

ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

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SUBJECT: Roadway Segment Level of Service Analysis

Project #24100-000

INTRODUCTION

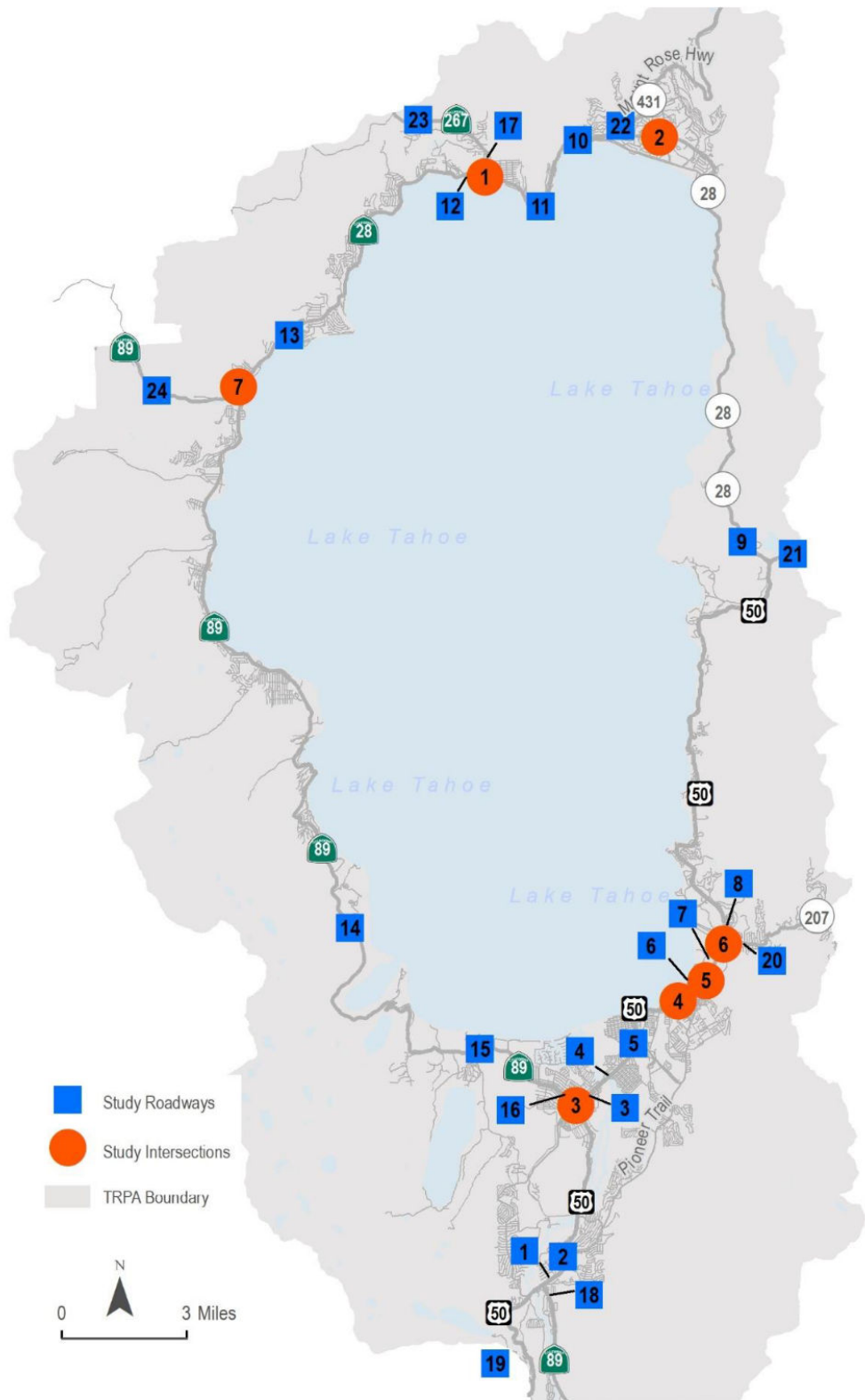
This memorandum describes the analysis performed by DKS to evaluate baseline (2022) and future (2050) vehicle congestion for the transportation network in the Lake Tahoe Region, in support of the Tahoe Region Planning Agency’s (TRPA) Connections 2050 Regional Transportation Plan (RTP). DKS evaluated the level of service for roadway segments throughout the study area consistent with the Transportation Research Board’s (TRB) Highway Capacity Manual (HCM), 7th Edition and TRPA RTP Performance Goal and Policy 6.10, Level of Service criteria. While level of service is no longer the primary metric for evaluating transportation impacts, these criteria evaluate levels of vehicle congestion on various segments around the region to inform transportation planning and project priorities. Study Segment Locations

