

APPENDIX A

Sample Sizes, Sample Estimates, and Confidence Intervals

This appendix outlines how to determine the sample size so that the confidence interval of a sample estimate will be within a specified range and, when analyzing the results, how to estimate values and confidence intervals for characteristics of the population. The determination of sample sizes and confidence intervals are provided for the four types of probability sampling, namely: random, sequential, stratified, and cluster sampling. The description is only a brief summary of the methods as applicable for airport surveys and the reader is encouraged to refer to statistical texts listed in the bibliography for a more complete description.

Examples are then provided for applying these methods to determine sample sizes for small population sizes such as employee or tenant surveys, and for passenger surveys using each of the possible sampling strategies.

Throughout this section, it is assumed that the sample size will be large enough that the sample means will be approximately Normally distributed, per the Central Limit Theorem. Generally, a sample size of at least 30 is considered to provide a reasonably good approximation to the Normal distribution. Most airport user surveys will have a much larger sample size than this.

Random Sampling

Suppose we are interested in a characteristic of the population that we denote by X . For example, X could be the variable, gender, where:

$$X = \begin{cases} 0 & \text{if passenger is male} \\ 1 & \text{if passenger is female} \end{cases}$$

Let the mean value of this characteristic be μ . In the example, μ is the proportion of the passengers that are female. Using random sampling, the sample mean is an unbiased estimator for the population mean, μ . If the sample size is n , the sample mean is:

$$\bar{X} = \sum x_i / n \tag{1}$$

where \bar{X} is the sample mean
 x_i is the i^{th} individual in the sample, $i = 1, \dots, n$.

The 95% confidence interval for μ (the range that contains the true value of μ with a probability of 0.95) is given by:

$$\bar{X} \pm 1.96\sigma_{\bar{X}}$$

where $\sigma_{\bar{X}}$ is the standard deviation of the sample mean. For random sampling without replacement, it can be shown that:

$$\sigma_{\bar{X}} = \sigma_X \sqrt{(1 - n/N)/\sqrt{n}}$$

where σ_X is the standard deviation of the variable, X
 N is the number of individuals in the population.

Hence the 95% confidence interval for μ is given by:

$$\bar{X} \pm 1.96\sigma_X \sqrt{(1 - n/N)/\sqrt{n}}$$

For very large populations $(1 - n/N)$ is approximately one, and this reduces to:

$$\bar{X} \pm 1.96\sigma_X/\sqrt{n} \tag{2}$$

The constant, 1.96, is applicable for a 95% confidence interval. For a 99% confidence interval, the constant should be 2.58, and for a 90% confidence interval, use 1.65.

If the sample size is to be chosen so that the sample mean is within w of the population mean, μ , with a probability of 0.95, then the 95% confidence interval is given by:

$$\bar{X} \pm w$$

(note that the width of the confidence interval is $2w$)

$$\text{Thus } w = 1.96\sigma_X \sqrt{(1 - n/N)/\sqrt{n}} \text{ Thus}$$

This can be solved to give the sample size, n :

$$n = \frac{1.96^2 \sigma_X^2}{w^2 + 1.96^2 \sigma_X^2 / N} \tag{3}$$

In the survey planning stage when trying to determine the sample size, the standard deviation of the variable X , σ_X , will be unknown and must be estimated based on data from previous surveys, other similar airports, or knowledge of the airport.

For **categorical variables**, the standard deviation is related to the expected proportion of individuals in a category:

$$\sigma_X = \sqrt{[p(1 - p)]}$$

$$w = 1.96\sqrt{[p(1 - p)(1 - n/N)/n]}$$

where p is the proportion of the population in the category of interest.

For the example above, where the categorical valuable is the respondent gender, assume that we are interested in estimating the proportion of female passengers. Thus, p is the proportion of female passengers. If we initially estimate this proportion to be 0.5, then for a sample size of $n = 400$ and population size, N , of 50,000, the width

of the 95% confidence interval, w , is ± 0.049 . The sample size can be chosen to obtain the required accuracy using Equation 3.

If X represents the mode of transport to the airport, and the category, taxi or limousine, has an estimated proportion of 0.20, then the width of the 95% confidence interval, w , is ± 0.039 for a sample size of $n = 400$ and population size of $N = 50,000$.

For a **non-categorical variable**, such as time in the terminal before departure or expenditure at the concessions, the standard deviation is determined from the variation of the variable. Again, this will be unknown at the planning stage of the survey. If an estimate of the standard deviation, σ_x , can be obtained from past surveys, other similar airports, or knowledge of the airport, the required sample size for a given confidence interval width can be determined in a similar way using Equation 2.

Once the survey has been completed, the standard deviation of X , σ_x , can be estimated from the sample values of X for use in determining the accuracy of the estimated population mean and confidence intervals. The sample standard deviation is the square root of the sample variance, s_x^2 , which is given by:

$$s_x^2 = \sum(x_i - \bar{X})^2 / (n - 1)$$

where \bar{X} is the sample average.

Sequential Sampling

Sequential sampling is equivalent to random sampling if the order of the sample with respect to the characteristics of interest is essentially random. In this case, sample sizes and estimates of standard deviation and confidence intervals are determined in the same way as outlined above for random sampling.

Sequential sampling can result in a more representative sample, and thus narrower confidence intervals, by ensuring a more even spread of sampled individuals over the population (provided the cases where serious biases can occur are avoided¹). Calculation of the confidence intervals and required sample sizes are difficult and dependent on the relationships between the ordering variable and the characteristics of the population of interest. In airport surveys, it can usually be assumed that the width of the confidence interval is no wider than that which would occur with random sampling and the expressions given for random sampling above can be used.

Stratified Sampling

With stratified sampling, the population is divided into groups, referred to as strata, and each stratum is sampled separately using random or sequential sampling. Assume there are ns strata and the proportion of the population in the i^{th} strata is W_i . The sample mean for the i^{th} stratum is:

$$\bar{X}_i = \sum_{j=1}^{n_i} x_{ij} / n_i \tag{4}$$

and the sample mean for the population is estimated by:

$$\bar{X} = \sum_{i=1}^{ns} W_i \bar{X}_i \tag{5}$$

where \bar{X}_i is the sample mean of the stratum i

x_{ij} is the value of characteristic X for individual j in stratum i

n_i is the number of individuals in stratum i

1. Serious biases can occur if a characteristic of interest occurs in a cyclic order in the population list and the length of each cycle corresponds to the sampling fraction, but this would be rare in airport surveys.

W_i is the proportion of the population in stratum i , N_i/N .

The standard deviation of the sample mean, \bar{X} , is given by: [

$$\sigma_{\bar{X}} = \sqrt{\left[\sum_i W_i^2 \sigma_{\bar{X}_i}^2 \right]}$$

where $\sigma_{\bar{X}_i}$ is the standard deviation of the mean for members of stratum i , \bar{X} , and is given by:

$$\sigma_{\bar{X}_i} = \sqrt{[\sigma_{X_i}^2(1 - n_i/N_i)/n_i]}$$

where σ_{X_i} is the standard deviation of X for members of stratum i
 n_i and N_i are the sample and population sizes for stratum i , respectively.
Hence the standard deviation of the sample mean can be expressed as:

$$\sigma_{\bar{X}} = \sqrt{\left[\sum_i W_i^2 \sigma_{X_i}^2 (1 - n_i/N_i) / n_i \right]}$$

The accuracy of the sample estimate is improved if the variation within each stratum (measured by $\sigma_{\bar{X}_i}$) is less than the variation over the whole population.

As above, the 95% confidence interval, $2w$, that the sample mean is within w of the population mean, μ , is given by:

$$w = 1.96\sigma_{\bar{X}} \quad (6)$$

With **proportional stratified sampling**, the sampling fraction is the same for each stratum and equals the proportion of the population in the stratum, W_i . Thus,

$$n_i/N_i = n/N \quad \text{and} \quad W_i = n_i/n = N_i/N$$

where n and N are the total sample and population sizes, respectively.

In this case, the sample mean given by Equation 4 reduces to that for a random sample, Equation 1, and

$$\sigma_{\bar{X}} = \sqrt{\left\{ [(1 - n/N)/n] \sum_i (W_i \sigma_{X_i}^2) \right\}} \quad (7)$$

To determine the required sample size, estimates of σ_{X_i} can be determined in the survey planning stage. These must be estimated from results of previous surveys, other similar airports, or knowledge of the airport. Once approximate estimates of σ_{X_i} have been obtained, the total sample size, n , for a confidence interval of width $2w$ is then found using the relationship (from Equations 6 and 7):

$$w = 1.96 \sqrt{\left\{ [(1 - n/N)/n] \sum_i (W_i \sigma_{X_i}^2) \right\}}$$

which can be solved to give the sample size, n, as:

$$n = \frac{1.96^2 [\sum_i (W_i \sigma_{X_i}^2)]}{w^2 + 1.96^2 [\sum_i (W_i \sigma_{X_i}^2)] / N} \quad (8)$$

If separate estimates for each stratum cannot be obtained in the planning stage, an approximate estimate of the standard deviation of X over the total population could be used to provide a conservative estimate of the sample size, n. For proportional stratified samples, the sample size for each stratum, n_i, is then found by:

$$n_i = n \cdot W_i$$

For determining confidence intervals of the final estimates using the survey data, the standard deviation of X in each strata, σ_{X_i} , can be estimated by the sample standard deviation, s_{X_i}, determined from the sample values in each stratum. The 95% confidence interval is then:

$$\bar{X} \pm 1.96 \sqrt{\{[(1 - n/N)/n] \sum_i (W_i s_{X_i}^2)\}} \quad (9)$$

With **non-proportional stratified sampling**, the sampling fractions differ for each stratum. The sample mean for each stratum and overall sample mean can be found using Equations 4 and 5, respectively.

