AVSP VI - Summer 2011

Section VI: 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 VI.1 - AVSP Visitor Exit Points and Data Sources

Exit Point	Type of Data	Sources of Data
Domestic Air		
Anchorage	Enplaning passengers exiting the state	Anchorage International Airport; Alaska Airlines
Fairbanks	Enplaning passengers exiting the state	Fairbanks International Airport; Alaska Airlines
Juneau	Enplaning passengers exiting the state	Alaska Airlines
Ketchikan	Enplaning passengers exiting the state	Alaska Airlines
Sitka	Enplaning passengers exiting the state	Alaska Airlines
Other	Enplaning passengers exiting the state	Alaska Airlines
International Air		
Anchorage	Enplaning passengers exiting the state	Anchorage International Airport
Fairbanks	Enplaning passengers exiting the state	Fairbanks International Airport
Highway		
Fraser Border Station (Klondike Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture
Pleasant Border Station (Haines Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture
Beaver Creek Border Station (Alcan Highway)	Occupants of private vehicles, motorcoaches, and commercial vehicles crossing the border	Yukon Department of Tourism and Culture
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
Cruise Ship		
All southbound ships	Cruise ship passengers sailing southbound from Alaska ports to Canada/US ports	Cruise Line Agencies of Alaska
Ferry		
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 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.

Visitor/Resident Ratios

In order 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 surveyors tallied a total of 54,605 people as they were exiting Alaska. The following table shows the number of people tallied for each exit mode.

TABLE VI.2 - Visitor/Resident Tally Contacts, by Mode

Exit Mode	Passengers Tallied
Domestic Air	43,333
International Air	6,034
Highway	5,238
Ferry[1]	0
Cruise ship[2]	0
Total	**54,605**

[1] The Alaska Marine Highway System provided exact counts of exiting non-residents, making tallies unnecessary.
[2] 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 before boarding.[1] As passengers boarded, the surveyor would ask, "Are you an Alaska resident?" and their response was recorded. 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.[2] International air ratios were compiled by location, by airline, and applied to passenger enplanement data by location and airline.

[1] 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.
[2] 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 a compilation of Juneau, Ketchikan, and Sitka ratios.

Highway

Highway tallies were collected during all survey sample periods. Shifts were typically six to eight hours long. 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 from 2006 were repeated for 2011. 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 the 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.

Ferry

The Alaska Marine Highway System provides exact counts of non-residents disembarking at Bellingham and Prince Rupert, making visitor/resident tallies unnecessary.

Survey Population

The AVSP Summer 2011 survey was conducted with out-of-state visitors who were exiting Alaska between May 1 and September 30, 2011. Seasonal residents, such as cannery and oil field workers, were screened out of the survey. The following table shows how respondents were selected, by exit mode.

TABLE VI.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; bound for Prince Rupert or Bellingham

Survey Design

AVSP VI utilized an intercept survey instrument. The McDowell Group study team designed the survey with input from the Alaska Department of Commerce, Community, and Economic Development and the Alaska Travel Industry Association. The vast majority of survey questions were based on those used in AVSP V. A few questions were modified for the purposes of clarity, and several new questions were added.

Survey Staff

The AVSP Summer 2011 survey staff included 40 surveyors based in the following locations: Anchorage, Fairbanks, Juneau, Ketchikan, and Sitka. Many of the surveyors had previously worked on AVSP V as well as other visitor surveys for McDowell Group. Surveyors underwent extensive training in proper data collection procedures. Consistent training assured that all surveys were administered in the same way to minimize bias. Japanese and Korean interpreters were employed for Japan Air and Korean Air flights. The Anchorage International Airport survey crew also included fluent speakers of German and Spanish. Surveyors in airports, on cruise ship docks, and at the ferry terminal wore name badges and uniforms. Highway surveyors wore name tags and reflective 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.[3] In every survey location besides highway stations, online invitation cards were also distributed.

TABLE VI.4 - AVSP Survey Locations

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

[3] 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 2011 survey program included 3,563 intercept surveys (in-person interviews) and 3,184 surveys completed online, for a total of 6,747 surveys. The following table shows the number of completed surveys, by exit mode.