For continuity and meaningful trend comparisons, the same 24 roadway segments selected for the 2012, 2017, and 2021 TRPA RTP/SCS were analyzed. **Table 1** lists the study roadway segments. **Figure 1** illustrates the 24 roadway segment locations and the previous study intersections that are not included or evaluated herein.

TABLE 1. STUDY ROADWAY SEGMENTS

SEGMENT	ROAD	FROM ROAD	TO ROAD
1	US 50	SR 89	Navahoe Drive
2	US 50	Pioneer Trail Road	Arapahoe Street
3	US 50	SR 89	Dunlap Drive
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue
5	US 50	Edgewood Circle	Al Tahoe Boulevard
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way
7	US 50	Lake Parkway	SR 207
8	US 50	SR 207	Kahle Drive

SEGMENT	ROAD	FROM ROAD	TO ROAD
9	SR 28	Spooner Lake Trail	US 50
10	SR 28	Red Cedar Drive	Lakeshore Boulevard
11	SR 28	Cal Neva Drive	Stateline Road
12	SR 28	Brassie Avenue	SR 267 (N. Shore Boulevard)
13	SR 28	Lake Boulevard	Lake Forest Road
14	SR 89	Lester Beach Road	-
15	SR 89	Fallen Leaf Road/Heritage Way	Valhalla Road
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe Boulevard)
17	SR 267	North Avenue	Tiger Avenue
18	SR 89	US 50	Pomo Street
19	US 50	East of Johnson Pass Road	-
20	SR 207	US 50	Kahle Drive
21	US 50	SR 28	Kings Canyon Road
22	SR 431	SR 28	2 nd Creek Drive
23	SR 267	Tahoe Rim Trail	Gas Line Road
24	SR 89	Twin Crags	SR 28



Source: Kittelson & Associates, Inc., 2020.

FIGURE 1. STUDY ROADWAY SEGMENT LOCATIONS

METHODOLOGY

This section will detail methods used to determine level of service (LOS) for the roadway segments in the Tahoe Basin, outline data, analysis, and the applicable TRPA LOS criteria.

LEVEL OF SERVICE DEFINITION

Level of service (LOS) is the operating conditions experienced by motorists. LOS is a measure of a variety of factors such as speed, travel time, traffic delays, maneuvers, and driving comfort and convenience. LOS is often identified as "A" through "F", best to worst, to encompass the range of traffic operations that may occur. LOS "A" through "E" typically represent traffic volumes less or at capacity, whereas LOS "F" often represents locations over capacity or experiencing significant delays.

ROADWAY SEGMENT EVALUATION METHODOLOGY

TRIP REDUCTION IMPACT ANALYSIS (TRIA)

Future year model volumes reflect all trip reduction strategies documented in TRPA's Trip Reduction Impact Analysis (TRIA) applied as part of TRPA's 2025 Regional Transportation & Sustainable Communities Strategy (RTP/SCS).

MODEL POST PROCESSING

Before "raw" model output can be considered suitable for operational determinations, post-processing adjustments must be performed. Modeled volumes were post-processed based on the Transportation Research Board National Cooperative Highway Research Program (NCHRP) Report 255. This method uses modeled growth in traffic volumes to "grow" baseline traffic counts to reflect future year conditions.

HIGHWAY CAPACITY MANUAL

Roadway segments for this analysis were evaluated using the generalized service tables in the HCM 7th Edition. The HCM provides generalized service tables for different roadway facility types: urban streets, two-lane highways, multi-lane highways, and freeway segments. Volume thresholds for each facility type are provided for various roadway characteristics such as number of lanes, speed limit, highway classification, terrain, context, K and D factors.

