible actions to address the complaint.
3. When nighttime noise is scheduled, the construction activity shall include temporary noise barriers/curtains and other similar methods, as necessary, placed between the activity location and nearby receptors. Equipment staging shall be located away from tourist accommodations to keep maintain CNEL noise limits within the project area.
4. Equipment backup alarms shall not be used during nighttime construction. Alternative warning systems shall be used between 6:30 pm and 8:00 am, such as flagging.
5. To the extent feasible, nighttime construction would be limited to weekday periods outside of holidays to avoid impacts to tourist accommodations during peak weekend periods when occupancy rates are highest.

REFERENCES

Caltrans. 2015. "Traffic Noise Basics". Caltrans District 11. July 2015

Federal Highway Administration. 1978. *FHWA Highway Traffic Noise Prediction Model, Report No. FHWA-RD-77-108*. Washington, DC: Federal Highway Administration. Dec. 1978.

3.8 LAND USE

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. Douglas County defines the area as Commercial and zoned High Density Tourist Overlay. The TRPA Regional Plan and South Shore Area Plan identify the project area as High Density Tourist District, which is defined as:

“The High Density Tourist District contains a concentration of hotel/casino towers and is targeted for redevelopment in a manner that improves environmental conditions, creates a more sustainable and less auto dependent development pattern and provides economic opportunities for local residents. The High Density Tourist District is the appropriate location for the Region’s highest intensity development.”

The South Shore Area Plan establishes objectives for this area dominated by casino and hotel uses. The objectives seek to: replace the casino towers with energy efficient, architecturally compatible buildings; reduce coverage and surface parking; restore stream environment zones; create a pedestrian friendly environment; and provide a variety of recreational opportunities (including indoor and outdoor entertainment) within walking distance from the bed base to revitalize and sustain the economy while contributing to TRPA environmental threshold attainment. Redevelopment projects in this area are evaluated to ensure consistency with these objectives.

The Project is within a development rights receiving area. Available Commercial Floor Area (CFA) in the South Shore Area Plan was listed at 36,250 square feet.

Existing Land Uses in the Project Area

The project area currently houses a paved parking lot serving the MontBleu Casino and Resort at the intersection of US 50 and Lake Parkway. This area includes a rectangular landscape area within the parking lot that contains a few trees, boulders, a picnic table, and shrubs. A portion of the undeveloped land southeast of the existing parking lot is also included in the project area.

The Project is located at the northern end of the casino/tourist area and is a northern gateway into this commercial/tourist accommodation area of hotels, shops, restaurants and entertainment. Surrounding land uses include the MontBleu Casino and Resort, Hard Rock Hotel and Casino, Wells Fargo Bank, Edgewood Golf Course, and undeveloped land.

IMPACT EVALUATION CRITERIA

A land use impact is defined as a physical change in the existing land use that is inconsistent with the South Shore Area Plan.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts associated with the No Action alternative.

Impact: Propose a Non-permissible Land Use in the Area Plan (TRPA 8.a)

Analysis: The proposed TSEC is a use permissible (with a special use permit) and appropriate in the High Density Tourist District and supports the South Shore Area Plan objective for this District by providing a large indoor entertainment venue that can accommodate a wide range of events. The Proposed Action is designed to accommodate conferences and conventions, banquets, concerts, theater and dance events, and various sporting events such as hockey, basketball, and volleyball. The South Shore Area Plan identifies assembly and entertainment venues, as well as offices, as permissible uses. Publicly owned assembly and entertainment uses such as the Proposed Action require a TRPA special-use determination .

These events can be local and regional, drawing visitors from the immediate area as well as from the larger surrounding communities in California and Nevada. Located adjacent to existing hotels, and within the High Density Tourist District, the facility could capitalize on the existing hotel infrastructure to centralize entertainment activities within walking distance of accommodations and other tourist amenities and attractions. This further promotes the objective for this District.

TRPA Code of Ordinances Chapter 21, Section 21.2.2 discusses permissible uses and special uses. The following findings are required prior to approval of a special use:

- A. The project to which the use pertains is of such a nature, scale, density, intensity, and type to be an appropriate use for the parcel on which and surrounding area in which it will be located;
- B. The project to which the use pertains will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water, and air resources of both the applicant's property and that of surrounding property owners;
- C. The project to which the use pertains will not change the character of the neighborhood, or detrimentally affect or alter the purpose of the applicable planning area statement, community plan, and specific or master plan, as the case may be.

The TSEC with capacity for 6,000 persons is sized between existing casino ballrooms and theaters (750 - 1,750 indoor capacity) and the existing Harvey's Lake Tahoe Outdoor Arena (8,000 capacity). The site currently houses a paved parking area adjacent to the MontBleu Casino and is planned to capture the shoulder season market to maintain the viability of the proposed facility and enhance entertainment options. Since the project site is currently occupied by entertainment-related uses in multi-story towers and adjacent to US 50, placement of the TSEC on this site would meet Finding A.

As discussed above, the purpose of the Proposed Action is to provide a multi-functioning facility that is designed to accommodate a variety of uses and to accommodate functions for which there is no appropriately sized indoor venue in the area. There are other facilities in the area that can accommodate several of the events that are proposed at the TSEC, but those facilities are limited either due to square footage, limited seating, outdoor location, or lack of appropriate facility infrastructure or a combination of these factors. This Proposed Action is designed to account for the existing facility limitations, while also maximizing the use of existing coverage, maximizing proximity to existing

tourist accommodations and transit, addressing drainage and water quality, and reducing potential noise and air conflicts. Implementation of the planned transportation improvements (e.g., microtransit and paid parking program) and measures proposed in this EA (See Table 1-1 of the Executive Summary for a list of mitigation measures) ensure protection of persons and environment of the neighborhood and region, to meet Finding B.

Since the Proposed Action is within the High Density Tourist District, a location housing similar facilities of varying sizes and meant to concentrate high-traffic tourism with casinos, hotels, accommodations, restaurants, and other amenities, placement of an events center sized to serve both local residents and regional visitors would further support the purpose of the South Shore Area Plan, would help to maintain steady tourism in the shoulder season, and would allow for a different variety and caliber of events. The character of the neighborhood is dominated by large casino towers and multi-story buildings. Although the Proposed Action proposes a multi-story building on a paved parking lot, locating a new multi-story structure in the area is more appropriate than locating such a use elsewhere in the South Shore Area Plan or within adjacent plan areas. It would not significantly alter the character, as adjacent uses consist of large towers and this facility would serve to transition to the lower-development density uses to the North, such as the meadow area and golf course. Locating the Proposed Action in this area would be appropriate for the existing character, supports the Plan Area, and supports Finding C.

Alternative A results in similar impacts on land use as the only difference between Alternative A and the Proposed Action is the height of the TSEC facility and the paid parking and microtransit shuttle program. Should one of the action alternatives be selected by TRPA for implementation, traffic reduction measures would be required to offset new trips and VMT of the TSEC operation. Likewise, Alternative C results in the same impacts on land use as the only difference between Alternative C and the Proposed Action is the paid parking and microtransit shuttle program. Alternative B would also result in the same impacts as it is the same overall facility, relocated within the same property. Alternative B would relocate the facility behind the MontBleu parking garage. While this location reduces the facility's visibility from US 50, it does not improve pedestrian access to the facility and does not enhance redevelopment of the US 50 corridor or serve as a gateway into the High Density Tourist District. Alternative B is not as effective in implementing the various aspects of the South Shore Area Plan as the Proposed Action or Alternatives A or C.

Mitigation: No mitigation is required.

Impact: Expand an Existing Non-conforming Use (TRPA 8.b)

Analysis: The existing use is an underutilized parking lot. The Proposed Action and Alternatives A, B, and C would develop a new community entertainment venue that accommodates a different variety of entertainment options than the existing casino facilities. While banquets and small conferences can be accommodated in the existing casino facilities, the proposed TSEC would also facilitate theater and concert events, as well as a range of sporting events including hockey, volleyball, and basketball.

Development requirements for the Area Plan include 25-foot setbacks from Lake Parkway and US 50 and a 95-foot height limit. The structure would measure 85-feet, one inch in height and the structure is setback over 25-feet from the existing sidewalks on US 50 and Lake Parkway for both the Proposed Action and Alternative C. Alternative A

would reduce building height by over 11 feet (73 feet). Alternative B would relocate the building behind the existing MontBleu parking garage, further increasing setbacks from US 50 and maintaining the setback over 25-feet from Lake Parkway.

Mitigation: No mitigation is required.

REFERENCES

Douglas County. 2013. Douglas County Master Plan: South Shore Area Plan. Adopted September 25, 2013.

3.9 RECREATION

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. Located in the High Density Tourist District, there are a variety of recreation types and opportunities surrounding the project area, ranging from gaming and public community parks to mountain sports, water sports, golf, camping, and other outdoor activities and public and private venues. More emphasis is placed on providing a variety of recreation in the area to sustain the year-round tourist economy and provide for the recreational needs of the local community.

The project area currently houses a paved parking lot serving the MontBleu Casino and Resort at the intersection of US 50 and Lake Parkway. Surrounding recreation includes: gaming at the MontBleu (adjacent), Hard Rock, Harvey's, and Harrah's casinos; Edgewood Lodge and Golf Course; Kahle Community Center and Park; Nevada Beach campground and day use area; Van Sickle Bi-State Park; Heavenly Mountain Resort; South Lake Tahoe-El Dorado Recreation Area; Bijou Community Park; Lakeside Beach, Timber Cove, and Ski Run marinas; Roundhill Pines Beach Resort; and other lake access points, beaches, hiking trails, and cross country ski areas. Area schools offer additional spaces for traditional sports such as basketball/volleyball courts, baseball/softball fields, football/soccer fields. The South Tahoe Recreation Center provides an indoor swimming, gym, and community center in South Lake Tahoe and includes outdoor basketball and volleyball courts. The South Lake Tahoe Ice Arena is an indoor ice rink open to the public for ice skating, hockey, curling and parties, and is currently home to the Tahoe Icemen, the local Western States Tier II Hockey League team.

IMPACT EVALUATION CRITERIA

A recreation impact is defined as a change in recreation demand that results in a physical change to the existing facilities, the creation of a conflict between recreation uses, or a change in land use that results in decreased access to public lands, the lake or waterways.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts to recreation associated with the No Action alternative.

Impact: Create Additional Recreation Facility Demand or Capacity (TRPA 19.a, 19.b)

Analysis: The Proposed Action and Alternatives A, B, and C would establish a new regional indoor entertainment venue that would provide space for sports events, performances, and conventions/banquets. This would not detract from existing outdoor recreation opportunities. Use of the facility would differ from existing recreational facilities and would not compete with those uses as the facility would not be used for everyday, casual recreation such as an outdoor or school-related basketball court or sports field. The facility would be used for scheduled, large events, with a large spectator base, such as semi-professional hockey, regional tournaments or competitions, or large sports clinics.

A Feasibility Study for the Proposed Action was conducted in 2015. The study indicates

that there are several entertainment venues in the South Shore area, including Harvey’s outdoor theater (8,000 seats), MontBleu theaters (4,800 outdoor and 1,750 indoor), and Harrah’s South Shore Room (750 seats). Existing event space ranges from 700 to 9,200 square feet. Although new capacity would be created, the capacity would not detract from existing recreational resources as it would address a different type of recreational need and would not be used or available for daily public recreation.

Population increases associated with the Proposed Action are addressed in Chapter 13 of the EA. The Proposed Action would generate approximately 12 new full-time positions. Large events would generate up to 225 part-time positions (during a maximum 6,000-seat event); however, these jobs would primarily be filled by existing part-time or seasonal workers. This change in population associated with new employment would be spread through the South Tahoe area in both California and Nevada as well as the Carson Valley. Existing recreational facilities would accommodate this growth and no increase in recreational demand would occur that would result in the need to construct additional facilities. Likewise, the slight increase in demand would not overburden existing facilities or cause a decrease in the quality of the facilities as a result of demand.

Increased tourist populations associated with attendance at the proposed TSEC would not be of a size that would negatively affect existing recreation. The variety and dispersion of recreation facilities and opportunities in the area would dispel demand in any one area or for any particular recreational facility.

Mitigation: No mitigation is required.

Impact: Potentially Create Conflicts Between Existing or Proposed Recreation Uses (TRPA 19.c)

Analysis: The Proposed Action and Alternatives A, B, and C would develop a new community entertainment venue that accommodates a different variety of entertainment options than the existing casino facilities. While banquets and small conferences can be accommodated in the existing casino facilities, the proposed TSEC would also facilitate theater and concert events, as well as a range of sporting events including hockey, volleyball, and basketball. Existing recreational resources in the area, such as schools or the South Tahoe Recreation Center, offer sport courts; however, none are sized to accommodate tournaments or professional/semi-professional spectator sporting events, where regulation-sized facilities and adequate seating are available. Likewise, the South Lake Tahoe Ice Arena, offers a hockey venue; however, the facility can only be used for ice sports and has limited seating. These are facilities that also serve the active recreational needs of the existing community. The Proposed Action would not be a facility catering to the everyday recreational needs of the community and would be a special event location. Therefore, the uses and purposes of the existing facilities are very different from those of the proposed TSEC.