TABLE VI.6 - Sample Sizes, by Mode

Exit Mode	Intercept	Online	Total
Domestic Air	1,932	2,217	4,149
International Air	427	464	891
Highway[1]	356	0	356
Cruise Ship	650	433	1,083
Ferry	198	70	268
Total	**3,563**	**3,184**	**6,747**

[1] Highway travelers were intentionally not targeted for online surveying. Highway travelers' logistically complex trips make the online survey more difficult to complete; in addition, distributing cards to motorists is less time-efficient than in the other modes.

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 0.6 percent of all visitors. If they were represented proportionally in the sample, the target would be too small for analysis (21 out of 3,500 surveys). The ferry target became 170 surveys. Similarly, the international air sample was adjusted upwards because there was particular interest in this market on the part of the State and the visitor industry. These visitors represent 1.1 percent of total exiting visitors, but had a target of 350 surveys.

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 random start.

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 random start. 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 badged, which allowed them into the secure area of the airport.

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 were re-entering 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 was 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 – that is, every port that represented the final stop before the ship exited Alaska, and continued on to non-Alaska ports. Cruise Line Agencies of Alaska provided the 2011 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, with Sitka being the last port for one ship only. The appropriate number of surveys was conducted in each of these three locations 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 outside the targeted ship several hours prior to boarding. Until the ship's scheduled departure, 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 the embarkation areas.

Ferry

Ferry passengers were surveyed in the Alaska Marine Highway terminal, and waiting in vehicles outside the terminal, in Ketchikan 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 VI 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 (see image, below). The color-printed postcard contained a message from the Governor inviting visitors to share information about their trip over the internet (see below). 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: German, Spanish, and Japanese. The links would take respondents to translated versions of the survey.

For every intercept survey that was completed, surveyors distributed a target number of invitation cards. Cards were distributed to visitors departing on the same flights, ferry voyages, and cruise sailings 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.

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 sections. In addition, the self-administered format eliminated the need for data entry.

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 2,159 qualified respondents – that is, out-of-state residents who were exiting Alaska. Of this number, 1,928 agreed to be interviewed. The response rate for Domestic Air is 1,928 divided by 2,159, or 89 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 20,787 cards distributed to visitors exiting the state via Domestic Air. Of these visitors, 2,210 completed the online survey. The response rate for Domestic Air online respondents is 2,210 divided by 20,787, or 10.6 percent.

TABLE VI.7 - Response Rates, by Mode

Exit Mode	Intercept	Online
Domestic Air	89.3%	10.6%
International Air	75.4%	12.5%
Highway[1]	82.8%	n/a
Cruise ship	80.4%	7.1%
Ferry	91.4%	10.2%
Total	**85.1%**	**10.2%**

[1] Highway travelers were intentionally not targeted for online surveying. Highway travelers' logistically complex trips make the online survey more difficult to complete; in addition, distributing cards to motorists is less time-efficient than in the other modes.

The overall response rate for the intercept sample was 85.1 percent. As in 2006, rates differ somewhat by mode. Domestic 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.

Online response rates also correspond to expectations for each exit mode. Ferry and cruise ship passengers are often several days (or longer) from returning home when they receive the invitation card. This makes them more likely to lose the card or forget about it when compared to air passengers, who most often return home within a day or two.

Intercept response rates in 2011 closely resembled those in 2006. Domestic Air and International Air response rates each shifted down slightly (from 92.0 percent to 89.3 percent for Domestic Air and from 81.5 percent to 75.4 percent for International Air) while the Cruise Ship rate went up (from 72.3 percent to 80.4 percent). Overall, the rate was very similar, dropping only slightly from 85.6 percent to 85.1 percent.

Response rates for the online sample dropped significantly compared to 2006: from 17.5 percent to 10.2 percent, all modes combined. The rates dropped in each mode. Reasons for the lower response rate are unclear. Possibilities include decreased appeal of the incentives offered, or fatigue from too many online surveys.

