

**AVSP 7 – Summer 2016**

**Section 20:  
Methodology**

## Total Traffic

The process of counting visitors to Alaska starts with traffic data for people exiting the state. The following table shows each exit point, along with the type and source of the data. The summer period consists of May 1 through September 30.

**TABLE 20.1 - AVSP Visitor Exit Points and Data Sources**

Exit Point	Type of Data	Sources of Data
<b>Domestic Air</b>		
Anchorage	Enplaning passengers exiting the state	Alaska DOTPF; Alaska Airlines
Fairbanks	Enplaning passengers exiting the state	Alaska DOTPF; Alaska Airlines
Juneau	Enplaning passengers exiting the state	Alaska Airlines; Juneau International Airport
Ketchikan	Enplaning passengers exiting the state	Alaska Airlines; Ketchikan International Airport
Sitka	Enplaning passengers exiting the state	Alaska Airlines; Delta Air Lines
Other	Enplaning passengers exiting the state	Alaska Airlines
<b>International Air</b>		
Anchorage	Enplaning passengers exiting the state	Alaska DOTPF
Fairbanks	Enplaning passengers exiting the state	Alaska DOTPF
<b>Highway</b>		
Fraser Border Station (Klondike Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture; U.S. Customs and Border Patrol
Pleasant Border Station (Haines Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture; U.S. Customs and Border Patrol
Beaver Creek Border Station (Alcan Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture; U.S. Customs and Border Patrol
Little Gold Border Station (Top of the World Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture; U.S. Customs and Border Patrol
<b>Cruise Ship</b>		
All southbound ships	Cruise ship passengers sailing from Alaska ports to non-Alaska ports	Cruise Line Agencies of Alaska
<b>Ferry</b>		
Bellingham	Ferry passengers disembarking at Bellingham	Alaska Marine Highway System
Prince Rupert	Ferry passengers disembarking at Prince Rupert	Alaska Marine Highway System

Because all commercial airlines besides Alaska Airlines only fly directly out-of-state, enplanement data from Anchorage and Fairbanks airports (via DOTPF) was used to determine exiting passengers aboard non-Alaska Airlines flights. Alaska Airlines, which operates flights within Alaska as well as out-of-state, provided an exact count of outbound passengers for each exit point. Outbound passengers aboard Delta flights departing from Juneau and Ketchikan were collected from Juneau and Ketchikan Airports. Delta passengers departing from Sitka were collected from Delta Airlines.

Between 2006 and 2014, highway visitor traffic was based on border crossing data from the Yukon government, to reflect traffic exiting Alaska and entering Canada. For the summer 2015 visitor volume estimate, a combination of U.S. and Canada border data was used, due to inconsistencies between the two data sets, and a change in how Canadian traffic data was recorded. For summer 2016, U.S. traffic was used for three highways (Haines, Alcan, Top of the World). Two factors led to this decision:

- The Yukon Department of Government and Culture is changing their data source and method of reporting from Canada Border Services to Statistics Canada. Data will not be available at the same level of detail as it has in the past, and may be more delayed.
- Historical data shows that a similar level of traffic enters as exits a particular highway border over the season for these three locations.

Yukon data for the Klondike Highway was used instead of U.S. data for two reasons.

- Yukon data breaks out the number of passengers on motorcoaches on same-day visits (i.e. Skagway cruise passengers on day tours to the Yukon), while U.S. data reports all motorcoach passengers combined.
- The Skagway U.S. border captures a number of travelers who are on short trips up to the pass – they do not cross into Canada, but they pass the U.S. border station on their way back to Skagway.

## Visitor/Resident Ratios

To estimate total visitor traffic, visitor/resident ratios were applied to the total traffic data. A visitor/resident ratio is the proportion of out-of-state visitors to Alaska residents for each exit mode. For most exit points, these ratios were collected in the form of “tallies” at the same time surveys were conducted. McDowell Group tallied a total of 57,441 people as they were exiting Alaska. The following table shows the number of people tallied for each exit mode.

**TABLE 20.2 - Visitor/Resident Tally Contacts, by Mode**

Exit Mode	Passengers Tallied
Air	53,394
Highway	4,047
Ferry <sup>1</sup>	0
Cruise ship <sup>2</sup>	0
<b>Total</b>	<b>57,441</b>

<sup>1</sup>The Alaska Marine Highway System stopped requiring passenger zip codes in 2016. Exact visitor/resident ratios by month and disembarkation port from 2015 were applied to 2016 traffic to estimate visitor volume.