The sample sizes, n_i, are chosen so that a confidence interval of width 2w is given by the relationship:

$$w = 1.96 \sqrt{[\sum_i W_i^2 \sigma_{X_i}^2 (1 - n_i/N_i) / n_i]} \quad (10)$$

In this case, many different combinations of n_i could be chosen to produce a confidence interval width of 2w. The choice of n_i is dependent on the reason for choosing to use non-proportional stratified sampling. To achieve a similar level of accuracy in the results for each stratum, it will be necessary to use non-proportional stratified sampling, with the sample size in each stratum inversely proportional to the variance of the characteristic within that stratum. Thus, n_i = k / $\sigma_{X_i}^2$, where k is a constant. Substituting this into Equation 10 and solving for k gives:

$$k = \frac{\sum_i W_i^2 (\sigma_{X_i}^2)^2}{w^2 / 1.96^2 + \sqrt{(\sum_i W_i^2 \sigma_{X_i}^2 / N_i)}}$$

The sample size for each stratum is then found using the relationship:

$$n_i = k / \sigma_{X_i}^2$$

Because the actual variance in the characteristic in the survey responses for each stratum, $\sigma_{X_i}^2$, will not be known until the survey has been performed, it will be necessary to make an initial assumption of the differences in the variance across the strata in order to determine the proportion of the survey responses to assign to each stratum. These assumptions can be based on the results of prior surveys or of surveys performed at similar airports.

As before, confidence intervals for the final estimates can be determined using the survey data. The standard deviation of X in each strata, σ_{X_i} , can be estimated by the sample standard deviation for each strata, s_{X_i}, determined from the sample values. The 95% confidence interval is then:

$$\bar{X} \pm 1.96 \sqrt{[\sum_i W_i^2 s_{X_i}^2 (1 - n_i/N_i) / n_i]} \quad (11)$$

Cluster Sampling

As described in Section 3.2 of the guidebook, with cluster sampling the population is divided into clusters (or groups), and clusters rather than individual members of the population are sampled. In single stage cluster sampling, all individuals in the cluster are sampled so a complete picture of the population with the sampled clusters is obtained. For example in a survey of departing passengers, flights could be used as clusters, and a sample of flights would then be chosen, and all passengers on those flights would be surveyed. If two-stage cluster sampling is used, individuals within each cluster are also sampled.

Let N be the numbers of clusters in the population
 n be the numbers of clusters sampled
 M_k be the number of individuals in the k^{th} cluster in the population
 m_k be the number of individuals in the k^{th} cluster included in the sample
 x_{kj} be the value of X for the j^{th} individual in the k^{th} cluster.

The average number of individuals per cluster is the total population size divided by the number of clusters:

$$\bar{M} = \sum_{k=1}^N M_k / N \quad (12)$$

The sample mean for the k^{th} cluster is:

$$\bar{X}_k = \sum_{j=1}^{m_k} x_{kj} / m_k \quad (13)$$

The population mean is estimated by:

$$\bar{X} = \sum_{k=1}^n (M_k / \bar{M}) \bar{X}_k / n \quad (14)$$

When the numbers of individuals in each cluster are equal, $M_k = \bar{M}$, and the mean for the population reduces to simply the average of the cluster means, \bar{X}_k . Where the clusters to be sampled are drawn randomly from the population of all clusters, and a sample of individuals are drawn randomly from each cluster, the variance of the sample mean, \bar{X} , includes two components of variation, the between and within cluster components, and for a categorical variable is estimated by:

$$\sigma_{\bar{X}}^2 = \frac{(1-n/N)/n\sigma_c^2}{\text{Between cluster component}} + \frac{(n/N) \sum_{k=1}^n (1-m_k/M_k) p_k (1-p_k) / [n^2 (m_k-1)]}{\text{Within cluster component}} \quad (15)$$

where p is the proportion of the total population in the category of interest

p_k is the proportion of individuals in cluster k in the category of interest

σ_c is the variance of the cluster means around the population mean and can be estimated by:

$$\sigma_c^2 = \sum_{k=1}^n (\bar{X}_k - \bar{X})^2 / (n - 1)$$

if all individuals in each selected cluster are sampled, $m_k = M_k$, and the variance is given by the “between cluster component” term only.

Clusters could be selected using stratified sampling to reduce the variance between clusters within a given stratum and thus improve the accuracy of the estimate. For example, where the clusters are flights, flights could be stratified into groups such as domestic and international and short- and long-haul.

Assume that the clusters are stratified into ns strata and in each stratum, n_i clusters are sampled.

The population mean is estimated by:

$$\bar{X} = \sum_{i=1}^{ns} \sum_{k=1}^{n_i} (M_{ik}/\bar{M}) \bar{X}_{ik}/n \quad (16)$$

where n_i is the numbers of clusters sampled in the i^{th} stratum

M_{ik} is the number of individuals in the k^{th} cluster in the i^{th} stratum

\bar{X}_{ik} is the mean of individuals in the k^{th} cluster in the i^{th} stratum

n is the total number of clusters sampled over all strata.

With proportional stratified sampling of clusters, the between cluster variance component of Equation 15 becomes:

$$\text{Var}(\bar{X}_c) = (1 - n/N)/n \sum_{i=1}^{ns} W_i \sigma_{ci}^2 \quad (17)$$

where n is the number of clusters sampled (over all strata)

N is the number of clusters in the population (over all strata)

σ_{ci}^2 is the variance of cluster means for clusters in stratum i

W_i is the proportion of clusters sampled that are in stratum i ($= n_i/n = N_i/N$ for proportional stratified sampling).

Assuming that the clusters within each stratum have the same size, M_i , the same sample size, m_i , and the same proportion of individuals with the category of interest, p_i , the within cluster variance component becomes:

$$\begin{aligned} \text{Var}(X_c) &= \sum_{i=1}^{ns} \sum_{k=1}^{n_i} (n_i/N_i)(1 - m_i/M_i)p_i(1 - p_i)/[n_i^2(m_i - 1)] \\ &= \sum_{i=1}^{ns} n_i(n_i/N_i)(1 - m_i/M_i)p_i(1 - p_i)/[n_i^2(m_i - 1)] \\ &= \sum_{i=1}^{ns} (1/N_i)(1 - f)p_i(1 - p_i)/(m_i - 1) \end{aligned} \quad (18)$$

where f is the fraction of passengers sampled and is assumed to be constant in all clusters.

The calculation of the accuracy of estimates, required sample sizes, and confidence intervals is complex, and the reader is referred to Levy and Lemeshow, *Sampling of Populations*, and Cochran, *Sampling Techniques*, listed in the bibliography. Comprehensive statistical software programs exist that would be useful for analyzing data from cluster sampling.

It should be noted, however, that cluster sampling is less efficient than random, sequential, and stratified sampling, and larger sample sizes will be required to obtain the same levels of accuracy. Use of the expressions applicable for random sampling will underestimate the true standard errors of estimated population characteristics and the associated confidence intervals. Preferably, clusters should be chosen so that variation in the characteristics of interest between clusters is small, but within clusters is large.

In airport surveys, cluster sampling is commonly used for sampling of flights in departing passenger surveys. For many characteristics such as trip duration, airfares, trip purpose, time at airport, spending in airport concessions, and of course destination and sector, passengers on the same flight will be more likely to

have similar values of these characteristics than passengers in general. This homogeneity of characteristics within a flight significantly reduces the efficiency of cluster sampling for analyzing these characteristics.

There are relatively few air party characteristics that have a similar distribution across different flights. For characteristics such as household size, the variation of the characteristics across passengers on one flight is likely to be fairly similar to that of all passengers. In this case, use of cluster sampling should not greatly reduce the sampling efficiency.

It can be shown that the variances of the estimates of mean of the characteristic of interest for cluster sampling can be expressed, approximately, as a function of the variance for random sampling:

$$\sigma_{\bar{X}C}^2 = \sigma_{\bar{X}R}^2 [1 + \rho(m_{av} - 1)] \quad (19)$$

where $\sigma_{\bar{X}C}^2$ is the variance using cluster sampling
 $\sigma_{\bar{X}R}^2$ is the variance using random sampling
 ρ represents the population intra-class correlation
 m_{av} is the mean number of cases sampled per cluster.

The variance using cluster sampling will be greater than using random sampling unless either $m_{av} = 1$ or $\rho \leq 0$. $m_{av} = 1$ corresponds to the special case where each cluster consists of a single case and is equivalent to random sampling. The intra-class correlation, ρ , is a measure of homogeneity, and if individuals in a cluster are more homogeneous than the population as a whole, ρ will be greater than zero.

The ratio of the variances: $\sigma_{\bar{X}C}^2 / \sigma_{\bar{X}R}^2$ is often referred to as the design effect, DE, and is given by:

$$DE = 1 + \rho(m_{av} - 1) \quad (20)$$

The effective sample size is given by: $m_{av} n / DE$.

Examples of Calculation of Sample Sizes

Small Population Size—Using Random or Sequential Sampling for Categorical Variables

In this example, the sample size is required for a survey of a relatively small population, such as an employee or tenant survey, using random sampling. The critical characteristics of the population being determined are categorical variables, e.g., percentage of employees accessing the airport by private vehicle.

The sample sizes depend on the expected proportion in the category and the level of accuracy desired. Sample sizes were determined using Equation 3 for a range of population sizes; for two values of the expected proportion in the category: 50% and 20%; and for three levels of accuracy: ± 5 percentage points, ± 3 percentage points, and ± 2 percentage points (the latter for the expected proportion of 20% only). As discussed in Section 3.2 of the guidebook, an error of ± 5 percentage points represents a percentage error in the category proportion of 10% for an expected proportion of 50% and 25% for an expected proportion of 20%. As is evident in Table A-1, large sample sizes are required if an accuracy of 10% is required for categories with low proportions of the population.

Table A-1. Sample sizes required for categorical variable with expected proportions of 50% and 20% and varying levels of accuracy.

Total Number in Population <i>N</i>	Sample Size, <i>n</i> , Required for:				
	Expected Proportion in Category = 50%		Expected Proportion in Category = 20%		
	Accuracy of ±5 Percentage Points	Accuracy of ±3 Percentage Points	Accuracy of ±5 Percentage Points	Accuracy of ±3 Percentage Points	Accuracy of ±2 Percentage Points
	(Equivalent to ±10% of Proportion)	(Equivalent to ±6% of Proportion)	(Equivalent to ±25% of Proportion)	(Equivalent to ±15% of Proportion)	(Equivalent to ±10% of Proportion)
50	44	48	42	47	48
100	80	92	71	87	94
200	132	168	110	155	177
500	218	340	165	290	377
1,000	280	515	200	405	605
5,000	360	880	235	600	1,175

Note: Assumes random sampling without replacement.

