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# **Section VII: Methodology**

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## Total Traffic

The process of counting visitors to Alaska starts with traffic data. For AVSP V, exit traffic data was used. The following table shows each exit point, along with the type and source of the data. As in AVSP III and IV, the fall/winter period consists of October 1 through April 30.

### Exit Points and Data Sources AVSP V – Fall/Winter 2006-2007

Exit Point	Type of Data	Sources of Data
<b>Domestic Air</b>		
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
<b>International Air</b>		
Anchorage	Enplaning passengers exiting the state	Anchorage International Airport
Fairbanks	Enplaning passengers exiting the state	Fairbanks International Airport
<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
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
<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 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 nearly 29,000 people as they were exiting Alaska. The following table shows the number of people tallied for each exit mode.

## Visitor/Resident Tally Contacts, by Mode AVSP V - Fall/Winter 2006-2007

Exit Mode	Passengers Tallied
Domestic Air	22,265
International Air	4,171
Highway	1,469
Ferry	706
<b>Total</b>	<b>28,611</b>

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 position themselves directly outside the jetway before boarding.<sup>1</sup> 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.<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. Shifts were four to five hours long. Survey/tally stations were set up adjacent to the border stations on three highways: Alcan, Haines Highway, and Klondike Highway. (The Top of the World Highway is closed during the fall/winter study period.)

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 AVSP’s, were not sampled: motorcoaches and commercial vehicles. Visitor/resident ratios and adjustment for last exit visitors for these modes were based on a number of sources including interviews with tour operators and border officials. Because visitor traffic

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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 a compilation of Juneau, Ketchikan, and Sitka ratios.

among these two highway modes is so small, representing 4 percent of all visitors, they are combined with other highway traffic for the purposes of the visitor volume estimate.

## **Ferry**

As in the other exit modes, surveyors would ask passengers aboard sampled ferry voyages exiting Alaska whether they were a resident or visitor. Over 700 tallies were conducted of ferry passengers during the fall/winter sample period. In addition, the project team was able to procure actual passenger origin by month and destination from the Alaska Marine Highway System, compiled from reservation data.

## Survey Population

The AVSP Fall/Winter 2006-2007 survey was conducted with out-of-state visitors who were exiting Alaska between October 1, 2006 and April 30, 2007. Seasonal residents such as oil field workers were screened out of the survey. The following table shows how respondents were targeted, by exit mode.

**Target Survey Population, by Mode**  
**AVSP V - Fall/Winter 2006-2007**

Exit Mode	Target Survey Population
Domestic Air	Boarding flight bound for non-Alaska, domestic destination
International Air	Boarding flight bound for international destination
Highway	Recently crossed Alaska/Yukon border; not intending to re-enter Alaska
Ferry	Disembarking in Prince Rupert or Bellingham

## Survey Design

Unlike previous AVSP studies that involved three separate survey instruments, AVSP V utilized one combined instrument. The survey was designed by the McDowell Group study team with input from the Alaska Department of Commerce, Community and Economic Development and the Alaska Travel Industry Association. Questions were formulated with several factors in mind: consistency with previous AVSP survey instruments; streamlining and improving questions where possible; ease of use in intercept *and* online formats; utilizing knowledge gained in other visitor survey projects; and new information needs on the part of the state and the visitor industry.

## Survey Staff

The AVSP Fall/Winter 2006-2007 survey staff included 20 surveyors based in the following locations: Anchorage, Fairbanks, Juneau, Ketchikan, Sitka, Whitehorse, and the Yukon border stations on the Haines, Klondike and Alcan highways. Surveyors underwent rigorous training in order to ensure that respondents were dealt with in a friendly and courteous manner, and that all surveys were administered in the same way to minimize bias. The Fall/Winter staff included surveyors who spoke German, Japanese, and Spanish. Surveyors in airports, on cruise ship docks, and aboard ferries wore name badges and uniforms. Highway surveyors wore hard hats, boots, and reflective vests as required by the Yukon Department of Highway and Public Works.

## 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 and Fairbanks airports, online invitation cards were also distributed.

