Final Report

2017 Economic Impact of the Truckee Tahoe Airport

The Economics of Land Use

Prepared for:

Truckee Tahoe Airport District

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1. EXECUTIVE SUMMARY

The intent of this study is to provide the Truckee Tahoe Airport District with an objective analysis of the airport's economic impacts, primarily the impacts experienced within the Truckee Tahoe Airport District (TTAD, or the "District"), a geography that generally aligns with the conventional definition of the North Lake Tahoe region (see **Figure 1**). The analysis methodology aligns with conventional economic impact analysis practices, utilizing industry-standard input-output (I/O) modeling frameworks to provide confidence and comparability of results. It also includes two components of primary data collection, which were used to augment and substantiate elements of direct (i.e. operational) and some indirect (i.e. airport-related) business-to-business relationships.

Measurements of Economic Activity

Three main measures of economic activity were identified through the collection and analysis of data. These components relate to the direct operations of the airport and the services it provides to the direct product of those services and the indirect product of those services and the business-to-business relationships that develop in a regional agglomeration of industries.

- **Visitation** – economic activity related to visitation that results from the airport's operations, including the direct employment, earnings, spending, and output that are supported directly by airport user spending. In the most recent year, there were an estimated 16,300 aircraft enplanements at the Truckee Tahoe Airport carrying an estimated 38,300 passengers. In a Visitor Survey, it was found that airport users originated from 18 different states, 87 percent of which arrived from California (predominately the Bay Area), and 13 percent of which arrived from origins outside of the state, including international origins.
- **Airport Operations** – economic activity related to the airport's operations, including the direct employment, earnings, spending, and output that are essential to moving aircraft in and out of the Airport District and for administering, managing, maintaining, and operating the airport itself. The airport employs 29 full- and part-time workers and has an annual operating budget of $11.2 million.
- **Businesses in Proximity to Airport** – economic activity of airport- and nonairport-related businesses and vendors on or around airport property. This includes the direct employment, wages, spending, and output that accounts for the numerous business-to-business activities (i.e. indirect economic activity) that support the operations of the airport. On and around the airport, there are approximately 45 businesses that estimate the airport's operations account for approximately 22 percent of their business revenues.

Figure 1
Truckee Tahoe Airport District

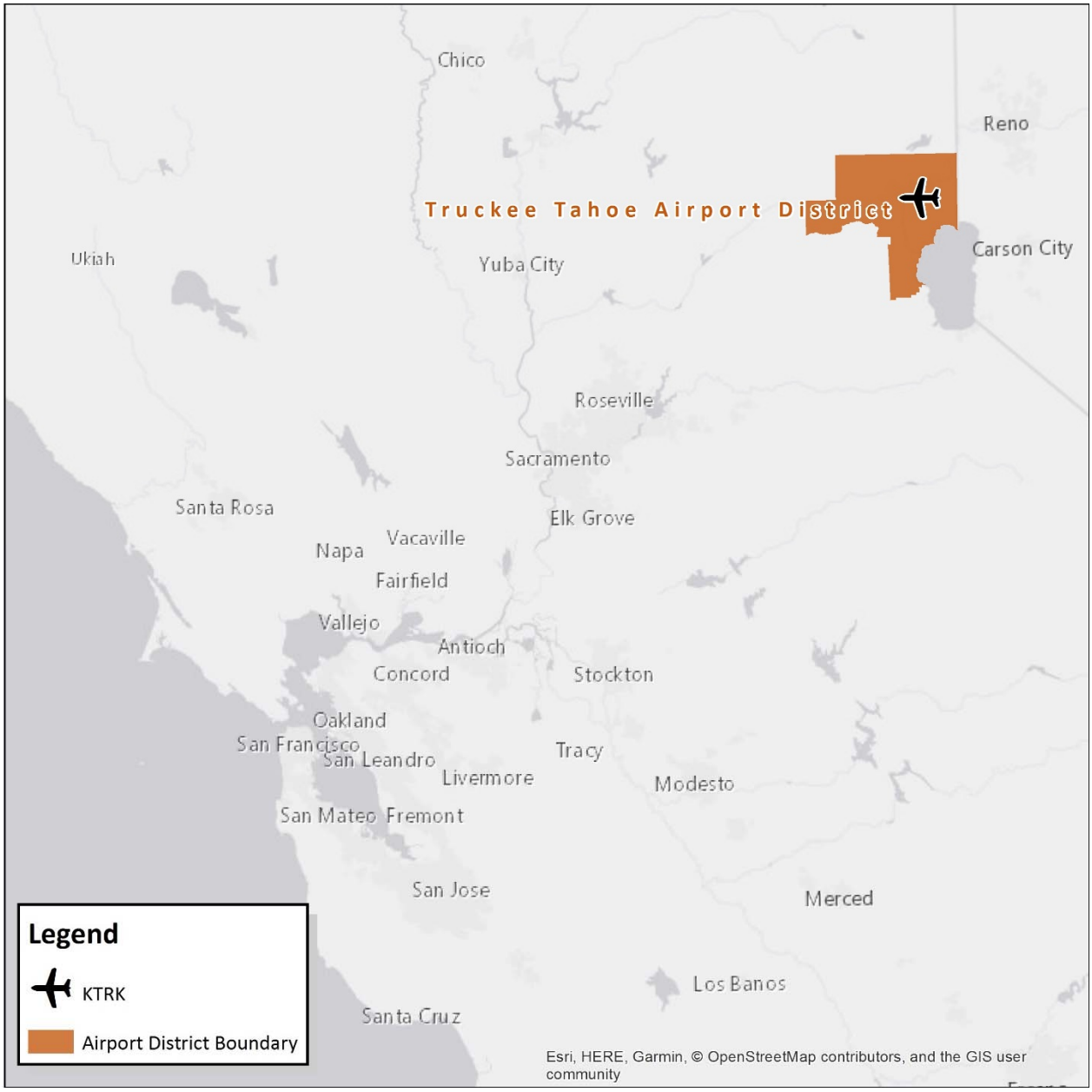
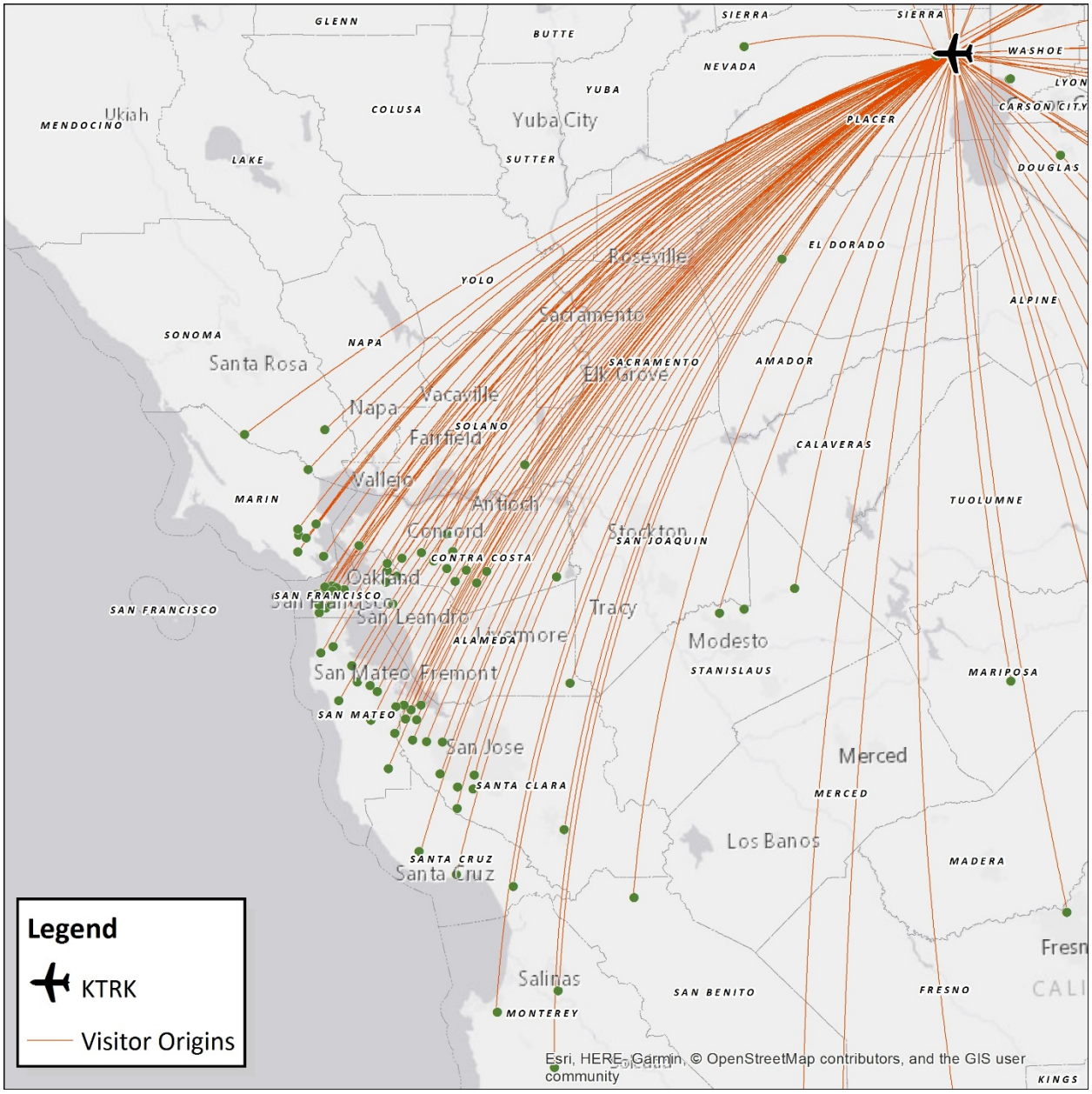
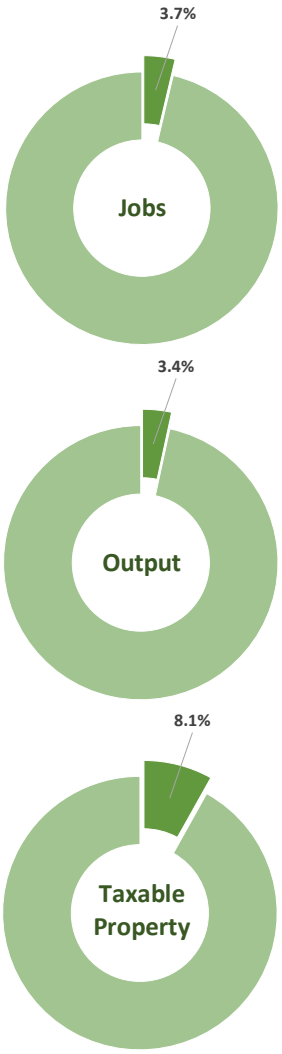


Figure 2
Visitor Origins (Bay Area)



District Context

A distinction made throughout this study is the portion of economic activity that is airport-related and within the District, as well as the portion of economic activity that is dependent on the airport's continued operation. **Table 1** illustrates the magnitude of annual airport user's spending and economic activity in the context of total annual economic activity in the District. Metrics identified include total wage and salary employment,[1] total GRP, spending categories such as accommodations, retail (including food and beverage and general retail), and property valuation.



- **Employment** – The District is estimated to have approximately 17,500 jobs, of which an estimated 1.4 to 3.7 percent were supported by the airport's operations and its users.
- **Gross Regional Product (GRP) –** Total GRP in the District was $2.1 billion in 2017, of which the output, stemming from airport's operations and users, supports an estimated 3.4 percent.
- **Retail Spending** – For all categories—including food and beverage, restaurants, and general retail—retail spending in the District totaled approximately $306 million. An estimated 5 percent is estimated to derive from spending related to airport users.
- **Accommodations –** The District had approximately $245 million in nightly accommodations spending in 2017, of which an estimated 3 percent was related directly to airport users.
- **Property Valuation** – The District contained $19.5 billion in total taxable property valuation in 2017. It is estimated that approximately $1.6 billion in is attributable to second homeownership of airport users (8.7 percent of the District's taxable residential property valuation and 8.1 percent of total District taxable property valuation).

Economic Impact

The Truckee Tahoe Airport generates far-reaching impacts throughout the District with its modest 41,300 revenue passengers from around the country. Its impacts are characterized below in terms of direct, indirect, and induced activities.[2] Total impacts are defined as the operations of the airport itself and spending from revenue passengers. In 2017, this totaled more than $73 million but does not include the $1.6 billion in taxable residential property valuation attributable to second homeownership of those revenue passengers.

[1] Wage and salary jobs are not inclusive of sole proprietorships. This measure includes all jobs reported by the Bureau of Labor Statistics and state departments of labor.

[2] Refer to page 41 for a detailed description of direct, indirect, and induced impacts.

Direct Impacts

The direct impacts are defined as the direct spending of revenue passengers, the taxable residential property valuation attributable to second homeownership of passengers, and the direct operations of the airport.

- **Visitation** – In 2017, revenue passengers utilizing the airport brought approximately $30 million of direct spending to the local economy. The average passenger stayed approximately 4.9 days, of which 19 percent of them spent $379 on nightly accommodation, $52 per day on food and beverage, $31 per day on shopping and retail, and $43 per day on entertainment and recreation.[3] Altogether, visitors spent $6.6 million on accommodations (2.9 percent of District activity);[4,5] $6.2 million on retail (3.4 percent of District activity);[6] $8.0 million on entertainment and recreational activities;[7] and $9.7 million on food and beverage (6.7 percent of District activity).[8]
- **Property Valuation** – Four out of five revenue passengers own vacation homes in the District. As a result, approximately $1.4 billion (8.7 percent) of the District's taxable residential property valuation results from these airport users' vacation home investments, which generates approximately $14 million in annual property tax revenues for the school districts, Nevada and Placer Counties, and their municipalities.[9]
- **Airport Operations** – Visitation to the North Lake Tahoe area through the airport supports demand for the 29 jobs at the airport and its $11.2 million in operational spending. It is against the spending of the airport that the multiplier effects are calculated below in **Table 1**.

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[3] Refer to page 27 for a detailed description of these spending factors.

[4] Refer to Error! Reference source not found. on page 27 for details.

[5] It should be noted that the estimation of lodging industry impacts attributable to revenue passengers may be partially duplicative of economic impacts that the lodging industry itself may estimate. For example, as Error! Reference source not found. shows, 19 percent of total visitors attributable to the airport's revenue passengers utilize nightly accommodations. It can be assumed that an economic impact analysis of the lodging industry to the North Lake Tahoe region would count these nights in its total economic impacts as well as nights attributable to other visitors utilizing ground transport or even commercial air travel.

[6] Refer to Error! Reference source not found. on page 27 for details.

[7] Refer to Error! Reference source not found. on page 28 for details.

[8] Refer to Error! Reference source not found. on page 28 for details.

[9] While the estimated taxable property valuation and resulting local property tax revenues can be attributed to the second home ownership of revenue passengers to the airport, local property taxes would be paid regardless. As such, property tax revenues are not included in Error! Reference source not found.

Table 1
Annual District Economic Context

Truckee Tahoe Airport District Economic Context (2017) [1]

	TTAD	Airport User Related	as % of TTAD
District Economic Activity			
Employment (jobs)	17,485	644	3.7%
Total Gross Regional Product (GRP)	$ 2,120,915,454	$ 73,093,649	3.4%
Spending Activity			
Retail Spending (including F&B)	$ 306,343,867	$ 14,553,270	4.8%
Accommodations Spending	$ 244,757,317	$ 7,056,766	2.9%
Taxable Property Valuation			
Residential	$ 18,245,086,569	$ 1,581,003,836	8.7%
Commercial	$ 348,706,933	n/a	n/a
Other	$ 932,187,587	n/a	n/a
Total Taxable Property Valuation	$ 19,525,981,089	$ 1,581,003,836	8.1%

[**Note 1**]: Employment is a 2017 estimate based on state and federal data sources; retail spending is based on 2016-17 data; accommodations spending is 2017; property valuation is 2017.