There are no recreation facilities within the footprint or access points of the Proposed Action or Alternatives A, B, and C that would be affected by construction or that would be removed to accommodate the TSEC.

Proposed recreation uses in the area include renovation of existing facilities, ongoing expansion of the summer recreation facilities under the Heavenly Mountain Resort Epic Project, and a convention center in South Lake Tahoe, for which plans have been abandoned. The Tourist Core Area Plan, adjacent to the South Shore Area Plan, includes standards for a convention center and the Regional Plan EIS included development of a

convention center under Project 3 / The Chateau Village at Heavenly Village in the cumulative development scenario. Project 3 included a 50,000 square foot convention center and 21,000 square foot pre-function area, along with shops, restaurants, a spa, and condominium-hotels. Although Project 3 was approved by the South Lake Tahoe City Council, the project was not completed as planned due to funding, and a convention center is no longer included in the project plans as a result of execution of a 2016 Release and Extinguishment of Certain CC&Rs. Since no private developer could make the convention center for Project 3 work financially, the obligation to build a convention center has been abandoned, legally released and extinguished, and will not be developed. Therefore, the Proposed Action or Alternatives would not conflict with the City's abandoned plans for a convention center.

Mitigation: No mitigation is required.

Impact: Potentially Decrease Access to the Lake, Waterways, or Public Land (TRPA 19.d)

Analysis: The Proposed Action and Alternatives A and C are proposed within an existing parking lot at the intersection of US 50 and Lake Parkway. The parking lot does not specifically provide access to public lands, waterways, or the lake, and use of the parking lot for this proposed facility would not limit access to those resources. No impact would occur.

Alternative B is located on the same property but would be placed behind the MontBleu parking garage. This would not affect access to the lake, waterways, or public land.

Mitigation: No mitigation is required.

REFERENCES

Douglas County. 2013. Douglas County Master Plan: South Shore Area Plan. Adopted September 25, 2013.

3.10 PUBLIC SERVICES AND UTILITIES

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. The project area is located almost entirely within the graded and paved parking lot serving the MontBleu Casino and Resort and is within an existing urban area currently served by the following utilities and public service providers:

- Law Enforcement – Douglas County Sheriff’s Office
- Fire Protection – Tahoe Douglas Fire Protection District
- Schools – Douglas County School District
- Public Parks – Douglas County, States of Nevada and California, City of South Lake Tahoe
- Government Services – Douglas County, NV
- Water – Edgewood General Irrigation District
- Sewer – Douglas County Lake Tahoe Sewer Authority
- Electricity – Nevada Energy
- Natural Gas – Southwest Gas
- Communications – Spectrum, Frontier, and various others
- Solid Waste – South Tahoe Refuse

Service and utility providers potentially affected by the Project were contacted mid-March, 2018 to determine potential impacts.

Water, sewer, and fire protection water lines and infrastructure are located in the project area. This includes a 16-inch water main line and a 14-inch water main line that serve the Stateline area, an eight-inch fire line, an eight-inch domestic water line serving the MontBleu facilities, 18-inch storm drain line and associated storm drain vaults, and nearby sanitary sewer lines (within U.S. 50, Lake Parkway, and the MontBleu service access road at U.S. 50). Electrical, gas, and communication lines are within U.S. 50 adjacent to the Proposed Action.

A number of public services are located in the vicinity. The nearest Douglas County Sheriff’s Office is located at U.S. 50 and Kahle Drive, approximately a half mile from the project area. The nearest Tahoe Douglas Fire Protection District station (Station 23) is located at 193 Elks Point Road, approximately 1.5 miles from the project area. South Lake Tahoe Fire Department Station 1 is also located within 1.5 miles to the south of the project area. The nearest schools are Bijou Community School and South Tahoe School in South Lake Tahoe, CA (Lake Tahoe Unified School District), approximately 2 miles southwest of the project area, and Zephyr Cove Elementary (Douglas County School District), approximately 4 miles north of the project area. The Douglas County Clerk’s office is located across U.S. 50 from the Proposed Action, and the Douglas County Department of Motor Vehicles is located at U.S. 50 and Kahle Drive. Nearby public parks include the Van Sickle Bi-State Park, operated jointly by the Nevada Division of State Parks and the California Department of Parks and Recreation. Located south of the project area, the park includes hiking, biking, and equestrian trails and is a natural park. Kahle Park,

operated by Douglas County, is located north of the project area and includes baseball/softball fields, soccer fields, play structures, basketball facilities and park amenities such as restrooms and picnic areas.

IMPACT EVALUATION CRITERIA

An impact to public services and utilities is defined as a physical change to the existing conditions. An impact is determined to be significant if environmental constraints do not allow for the provision of adequate services or utilities, or if the Proposed Action results in the need for utility infrastructure capacity improvements or additional services.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts to public services and utilities associated with the No Action alternative.

Impact: Potential to Adversely Affect Fire Protection Service (TRPA 14.a)

Analysis: The Tahoe Douglas Fire Protection District (District) expressed concern regarding the Proposed Action on April 6, 2018. The District's concern focused on the potential increase in demand on staff to process permits and respond to calls. A doubling in demand from current levels to process permits and a doubling to tripling of call volumes during events were cited. The District anticipates a tripling in call volumes when TSEC events correspond with other special events in the area such as holidays or celebrity golf events. Other concerns included response areas with staging locations, increase in staffing demands and associated increase in required response equipment such as engines and ambulances, and their involvement in building design and the internal radio repeater coverage.

As part of the permitting process the District has the authority to review designs and plans to ensure consistency with Fire Code and District requirements. During construction, the District will have the authority to inspect fire equipment and systems in the building, including the internal radio repeater. The public safety communications system inside the facility must have a properly installed and operating building repeater system. The County Code requires such a system to be installed and the Certificate of Occupancy allowing operations to occur will not be issued until the Tahoe Douglas Fire Protection District, Douglas County Sheriff's Office, and County Communications have conducted system testing to ensure proper operation. Therefore, Proposed Action design and system operations would be reviewed and approved by the District before occupancy, reducing potential impact in regard to these two District concerns.

Alternatives A and C would result in similar impacts as the Proposed Action as they would be located in the same footprint and would be the same as the Proposed Action, with the exception of building height (Alternative A) and implementation of a paid parking program and microtransit shuttle programs (Alternatives A and C).

The configuration of Alternative B and associated reconfiguration of existing MontBleu access behind MontBleu and the parking garage would reduce emergency response access. While the Proposed Action and Alternatives A and C would be located at the intersection of U.S. 50 and Lake Parkway, with access to the structure available on all sides, access to the structure under Alternative B would be limited on each of the sides facing Lake Parkway. The area between the structure and the existing MontBleu structure and parking garage would have no parallel aerial fire apparatus access, as no

vehicular access would be present within this section. Emergency access would be limited to the southwest and northeast corners of the TSEC and emergency vehicular access would be limited to the MontBleu access road from U.S. 50, the entry on U.S. 50, and the parking lot access point from Lake Parkway. This would interfere with emergency response access to the proposed TSEC and MontBleu. Emergency service access would no longer be continuous around MontBleu. This cannot be mitigated without relocating the TSEC further east, causing more significant impacts to hydrological and biological resources and ground coverage. Existing water and fire lines and associated backflow preventers located at the rear of MontBleu within the Alternative B footprint would need to be reconfigured/relocated; however, this would occur as part of construction and the appropriate permits and authorization would be required prior to implementation. Alternative B results in a significant and unmitigable fire suppression access impact.

Mitigation: No feasible mitigation is available to address the fire access impact under Alternative B without moving the layout further east, causing greater environmental impact, or reducing the size of the facility to allow for an access road between the buildings, which would conflict with the purpose and need of the Proposed Action.

Implementation of the following measures would ensure adequate funding and coordination with the District, reducing impacts under the Proposed Action and Alternatives A and C.

PSU-1 Construction and Operation Coordination

The Applicant and contractor shall coordinate with law enforcement and fire protection agencies, utility companies, and businesses within the vicinity of the construction area prior to and during construction activities. This coordination shall inform affected parties of the construction schedule and allows development of actions to best maintain access and service in the active project area. Coordination with utility companies shall follow accepted practice. During final plan preparation, utilities shall be located on the civil plan sheets and confirmed to identify the depth to conduit, pipeline, or other facility and to avoid significant grade changes for maintenance of minimum coverage depths for safety and compliance. If necessary, utility infrastructure, including underground or aboveground connections, shall be relocated. Prior to construction, the contractor shall contact Underground Service Alert (USA) to ensure buried lines are properly located and marked and provide utility companies with an accurate schedule noting when construction occurs in the vicinity of their facilities.

PSU-2 Fire District Funding Agreement

Prior to occupancy and operation, the Applicant shall meet with the Tahoe Douglas Fire Protection District (District) to evaluate staffing and/or equipment needs generated by TSEC operations. A Funding Agreement between the Applicant and District shall be negotiated and established prior to construction that requires the Applicant to pay their proportional fair share of documented impact fees necessary to fund increased fire protection and emergency services (e.g. additional equipment or staffing) to maintain current levels of service.

Impact: **Potential to Adversely Affect Law Enforcement Service (TRPA 14.b)**

Analysis: The Douglas County Sheriff's Office was contacted regarding the Proposed Action in March, 2018. Undersheriff Paul Howell responded that buildings similar to the proposed

TSEC are typically not “crime magnets” and that current staffing levels could handle calls generated by the Proposed Action; however, more staffing could be required, depending on the nature and attendance of events. A daytime banquet or conference with a smaller number of attendees is has less potential to generate a need for law enforcement than a sporting or other nighttime event booked out at capacity. The Proposed Action includes an office for security and a first aid station on the first floor.

Events would typically have one sworn security personnel per thousand attendees and four security personnel per thousand attendees to check bags, operate metal detectors, and secure back stage. This onsite security, as well as traffic management would address potential security and law enforcement concerns, and would address potential increase in law enforcement demand during events. It is recommended that TDVA notify the Sheriff’s Office regularly of upcoming events to maintain clear communications.

Undersheriff Howell also indicated that the public safety communications system inside the facility must have a properly installed and operating building repeater system. The County Code requires such a system to be installed and the Certificate of Occupancy allowing operations to occur will not be issued until the Tahoe Douglas Fire Protection District, Douglas County Sheriff’s Office, and County Communications have conducted system testing to ensure proper operation. Therefore, the Douglas County Sheriff’s Office recommends hiring a qualified communications contractor specifically to install the repeater system to ensure installation is completed correctly.

Alternatives A, B, and C would result in the same impacts as the Proposed Action.

Mitigation: Implementation of PSU-1 would ensure sufficient coordination with law enforcement.

Impact: Potential to Adversely Affect Schools (TRPA 14.c)

Analysis: The Proposed Action is located within the Douglas County School District. Schools serving the area include Whittell High School (7-12) in Zephyr Cove and Zephyr Cove Elementary (K-6). Schools in South Lake Tahoe are operated by Lake Tahoe Unified School District and include Bijou Community School (elementary), South Tahoe Middle School, South Tahoe High School, and various others. George Whittell High School serves just over 200 students and averages 10-15 students per classroom, indicating available capacity. Zephyr Cove Elementary serves approximately 180 students and averages about 21 students per classroom, with more limited available capacity. School enrollment in the area has been declining, resulting in school closure and consolidation; therefore, these schools have capacity to serve additional students. Enrollment is higher in South Lake Tahoe, but general enrollment decline has occurred on the California side as well. Bijou Community School has 30 classrooms and approximately 615 students, or about 20 students per classroom. South Tahoe High School serves approximately 1,020 students and the average class size has been decreasing in the past four years. South Tahoe Middle School serves approximately 900 students with average class size at approximately 23 students per classroom (LTUSD SARC 2016-17, DCSD SAR 2015-16).

The Proposed Action and Alternatives A, B, and C do not propose housing that would potentially increase school enrollment, but has the potential to increase full and part-time employment in the area. The increase in employment opportunities is not anticipated to significantly increase housing demand or population. Outside of events, the TSEC would house up to 25 full-time weekly employees, including existing Tahoe Douglas Visitor’s Authority staff. Approximately 12 new full-time positions would result from the

Proposed Action. Sold-out large events would require 200 to 225 part-time employees, including food service staff. Implementation of the paid parking program and microtransit shuttle service, which are not proposed for Alternatives A, B, or C, may increase parking staff at the casinos that do not currently staff parking attendants or operate automatic parking payment machines, and may increase transit staff when the microtransit shuttle is in operation (drivers, dispatch/office staff, or roughly 6 seasonal transit employees). Most of these positions are likely to be filled by existing part-time tourist industry employees and existing security personnel. In addition, the facility would improve tourism in the spring and fall when seasonal workers are in need of employment to maintain steady income. It can be expected that the created positions would primarily be filled by existing residents or employees in the area and that a small portion of employees would be new to the area. No significant impact on school enrollment or facilities is anticipated.