<sup>2</sup>As in previous AVSP studies, 100 percent of cruise passengers were assumed to be out-of-state visitors.

All exiting passengers were assumed to be leaving Alaska for the last time (meaning, not re-entering on the same trip), with the exception of highway travelers. Highway traffic had to be adjusted for “last exit” visitors, because some of the traffic recorded in border crossing data re-enters Alaska and exits a second time. For

example, many highway visitors exit Alaska on the Alcan Highway, drive to Skagway, and exit the state a second time via the Alaska Marine Highway. This issue is explained further in the highway section, below.

## **Domestic and International Air**

For each flight selected for surveying (see **Sampling Procedures**, below), a surveyor would stand directly outside the jetway. As passengers boarded, the surveyor would ask “Are you an Alaska resident?” and record their response.<sup>1</sup> Every passenger boarding each selected flight was tallied.

For the domestic air mode, ratios were compiled by location, by month, and applied to passenger enplanement data by location, by month.<sup>2</sup> International air ratios were compiled by location, by airline, and applied to passenger enplanement data by location and airline.

## **Highway**

Highway tallies were collected during all survey sample periods. Survey shifts typically lasted six to eight hours. Survey/tally stations were set up on the U.S. side of the border at nearby pullouts on three highways: Alcan, Haines Highway, and Klondike Highway. Because of the remote location and harsh driving conditions on the Top of the World Highway, visitors exiting Alaska via that highway were intercepted on the Taylor Highway, just north of Tetlin Junction.

In addition to the standard visitor/resident question, highway travelers were asked: “Are you re-entering Alaska on this trip?” The final ratio that was applied to traffic data reflected only “last exit” visitors, to avoid double-counting of those travelers who were re-entering Alaska and exiting by another mode or a different highway. Visitor/resident ratios were applied to exiting personal vehicle traffic by location.

There were two highway modes that, as in previous AVSPs, were not sampled: motorcoaches and commercial vehicles. This is due to the difficulty in intercepting these types of vehicles on the highway. Visitor/resident ratios for these modes were based on interviews in 2006, and were repeated for 2011 and 2016. Because visitor traffic among these two highway modes is so small, representing 0.2 percent of all visitors, they are combined with other highway traffic for purposes of the visitor volume estimate.

## **Cruise Ship**

No tallies were conducted for cruise passengers. As in previous AVSP studies, all cruise passengers were assumed to be out-of-state visitors. Although a small number of Alaskans are known to cruise, they are an extremely small, statistically insignificant fraction of this market segment.

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<sup>1</sup> The one exception to this collection method occurred in Sitka, where the infrequency of flights and small size of the boarding area allowed both surveys and tallies to be conducted outside of the secure area. Tallies were conducted as passengers waited in line to go through security.

<sup>2</sup> Because passengers flying directly out of state from “other” destinations (Petersburg, Wrangell, Yakutat, and Cordova) were not sampled in the survey, tallies were not conducted for these exit points. The visitor/resident ratio for these passengers was based on an average of Juneau, Ketchikan, and Sitka ratios.

## **Ferry**

Until 2016, the Alaska Marine Highway System required passengers to provide their home zip code, allowing for an exact count of all non-Alaska residents disembarking at Bellingham and Prince Rupert. AMHS discontinued this practice in 2016. As a proxy, visitor/resident ratios from 2015 were applied to 2016 passenger traffic by month and by disembarkation port to arrive at visitor exits by ferry.

## Survey Population

The AVSP Summer 2016 survey was conducted with out-of-state visitors who were exiting Alaska between May 1 and September 30, 2016. Seasonal residents, such as seafood processing workers, and other non-resident shift workers, were screened out of the survey. The following table shows how respondents were selected, by exit mode.

**TABLE 20.3 - AVSP Target Survey Population, by Mode**

Exit Mode	Target Survey Population
Domestic Air	Boarding flight bound for non-Alaska, domestic destination
International Air	Boarding flight bound for international destination
Highway	About to cross Alaska/Canada border; not intending to re-enter Alaska
Cruise Ship	Boarding cruise ship at its final Alaska port-of-call
Ferry	Embarking or onboard ferry at Ketchikan or Juneau; bound for Prince Rupert or Bellingham

## Survey Design

AVSP 7 utilized an intercept survey instrument. The McDowell Group study team designed the survey with input from the DCCED and ATIA. The vast majority of survey questions were based on those used in AVSP 6. A few questions were modified for purposes of clarity, and several new questions were added.