Source: Truckee Tahoe Airport District; Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053-TTAD Economic Context.xlsx]TABLE 1- 2018

Indirect Impacts

The indirect impacts of the airport are defined as the business-to-business spending associated with direct spending activity. These impacts are calculated and related to visitation spending and the direct operations of the airport, an example of which is characterized by the collection of data from businesses surrounding the airport property.

- ***Visitation*** – The $32.3 million of annual direct spending from revenue passenger visitation results in the generation of demand for an additional $10.7 million in spending throughout the District, which supports an additional 64 jobs and an additional $5.9 million to GRP.
- ***Airport Operations*** – The $11.2 million operational budget generates approximately $4.7 million of indirect or business-to-business spending in the District, supporting an additional 32 jobs locally.

Primary data was collected to quantify a portion of the indirect impacts of the airport. These businesses, surrounding or located on airport property, account for more than 2 percent of the District's total jobs, and it is estimated that without the airport's operations, approximately 5.5 percent of these jobs would be lost or relocated.[10] Approximately one-third of these businesses are directly dependent on the airport's operations. That is, without the airport's operations, total spending in the District would drop by approximately $2.5 million.

Induced Impacts

The induced impacts of the airport are defined as the spending of households related to direct jobs and those of industries that represent business-to-business relationships.

[10] Refer to **Figure 18** on page 35 for details.

- **Visitation** – As a result of the $42.9 million in direct and indirect spending that results from visitation, an additional layer of $17 million is created in the District, supporting an additional 80 jobs.
- **Airport Operations** – An estimated 25 additional jobs and $3.4 million in economic activity is induced by household spending attributable to the direct and indirect economic activity related to the airport's operations.

Multiplier Effects

It should be noted that in traditional economic impact analysis input-output modeling, one of the major underlying assumptions is that the direct spending dollars are "new" to the region. In this study, the collection of data from revenue passengers demonstrates the origin of this direct spending as entirely from outside the District economy. As such, it can be stated more confidently that the outputs of this analysis also would characterize the loss of economic activity to the District if the airport did not operate.

The direct multiplier effect of the airport is characterized as the ratio of dollars spent in the District economy to the direct dollars spent by the airport itself to operate. That is, without airport expenditures on operations, the net-new dollars spent by revenue passengers would not occur. As shown below in **Table 2**, every one (1) dollar spent operating the airport yields an additional $5.50 spent in the District economy (i.e. above the direct spending of the airport). It should be noted that this number does not include the estimated impact of taxable residential property valuation. In addition, the estimation of impacts related to dependent businesses in proximity to the airport is included in the estimates of indirect impacts.

Table 2
Spending Multiplier Effect

Total Spending Multiplier Effects Attributable to the Airport

	Direct	Indirect	Induced	Total
Direct Multiplier Effect				
Airport Operations				
Employment	29	32	25	**86**
Labor Income	$3,357,534	$1,412,781	$1,149,086	**$5,919,401**
Value-Added (GRP)	$4,201,846	$2,521,624	$2,105,042	**$8,828,513**
Output (Final Demand)	$11,251,567	$4,659,563	$3,396,143	**$19,307,273**
Airport Visitor Spending				
Employment	410	69	80	**558**
Labor Income	$12,259,376	$3,139,111	$3,663,278	**$19,061,765**
Value-Added (GRP)	$19,742,933	$6,309,478	$6,711,345	**$32,763,756**
Output (Final Demand)	$32,269,550	$10,689,192	$10,827,633	**$53,786,376**
Total Spending Attributable to Airport				
Employment	439	100	105	**644**
Labor Income	$15,616,910	$4,551,893	$4,812,363	**$24,981,166**
Value-Added (GRP)	$23,944,779	$8,831,103	$8,816,387	**$41,592,269**
Output (Final Demand)	$43,521,118	$15,348,755	$14,223,776	**$73,093,649**
Multiplier Effect [1]	$2.87 to 1	$1.36 to 1	$1.26 to 1	**$5.50 to 1**

Source: Economic & Planning Systems

[**Note 1**]: Multiplier effect is calculated as the ratio of direct, indirect, and induced spending to direct airport operational spending.

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Multiplier Effects.xlsx]TABLE 1- Spending

Demand Elasticity

Demand elasticity in this context refers to the portion of demand for regional goods and services that would continue to exist *but for* the airport—that is, it is an estimation of the portion of regional economic activity that would occur without the airport. The approximation is based on a quantitative analysis of visitor survey responses and survey responses from businesses in proximity to the airport. It characterizes the portion of all visitation-oriented land uses, such as ski resort activity, tourism, shopping, dining, and business-to-business spending that would not occur without the airport.

- **Reduction in Visitors**: more than one-third of all airport survey respondents indicated that they would be "very unlikely" to return to the North Lake Tahoe region without the airport.
- **Visitors Do Not Return**: more than three-quarters of all airport survey respondents indicated that they would be very unlikely to use the South Lake Tahoe Airport to visit the North Lake Tahoe region, nearly half of respondents indicated that they would be very unlikely to utilize commercial or charter service into Reno or Sacramento and drive the remainder of the distance to the North Lake Tahoe region, and more than one-third indicated they would be very unlikely to return to the North Lake Tahoe area if the airport did not operate.
- **Limited Roadway Network Capacity**: currently, Interstate I-80 is functioning at nearly 90 percent capacity, which equates to a level of service "D" on a scale of A to F, where F is roadway failure. Even with the Department of Transportation's capital improvement plans (i.e. capacity enhancement/expansion), it is estimated that Interstate I-80 will reach 96 percent of its design capacity by 2035, subsequently downgrading to a level of service F.

Table 3
Transportation Metrics

Transportation Metrics

	Levels	
	# Vehicles / km / lane	Volume Over Capacity
Level of Service		
A	Less than 7	35%
B	7 to 11	55%
C	11 to 16	77%
D	16 to 22	92%
E	22 to 28	100%
F	More than 28	> 100%

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Data\[163053- Transportation metrics.xlsx]Sheet2

- **Future Land Use Development**: Truckee Tahoe Airport is integrated into the region's growth and development to a greater extent than may be recognized. The user survey results demonstrate that approximately 81 percent of respondents own second homes in the District, indicating that some of the demand driving the current predominance of residential construction activity may be attributed to airport users. Similarly, some of the construction-related business and employment in the region related to second home and resort-oriented land use development may be attributed to airport activity.

- Considering only major projects in the development pipeline (i.e., excluding small-scale development such as single-family home construction on a single parcel), 2,600 residential housing units will be delivered within the District, in a variety of product types offered at a wide range of price points. Approximately 15 percent (400 units) of these residences are identified as affordable or workforce housing and almost certainly all meant for the local residential market. The vast majority of the units (85 percent) will be "market-rate," but those too will be targeted towards various market segments, with approximately 700 planned multifamily units likely targeted towards the local residential market. However, plans throughout the District also call for the following market-rate units: over 600 single-family homes, 165 full ownership condominiums, and 151 cabins.
- In addition to residential units, major projects in the pipeline will deliver a substantial number of new tourist accommodation units (TAUs) as well as a considerable amount of other nonresidential uses. Over 1,300 TAUs are in the pipeline, comprised of over 867 condominium-hotel units, 319 conventional hotel rooms, and 140 fractional/time-share units. Major additions to the region's commercial uses include over 250,000 square feet of office space, over 900,000 square feet of retail space, and approximately 200,000 square feet of industrial space. The addition of these commercial uses has the potential to create economic stability within the region, providing local jobs and amenities that may reduce the need to commute.

Given the limited analysis that was possible of the existing and future roadway network and future land use development, the findings as described above are significant in that further research should be conducted into quantifying the relationships between the airport and land use development projects and into understanding how the airport can play a role in regional land use development patterns.

Overall, as illustrated in **Table 4**, total spending from visitors, businesses in proximity to the airport that are dependent on its operation, and the operations of the airport amount to $73.1 million per year, or 3.4 percent of the District's total economic activity.

Table 4
Estimate of District Economic Activity Loss

Estimate of Loss in Economic Activity if No Airport

	Economic Activity			
	District	Loss	Net	Loss as %
Economic Activity				
Employment	17,486	644	16,842	**3.7%**
Labor Income	$758,119,667	$24,981,166	$733,138,501	**3.3%**
Value-Added (GRP)	$1,244,101,828	$41,592,269	$1,202,509,559	**3.3%**
Output (Final Demand)	$2,120,915,454	$73,093,649	$2,047,821,805	**3.4%**

Source: Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Loss of Airport Operations Impact- 081418.xlsx]TABLE 4 - High Loss Estimate

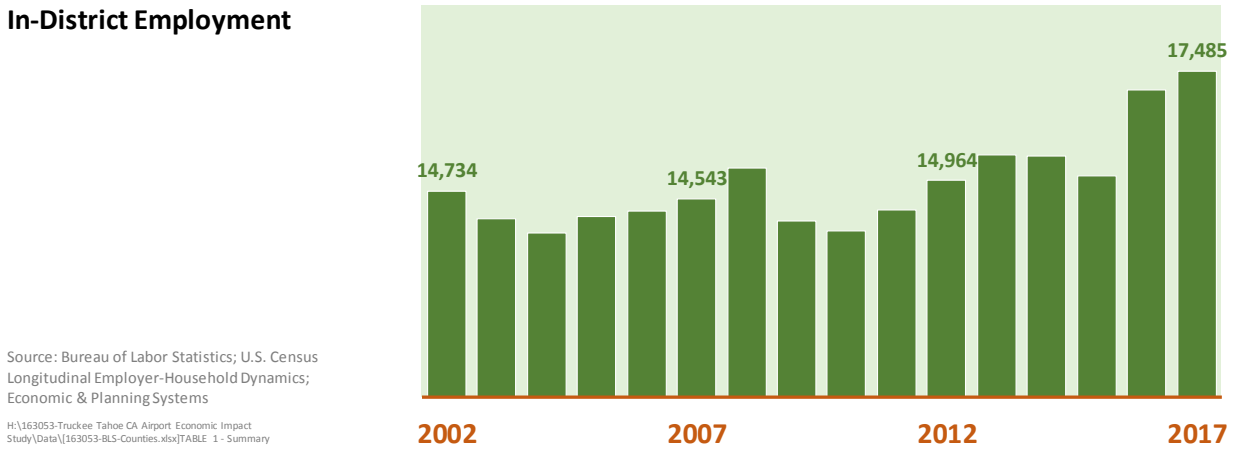
2. TECHNICAL DOCUMENTATION

District Context

Employment

Using data from the Bureau of Labor Statistics (BLS) and the U.S. Census Longitudinal Employer-Household Dynamics data series, it is estimated that the current level (i.e. 2017) of wage and salary employment (not including self-employed or sole proprietors) in the District is nearly 17,500. Data show that employment in the District has grown at approximately 1.1 percent per year since 2002, equating to approximately 180 jobs per year. Data from different geographic levels were used, including BLS county-level data and calibrated to the specific boundaries of the District.

Figure 3
District Wage and Salary Employment



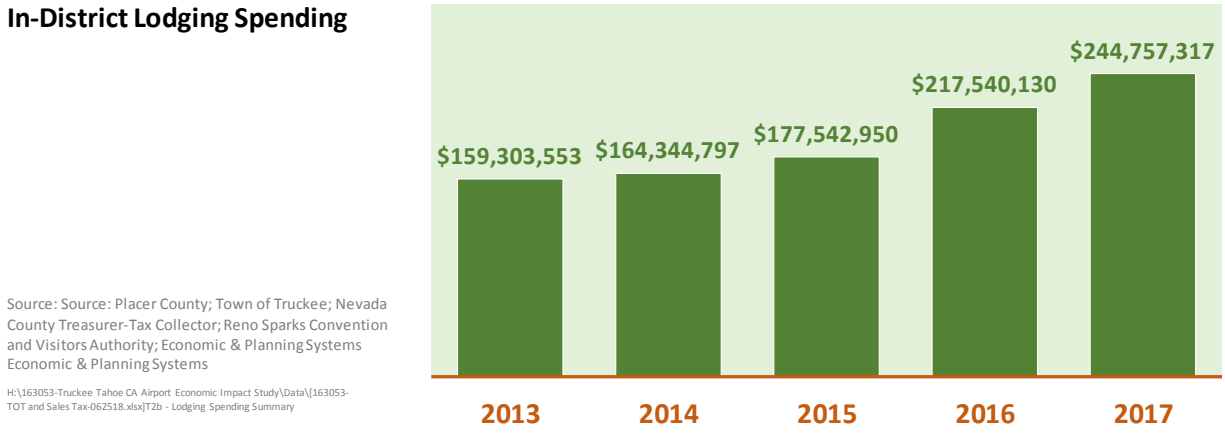
Source: Bureau of Labor Statistics; U.S. Census Longitudinal Employer-Household Dynamics; Economic & Planning Systems

H:\163053-Truckee Tahoe CA Airport Economic Impact Study\Data\[163053-BLS-Counties.xlsx]TABLE 1 - Summary

Accommodations Spending

The analysis of transient occupancy taxes (TOT) for the Town of Truckee and the relevant portions of Placer County within the District shows a current (2017) level of accommodations spending of nearly $245 million. It is against this context that the analysis of visitor expenditure is made later in the report.