Table A-2. Assumed number of flights and average number of originating passengers per flight by market sector and day of week.

Day of Week	Sector of Flights			
	Short-Haul Domestic	Long-Haul Domestic	International	Total
Monday	60	20	8	88
Tuesday	60	20	8	88
Wednesday	60	20	8	88
Thursday	60	20	9	89
Friday	60	20	12	92
Saturday	50	16	12	78
Sunday	55	20	12	87
Total	405	136	69	610
Avg. Originating Passengers/Flight	50	120	170	79.2

Passenger Survey—Using Random, Stratified, and Cluster Sampling

A survey of air passengers is to be undertaken to obtain information on airport access trips. A critical question to be answered is (say): What is the percentage of passengers dropped off at the curb outside departures check-in?

It was decided to determine the sample sizes for each of the different sampling types and choose the most cost-effective method. It is known that the percentage dropped off at the curb varies greatly by characteristics such as trip purpose, flight sector (e.g., short-haul domestic, long-haul domestic, international), day of the week, time of day, etc. The trip purpose distribution of passengers is not known at the sampling stage and so could not be used. In addition to random sampling, stratified sampling with passengers stratified by flight sector or day of the week and cluster sampling with flights stratified by flight sector were examined.

The survey was planned to be conducted during a two-week period. The flight schedule was obtained from the Official Airline Guide and the numbers of flights per sector by day of the week and the estimated

average number of originating passengers per flight (estimated using average load factors and percentages of connecting passengers) were as in Table A-2.

To determine the sample size required, it is necessary to have at least approximate estimates of the mean and standard deviation of the variable of interest—in this case the percentage of passengers dropped off at the curb. From knowledge of passengers using the airport, the percentage of passengers dropped off at the curb was estimated in Table A-3.

Table A-3. Estimated percentage of passengers dropped off at the curb.

Sector of Flight	Passengers Dropped Off at Curb		Total Pass.
	Mean, p	Standard deviation	
Short-Haul Domestic	40%	0.490	20,250
Long-Haul Domestic	60%	0.490	16,320
International	90%	0.300	11,730
Overall	58.9%	0.492	48,300

The overall mean percentage of 58.9% is a weighted average of the means for each sector with weights being the numbers of passengers in each sector.

Since the variable of interest is a categorical variable, the standard deviation (SD) is given by: $\sqrt{p(1-p)}$, where p is the proportion of the population in the category of interest (i.e., percentage dropped at curb).

Random Sampling of Passengers

A random sample of originating passengers could be surveyed as they exit the security line. In this case, the sample size is determined for a given width of confidence interval using Equation 3, where

Total population	$N = 48,300$
Mean proportion using curb	$\bar{X} = p = 0.59$
SD for individual pass.	$\sigma_x = 0.492$

The sample size, n , was found using Equation 3 for three widths of the 95% confidence intervals (C.I.)— $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$ —as shown in Table A-4.

A simple approximation, given in Section 3.4.1 of the guidebook², could also have been used:

$$n = 40,000p(1-p) / (100w)^2$$

Using this equation, the estimated sample sizes for the $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$ cases are: 2,411, 1,074, and 606. The approximation leads to slightly higher estimates of the required sample sizes.

If, for example, it was decided that the narrow confidence interval is appropriate, i.e., the mean estimate should be accurate to within $\pm 2\%$, a sample size of 2,218 is required. This corresponds to a sampling fraction of 4.6% for a population of 48,300, and if using sequential sampling every 21st passenger passing through security should be surveyed.

2. The denominator in the equation in Section 3.4.1 is a^2 where the width of the 95% confidence interval is $\pm a$ where a is expressed in percentage points. Since w above is not expressed in percentage points, $w = a/100$.

Stratified Sampling of Passengers—Stratified by Sector

Consider the case where stratified sampling is used to select passengers to be surveyed, and passengers are stratified by the sector of the flight. Assume that at this airport, passengers on the different sectors use different security screening checkpoints, thus allowing passengers on each flight sector to be sampled separately.

We consider here the simple case where proportional stratified sampling is used. Thus, the proportion of the sample size in each flight sector is equal to the proportion of the total passengers in each flight sector, $W_i = n_i/n = N_i/N$.

Table A-4. Sample sizes for random sampling of passengers for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

95% C.I. Mean $\pm w$	95% C.I. $\pm w$ w as % of mean	Sample n
2.00%	3.40%	2,218
3.00%	5.10%	1,012
4.00%	6.79%	574

Table A-5. Calculation of standard deviation of sample mean for stratified sampling of passengers by market sector.

Sector of Flight	Enplaned Pass. Total, N_i	% of Total W_i	Est. Avg. Proportion at Curb, p	SD σ_{x_i}	$W_i \sigma_{x_i}^2$
Short-Haul Domestic	20,250	0.4193	0.40	0.49	0.10062
Long-Haul Domestic	16,320	0.3379	0.60	0.49	0.08109
International	11,730	0.2429	0.90	0.30	0.02186
Total	48,300	1.0000	0.59		0.20357

The sample size is determined using Equation 8. Table A-5 shows the calculation of the summation over the three flight sectors.

The standard deviation for each sector is found using the relationship applicable for categorical variables: $\sqrt{p(1-p)}$, where p_i is the proportion of the population in the category of interest for flights in sector i (i.e., percentage dropped at the curb).

Substituting 0.20357 from Table A-5 for $\sum_i (W_i \sigma_{x_i}^2)$ in Equation 8 for three C.I. widths of $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$ gives the sample sizes, n , in Table A-6.

The sample sizes for each flight sector are then found, based on the proportion of passengers in each sector, W_i , to be as shown in Table A-7.

Comparing the total sample size with that found with random sampling, we find that stratification by flight segment has reduced the required sample size for the $\pm 2\%$ case from 2,218 to 1,879—a reduction of 15%. **Note that the size of the reduction is very dependent on the variation in the mean responses across the different strata.**

Table A-6. Sample sizes for stratified sampling of passengers by sector of flight for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

95% C.I. Mean $\pm w$	95% C.I. $\pm w$ w as % of mean	Sample n
2.00%	3.40%	1,879
3.00%	5.09%	854
4.00%	6.79%	484

Table A-7. Sample sizes by sector for stratified sampling of passengers by sector of flight for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

Sector of Flight	Sample Size for C.I. Width		
	$\pm 2\%$	$\pm 3\%$	$\pm 4\%$
Short-Haul Domestic	788	358	203
Long-Haul Domestic	635	288	163
International	456	207	118
Total	1,879	853	484

Table A-8. Calculation of standard deviation of sample mean for stratified sampling of passengers by day of week.

Day	Originating Passengers					Est. Avg. Proportion at Curb, p_i	SD σ_{x_i}	$W_i \sigma_{x_i}^2$
	Short-Haul Domestic	Long-Haul Domestic	International	Total N_i	% of Total W_i			
Monday	3,000	2,400	1,360	6,760	0.1400	0.572	0.495	0.03427
Tuesday	3,000	2,400	1,360	6,760	0.1400	0.572	0.495	0.03427
Wednesday	3,000	2,400	1,360	6,760	0.1400	0.572	0.495	0.03427
Thursday	3,000	2,400	1,530	6,930	0.1435	0.580	0.494	0.03496
Friday	3,000	2,400	2,040	7,440	0.1540	0.602	0.490	0.03692
Saturday	2,500	1,920	2,040	6,460	0.1337	0.617	0.486	0.03160
Sunday	2,750	2,400	2,040	7,190	0.1489	0.609	0.488	0.03546
Total	20,250	16,320	11,730	48,300	1.0000	0.589		0.24175

Stratified Sampling of Passengers—Stratified by Day of Week

Now consider the case where the passengers are stratified by the day of the week. This form of stratification is easy to implement during the conduct of the survey, and numbers of passengers are known, at least approximately, at the sample design stage.

Again consider the simple case where proportional stratified sampling is used. Thus the proportion of the sample size on each day of the week is equal to the proportion of the total passengers in each day of the week.

It was assumed that the proportion of people using the curb on each weekday was entirely explained by the sector of their flight. Thus, the average percentage of passengers using the curb was estimated for each day by the weighted average of the percentages for each flight sector, with weights equal to the numbers of passengers on that day to each sector.

The sample size is determined using Equation 8. Table A-8 shows the calculation of the summation over the days of the week.

The standard deviation for each day is found using the relationship applicable for categorical variables: $\sqrt{[p(1 - p)]}$, where p_i is the proportion of the population in the category of interest (i.e., percentage dropped at curb) on day i .

Substituting 0.24175 from Table A-8 for $\sum_i(W_i\sigma_{xi}^2)$ in Equation 8 for three C.I. widths of $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$ gives the sample sizes, n , in Table A-9.

The sample sizes for each day of the week are then found, based on the proportion of passengers on each day of the week, W_i , to be as shown in Table A-10.

Table A-9. Sample sizes for stratified sampling of passengers by day of week for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

95% C.I. Mean $\pm w$	95% C.I. $\pm w$ w as % of mean	Sample n
2.000%	3.40%	2,215
3.000%	5.09%	1,010
4.000%	6.79%	574

Table A-10. Sample sizes for each day for stratified sampling of passengers by day of week for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

Day of Week	Sample Size for C.I. Width		
	$\pm 2\%$	$\pm 3\%$	$\pm 4\%$
Monday	310	141	80
Tuesday	310	142	80
Wednesday	310	142	80
Thursday	318	145	82
Friday	341	156	89
Saturday	296	135	77
Sunday	330	150	86
Total	2,215	1,011	574

Comparing the total sample size with that found with random sampling, we find that stratification by day of the week has reduced the required sample size for the $\pm 2\%$ case from 2,218 to 2,215—a reduction of only 0.1%. Thus, in this case stratification makes almost no difference to the required sample size. This is due to the low variability in the average percentage of passengers at the curb, p_i , over the various days of the week. **Note that the size of the reduction is very dependent on the variation in the mean responses across the different strata. This varies depending on the variable of interest and in some cases could vary greatly over the days of the week making stratification by day of the week worthwhile.**

Cluster Sampling of Flights—Additional Assumptions

A very common form of sampling for passenger surveys is to select a sample of flights to survey and to sample either all, or a portion, of passengers on those flights. This is a form of cluster sampling where each flight represents a cluster.