Mitigation: No mitigation is required.

Impact: Potential to Adversely Affect Public Parks, Public Facilities, or Other Governmental Service (TRPA 14.d, 14.e, 14.f)

Analysis: There are no public parks located within the MontBleu parking lot. Nearby public parks include the Van Sickle Bi-State Park, operated jointly by the Nevada Division of State Parks and the California Department of Parks and Recreation. Located south of the project area, the park includes hiking, biking, and equestrian trails. Kahle Park, operated by Douglas County, is located north of the project area and includes baseball/softball fields, soccer fields, play structures, basketball facilities and park amenities such as restrooms and picnic areas. The Proposed Action and Alternatives A, B, and C would not compete with the parks, limit access to the parks, or increase demand for parks in the area.

Douglas County maintains public facilities and provides other government services to the project area. Although the Proposed Action and Alternatives A, B, and C would generate additional traffic during events, the traffic would not be of a nature that would accelerate roadway deterioration. Under the Proposed Action, microtransit and paid parking programs would help achieve an overall decrease in vehicle trips, potentially benefiting existing public facilities and roadways. Likewise, other government services would not be adversely affected by the construction or operation of the TSEC.

Mitigation: No mitigation is required.

Impact: Potential to Consume Large Amounts of Fuel or Energy or Require Development of New Energy Sources or Infrastructure (TRPA IEC 15.a, 15.b, 16.a)

Analysis: NV Energy and Southwest Gas were contacted in March, 2018 to determine if the Proposed Action would affect their facilities or capacity levels. Southwest Gas indicated there is adequate capacity in the area to serve the Proposed Action and there are no existing facilities in the parking lot that would need relocation (Hearn, 3/19/18). NV Energy indicated there would be no conflict or issue and identified the overhead wiring along US 50 as existing infrastructure to be avoided during construction (Powell, 3/16/18). NV Energy also indicated that electrical connection could be made at the existing vault in front of MontBleu. The connections would be sized to accommodate the voltage and service size of the facility, but no additional infrastructure or capacity increase would be needed outside the facility connection to the existing system.

Fuel would be consumed during construction (electricity and diesel fuel) and operations would utilize electricity and natural gas for lighting, facility heating and cooling, kitchen operations, offices, sound systems, and other event-related demands. Fuel would also be consumed to transport material deliveries to the TSEC for each event. Construction fuel use would be temporary and development of new fuel sources to meet TSEC demand would not be necessary.

Alternatives A and C would result in the same impact as the Proposed Action, as would Alternative B, with the exception of the utility connection points. No impact in regard to utility service, infrastructure, demand, or capacity would occur.

Mitigation: No mitigation is required.

Impact: Potential to Increase Water Demand Beyond Current Capacity (TRPA IEC 16.c)

Analysis: Edgewood Water Company foresees no issues providing water service to the Proposed Action and indicates there is adequate storage and supply to meet the additional demand (McKay, 3/19/18).

There is an existing main water line located within the parking lot, directly beneath the Proposed Action footprint, and across US 50. New water main lines on the site would be included in the Proposed Action, which would connect to the existing lines in Lake Parkway and with the existing line crossing US 50. New 8-inch pipeline would connect to the proposed fire hydrants located along Lake Parkway, at the South end of the TSEC building, and at the proposed lawn area on the South side of the TSEC, and would connect the facility to the main line. Approximately 615 lineal feet of 8-inch water pipeline would be constructed. New 16-inch main line would replace the existing main line in the building footprint. The line would be rerouted to run along the southern perimeter of the TSEC within the paved access routes and up to the US 50 crossing along the landscaped area on the West side of the TSEC. Approximately 1,000 lineal feet of 16-inch main line would be installed to reroute the existing main line. The Proposed Action would install valves and water meters to serve the TSEC and would also install thrust blocks and relocate the valve and pressure station on the existing main line.

Alternatives A and C would result in the same impacts and connection points as the Proposed Action. Alternative B would result in the same demand, but would also require relocation of the existing 14-inch waterline and eight-inch dedicated fire line located directly beneath the proposed TSEC footprint.

Mitigation Measure PSU-1 requires design and construction include coordination efforts with the utility providers to ensure that new utilities are constructed to code, existing utilities are avoided or relocated according to requirements, adequate protections are in place and that work is adequately inspected.

Mitigation: No additional mitigation is required.

Impact: Potential to Utilize Additional Sewer Service Beyond Current Capacity (TRPA IEC 16.d)

Analysis: The Douglas County Lake Tahoe Sewer Authority was contacted regarding potential impacts to the sewer system infrastructure, operations, and long-term planning. Sanitary sewer flows are pumped through the Authority (formerly Douglas County Sewer Improvement District No. 1) through the Beach and Main Pump Stations. System capacity is 3.75 million gallons per day (mgd) (average monthly flows), with maximum day flows up to 4.2 mgd. Treatment facilities include screening, primary sedimentation, activated sludge with mechanical aeration, secondary clarification, and disinfection.

Treated effluent is pumped into Carson Valley for agricultural land application and irrigation. Dewatered solids are hauled to Bently Ranch in Minden for composting.

Although sewer demand would increase during events, the average daily use of the TSEC would not result in a measurable increase in flow volumes. The South Shore Area Plan did not identify a significant impact to sewer services with implementation of the Area Plan. Prior to construction, the applicant would be required to produce a will serve letter from the Douglas County Lake Tahoe Sewer Authority prior to issuance of permits.

No increase in potential demand would occur under Alternatives A, B, and C in comparison with the Proposed Action, and the impacts would be the same.

Mitigation: No mitigation is required.

Impact: Potential to Exceed Storm Water System Capacity (TRPA IEC 16.e)

Analysis: Storm water is discussed in Hydrology. Onsite capture of runoff is included in the Proposed Action design. Since the majority of the site was already a parking lot, the addition of a structure on the parking lot would not increase the generated runoff volume. Although a small landscape area existing within the parking lot would be paved, a new landscape area would be created and runoff capture systems would be retained. The lawn located between the proposed TSEC and MontBleu building would include a groundwater recharge basin and a 11,500 cubic foot storm drain basin to capture roof runoff. Total impermeable coverage would decrease under the Proposed Action. The Proposed Action would not result in a substantial change to existing runoff volumes and therefore would not significantly affect the existing storm water system.

Alternatives A and C would result in the same onsite coverage, stormwater generation and capture as the Proposed Action.

Alternative B would increase onsite impervious coverage as compared to the Proposed Action as it would extend beyond the limits of the existing parking lot to accommodate a portion of the TSEC and creation of the service access loop road, and would grade over 2.8 acre of existing undisturbed land. Like the Proposed Action, Alternative B would include development of infiltration and groundwater recharge basins. These systems would be sized and designed based on the additional runoff volumes of Alternative B and the site limitations of this sloped location. Particularly, runoff would be routed around the east side of the TSEC where the structure is recessed below ground surface and collection points would be needed around the service access point and roadway. Designs for Alternative B would be required to demonstrate adequate runoff collection prior to approval.

Mitigation: No mitigation is required.

Impact: Potential to Increase Solid Waste Volumes Beyond Current Capacity (TRPA IEC 16.f)

Analysis: Events will produce additional solid waste, with amounts varying based on event type and attendance. Regular operations will also result in some solid waste generation from office use. Both non-recyclable and recyclable materials would be generated. As shown in the site plans, a commercial trash compactor unit would be located in one of the loading bay areas at the back of the TSEC. South Tahoe Refuse has indicated they have capacity and resources to meet the additional service needs generated by the TSEC (South Tahoe Refuse, 2018). In anticipation of new local and state requirements, South Tahoe Refuse has indicated they would like to coordinate with the Applicant to ensure onsite operations allocate adequate space for solid waste service and that operations

include recycling. No impact would occur that would increase solid waste volumes beyond capacity or service limits.

Alternatives A, B, and C would generate the same solid waste volumes as the Proposed Action and would be served by South Tahoe Refuse. Alternative B would disrupt the existing MontBleu service route, requiring service vehicles to use the alleyway on the south side of the building to serve both the proposed TSEC and MontBleu; however, service would continue to occur with this limitation.

Mitigation: No mitigation is required.

Impact: Potential to Increase Communications Demand Current Capacity (TRPA IEC 16.b)

Analysis: Communications are provided to the area and infrastructure is located within the US 50 right-of-way along the west end of the project area. TSEC operations would utilize communications in a similar manner as a commercial development. The TSEC would include office space (approximately 10 offices for TDVA staff and TSEC operations personnel) six multi-purpose meeting/conference rooms for corporate meetings/conventions, a ticket box office, and similar operations that utilize communications for telephone and internet service; however, such uses are not anticipated to result in a significant increase in demand. New service connections would be required to connect the proposed facility to the existing infrastructure in the right-of-way, but no system-wide improvements would be needed as a direct result of the Proposed Action. Alternatives A, B, and C would result in the same impact and no system-wide improvements would be required.

Mitigation: No mitigation is required.

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3.11 CULTURAL AND HISTORICAL RESOURCES

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. The majority of the project area consists of a graded and paved parking lot serving the MontBleu Casino and Resort. While the majority of the area has been disturbed, a small rectangular area within the parking lot contains trees, boulders, and landscaping. The Nevada Department of Conservation and Natural Resources, State Historic Preservation Office (NSHPO), the Nevada Cultural Resources Inventory System indicates the project area has not been inventoried for archaeological resources and there are no recorded cultural resources in the project area (NSHPO 1/22/18). Per NSHPOs recommendation, Darrel Cruz, Tribe Historic Preservation Officer of the Washoe Tribe of Nevada and California was contacted on March 14, 2018. No response has been received to date.

Prehistory

Prehistoric land use patterns, derived from protohistoric Washoe ethnography, are generally consistent with interpretations derived from numerous archaeological investigations within the Tahoe Sierra. In general, the archaeological record indicates a shift from hunting-based societies in earlier times to populations with increasing reliance on plant foods by the time of historic contact. The pre-Archaic adaptive strategy may have involved sparse populations, high residential mobility, and non-intensive plant food processing and storage. The Archaic strategy entailed a decrease in overall mobility, increased land-use diversity, a broadened diet and intensified resource procurement over the Pre-Archaic. The shift in adaptive strategies may be attributed partially to factors involving paleoclimatic and demographic change.

Evidence of prehistoric subsistence activities are found along the mountain flanks as temporary small hunting camps containing chips of stone and broken tools. In the high valleys, more permanent base camps are represented by stone chips, tools, grinding implements, and house depressions. Along the lakeshore, more permanent base camps are represented by stone chips, tools, grinding implements, bedrock mortars, and possible house depressions. Fishing sites can be marked by the presence of broken tools and bedrock milling features.

Ethnography

The study area lies entirely within the territory of the Hokan-speaking Washoe. The Washoe are a recognized tribe by the U.S. Government and have maintained an established land base. The Washoe once embodied a blend of Great Basin and California in their geographical position and cultural attributes. While they were an informal and flexible political collectivity, Washoe ethnography hints at a level of technological specialization and social complexity for Washoe groups, non-characteristic of their surrounding neighbors in the Great Basin. Semisedentism and higher population densities, concepts of private property, and communal labor and ownership were reported and may have developed in conjunction with their residential and subsistence resource stability.

Lake Tahoe was both the spiritual and physical center of the Washoe world. The Washoe lived along its shores, and the locations of several Washoe encampments in the Lake Tahoe Basin are known.

By the 1850s, Euroamericans had permanently occupied Washoe territory and changed traditional lifeways. Mining, lumbering, grazing, commercial fishing, tourism, and the growth of settlements disrupted traditional Indian relationships to the land. As hunting and gathering wild foods were no longer possible, the Washoe were forced into dependency upon the Euroamerican settlers. The Washoe were employed as domestic laborers around the resorts and settlements and in basket weaving, commercial fishing, and as guides for back country sportsmen. Beginning in 1917, the Washoe Tribe began reacquiring a small part of their traditional lands.

History

The opening of the Comstock mining boom in Nevada, beginning in mid-1859, and the need to transport people and supplies to the mines of the Comstock and the Motherlode prompted a sudden surge of heavy wagon and freight traffic through the Lake Tahoe Basin. In addition, unsuccessful miners often turned to industries in support of the mines, such as farming and grazing which were operated on a seasonal basis in the Tahoe Basin. Hay and a variety of vegetable and orchard crops were cultivated in Tahoe's south shore, while cattle and sheep were driven up from ranches in the San Joaquin, Sacramento, and Carson Valleys (Scott 1957:195). By 1869 the Central Pacific Railroad over Donner Pass had diverted much of the traffic to and from the Comstock away from the Lake Tahoe Basin, however, the system of roads continued to support the lumbering communities and later the resorts along Lake Tahoe's shore.