The roadway types in this analysis include urban streets, two-lane highways, and multi-lane highways are described below¹:

URBAN STREETS

Typically classified as an arterial or collector road in an urban setting with traffic control no more than 2 miles apart such as signalized intersections, stop-controlled intersections or roundabouts.

TWO-LANE HIGHWAYS

¹ Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 7th Edition.

One lane highways in each direction with traffic signals within 2 or more miles apart with passing movements in the opposing lane of traffic.

- **Two-Lane Highways Class I – Level Terrain**

Highways where motorists expect to travel at relatively high speeds. Two-lane highways that are major intercity routes, primary connectors of major traffic generators, daily commuter routes, or major links in state or national highway networks are generally assigned to Class I. These facilities serve mostly long-distance trips or provide connections between facilities that serve long-distance trips.²

- **Two-Lane Highways Class II**

Highways where motorists do not necessarily expect to travel at high speeds. Two-lane highways that are access routes to Class I facilities, that serve as scenic or recreational routes (and not as primary arterials), or that pass through rugged terrain (where high-speed operation would be impossible) are assigned to Class II. These facilities most often serve relatively short trips, the beginning or ending portions of longer trips, or trips for which sightseeing plays a significant role.²

Multi-Lane Highways

Highways with at least 2 lanes in each direction and traffic signals are 2 or more miles apart.

Table 2 outlines the HCM generalized maximum daily service volumes for each LOS indicator by facility type using to the HCM 7th edition.

TABLE 2. HCM 7TH EDITION GENERALIZED DAILY SERVICE VOLUMES

LEVEL OF SERVICE	URBAN STREET FACILITIES				TWO-LANE HIGHWAYS ³			MULTI-LANE HIGHWAYS
	Two-Lane Streets		Four Lane Streets		Class I Level	Class I Rolling Terrain	Class II Rolling Terrain	Rural Rolling Terrain Four-Lane
	30 MPH	45 MPH	30 MPH	45 MPH				
A	-	-	-	-	-	-	-	-
B	-	-	-	-	4,400	3,300	3,700	27,900
C	1,600	7,000	2,000	14,900	7,900	7,100	7,900	39,500
D	10,700	14,300	22,300	30,200	13,400	12,600	14,400	48,800
E	16,100	16,500	32,200	33,100	27,100	26,300	27,100	56,800

² NCHRP Report 825, Planning and Preliminary Engineering Application Guide to the Highway Capacity Manual (2016)

³ This method has not been updated in the HCM 7th Edition, generalized volumes from the HCM 7th Edition are used for this analysis.

TRPA LOS POLICY

TRPA’s 2019 Threshold and Regional Plan provides LOS criteria for the region’s highways and signalized intersections, for the purpose of this analysis only roadway segments were evaluated for LOS criteria: *Level of service (LOS) criteria for the Region’s highway system and signalized intersections during peak periods shall be: “C” on rural recreational/scenic roads; “D” on rural developed area roads; “D” on urban developed area roads; “D” for signalized intersections. Level of Service “E” may be acceptable during peak periods in urban areas, but not to exceed four hours per day⁴. These vehicle LOS criteria 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.⁵*

Table 3 lists each segment HCM Facility Type, Facility Specification, and TRPA LOS Criteria

TABLE 3. ROADWAY SEGMENT HCM FACILITY TYPE AND TRPA LOS CRITERIA

SEGMENT	ROAD	FROM	TO	HCM FACILITY TYPE	FACILITY SPEC.	TRPA LOS CRITERIA ⁶
1	US 50	SR 89	Navahoe Drive	TLH	Class I Rolling Terrain	D
2	US 50	Pioneer Trail Road	Arapahoe Street	TLH	Class I Rolling Terrain	D
3	US 50	SR 89	Dunlap Drive	FL-U	40mph	D
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue	FL-U	40mph	D
5	US 50	Edgewood Circle	Al Tahoe Boulevard	FL-U	40mph	D
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way	FL-U	35mph	D
7	US 50	Lake Parkway	SR 207	FL-U	35mph	D
8	US 50	SR 207	Kahle Drive	FL-U	35mph	D
9	SR 28	Spooner Lake Trail	US 50	TLH	Class I Rolling Terrain	C
10	SR 28	Red Cedar Drive	Lakeshore Boulevard	TLH	Class II Rolling Terrain	D
11	SR 28	Cal Neva Drive	Stateline Road	TL-U	35mph	D

⁴ This analysis is approximated by applying the 5th highest hour volume (85% to the peak hour volume).