Using the same example as above, the pertinent characteristics required to estimate the sample size are given in Table A-11.

Table A-11. Assumed characteristics for flights in three market sectors for illustrative examples of cluster sampling.

Quantity	For Flight Sector, <i>i</i>			Total		
	Symbol	Short-Haul Domestic	Long-Haul Domestic	International	Symbol	Value
No. of Departing Flights	N_i	405	136	69	N	610
Avg. Originating Pass./Flight	M_i/N_i	50	120	170	M/N	79.2
Total Originating Passengers	M_i	20,250	16,320	11,730	M	48,300
Proportion of Flights in Sector	$W_i = N_i / N$	0.6639	0.2230	0.1131	$\bar{X} = p$	1.0000
% Dropped at Curb	$\bar{X}_i = p_i$	40%	60%	90%		58.9%
Difference from Overall Avg.	$\bar{X}_i - \bar{X}$	-19%	1%	31%		
SD in % Between Flights:	σ_{ci}	10%	10%	10%	σ_c	21.1%

Cluster sampling is very dependent on one parameter not relevant to the passenger sampling considered above—the variation in the mean value for each flight of the characteristic of interest (i.e., percentage of passengers dropped at the curb) over the range of flights, σ_{ci} . An estimate of this variation, expressed in terms of the standard deviation, is given in Table A-11. It is estimated from previous surveys and knowledge of passengers at the airport that the standard deviation is 10% around the mean value for each sector³. Thus, for short-haul flights the mean value of the percentage using the curb for each flight would be expected to be between 20.4% and 59.6% for 95% of flights [= 40% ± 1.96 x 10%]. The standard deviation over all flights includes both the variation between flights within each sector and the variation between sectors and is given by:

$$\sigma_c = \sqrt{\left\{ \sum_i W_i [\sigma_{ci}^2 + (\bar{X}_i - \bar{X})^2] \right\}}$$

where W_i is the proportion of flights in sector i ($= N_i / N$).

Cluster Sampling with Random Sampling Flights

If a random sample of flights is selected and all passengers on each of the selected flights are surveyed, the sample size is determined for a given width of confidence interval using Equation 3, where

Total population (flights)	$N = 610$
Mean proportion using curb	$\bar{X} = p = 0.589$
SD for individual flight	$\sigma_x = \sigma_c = 0.211$

The number of flights to be sampled, n , was found using Equation 3 for three widths of the 95% confidence interval—±2%, ±3%, and ±4%—as shown in Table A-12.

3. Note that if there was no difference between sectors, so that the mean percentage of passengers dropped off at the curb was 58.9% for all flights, the standard deviation in the percentage between flights, σ_{ci} , would equal the standard deviation of the mean for each flight. Then $\sigma_{ci}^2 = p_i(1 - p_i) / (N_i / M_i)$ where N_i / M_i is the average numbers of passengers on each flight in sector i . Thus the values of σ_{ci} for the short-haul, long-haul, and international sectors would be 7.0%, 4.5%, and 3.8%, respectively, and σ_c would be 6.2%.

Since all passengers on each flight are sampled, the number of passengers sampled is the number of flights sampled multiplied by the average number of passengers per flight ($\bar{M} = M/N$).

Comparing the total passenger sample size with that found with random sampling of passengers, we find that cluster sampling by flight has increased the required sample size greatly—for $\pm 2\%$ accuracy from 2,218 to 19,953. This is due to the high variation in the characteristics of interest between flights. In other cases, the additional sample size with clustering may be much less. For example, if the mean percentage was 50% for each sector (instead of 40%, 60%, and 90%), the sample size for $\pm 2\%$ accuracy would be 83 flights or 6,572 passengers. **The increase in the sample size is very dependent on the variation in the mean responses for a flight across the different flights. The above example may not be typical in general.**

Table A-12. Sample sizes for cluster sampling with random sampling flights for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

95% C.I. Mean $\pm w$	95% C.I. $\pm w$ w as % of mean	Sample n (flights)	Sample Pass.
2.00%	3.40%	252	19,953
3.00%	5.10%	146	11,560
4.00%	6.79%	92	7,285

Table A-13. Calculation of standard deviation of sample mean for cluster sampling with flights stratified by sector and all passengers on selected flights surveyed.

Sector of Flight	Departing Flights		Est. Avg. % at curb, p_i	SD σ_{ci}	$W_i \sigma_{ci}^2$
	Total N_i	$W_i = N_i/N$			
Short-Haul Domestic	405	0.6639	0.40	0.10	0.00664
Long-Haul Domestic	136	0.2230	0.60	0.10	0.00223
International	69	0.1131	0.90	0.10	0.00113
Total	610	1.0000	0.589		0.01000

Cluster Sampling with Stratified Sampling of Flights and All Passengers on Selected Flights Surveyed

Now consider the case where flights to be surveyed are determined using stratified sampling, and all passengers on each of the selected flights are surveyed. The flight sample size is determined for a given width of confidence interval using Equation 8, where the units sampled in each stratum are clusters rather than individuals. Since flights are being sampled, rather than passengers, the standard deviation σ_{X_i} in Equation 8 is the standard deviation of the average percentage of passengers using the curb for each flight, σ_{ci} , as shown in Table A-13.

Substituting 0.01000 from Table A-13 for $\Sigma_i (W_i \sigma_{ci}^2)$ in Equation 8, the number of flights to be sampled, n , was found for three widths of the 95% confidence intervals— $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$ —as shown in Table A-14.

The numbers of flights in each sector and estimated number of passengers (based on average numbers of passengers per flight in that sector) are as shown in Table A-15.

Table A-14. Sample number of flights for cluster sampling with flights stratified by sector and all passengers on selected flights surveyed for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

95% C.I. Mean $\pm w$	95% C.I. $\pm w$ w as % of mean	Sample n (flights)
2.00%	3.40%	83
3.00%	5.09%	40
4.00%	6.79%	24

Table A-15. Sample sizes by sector for cluster sampling with flights stratified by sector and all passengers on selected flights surveyed for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

Sector of Flight	C.I. Width $\pm 2\%$		C.I. Width $\pm 3\%$		C.I. Width $\pm 4\%$	
	Flights	Pass.	Flights	Pass.	Flights	Pass.
Short-Haul Domestic	55	2,750	27	1,350	16	800
Long-Haul Domestic	19	2,280	9	1,080	5	600
International	9	1,530	5	850	3	510
Total*	83	6,560	41	3,280	24	1,910

* Total may be higher than previous table as number of flights must be an integer

The stratification of flights by sector results in a large reduction in the numbers of flights and passengers to be surveyed. In this example, much of the variation in the variable of interest is explained by the flight sector, which results in a large reduction in sample size compared to random sampling of flights. By sampling the flights by sector, the likelihood of selecting a sample with close to the actual proportions of passengers in each sector is much greater than when randomly sampling flights. **Again note that the results here reflect the assumptions regarding variation considered in this example and will vary in other situations.**

Cluster Sampling with Stratified Sampling of Flights and a Sample of Passengers on Selected Flights

Now consider the case where flights to be surveyed are determined using stratified sampling and a sample of passengers on each of the selected flights are surveyed. Assume initially that 50% of passengers on the selected flights are surveyed. The variance of the estimate is greater than with 100% sampling of each flight as it includes both the variation between flights (as before) and the variation due to sampling of passengers on individual flights. It is calculated from Equations 17 and 18 as follows:

$$\sigma_{\bar{X}}^2 = (1 - n/N)/n \sum_{i=1}^{ns} (N_i/N)\sigma_{ci}^2 + \sum_{i=1}^{ns} (1/N_i)(1 - f)p_i(1 - p_i)/(m_i - 1)$$

where σ_{ci} is the standard deviation of the mean percentage using the curb across flights in sector i

N_i is the number of flights in sector i (N is total over all sectors)

n_i is the number of flights sampled in sector i (n is total over all sectors)

M_i is the average number of passengers on a flight in sector i

m_i is the average number of passengers sampled on a flight in sector i ($= f M_i$)

p_i is the probability of a passenger on a flight in sector i being dropped off at the curb

f is the proportion of passengers sampled on a flight ($= m_i / M_i$, assumed the same for all flights).

The flight sample size is determined for a given confidence interval $\bar{X} \pm w$ by solving the following relationships for n :

$$w = 1.96 \sigma_{\bar{X}}^2$$

where $\sigma_{\bar{X}}^2$ is given by the equation above.

The summations over the sectors for calculating $\sigma_{\bar{X}}^2$ are determined for a given n value as shown in Table A-16 ($n = 117$ used in table).

The number of flights to be sampled, n , was found by setting an approximate value initially and determining the width, w , then adjusting the value of n until the appropriate value of w was obtained. In the table, $\sigma_{\bar{X}}^2$ is evaluated for $n = 117$, and the resulting value of w is 0.0200 or 2.00%. Samples sizes for three widths of the 95% confidence intervals— $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$ —were found to be as shown in Table A-17.

Table A-16. Calculation of standard deviation of sample mean for cluster sampling with flights stratified by sector and a 50% sample of passengers on selected flights.