As the Lake Tahoe Basin attracted more tourists and recreationists, diverse resorts appeared along the shores of the lake. Vacationers also stayed in rustic hotels and cottages or camped. The movement toward year-round use of the Lake Tahoe Basin brought building and development to the Lake's shores. The close of World War II opened the door to wholesale land development on the south end of the lake.

IMPACT EVALUATION CRITERIA

Actions that may affect cultural resources are governed by the National Historic Preservation Act of 1966, as amended, through the implementing regulations set forth by the Advisory Council on Historic Preservation in 36 CFR Part 800. Pursuant to 36 CFR Part 800.4(c)(1), the lead federal agency shall utilize the National Register Criteria (as defined in 36 CFR Part 60.4) in determining the significance of a cultural resource for eligibility to the National Register of Historic Places. The criteria require the property to be at least 50 years old, retain the integrity of the location, design, associations, etc., and possesses an association with a significant event, person, or characteristic, or can yield important information.

Historic preservation and archaeology are addressed in Nevada Resources Code Chapter 383, which provides definition of various resources and guidance for the inadvertent discovery of resources and remains.

In compliance with federal and state significance criteria, TRPA has also adopted guidelines to determine the significance of cultural properties within the Lake Tahoe Basin. Chapter 67 of the TRPA Code of Ordinances provides for the recognition, protection, and preservation of the region's significant historical, archaeological, and paleontological resources and sets standards for resource protection, discovery of resources, designated historic resources, eligibility as historic resources, projects relating to historic resources, and exceptions.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts to cultural resources associated with the No Action alternative.

Impact: Propose to Disturb or Alter an Archaeological or Culturally Significant Site (TRPA 20.a, b, d, e)

Analysis: As indicated by the Nevada Department of Conservation and Natural Resources, State Historic Preservation Office, the Nevada Cultural Resources Inventory System indicates the Project area, including the area for Alternatives A, B, and C, has not been inventoried for archaeological resources and there are no recorded cultural resources in the Project area. They also indicate that archaeological resources are documented in proximity to the area and subsurface archaeological deposits may or may not be present. Potential to disturb subsurface deposits is discussed in the following impact analysis. Since there are no known cultural sites within the Project area, and no resources were identified in the parking lot, no significant impact is anticipated, particularly since the project area was previously disturbed and graded when the MontBleu facilities, utilities, and parking lots were developed. Since the area is nearly completely covered in pavement or landscaping, site surveys have little potential to reveal resources.

Mitigation: No mitigation is required.

Impact: Potential to Disturb Potentially-Significant Prehistoric or Historical Resources (TRPA 20.c)

Analysis: With any ground-disturbing activity, there is always the possibility of encountering buried resources that were not revealed during surface investigations. Because of the location of the project area in the Lake Tahoe Basin, a region of known prehistoric and historical use, the potential for encountering unknown subsurface resources is moderate to high within the project area. This impact is considered to be potentially significant, and is slightly increased for Alternative B, as compared to the Proposed Action and Alternatives A and C, due to additional disturbance of approximately 2.26 acres of unpaved land. While this area has likely been disturbed given the presence of the existing developments and roadways, a field survey of this unpaved area will need to be conducted prior to construction activities.

Development requirements for the Area Plan include 25-foot setbacks from Lake Parkway and US 50 and a 95-foot height limit. The structure would measure 85-feet, one inch in height and the structure is setback over 25-feet from the existing sidewalks on US 50 and Lake Parkway for both the Proposed Action and Alternative C. Alternative A would reduce building height by over 11 feet (73 feet). Alternative B would relocate the building behind the existing MontBleu parking garage, further increasing setbacks from US 50 and maintaining the setback over 25-feet from Lake Parkway.

Mitigation: CUL-1: Inadvertent Resource Discovery.

A qualified cultural resources monitor shall be onsite during excavation and grading activities. In the event that buried cultural resources are uncovered during the course of construction activities, such as excavation, construction operations within a 50-foot radius of the find shall immediately stop until the monitor can assess the find for its significance and may notify the Nevada State Historic Preservation Office, if appropriate. At the discretion of the monitor and/or Nevada State Historic Preservation Office, the undertaking may proceed provided reasonable efforts are implemented to minimize harm

to the resource until a determination of significance is made and appropriate protection measures are implemented. Cultural resources could consist of, but not be limited to, artifacts of stone, bone, wood, shell, or other materials, or features, including hearths, structural remains, or dumps. A standard inadvertent discovery clause shall be included in all construction contracts to inform contractors of this requirement.

If human burials are encountered, all work in the area will stop immediately and the County Coroner shall be notified. If the remains are determined to be Native American in origin, the State Native American Heritage Commission and the appropriate Native American organization, pursuant to the requirements of the Native American Graves Protection and Repatriation Act of 1990 Section 3(d), shall be notified. Following notification, and upon certification that notification has been received, the undertaking may resume after 30 days.

Mitigation: **CUL-2: Field Survey.**

Once the ground is free of snow cover and prior to construction, a field survey of the site shall be conducted by a qualified professional archaeologist to determine if resources are present. The survey shall assess whether there is any evidence of pre-historic, historic, or cultural resources. If resources are identified, they shall be documented and mapped. A report shall be prepared that identifies the site characteristics, literature consulted, survey methodology, results of the survey, and potential impacts and mitigation or protection measures, if any, based on the survey findings.

Impact: Potential to Disturb a Historical Resource or a Site Associated with Historically Significant Persons or Events (TRPA 20.b, c)

Analysis: As indicated by the Nevada Department of Conservation and Natural Resources, State Historic Preservation Office, the Nevada Cultural Resources Inventory System indicates there are no recorded cultural resources in the project area, which includes the Proposed Action, Alternative A, Alternative B, and Alternative C. Since the project area currently consists of a paved parking lot, adjacent landscaped areas, and a small undeveloped tree-lined setback area immediately adjacent to the parking lot and MontBleu parking garage and tower, there are no historic structures or culturally sacred uses or values associated with the site. No historically significant events or persons are associated with the project area.

Mitigation: No mitigation is required.

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3.12 VISUAL RESOURCES

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA). Douglas County defines the area as Commercial and it is zoned High Density Tourist Overlay. The TRPA Regional Plan and Douglas County South Shore Area Plan identify the project area as a High Density Tourist District.

The project area currently consists of a paved parking lot serving the MontBleu Casino and Resort at the intersection of US 50 and Lake Parkway. This area also includes a small landscaped area within the parking lot that contains several trees, boulders, a picnic table, and low lying vegetation. A portion of the undeveloped land southeast of the existing parking lot is also included in the project area.

The Proposed Action is located at the northern end of the casino/tourist area and is a northern gateway into this commercial area of hotels, shops, restaurants and entertainment. Surrounding land uses include the MontBleu Casino and Resort, Hard Rock Hotel and Casino, former Wells Fargo Bank building, Edgewood Golf Course, and undeveloped land owned by Edgewood. Existing views along the US 50 corridor are primarily urban, with foreground views of the existing casinos and the golf course. Views of forested ridgelines and mountain peaks comprise the background views.

Scenic Resource Areas and Units

The High Density Tourist District (Casino Core) is most visible from the Scenic Units and Recreational Areas listed below. The project area is also visible from other scenic units or recreational areas around the Basin (e.g., Recreational Area 35 – Regan Beach), but the potential effects described in the evaluation below would be similar or reduced from these other more distant units. Recreational Area 37 (Heavenly Ski Resort) is located within the viewshed for the proposed TSEC, but would not be affected by the construction of the TSEC due to the distance and intervening vegetation between the structure and the viewpoint location analyzed in the 1993 Scenic Evaluation (Heavenly CA Base Area).

Scenic Recreational Areas

- Area 36 (El Dorado Beach)
- Unrecorded Resource Area (Van Sickle Bi-State Park)

Scenic Roadway Travel Route Units

- Roadway Unit 31 (Meadow)
- Roadway Unit 32 (Casino Area)

Scenic Resources

- Roadway Unit Resource 32.3 (Casino Area Views to Lake)

Scenic Shoreline Travel Route Unit

- Shoreline Unit 30 (Edgewood)

IMPACT EVALUATION CRITERIA

The TRPA established a baseline inventory of the scenic resources in the Lake Tahoe Basin (Wagstaff and Brady 1983, TRPA 1993). The Basin was divided up into separate roadway, shoreline, and recreation area scenic units, and each unit was given a scenic resource rating and threshold. Scenic resource thresholds were developed using an inventory of subcomponents for specific types of scenic resources within each roadway, shoreline, and recreation area unit. The TRPA prepared a *Scenic Quality Improvement Program for the Lake Tahoe Basin* (SQIP) to set forth a comprehensive threshold attainment program to improve the overall scenic quality of the built environment in the roadway and Lake Tahoe shoreline views that do not meet scenic quality thresholds (TRPA 1989). Later, the TRPA prepared the 1993 Lake Tahoe Basin Scenic Resource Evaluation to identify elements that degrade the scenic quality from recreational facilities and to provide recommendations for preserving and enhancing scenic quality from recreational facilities and bike trails.

As part of the 2012 TRPA RPU process, TRPA identified potentially significant scenic impacts related to increasing building heights in community centers (including the High Density Tourist District). TRPA adopted scenic mitigation measure 3.9-1b to require no net increase in visual prominence for redevelopment of existing high-rise structures in the High Density Tourist District. Because the TSEC project does not include redevelopment of an existing high-rise structure, mitigation measure 3.9-1b does not apply to the Project. The following standards are applicable to the scenic analysis of the TSEC project.

- The TSEC is not subject to the scenic findings in TRPA Code Section 37.7 – specifically Sections 37.7.16 (Finding 16 – Three- or Four-Story Buildings in Town Centers and Three- to Six-Story Buildings in the Regional Center) and 37.7.17 (Finding 17 – Redevelopment in High Density Tourist District within Existing Visual Prominence) and the findings identified therein do not apply to the proposed TSEC in the High Density Tourist District of the South Shore Area Plan.
- Maximum permissible height for a new TSEC building in the High Density Tourist District of the South Shore Area Plan is 95 feet.
- The TSEC is subject to the 80/20 standard set forth in Section 2.1.17 of the TRPA Design Standards and Guidelines. Section 2.1.17 of the Design Standards and Guidelines states "The travel route of Hwy 50 has a 'canyon effect' because the existing tower structures are located too close together with inadequate setbacks. Within a given property, eighty percent of the buildings fronting Hwy 50 shall not exceed 56 feet in height when an existing building or buildings are being replaced within 100 feet of the right-of- way. Twenty percent of the building or buildings frontage may be constructed to a maximum height of 95 feet."
- The TSEC is subject to the applicable standard that projects shall maintain or improve the scenic quality ratings for scenic resource units, roadway units or shoreline units as specified in Code Chapter 66.

A Scenic Quality Evaluation was prepared for the Proposed Action (Appendix H) and is referenced in the analysis below.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts associated with the No Action alternative.

Impact: Degradation of Views from US 50, a Public Recreation Area, or Lake Tahoe (TRPA 18.a, b, c)

Analysis: Construction of the TSEC would involve physical changes within the project area and would be visually evident from public viewpoints. The proposed TSEC building consists of two levels: an event floor level and a suites and offices level. The building footprint is approximately 88,420 square feet and the total floor area is approximately 138,550 square feet. The exterior design for the 85-foot structure is in response to the prominent location the facility has along U.S. Highway 50 and its position as the gateway to the casino core. Through a combination of building materials, colors, façade articulation and setback from the roadway, the TSEC will incorporate architectural design strategies and site planning principles to upgrade the character and quality of the nearby built environment. The proposed design repurposes the existing surface parking between the TSEC and MontBleu for use as an event lawn, public plaza and pedestrian paths connecting the TSEC with the adjacent streetscape. Direct pedestrian connections are provided from the street level to the TSEC to enhance the walking environment and create interesting gathering spaces. Existing overhead utility lines and three associated utility poles (two in front of MontBleu and one immediately north of Lake Parkway) will be placed underground as part of the street level improvements. Another key feature of the enhanced streetscape design is a transit pull-off with shelter to maximize the benefit of public transportation opportunities.

The changes are evaluated in relation to TRPA roadway and shoreline travel route ratings, and scenic resource ratings. Detailed results of the scenic quality analysis are provided in the Scenic Quality Evaluation (Appendix H) and summarized below. As documented in the study, the Proposed Action would not adversely degrade scenic quality threshold ratings.

Scenic Recreational Area 36 (Lakeview Commons at El Dorado Beach) consists of the recreational area on the south shore of Lake Tahoe on Lakeview Avenue between U.S. Highway 50 and Harrison Avenue. From El Dorado Beach, the top of the casino towers located in the High Density Tourist District are visible over the near shore landscape. Figure 3.12-1 shows the existing casino high rise towers as viewed from El Dorado Beach. The existing towers (from left to right include Hard Rock, Harvey's, MontBleu and Harrah's) are visible in the center of the photo. The proposed TSEC building would be located behind the Harvey's tower from this viewpoint and would not be visible and would therefore not affect the applicable scenic threshold rating.