### Survey Locations AVSP V - Fall/Winter 2006-2007

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>	
	Fraser Border Station (Klondike Highway)
	Pleasant Border Station (Haines Highway)
	Beaver Creek Border Station (Alcan Highway)
<b>Ferry</b>	
	Aboard Alaska Marine Highway ferries sailing to Bellingham and Prince Rupert

<sup>3</sup> Un-sampled exit modes include: 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 Fall/Winter survey program included 1,055 intercept surveys (in-person interviews) and 223 surveys completed online, for a total of 1,278 surveys. The following table shows the number of completed surveys, by exit mode.

**Sample Sizes, by Mode**  
**AVSP V – Fall/Winter 2006-2007**

Exit Mode	Intercept	Online	Total
Domestic Air	782	223	1,005
International Air	123	-	123
Highway	101	-	101
Ferry	49	-	49
<b>Total</b>	<b>1,055</b>	<b>223</b>	<b>1,278</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 0.6 percent of all visitors. If they were represented proportionally in the sample, the target would be too small for analysis (6 out of 1,000 surveys). The ferry target became 50 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. Each surveyor was badged, which allowed them into the secure area of the airport. Official airport security badges, coupled with the heightened compliance with travel security, contributed to the high response rates among domestic air (87 percent) and international air passengers (90 percent).

### **Highway**

The highway sample was based on monthly traffic levels at each of the border stations. Survey stations were set up adjacent to the border stations on the three highways (Alcan, Haines Highway, and Klondike

Highway). Surveyors would work in four to five-hour shifts on each sample day. When motorists had completed their Customs interview, 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.

Surveyors were certified in flagging and stopping vehicles by the Yukon Department of Highways and Public Works. They were also able to use official, government-issued signs and cones. The official appearance of the survey stations and surveyors themselves, as well as their proximity to border stations, likely played a role in the high response rate among highway travelers (97.1 percent).

## Ferry

Ferry passengers were surveyed onboard Alaska Marine Highway vessels bound for Bellingham and Prince Rupert while they were docked in Ketchikan. Sampled vessels were selected randomly by month among all southbound voyages. Surveyors would approach randomly selected passengers in public areas of the ferry between arrival in and departure from Ketchikan.

## Online Component

The AVSP V survey methodology included an online sample in addition to the intercept sample. The online sample was targeted by distributing “invitation cards” to visitors during intercept sample periods (see image, below). The color-printed postcard contained a message from the State tourism office 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.



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 as intercept respondents. (For the fall/winter sample, cards were distributed only in the Anchorage and Fairbanks airports. There were not enough visitors in other locations to justify card distribution.)

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. These included automated skip patterns and auto-sum functions in the expenditure section. 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 903 qualified respondents – that is, out-of-state residents who were exiting Alaska. Of this number, 121 declined to be interviewed. The response rate for Domestic Air is 782 divided by 903, or 86.6 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.) There were 2,072 cards distributed to visitors exiting the state via the Anchorage and Fairbanks domestic terminals. Of these visitors, 223 completed the online survey. The response rate for Domestic Air online respondents is 223 divided by 2,072, or 10.8 percent.

**Response Rates, by Mode**  
**AVSP V - Fall/Winter 2006-2007**

Exit Mode	Intercept	Online
Domestic Air	86.6%	10.8%
International Air	89.7%	n/a
Highway	97.1%	n/a
Ferry	76.9%	n/a
<b>Total</b>	<b>87.3%</b>	<b>10.8%</b>

The overall response rate for the intercept sample was 87.3 percent. Although response rates differ by mode and by survey method, the data is not adversely affected. As explained later in this section (Data Weighting), all data is weighted according to traffic volumes by mode and location.

Given the length and complexity of the survey instrument, response rates exceeded expectations for the intercept sample. Nearly nine out of ten visitors approached agreed to complete a 10 to 20 minute survey with a pin as an incentive. Several factors helped: well-trained, friendly surveyors; the eagerness of respondents to share information about their recently completed trip; and, in the case of ferry and air respondents, the lack of other available activities.

Response rates met expectations for the online sample. The response rate was significantly higher in the summer, but that is to be expected, considering vacation/pleasure visitors were more likely to participate in the survey – the fall/winter visitor market is made up primarily of business and VFR travelers, who are less likely to participate in the survey.