## Survey Staff

The AVSP Summer 2016 survey staff included 65 surveyors based in the following locations: Anchorage, Fairbanks, Juneau, Ketchikan, Sitka, Tok, Haines, and Skagway. Many of the surveyors had previously worked on AVSP and other McDowell Group visitor surveys. Surveyors underwent extensive training in proper data collection procedures. Consistent training and monitoring assured that all surveys were administered in the same way to minimize bias. Japanese and Korean interpreters were employed for flights bound for those countries. All surveyors wore name badges and uniforms. Highway surveyors also wore reflective safety vests.

## Survey Locations

The following table shows where surveys were conducted. These exit locations account for virtually 100 percent of visitors exiting Alaska. The limited number of visitors using other modes and locations does not warrant including them in the sample.<sup>3</sup> In the Anchorage Airport, online survey invitation cards were also distributed.

**TABLE 20.4 - AVSP Survey Locations**

Exit Mode	Survey Location
<b>Domestic Air</b>	
	Anchorage International Airport
	Fairbanks International Airport
	Juneau International Airport
	Ketchikan International Airport
	Sitka Airport
<b>International Air</b>	
	Anchorage International Airport
	Fairbanks International Airport
<b>Highway</b>	
	Klondike highway (near US border station)
	Haines highway (near US border station)
	Alcan highway (near US border station)
	Taylor highway (north of Tetlin Junction)
<b>Cruise Ship</b>	
	Ketchikan cruise ship docks
	Skagway cruise ship docks
	Sitka cruise ship docks
<b>Ferry</b>	
	In the Ketchikan and Juneau ferry terminals and onboard ferries docked in Ketchikan and Juneau, bound for Bellingham and Prince Rupert

<sup>3</sup> Un-sampled exit modes include: motorcoaches, commercial vehicles, private planes, private boats, pedestrians, and airplane passengers flying directly out-of-state from Cordova, Yakutat, Petersburg, and Wrangell.

## Sample Sizes

The AVSP Summer 2016 survey program included 5,147 intercept surveys (in-person interviews) and 779 surveys completed online, for a total of 5,926 surveys. The following table shows the number of completed surveys, by exit mode.

**TABLE 20.6 - Sample Sizes, by Exit Mode**

Exit Mode	Intercept	Online	Total
Domestic Air	3,235	630	3,865
International Air	257	149	406
Highway <sup>1</sup>	366	0	366
Cruise Ship	1,037	0	1,037
Ferry	252	0	252
<b>Total</b>	<b>5,147</b>	<b>779</b>	<b>5,926</b>

## Sampling Procedure

The sampling process starts with creating a target number of intercept surveys, by month, for each mode and exit point. These targets were largely based on estimated traffic volume. The sample targets were adjusted to ensure appropriate sample sizes. For example, visitors exiting by ferry represent only 0.4 percent of all visitors. If they were represented proportionally in the sample, the sample target would be too small for analysis (24 out of 6,000 surveys). The sample target was increased; the final ferry survey count was 252. Similarly, the international air sample was adjusted upwards. These visitors represent 0.9 percent of total exiting visitors, which would result in 54 surveys. The final international air survey count was 406.

After sample targets were determined for each mode and exit point, monthly targets were determined based on traffic volume, and daily targets based on expected visitor frequency and surveyor capacity. Survey days were selected by month, based on a randomly selected start date.

Following are more specific sampling procedures for each exit mode.

### Domestic and International Air

The air samples were created using flight schedules for all airlines carrying passengers out of the state. For each sample day, flights were selected based on a randomly selected starting flight. For each flight that was selected, surveyors had a target number of surveys to complete among boarding passengers. Surveyors would approach randomly selected passengers in the boarding area and complete the required number of surveys. All surveyors were allowed in the secure area of the airport, with two exceptions: in Sitka, the infrequency of flights and small size of the boarding area allowed both surveys and tallies to be conducted outside of the secure area. In Anchorage, surveyors were not allowed into the international boarding area for security reasons; surveys with passengers departing on international flights were conducted in the check-in area instead.

## **Highway**

The highway sample was based on traffic levels at each of the four border stations. Survey stations were set up in pullouts near the Alaska/Canada borders on three highways (Alcan, Haines Highway, and Klondike Highway), and north of Tetlin Junction on the Taylor Highway (for visitors exiting Alaska via the Top of the World Highway). Surveyors would work in six to eight-hour shifts on each sample day. As motorists approached the border (or after turning onto the Taylor Highway), they were directed by signs to pull over to the side of the road, where surveyors would conduct their tally of all motorists, and would randomly select respondents for the intercept survey. Highway travelers who intended to re-enter Alaska on the same trip were screened out of the survey.