Sector of Flight	Departing Flights		Est. Avg.% at Curb, p_i	Pass. on Each Flight, M_i	Sampled on Each Flight		SD Between Flights, σ_{ci}	Calculate $\sigma_{\bar{X}}^2$ for $n = 117$		
	Total, N_i	$W_i = N_i / N$			%	#		Between Cluster	Within Cluster	Between + Within
Short-Haul Dom.	405	0.6639	0.40	50	50%	25	0.100	0.0000459	0.0000123	0.0000582
Long-Haul Dom.	136	0.2230	0.60	120	50%	60	0.100	0.0000154	0.0000150	0.0000304
International	69	0.1131	0.90	170	50%	85	0.100	0.0000078	0.0000078	0.0000156
Total	610	1.0000	0.59					$\sigma_{\bar{X}}^2 = 0.0001041$		
								$w = 1.96 \sigma_{\bar{X}} = 0.0200$		

Table A-17. Sample number of flights for cluster sampling with flights stratified by sector and a 50% sample of passengers on selected flights surveyed for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

95% C.I. Mean $\pm w$	95% C.I. $\pm w$ as % of mean	Sample n (flights)
2.00%	3.40%	117
3.00%	5.09%	47
4.00%	6.79%	26

The numbers of flights in each sector and estimated number of passengers (based on average numbers of passengers per flight in that sector) are as shown in Table A-18.

The surveying of only a 50% sample of passengers on each flight resulted in an increase in the number of flights to be surveyed from 83 to 117 for the $\pm 2\%$ accuracy case. However, since only 50% of passengers on these flights are to be surveyed, the total number of passengers decreased from 6,560 to 4,615. For surveys conducted in the departure lounge, it is almost impossible to survey all passengers on a flight due to reasons given in Chapter 5 of the guidebook. In practice it may be possible to obtain complete responses from 50% of passengers, in which case the number of flights to be surveyed based on the 50% passenger sample should be used.

It is evident that the total number of passengers that need to be surveyed can be reduced by reducing the percentage of passengers sampled on each flight, but the number of flights surveyed increases. Several other cases were examined using this example:

- If 75% of passengers on each of the selected flights were to be surveyed, a sample of 92 flights and 5,580 passengers would be required.
- If 30% of passengers on each of the selected flights were to be surveyed, a sample of 268 flights and 6,360 passengers would be required.

The optimal balance for a particular survey will depend on the variation in responses between and within flights, and on the relative costs of surveying passengers and flights, which vary from survey to survey.

Another important consideration with interview surveys in gate lounges, discussed in Chapter 5 of the guidebook, is the limitation on the number of interviews that each interviewer can complete in the time window between when passengers start to arrive in the gate lounge and the start of flight boarding. As a practical matter, this limits the number of passengers who can be surveyed on a given flight.

Again, note that the results here reflect the assumptions regarding variation considered in this example and will vary in other situations.

Table A-18. Sample sizes by sector for cluster sampling with flights stratified by sector and a 50% sample of passengers on selected flights surveyed for 95% confidence interval widths $\pm 2\%$, $\pm 3\%$, and $\pm 4\%$.

Sector of Flight	C.I. Width $\pm 2\%$		C.I. Width $\pm 3\%$		C.I. Width $\pm 4\%$	
	Flights	Pass.	Flights	Pass.	Flights	Pass.
Short-Haul Domestic	78	1,950	31	775	17	425
Long-Haul Domestic	26	1,560	11	660	6	360
International	13	1,105	5	425	3	255
Total	117	4,615	47	1,860	26	1,040

APPENDIX B

Sample Focus Group Screening Questionnaires

Appendix B contains a sampling of focus group screening questionnaires from four different airports across the nation:

- San Francisco International Airport (SFO),
- Seattle-Tacoma International Airport (SEA-TAC),
- Baltimore/Washington International Thurgood Marshall Airport (BWI), and
- Miami International Airport (MIA).

All questionnaires were designed to facilitate the recruitment of an appropriate mix of participants in planned sessions. The questionnaire pertaining to SFO was offered by Corey, Canapary & Galanis Research; the remainder were provided by JD Franz Research.

SFO Customer Perception Study 2017 Focus Group Screening Questionnaire

[NOTE: CONTACT/GROUP INFORMATION FILLED OUT ONLY FOR RECRUITED RESPONDENTS]

Name	<input type="checkbox"/> Cell phone (high priority)	()
Address Line 1 – Required if mailing/no email	<input type="checkbox"/> Work <input type="checkbox"/> Home	()
Address Line 2	Email (high priority)	
City - REQUIRED	Source	ZIP - REQUIRED

Recruited for:

- Group 1 (Frequent Travelers)** – Wednesday, February 8, 2017 – 5:30 pm; \$150
- Group 2 (Infrequent Travelers)** – Wednesday, February 8, 2017 – 7:30 pm; \$100
- Group 3 (Infrequent Travelers)** – Thursday, February 9, 2017 – 5:30 pm; \$100
- Group 4 (Frequent Travelers)** – Thursday, February 9, 2017 – 7:30 pm; \$150

ALL GROUPS will be held in a central location in San Francisco. Details on the exact location will be provided once a respondent has been successfully recruited (and will be sent with confirmation).

Introduction

Important Note: Introduction wording may vary. OK to modify wording in this Introduction section (ONLY); ALL OTHER QUESTIONS MUST BE READ AS written AND IN THE SAME ORDER AS DISPLAYED.

Hello, I'm _____ with Corey Research. We are conducting paid focus groups among air travelers who live in the Bay Area.

[if asked] The groups will be held the evenings of February 8th and 9th in a central location in San Francisco.

[if asked] Participation in the group is by invitation only, and only after we have confirmed your eligibility. Let me ask you a couple of questions for classification purposes and to see if you fit the profile we are looking for and to determine which group you fit into.

1a. In the last year, how many times did you fly **out** of the Bay Area?

Record # of times in the past year _____

(Note: If did not fly out of the Bay Area at all in the past year, thank and discontinue).

1b. Would you say most of these trips were . . . [multiples OK; note what share of each]

- a. Business/work related
- b. Personal/recreational
- c. Other (specify) _____

2. On these trips, about how often did you fly out of . . . San Francisco Airport? Oakland Airport? San Jose Airport?

San Francisco Airport _____ *(thank and discontinue if less than 1)*

Oakland Airport _____

San Jose Airport _____

3. How many of these trips were Domestic (within the US) and how many were International (outside the US)?

IF PROMPTED: Domestic INCLUDES Hawaii/Alaska

IF PROMPTED: International INCLUDES Puerto Rico and US territories (all non-states)

Domestic _____

International _____

Important: # of trips in Q1 MUST equal # of trips in Q2 and # of trips in Q3

4. Do you typically travel first class, business class, or economy? (multiples OK)

First Class 1

Business Class 2

Economy 3

(If multiples, record which class is used under which conditions – e.g. “first class for international trips” or “business class if can get bumped up w/air miles”)

Discontinue if ANY focus group participation in the past 6 months.

Discontinue if 7-12 months ago and group concerned airports, airlines, or transportation.

10. GENDER *(by observation; ask only if necessary)*

	1	Male
	2	Female
(specify) _____		Other

11. Of what ethnic group do you consider yourself a member? *(If necessary)* Are you White, Black, Asian or Pacific Islander, Native American or Eskimo, Hispanic or of some other ethnic or racial background? ***(Multiples OK)***

- WHITE/CAUCASIAN..... 1
- BLACK/AFRICAN AMERICAN 2
- ASIAN/PACIFIC ISLANDER 3
- NATIVE AMERICAN/ESKIMO 4
- HISPANIC/SPANISH 5
- OTHER (specify) _____ 6
- REFUSED ***(DO NOT READ)*** 7

12. Is your total annual household income before taxes, under or over \$60,000 a year?

- UNDER \$60,000 1 > (ask 12a.)
- \$60,000 or MORE 2 > (ask 12b.)

(ASK IF UNDER \$60,000)

12a. Is that under or over \$30,000 a year?

\$30,000.....	1	UNDER
.....	2	\$30,000 - \$59,999

(ASK IF \$60,000 or MORE)

12b. Is that under or over \$100,000 a year?

- \$60,000 - \$100,000 3
- OVER \$100,000 4

If respondent qualifies and meets your target composition, attempt to recruit for one of the groups. Check box and record info on front page if recruited.

RECRUITER GUIDELINES

- Recruit 12-13 per group with an expected show of about 10.
- Recruits should have flown out of SFO at least one time in the past year; try for some who use SFO exclusively and some who use SJC/OAK as well.
 - **Group 1 and Group 4 – MUST have flown out of SFO at least 4 times** in the past year.
 - **Group 2 and Group 3 – MUST have flown out of SFO at least 1 time** in the past year.
- Recruit about half women and half men; each group should have a minimum of 4 women and 4 men.
- Recruit a mix of home city/county; all respondents should be from one of the 9 Bay Area counties.
- Non-working: Recruit no more than 2-3 retired or full-time homemaker/caregiver per group. Recruit unemployed (including full-time student) ONLY after confirmation with supervisor.

SEA-TAC INTERNATIONAL AIRPORT BRANDING STUDY



SCREENING QUESTIONNAIRE

1. RECORD GENDER:

- MALE
- FEMALE - RECRUIT A MIX

2. RECORD ZIP CODE OF RESIDENCE: _ _ _ _ _

RECRUIT A BROAD MIX IN EACH GROUP. MAKE EVERY EFFORT TO INCLUDE RESIDENTS FROM THE EAST SIDE OF THE LAKE (BELLEVUE, REDMOND, KIRKLAND, AND SO FORTH).

USE STANDARD FACILITY INTRODUCTION. YOU MAY TELL PEOPLE THE GROUP IS BEING SPONSORED BY SEATTLE-TACOMA INTERNATIONAL AIRPORT (SEA-TAC).