Van Sickle Bi-State Park includes mountainside trails with panoramic views of the Lake Tahoe Basin, including the High Density Tourist District. The Park is not a designated scenic recreational resource (i.e., not included in the 1993 TRPA Scenic Recreation Evaluation), but was included in the RPU EIS mitigation measure (3.9-1b) as a location for which visual prominence must be considered for redevelopment of casino high-rise towers. Though the TSEC structure is not classified as a casino tower redevelopment and does not require compliance with TRPA RPU EIS mitigation measure 3.9-1b, the Van Sickle viewpoint location is being used for this study to consider potential scenic impacts from viewpoints within the park.

From higher elevation locations on the park's trails, the casino towers located adjacent to the proposed TSEC are visible through the forest canopy. Figure 3.12-2 shows the casino high rise towers as viewed from Van Sickle Bi-State Park (specifically the Tahoe Rim Trail connector trail) in Nevada. The top of the existing Harvey's, Harrah's and Hard Rock towers are visible through the intervening trees on the left hand side of the photo.

The MontBleu tower is screened by trees toward the center of the photo and when visible from other nearby Van Sickle trail viewpoints, would provide additional screening (in addition to existing forest canopy) of the proposed TSEC structure. As such, the proposed TSEC structure would not be visually dominant from Van Sickle park trail viewpoints, and would therefore not adversely affect scenic quality.

Figure 3.12-1: Photo from El Dorado Beach (Lakeview Commons)



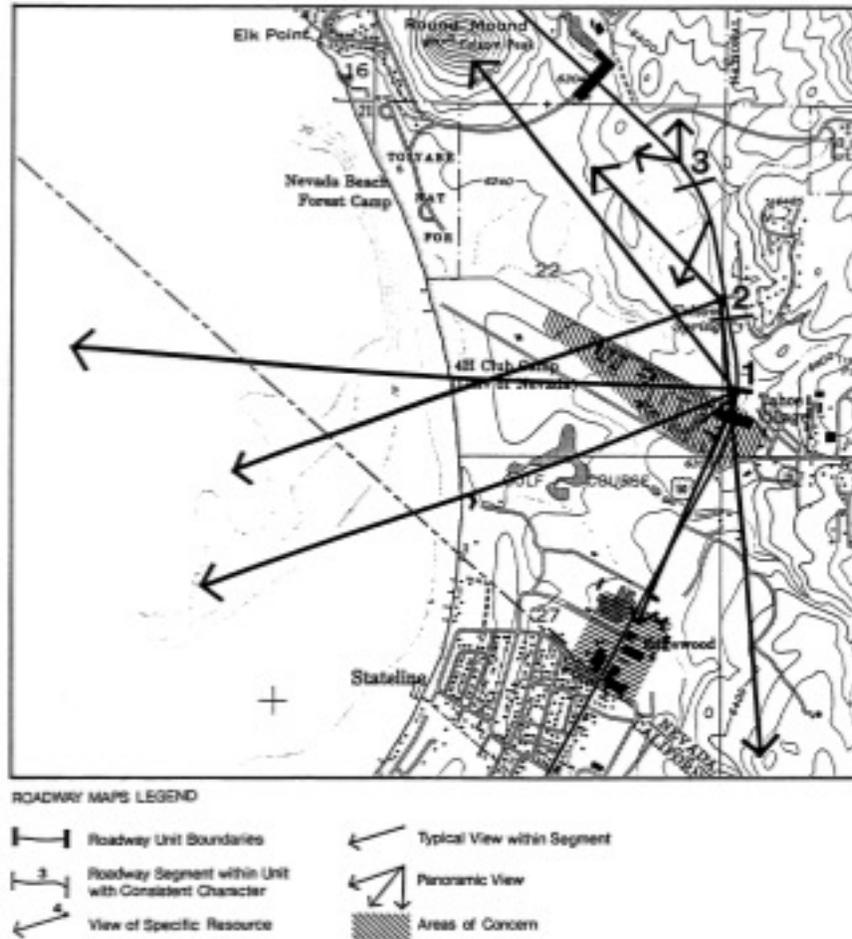
Figure 3.12-1: Photo from Van Sickle Bi-State Park



Scenic Roadway Unit 31 (Meadow) views along U.S. Highway 50 are dominated by the meadow located west of U.S. Highway 50. Mid-distance views are of casino high rise towers to the south, residential development along Kahle Drive to the southwest, the lake, and forested lands along at the Nevada Beach camping site (Wagstaff and Brady 1983). Figure 3.12-3 provides a map of Roadway Unit 31 viewpoints (Meadow). Figure 3.12-4 shows the casino high rise towers as viewed from U.S. Highway 50 looking to the

southwest (photo taken just north of Figure 3.12-3 viewpoint 2). From the viewpoint location shown in Figure 3.12-4, the proposed 85-foot-tall TSEC would be located at the base of the 172-foot-tall MontBleu tower (left most casino tower visible in the High-Density Tourist District). The proposed TSEC building would be screened by intervening trees and other existing vegetation from this viewpoint and would not be visually dominant (or noticeable) from other Roadway Unit 31 viewpoints.

Figure 3.12-3: Roadway Unit 31 (Meadow)



Roadway Unit 31 is categorized as “rural transition visual environment.” This unit is in the unusual situation of having the areas that detract most from its scenic quality all being located outside the unit rather than within it. The commercial and residential development adjacent to the unit on the south, the current high-rise casino development at Stateline, and the commercial development just north of the unit all impact the unit's natural character and reduce the overall scenic quality. The existing high-rise casino towers at Stateline compete with the natural scenic features, rising above the forest cover and creating obtrusive foreground elements for the backdrop of mountain ridges (TRPA SQIP 1989). Man-made development is visible through meadow vegetation for approximately half of the drive time when heading south on U.S. Highway 50 through the unit.

The SQIP recommends that additional high-rise development (e.g., over eight stories in height) in the casino area at Stateline should be discouraged due to the cumulative effect

that additional building mass would have on the scenic quality as viewed from this unit. The TRPA RPU recognizes the potential for replacement of high-rise development in the casino area, but would limit opportunities for increased building height to the replacement of existing hotel casino towers. The TSEC has a maximum building height of 85 feet, and would not create visible building mass as viewed from Roadway Unit 31 viewpoints. Therefore, the TSEC would not adversely affect the applicable scenic threshold ratings for Roadway Unit 31.

Figure 3.12-4: Photo from U.S. Highway 50 (Roadway Unit 31) Looking Southwest



Scenic Roadway Unit 32 (Casino Area) views along U.S. Highway 50 are dominated by the views of high-rise casino towers, resorts, restaurants, and numerous other commercial and office uses (Wagstaff and Brady 1983). The Visual Massing Study included as Attachment A in Appendix H simulates the proposed TSEC development as viewed from numerous U.S. Highway 50 and Lake Parkway viewpoints. Viewpoints include U.S. Highway 50 looking north, U.S. Highway 50 looking south, Lake Parkway looking east and Lake Parkway looking west. Each viewpoint was selected to represent proposed conditions approximately 300 feet from the TSEC structure, and for several viewpoints documents conditions with and without the proposed U.S. Highway 50/South Shore Community Revitalization Project.

Roadway Unit 32 is approximately 7,000 feet long and categorized as “urban visual environment” and an area of concern in the SQIP. As stated in TRPA Code Chapter 66.2.2.A, “Urban scenic highway corridors are generally urbanized areas where man-made development is the dominant visual feature. When viewed from areas outside of the urban corridor, man-made developments shall blend into the natural environment.” The areas of greatest concern with respect to the unit's scenic quality are the two existing concentrations of commercial development, which comprise the majority of the unit. The largest and most intensely developed area consists of the entire southern half of the unit (City of South Lake Tahoe), extending from the casinos south to the junction of U.S. Highway 50 with Pioneer Trail. The overall effect is a visually cluttered and confusing environment that fails to take advantage of the scenic value of its natural setting (TRPA SQIP 1989). The 2015 TRPA Threshold Evaluation and previous iterations document

many improvements to this part of Unit 32, most recently the improvements associated with the Chateau redevelopment along U.S. Highway 50, and remodel of the commercial uses at the U.S. Highway 50/Pioneer Trail intersection. Recent improvements noted within the other commercially concentrated area (Douglas County casino core) of the unit include the Hard Rock Casino renovations, including new signage, paint (darker colors), entryway/outdoor gathering space and landscaping. Added together, these improvements increased the “man-made features” threshold criteria score from 3.5 to 4.5 as reported in the latest TRPA Threshold Evaluation (2015) which assigned a threshold composite score of 14.5 for Roadway Unit 32. The Unit is in nonattainment and must increase its composite score to 15.5 or above to achieve attainment. Scenic quality travel route ratings are listed in Table 3.12-1 and Figure 3.12-5 provides a map of Roadway Unit 32 (Casino Area).

Table 3.12-1

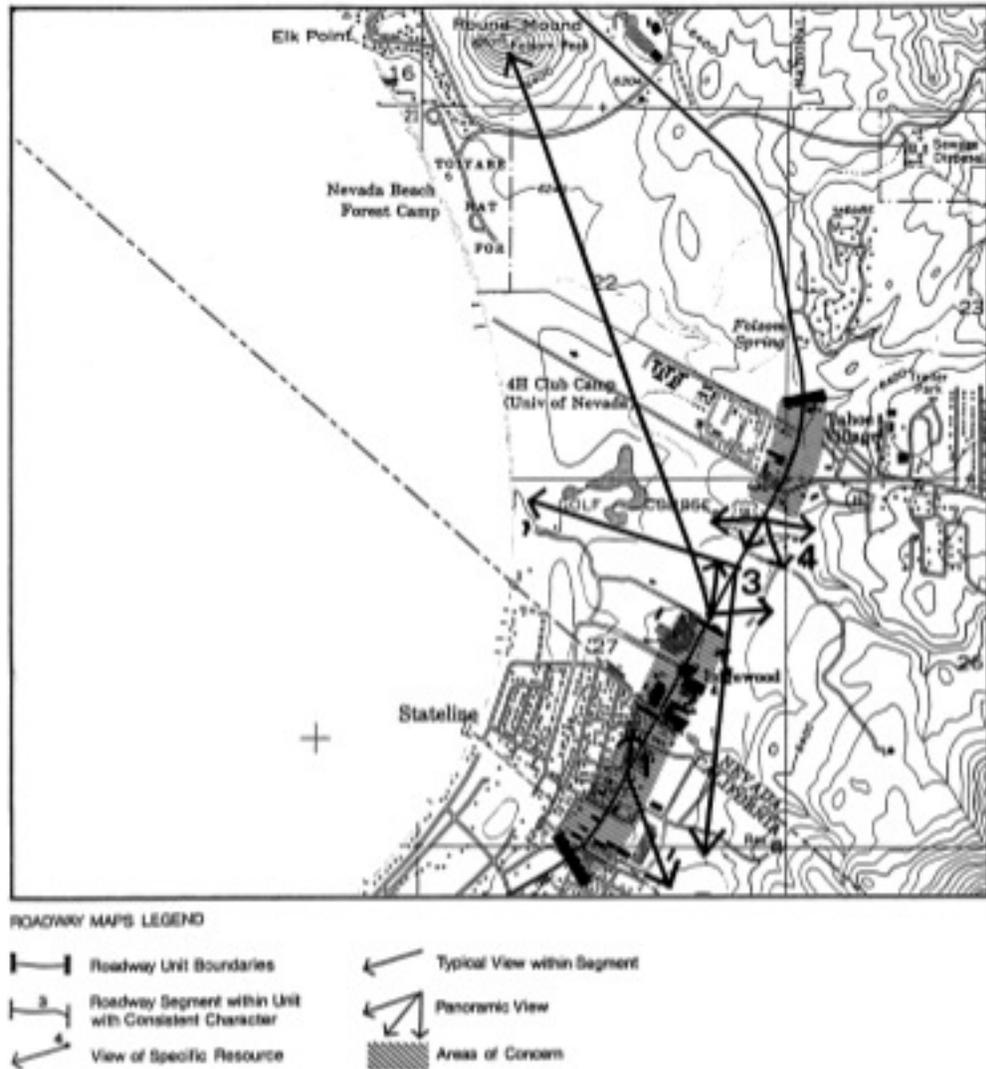
Scenic Roadway Threshold Travel Route Ratings, Unit 32
(Casino Area – Douglas Co)

Criteria	Monitoring year							Project*
	1982	1991	1996	2001	2006	2011	2015	
Man-made Features	3	2	2	2.5	3.5	3.5	4.5	4.5
Roadway Distractions	1	1	1	1	2	2	2	2
Road Structure	2	2	2	2	2	2	2	2
Lake Views	2	2	2	2	2	2	2	2
Landscape Views	1	1	1	1	1	1	1	1
Variety	4	3	3	3	3	3	3	3.5
Threshold Composite	13	11	11	11.5	13.5	13.5	14.5	15
Status	Non-attainment							

Source: TRPA 2015 and HBA 2018

Note: Project scoring includes MontBleu Resort improvements completed in 2016 but does not include potential improvements associated with the U.S. Highway 50/South Shore Community Revitalization Project (e.g., Loop Road). Scores are anticipated and will be validated by future TRPA Threshold Evaluations.