Figure 4
District Lodging Spending



Source: Source: Placer County; Town of Truckee; Nevada County Treasurer-Tax Collector; Reno Sparks Convention and Visitors Authority; Economic & Planning Systems
Economic & Planning Systems

H:\163053-Truckee Tahoe CA Airport Economic Impact Study\Data\[163053-TOT and Sales Tax-062518.xlsx]T2b - Lodging Spending Summary

Retail Spending

The analysis of retail expenditures utilized data from the California Department of Tax and Fee Administration (CDTFA). Detailed data on retail spending in the District by retail category was used to identify the proper current (2016/2017) levels. Data collected from CDTFA included the following categories of spending:

- Furniture & Home Furnishings
- Electronics & Appliance Stores
- Building Materials and Garden Supplies
- Food and Beverage Stores
- Health & Personal Care Stores
- Gasoline Stations
- Clothing and Clothing Accessories Stores
- Sporting Goods, Hobby, etc.
- General Merchandise Stores
- Miscellaneous Retail
- Food Services and Drinking Places

Based on an analysis of data from CDTFA, it was determined that District spending on standard retail categories accounted for nearly 4 percent of all Placer County, and spending on food services and drinking places accounted for nearly 20 percent. In total, it was estimated that District retail spending of $306 million for the current (2017) year accounts for slightly less than 8 percent of Placer County plus the appropriate portion of Nevada County.[11]

Figure 5
District Retail Spending

Source: State of California CDTFA;
Economic & Planning Systems

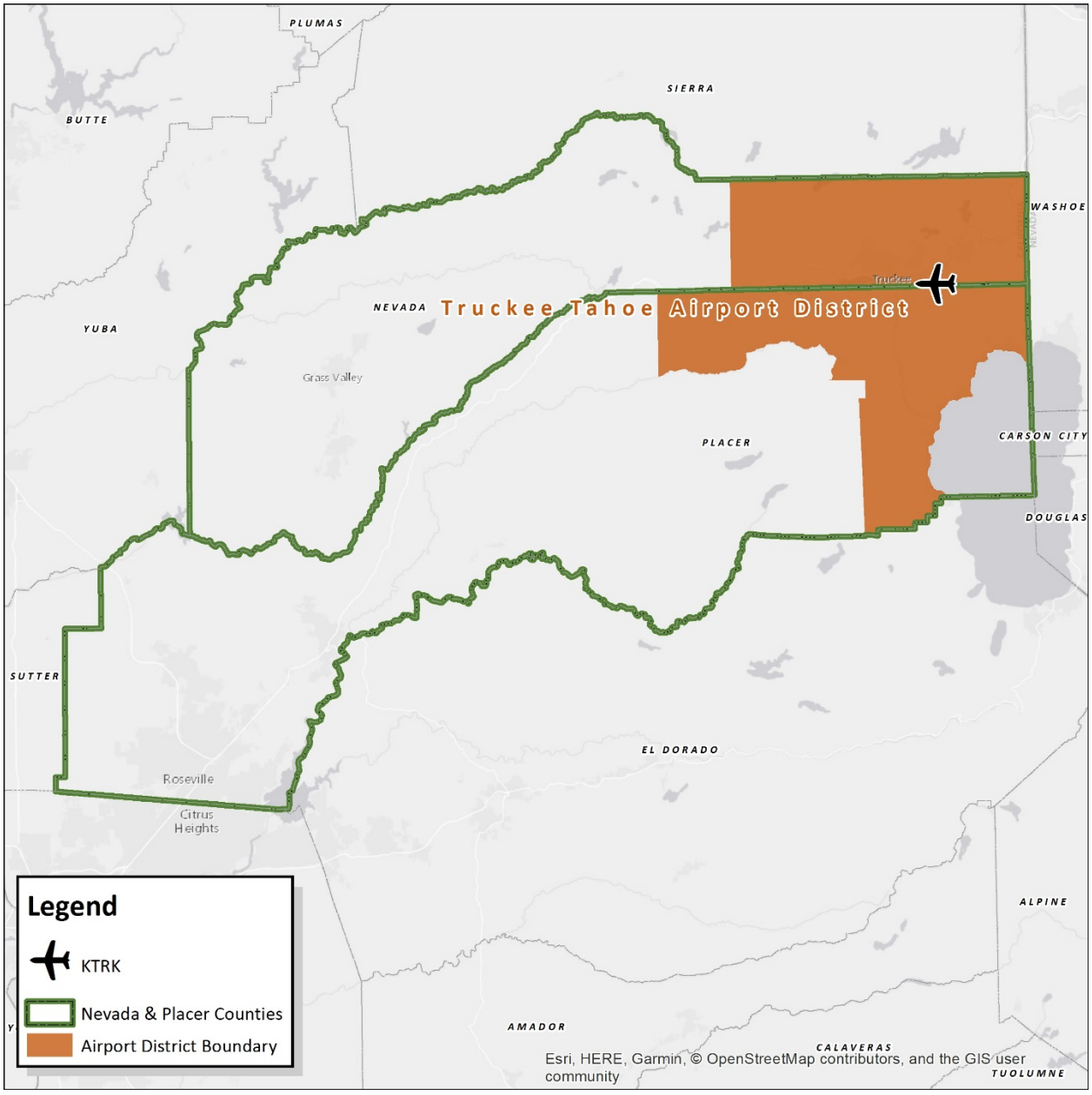
H:\163053-Truckee Tahoe CA Airport Economic Impact Study\Data\[163053-TOT and Sales Tax-062518.xlsx]T3a - District Sales Summary

[11] CDTFA tracks detailed sales tax data at two jurisdictional levels, reporting sales tax figures for individual incorporated areas as well as an aggregate figure for each County's unincorporated areas. This system allowed for the easy identification of retail sales figures for Truckee, but not for unincorporated portions of Placer County—which account for a large portion of the District. As such, geocoded parcel data from respective county assessors were used to apportion floor area by land use and construct an estimate of retail spending for the unincorporated Placer County portion.

Property Valuation

A geospatial analysis of the all parcels in Nevada and Placer Counties utilized Assessor records for all parcels, as shown in **Figure 6**.

Figure 6
District Property Valuation



Of the total $86.3 billion in total taxable property valuation for Nevada and Placer Counties, the District accounts for 23 percent or $19.5 billion. Taxable residential property in the District is estimated at $18.2 billion, accounting for 93 percent of the District's total valuation, a higher proportion than the 84 percent that residential valuation contributes to the total valuation of the two counties as a whole.

Table 5
District Property Valuation

Distribution of Taxable Property Valuation In & Out of the Truckee Tahoe Airport District

	Taxable Valuation		
	In District	Out of District	Total
Land Uses			
Commercial	$348,706,933	$3,977,738,685	$4,326,445,618
Industrial	$77,575,464	$1,992,557,999	$2,070,133,463
Lodging	$171,985,198	$281,837,385	$453,822,583
Office	$161,367,027	$2,134,874,712	$2,296,241,739
Residential	$18,245,086,569	$56,106,456,549	$74,351,543,118
Restaurant	$60,093,189	$320,985,218	$381,078,407
Other	$461,166,709	$1,964,311,448	$2,425,478,157
Total	**$19,525,981,089**	**$66,778,761,996**	**$86,304,743,085**
	23%	77%	100%

Source: Placer and Nevada Counties; Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Data\[163053- Combined Property Valuation Data.xlsx]TABLE 3.1- Summary

Aircraft Operations

In 2017, the airport recorded 33,580 aircraft operations,[12] including the aircraft type shown in **Table 6**. Excluding helicopter and glider operations, it is estimated that there were 13,603 piston and jet aircraft landings. Using aircraft capacities and average load factors by aircraft type, it is estimated that 41,359 revenue passengers used the airport in 2017.

Table 6
Aircraft Operations and Estimated Passengers

Aircraft Operations and Estimated Revenue Passengers

	Aircraft Operations	Landings at 50%	Passenger Load Factors Low	High	Avg.	Revenue Passengers
Aircraft Type						
Piston	14,978	7,489	1	2	1.5	11,234
Piston Twin	1,145	573	2	3	3.0	1,718
Turboprop	6,942	3,471	3	8	4.5	15,620
Jet 2 (< 12.5k)	960	480	3	8	4.5	2,160
Jet 3 (12.5 - 20k)	1,599	800	4	6	5.0	3,998
Jet 4 (20 - 50k)	1,274	637	6	14	8.0	5,096
Jet 5 (50k+)	307	154	10	15	10.0	1,535
Helo (firefighting and AMT)	1,229	n/a	n/a	n/a	n/a	0
Gliders (including tow plane)	5,146	n/a	n/a	n/a	n/a	0
Total	**33,580**	**13,603**				**41,359**

Source: Truckee-Tahoe Airport District; Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053-KTRK_OPS_DATA2000_2016.xlsx]TABLE 1- Total Passengers

To support those operations, the airport has a total operating budget of approximately $11.2 million, including approximately $4.1 million in payroll, benefits, and the cost of goods, as well as approximately $7.1 million in operations and maintenance.

Table 7
Airport Budget

Truckee Tahoe Airport District Proposed Budget for 12 Months Ending December 31, 2018

		Amount
Operating Revenues	$	4,812,850
Cost of Goods Sold	$	1,186,158
Payroll and Employee Benefits		2,937,910
Total Payroll, Benefits and Cost of Goods	**$**	**4,124,068**
Gross Profit (Loss)	$	688,782
Expenses		
Operating, General & Administrative Expenses	$	5,195,500
Repairs and Maintenance		1,932,000
Total Operating and Maintenance	**$**	**7,127,500**
Net Operating Income (Loss)	$	(6,438,718)
Other Income and (Expense)		6,795,285
Net Income (Loss)	**$**	**356,567**

Source: Truckee Tahoe Airport District; Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Data\[163053- Airport operating budget.xlsx]TABLE 1- 2018

[12] An aircraft "operation" refers to a take-off or landing.

Visitor Survey

Surveys are a well-documented technique for drawing conclusions on unique questions for which no secondary data source can provide reliable answers, when appropriately designed. In resort economies, they are a common analytical/data collection tool. That is, no secondary data source on visitor spending exists that would be both available at this level of geographic specificity or for which detailed spending categories, such as lodging, retail, etc., exist. This data set also complements the off-the-shelf nature of standard economic impact analysis findings, which do not capture the nuance of local dynamics.

Methodology and Response

Two survey techniques were used to collect primary data. An online survey was fielded to revenue passengers through charter services and carriers. An intercept survey was also used to collect information directly from arriving passengers, for which Economic & Planning Systems is grateful for the commitment of time and resources from Truckee Tahoe Airport staff. The intercept version was administered between July 2017 and Labor Day weekend, while the online version was fielded and distributed simultaneously.

It should be noted that while the survey was designed to collect data representative of trips made at any time during the year, a majority of reported visits, as detailed below, occurred during July, August and September.[13] Separate URLs were created so as to distinguish results between the two versions. In total, 437 responses were obtained—237 through the weblink and 200 through the intercept version.

While all 437 responses were used for identifying visitor origins or trip purpose, a subset was created for the purpose of identifying economic impacts of Truckee Tahoe Airport users, filtering out respondents who indicated they drove or those who indicated they utilized airports in Reno or Sacramento.[14]

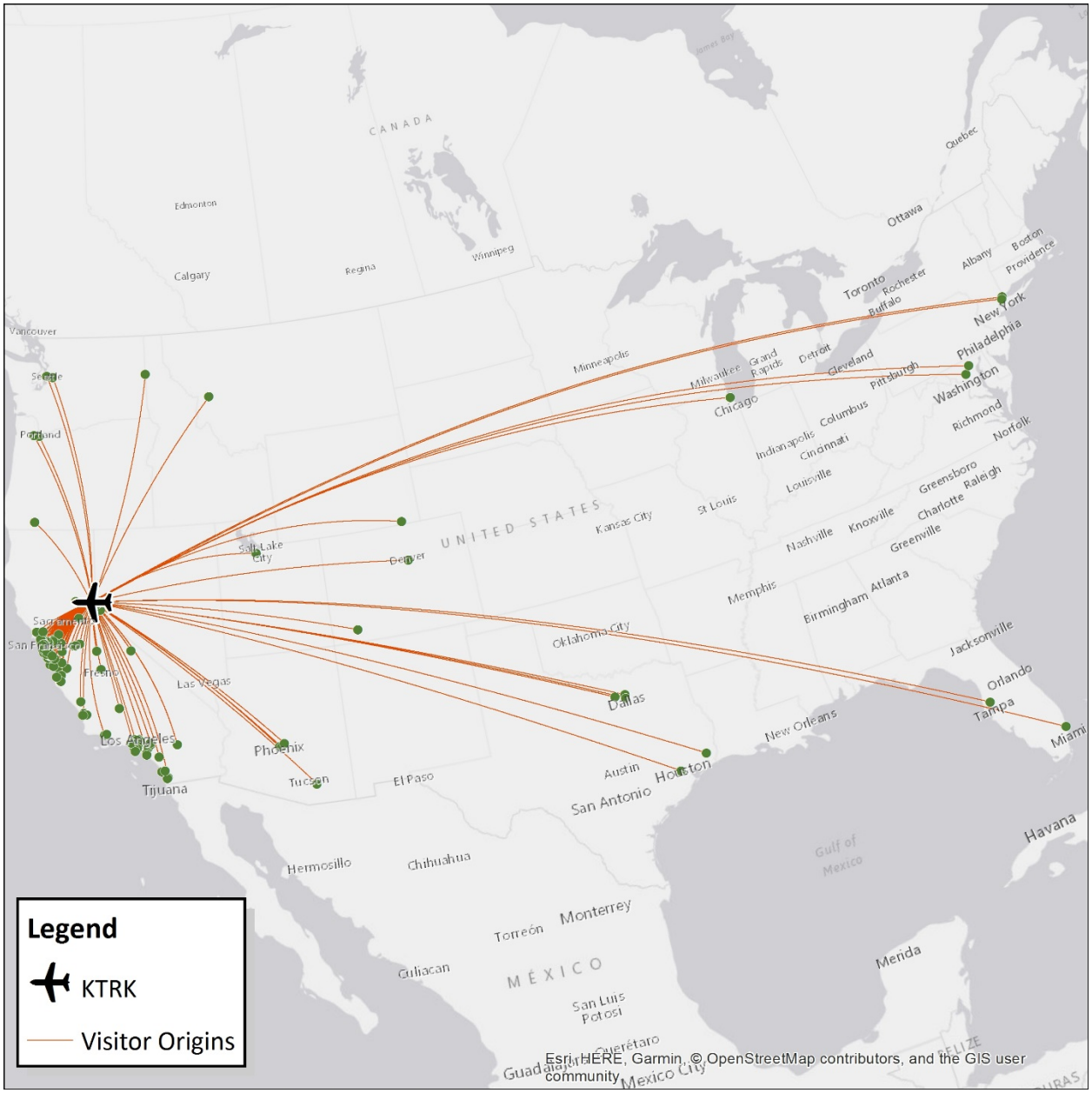
[13] A total of 87 percent of survey respondents visited the North Lake Tahoe area during the months of July, August and September. Slightly less than 10 percent of the responses were reflective of visits during June and October and approximately 6 percent of responses reflected visits during the other months.

[14] It should be noted that responses to the survey included several individuals it is assumed accessed the weblink via friends or acquaintances that had taken the survey. These responses were accounted for to ensure that the results were not skewed by non-airport users.

Visitor Origins

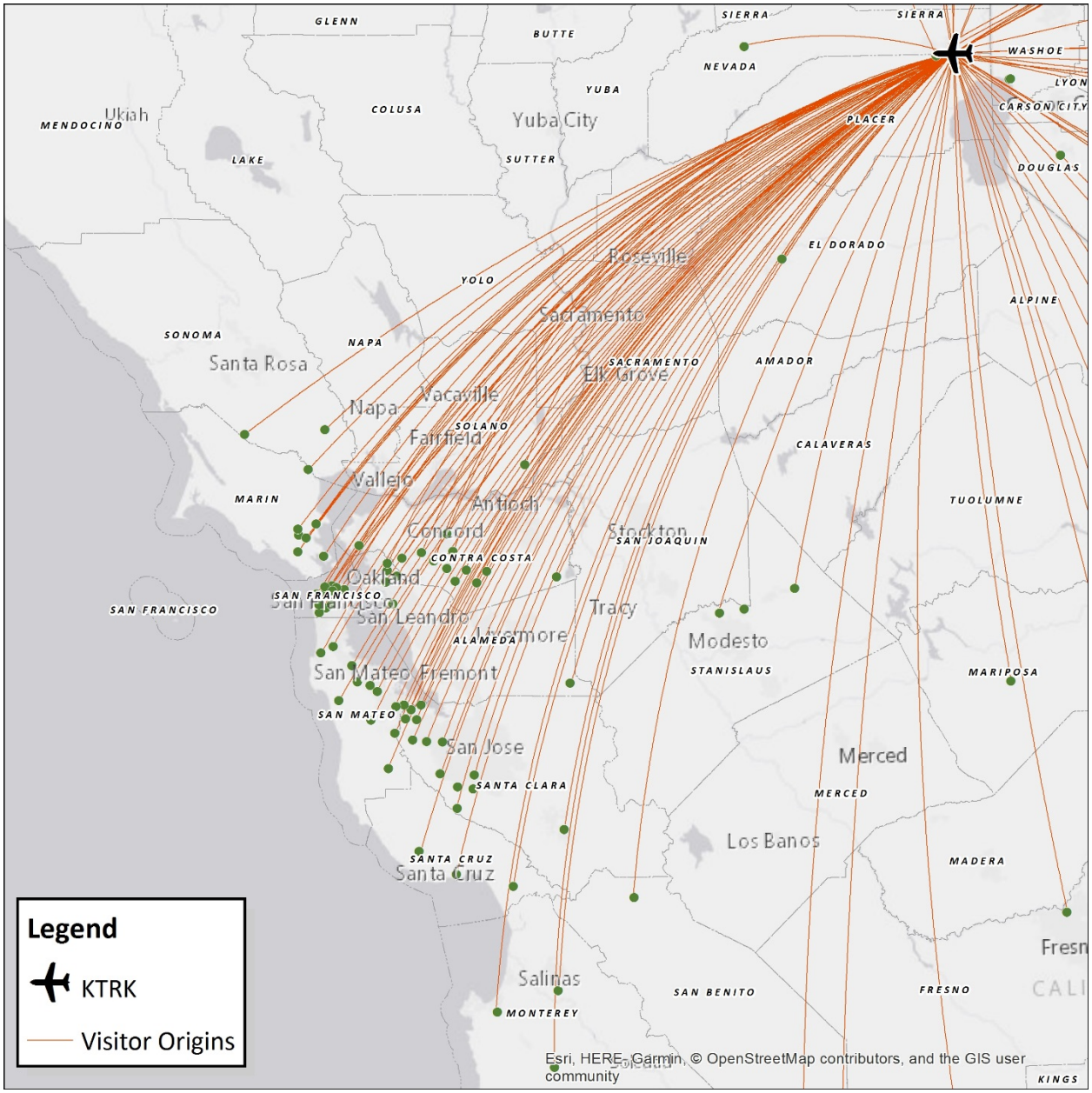
Figure 7 illustrates the diversity of visitor origins. Not illustrated were a handful of respondents that originated from overseas, including Canada, Mexico, Finland, and Germany.