3. First, how long have you lived in the Puget Sound area?

- LESS THAN A YEAR
- 1 TO 2 YEARS
- 3 TO 5 YEARS
- 6 TO 10 YEARS - RECRUIT A MIX
- 11 TO 20 YEARS
- OVER 20 YEARS

4. And approximately how many trips have you made by air (airplane) from Sea-Tac International Airport in the past year?

- LESS THAN 2 – THANK AND TERMINATE
- 2 OR 3
- 4 TO 6
- 7 TO 9 - RECRUIT A MIX
- 10 OR MORE

5. Are your trips by air generally business trips, pleasure trips, or a combination of both?

- BUSINESS
- PLEASURE - RECRUIT A MIX
- BOTH

6. Do you or does anyone in your household work in the travel industry, for an airport, or for an airline?

- YES – THANK AND TERMINATE
- NO – CONTINUE

7. Do you or does anyone in your household work in advertising, marketing, public relations, or marketing research?

- YES – THANK AND TERMINATE
- NO – CONTINUE

8. Have you ever participated in a small group discussion or focus group about products or services?

- YES – CONTINUE
- NO – SKIP TO Q11

☛ IF YES, ASK:

9. And have you participated in such a discussion or group in the past year?

- YES – THANK AND TERMINATE
- NO – CONTINUE

☛ IF NO, ASK:

10. Have any of the discussions or groups you have participated in talked about air travel?

- YES – THANK AND TERMINATE
- NO – CONTINUE

11. Briefly, how do you feel about traveling by air these days?

IF RESPONSE EXHIBITS EXTREME VIEWS OR A LACK OF INTEREST, PLEASE THANK AND TERMINATE. *PLEASE BE ESPECIALLY CAREFUL TO EXCLUDE ANYONE WHO HAS REALLY STRONG FEELINGS.*

12. What is your age, please? ____

- UNDER 18 - THANK AND TERMINATE
- 18 TO 24
- 25 TO 34
- 35 TO 44
- 45 TO 54
- 55 TO 64
- 65 OR OLDER

RECRUIT A MIX. WE RECOGNIZE THERE ARE LIKELY TO BE FEWER PARTICIPANTS WHO ARE 18 TO 24 AND OVER 64.

USE STANDARD CONCLUSION AND INVITATION.

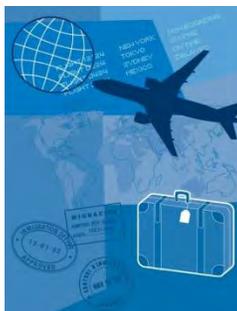
NAME: _____

ADDRESS: _____

CITY AND ZIP: _____

TELEPHONE: _____

BALTIMORE/WASHINGTON INTERNATIONAL THURGOOD MARSHALL AIRPORT



SCREENING QUESTIONNAIRE FOR TRANSPORTATION USER FOCUS GROUPS

1. RECORD GENDER:

- MALE
- FEMALE - RECRUIT A MIX

2. RECORD AGE:

- 18 TO 24
- 25 TO 34
- 35 TO 44
- 45 TO 54
- 55 TO 64
- 65 OR OLDER

RECRUIT A MIX. WE RECOGNIZE THERE ARE LIKELY TO BE FEWER PARTICIPANTS WHO ARE 18 TO 24 AND 65 OR OLDER.

3. RECORD COMMUNITY OF RESIDENCE AND APPROXIMATE DISTANCE FROM THE AIRPORT. RECRUIT A MAXIMUM MIX OF DIFFERENT COMMUNITIES AND DISTANCES FROM THE AIRPORT.

COMMUNITY: _____ MILES TO AIRPORT: _____

4. RECORD HOUSEHOLD INCOME

- UNDER \$30,000
- \$30,000 TO \$49,999
- \$50,000 TO \$74,999
- \$75,000 TO \$99,999
- \$100,000 TO \$149,999
- \$150,000 AND OVER

RECRUIT A REPRESENTATIVE MIX.

USE STANDARD FACILITY INTRODUCTION. YOU MAY TELL PEOPLE THE GROUP IS BEING SPONSORED BY BALTIMORE/WASHINGTON INTERNATIONAL THURGOOD MARSHALL OR BWI AIRPORT.

5. In the past year, how many flights have you taken out of BWI?

- LESS THAN FOUR – THANK AND TERMINATE
- 4 TO 6
- 7 TO 9
- 10 TO 15 - RECRUIT A MIX
- 16 TO 19
- 20 OR MORE

6. How do you usually get to the airport?

- DRIVE – ASK Q7
- TAXI/CAB
- LIMOUSINE
- RIDESHARING SERVICE SUCH AS UBER OR LYFT
- SHARED-RIDE VAN SERVICE SUCH AS SUPER SHUTTLE
- DROPPED OFF – ASK Q7

☛ IF DRIVE OR DROPPED OFF, ASK:

7. In the past year, have you used a taxi, limousine service, ridesharing service such as Uber or Lyft, or shared-ride van service such as Super Shuttle to get to the airport at least two times?

- YES – CONTINUE
- NO – THANK AND TERMINATE

☛ IF YES, ASK:

8. And which of these services have you used at least two times?
CODE ALL THAT APPLY.

- TAXI/CAB
- LIMOUSINE
- RIDESHARING SERVICE SUCH AS UBER OR LYFT
- SHARED-RIDE VAN SERVICE SUCH AS SUPER SHUTTLE

9. Do you fly out of BWI primarily on business trips, primarily on pleasure trips, or for an approximately equal number of both types of trips?

- PRIMARILY BUSINESS
- PRIMARILY PLEASURE - RECRUIT A MIX
- BOTH APPROXIMATELY EQUAL

10. Do you or does anyone in your household work in the travel industry, for the Maryland Aviation Administration, for an airport, for an airport transportation provider, or for an airline?

- YES – THANK AND TERMINATE
- NO – CONTINUE

11. Do you or does anyone in your household work in advertising, marketing, public relations, or marketing research?

- YES – THANK AND TERMINATE
- NO – CONTINUE

12. Have you ever participated in a small group discussion or focus group about products or services?

- YES – CONTINUE
- NO – SKIP TO Q15

☛ IF YES, ASK:

13. And have you participated in such a discussion or group in the past year?

- YES – THANK AND TERMINATE
- NO – CONTINUE

☛ IF NO, ASK:

14. Have any of the discussions or groups you have participated in talked about air travel?

- YES – THANK AND TERMINATE
- NO – CONTINUE

15. Briefly, how do you feel about traveling by air these days?

IF RESPONSE EXHIBITS EXTREME VIEWS OR A LACK OF INTEREST, PLEASE THANK AND TERMINATE. *PLEASE BE ESPECIALLY CAREFUL TO EXCLUDE ANYONE WHO HAS REALLY STRONG FEELINGS.*

USE STANDARD CONCLUSION AND INVITATION.

NAME: _____

ADDRESS: _____

CITY AND ZIP: _____

TELEPHONE: _____

MIAMI INTERNATIONAL AIRPORT PARKING STUDY



SCREENING QUESTIONNAIRE FOR AIRLINE PASSENGER FOCUS GROUPS

1. RECORD GENDER:

- MALE
 FEMALE - RECRUIT A MIX

USE STANDARD FACILITY INTRODUCTION AS APPROPRIATE TO BUSINESS PEOPLE. YOU MAY TELL PEOPLE THE GROUP IS BEING SPONSORED BY MIAMI INTERNATIONAL AIRPORT.

2. Are you a year-round resident of the Miami area, or do you live here only part of the year?

- YEAR-ROUND – CONTINUE
 PART OF THE YEAR – THANK AND TERMINATE

3. Do you or does anyone in your household work in the travel industry, for an airport, or for an airline?

- YES – THANK AND TERMINATE
 NO – CONTINUE

4. Do you or does anyone in your household work in advertising, marketing, public relations, or marketing research?

- YES – THANK AND TERMINATE
 NO – CONTINUE

5. Have you ever participated in a small group discussion or focus group about products or services?

- YES – CONTINUE
- NO – SKIP TO Q8

☛ IF YES, ASK:

6. And have you participated in such a discussion or group in the past year?

- YES – THANK AND TERMINATE
- NO – CONTINUE

☛ IF NO, ASK:

7. Have any of the discussions or groups you have participated in talked about air travel?

- YES – THANK AND TERMINATE
- NO – CONTINUE

8. Approximately how many business trips do you make by air (airplane) from Miami International Airport each year?

LESS THAN 6 – THANK AND TERMINATE

- 6 TO 9
- 10 TO 15 - RECRUIT A MIX
- 15 TO 19
- 20 OR MORE

9. How do you usually get to the airport?

- DRIVE (CONTINUE)
- TAXI/CAB, LIMOUSINE, VAN (LIKE SUPER SHUTTLE) (SKIP TO Q11)
- DROPPED OFF BY FAMILY MEMBER/FRIEND/COLLEAGUE (SKIP TO Q11)
- INSISTS THAT IT VARIES – CODE MULTIPLES

☛ IF DRIVE, ASK:

10. And do you usually park at the airport, or do you park at an off-airport lot?

- AIRPORT PARKING
- OFF-AIRPORT LOT
- INSISTS ON BOTH – CODE BOTH

RECRUIT A MIX OF AIRPORT PARKING, OFF-AIRPORT PARKING, TAXI/LIMO/SHUTTLE, AND DROPPED OFF.

11. Are your business trips by air within the United States, international, or both?

- UNITED STATES
- INTERNATIONAL - RECRUIT A MIX
- BOTH

12. Briefly, how do you feel about traveling by air these days?

IF RESPONSE EXHIBITS EXTREME VIEWS OR A LACK OF INTEREST, PLEASE THANK AND TERMINATE. *PLEASE BE ESPECIALLY CAREFUL TO EXCLUDE ANYONE WHO HAS REALLY STRONG FEELINGS.*

13. What is your age, please? ____

- UNDER 18 - THANK AND TERMINATE
- 18 TO 24
- 25 TO 34
- 35 TO 44
- 45 TO 54
- 55 TO 64
- 65 OR OLDER

RECRUIT A MIX. WE RECOGNIZE THERE ARE LIKELY TO BE FEWER PARTICIPANTS WHO ARE 18 TO 24 AND OVER 64.

USE STANDARD CONCLUSION AND INVITATION.

NAME: _____

ADDRESS: _____

CITY AND ZIP: _____

TELEPHONE: _____

APPENDIX C

Sample Focus Group Moderator's Outlines

Appendix C contains a variety of focus group moderator outlines, or discussion guides, from four United States airports:

- San Francisco International Airport (SFO),
- Seattle-Tacoma International Airport (SEA-TAC),
- Baltimore/Washington International Thurgood Marshall Airport (BWI), and
- Miami International Airport (MIA).

