

TRANSPORTATION PLANNING AND TRAFFIC ENGINEERING CONSULTANTS

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MEMORANDUM

Date: December 2, 2011

TO: Rob Brueck, HBA

FROM: Gordon Shaw and Jason Briedis, LSC

RE: Proposed Dollar Creek Shared Use Trail Usage Forecasts and Parking Estimates

The route of the North Tahoe Dollar Creek Shared Use Trail ("Dollar Creek Trail") is proposed from the eastern terminus of the existing multiuse trail at the top of Dollar Hill to a location near the end of Fulton Crescent Drive (approximately 2.3 miles). A key issue in the evaluation of the project is the level of bicycle and pedestrian activity that would use the facility. As part of the HBA study team, LSC Transportation Consultants, Inc. has been charged with preparing these use forecasts. We have applied the "Tahoe Region Bicycle and Pedestrian Corridor Use Model," as described in the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan (Tahoe Regional Planning Agency and Tahoe Metropolitan Planning Organization, 2010) to estimate the user demand for the proposed Dollar Creek Trail. This analysis estimates the number of trail users in the following categories:

- Residents biking to the trail from home
- Visitors biking to the trail from lodging
- Residents or visitors driving to the trail to bicycle
- Residents walking to the trail from home
- Visitors walking to the trail from lodging
- Residents or visitors driving to the trail to walk

Use levels are developed for these individual categories in order to reflect the differing levels of use between residents and visitors, as well as the differing factors driving use by those trail users driving to trailheads in the region versus those walking or biking from their home or lodging.

Trail usage estimations are provided for the following three time periods: daily, peak hour, and annual. This methodology was developed in 2009 as part of the Tahoe Regional Planning Agency's (TRPA's) 2010 Lake Tahoe Region Bicycle and Pedestrian Plan_and is calibrated against observed trail use levels in the Tahoe Region. It first identifies the "maximum feasible demand" – the level of use that would be expected if all characteristics of the facility and its setting were optimal. A series of factors are then applied that reflect characteristics that are less

than optimal, to result in estimates of actual, realizable use levels. This methodology calculates the potential usage at the point of maximum use (expected to be in the vicinity of the Dollar Creek crossing). As discussed further below, these estimates are then used to estimate the total trail use along the entire corridor (including those users that do not use the portion of peak demand).

Maximum Feasible Demand

Estimation of the maximum feasible demand is the starting point for estimation of the usage of the Dollar Creek Trail. Maximum feasible demand is estimated separately for each category of users listed above. The estimation of the maximum feasible demand is based on the TRPA TransCAD regional travel demand model. This regionwide model disaggregates the Tahoe Region into a total of 187 "Traffic Analysis Zones" (TAZs) including a total of 14 along the proposed trail and the existing North Shore trail that provides continuity to the west. The "Tahoe Region Bicycle and Pedestrian Corridor Use Model" applies the data from the travel demand model to the specific areas that the proposed multi-use trail would serve.

Bicycle Demand

The TRPA Bicycle Use Model is based upon observed trail usage and trail user characteristics in the Tahoe Basin. For user trips directly from a cyclist's home or lodging, the bicycle use model considers all trips with an origin or destination in all TAZs within one half mile of the trail. Based on the TRPA regional TransCAD travel demand model, there are 696 daily resident trips on all modes in the corridor of which 12 percent have the potential to be bicycle trips using the Dollar Creek Trail, and 364 daily visitor trips on all modes of which 11 percent have the potential to be bicycle trips using the Dollar Creek Trail. These figures also include reductions in potential trail usage due to the vertical distance that trail users would need to travel from their point of origin to reach the nearest trailhead location. Specifically, as the proposed alignment of the trail results in a difference in elevation exceeding 400 feet from some of the developed portions of the TAZs (such as the residences in Cedar Flat along SR 28), it can be expected that the resulting climb to reach the trail would reduce the potential to use the trail. The portion of each TAZ that is more than a 200 foot elevation difference from a trailhead was identified and used as a basis to reduce potential bicycle-to-trailhead and walk-to-trailhead demand. This results in a maximum feasible demand of 84 one-way daily bicycling trips generated by residents biking to the trail and 40 one-way daily bicycling trips generated by visitors biking to the trail.