Figure 3.12-5: Roadway Unit 32 (Casino Area)



The SQIP recommends upgrades to overall architectural quality and variety, increased building setbacks to avoid the tunnel-like effect of strip development, reduced prominence of the automobile and facilities designed for the automobile, improved signage consistent with TRPA Code standards, improved landscaping to better integrate existing development, and reductions in night lighting. Regarding building height in the casino core, the SQIP states “When considering visual effects of building heights from within the commercial district two criteria should be applied. The building height should not interfere with views of significant scenic features and building heights should be compatible with the scale of surrounding buildings.”

The High Density Tourist District included in the TRPA Regional Plan and South Shore Area Plan does not allow new high rise development, but would allow replacement of existing high rise towers and existing gaming and other structures to achieve the desired conditions outlined in the Regional Plan and Area Plan. The South Shore Area Plan contemplates the TSEC in goals and policies that seek to reinvent the built environment,

animate the street with retail, dining, entertainment and events, provide aesthetic and environmental enhancements, and improve the area's market position and visitor experience. Analysis of the TSEC's compliance with height and design requirements is provided in the impact analysis that follows for TRPA IEC checklist item 18.d.

Combined with recent improvements (completed after the 2015 TRPA threshold evaluation) to the MontBleu Resort (documented in Figure 3.12-6) and completion of phase two of the Chateau Development (e.g., Zalanta Resort), the proposed TSEC would benefit scenic quality within Roadway Unit 32 as follows:

Proposed Events Center Project

- MontBleu surface parking (approximately 60,000 square feet) along U.S. Highway 50 replaced with proposed TSEC designed to upgrade the character of the built environment with dynamic architectural quality (similar to the recently redesigned Hard Rock entry),
- TSEC placement will screen views of the existing MontBleu parking structure,
- TSEC pedestrian facilities and gathering areas including a large event lawn,
- TSEC landscaping and utility undergrounding consistent with other recent improvements in the corridor, and

Completed Roadway Unit 32 Improvements

- MontBleu hotel tower, parking structure and gaming structure paint color improvements,
- MontBleu signage replacement,
- MontBleu pedestrian entryway and landscaping improvements, and
- Completion of the Zalanta Resort commercial and condominium development in the Chateau.

Proposed Loop Road Project

- South Shore Community Revitalization Project (e.g., Loop Road) proposal to replace Lake Parkway/U.S. Highway 50 signalized intersection with 2 lane roundabout, modify U.S. Highway 50 to 3 lane roadway in casino core, and eliminate existing above-ground utilities.

Figure 3.12-6: Photos showing MontBleu 2016 Scenic Improvements



2015 before new paint, signage replacement and pedestrian oriented entryway improvements



2017 after scenic improvements

Within the boundary of the TSEC project area, pedestrian-oriented development along U.S. Highway 50 would include increased building setbacks compared to existing casino developments, a visible pedestrian-oriented event lawn, improved landscape elements and street trees, new pedestrian amenities, and a unified façade, oriented toward the street and transit facilities (see Appendix H Attachment A). Figures 3.12-7 and 3.12-8 (copied from Attachment A in Appendix H document the simulated changes along U.S. Highway 50 for the TSEC project. Above ground utilities along the east side of U.S. Highway 50 (at the Lake Parkway intersection) would be removed as part of the adopted South Shore

Community Revitalization Project (i.e., Loop Road), and if that project is not constructed, would be completed within the TSEC project area (and immediately across Lake Parkway) as part of its construction. The removal of above ground utilities, construction of pedestrian-oriented features proposed for the TSEC, and recent 2016 improvements at the MontBleu Resort would improve scenic quality associated with roadway distractions and variety. And as a result, roadway unit 32 could see a 0.5 point improvement to the threshold composite rating with increased scoring for variety along the travel route (see Table 3.12-1). The roadway distractions travel route rating would remain unchanged but would see improvement with removal of above ground utilities and addition of pedestrian amenities along U.S. Highway 50 that will improve pedestrian-auto safety. The variety rating could see an improvement from 3.0 to 3.5 as a result of the proposed pedestrian-oriented plaza and event lawn, roadway frontage/landscape improvements, and architectural design/building color consistent with regional and area plan guidance.

Under cumulative buildout conditions where both the TSEC and Loop Road project are constructed, Roadway Unit 32 scores could see a greater improvement than described above. Visual analysis completed for the U.S. Highway 50/South Shore Community Revitalization Project (EIR/EIS Appendix G – Draft Visual Impact Assessment) document potential increases to Roadway Unit 32 threshold scores under Alternatives B, C and D. Loop Road improvements to scenic quality would occur from narrowing the U.S. Highway 50 to 3 lanes and improving pedestrian amenities and landscaping. Table H located in EIR/EIS Appendix C indicates that the Roadway Distractions and Road Structure scores would each improve by 0.5 under the Loop Road project. As a result, under cumulative buildout conditions, the threshold composite rating for Roadway Unit 32 could see an additional 1.0-point improvement, for a cumulative improvement of 1.5 points.

For viewpoints within a small section of the 7,000 foot long roadway unit (approximately 300 to 600 feet from the TSEC as viewed in either direction on U.S. Highway 50), the building height and width required for the TSEC operations would block existing background views of ridgelines (see Attachment A, Northbound and Southbound U.S. Highway 50 Viewpoints). From a majority of other Unit 32 viewpoint locations (e.g., those located more than 500 feet from the structure), the height and massing associated with the proposed TSEC would not adversely impact scenic roadway travel route ratings or the visual prominence of the existing casino core because the structure is setback from U.S. Highway 50 by approximately 100 feet and is placed adjacent to the existing MontBleu parking structure and hotel tower. For example, the TSEC structure would be screened by existing casino structures for a majority of north bound views and falls within the backdrop of existing MontBleu and Harrah's casino structures for a majority of south bound views within the roadway unit. However, as documented above, when approaching the U.S. Highway 50/Lake Parkway intersection from both directions on U.S. Highway 50, the TSEC would create a brief obstruction to existing ridgeline views currently visible through the existing surface parking lot. As such, even though the TSEC would improve overall architectural quality and articulation in the Douglas County portion of the travel unit, threshold scores for man-made features and landscape views would remain unchanged. The manmade features and landscape views threshold scores would not be reduced because the change to ridgeline views would be so temporary for vehicles traveling on U.S. Highway 50, and the existing ridgeline views would be unchanged for a majority of the unit's travel route.

Figure 3.12-7: TSEC Scenic Simulation – U.S. Highway 50 Northbound



3D.fx	Tahoe South Event Center Northbound Hwy. 50	VISUAL SIMULATION Existing Conditions December 2017
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3D.fx	Tahoe South Event Center Northbound Hwy. 50	VISUAL SIMULATION Proposed Conditions (with roundabout)
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Figure 3.12-8: TSEC Scenic Simulation – U.S. Highway 50 Southbound



3D.fx	Tahoe South Event Center Southbound Hwy. 50	VISUAL SIMULATION Existing Conditions December 2017
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3D.fx	Tahoe South Event Center Southbound Hwy. 50	VISUAL SIMULATION Proposed Conditions (with roundabout)
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In summary, recognition of existing improvements made since 2015, and replacement of the existing MontBleu surface parking located closest to the Lake Parkway/U.S. Highway 50 intersection with architectural building design articulated in applicable planning documents, adequate building setbacks, pedestrian friendly streetscapes, and new public gathering features (event lawn) would result in an overall improvement to the Roadway Unit 32 threshold score for variety (engaging streetscape with entry plaza/event lawn, landscaping and architectural design consistent with planning guidance). Once officially recognized, these Project and potential cumulative condition scoring increases could move Unit 32 into threshold attainment.

Scenic Resource 32.3 (Casino Area – Views to Lake). The scenic quality ratings of scenic resources within Roadway Travel Units is a total score for specific, individual views, or features of the landscape, referred to as scenic resources, seen from a specific location within a given roadway travel unit. Table 3.12-2: Scenic Resource Ratings for Roadway Unit 32.3 shows the subcomponent scores and status (in attainment or nonattainment) for scenic resource 32.3 in Roadway Unit 32. Resource 32.3 is located north of the TSEC site on US Highway (Figure 3.12-5 viewpoint 3) and is oriented toward the casino towers. As reported in the 1982 Scenic Resource Inventory, scenic resource 32.3 viewpoint is defined as follows: Meadow and golf course provide attractive open foreground views beyond area of heavy development, with brief vistas to lake and focal view to casinos for southbound travelers.

As discussed above for Roadway Unit 32, for some viewpoints within a small section of the 7,000 foot long roadway unit (approximately 300 to 600 feet from the TSEC as viewed in either direction on U.S. Highway 50), the building height and width required for the TSEC operations would block existing background views of ridgelines (see Appendix H Attachment A, Northbound and Southbound U.S. Highway 50 Viewpoints). This analysis also applies to scenic resource 32.3, which is located to the north of the Lake Parkway/U.S. Highway 50 intersection looking to the southwest, approximately 500 feet from the TSEC project site and would partially block existing views of Heavenly Ski Resort located behind the MontbBleu casino tower. However, from this resource location, the addition of the TSEC would not alter the attractive open foreground views of the meadow (east of U.S. Highway 50) or golf course (west of U.S. Highway 50) identified for resource 32.3 in the 1982 Scenic Quality Inventory. The TSEC project will incrementally improve views of the “areas of heavy development” through replacement of the existing MontBleu surface parking lot located closest to the Lake Parkway/U.S., Highway 50 intersection with quality architectural building design and an adequate building setback. As such, no changes to the scenic quality ratings listed in Table 3.12-2 are expected.

Shoreline Unit 30 (Edgewood) travel route ratings are based on the values of the backdrop landscape or skyline or ridges and peaks, the character of the shoreline foreground, and natural and man-made features of interests on or near the shore as viewed from Lake Tahoe (TRPA 1982, 1983). Background views in Shoreline Unit 30 consist of forested mountains and conical peaks and casino towers that are visible above the tree line and below the mountain ridgelines. Shoreline views consist of the Edgewood golf course and clubhouse, meadow views through openings in the trees and residential housing adjacent to the shoreline. Scenic shoreline travel route ratings are listed in Table 3.12-3. Figure 3.12-9 provides a map of Shoreline Unit 30 (Edgewood).

Table 3.12-2

Scenic Resource Ratings for Roadway Unit 32.3 (Casino Area – Views to Lake)

Roadway Unit Number		32				
Roadway Unit Name		Casino Area				
Scenic Resource Number		32.3				
Scenic Resource Type		Views to Lake				
Scenic Quality Ratings						
Year	Unity	Vividness	Variety	Intactness	Threshold Rating	Status
1982	2	2	3	2	9	A
1991	2	2	3	2	9	A
1996	2	2	3	2	9	A
2001	2	2	3	2	9	A
2006	2	2	3	2	9	A
2011	2	2	3	2	9	A
2015	2	2	3	2	9	A
Project	2	2	3	2	9	A
Source: TRPA 2015 and HBA 2018						

The 2015 TRPA Threshold Evaluation determined that Shoreline Unit 30 is in non-attainment with a threshold composite score of 10.5 out of a possible 15 (TRPA 2015). Ratings for man-made features of this unit were reduced in the late 1990s because of the addition of unscreened structures located in the northern end of the Unit sited too close to the water’s edge, with extensive glass and little screening (TRPA 2007). Figure 3.12-10 shows the casino core area as viewed from approximately 300 feet from the Lake Tahoe shoreline northwest of the casino high rise towers (in a similar location to viewpoint 6 shown on Figure 3.12-9). In this viewpoint, the existing Hard Rock and MontBleu casino towers are not visible, but are located behind the forest canopy on the left and center of the photo. The top floors of the Harvey’s tower are visible and located behind the Edgewood golf course club house on the right hand side of the photo. Given that the top floors of the MontBleu casino tower are not visible from this viewpoint location, the photo viewpoint shown in Figure 3.12-10 demonstrates that the proposed TSEC would not be visible from this Lake Tahoe viewpoint. Viewpoints located farther from the Lake Tahoe shoreline provide glimpses of the top floors of the existing casino towers but do not offer views of the lower floors or adjacent parking structures because of intervening tree canopy. As such, no changes to the scenic quality ratings listed in Table 3.12-3 would occur.