Figure 7
Visitor Origins



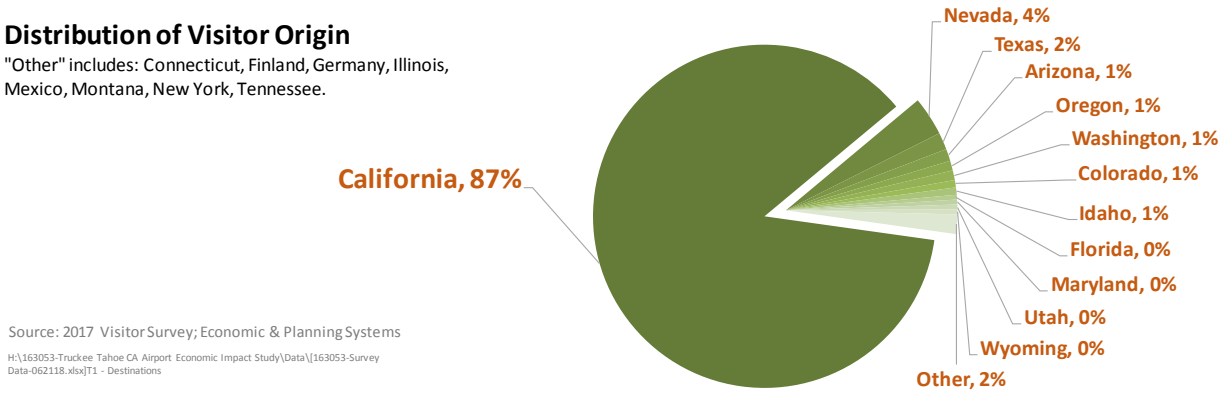
While a majority of visitors originate from California, the largest portion of visitors originate from the San Francisco Bay Area, as illustrated in **Figure 8**.

Figure 8
Bay Area Visitor Origins



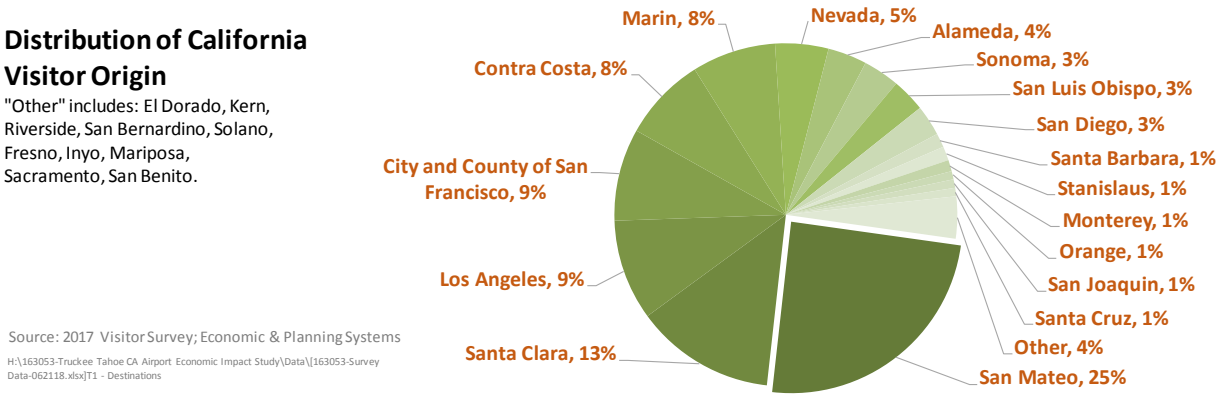
Complementing the travel patterns illustrated above, **Figure 9** documents that 87 percent of all visitors originate from California, while Nevada and Texas account for another 6 percent, and visitors from Arizona, Oregon, Washington, Colorado and Idaho collectively account for an additional 5 percent.

Figure 9
Visitor Origins



Among the visitors from California, 25 percent come from San Mateo County, followed by Santa Clara (13 percent), Los Angeles and San Francisco (both at 9 percent), and Contra Costa and Marin County (both at 8 percent).

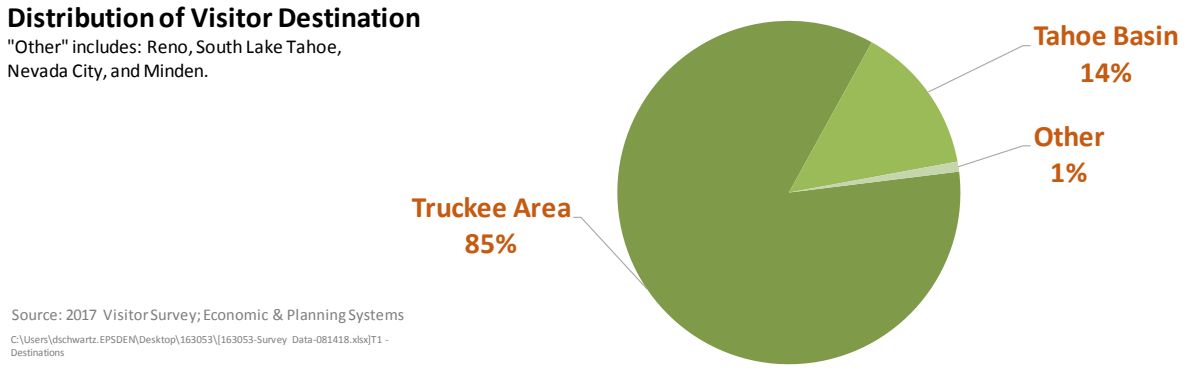
Figure 10
California Visitor Origin



Visitor Destination

It should be noted that 99 percent of all revenue passengers responding to the survey indicated that their final destination was some location in the North Lake Tahoe region,[15] excluding destinations across the state line. Passengers identified their destinations as Truckee, Tahoe Donner, Glenshire, Martis Camp, Northstar, Kings Beach, Carnelian Bay, Tahoe City, Tahoma, and Homewood as a part of this collective definition of the North Lake Tahoe area (within the District). As shown below in **Figure 11**, these destinations are broken down into two for illustrative purposes. The destination for 85 percent of airport users was the Truckee Area, defined as the Town of Truckee, Tahoe Donner, Glenshire, Martis Camp, and Northstar. Slightly less than the remainder of airport users indicated their destination was the Tahoe Basin, defined as Kings Beach, Carnelian Bay, Tahoe City, Tahoma or Homewood. A handful of visitors indicated their destination was Reno, South Lake Tahoe, Nevada City or Minden.[16]

Figure 11
Destination

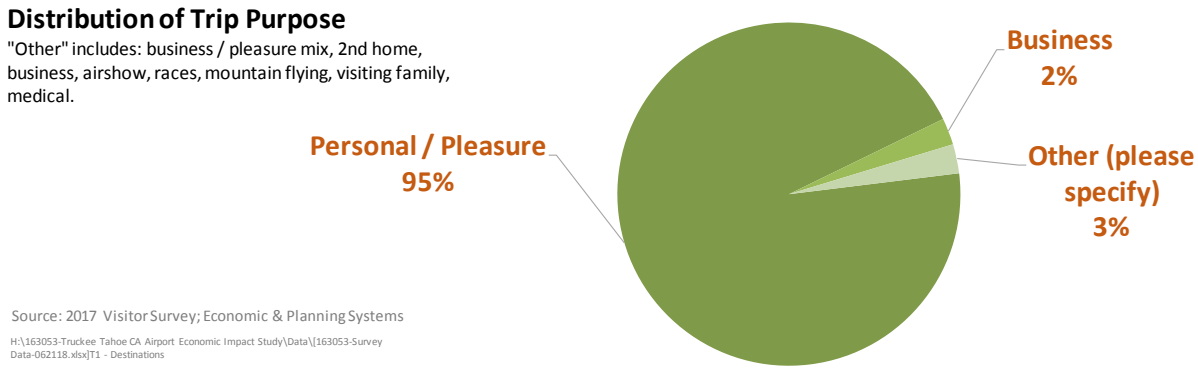


[15] Out-of-area visitors frequently consider Truckee, Northstar, and West Shore collectively as Lake Tahoe or North Lake Tahoe.

[16] In the analysis of economic impacts, the spending and economic impacts from revenue passengers whose final destination is one of these "other" locations is excluded, i.e. the economic impact analysis only counts spending and activity metrics of revenue passengers to the North Lake Tahoe region.

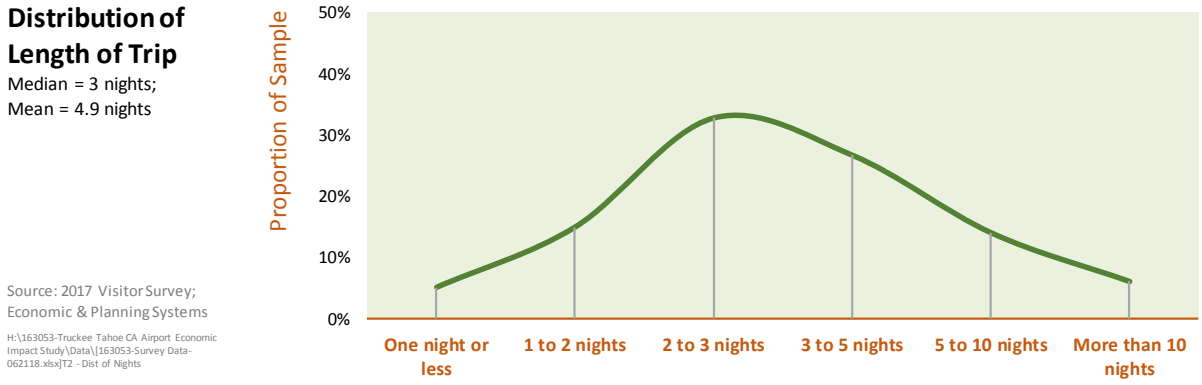
Nearly all of the airport users indicated that their primary trip purpose was personal or pleasure, while just 2 percent indicated their purpose was business. And while the remaining 3 percent indicated that they had an "other" purpose to their trip, their descriptions generally indicated some combination of the two: business/pleasure mix, vacation home visit, business, the airshow, races, mountain activities, visiting family, or medical reasons.

Figure 12
Trip Purpose



Overall, average visitor trip length was 4.9 nights[17], as illustrated in **Figure 13**. It should be reiterated, as noted in the Methodology & Response section (above on page 16), that a majority of survey respondents were summer visitors. Twenty (20) percent of them stayed 2 or fewer nights; one-third were 2 to 3 nights; less than 30 percent were 3 to 5 nights; and 20 percent were 5 or more nights.

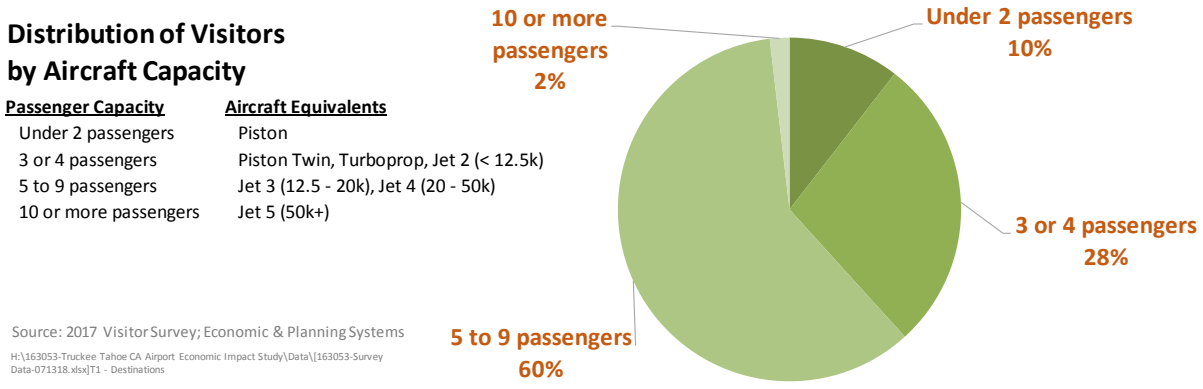
Figure 13
Length of Trip



[17] This compares to RRC Associates 2014 survey for the North Lake Tahoe Resort Association that found an average length of stay of 4.1 nights. This also compares to a report for the North Lake Tahoe Resort Association by Dean Runyan Associates that found that the average length of trip for visitors by air was 5.6 days.

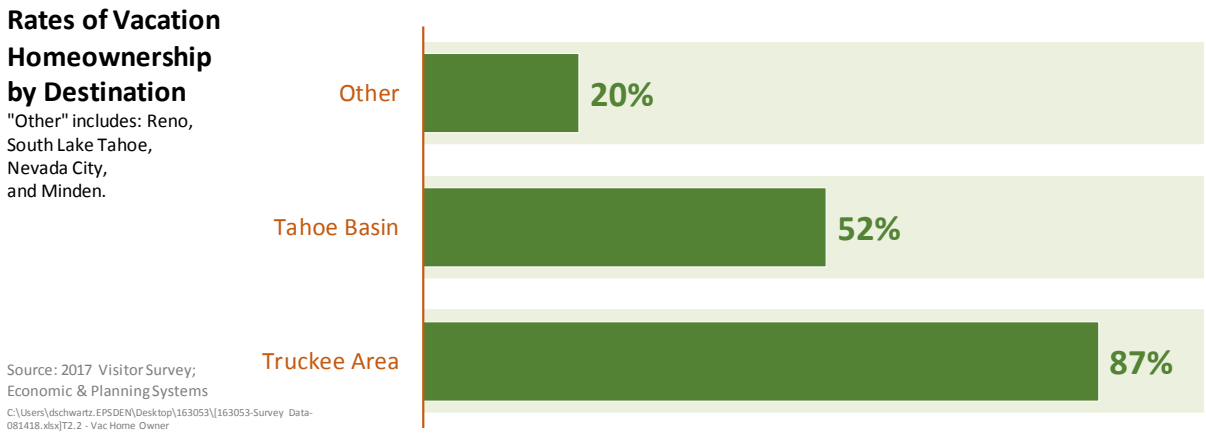
EPS worked with airport staff to identify the typical aircraft load factors to estimate the type of aircraft by which visitors were likely to have arrived. Visitors identified the number of passengers on their aircraft and responses were categorized to align with aircraft capacities and typical load factors. Sixty (60) percent of visitors arrived on aircraft with 5 to 9 passengers, nearly 30 percent arrived on aircraft with 3 to 4 passengers, and 10 percent of visitors arrived on aircraft with 2 or fewer passengers, while approximately 2 percent of visitors arrived on aircraft with 10 or more passengers.