Pedestrian Demand

The TRPA Pedestrian Use Model considers the total resident and visitor populations in the corridor area (excluding those pedestrians driving to the facility, as discussed below). The methodology for the Use Model reflects that the maximum feasible daily pedestrian usage of a trail in the Tahoe area is equivalent to 4 percent of the population in the corridor in which the trail is located. The resident and visitor populations in the Dollar Creek Trail corridor (adjusting for those portions of the adjacent TAZs beyond 200 feet in elevation difference, as discussed above) are 900 and 825, respectively. Therefore the maximum feasible daily usage estimates for pedestrians walking to the Dollar Creek Trail as estimated by the model are 36 daily persontrips generated by residents and 33 daily persontrips generated by visitors.

Drive-to-Trail Demand

Demand for trail users driving to the trail is estimated separately from trail users accessing the trail directly by bicycle/pedestrian modes. The estimation procedure is based on trail surveys conducted at existing Class I multiuse trails in the Lake Tahoe area. The maximum feasible daily demand for bicyclists driving to the trail is 192 bicycle trips and the maximum feasible daily demand for pedestrians driving to the trail is 46 walking trips.

Reduction Factors

Once a maximum feasible usage is estimated, it is necessary to adjust the figure based on the specific alignment and characteristics of the trail. Reduction factors are applied to the maximum feasible demand estimate to adjust it for decreases in potential trail use based on the following factors: class, grade, continuity, maintenance, recreational value, and congestion. The reduction factors for each category are estimated and applied separately for bicyclists and pedestrians and separately for each type of trail user, as listed in the first paragraph of this memo (resident, visitor, and drive-to-trail users).

Class

A usage reduction is applied for the class of the proposed new bicycle or pedestrian facility (I, II, or III). The Dollar Creek Trail is proposed to be constructed to at least Class I standards (separated facility) for its entirety. Therefore no reduction in trail usage is assumed for trail classification.

Grade

Reductions are taken from the initial use estimates for the trail based on grades and elevation changes experienced by trail users. No reduction is taken for mostly flat trails with short segments of grades of less than 4 percent. Moderate reductions (10 to 30 percent) are taken for trails with moderate grade sections (between 4 and 8 percent). Greater reductions (20 to 65 percent) are taken for trails with steep grades and large elevation changes (greater than 300 feet).

The proposed alignment for the Dollar Creek Trail traverses some moderately steep terrain and elevation changes over the course of its alignment. The elevation of the trail increases by approximately 200 feet traveling from Dollar Drive to Fulton Crescent Drive. The section of the trail immediately north of Dollar Reservoir climbs over 100 feet through a series of switchbacks. For these reasons, it is reasonable to assume a reduction in trail usage for the grade category based on the "middle" criteria. The grade reduction factors consider that bicyclists as a group are more sensitive to grades than pedestrians. Additionally, visitors and drive-to-trail users are more sensitive to grades than residents biking and walking to the trail. The reduction factors assumed for grades on the Dollar Creek Trail are shown in the middle columns of Table A.

Continuity

"Breaks" in trail continuity tend to reduce the attractiveness of a facility to users. Reductions are taken from the initial use estimates based on continuity of the trail. No reduction is taken for trails with few driveway crossings (less than 4 per mile). The reduction increases based both on the frequency of trail crossings and the volume of traffic encountered at the crossing.