McDowell Group was issued permits to conduct the surveys by the Alaska Department of Transportation and Public Facilities. Signage and safety procedures were followed in accordance with DOTPF regulations.

## **Cruise Ship**

The cruise ship sample was selected based on the expected volume of passengers at each “last port of call” in Alaska, before the ships sailed to Vancouver, Seattle, or other non-Alaska ports. Cruise Line Agencies of Alaska provided the 2016 cruise ship schedule, including each ship’s route and capacity. Although Ketchikan represented the bulk of exiting passengers, Skagway was also a last port-of-call for many passengers. The appropriate number of surveys was conducted in each location to reflect actual exiting volume. Survey targets also reflected passenger volume by cruise line – for example, if 30 percent of all exiting cruise passengers were expected to be sailing with Princess Cruises, 30 percent of the targeted ships were Princess ships.

Surveyors would station themselves near the targeted ship for several hours prior to the ship’s scheduled departure. During this period, surveyors approached randomly selected passengers to complete surveys before they boarded their ship. Where necessary, surveyors were given special permission by private dock owners to interview passengers in embarkation areas.

## **Ferry**

Ferry passengers were primarily surveyed in Ketchikan, with some additional passengers surveyed in Juneau. Surveys were conducted in Alaska Marine Highway terminals and with visitors waiting in their vehicles prior to boarding vessels bound for Bellingham and Prince Rupert. Surveyors also conducted surveys onboard the same vessels while the ship was docked, to capture visitors who had embarked in other ports. Sampled vessels were selected randomly by month among all southbound voyages.

## Online Component

The AVSP 7 survey methodology included an online sample in addition to the intercept sample. The online sample was collected by distributing “invitation cards” to visitors during intercept sample periods at the Anchorage International Airport (see image, below). The color-printed postcard contained a message from Alaska’s Governor inviting visitors to share information about their trip over the internet. Recipients were directed to a web address, and each postcard had a unique password. Respondents would then go online and self-administer the survey. The back of the card contained translations of the front side in three languages: Japanese, Korean, and Chinese. The links would take respondents to translated versions of the survey. Countries were selected for language translation by DCCED.



For every sample day, surveyors distributed a target number of invitation cards. The card distribution target was based on response rates from AVSP 6. Cards were distributed to visitors departing during the same sample period as intercept respondents.

The online survey was designed to mirror the intercept survey to the greatest extent possible. Questions were asked in the same order, with nearly identical wording to the intercept survey. More explicit directions were necessary for some questions to minimize confusion. If respondents had questions or difficulties filling out the survey, there was a link on the bottom of each screen to contact the Help Desk. All spending questions were excluded from the online survey, based on AVSP 5 and 6, which showed that spending data collected online did not have the necessary level of accuracy.

The online method allowed for certain efficiencies not possible in the intercept format such as automated skip patterns. Destinations visited were automatically linked to a personalized menu as respondents progressed to the activities and expenditures questions. In addition, the self-administered format eliminated the need for data entry.

Several changes were made to the AVSP 7 online methodology, from previous AVSPs. The biggest factor in this decision was a considerable decline in online response rates between AVSP 5 and 6. A lower response rate had two implications: it cost more to get each completed survey, and the sample was more self-selected (and

therefore less representative) of the overall market. Another factor in online surveys is accuracy: intercept surveys are inherently more accurate, because surveyors are able to clarify questions and correctly interpret responses.

Because of these factors, the study team made a strategic decision to focus much more on the intercept sample for AVSP 7. The online survey was retained, but only in the Anchorage Airport, where distribution of postcards was worth the investment due to the large number of visitors present.

Before online data was combined with intercept data, survey responses were compared between the two data sets (Anchorage Airport exiters). Data was consistent between the two methods for nearly all survey questions, with a couple of exceptions. Activity participation reported online differed from participation reported by intercept respondents due to the greater ability of surveyors to clarify and help categorize responses appropriately. All activity participation data in this report is therefore based to intercept respondents only. One other topic where responses differed was in online usage and online booking components. Because online survey respondents are naturally biased towards internet users, these rates were higher among online respondents. For these questions, survey results are based to intercept respondents only.

## Response Rates

Response rates show the percentage of people who completed a survey out of the total number of people targeted.