## Incentives

Incentives are commonly used in surveys to maximize response rates. For AVSP V, incentives were used in both the intercept and online surveys. Intercept respondents were given an Alaska keepsake pin. Online respondents were entered into a drawing to win one of two Alyeska Resort packages. All fall/winter respondents were also entered into a drawing for a Holland America cruise to Alaska, Mexico, Canada 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  $\pm 2.7$  percent for the overall sample and  $\pm 3.0$  percent for the intercept sample. The combined sample is used for most data in this report, with a few categories 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.

**Visitor Survey Margin of Error**  
**AVSP V – Fall/Winter 2006-2007**

Survey Method	Sample Size	Maximum Margin of Error
Intercept	1,055	$\pm 3.0\%$
Online	223	n/a
<b>Total</b>	<b>1,278</b>	<b><math>\pm 2.7\%</math></b>

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 factors suggest. The margin is based not only on the number of respondents in the base of each question, but on the statistic itself. 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  $\pm 2.7$  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 1,278, the maximum error decreases to  $\pm 2.2$  percent. This margin would apply, for example, to the survey result for likelihood of returning to Alaska – 79 percent of all visitors said they were very likely to return to Alaska. 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  $\pm 1.6$  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 V included 123 surveys of visitors who exited the state via international air, or 10 percent of all surveys. However, this market represents only 2 percent of all fall/winter visitors. In order for these visitors to be properly represented in the overall visitor market, their surveys are “weighted down.” All AVSP data was weighted by exit mode to reflect actual traffic volumes.

Online data was weighted by one additional factor: trip purpose. Online respondents traveling for vacation/pleasure were more likely to respond to the survey. Because the intercept method ensured accurate distribution by origin, 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 provided supplement surveys to the Anchorage and Fairbanks domestic air samples. Because the online survey (naturally) received lower response rates, 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. Even though the response rates for the online survey met expectations at 11 percent, there was the possibility 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 survey results between the two samples. Only trip purpose presented a potential bias; this was addressed with weighting, as described above.

The only other apparent bias was in trip planning. Online respondents were more likely to use nearly all trip planning sources, particularly the Internet. For questions regarding trip planning sources, only intercept data is presented in the report.

The second issue is the difference in survey formats. Although the online survey was designed to mirror the intercept survey, results showed that some questions worked better in a personal interview format than online. In an intercept survey, the interviewer is able to explain and clarify questions when necessary. Following is a list of survey questions where the reported data reverts to the intercept sample only due to misinterpretation in the online survey.

**Party size.** Respondents were asked how many people were traveling in their party, sharing expenses. Interviewers were able to clarify this question if a respondent (mistakenly) answered with the number of people in their tour group, for example. Online respondents were not given this opportunity to clarify their response. As a result, the average party size among online respondents was higher than among intercept respondents.

**Activity participation.** Certain activities generated much higher participation rates in the online survey when compared to the intercept survey. These activities tended to be categories that online respondents appeared to interpret more broadly than in the intercept survey, including historical/cultural attractions, Native cultural tours/activities, and shows/Alaska entertainment. Activities that had more straightforward definitions (shopping, birdwatching, White Pass and Yukon Railroad, visiting friends and relatives, and fishing, among others) yielded very similar results for the two samples. It appears that the guidance of the surveyor was essential for respondents to understand some activity categories, and not over-report by counting one activity in two categories, for example.

**Transportation between communities.** Although this question specifically asked what modes were used to travel *between communities*, it appears that some online respondents misinterpreted this question to refer to modes of transportation used at any point on their trip. For example, online cruise respondents were much more likely to say they used motorcoach, train, and air to travel between communities when compared to the intercept sample. The online respondents were often referring to shore excursions and their travel to get in or out of the state. This was a difficult question for online respondents to understand without the aid of a surveyor.

**Expenditures.** 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. For example, some questions referred to spending by party, others asked for per person prices. The overall spending question asked the respondent to discount travel to and from Alaska. In the field, surveyors could help clarify these questions.

Throughout this report, the data in the above categories is accompanied by a footnote and the statement “based to intercept respondents only.”