The Dollar Creek Trail is not proposed to cross any roadways, except at the southernmost end of the trail where the Dollar Creek Trail is proposed to connect to the existing Tahoe City to Dollar Hill trail across SR 28. Potential trail users beginning a trip on the new proposed Dollar Creek Trail at the trailhead on SR 28 would not need to cross the roadway. Trail users continuing from the existing North Shore Trail to the proposed Dollar Creek Trail and the reverse would need to cross SR 28. Assuming that the trail crossing is designed to avoid excessive delays to trail users (through signage, signal or median strategies), it is not anticipated that the single trail crossing of SR 28 would significantly deter trail users. Therefore, no reduction in trail usage is assumed for the trail continuity reduction category.

Maintenance

Poor trail surfaces can also reduce use, such as presence of sand, pavement condition, and debris that regularly occur on the trail. As the Dollar Creek Trail will be a new facility, it is assumed that the pavement will be in excellent condition and that the trail will be properly maintained. Therefore, no reduction in trail usage for maintenance issues is applied for the Dollar Creek Trail.

Recreational Value

A reduction factor is applied to the trail usage estimates based on the recreational and scenic value of the trail. Trails located along an especially scenic corridor such as lakefront or river front are considered to have the highest recreational value and no reduction factor is applied for these trails. Trails through urbanized areas are considered to have a low recreational value and are subject to a 15 to 75 percent reduction in usage estimates varying by user type, with users driving to the trail subject to the greatest reduction.

The proposed alignment for the Dollar Creek Trail passes through a largely undeveloped wooded area. The forest through this area has recently been thinned for forest management and fire safety, providing a variety of open and dense woods through the trail corridor. The trail alignment would also cross Dollar Creek near Dollar Reservoir, enhancing the trail experience for recreational users. These characteristics would place the trail into the "high" recreational value category. However, the proposed trail corridor is also located directly behind several residential neighborhoods and some of the houses would be visible from the trail. Therefore, a slight reduction in potential trail usage is assumed for the proposed Dollar Creek Trail. The reductions applied are equal to one third of the reductions from the "high" to the "medium" recreational value category.

Congestion

A final reduction factor is applied to the trail usage estimates based on the trail congestion. Trail congestion is estimated based on the "Shared Off-street Path" level of service methodology in the *Highway Capacity Manual* (Transportation Research Board, 2010). Level of service is based on the number of passing events that occur during the peak hour of trail use. A passing event is defined as either passing a bicycle/pedestrian traveling in the opposite direction or overtaking another bicycle/pedestrian traveling in the same direction. Considering the expected use levels, no significant congestion is expected along the Dollar Creek Trail. However with an estimated 52 one-way trail trips in the peak hour, it is assumed that trail users will experience a small amount of congestion on the trail. Therefore, a slight reduction in potential usage (based on LOS B or C trail conditions) is assumed for trail congestion. The reduction factors assumed for trail congestion are shown in the middle columns of Table A.

Total Reduction

The total reduction applied is a multiplicative total of all of the reduction factors. The reductions factors and trail usage estimates are provided in Table A.

Existing Unpaved Trail Use Levels

In addition to the new users that would be generated by development of the proposed trail, there is biking and hiking activity already in the trail vicinity using the existing network of unpaved trails. Some of this existing activity can be expected to use the new Dollar Creek Trail as part of longer recreational rides. While no detailed data on total existing trail use is available, informal observation of parking and non-motorized access in the area indicates that much of this activity uses the Tahoe Cross Country Ski Area (Tahoe XC) lodge base as a trailhead. To gain an understanding of this current activity, LSC Transportation Consultants, Inc. contacted Kevin Murnane. General Manager of the Tahoe XC center. Over the course of the summer of 2011. Tahoe XC staff counted the number of cars parked in the Tahoe XC lot twice per day. The maximum number of cars parked at any one time was 20. On average, there are 5 to 10 cars at any one time. Mr. Murnane estimates that the average length of stay is on the order of 3 hours. Trail use is highest in the middle of the day, though there is also a definite spike in use in the morning (7 AM – 10 AM), as well as the 4 PM – 7 PM period after work. This information indicates that, over the course of a busy summer day, approximately 30 vehicles park at Tahoe XC to access the trails. Tahoe XC staff also estimates that approximately 70 percent of users are cyclists and the remaining 30 percent are pedestrians. Applying these proportions to the total, 21vehicles carry bicyclists to the area and 9 carry pedestrians. Factoring by the observed average vehicle occupancy (per the Tahoe Coalition of Recreational Providers surveys) of 2.2 and 1.4 for cyclists and pedestrians, respectively, approximately 46 cyclists and 13 pedestrians use the existing trails. Assuming half would use the Dollar Creek Trail as part of their overall trip, the daily one-way person-trips generated on the trail by these existing uses would also equal 46 cyclist trips and 13 pedestrian trips. These numbers of existing unpaved trail users are shown in the middle of Table A and are added to the estimate of bicyclists and pedestrians that would use the proposed paved Dollar Creek Trail. The number of total estimated trips on the proposed Dollar Creek Trail discussed in the following paragraph includes both these existing trips on the