Figure 14
Visitors by Aircraft Capacity



Overall, slightly more than 80 percent of all the visitors surveyed owned a vacation home in the area, with vacation homeownership rates varying according to visitor destinations: Nearly 90 percent of those in the Truckee Area indicated they owned a vacation home in the area, compared to just over half of visitors headed to the Tahoe Basin, and only 20 percent of those going to other areas like Reno, South Lake Tahoe, Nevada City and Minden.

Figure 15
Vacation Home Owner



Using the various response distributions and factors from the survey and extrapolating to the total number of passengers per year, it is estimated that users of the airport own nearly 1,100 vacation homes in the District. Additional factors used in this analysis were the average number of visits per year (seven) and the average number of visitors per travel party, i.e. assuming that a single travel party uses a single vacation home.

Table 8
Estimated Airport User Vacation Homes

Estimated Vacation Housing Units Owned by Airport Visitors

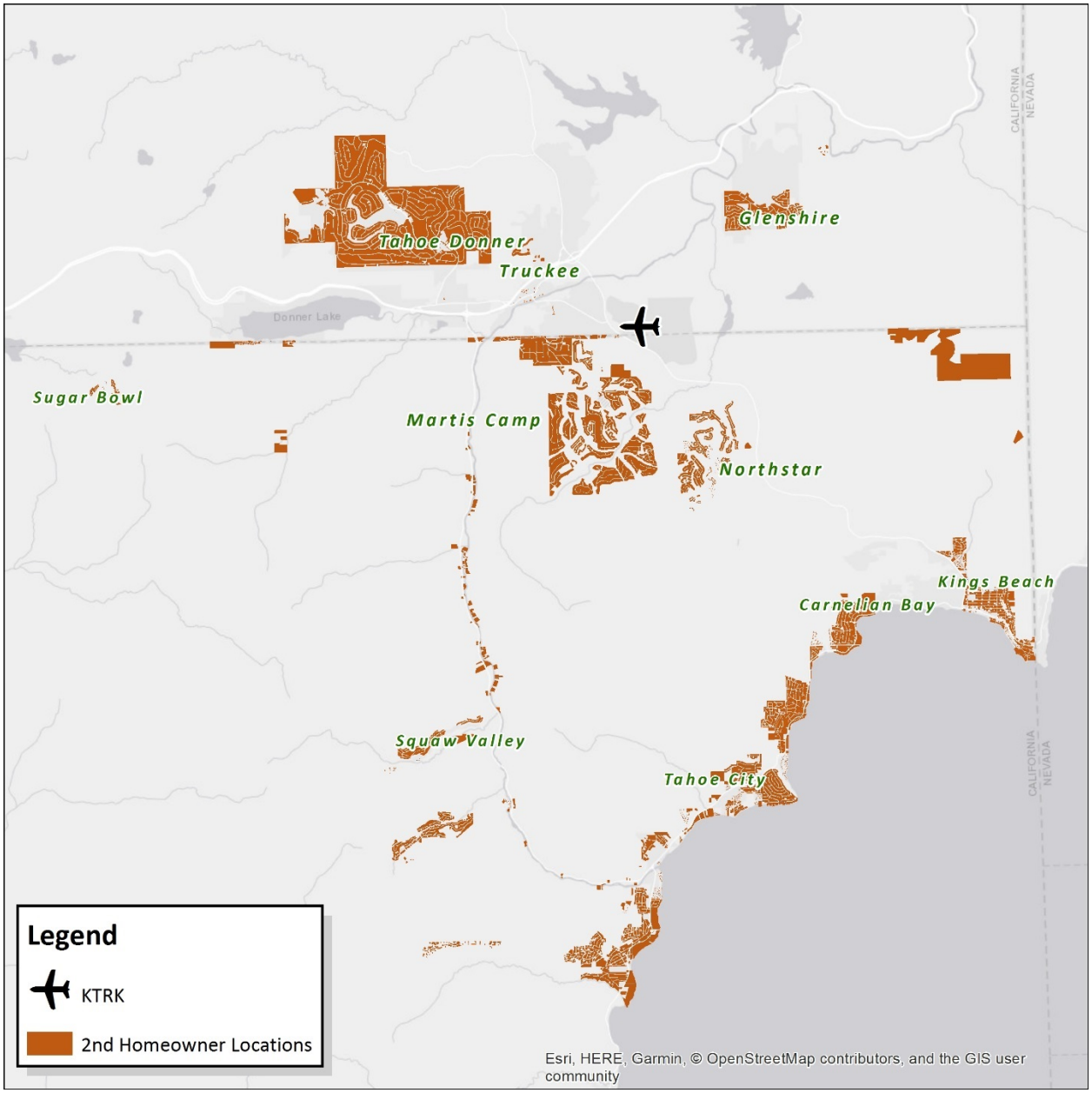
	Visitors by Area	Visitors	% Visitors with Vacation Homes	Visitors with Vacation Homes	Visits / Year	Persons per Visit	Visitors per Travel Party	Estimated Number of Units
Location								
Truckee Area	85%	34,898	87%	30,207	7	4,315	4.4	975
Tahoe Basin	14%	5,784	52%	2,988	7	427	3.9	110
Total		**40,682**		**33,196**		**4,742**		**1,085**

Source: Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Placer County Parcel Data.xlsx]TABLE 4 - Unit Methodology

Using Placer and Nevada County Assessor data, the common locations of visitors with vacation homes were identified and mapped, as illustrated in **Figure 16**.[18]

Figure 16
Vacation Homeowner Areas



[18] The analysis of second homeowner property valuation and location utilizes the location indicated by survey respondents. As a result, this visualization and the estimation of total property residential valuation of those respondents indicating merely "West Shore" does not reflect their second home locations. For example, it is observed that residential properties along the shore of Lake Tahoe between Tahoe City and Homewood are second homes, but they are not visualized in the map above.

Using assessor data from both counties and identifying the average residential property value in these records (representative of 2017 values), it is estimated that the distribution of 1,000 vacations homes is nearly $1.6 billion, accounting for 8.7 percent of the District's total taxable residential property valuation.[19]

Table 9
Estimated Vacation Home Property Valuation

In-District Estimated Airport Visitor Vacation Home Property Valuation

	Average Residential Property Valuation	Distribution of Vacation Home Ownership	Estimated Vacation Homes by Location	Estimated Total Property Valuation of Vacation Homes
Location				
Truckee Area				
Carnelian Bay	$573,756	1%	9	$5,328,358
Glenshire	$344,296	1%	9	$3,197,409
Incline	$608,597	18%	176	$107,386,537
Martis Camp	$2,727,346	44%	427	$1,165,103,443
Northstar	$687,053	14%	139	$95,707,958
Squaw Valley	$608,597	6%	56	$33,911,538
Tahoe Donner	$470,858	15%	149	$69,964,206
Truckee	$1,385,726	1%	9	$12,868,966
Subtotal		**100%**	**975**	**$1,493,468,414**
Tahoe Basin				
Tahoe City	$831,466	86%	95	$78,744,316
West Shore	$564,096	14%	16	$8,791,106
Subtotal		**100%**	**110**	**$87,535,422**
Total			**1,085**	**$1,581,003,836**
as % District Residential Property Valuation	**$18,245,086,569**			**8.7%**

Source: 2017 Visitor Survey; Placer and Nevada Counties; Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Placer County Parcel Data.xlsx]TABLE 5 - Estd Property Val

[19] Refer to **Table 5** on page 14 for details of total taxable property valuation.

To illustrate the estimated number of vacation homes by location, EPS also totaled the number of residential property records by location and compared them against the estimated total vacation homes by location. This quantification does not hold implications for the economic impact analysis but was completed to align underlying assumptions regarding the proportion of airport users who own homes in respective areas throughout the District.

Table 10
Airport User-Owned Vacation Homes as Portion of Location

Estimated Vacation Homes as Portion of Homes by Location

	Estimated Total Homes by Location	Estimated Vacation Homes by Location	as % of Estimated Total
Location			
Truckee Area			
Carnelian Bay	2,154	9	0.4%
Glenshire	756	9	1.2%
Incline	n/a	176	n/a
Martis Camp	658	427	64.9%
Northstar	1,558	139	8.9%
Squaw Valley	484	56	11.5%
Tahoe Donner	5,982	149	2.5%
Truckee	189	9	4.9%
Subtotal	**11,781**	**975**	**8.3%**
Tahoe Basin			
Tahoe City	4,707	95	2.0%
West Shore	n/a	16	n/a
Subtotal West Shore	**4,707**	**110**	**2.3%**
Total	**16,488**	**1,085**	**6.6%**

Source: 2017 Visitor Survey; Placer and Nevada Counties; Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Placer County Parcel Data.xlsx]TABLE 6 - Vac Homes as %

Visitor Spending

Visitors were asked to estimate the magnitude of daily spending on either an individual basis or on the basis of their travel party on their most recent or upcoming trip. Spending categories included lodging (if not in their own vacation home), shopping and general retail, entertainment and recreation, and food and beverage. Daily spending factors were developed and are reported in the following series of tables, along with other visitation factors such as the average number of nights per trip and the distribution of visitors by general location.

Lodging

Less than 20 percent of all airport visitors are estimated to utilize lodging establishments for their trips. Based on the responses given, it is estimated that the average nightly spending on lodging is approximately $380. Figuring more than 19,074 total nights for the nearly 7,800 visitors with an average visitors-per-room factor of 2.0, annual spending is estimated to be approximately $7.1 million, as shown in **Table 11**.

Table 11
Visitor Accommodation Spending

Nightly and Estimated Total Spending on Accommodations in North Lake Tahoe

	Accommodations Spending								
	Visitor Distr.	Est'd Visitors	% Paid Accom.	Visitors in Paid Accom.	Persons per Room	Avg. # Nights per Trip	Total Nights	Avg. $ per Night	Total
Individual (per trip)									
Truckee Area	85%	34,898	13%	4,691	2.0	5.10	11,962	$382	$4,574,224
Tahoe Basin	14%	5,784	48%	2,796	2.0	3.69	5,158	$433	$2,232,981
Other	1%	386	80%	308	2.0	4.27	659	$379	$249,561
Total	**100%**	**41,068**	**19%**	**7,795**	**2.0**	**4.89**	**19,074**	**$379**	**$7,056,766**

Source: 2017 Visitor Survey; Economic & Planning Systems

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Shopping and Retail Spending

Based on responses from the Visitor Survey, the average daily per person spending on shopping and general retail was approximately $31. In total, it is estimated that airport users spend approximately $6.2 million per year in this spending category.

Table 12
Visitor Retail Spending

Daily & Estimated Total Shopping & Retail Spending in North Lake Tahoe

	Shopping & Retail Spending					
	% Visitor Distr.	Est'd Visitors	Avg. Days per Trip	Total Days	Avg. Daily $	Total
Individual (per trip)						
Truckee Area	85%	34,898	5.10	177,993	$32.38	$5,764,179
Tahoe Basin	14%	5,784	3.69	21,345	$19.88	$424,450
Other	1%	386	4.27	1,648	$26.78	$44,123
Total	**100%**	**41,068**	**4.89**	**200,986**	**$31.05**	**$6,232,752**

Source: 2017 Visitor Survey; Economic & Planning Systems

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While most of this category of spending is not taxable, analysis of the Visitor Survey indicated an average of approximately $43 per day per person on entertainment and recreation, totaling approximately $8.6 million over the course of the year.

Table 13
Visitor Entertainment Spending

Daily & Estimated Total Entertainment Spending in North Lake Tahoe

	Entertainment Spending					
	% Visitor Distr.	Est'd Visitors	Avg. Days per Trip	Total Days	Avg. Daily $	Total
Individual (per trip)						
Truckee Area	85%	34,898	5.10	177,993	$43.61	$7,761,405
Tahoe Basin	14%	5,784	3.69	21,345	$34.52	$736,779
Other	1%	386	4.27	1,648	$49.28	$81,201
Total	**100%**	**41,068**	**4.89**	**200,986**	**$42.67**	**$8,579,385**

Source: 2017 Visitor Survey; Economic & Planning Systems

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Food and Beverage

Daily per person food and beverage spending is estimated to be approximately $52, and the total annual spending in this category is estimated at $10.4 million.

Table 14
Visitor Food and Beverage Spending

Daily & Estimated Total Food & Beverage Spending in North Lake Tahoe

	Food & Beverage Spending					
	% Visitor Distr.	Est'd Visitors	Avg. Days per Trip	Total Days	Avg. Daily $	Total
Individual (per trip)						
Truckee Area	85%	34,898	5.10	177,993	$53.33	$9,492,352
Tahoe Basin	14%	5,784	3.69	21,345	$39.55	$844,150
Other	1%	386	4.27	1,648	$38.93	$64,145
Total	**100%**	**41,068**	**4.89**	**200,986**	**$51.76**	**$10,400,648**

Source: 2017 Visitor Survey; Economic & Planning Systems

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Total Spending

Altogether spending on accommodations, food and beverage, and shopping and retail total approximately $21.6 million per year. Factoring out a portion of food and beverage spending assumed to be non-taxable (such as groceries), it is estimated that airport visitation supports approximately 2.9 percent of the accommodations spending in the District and 4.8 percent of the total retail spending in the District, as shown in **Table 15**.

Table 15
Airport Visitor Spending as % of District

Airport Visitation-Related Spending as % of Total District Spending

	Annual Spending as % of Airport District Economy				
	Airport Visitation-Related Spending	Taxable Portion of Spending	Airport Visitation-Related Spending (Net Taxable)	Total District Spending	Airport Visitation Spending as % of District
Lodging					
Accommodations	$7,056,766	100%	$7,056,766	$244,757,317	2.9%
Retail Sales					
Food & Beverage	$10,400,648	80%	$8,320,518	$124,244,215	6.7%
Shopping & Retail	$6,232,752	100%	$6,232,752	$182,099,653	3.4%
Subtotal	**$16,633,399**	**---**	**$14,553,270**	**$306,343,867**	**4.8%**

Source: Economic & Planning Systems

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Visitor Demand Elasticity

The following series of findings reflect the degree of demand elasticity airport visitors have for visiting the North Lake Tahoe area. Questions to gauge the strength of this demand were asked in order to assess different aspects of the strength of their demand. Such questions included: 1) how likely are you to return to the area for another visit; 2) how likely would you be to return if the airport did not operate; 3) how likely would you be to use the airports at Reno or Sacramento and drive the remainder of the distance; and 4) how likely would you be to use the South Lake Tahoe airport.

The first question on likeliness to return to the area was not asked in the intercept version; only a few questions were not asked of individuals in an effort to keep the survey as brief as possible. Among those that answered the question in the weblink version, 98 percent indicated they are very likely to return for a visit.