⁵ TRPA Regional Plan, Chapter 3: Transportation Element (2019)

⁶ *Level of Service “E” may be acceptable during peak periods in urban areas, but not to exceed four hours per day.*

SEGMENT	ROAD	FROM	TO	HCM FACILITY TYPE	FACILITY SPEC.	TRPA LOS CRITERIA ⁶
12	SR 28	Brassie Avenue	SR 267 (N. Shore Boulevard)	FL-U	35mph	D
13	SR 28	Lake Boulevard	Lake Forest Road	TLH	Class II Rolling Terrain	D
14	SR 89	Lester Beach Road	-	TLH	Class I Rolling Terrain	C
15	SR 89	Fallen Leaf Road/Heritage Way	Valhalla Road	TLH	Class I Rolling Terrain	D
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe Boulevard)	FL-U	35mph	D
17	SR 267	North Avenue	Tiger Avenue	TLH	Class II Rolling Terrain	D
18	SR 89	US 50	Pomo Street	TLH	Class I Rolling Terrain	D
19	US 50	East of Johnson Pass Road	-	TLH	Class I Rolling Terrain	C
20	SR 207	US 50	Kahle Drive	TL-U	35mph	D
21	US 50	SR 28	Kings Canyon Road	FLH	Rural Highway rolling Terrain	C
22	SR 431	SR 28	2nd Creek Drive	TLH	Class I Rolling Terrain	D
23	SR 267	Tahoe Rim Trail	Gas Line Road	TLH	Class I Rolling Terrain	C
24	SR 89	Twin Crags	SR 28	TLH	Class I Rolling Terrain	D

TLH: Two Lane Highway

FL-U: Four Lane Urban Streets

TL-U: Two Lane Urban Streets

FLH: Multilane Highway

EXISTING TRAFFIC CONDITIONS

ROADWAY OPERATIONS

Existing 2022 base year counts were compiled for each roadway segment from TRPA Travel Demand Model, Caltrans AADT, and Nevada DOT TRINA. The 2022 roadway counts are shown in **Table 4**.

For roadways serving urbanized areas that were determined to not meet TRPA Los criteria, the peak hour volume (bi-directional) and 5th highest hour volume (bi-directional) were calculated and analyzed. Peak hour volumes were calculated using 2022 or 2021 “k-factor” applied to 2022 AADT. The 5th highest hour volumes were determined by applying the 5th highest hour volume (85%) to the peak hour volume.

EXISTING OPERATIONS FINDINGS

To identify the 24 roadway segments LOS for average daily conditions, **Table 5** shows the segment LOS of 2022 AADT.

TABLE 4. 2022 ROADWAY COUNTS

SEGMENT	ROAD	FROM ROAD	TO ROAD	2022 AVERAGE ANNUAL DAILY TRAFFIC (AADT)
1	US 50	SR 89	Navahoe Drive	13,500
2	US 50	Pioneer Trail Road	Arapahoe Street	11,000
3	US 50	SR 89	Dunlap Drive	22,300
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue	27,000
5	US 50	Edgewood Circle	Al Tahoe Boulevard	27,000
6	US 50	Pioneer Trail	Park Avenue/Heavenly	30,000
7	US 50	Lake Parkway	SR 207	28,000
8	US 50	SR 207	Kahle Drive	28,000
9	SR 28	Spooner Lake Trail	US 50	8,853
10	SR 28	Red Cedar Drive	Lakeshore Boulevard	13,500
11	SR 28	Cal Neva Drive	Stateline Road	14,500
12	SR 28	Brassie Avenue	SR 267 (N. Shore	9,300
13	SR 28	Lake Boulevard	Lake Forest Road	8,000
14	SR 89	Lester Beach Road	-	3,240
15	SR 89	Fallen Leaf	Valhalla Road	6,500
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe	11,000
17	SR 267	North Avenue	Tiger Avenue	9,300
18	SR 89	US 50	Pomo Street	8,800
19	US 50	East of Johnson Pass	-	10,000
20	SR 207	US 50	Kahle Drive	8,400
21	US 50	SR 28	Kings Canyon Road	14,800
22	SR 431	SR 28	2 nd Creek Drive	6,971