Table 3.12-3

Scenic Shoreline Threshold Travel Route Ratings, Unit 30 (Edgewood)

Criteria	Monitoring year							Project
	1982	1991	1996	2001	2006	2011	2015	
Man-made Features	4	4	3.5	3.5	3.5	3.5	3.5	3.5
Background Views	4	4	4	4	4	4	4	4
Variety	3	3	3	3	3	3	3	3
Threshold Composite	11	11	10.5	10.5	10.5	10.5	10.5	10.5
Status	Non-attainment	Non-attainment	Non-attainment	Non-attainment	Non-attainment	Non-attainment	Non-attainment	Non-attainment

Source: TRPA 2015 and HBA 2018

Figure 3.12-9: Shoreline Unit 30 (Edgewood)

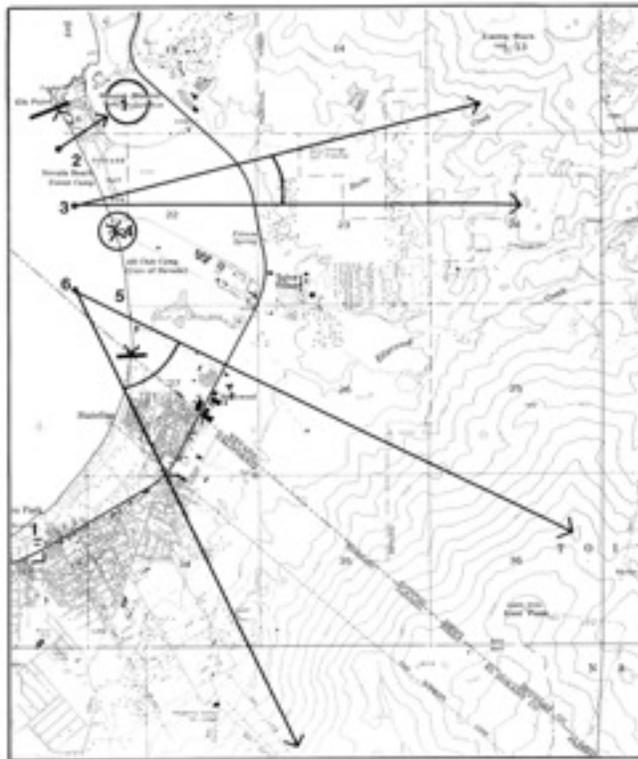


Figure 3.12-10: Photo from Lake Tahoe looking Southeast toward the Casino Core



Alternatives

Alternative C would result in the same visual impact as the Proposed Action. Alternative A would result in the same changes as the Proposed Action, except the overall height of the TSEC would be reduced by 11 feet, five inches to a maximum height of 73 feet, eight inches. This reduction in height would not degrade scenic quality threshold ratings and the development of the structure and associated landscaping would improve overall threshold scores like the Proposed Action and Alternative C.

Alternative B locates the TSEC structure further back from U.S. Highway 50 behind the existing MontBleu parking garage. The existing MontBleu surface parking lot adjacent to U.S. Highway 50 and views from U.S. Highway 50 would remain relatively unchanged, with changes only moderately visible from U.S. Highway 50 viewpoints. The parking lot adjacent to the street would remain the same, with parking lot modifications only occurring east of the access driveway on Lake Parkway. The existing parking lot landscape area near the north end of the parking garage would be replaced with a new parking lot layout and landscape islands. The TSEC structure would be partially obscured by the existing MontBleu parking garage and would not be visible enough to affect a meaningful change to the travel route rating. The height of the structure would exceed the height of the parking garage, but would not be substantially visible due to additional setback from the viewpoint locations. The foreground and background views would remain relatively the same, with only a small change in the middleground views with development of the TSEC setback significantly from the roadway. While recent improvements, such as paint improvements and sign replacement, are beneficial improvements, Alternative B would result in a less than significant impact on Roadway Travel Route Unit 32, but would contribute less towards eventual attainment of the threshold target.

Mitigation: No mitigation is required.

Impact: Consistency with the TRPA SQIP and Design Review Guidelines (TRPA 18.e)

Analysis: Construction of the TSEC would involve physical changes within the project area and would be visually evident from public viewpoints. The changes are evaluated in relation to the TRPA Scenic Quality Improvement Program (SQIP) and Design Review Guidelines. The results of the scenic quality analysis are provided above and in the Scenic Quality Evaluation (Appendix H). As documented in the study, the Proposed Action would be consistent with recommendations in the SQIP and Design Review Guidelines.

Alternatives A and C would result in the same impact as the Proposed Action.

Alternative B would be set back partially behind the existing parking garage, with little to no change to the existing parking lot area and foreground views towards the site. Portions of the structure would be visible from behind the parking garage as the height of the TSEC exceeds the height of the parking garage and the TSEC would be offset from the garage; however, the setback of the structure and the recessed portions of the structure below the existing grade would further decrease the visibility of the TSEC under Alternative B. Alternative B would result in the removal of more trees to accommodate the structure and reconfiguration of the service road, but the majority of these trees are located behind the existing MontBleu parking structure and not currently visible from the U.S. Highway 50 viewpoint location. While this alternative would not contribute to a measurable scenic quality improvement, it would not degrade the existing threshold scores. Alternative B would be consistent with the recommendations in the SQIP and Design Review Guidelines.

Mitigation: No mitigation is required.

Impact: Consistency with Height and Design Standards (TRPA 18.d)

Analysis: Regarding building height in the casino core, the SQIP states “When considering visual effects of building heights from within the commercial district two criteria should be applied. The building height should not interfere with views of significant scenic features and building heights should be compatible with the scale of surrounding buildings.”

The High Density Tourist District included in the TRPA Regional Plan and South Shore Area Plan does not allow new high rise development, but would allow replacement of existing high rise towers and existing gaming and other structures to achieve the desired conditions outlined in the Regional Plan and Area Plan. The TSEC structure is not classified as a casino tower redevelopment and does not require compliance with TRPA RPU EIS mitigation measure 3.9-1b. The South Shore Area Plan contemplates the TSEC in goals and policies that seek to reinvent the built environment, animate the street with retail, dining, entertainment and events, provide aesthetic and environmental enhancements, and improve the area’s market position and visitor experience.

The South Shore Area Plan Design Standards and Guidelines limits building height for new structures to a maximum of 95 feet. Specifically, section 2.1.17 states "The travel route of US 50 has a ‘canyon effect’ because the existing tower structures are located too close together with inadequate setbacks. Within a given property, eighty percent of the buildings fronting US 50 shall not exceed 56 feet in height when an existing building or buildings are being replaced within 100 feet of the right-of-way. Twenty percent of the building or buildings frontage within may be constructed to a maximum height of 95 feet.” This section of the Area Plan caps height for new buildings at 95 feet, and limits

maximum building height within 100 feet of U.S. Highway 50 – eighty percent of the building height within 100 feet of U.S. Highway 50 must be below 56 feet and twenty percent may go up to 95 feet in height. The proposed TSEC design has a maximum height of 85 feet and complies with the maximum height limits within 100 feet of U.S. Highway 50 (i.e., over 80 percent of the portion of the TSEC located within 100 feet of U.S. Highway 50 is below 56 feet in height). As such, the proposed TSEC is consistent with height and design standards for the High Density Tourist District.

Alternative C would result in the same impact as the Proposed Action as the structures and physical changes are identical.

Alternative A would reduce the height of the TSEC structure by 11 feet, five inches to a maximum height of 73 feet, eight inches. It also complies with the maximum height limits within 100 feet of U.S. Highway 50 (e.g., over 80 percent of the portion of the TSEC located within 100 feet of U.S. Highway 50 is below 56 feet in height). As such, Alternative A is consistent with height and design standards for the High Density Tourist District.

Alternative B would maintain the same structural design as the Proposed Action, but would locate the TSEC at the rear of the parcel, partially behind the parking garage. The overall height of the structure would be the same as the Proposed Project and would exceed the height of the parking garage, but the east end of the structure would also be recessed into the natural grade, making the structure significantly shorter when viewed from Lake Parkway. None of the structure would be within 100 feet of U.S. Highway 50. Therefore, Alternative B is consistent with height and design standards for the High Density Tourist District.

Mitigation: No mitigation is required.

Impact: New Sources of Glare or Exterior Illumination More Substantial than Other Lighting in the Area or Cause Light to be Cast Off-site or on Public Lands (TRPA 7.a, b, c, d)

Analysis: New sources of night lighting are proposed on the exterior of the TSEC, while glare would result from high-shine surfaces such as building windows (glass) and high-gloss painted surfaces. The introduction of a new source of light during nighttime hours in the urban setting of the TSEC would not substantially alter the amount of existing illumination in the project vicinity, recognizing the existing night lighting of roadways, parking lots, and casino structures. However, to ensure new lighting sources are minimized, TRPA Code and Design Standards are required for the TSEC and limit spillover illumination (e.g., night lighting) by mandating lighting direction shielding. Design standards also control exterior materials of new buildings and minimize reflectivity.

Alternatives A, B, and C would result in the same impact as the Proposed Action. Directional shielding of light fixtures and additional design standards to control exterior material reflectivity would be implemented as for the Proposed Action.

Mitigation: No mitigation is required.

REFERENCES

Douglas County. 2013. Douglas County Master Plan: South Shore Area Plan. Adopted September 25, 2013.

TRPA, 1989. Scenic Quality Improvement Program for the Lake Tahoe Basin.

TRPA. October 2018. U.S. Highway 50/South Shore Community Revitalization Project Final EIR/EIS/EIS.

3.13 POPULATION, EMPLOYMENT & HOUSING

AFFECTED ENVIRONMENT

The project area is located in Douglas County, Nevada, and is within the boundaries of the Tahoe Regional Planning Agency (TRPA) and the South Shore Area Plan. The project area is identified as a High Density Tourist District offering a wide range and volume of tourist accommodations, attractions, and amenities. The area is not considered residential and housing, other than tourist accommodations, are not present in this District. Residential areas are located in other portions of the South Shore Area Plan boundary as well as the surrounding area.

The project area currently houses a paved parking lot serving the MontBleu Casino and Resort at the intersection of US 50 and Lake Parkway. There are no homes or residential units located in the project area. The MontBleu Casino and Resort is a source of employment opportunities, as well as the other casinos and resorts, restaurants, shops, and other tourist amenities in the vicinity of the project area. While the project area is not a residential center offering housing options, it is a commercial center providing employment to the area and drawing in employees living in the surrounding areas.

Population in the area is slowly growing after over a decade of decline. In Stateline, NV, the 2010 population was 842 persons as compared to 1,215 persons in 2000. 2016 estimates indicate the population growth has begun to increase and is approximately 1,083 persons (U.S. Census American FactFinder, 2018). DataUSA estimates the 2015 population in Stateline was approximately 1,160 persons or an increase of 14 percent as compared to 2014. While population has not returned to 2000 levels, general growth has occurred. In South Lake Tahoe, CA, the population declined from 2000 to 2010 by over 2,200 people (U.S. Census American FactFinder, 2018). 2016 estimates indicate populations have risen since 2010's population of 21,403 persons to 21,506 persons (less than 1% growth). Other sources such as City-data.com, Nevada HomeTownLocator.com, and NeighborhoodScout.com show the current population level closer to 850 persons, which would equate to very little growth since 2010.

A comparison of Douglas County and Stateline, NV by Data USA (<https://datausa.io/profile/geo/douglas-county-nv/?compare=stateline-nv>) is shown in **Table 13-1**. Population demographics from DataUSA indicate the population of Stateline is approximately 44 percent White, 39 percent Hispanic, and 8 percent Black. The median population age is 35, which is slightly younger as compared to the Nevada median age of 38. Commute times in Stateline were estimated to be approximately 12 minutes as compared to 23 minutes in Douglas County. According to City-data.com, 38% percent of the total population live and work in Stateline, while the daytime population increases 252 percent, indicating many people commute into Stateline and residents of Stateline work in Stateline or adjacent communities, such as South Lake Tahoe, California.

Table 13-1

Area Demographics

	Douglas County	Stateline
Population	47,259	1,160
Median Age	49.4	35.1
Number of Employees (% growth)	20,371 (-0.08%)	770 (28.1%)
Poverty Rate	10.6%	8.1%
Median Household Income (% growth)	\$58,535 (-0.69%)	\$44,080 (3.18%)
Median Property Value (% growth)	\$272,000 (1.8%)	\$188,900 (58.6%)

Source: Data USA 2015 demographics, <https://datausa.io/profile/geo/douglas-county-nv/?compare=stateline-nv#housing>

Although the median income in the Stateline area was approximately \$44,000, the median household income within the project area is closer to between \$68,000 and \$74,000. Other sources, such as the U.S. Census indicate the median income is \$40,000, while City-data.com and NV HomeTownLocator estimate the median income to be approximately \$41,500. In 2010, the per capita income was approximately \$20,000, which is relatively low in Nevada, and equates to an annual income of approximately \$79,000 for a family of four. The largest demographic living in poverty in Stateline were males between the ages of 18 and 24 and between the ages of 25 and 34, followed by females below the age of five (DataUSA, 2018). The most common racial or ethnic group living in poverty were Hispanic or Latino, followed closely by Whites and then American Indians.