unpaved trails that would use the new paved trail as well as new trips using only the proposed paved Dollar Creek Trail.

Trail Usage at Location of Peak Demand

The result of applying the reduction factors to the maximum feasible demand is the estimated daily trail usage at the location of peak demand along the trail. The point of the trail with the highest forecast usage for bicycle trips is calculated to be the segment north of Country Club Drive, near the Dollar Reservoir. The demand estimate calculations and results for all user categories are provided in Table A. As shown, the estimated daily trail use levels at this location are 251 bicyclist trips and 90 pedestrian trips. Factoring by the proportion of daily use occurring in the peak hour on existing Tahoe Region trails, the estimated peak hour trail usages at these respective locations are 38 bicyclist trips and 14 pedestrian trips.

Trail Usage along Entire Trail

A formula is provided in the *Tahoe Bike/Ped Model Memo* to estimate the trail usage along the entire corridor as a function of the trail usage at the location of peak usage and the location with the least amount of usage. In order to determine the location along the Dollar Creek Trail with the least amount of trail usage, the bicycle and pedestrian demand from each TAZ comprising the Dollar Creek Trail corridor was calculated. The distance from each TAZ center to the five following specific locations on the trail was then measured:

- SR 28 Trailhead
- Country Club Drive
- Dollar Reservoir
- Old County Road
- Fulton Crescent Drive

A function was applied to estimate the proportion of trail users from each TAZ that would still be present on the trail at each of the five locations. This function is based on the average trip lengths and is applied separately for bicycles and pedestrians, considering the respective average one-way trip lengths of 2.4 miles and 1.5 miles and the distance to the location with the greatest use. Overall, considering cyclists and pedestrians using portions of the trail that are not the segment with peak use increases the number of cyclists by 31 percent and the number of pedestrians by 52 percent, over the estimate for the peak location. Applying these factors yields a total of 273 daily one-way bicycle trips, 130 daily one-way pedestrian trips, 42 peak hour one-way bicycle-trips, and 20 peak hour one-way pedestrian trips.

Annual Trail Usage

The annual trail use estimates are shown in the far right column of Table A for the location of peak demand, and in Table B for the use over the entire trail. The annual use estimates are based on observed ratios of annual-to-daily use on similar trails, and assumes that there will be no snow removal on the trail. As reflected in Table B, the total best estimate of annual usage of the Dollar Creek Trail is 67,500 one-way trips.

Parking

Parking demand at points along the Dollar Creek Trail is estimated based on the calculated demand for drive-to-trail users, as well as consideration as to how existing recreationalists would react to the new trail:

- As specified above, the **new** daily drive-to-trail demand for the Dollar Creek Trail is 116 oneway bicycle trips and 28 one-way pedestrian trips (58 bicycle round-trips and 14 pedestrian round-trips). Surveys at existing bicycle/pedestrian facilities in the Lake Tahoe Region indicates that drive-to-bike users have an average vehicle occupancy of 2.2 and that driveto-walk trail users have an average vehicle occupancy of 1.4. Applying the vehicle occupancy factors to the drive-to-trail demand calculations yields a total of 36 vehicles parking at all trail access locations over the course of a summer day. Considering the average length of stay, approximately a third of this parking demand would be parked in the area at the peak time, or 12 vehicles. The location in which this parking would occur is a function of the proportion of the "drive-to" users that will come from the adjacent neighborhoods versus those arriving via SR 28 from more remote locations. Based on the proportion of the residences within the study corridor but not within convenient walk/bike access, it is estimated that 25 percent of the "drive-to" demand will be generated from within the corridor (such as residents of the lower Ridgewood Road or Terrace Drive areas driving up to the trail) while the remaining 75 percent will be driving to the trail via SR 28. The demand within the corridor was further allocated to access points based upon the number of residences most convenient to each access point, as shown in Table C.
- As discussed above, there are also up to 20 vehicles currently parked at the Tahoe XC area over the course of a summer day associated with existing recreational trail users in the area. Based on the relative convenience to the various trail options, it is estimated that a third of this parking (or up to 7 vehicles) would shift to a trailhead parking lot on SR 28, while the remaining 13 would remain at the XC area.

In total, up to 16 vehicles are forecast to park at a SR 28 trailhead, with 14 at the existing Tahoe XC parking lot. The number of new vehicles parking at either the upper end of Old County Road or Fulton Crescent Drive to access the proposed paved Dollar Creek Trail are expected to be minimal, not exceeding 1 new vehicle at any one time. This is in addition to any drivers that currently park at the end of Old County Road or Fulton Crescent Drive to access the existing dirt trails that will choose to continue to park at these informal locations. (While some of these existing drivers parking in the neighborhood to access the dirt trails may shift to the new trailhead parking area on Dollar Hill, others that are particularly interested in mountain biking on dirt trails can be expected to continue to park at these informal access points.) The number of additional parked cars at the upper end of Old County Road or Fulton Crescent Drive is expected to be minimal, as (1) the parking area on Dollar Hill will be more evident to visitors and residents driving from other areas, and (2) persons interested in exercise tend to prefer their greatest workout (biking or walking up hill) at the beginning of their exercise period rather than at the end. Drivers approaching the area both from the south and the north on SR 28 would have a shorter drive time to the new trailhead atop Dollar Hill than to either upper Old County Road or Fulton Crescent Drive. The additional parking activity generated by the proposed Dollar Creek Trail at the upper end of Old County Road or Fulton Crescent Drive is expected to consist

only of residents of the lower portions of the Cedar Flat neighborhoods that prefer to avoid the steep climbs up the residential streets to the trail by driving up the hill.

Analysis of Impact on Vehicle Miles Traveled

An analysis was performed to calculate the change in Vehicle Miles Traveled (VMT) that can be expected with the construction of the Dollar Creek Trail. This consists of two factors:

- On one hand, VMT in the vicinity of the trail will be reduced by trail users bicycling/walking to the trail and on to their final destination instead of using a vehicle to make the trip. The calculation of the reduction in VMT by trail users not driving to the trail was based on average bicycle and pedestrian trip lengths specified in the Tahoe Region Bicycle and Pedestrian Use Models documentation. Average vehicle occupancy for bicycle and pedestrian drive-to-trail users was taken form the TCORP 2007 survey of trail users. The percentage of bike-to and walk-to-trail users that would have otherwise generated a vehicle-trip in the absence of the trail was also obtained from the surveys. The VMT reduction associated with trail users that would have otherwise driven is calculated as the product of the total daily trail users, the percentage that would otherwise have driven and the average trip length, divided by the average vehicle occupancy shown in Table D. VMT reduction associated with this factor is estimated to be 40 over a summer day.
- VMT associated with the Dollar Creek Trail will also be increased by trail users driving to the trail. A portion of these drivers (estimated to be 60 percent and 36 percent, for bicyclists and walkers, respectively) are expected to consist of persons making new trips for this purpose, while the remainders are drivers that otherwise would have driven to another similar trail facility. The VMT generated by drive-to-trail users is calculated by taking the product of the number of drive-to-trail users times the percent making new trips times the average length of the vehicle-trip used to access the trail (from TCORP surveys), divided by the average vehicle occupancy. This factor is estimated to increase VMT by 190 per day.
- Finally, as discussed above, VMT will be **decreased** by existing recreational trail users that will shift from parking at the Tahoe XC center to a parking lot at the trailhead on SR 28, thereby reducing their trip length. This factor is calculated to reduce VMT by 33 per day.