SEGMENT	ROAD	FROM ROAD	TO ROAD	2022 AVERAGE ANNUAL DAILY TRAFFIC (AADT)
23	SR 267	Tahoe Rim Trail	Gas Line Road	10,000
24	SR 89	Twin Crag	SR 28	12,800

TABLE 5. ROADWAY LEVEL OF SERVICE - EXISTING CONDITIONS

SEGMENT	ROAD	FROM ROAD	TO ROAD	HCM FACILITY TYPE	FACILITY SPEC.	2022 AADT	TRPA LOS CRITERIA	CURRENT LOS
1	US 50	SR 89	Navahoe Drive	TLH	Class I Rolling Terrain	13,500	D	F
2	US 50	Pioneer Trail Road	Arapahoe Street	TLH	Class I Rolling Terrain	11,000	D	D
3	US 50	SR 89	Dunlap Drive	FL-U	40mph	22,300	D	D
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue	FL-U	40mph	27,000	D	D
5	US 50	Edgewood Circle	Al Tahoe Boulevard	FL-U	40mph	27,000	D	D
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way	FL-U	35mph	30,000	D	E
7	US 50	Lake Parkway	SR 207	FL-U	35mph	28,000	D	E
8	US 50	SR 207	Kahle Drive	FL-U	35mph	28,000	D	E
9	SR 28	Spooner Lake Trail	US 50	TLH	Class I Rolling Terrain	8,853	C	D
10	SR 28	Red Cedar Drive	Lakeshore Boulevard	TLH	Class II Rolling Terrain	13,500	D	D
11	SR 28	Cal Neva Drive	Stateline Road	TL-U	35mph	14,500	D	E
12	SR 28	Brassie Avenue	SR 267 (N. Shore Boulevard)	FL-U	35mph	9,300	D	D
13	SR 28	Lake Boulevard	Lake Forest Road	TLH	Class II Rolling Terrain	8,000	D	D
14	SR 89	Lester Beach Road	-	TLH	Class I Rolling Terrain	3,240	C	B
15	SR 89	Fallen Leaf Road/Heritage Way	Valhalla Road	TLH	Class I Rolling Terrain	6,500	D	C

SEGMENT	ROAD	FROM ROAD	TO ROAD	HCM FACILITY TYPE	FACILITY SPEC.	2022 AADT	TRPA LOS CRITERIA	CURRENT LOS
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe Boulevard)	FL-U	35mph	11,000	D	D
17	SR 267	North Avenue	Tiger Avenue	TLH	Class II Rolling Terrain	9,300	D	D
18	SR 89	US 50	Pomo Street	TLH	Class I Rolling Terrain	8,800	D	D
19	US 50	East of Johnson Pass Road	-	TLH	Class I Rolling Terrain	10,000	C	D
20	SR 207	US 50	Kahle Drive	TL-U	35mph	8,400	D	D
21	US 50	SR 28	Kings Canyon Road	FLH	Rural Highway rolling Terrain	14,800	C	B
22	SR 431	SR 28	2nd Creek Drive	TLH	Class I Rolling Terrain	6,971	D	C
23	SR 267	Tahoe Rim Trail	Gas Line Road	TLH	Class I Rolling Terrain	10,000	C	D
24	SR 89	Twin Crags	SR 28	TLH	Class I Rolling Terrain	12,800	D	D

TLH: Two Lane Highway

FL-U: Four Lane Urban Streets

TL-U: Two Lane Urban Streets

FLH: Multilane Highway

Of the 24 roadway segments, eight exceed TRPA LOS criteria currently as listed in **Table 6**.

Of the eight segments operating at unacceptable LOS, five are defined as urban and therefore were further analyzed to determine if segments are operating at unacceptable LOS during the peak hour. None of the five segments improve to LOS D by the 5th highest hour and therefore remain unacceptable by TRPA LOS criteria.