The outlines serve as guides to the focus group discussion leader on the topics to be addressed and the sequence in which they should be considered. Discussion subjects for the groups portrayed here include customer experience, branding, ground access mode use, and parking. The questionnaire pertaining to SFO was provided by Corey, Canapary & Galanis Research; the other three were submitted by JD Franz Research.

MODERATOR OUTLINE – SFO CUSTOMER EXPERIENCE

Version 2.2

(Groups to be conducted on March 7 and 8, 2017)

Moderator Introduction: The moderator (Jon Canapary) introduces himself and explains procedures. (The moderator's role is to ask questions, present information for commentary, and move the group along. It is not to answer questions or clear up ambiguities.)

Respondent Introduction: (Around The Table) Each respondent introduces him/herself, giving first name, how long lived in Bay Area and current occupation.

Air Travel In and Out of the Bay Area

- General Discussion
- (Show of Hands) Is air travel in the Bay Area getting better, staying about the same or getting worse than it was a couple of years ago?
- Positives (short words and phrases)
- Negatives (short words and phrases)

Bay Area Airports

- Discussion: Familiarity with the Bay Area airports (SFO/OAK/SJC).
 - o How many have been to OAK?...to SJC? (show of hands)
 - o General discussion. What do you know about them?
 - o Aspects of OAK or SJC that are superior to SFO? (words and short phrases)
 - o Aspects of SFO that are superior to OAK or SJC? (words and short phrases)
 - o Do you consider SFO your hometown airport? Why?
 - o Assuming that you could get the same flight (same price/schedule/service/etc.) at OAK, SJC and SFO, which would you choose and why?

Ticket Purchasing Experience / Choosing a Flight

- Moderator hands out *Self-Administered Questionnaire #1 (Factors in Choosing a Flight)*
- What is ticket purchasing experience from start to finish?
 - o Probe for: Internet ticketing experience – check multiple sites? Ever go to airport website?
- Important factors in choosing a flight
- Airport: Is this a factor in choosing a flight? Why?
- Public transit: Does the availability of public transit play a role in choosing a flight? How/why?

SFO Airport Positives/Negatives (General)

- Moderator explains that we want to talk now about SFO. Specifically - how to improve/enhance the time travelers spend at SFO.
 - o Things that have positive impact on customers' experience while at SFO?
 - o Things that have negative impact /what frustrates you the most?
 - o What factors are most important in improving customers' experience at SFO?

SFO Direct Control

- For your information, SFO itself directly manages/controls most aspects of the airport, including the facility, concessions, SFO parking, signage, amenities, etc. Some key exceptions/things SFO itself does not control, include – airport security, which is managed/controlled by TSA and any interaction with the airlines themselves.
 - o Were you aware of this distinction prior to now? (show of hands)
 - o Are there any other aspects of your airport experience that are out of SFO's control?
- Moderator explain: For the remainder of this discussion, we would like you to focus on things that SFO directly manages/controls.

SFO Brand

- Moderator explains that he will now hold up different cards. Each card will have a word or phrase on it. Ask for each card: Does the word/phrase describe SFO? Briefly why?
 - o Innovative
 - o Reflects Bay Area Culture and Lifestyle
 - o Welcoming
- Review above list again, asking: Do you expect SFO to be <insert each word/phrase>? Briefly why?
- Specifically, how could SFO be more **welcoming** to passengers? (go around table)

Exceptional Airport Experience

- A goal of SFO is to provide an exceptional airport experience for travelers, and to be one of the top-tier airports in the world.
 - o Specific ways SFO is achieving this right now? (words and short phrases)
 - o Specific improvements needed to reach this goal? (words and short phrases)
- (if necessary) Please cite any unique positive features/programs at other airports you've visited outside the Bay Area that would improve SFO. Could also cite features/programs at other types of venues – such as shopping centers or sports stadiums – that might work at SFO.

Airport Amenities

- Moderator hands out Self-Administered Questionnaire #2 (Airport Amenities/Features). Participants are asked to complete, and then to circle the two programs that would have the most positive impact on customer experience.
- Discussion of each:

- a. Local and organic food options (explain local = San Francisco and Bay Area restaurants)
- b. Spa and yoga room type offerings
- c. Play areas for young children
- d. Cell phone/computer charging stations
- e. Museum quality art and exhibitions
- f. Large retail shopping selection
- g. Free Wi-Fi throughout the airport
- h. Dedicated work areas / work stations
- i. Sustainability focus including water bottle stations, a zero waste program, etc.
- j. Live entertainment/passenger activities
- k. Wag Brigade - trained dogs wearing vests that say "pet me"

occasionally

roaming through SFO terminals. *(To note: could be other animals as well. animals certified through Animal Assisted Therapy program)*

j. Other suggestions?

- o Any of these make you more likely to choose SFO over other Bay Area airports?
- o Any of these make you more likely to leave early and spend more time at SFO?

Communication

- Preferences for obtaining airport information (e.g. parking/ transit options/ airport services): from a person, by social media, push notifications, website/mobile site.
 - o General discussion.
 - o Show of hands – which prefer? Why?
 - o When do you usually access this information – before you arrive at the airport or while you are at the airport?
- Do you use the information desks?
 - o Reaction to information desks with live persons (some volunteers)
 - o Reaction to self-serve information kiosks (i.e. interactive kiosks)

Food Service

- How many have purchased food at SFO in past year? (Show of hands)
 - o Positives about food service at SFO (words or short phrases)
 - o Negatives about food service at SFO (words or short phrases)
 - o Is food selection better or worse than other airports? Briefly why?
 - o Is cost of food at SFO fair for the quality? Briefly, why or why not?

Safety

- Moderator hands out Self-Administered Questionnaire #3 (Safety)
 - o Briefly, what makes you feel safe at an airport?
 - o Thinking specifically about SFO, what aspects make you feel safe?

Mock

Moderator distributes Exhibit A (SFO Strategy Session) and reviews it with group.

A group spokesperson is designated. Groups will have 5 – 10 minutes to deliberate and reach consensus.

The moderator returns and the spokesperson presents the recommendations of the group.

Around the Table (if time permits)

- Individual recommendations on what SFO should do to become as “customer friendly” as possible.

Wrap-up

Group # _____
Name _____

First

SELF-ADMINISTERED QUESTIONNAIRE 1
(Factors in Choosing Flight)

1. In your opinion, how important are each of the following factors in the choosing a flight?

	----- Importance -----				
	very	somewhat	not too	not at all	
a. Price of ticket.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[]
b. Flight schedule / Departure time..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[]
c. Airline mileage award program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[]
d. Total travel time.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[]
e. Size / Type of Airplane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	[]
f. Airport itself (SFO/Oakland/San Jose). []		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Which is the most important? (Record above) _____ ↑

3. Any other important factors?

(When finished, please turn sheet over)

Group # _____
Name _____

First

SELF-ADMINISTERED QUESTIONNAIRE 2
(Airport Amenities/Features)

1. How appealing are each of the following amenities/features in improving the experience of Bay Area travelers using SFO?

	----- APPEAL -----			
not at all	very	somewhat	not too	
a. Local and organic food options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Spa and yoga room type offerings.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Play area for young children.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Cell phone/computer charging stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Museum quality art and exhibitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Large retail shopping selection.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Free Wi-Fi throughout the airport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Dedicated work areas / work stations.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Sustainability focus including water bottle stations, a zero waste program, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Live entertainment/passenger activities.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Wag Brigade (trained dogs wearing vests that say "pet me" occasionally roaming through SFO terminals)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Any other suggestions?

(When finished, please turn sheet over)

Group # _____

First

Name _____

SELF-ADMINISTERED QUESTIONNAIRE 3
(Safety)

1. In general, how safe do you feel while you are at most airports?

- Very Safe..... 4
- Somewhat Safe 3
- Not Too Safe 2
- Not at all Safe 1

2. How safe do you feel when you are at San Francisco International airport?

- Very Safe..... 4
- Somewhat Safe 3
- Not Too Safe 2
- Not at all Safe 1

3. Specifically, what are some things that made you feel safe at an airport?

(When finished, please turn sheet over)

SFO is...

Innovative

SFO...

Reflects Bay Area Culture and Lifestyle

SFO is...

Welcoming

EXHIBIT A

(SFO Strategy Session)

SFO has worked hard make improvements over the past few years. Some of their successes include: attracting low-cost carriers such as Virgin America, Southwest, JetBlue and international airlines Air Berlin, Volaris and Wow, adding many new routes throughout the U.S. and the world, opening Terminal 2 and renovating Terminal 3E, revamping the food and beverage offerings in the airport to reflect Bay Area tastes, and updating many of the retail outlets in the airport.

A current focus is to maintain and improve the SFO traveler's experience and to make the airport more welcoming.

SFO Strategy Session

For this task, participants will role play that they are strategists for SFO.

Your job:

- Identify 3 - 5 SFO features or amenities which enhance a traveler's experience at SFO and entice people to spend more time at SFO when they do fly.
- Specify how you would communicate these features/amenities to travelers.

You can also consider features/amenities that you've seen at other airports or venues (e.g. shopping centers, sports stadiums).

Things to keep in mind: Focus on areas that the airport controls/can change; try to have some consensus on the features/amenities identified.