On balance, the proposed trail would result in an increase in VMT of 117 vehicle-miles per day. To put this in context, the most recent estimate of VMT over the course of a summer day throughout the Tahoe Basin is estimated to be 1,987,794 (TRPA, 2010). Comparing the two figures, the Dollar Creek Trail would increase basin-wide VMT by 0.006 percent.

REFERENCES

Tahoe Coalition of Recreational Providers (2007). Tahoe Bike Trail Survey. Stateline, Nevada.

Tahoe Regional Planning Agency (2007). 2006 TRPA Threshold Evaluation. Stateline, Nevada.

Tahoe Regional Planning Agency and Tahoe Metropolitan Planning Organization (2010). 2010 Lake Tahoe Region Bicycle and Pedestrian Plan. Stateline, Nevada.

Transportation Research Board (2010). *HCM 2010: Highway Capacity Manual.* Washington DC: National Research Council, Transportation Research Board.

	val.	Table E.	<i>lse Mode!</i> Memo, cility 6.5 for facilities wit	 See Tahoe Region Bicycle and Pedestrian Use Model Memo, Table E. 0.153 for Class I facility. 0.096 for Class II facility 172.8 for facilities maintained year-round, 146.5 for facilities without snow removal. 	e <i>Region Bicyc</i> Class I facility, I facilities mainta	5. See <i>Taho</i> 6. 0.153 for 7. 172.8 for	ў. ў.	nand elastici nand elastici	ement of der	neering judg neering judg	G. ity and engir J. ity and engir	lemo, Table y Class I faci lemo, Table y Class I faci	τ Use Model N with an existin τ Use Model N with an existin	Notes 1. See Tahoe Region Bicycle and Pedestrian Use Model Memo, Table G. 2. Based on an average of 480 for corridors with an existing Class I facility and engineering judgement of demand elasticity. 3. See Tahoe Region Bicycle and Pedestrian Use Model Memo, Table J. 4. Based on an average of 135 for corridors with an existing Class I facility and engineering judgement of demand elasticity.
50,000 65,750 34,250		52 69 36		341 449 233										TOTAL Best Estimate High End of Estimate Range Low End of Estimate Range
13,000 19,500 6,500	146.5	14 21 7	0.153	29 20 28 13 90 135	0.21 0.39 0.39	0.10 0.05 0.05	0.03 0.08 0.09	0.00 0.00 0.00	0.00 0.00 0.00	0.10 0.30 0.30	0.00 0.00 0.00	Note 3 Note 3 Note 4	36 33 46	Resident Walk to Facility Visitor Walk to Facility Visitor Walk to Facility Pedestrians Drive to Facility Existing Unpaved Trail Users Total Best Estimate High End of Estimate Range Low End of Estimate Range
37,000 46,250 27,750	146.5	29 48 8 29 8	0.153	64 25 116 46 251 314 188	0.24 0.38 0.40	0.13 0.06 0.04	0.03 0.06 0.10	0.00 0.00	0.00 0.00 0.00	0.10 0.30 0.30	0.00 0.00	Note 1 Note 2	84 40 192	Resident Bike to Facility Visitor Bike to Facility Visitor Bike to Facility Bicyclists Drive to Facility Existing Unpaved Trail Users Total – Best Estimate High End of Estimate Range Low End of Estimate Range
Annual Use Estimate	Annual / Daily Factor (7)	Peak Hour Use Estimate	Peak Hour Factor (6)	Daily Use Estimate	orridor Multi- plicative Total	Trail Compestion	from Max Recre- ational Value	- Dollar Reduction Maint- y enance	Use Factor Reduction from Maximum (5) Recre- Maint- ational Conges de Continuity enance Value tion	Use Use	edestria Class	and Pe	Bicycle Corridor Maximum Feasible Demand	At Location of Peak Demand in Corridor At Location of Peak Demand in Corridor At Location of Peak Demand in Corridor Use Factor Reduction from Maximum (5) Maximum Feasible Corridor Class Grade Continuity enance Value tion Total