TABLE 6. ROADWAY SEGMENTS NOT MEETING TRPA LOS CRITERIA

SEGMENT	ROAD	FROM ROAD	TO ROAD	TRPA PEAK PERIOD CRITERIA	2022 CURRENT LOS	PEAK HOUR LOS	5 TH HIGHEST HOUR LOS
1	US 50	SR 89	Navahoe Drive	D¹	F	E	E
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way	D¹	E	E	E
7	US 50	Lake Parkway	SR 207	D¹	E	E	E
8	US 50	SR 207	Kahle Drive	D¹	E	E	E
9	SR 28	Spooner Lake Trail	US 50	C	D	D	D
11	SR 28	Cal Neva Drive	Stateline Road	D¹	E	F	E
19	US 50	Lakeshore Boulevard	Lakeshore Boulevard	C	D	D	D
23	SR 267	Tahoe Rim Trail	Gas Line Road	C	D	E	D

¹ LOS E is acceptable if 5th highest hour is LOS D.

Urban Roads are defined by TRPA Peak Period Criteria in Bold.

FUTURE TRAFFIC CONDITIONS

FUTURE ROADWAY OPERATIONS AND FINDINGS

Using the NCHRP 255, the difference of 2022 AADT counts, future year model AADT was determined. Where the absolute difference resulted in a negative, the volume was set to “zero” or no change in 2022 AADT for the purpose of this analysis (i.e., no future volume less than count). Volumes that have been balanced and set to 2022 AADT are shaded below.

Using the difference method ((Base Year Count + (Future Year Model Volume-Base Year Model Volume=Future Year Forecast)) each post-processed segment volume are shown in **Table 7**. The projected roadway segment LOS operations for 2050 are provided in **Table 8**.

For roadways serving urbanized areas that were determined to not meet TRPA LOS criteria, the peak hour volume (bi-directional) and 5th highest hour volume (bi-directional) were calculated and analyzed. Peak hour volumes were calculated using 2022 or 2021 “k-factor” applied to the future volumes. The 5th highest hour volumes were determined by applying the 5th highest hour volume (85%) to the peak hour volume.

TABLE 7. 2050 PROJECTED ROADWAY AADT

SEGMENT	ROAD	FROM ROAD	TO ROAD	2050 PROJECTIONS
1	US 50	SR 89	Navahoe Drive	13,704
2	US 50	Pioneer Trail Road	Arapahoe Street	11,205
3	US 50	SR 89	Dunlap Drive	37,420
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue	26,955
5	US 50	Edgewood Circle	Al Tahoe Boulevard	27,319
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way	30,292
7	US 50	Lake Parkway	SR 207	28,000
8	US 50	SR 207	Kahle Drive	28,511
9	SR 28	Spooner Lake Trail	US 50	8,853
10	SR 28	Red Cedar Drive	Lakeshore Boulevard	13,500
11	SR 28	Cal Neva Drive	Stateline Road	14,500
12	SR 28	Brassie Avenue	SR 267 (N. Shore Boulevard)	9,300
13	SR 28	Lake Boulevard	Lake Forest Road	8,242
14	SR 89	Lester Beach Road	-	3,240
15	SR 89	Fallen Leaf Road/Heritage Way	Valhalla Road	6,500
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe Boulevard)	11,000
17	SR 267	North Avenue	Tiger Avenue	9,300
18	SR 89	US 50	Pomo Street	8,800
19	US 50	East of Johnson Pass Road	-	10,000
20	SR 207	US 50	Kahle Drive	8,400
21	US 50	SR 28	Kings Canyon Road	14,800
22	SR 431	SR 28	2 nd Creek Drive	7,163
23	SR 267	Tahoe Rim Trail	Gas Line Road	10,000
24	SR 89	Twin Crags	SR 28	12,867