Table 16
Likeliness of Returning for Visit

Likeliness to Return to the North Lake Tahoe Area

	Survey			as % of Responses		
	Email	Intercept	Total	Email	Intercept	Total
Likeliness						
Very likely	187	n/a	187	98%	n/a	98%
Somewhat likely	1	n/a	1	1%	n/a	1%
Neutral	0	n/a	0	0%	n/a	0%
Somewhat unlikely	1	n/a	1	1%	n/a	1%
Very unlikely	1	n/a	1	1%	n/a	1%
Total	**190**	**n/a**	**190**	**100%**	**n/a**	**100%**

Source: 2017 Visitor Survey; Economic & Planning Systems

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More than a third of visitors overall indicated they would be very unlikely to return to the area if it were not for the airport. Interestingly, just 15 percent of visitors completing the weblink version of the survey indicated this degree of unlikeliness compared to 56 percent of those who completed the intercept survey.

Table 17
Likeliness of Returning if No Airport

Likeliness of Returning to North Lake Tahoe if No Airport

	Survey			as % of Responses		
	Email	Intercept	Total	Email	Intercept	Total
Likeliness						
Very likely	65	19	84	34%	10%	22%
Somewhat likely	33	24	57	17%	12%	15%
Neutral	28	21	49	15%	11%	13%
Somewhat unlikely	35	23	58	19%	12%	15%
Very unlikely	28	112	140	15%	56%	36%
Total	**189**	**199**	**388**	**100%**	**100%**	**100%**

Source: Nevada & Placer counties; Economic & Planning Systems

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Again, there was variation between the weblink and intercept survey versions in indicating whether or not a visitor was very unlikely to use either the airport at Reno or Sacramento and drive the remainder of the distance. For those filling out the weblink version, more than one-third indicated they were unlikely to do so, whereas 54 percent of visitors indicated such in the intercept version.

Table 18
Likeliness to Use RNO or SMF and Drive

Likeliness of Using Reno or Sacramento and Driving Remainder of Distance

	Survey			as % of Responses		
	Email	Intercept	Total	Email	Intercept	Total
Likeliness						
Very likely	33	33	66	17%	17%	17%
Somewhat likely	34	29	63	18%	15%	16%
Neutral	21	13	34	11%	7%	9%
Somewhat unlikely	33	16	49	17%	8%	13%
Very unlikely	69	108	177	36%	54%	46%
Total	**190**	**199**	**389**	**100%**	**100%**	**100%**

Source: 2017 Visitor Survey; Economic & Planning Systems

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Visitors were most likely, however, to indicate that they were very unlikely to use the South Lake Tahoe airport, with approximately three-quarters of visitors indicating so.

Table 19
Likeliness to Use South Lake Tahoe Airport

Likeliness of Using South Lake Tahoe Airport

	Survey			as % of Responses		
	Email	Intercept	Total	Email	Intercept	Total
Likeliness						
Very likely	3	25	28	2%	13%	7%
Somewhat likely	3	20	23	2%	10%	6%
Neutral	6	7	13	3%	4%	3%
Somewhat unlikely	17	12	29	9%	6%	8%
Very unlikely	162	128	290	85%	67%	76%
Total	**191**	**192**	**383**	**100%**	**100%**	**100%**

Source: 2017 Visitor Survey; Economic & Planning Systems

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Business Survey

A survey of 45 businesses located within one mile of the airport was also completed to assess the dynamics of businesses related or unrelated to the operations of the airport or its users. Hansford Consulting, subconsultant to EPS, conducted these surveys in person and over the phone to document employment and financial information, as well as assessments of the extent to which their respective businesses were dependent on the airport. Approximately 70 percent of the businesses fully responded to the survey questions, which are reflected in the following analysis.

Figure 17
Location of Businesses in Proximity to Airport

Employment

Businesses surveyed ranged from home builders, aircraft mechanics, emergency air medical transportation, the fire station, private airplane rentals, travel agencies, upholstery, a waffle supplier, insurance agencies, a dentistry, storage, hotel, restaurant, and a gas station. On average, these businesses have been operating for 18 years in the area and about 11 at their current location. In total, the businesses indicated they had nearly 77,000 customers or clients representative of 2017 and of those, nearly 9,000 were most likely to be airport users.

During high season, or for those businesses with year-round consistent employment levels, these businesses employed 314 full-time employees and 50 part-time employees, as shown in **Table 20**. On average, approximately three-quarters of the workers employed by these businesses live in the North Lake Tahoe region.

Table 20
Employment Distribution of Business in Proximity to Airport

Distribution of High Season Employment of Businesses On and Surrounding Airport by Industry

	High Season Employment			
	Full-time	Part-time	Total	as %
Industry				
Agriculture, Forestry, Fishing and Hunting	0	0	0	0.0%
Mining, Quarrying, and Oil and Gas Extraction	0	0	0	0.0%
Utilities	0	0	0	0.0%
Construction	111	10	121	33.1%
Manufacturing	12	0	12	3.3%
Wholesale Trade	21	1	22	6.1%
Retail Trade	46	6	52	14.3%
Transportation and Warehousing	19	16	35	9.6%
Information	0	0	0	0.0%
Finance and Insurance	16	0	16	4.4%
Real Estate and Rental and Leasing	4	4	8	2.2%
Professional, Scientific, and Technical Services	0	0	0	0.0%
Management of Companies and Enterprises	0	0	0	0.0%
Administration & Support, Waste Management and Remediation	17	8	25	6.9%
Educational Services	0	0	0	0.0%
Health Care and Social Assistance	23	0	23	6.3%
Arts, Entertainment, and Recreation	3	0	3	0.8%
Accommodation and Food Services	30	5	35	9.6%
Other Services (excluding Public Administration)	0	0	0	0.0%
Public Administration	12	0	12	3.3%
Total	**314**	**50**	**364**	**100.0%**

Source: Airport Property Business Survey; Hansford Consulting; Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Data\[163053- Airport Businesses- 071318.xlsx]TABLE 1- Jobs by NAICS

In total, the 364 jobs in these businesses account for just over 2 percent of the District's total wage and salary workforce. The presence of a few industries was proportionally very high—jobs in wholesale trade accounted for 27 percent of the District's total wholesale trade, transportation and warehousing jobs accounted for 31 percent, and finance and insurance jobs account for 13 percent.

Table 21
Employment of Businesses in Proximity to Airport as % of District

Employment of Businesses On and Surrounding Airport by Industry as Portion of Total Employment In District

	Total District Jobs	Airport Proximity Jobs	as %
Industry			
Agriculture, Forestry, Fishing and Hunting	6	0	0.0%
Mining, Quarrying, and Oil and Gas Extraction	7	0	0.0%
Utilities	294	0	0.0%
Construction	2,395	121	5.0%
Manufacturing	236	12	5.1%
Wholesale Trade	81	22	27.1%
Retail Trade	1,429	52	3.6%
Transportation and Warehousing	114	35	30.8%
Information	130	0	0.0%
Finance and Insurance	123	16	13.0%
Real Estate and Rental and Leasing	705	8	1.1%
Professional, Scientific, and Technical Services	612	0	0.0%
Management of Companies and Enterprises	46	0	0.0%
Administration & Support, Waste Management and Remediation	654	25	3.8%
Educational Services	1,071	0	0.0%
Health Care and Social Assistance	1,332	23	1.7%
Arts, Entertainment, and Recreation	2,271	3	0.1%
Accommodation and Food Services	4,693	35	0.7%
Other Services (excluding Public Administration)	924	0	0.0%
Public Administration	363	12	3.3%
Total	**17,485**	**364**	**2.1%**

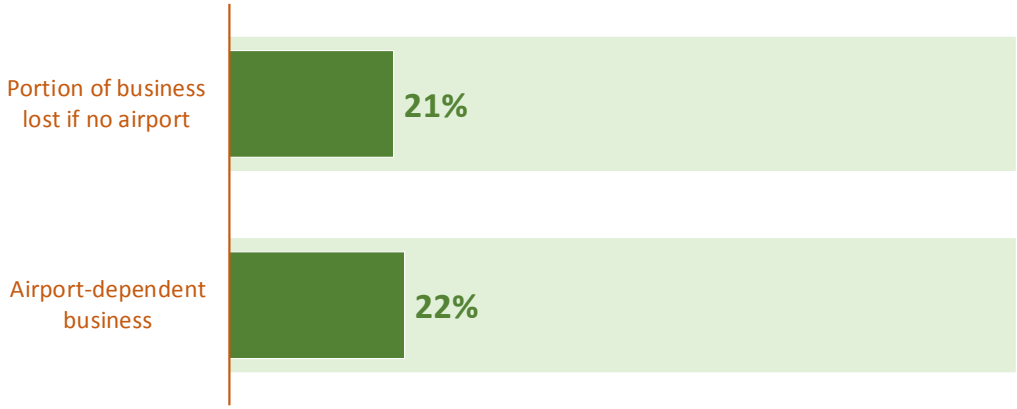
Source: Airport Property Business Survey; Hansford Consulting; Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Data\[163053- Airport Businesses- 071318.xlsx]TABLE 2 - Jobs as % of Dist

Airport Dependency

Although many businesses had trouble quantifying the impact of the airport on their business as they do not track customer data to a degree detailed enough to know if customers are also airport users, businesses were asked a few different questions to gauge the level of airport dependency. Asked what portion of their businesses they might lose if the airport were not operating, businesses on average indicated that they might see a 21 percent revenue loss. When asked whether their business was dependent on the airport ("yes" or "no"), 22 percent of businesses indicated that they are.

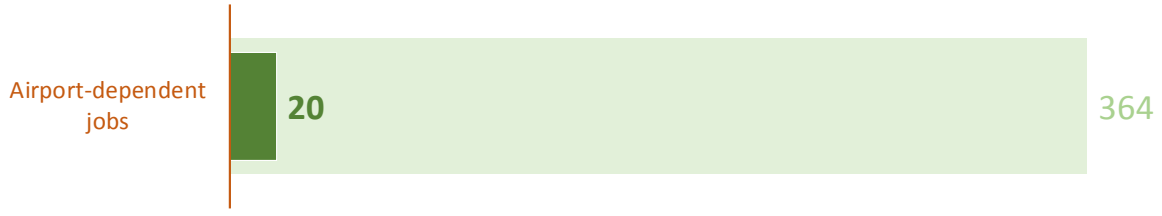
Figure 18
Airport Dependency for Business in Proximity to Airport



Source: Airport Business Survey; Hansford Consulting; Economic & Planning Systems

Of further interest was the quantification of jobs that businesses might have to shed were the airport to cease operations. Only two types of responses were given to this question: 1) that a business quantified the number of jobs lost; and 2) that a number of jobs would need to be relocated outside the region (Reno or further). Of the 364 jobs, business owners or representatives indicated that they would be forced to cut or relocate 20 jobs (5.5 percent of the sample) outside the region.

Figure 19
Jobs Lost or Relocated Outside Region if No Airport

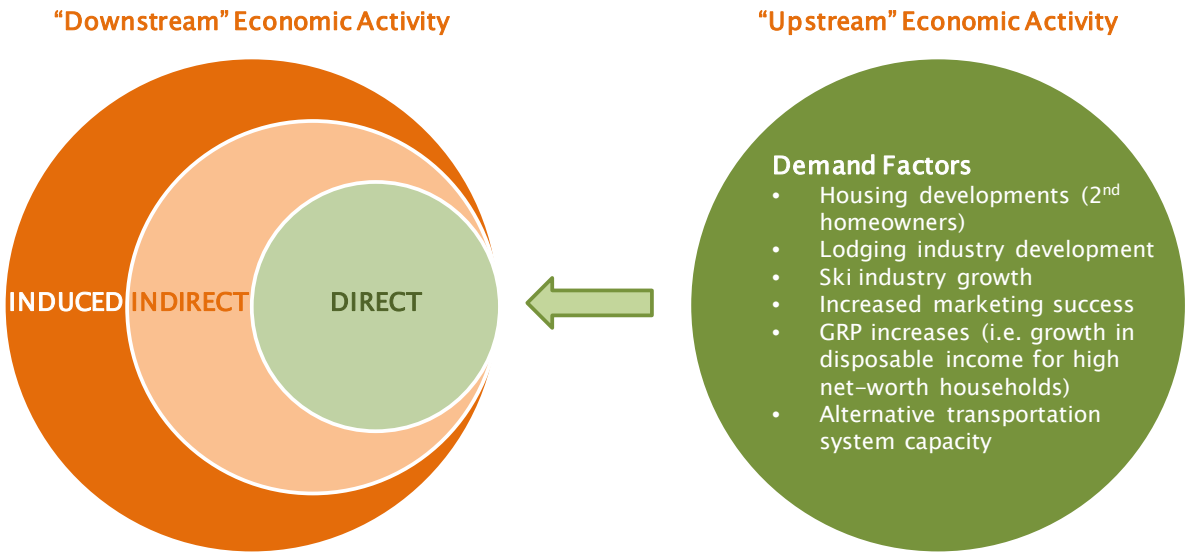


Source: Airport Business Survey; Hansford Consulting; Economic & Planning Systems

Demand Factors

In the context of an economic impact analysis, there are demand drivers that have an impact on the direct economic activities being evaluated. These demand factors, illustrated in **Figure 20**, are often referred to as "upstream" activities, while the indirect and induced activities are referred to as "downstream". In the context of the Truckee Tahoe Airport, could be characterized as land use developments, such as housing developments catering to second homeowners, lodging and ski industry developments, greater success of the area's marketing efforts, general increases to GRP, especially to disposable income of high net-worth households, as well as the transportation infrastructure. Two of the critical upstream factors are discussed below, including land use development plans and the transportation system capacity.

Figure 20
Upstream Economic Activity



Land Use Development Plans

Truckee Tahoe Airport is integrated into the region's growth and development to a greater extent than may be recognized. The airport user survey results demonstrate that approximately 81 percent of respondents own vacation homes in the District, indicating that some of the demand driving the current predominance of residential construction activity may be attributed to airport users. Similarly, some of the construction-related business and employment in the region related to second home and resort-oriented land use development may be attributed to airport activity.