In intercept surveys, the response rate is the number of total surveys, divided by the number of qualified, targeted respondents approached by surveyors. For example, for the Domestic Air mode, there were 3,640 qualified respondents – that is, out-of-state residents who were exiting Alaska. Of this number, 3,214 agreed to be interviewed. The response rate for Domestic Air is 3,640 divided by 3,214, or 88 percent.

For the online survey, the response rate is the number of people who completed the online survey, out of the total number of people who received invitation cards. (Only out-of-state visitors exiting Alaska were given cards.) For example, there were 9,417 cards distributed to visitors exiting the state via the Anchorage Airport. Of these visitors, 779 completed the online survey. The response rate for online respondents is 9,417 divided by 779, or 8.3 percent.

**TABLE 20.7 - Response Rates, by Mode**

Exit Mode	Intercept	Online
Air	88.2%	8.3%
Highway	66.6%	n/a
Cruise ship	64.0%	n/a
Ferry	84.8%	n/a
<b>Total</b>	<b>80.1%</b>	<b>8.3%</b>

The overall response rate for the intercept sample was 80.1 percent. As in 2006 and 2011, rates differ by mode. Air and ferry respondents generally show the highest intercept response rates because they often have plenty of time (and little to do) while they are waiting for their flight or vessel to depart. Cruise passengers show slightly

lower response rates – they are approached as they return to their ship, occasionally in inclement weather, and can be anxious to embark. Likewise, highway respondents are required to make a special stop for the survey.

The overall intercept response rate fell slightly between AVSP 6 and AVSP 7, from 85.1 percent to 80.1 percent. The response rate among online respondents fell slightly as well, from 10.2 percent to 8.3 percent. While the response rates have declined in recent generations of AVSP, intercept survey response rates remain significantly higher than response rates for mail, telephone, and online-only surveys.

## Online Incentive

Incentives are commonly used in surveys to maximize response rates. For AVSP 7, online respondents were entered into a drawing to win one of five \$100 Amazon.com gift certificates, and one \$500 certificate.

## Margins of Error

The following table shows the maximum margin of error for the intercept and combined samples. The maximum margin is  $\pm 1.3$  percent at the 95 percent confidence level for the overall sample and  $\pm 1.4$  percent for the intercept sample. The combined sample is used for all data in this report, with the exception of spending data. Sample sizes and margins of error for specific subgroups are presented in the introduction to each section and/or chapter where those subgroups are profiled.

**TABLE 20.8 - Visitor Survey Margin of Error**

Survey Method	Sample Size	Maximum Margin of Error
Intercept	5,147	$\pm 1.4\%$
Online	779	n/a
<b>Total</b>	<b>5,926</b>	<b><math>\pm 1.3\%</math></b>

Note: All data in this report is based to the total (combined) sample, with the exception of spending data, which is based to intercept results only.

While the margin factors in the table above (and those offered throughout this report) give general guidelines for the margin of error, most data in this report are more accurate than the maximum margins suggest. The margin is based not only on the number of respondents in the base of each question, but also on the percentage itself. (For example, a total of 1,948 respondents were cruise visitors, and 25 percent were from the Southern US.) The expression “maximum margin of error” applies only if the attribute being sampled is distributed 50-50 among the population, such as gender. For gender, the maximum margin of error for the total sample is  $\pm 1.3$  percent.

However, the potential for error decreases as the survey result moves toward either end of the bell curve. If a survey response is around 80 percent for the total sample of 5,926, the margin of error decreases to  $\pm 1.0$  percent. This margin would apply, for example, to the survey result for trip purpose – 79 percent of all visitors said they were traveling for vacation/pleasure. That same margin would apply to responses around 20 percent. At the 90 and 10 percent level, the margin of error for the total sample decreases even further, to  $\pm 0.8$  percent.

## Data Weighting

Survey data is often “weighted” to properly reflect known characteristics of a population. The primary weighting in AVSP is by exit mode. For example, AVSP 7 included 252 surveys of visitors who exited the state by ferry, or 4.3 percent of all surveys. However, this market represents only 0.4 percent of all visitors. For these visitors to be properly represented in the overall visitor market, their surveys are “weighted down.” Similarly, visitors exiting by cruise ship represented 17.5 percent of all surveys, but 46.1 percent of all exiting visitors. Their data is “weighted up.” All AVSP data was weighted by exit mode and location to reflect actual traffic volumes. Cruise and ferry data were also weighted by month. Cruise passengers who exited by cruise ship were weighted by one additional factor, cross-gulf versus round-trip, to reflect CLAA data.