Source: TRPA Travel Demand Model

TABLE 8. ROADWAY LEVEL OF SERVICE – FUTURE VOLUMES

SEGMENT	ROAD	FROM ROAD	TO ROAD	HCM FACILITY TYPE	FACILITY SPEC.	2050 FUTURE VOLUME	TRPA LOS CRITERIA	PROJECTED LOS
1	US 50	SR 89	Navahoe Drive	TLH	Class I Rolling Terrain	13,704	D	D
2	US 50	Pioneer Trail Road	Arapahoe Street	TLH	Class I Rolling Terrain	11,205	D	D
3	US 50	SR 89	Dunlap Drive	FL-U	40mph	37,420	D	F
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue	FL-U	40mph	26,955	D	D
5	US 50	Edgewood Circle	Al Tahoe Boulevard	FL-U	40mph	27,319	D	D
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way	FL-U	35mph	30,292	D	E
7	US 50	Lake Parkway	SR 207	FL-U	35mph	28,000	D	E
8	US 50	SR 207	Kahle Drive	FL-U	35mph	28,511	D	E
9	SR 28	Spooner Lake Trail	US 50	TLH	Class I Rolling Terrain	8,853	C	D
10	SR 28	Red Cedar Drive	Lakeshore Boulevard	TLH	Class II Rolling Terrain	13,500	D	D
11	SR 28	Cal Neva Drive	Stateline Road	TL-U	35mph	14,500	D	D
12	SR 28	Brassie Avenue	SR 267 (N. Shore Boulevard)	FL-U	35mph	9,300	D	D
13	SR 28	Lake Boulevard	Lake Forest Road	TLH	Class II Rolling Terrain	8,242	D	D
14	SR 89	Lester Beach Road	-	TLH	Class I Rolling Terrain	3,240	C	B

SEGMENT	ROAD	FROM ROAD	TO ROAD	HCM FACILITY TYPE	FACILITY SPEC.	2050 FUTURE VOLUME	TRPA LOS CRITERIA	PROJECTED LOS
15	SR 89	Fallen Leaf Road/Heritage Way	Valhalla Road	TLH	Class I Rolling Terrain	6,500	D	C
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe Boulevard)	FL-U	35mph	11,000	D	D
17	SR 267	North Avenue	Tiger Avenue	TLH	Class II Rolling Terrain	9,300	D	D
18	SR 89	US 50	Pomo Street	TLH	Class I Rolling Terrain	8,800	D	D
19	US 50	East of Johnson Pass Road	-	TLH	Class I Rolling Terrain	10,000	C	D
20	SR 207	US 50	Kahle Drive	TL-U	35mph	8,400	D	D
21	US 50	SR 28	Kings Canyon Road	FLH	Rural Highway rolling Terrain	14,800	C	B
22	SR 431	SR 28	2nd Creek Drive	TLH	Class I Rolling Terrain	7,163	D	D
23	SR 267	Tahoe Rim Trail	Gas Line Road	TLH	Class I Rolling Terrain	10,000	C	D
24	SR 89	Twin Craggs	SR 28	TLH	Class I Rolling Terrain	12,867	D	E

Under 2050 future volumes eight of the 24 roadway segments would not meet TRPA LOS criteria as listed in **Table 9**.

Of the eight segments operating at unacceptable LOS, five are defined as urban and therefore were further analyzed to determine if segments are operating at unacceptable LOS during the peak hour. None of the five segments improve to LOS D by the 5th highest hour and therefore remain unacceptable by TRPA LOS criteria.

TABLE 9. 2050 ROADWAY LEVEL OF SERVICE NOT MEETING TRPA LOS CRITERIA

SEGMENT	ROAD	FROM ROAD	TO ROAD	TRPA PEAK PERIOD CRITERIA	2050 FUTURE LOS	PEAK HOUR LOS	5 TH HIGHEST HOUR LOS
3	US 50	SR 89	Dunlap Drive	D¹	F	F	E
6	US 50	Pioneer Trail	Park Avenue/Heavenly Village Way	D¹	E	E	E
7	US 50	Lake Parkway	SR 207	D¹	E	E	E
8	US 50	SR 207	Kahle Drive	D¹	E	E	E
9	SR 28	Spooner Lake	US 50	C	D	D	E
19	US 50	East of Johnson Pass Road	-	C	D	D	D
23	SR 267	Tahoe Rim Trail	Gas Line Road	C	D	E	D
24	SR 89	Twin Crags	SR 28	D¹	E	E	E

¹ LOS E is acceptable if 5th highest hour is LOS D.

Urban Roads are defined by TRPA Peak Period Criteria in Bold.