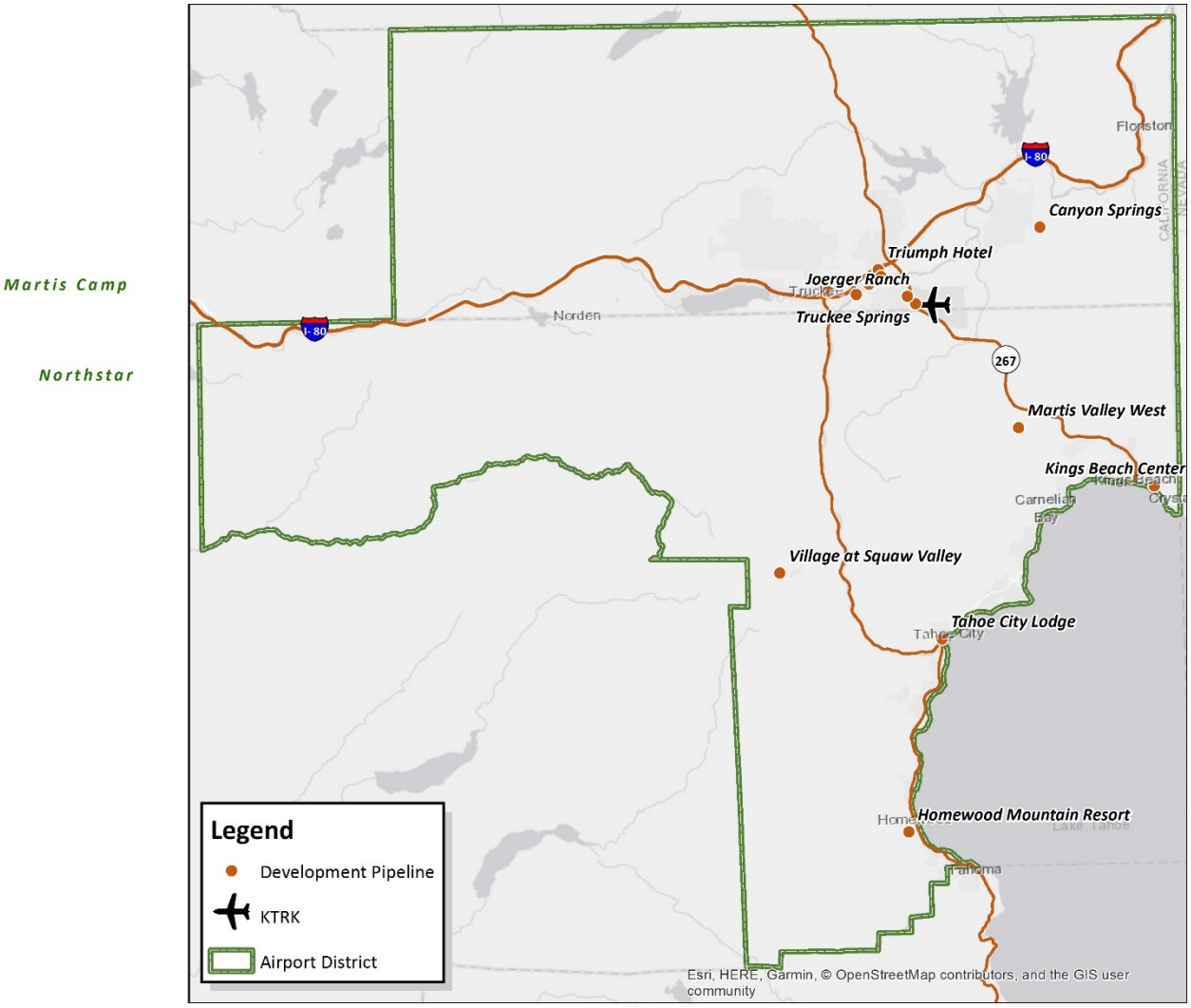
Based on a series of planning documents, proposed projects, and conversations with planning staff at various jurisdictions, within the District there is a substantial amount of new commercial, residential, and hospitality projects in the development pipeline over the next decade.

Considering only major projects in the development pipeline (i.e., excluding small-scale development such as single-family home construction on a single parcel), 2,600 residential housing units will be delivered within the District, in a variety of product types offered at a wide range of price points. Approximately 15 percent (400 units) of these residences are identified as affordable or workforce housing and almost certainly are meant for the local residential market.

The vast majority of the units (85 percent) will be "market-rate," but those too will be targeted towards various market segments, with approximately 700 planned multifamily units likely targeted towards the local residential market. However, plans throughout the District also call for the following market-rate units: over 600 single-family homes, 165 full ownership condominiums, and 151 cabins. Some of these projects are proposed at resorts and will almost exclusively be for vacation homeowners, such as the penthouse condominiums proposed at Homewood Mountain Resort. Non-resort developments are likely to have a more mixed group of owners.

In addition to residential units, major projects in the pipeline will deliver a substantial number of new tourist accommodation units (TAUs) as well as a considerable amount of other nonresidential uses. Over 1,300 TAUs are in the pipeline, comprised of over 867 condominium-hotel units, 319 conventional hotel rooms, and 140 fractional/time-share units. Major additions to the region's commercial uses include over 250,000 square feet of office space, over 900,000 square feet of retail space, and approximately 200,000 square feet of industrial space. The addition of these commercial uses has the potential to create economic stability within the region, providing local jobs and amenities that may reduce the need to commute.

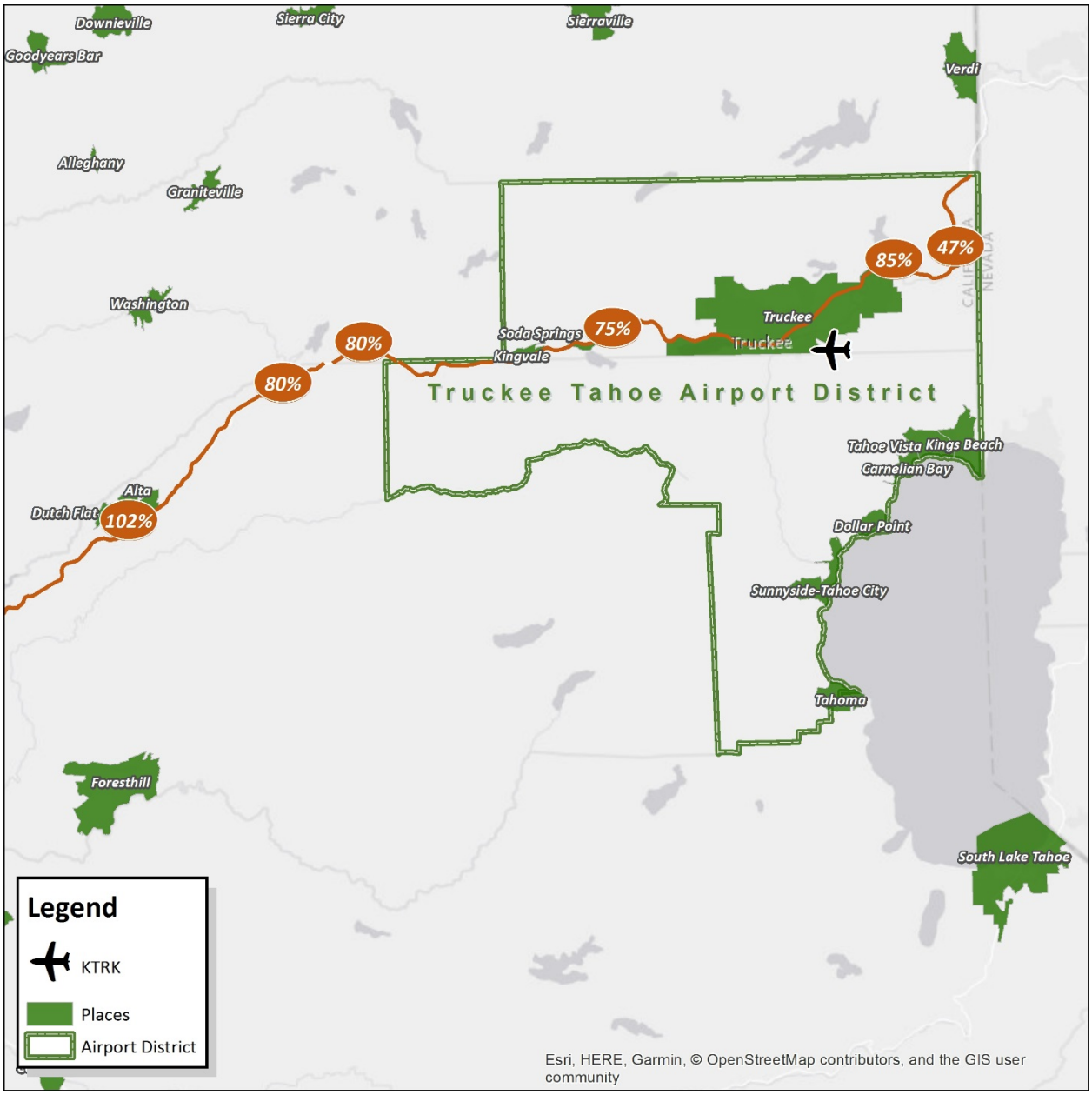
Figure 21
Development Plan Locations



Transportation System Capacity

Interstate 80 is the main access corridor to the North Lake Tahoe area outside of the airport. To illustrate the transportation infrastructure constraints and highlight the importance the airport, data from the California Department of Transportation was collected to identify the current and projected traffic volumes, capacity, and planned highway improvements. The main metric evaluated was the volume of traffic over its design capacity (volume over capacity = VOC), which is used to illustrate level of service. **Figure 22** illustrates the estimated VOC in 2030 with major expansion and capital improvement plans (such as road widening or improvements) incorporated. Even with improvements, I-80 remains at a very low level of service, meaning that it cannot handle much more volume without approaching complete roadway failure.

Figure 22
Horizon Year Volume Over Capacity with Expansion Plans (2030)



Development Challenges

Generally speaking, developing projects in the high Sierras is difficult, and developing within the Tahoe Basin is particularly so. Many conditions contribute to this level of difficulty, such as the ecological sensitivity of the natural environment and the propensity to mitigate the negative impacts of new development on such environs. Other contributing factors include high construction costs due to the region's remote location, a construction season limited by weather, and a general shortage for construction labor in California. A complex web of regulations and restrictions on land use and development across various state and county jurisdictions adds another layer to the development process.

Within the Tahoe Basin, the Tahoe Regional Planning Agency (TRPA) oversees strict land use regulations designed to protect critical environmental resources have dampened private-sector investment in new commercial properties and tourist accommodations. The southern reaches of the District fall within the Tahoe Basin, encompassing existing communities along the northern and western shores of Lake Tahoe, the largest of which are Tahoe City and Kings Beach. These two communities have served as lakeside hubs of tourist activity for much of the last century, but lackluster investment has threatened their positions as vibrant town centers. Recognizing the need to spur new investment activity, Placer County has committed to developing a programmatic business plan to implement economic development incentives designed to achieve development projects in the town centers that complement key environmental sustainability objectives and promote economic sustainability of the Tahoe Basin. This marks a shift from previous land use patterns characterized by piecemeal development towards a more holistic land use strategy by which development rights from throughout the Basin can be transferred to key development nodes such as the town centers. This emerging land use trend concentrates development within more dense communities, potentially minimizing land coverage, assuaging environmental impacts, and curtailing the worsening traffic conditions of the region's already congested road network.

Much of the District falls outside of Tahoe Basin and therefore not subject to additional TRPA regulations. As such, much of the future large-scale development within the District is planned for areas outside of the Basin, most notably at Martis Valley, Squaw Valley, and within the Town of Truckee.

3. ECONOMIC IMPACTS

Basic Metrics

The basic regional metrics identified in this analysis include employment, labor income, value-added, the equivalent of Gross Regional Product (GRP), and total output, the equivalent of final demand for goods and services.

- **Employment and Labor Income** – includes the number of full- and part-time jobs, measured in terms of wage and salary positions, not including sole proprietor employment. The employment impacts analysis uses both the baseline data collected from national and state level sources with data collected directly from the Truckee Tahoe Airport, its vendors, as well as from the Visitor Survey. The employment impacts are evaluated in terms of direct, indirect, and induced job categories. In terms of standard economic impact analysis, EPS identified the number of direct jobs employed by the airport and working exclusively for the airport—i.e. salaried and contract labor by NAICS industry; the number of industries of indirect jobs resulting from the airport's business to business activities, and the jobs related to the household spending of direct and indirect job-holders' households. Labor income is wages and benefits of full- and part-time workers including salaried, contract labor, as well as the benefits paid by the employer.
- **Gross Regional Product and Total Spending** – also uses data on total expenditures from the airport, businesses, and the spending of leisure and business travelers. Data and information collected through the Visitor Survey was used to make the two apportionments. EPS also utilized IMPLAN for this task as a separate point of validation to the total spending estimates, providing the District with a point of analytical comparison by using two different techniques.

Standard Economic Impacts

In terms of quantifiable economic contributions, the metrics described above were run through IMPLAN input-output modeling software.[20] IMPLAN is structured to account for trade flows and industry profiles within the defined economic unit—in this case, using baseline input-output data for Nevada and Placer counties. Such analysis provides an estimate of the multiplier effects, or the "ripple effect", of an "impact" or "demand" from industries within the area economy. Three main components to the characterization of economic impacts are as follows:

- Direct Impacts: are the economic activities carried out by a specific industry, such as the labor it employs; wages; property and sales taxes paid; and the goods, services and real estate it purchases or leases in its operations.
- Indirect Impacts: derive primarily from business-to-business activities, such as the lease and purchase of equipment for operations, and the legal, financial and administrative services that may be procured in the process of conducting direct activities. In an industry, indirect

[20] Minnesota IMPLAN Group, Inc. (MIG), Hudson, WI, www.implan.com

impacts most often include manufacturers of equipment, the legal profession, professional and technical services, and finance and insurance. These impacts will quantify the extent of that integration in terms of jobs, contribution to gross regional product (GRP), and wages.

- Induced Impacts: are the ripple effects of the direct and indirect impacts on the larger economy. They include the local expenditures made by households of the direct and indirect industry jobs. These effects are the increases in employment and expenditure created by successive rounds of local spending and hiring, as individuals or firms associated with the industry buy goods and services in the local economy.

Airport-Dependent Impacts

A specific nuance of this analysis is the application of demand elasticity information from both the Visitor Survey and the Business Survey. In both survey efforts, respondents were asked several questions to gauge, quantify, and/or estimate the level of dependence their travel or business operations had on the operation of the airport. Visitors were asked questions about their likeliness to return to the region if the airport ceased to operate and were also asked their likeliness to use the airports in Reno, Sacramento, or even South Lake Tahoe and drive the remainder of the distance. Businesses in proximity to the airport were asked what portion of their sales or services were dependent on the airport and whether closure of the airport would require them to either relocate outside the region or close the business.

For both components of this analysis, EPS has applied only the tier of responses to these surveys that indicated visitors would be “very unlikely” to return and only the businesses that indicated they would relocate or close operations. The findings are then compared to the total airport-related economic activity and the total District economic activity to assess the respective portions of which would be impacted by the loss of the airports operations.

Economic Activity

District Activity

There are nearly 17,500 jobs in the District that meet the needs of $2.1 billion in final demand for goods and services (i.e. output) in the District. This level of economic activity contributes more than $1.2 billion to the regional GRP, including approximately $760 million in labor income. The ripple effects of the District's economic activity reach beyond its geographic boundaries and generates demand for an additional 8,600 jobs, which support an additional $1.2 billion in final demand for goods and services and add another $750 million to the regional GRP.

Table 22
Total Economic Activity in Truckee Tahoe Airport District

Total Economic Activity in Truckee Tahoe Airport District

	Levels			
	Direct	Indirect	Induced	Total
Economic Activity				
Employment	17,486	3,812	4,856	**26,154**
Labor Income	$758,119,667	$181,833,135	$223,375,527	**$1,163,328,329**
Value-Added (GRP)	$1,244,101,828	$340,340,180	$409,311,456	**$1,993,753,463**
Output (Final Demand)	$2,120,915,454	$581,864,708	$660,343,127	**$3,363,123,289**

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Models\[163053- Economic Impacts- 070918 District economic activity 2017 est All Impact Detail.xls]TABLE 1- Summary

Surrounding Business Activity

Using data from the Business Survey, there are 364 jobs in businesses surrounding and on the airport property, meeting the needs of $55 million in final demand for goods and services (i.e. output) in or outside the District. This level of economic activity contributes more than $30 million to the regional GRP, including approximately $19 million in labor income. This level of activity ripples through the District, generating demand for another 230 jobs, which support nearly $33 million in additional final demand for goods and services and add another $19 million to the region's GRP.

Table 23
Economic Activity of Businesses in Proximity to Airport

Economic Activity of Businesses in Proximity to Airport

	Levels			
	Direct	Indirect	Induced	Total
Economic Activity				
Employment	364	105	125	**594**
Labor Income	$19,206,334	$4,983,085	$5,751,885	**$29,941,305**
Value-Added (GRP)	$30,152,557	$9,001,756	$10,540,026	**$49,694,339**
Output (Final Demand)	$55,392,178	$15,716,320	$17,004,190	**$88,112,687**

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Models\[163053- Economic Impacts- 070918 Airport proximity business activity All Impact Detail.xls]TABLE 1- Summary

To illustrate a portion of the indirect impacts of the airport, the following analysis is given as an example of the ripple effects of businesses in the proximity of the airport that indicated that loss of the airport would mean immediate loss or relocation of jobs outside the District. Based on that analysis (as shown previously in **Figure 19**), **Table 24** illustrates how the loss of a mere 20 jobs would ripple through the District totaling a loss of 32 jobs and approximately $4.2 million in total spending.