Demographic trends show employment growth in Stateline (DataUSA). The most common occupations in Stateline consist of food and serving (26.4%), administrative (14.3%), cleaning and maintenance (14%), sales (7.9%), construction (7.5%), personal care (6.9%) and management (6.8%). Compared to other places, Stateline has an unusually high number of residents employed in tourism-related occupations such as food and serving, cleaning and maintenance, and personal care and service. These were also the lowest paying jobs, ranging from about \$10,000 to \$18,000 in median yearly earnings. By comparison, the highest paying occupations in Stateline were administrative, construction, and management jobs, which range from \$27,000 to over \$32,000 in median yearly earnings (2015). Employment growth by industry for residents of Stateline focused on the accommodation and food service industry (31.7%) and the arts, entertainment, and recreation industry (15.5%), as well as the real estate, rental, and leasing industry (8.2%). Each of these industries also represent the most common industries in the Stateline area.

While average property values are lower in Stateline as compared to neighboring communities in Douglas County according to DataUSA, this can be attributed to the types of or range of housing properties in each location. Average property taxes in Stateline ranges from \$1,500 to \$2,000 as compared to only \$800 to \$1,500 in Douglas County. A number of real estate data sources offer differing statistics regarding the median home price in Stateline, NV. According to NeighborhoodScout.com, which uses a combination of data from the U.S. Census Bureau, HUD, and the Federal Finance Agency as well as locally generated data, the median home value in Stateline, NV is \$700,981, with appreciation increasing by 124 percent since 2000, or an average annual rate of 4.6 percent. Realtor.com indicates the median listing price is \$659,000, the median closing price is \$370,000 and the price per square foot is \$338. The median number

of days on the market according to Realtor.com is less than 150 days. Trulia.com lists the median sales price in Stateline at \$376,000, or an average of \$315 per square foot. Median home values ranged from approximately \$108,000 (NV HomeTownLocator) to \$188,000 (U.S. Census and DataUSA.com) to \$235,000 (City-data.com) to \$700,981 (NeighborhoodScout.com). This variation in median value reveals the variation in value based on the wide-range of housing types sold, such as estates to small condominium units.

While different data sources show a large variation in median home values, they show similar median rental rates. The average market monthly rent according to NeighborhoodScout.com and DataUSA.com is \$1,602. The US Census and City-data.com report slightly lower rates at about \$1,030 to \$1,050 per month. The median home rental price is listed at \$2,200 by Trulia.com. Trulia.com's rental statistics show the median monthly rent ranges from around \$1,500 to \$2,300, and rental availability is highest between July and November and lowest between December and March.

All of the data sources agree that the majority of housing units are rented (89%) rather than owned (11%). By comparison, the homeownership rate in Douglas County is approximately 70 percent. NeighborhoodScout.com indicates the area has a vacancy rate of approximately 9 percent. Most homes in Stateline were constructed between 1970 and 1999 (53%) or earlier (37%) as opposed to 2000 or newer (10%). Apartments comprise the majority of units (60%), while single-family homes and townhomes comprise 26 percent of the units in Stateline. Studios and one-bedroom units comprise 20 percent of the residential units, while 2- and 3-bedroom units comprise 78 percent of the units. According to NeighborhoodScout.com, Stateline real estate is not only one of the most expensive in Nevada, but ranks among the highest in the nation.

There are four low-income housing apartment complexes in Stateline, NV that provide a total of 110 affordable apartments for rent based on income. While there are no Section 8 subsidized apartments, there are 150 other low-income apartments with no rental assistance, but considered affordable for low-income families (Affordable Housing Online, 2018). The Lake Vista II Apartments (129 Market Street) provide one- to three-bedroom units (40 total units), with rents ranging from \$645 to \$695 per month (funded through Section 515 Rural Rental Housing). Meadowbrook (134 Kahle Drive) is another low-income housing apartment complex offering 30 affordable units for rent for households earning 60% or less of the Area Median Income, which would be approximately \$30,000 for a single person, or \$42,960 for four persons (funded through Section 42 Low Income Tax Credit). Lake Vista at 131 Market Street is a 40 unit low income housing apartment complex funded through Section 42 Low Income Tax Credit (<https://affordablehousingonline.com/housing-search/Nevada/Stateline>). According to Affordable Housing Online, 49 percent of renters are overburdened with median incomes around \$44,080 and median rents at \$1,032 (roughly 28 percent of the median income); therefore, households with a monthly income of \$3,440 would be overburdened by housing costs. Affordable Housing Online also indicates the average household size is 2.5 persons and that there are 459 housing units in Stateline.

Socioeconomic Trends

As discussed in the South Shore Area Plan, the socioeconomics of the area remain focused on tourism; however, reliance on the traditional casino and gaming industry format is giving way to more diverse recreation and entertainment-based tourism. The area is currently in a state of redevelopment to counter employment and population losses in the last 15 years that resulted from a loss in gaming revenues, casino employment, and associated population losses. As a result, casinos are shifting their focus to other tourist amenities such as spa and wellness facilities, concerts, performances, and outdoor recreation packages. Often employment is seasonal or part-time, resulting in a large number of non-permanent workers, and leaving permanent residents with fewer full-time or stable employment opportunities. As the

variety of tourist opportunities expands, the seasonality of tourism becomes less prevalent, and it can be expected that more balanced employment will occur as this tourism transition matures.

With the downturn in the gaming industry, the loss of jobs has been compounded in recent years by rising housing costs. Roughly half of the homes are owned by second homeowners, which strains housing availability and cost for local employees, who typically commute from other areas such as Minden and Gardnerville where housing is more affordable.

IMPACT EVALUATION CRITERIA

Population, employment, and housing impacts are defined as: a change in the existing population level beyond growth projections in the South Shore Area Plan, Douglas County Master Plan, and TRPA Regional Plan Update; the displacement of existing residents or loss of existing housing; loss of affordable housing; or decrease in employment rate.

ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

There are no impacts to population, employment, or housing associated with the No Action alternative. No new population increase would occur, and housing demand and supply would not change; however, new employment opportunities would not result and no progress in meeting the economic objectives of the South Shore Area Plan and Douglas County Master Plan would occur.

Impact: **Potentially Increase Population Levels Beyond Planned Growth (TRPA 11.a)**

Analysis: Approximately 12 new full-time positions would be created by the Proposed Action, including facility management, box office positions, and maintenance. Sold out events (with up to 6,000 attendees) would require up to 225 part-time employees, primarily food service and concessions staff and approximately 30 security staff, while smaller events would offer proportionally fewer part-time positions. These employees would primarily consist of service workers in the Stateline area that currently work part-time or reduced hours outside of the peak summer and holiday seasons. Operation of the proposed TSEC would stabilize this part-time and seasonal workforce by providing employment opportunities outside the peak tourist season. A 2,500-attendee event would have approximately 10 full-time employees onsite and up to 75 part-time event employees, primarily concessions and maintenance/custodial personnel and approximately 13 security personnel. Implementation of the paid parking program and microtransit shuttle service, which are not proposed for Alternatives A, B, or C, may increase parking staff at the casinos that do not currently staff parking attendants or operate automatic parking payment machines, and would increase transit operations staff when the microtransit shuttle is in operation (drivers, dispatch/office staff, or roughly 6 transit employees).

The South Shore Area Plan allows for new development and redevelopment, which can result in population increases, recognized in both the South Shore Area Plan and the TRPA Regional Plan Update. Actual population growth in the project area would be constrained by available housing and the commodity system established in the TRPA Code. No housing unit development is included in the Proposed Action. Since the project area and surrounding communities have population levels that have not yet returned to 2000 levels, the negative growth in the area is still in the process of recovering and additional populations from new or redevelopment in the area are not expected to exceed planned growth levels.

The Proposed Action would serve both the local population's and tourist population's need for an entertainment venue sized to house a variety of spectator and tournament/convention participant events. It is unlikely that this venue would draw new residents to the area. While residents would utilize the venue, non-resident tourists visiting the venue would not be enticed to relocate to the area simply as a result of development of the TSEC.

The potential 12 full-time positions would likely be occupied by a combination of existing area residents and persons new to the area. With population levels declining in previous years, the addition of 12 positions would help to stabilize and reduce population decline. Although the current unemployment trends in the area (4.5% in Douglas County and 3.6% in South Lake Tahoe, CA) show a declining unemployment rate (HomeFacts, 2018), the employment increase would not create a significant increase in population or housing demand because new employment opportunities would be primarily filled from the locally based seasonal leisure and hospitality employee pool who already have housing.

A convention center on the California state line was included in the cumulative development scenario for the TRPA RPU EIS. That evaluation found that no considerable contribution to population, housing and employment would occur that would result in a significant impact. Therefore, development of this Proposed Action would likewise not cause a significant impact to population, housing, or employment.

Alternatives A, B, and C would result in the same impacts as the Proposed Action as they offer the same facility and operations, but in a reduced height facility (Alternative A), a relocated facility (Alternative B), or the same facility as the Proposed Action without a paid parking or microtransit shuttle service (Alternative C) on the same property.

Mitigation: No mitigation is required.

Impact: Displace Residents or Remove Existing Housing, Particularly Low-Income Housing (TRPA 11.b, 12.a.1, 12.b)

Analysis: There are no housing units located in the project area and the Proposed Action does not include removal of existing housing units. The TSEC would compliment the existing tourist base in the area, providing a new entertainment venue and providing space for conventions and entertainment that serve the existing local population, as well as tourist populations.

Although housing is not proposed, the Douglas County Master Plan Housing Element includes goals and actions seeking to increase housing and affordable housing in the County and within the South Shore Area Plan. Decreasing housing availability, particularly affordable housing, is not planned, and this Proposed Action would not result in housing removal or the replacement of housing with tourist or entertainment uses.

Alternatives A, B, and C would also not displace residents or decrease housing availability.

Mitigation: No mitigation is required.

Impact: Decrease the Number of Units Rented at Affordable Levels (TRPA 12.a.2)

Analysis: The Proposed Action is not anticipated to draw in large numbers of permanent populations that would exceed growth projections our tourist populations that could not

be accommodated by the existing tourist bed-base, so as to displace residents. The Proposed Action would not cause a rise in second ownership units or tourist rentals from the existing housing stock.

The South Shore area includes two affordable housing complexes, totaling 133 affordable units. The Proposed Action would not replace or displace any affordable housing units and the TRPA Code protects affordable, and even moderate-income, housing from subdivision. While employee and multi-family housing are permitted in the High Density Tourist District, redevelopment of the MontBleu parking lot to house an entertainment venue would not prevent such housing from being developed elsewhere in the area.

New full- and part-time positions would be filled by a combination of local Tahoe-area residents, existing residents in the Carson Valley area, and to a lesser degree, new residents. Part-time positions would likely be filled by persons employed seasonally or part-time who are seeking more consistent employment, particularly since events such as trade shows, conventions, conferences and tournaments are expected to occur more heavily in the spring and fall rather than during the winter and summer months. It is expected that most positions would be filled by persons already living in the area or commuting from nearby areas who would not be seeking housing, but seeking more consistent employment opportunities throughout the year to stabilize their income. The increase in demand as a result of new employees residing in the area is not expected to decrease the number of units rented at affordable levels. While demand may increase, the units rented at affordable levels would not decrease.

The workforce associated with construction of the Proposed Action would be temporary. Weather conditions and scheduling of interdependent construction activities would further affect timing of the temporary housing need. Because the work would not be permanent, construction workers unable to commute to the site would rent living quarters based on the duration of stay. These quarters may be hotel rooms, vacation units, or longer-term rental units such as apartments, condominiums, and homes. In addition, some temporary workers may choose to rent in areas such as Carson Valley rather than the South Tahoe area. Due to the dispersion of rental demand throughout the greater area and the temporary nature of this demand, TSEC construction would not result in a demand for new permanent housing.

Alternatives A, B, and C would result in the same population, housing, and economic conditions as the Proposed Action. No impact or reduction in affordable units would occur.

Mitigation: No mitigation is required.

Impact: Decrease Employment Levels

Analysis: The TSEC offices would operate year-round, and events would be scheduled primarily in the spring, fall, and early summer seasons when conventions, trade shows, conferences, and tournaments are most likely to occur in the area. Maintaining an emphasis on the shoulder season is financially beneficial to TSEC operations to reduce event competition and would be emphasized when planning and booking.

The Proposed Action is anticipated to accommodate the existing 25 full-time weekly Tahoe Douglas Visitors Authority employees. Approximately 12 new full-time TSEC positions would be created by the Proposed Action, including facility management, box office positions, and maintenance. Sold out events would produce as many as 225 part-time employees, including food service, traffic control and security, maintenance, and

other event staff. Smaller events would offer proportionally fewer part-time positions. In addition, employment positions related to the paid parking system and microtransit shuttle system would increase employment opportunities. Generally, both full- and part-time employment would increase in the area, which helps to maintain steady employment for seasonal and part-time workers and to bolster full-time permanent employment in the area to retain the existing community population.

Alternatives A, B, and C would result in the same employment opportunities as the Proposed Action, with the exception of the handful of positions created by the paid parking system and microtransit shuttle system, and would likewise result in increased employment opportunities.

Mitigation: No mitigation is required.

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