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TABLE B: Estimated Use Over Entire Dollar Creek Trail								
	Daily Use Estimate	Peak Hour Factor (6)	Peak Hour Use Estimate	Annual / Daily Factor (7)	Annual Use Estimate			
BICYCLISTS Total Best Estimate High End of Estimate Range Low End of Estimate Range	331 414 248	0.153	51 63 38	146.5	48,500 60,625 36,375			
PEDESTRIANS Total Best Estimate High End of Estimate Range Low End of Estimate Range	131 197 66	0.153	20 30 10	146.5	19,000 28,500 9,500			
TOTAL Best Estimate High End of Estimate Range Low End of Estimate Range	462 610 314		71 93 48		67,500 89,125 45,875			
LSC Transportation Consultants, Inc.			_	_	_			

TABLE C: Dollar Creek Trail Parking Demand							
		Daily Demand ^{1,2}	Average Vehicle Occupancy ³	New Parking Demand			
Drive-to-Bike Trail Users Drive-to-Walk Trail Users Total Daily Peak-Period-to-Day Factor Peak Hour Parking Demand		116 28	2.2 1.4	26 10 36 0.333			
		Peak Hour	Parking Demand				
	New	New Parking	Existing Parking	Total Parking			
Location	Distribution	Demand	Demand ⁴	Demand			
Location SR 28 Trailhead Country Club Drive (Tahoe XC) Old County Road Fulton Crescent Drive	75% 14% 10% 1%	9 1 1 1	7 13 0 0	Demand 16 14 1 1			

NOTE 3: From TCORP 2007 surveys of users of Tahoe recreational trails.

Source: LSC Transportation Consultants, Inc.

NOTE 4: Based on results of parking counts and observations, per conversation with Tahoe XC staff.

TABLE D: Analysis of Daily Vehicle-Miles of Travel Impacts of Dollar Creek Trail

	Bicyclist	Pedestrian	Total
VMT Reduction Associated with Trail Users Not Driving to Trail Who	Otherwise Wo	uld Have Driver	1
Daily Users Not Driving to Trail ¹	89	49	
Percent Would Have Driven ²	27%	27%	
Avg Trip Length ³	2.4	1.5	
Avg Vehicle Occupancy ²	2.2	1.4	
Change in VMT	-26	-14	-40
VMT Generated by Recreational Trail Users Driving to Trail			
Daily Users Driving to Trail ¹	116	28	
Percent of Trail Users Driving to Trail Making a New Trip	60%	36%	
Average Auto Trip Length ²	4.9	4.9	
Avg Vehicle Occupancy ²	2.2	1.4	
Change in VMT	155	35	190
VMT Reduction Associated with Existing Trail Users Shifting to SR 2	8 Trailhead		
Daily Users Driving to Trail	21	9	
Avoided Trip Length (Round Trip)	-1.1	-1.1	
Change in VMT	-23	-10	-33
Total Change in VMT	129	21	117

NOTE 1: Calculation from application of Tahoe Region Bicycle and Pedestrian Use Model for Dollar Creek Trail.

NOTE 2: From TCORP 2007 surveys of users of Tahoe recreational trails.

NOTE 3: Average trip length, as specified in the *Tahoe Region Bicycle and Pedestrian Use Model* documentation.

Source: LSC Transportation Consultants, Inc.