Table 24
Loss of Economic Activity from Businesses if No Airport

Loss of Economic Activity from Businesses in Proximity to Airport that would Relocate or Cease if No Airport

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Models\[163053- Economic Impacts- 081418 airport dependent business in proximity activity All Impact Detail.xlsx]TABLE 1- Summary

	Levels			
	Direct	Indirect	Induced	Total
Economic Activity				
Employment	20	7	5	**32**
Labor Income	$661,742	$304,774	$232,636	**$1,199,152**
Value-Added (GRP)	$1,045,251	$545,558	$426,182	**$2,016,991**
Output (Final Demand)	$2,503,362	$999,140	$687,574	**$4,190,077**

Airport Operations Activity

Using direct activity data from the airport, there are 29 full- and part-time jobs that support the operations of the airport, which total $11 million in final demand for goods and services (i.e. total airport budget expenditures) in the District. This level of economic activity contributes just over $4 million to the regional GRP, including more than $3 million in labor income (it should be noted that this figure differs from the actual airport budget because of the input-output modeling labor income coefficients used to represent the industry activity). The airport's direct economic activity supports indirect and induced activity throughout the District, bringing its total impact to $19 million in final demand for goods and services and a total impact on the region's GRP of nearly $9 million.

Table 25
Economic Activity from Airport Operations

Economic Activity from Airport Operations

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Models\[163053- Economic Impacts- 070918 airport operations activity All Impact Detail.xls]TABLE 1- Summary

	Levels			
	Direct	Indirect	Induced	Total
Economic Activity				
Employment	29	32	25	**86**
Labor Income	$3,357,534	$1,412,781	$1,149,086	**$5,919,401**
Value-Added (GRP)	$4,201,846	$2,521,624	$2,105,042	**$8,828,513**
Output (Final Demand)	$11,251,567	$4,659,563	$3,396,143	**$19,307,273**

Visitor Spending Activity

Using data from the Visitor Survey, it is estimated that total visitor spending on lodging, retail, food and beverage, and entertainment and recreation generates demand for 410 jobs to support a total of nearly $32.3 million in direct spending per year. This level of activity generates approximately $12.3 million in District labor income and contributes more than $19.7 million to the GRP. This magnitude of direct activity spills over into the rest of the District's economy, supporting a total of 558 jobs and more than $53.7 million in annual spending.

Table 26
Economic Activity from Visitor Spending

Total Economic Activity from Visitor Spending

	Levels			
	Direct	Indirect	Induced	Total
Economic Activity				
Employment	410	69	80	**558**
Labor Income	$12,259,376	$3,139,111	$3,663,278	**$19,061,765**
Value-Added (GRP)	$19,742,933	$6,309,478	$6,711,345	**$32,763,756**
Output (Final Demand)	$32,269,550	$10,689,192	$10,827,633	**$53,786,376**

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Models\[163053- Economic Impacts- 081418 visitor spending activity All Impact Detail.xlsx]TABLE 1- Summary

Based on responses gauging visitors' elasticity of demand, 30 percent of the visitor spending would be lost if the airport did not operate. The impact modeling estimates that approximately 121 direct jobs and a total of 165 jobs would be lost in the District, GRP would be reduced by nearly $9.7 million and total spending would drop by approximately $16.0 million. For the purposes of analysis, this estimate is considered the "conservative" estimate of economic activity lost if the airport did not operate.

Table 27
Loss of Economic Activity from Visitor Spending if No Airport

Loss of Economic Activity from Visitor Spending Not Returning if No Airport

	Levels			
	Direct	Indirect	Induced	Total
Economic Activity				
Employment	121	20	24	**165**
Labor Income	$3,635,728	$933,404	$1,087,000	**$5,656,132**
Value-Added (GRP)	$5,860,466	$1,876,613	$1,991,447	**$9,728,526**
Output (Final Demand)	$9,574,949	$3,179,515	$3,212,867	**$15,967,331**

Source: Economic & Planning Systems

H:\163053- Truckee Tahoe CA Airport Economic Impact Study\Models\[163053- Economic Impacts- 081418 visitor spending very unlikely to return if no airport activity All Impact Detail.xlsx]TABLE 1- Summary

Multiplier Effects

It should be noted that in traditional economic impact analysis input-output modeling, one of the major underlying assumptions is that the direct spending dollars are "new" to the region. In this study, the collection of data from revenue passengers demonstrates the origin of this direct spending as entirely from outside the District economy. As such, it can be stated more confidently that the outputs of this analysis also would characterize the loss of economic activity to the District if the airport did not operate.

The direct multiplier effect of the airport is characterized as the ratio of dollars spent in the District economy to the direct dollars spent by the airport itself to operate. That is, without airport expenditures on operations, the net-new dollars spent by revenue passengers would not occur. As shown below in **Table 28**, every one dollar spent operating the airport yields an additional $5.50 spent in the District economy (i.e. above the direct spending of the airport). It should be noted that this number does not include the estimated impact of taxable residential property valuation. It should also be noted the estimation of impacts related to dependent businesses in proximity to the airport are included in the estimates of indirect impacts.

Table 28
Spending Multiplier Effect

Total Spending Multiplier Effects Attributable to the Airport

	Direct	Indirect	Induced	Total
Direct Multiplier Effect				
Airport Operations				
Employment	29	32	25	**86**
Labor Income	$3,357,534	$1,412,781	$1,149,086	**$5,919,401**
Value-Added (GRP)	$4,201,846	$2,521,624	$2,105,042	**$8,828,513**
Output (Final Demand)	$11,251,567	$4,659,563	$3,396,143	**$19,307,273**
Airport Visitor Spending				
Employment	410	69	80	**558**
Labor Income	$12,259,376	$3,139,111	$3,663,278	**$19,061,765**
Value-Added (GRP)	$19,742,933	$6,309,478	$6,711,345	**$32,763,756**
Output (Final Demand)	$32,269,550	$10,689,192	$10,827,633	**$53,786,376**
Total Spending Attributable to Airport				
Employment	439	100	105	**644**
Labor Income	$15,616,910	$4,551,893	$4,812,363	**$24,981,166**
Value-Added (GRP)	$23,944,779	$8,831,103	$8,816,387	**$41,592,269**
Output (Final Demand)	$43,521,118	$15,348,755	$14,223,776	**$73,093,649**
Multiplier Effect [1]	$2.87 to 1	$1.36 to 1	$1.26 to 1	**$5.50 to 1**

Source: Economic & Planning Systems

[**Note 1**]: Multiplier effect is calculated as the ratio of direct, indirect, and induced spending to direct airport operational spending.

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Multiplier Effects.xlsx]TABLE 1- Spending

Airport-Dependent Economic Activity

It is estimated that if the airport did not operate, the District would lose between 1.7 and 3.4 percent of its total economic activity. The analysis identifies a conservative and expected estimates of loss based on two interpretations of the elasticity of visitor spending. In both scenarios, the total impact of the airport's operations would be a net loss to the District as would the loss of businesses in and around the airport that indicated they would either cease to operate or relocate outside the region. In the conservative estimate of loss (as shown in **Table 29**), however, only the total economic activity attributable to visitor spending of those indicating they would be "very unlikely" to return to the area if the airport did not operate were used.

Table 29
Conservative Estimate of Economic Activity Lost

Conservative Estimate of Loss in Economic Activity if No Airport

	Economic Activity			
	District	Loss	Net	Loss as %
Economic Activity				
Employment	17,486	251	17,235	**1.4%**
Labor Income	$758,119,667	$11,575,532	$746,544,134	**1.5%**
Value-Added (GRP)	$1,244,101,828	$18,557,039	$1,225,544,789	**1.5%**
Output (Final Demand)	$2,120,915,454	$35,274,605	$2,085,640,849	**1.7%**

Source: Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Loss of Airport Operations Impact- 081418.xlsx]TABLE 2 - Conserv Loss Estimate

In the expected estimate of loss, shown below in **Table 30**, the total economic activity associated with all visitor spending was used; assuming that the visitor spending is being completely facilitated by the use of the airport. In reality, just as some portions of visitors using the airport indicated that they would still be likely to return to the area even if the airport did not operate, it is unknown whether they would continue to return as frequently as they have.[21]

Table 30
Estimate of Economic Activity Lost

Estimate of Loss in Economic Activity if No Airport

	Economic Activity			
	District	Loss	Net	Loss as %
Economic Activity				
Employment	17,486	644	16,842	**3.7%**
Labor Income	$758,119,667	$24,981,166	$733,138,501	**3.3%**
Value-Added (GRP)	$1,244,101,828	$41,592,269	$1,202,509,559	**3.3%**
Output (Final Demand)	$2,120,915,454	$73,093,649	$2,047,821,805	**3.4%**

Source: Economic & Planning Systems

C:\Users\dschwartz.EPSDEN\Desktop\163053\[163053- Loss of Airport Operations Impact- 081418.xlsx]TABLE 4 - High Loss Estimate

[21] And while the Visitor Survey collected a tremendous amount of quantitative information, such a quantification would have required respondents to estimate an eventuality that would have been too hypothetical.

4. CASE STUDIES

Friedman Memorial Airport

Friedman Airport has been taking active steps to further integrate into the wider community, enhancing its communication initiatives while also developing strong partnerships with community organizations. Its approach to public relations has been to partner with local communications professionals.

Friedman Memorial Airport plays a significant role in the overall vitality of the Wood River Valley, which includes the resort communities of Sun Valley and Ketchum. These resort communities draw many visitors through the airport, whose early morning and late-night travel patterns are sometimes at odds with the residential communities closer to the airport. In general, noise complaints from these residents are lower in the winter as windows and doors in homes usually remain closed and greater in the summer when residents are more likely to have windows and doors open. The Airport Manager has put community engagement high on his priority list, realizing that being a part of the community has a major impact on how the overall community perceives the airport's role. In addition to regularly scheduled Airport Board meetings, which are open to the public, the airport also facilitates community outreach meetings to educate community members on new projects.

The airport's overall public relations strategy has been evolving, with an emphasis on improving and increasing communications with the community. Earlier this year, the Airport Board approved another 3-year partnership with a local PR and communications firm that has worked closely with the Airport Manager in developing an overall outreach strategy that will guide the airport's public relations efforts. Since the airport's external communication efforts are still evolving, it's difficult to distinguish which forms of external communication are most valuable, but according to the Airport Manager, the airport's fairly recent monthly newsletter has been well-received. The digital newsletter has a section for the Airport Manager to dive into greater detail about current issues and to respond to some of the potential confusion about the airport's happenings. The airport also makes good use of Facebook as a communications tool but acknowledges that it can take better advantage of other social media platforms.

In recent years, the airport has been proactive in forging new ways to invest in the community. For example, the airport has formed partnerships with community organizations, like sponsoring low-income youth to join the Sun Valley Ski Education Foundation. The airport is also planning a mentorship program with I Have a Dream Idaho to expose low-income youth to the airport and aviation. In another example, the airport tapped into the vibrant local arts community to establish the Sun Valley Airport Arts Commission, partnering with local artists and gallery owners. The Commission curates exhibits in the airport that showcase work by local artists, keeping the arts community engaged in the airport year-round.

Centennial Airport

Within five years, Centennial Airport has developed a strong multifaceted approach to community engagement from the ground up. Its approach to public relations has been to hire and develop in-house staff to focus on these issues.

As one of the busiest general aviation airports in the country, Centennial Airport has good reason to maintain a robust community engagement practice and appears to have the administrative capacity to do so. Centennial Airport did not have a public relations strategy until the 2014 hiring of Deb Smith as its Public Information Officer, who claims that the airport now has an informal guideline that works from the premise of being as transparent as possible. The guiding PR principle is that the airport is going to listen and is going to participate.

Centennial facilitates community engagement in both conventional and innovative ways. In addition to maintaining an active website and producing a short newsletter, the airport operates accounts on four social media platforms—Twitter, Facebook, Instagram, and Periscope. Deb Smith has found shorter communication to be valuable. While she initially considered producing a longer publication with a more editorial feel, the newsletter approach allows more frequent distribution, keeping its contents to short descriptions of five key points while the newsletter's digital format provides the opportunity to link to more detailed information.

One of the more innovative aspects of Centennial's community engagement practice is the Centennial Airport Community Noise Roundtable. The airport provides a $10,000 annual budget to the Roundtable, which is comprised of representatives from each of the communities within the airport's noise shed and community members from various HOAs, as well as representatives from the FAA and the Pilots Association. The Roundtable meets once a month to discuss airport noise issues and has authority over how to spend its budget, which can be used for purposes such as education or attending conference on airport noise and noise abatement strategies.

Noise is a major issue for the airport, which operates a noise hotline as well as an online method of reporting noise complaints. One way in which the airport tries to proactively minimize noise complaints is by offering new homeowners information on how airport traffic or noise will affect their new home. The airport offers this free service upon request and can easily provide models and noise reports based on historical traffic patterns to potential homeowners so that they can make more informed decisions. Additionally, every time a home is sold within the airport's noise shed, the homebuyer must sign an agreement acknowledging that their home is within the noise shed. The airport also advises residents and businesses about what materials could assuage noise pollution, such as triple pane windows, and tries to encourage the real estate community to do the same with its clients.

East Hampton Airport

East Hampton Airport's approach to public relations has been to stay under the radar until significant issues or concerns arise. The airport takes a rather hands-off approach to community engagement. East Hampton Airport does not participate in several forms of community engagement employed by some of the other airports discussed in this series of case studies, such as the production of a newsletter and the use of airport-specific social media accounts. However, a Noise Abatement Hotline is available to community members. The airport operates as a department of the Town of East Hampton, and the Town Board hosts public hearings when significant issues and concerns arise. These public hearings are typically well-attended, with community members affected by airport noise well-represented in the audience. The public hearings provide community members a forum to voice their concerns, while also presenting an opportunity for experts to discuss issues before the Town Board and greater community. Additionally, the Town Board hosts public meetings to introduce and discuss initiatives that the Town Board is undertaking.

The airport does not operate its own programming for community events and education but does offer its facilities to an annual event called "Just Plane Fun Day". The event is hosted by the Airport Aviation Association, and while it is not a Town-sponsored event, it is held at the airport and serves as a type of unofficial open house to the airport.

Mammoth Yosemite Airport

Mammoth Yosemite Airport does not have a public relations approach. The airport differs greatly from the other airports examined in this series of case studies. Mammoth Yosemite Airport does not engage in community investment or engagement, and the airport also rarely receives noise complaints due to airport operations. These two points may be a function of the airport's physical separation from the nearby inhabited areas. Located between mountains, the airport's location is eight miles east of the closest residential neighborhood in the resort community of Mammoth Lakes. Unlike the other airports studied, Mammoth Yosemite Airport remains in isolation, absent of the type of development that has encroached upon the boundaries of the other airports.

While the airport does not conduct active community investment or engagement activities, there is general community support for its expansion plans. Although mostly a general aviation airport, two airlines operate a few scheduled passenger flights at Mammoth Yosemite. As such, the airport also serves the next closest city, Bishop, 39 miles southeast of the Mammoth Yosemite. The Eastern Sierra Airport, two miles from Bishop, provides general aviation services, however Mammoth Yosemite Airport provides the schedule for commercial passenger flight options closest to the City of Bishop.