Although response rates differ by mode and by survey method, the data is not adversely affected. As explained in **Data Weighting**, below, all data is weighted according to actual traffic volumes by mode and location.

Incentives

Incentives are commonly used in surveys to maximize response rates. For AVSP VI, incentives were used in both the intercept and online surveys. Intercept respondents were given an Alaska keepsake pin. Online respondents were entered into a monthly drawing to win an Alaska Railroad overnight package. All summer respondents were also entered into a drawing for a Princess Cruises cruise package to Mexico or the Caribbean.

Margins of Error

The following table shows the maximum margin of error for the intercept and combined samples. The maximum margin is ±1.2 percent for the overall sample and ±1.6 percent for the intercept sample. The combined sample is used for most data in this report, with a couple of questions based to intercept respondents only. 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 VI.8 - Visitor Survey Margin of Error

Survey Method	Sample Size	Maximum Margin of Error
Intercept	3,563	±1.6%
Online	3,177	n/a
Total	**6,740**	**±1.2%**

Note: The data presented in this report is based to either intercept data or total data. Data based only to online respondents is not reported.

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 2,130 respondents were cruise visitors, and 18 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 ±1.2 percent.

However, the potential for error decreases as soon 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 6,747, the maximum error decreases to ±1.0 percent. This margin would apply, for example, to the survey result for trip purpose – 77 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 maximum margin for the total sample decreases even further, to ±0.7 percent.

Data Processing

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 VI included 268 surveys of visitors who exited the state by ferry, or 4.0 percent of all surveys. However, this market represents only 0.6 percent of all visitors. In order for these visitors to be properly represented in the overall visitor market, their surveys are "weighted down." Similarly, visitors exiting by cruise ship represented 16.1 percent of all surveys, but 48.4 percent of all exiting visitors. Their data is "weighted up." All AVSP data was weighted by exit mode to reflect actual traffic volumes.

Online data was weighted by one additional factor: trip purpose, among air visitors. Online respondents departing by Domestic Air showed a higher likelihood to participate in the survey if they were traveling for vacation/pleasure, and a lower likelihood if they were traveling to visit friends and relatives. Because the intercept method ensured accurate distribution by trip purpose, online data was weighted to reflect trip purpose distribution in the intercept sample.

Combining Data Sets

As explained earlier in this chapter, the visitor survey included two different methodologies: online and intercept. The online survey targeted the same visitor population as the intercept survey – invitation cards were distributed to visitors on the same flights, ferry vessels, and cruise ships (cards were not distributed on the highway because it was more efficient to conduct the full interview with motorists). However, because the online survey received lower response rates (as expected), and because the survey was in a different format, several issues had to be addressed before combining the two data sets.

This first issue is bias. Self-selection bias occurs when the characteristics of respondents who choose to answer a survey differ from those of the overall target population. It is possible that the population that chose to respond to the survey differed from the population in the intercept survey. To address this issue, the study team compared a wide range of demographic variables between the two samples, including gender, origin, age, income, and education, as well as responses to questions. Responses were similar enough for all questions except for Trip Purpose (addressed above) to allow for combining the data sets.

The second issue is the difference in survey formats. Some questions work better with a trained surveyor who can clarify a question's meaning and correct mistakes. In the 2006 survey, a number of questions were based on the intercept sample only, because online respondents appeared to have misunderstood and not answered correctly. Due to improvements in clarity and more detailed directions in the 2011 online survey, nearly all of these questions allowed for usage of both intercept and online data, with one exception: expenditure data.

Questions on expenditures tend to be difficult for visitors to answer, whether intercept or online. Respondents have to rely on their memory, sometimes on purchases made days or weeks beforehand. The level of detail requested on this survey was particularly challenging: visitors were asked for their purchases in each community, in six different categories, in addition to overall spending in the state, spending on

packages, and more. The differences in expenditure results between the intercept and online samples indicated that the online respondents had difficulty with the complexity of this part of the survey. As in 2006, the expenditure data is based to intercept responses only.