SEA-TAC INTERNATIONAL AIRPORT BRANDING STUDY



MODERATOR'S OUTLINE FOR AIRLINE PASSENGER FOCUS GROUPS

INTRODUCTIONS

Introduce Self

- Professional researcher
- Moderator - lead discussion
- No vested interest in outcome

Introduce Topic

- What we are going to be talking about this afternoon is Sea-Tac International Airport
- Details soon - first talk about a few ground rules and get to know you

Ground Rules

- Mirror
- Observers
- Audiotaping
 - Can't focus and take notes
 - Sure know what said
 - Work from tape on report
 - Speak up and distinctly; quiet voices

- No talking at same time
 - .
 - Audiotape doesn't understand (nod, shake head)
-
- Would really like everyone to participate - every opinion important
 - May ask to cut short so others can talk - **don't take personally, equity issue**
 - OK not to know - **don't know a legitimate opinion** – equally important to know
 - May well disagree - more interesting that way - disagree with idea, not person

Group Introductions

- First name
- How often travel by air from Sea-Tac
- Types of air trips you make – business, pleasure, both
- Something interesting about you or your travels
- Why decided to come this evening

TOPIC INTRODUCTION

WRITTEN EXERCISE

- Take paper and pen or pencil
- Write down up to five words or very short phrases (two or three words) that best describe Sea-Tac – spelling, grammar, punctuation don't count

GO AROUND ROOM IN OPPOSITE DIRECTION

- What do we have in common?
- Where do we disagree?
- **Let's talk about the areas where we disagree**

COMPARISONS TO OTHER AIRPORTS

- How does Sea-Tac compare to other airports?
- In what ways is Sea-Tac better than others?
- In what ways is Sea-Tac worse than others?

- What airports do you particularly like, and why?
- What airports do you particularly dislike, and why?

PACIFIC NORTHWEST

- Does anything we have said about Sea-Tac so far make us recognize that the airport is located in the Pacific Northwest?
 - What and why?
 - Is this something you like? Why or why not?
 - Why do you suppose that isn't the case?
- Do you think it is or would be important to let people know in some way that the airport is in the Pacific Northwest?
 - Why or why not?

NORTHWEST SENSE OF PLACE

- If I said the phrase, "Northwest sense of place," what would that mean to you?
- What if I changed it to: The sense that you are somewhere in the Pacific Northwest?
- Now going back to the airport ...

SUMMARIZE THEIR RESPONSES ABOUT PLACING THE AIRPORT IN THE NORTHWEST. IF THEY WEREN'T EXCITED ABOUT THE IDEA, MAKE IT A COMMISSION WITH A HIGH PREMIUM. IF THEY WERE EXCITED, GIVE THEM FREE REIGN. THINK BOLDLY. BE CREATIVE.

WRITTEN EXERCISE

- Take paper and pen or pencil
- Write down three ideas of what we could do to make passengers at Sea-Tac recognize that they are at a place in the Pacific Northwest

GO AROUND ROOM IN INITIAL DIRECTION. CHARTPAD THE IDEAS.

PROBE FOR THINGS NOT MENTIONED:

- What about ... CONTINUE CHARTPADDING
 - The use of materials – like glass or wood or plastic or stone or tile ... or ...?
 - The use of colors?
 - Art exhibits? Ideas?
 - Music? Ideas?
 - Plants and landscaping? Ideas?
 - Places to eat? Ideas?
 - Places to get a beverage? Ideas?
 - Shops or stores? Ideas?
- Which of the ideas we've had do you like the best? Why?
- Let's try to pick the top five
- Do you think this all of this should be obvious, profound or quiet, subtle? Why?

SUMMARY

- What two things would you like to make sure I tell Sea-Tac about what came up in this discussion?
- What are the best ideas we had?
- What are the most important conclusions we came to?

THANK PARTICIPANTS!

BALTIMORE/WASHINGTON INTERNATIONAL THURGOOD MARSHALL AIRPORT



MODERATOR'S OUTLINE FOR TRANSPORTATION USERS FOCUS GROUPS

INTRODUCTIONS

Introduce Self

- Professional researcher
- Moderator - lead discussion
- No vested interest in outcome

Introduce Topic

- What we are going to be talking about this evening is transportation to and from Baltimore/Washington International Thurgood Marshall Airport (BWI)
- Details soon - first talk about a few ground rules and get to know you

Ground Rules

- Mirror
- Observers
- Audiotaping
- Can't focus and take notes, sure know what said

- Work from tape on report
 - Speak up and distinctly; quiet voices
 - No talking at same time
 - Audiotope doesn't understand (nod, shake head)
- Would really like everyone to participate - every opinion important
 - May ask to cut short so others can talk - **part of process, don't take personally**
 - OK not to know - **don't know a legitimate opinion** - not a test of knowledge
 - May well disagree - more interesting that way - disagree with idea, not person

Group Introductions

- First name
- Where live and work – communities in the area
- How often travel by air from BWI
- Types of air trips you make – business, pleasure

GETTING TO BWI

- How do you usually get to BWI?
 - Why?
- How else do you get to BWI?
 - Why or under what circumstances?
 - How often does this happen?

ASK FOR ALL FOUR MODES:

- Taxi
 - Limousine
 - SuperShuttle
 - Ridesharing (Uber, Lyft)
- What do you like about this way of getting to the airport?
 - What do you dislike about this way of getting to the airport?

ASK FOR STRONG DISLIKES:

- Is this a big enough problem that you won't use this service to get to the airport again?
 - Why or why not?

GETTING HOME FROM BWI

- How do you usually get home from BWI?
 - Why?
- How else do you get home from BWI?
 - Why or under what circumstances?
 - How often does this happen?

ASK FOR ALL FOUR MODES:

- Taxi
- Limousine
- SuperShuttle
- Ridesharing (Uber, Lyft)
- What do you like about this way of getting home from the airport?
- What do you dislike about this way of getting home from the airport?

ASK FOR STRONG DISLIKES:

- Is this a big enough problem that you won't use this service to get home again?
 - Why or why not?

GETTING TO TRANSPORTATION

- On you most recent trip home, how easy was it to find the transportation you were looking for when you arrived?
 - Why?

- Did you ...
 - Find your own way?
 - How?
 - Ask for help?
 - From whom?
 - How helpful were they?
 - Use signs?
 - Which ones?
 - How helpful were they?

PROBE FOR:

- Taxi
- Limousine
- SuperShuttle
- Ridesharing (Uber, Lyft)

IF EVERYONE JUST KNOWS THE WAY, ASK:

- If you can remember you're the first time or two you tried to find the transportation you were looking for ... How easy was it to find that transportation when you arrived?
 - Why?
- Did you ...
 - Find your own way?
 - How?
 - Ask for help?
 - From whom?
 - How helpful were they?

- Use signs?
 - Which ones?
 - How helpful were they?

PROBE FOR:

- Taxi
 - Limousine
 - SuperShuttle
 - Ridesharing (Uber, Lyft)
-
- On your most recent trip home, did you need or want help with your bags?
 - **IF YES:** Did anyone assist you with your bags?
 - Who?
 - Starter?
 - Driver?
 - Neither – but fellow passenger helped?

OTHER REGIONAL TRAVEL

- Do any of you use taxis, limousine services, or ridesharing services to get around the Baltimore area?
 - Why or why not?
 - What do you use?
 - Under what circumstances?

COMPARISON TO OTHER AIRPORTS

- When you fly to other cities, do you use the same or different types of transportation?
 - What do you use?
 - Why?

EXECUCAR

TIME PERMITTING

- Have any of you heard of ExecuCar?
- What is it?
- Have any of you used it?
 - Why or why not?
- What did you think of it?
- Is it a service BWI should continue to provide?
 - Why or why not?

CONCLUSIONS

- Is there anything else you would like to say about getting to and from BWI?
- If I only had time to share two things from this group with airport management or with the companies that operate airport transportation, what should I say?

THANK PARTICIPANTS!

MIAMI-DADE COUNTY AVIATION DEPARTMENT

MIAMI INTERNATIONAL AIRPORT

FOCUS GROUPS ABOUT AIRPORT PARKING



MODERATOR'S OUTLINE

INTRODUCTIONS

Introduce Self

- Professional researcher
- Moderator - lead discussion
- No vested interest in outcome

Introduce Topic

- What we are going to be talking about this afternoon is parking products and services for Miami International Airport
- Details soon - first talk about a few ground rules and get to know you

Ground Rules

- Mirror

- Observers
- Audiotaping
 - Can't focus and take notes
 - Sure know what said
 - Work from tape on report
 - Speak up and distinctly; quiet voices
 - No talking at same time
 - Audiotape doesn't understand (nod, shake head)
- Would really like everyone to participate - every opinion important
- May ask to cut short so others can talk - part of process, don't take personally
- OK not to know - don't know a legitimate opinion - not a test of knowledge
- May well disagree - more interesting that way - disagree with idea, not person

Group Introductions

- First name
- How often travel by air from Miami
- How often travel by air from Fort Lauderdale
- Types of air trips you make and destinations
- Distance from home or work to the airport
- Why decided to come this evening

TOPIC INTRODUCTION

- How do you usually get to the Miami airport?
 - Business trips?
 - Leisure trips?
 - Why?
- How else do you get to the Miami airport?
 - Business trips?
 - Leisure trips?
 - Why?

FOR THOSE WHO DON'T DRIVE:

- Why not?

IF PARKING MENTIONED AS AN ISSUE:

- What is it about the parking that is an issue?

FOR THOSE WHO DRIVE:

- Where do you usually park?
 - Why?
- Where else do you park?
 - Why?

PARKING FACILITIES

- What are your impressions of the parking facilities at Miami airport?
- What are your impressions of the parking facilities at Fort Lauderdale airport?
- What are your impressions of the parking facilities at other Florida airports?
- What do you like?
- What do you dislike?
- Are there differences between arriving and departing at Miami airport?
 - What are they?
 - Are they important?
 - Why or why not?
- What Miami Airport parking products and services are you aware of?
 - What do you like?
 - What do you dislike?
- What parking products and services have you experienced at other airports that you like?

- What parking products and services have you experienced at other airports that you dislike?

POTENTIAL FACILITIES AND SERVICES

- How would you feel about the following services?
- What would you be willing to pay for the ones of interest?

Passenger Services

- Valet parking in Economy Park & Ride lot
- Trunk-to-trunk parking shuttle service
- Airline check-in at parking facility
- Baggage check-in at parking facility
- Access to express security line
- Secure fenced and locked parking
- Larger spaces
- Automobile servicing
- Automobile washing
- Automobile detailing
- Dry-cleaning service
- Concierge service
- Pet boarding

Parking Access

- Reserved parking area with a monthly fee for unlimited use
- Reserved parking area with payment per use
- Guaranteed space within an specific area with advance reservations
- Your own dedicated parking space
- Monthly access card
- Frequent parker program with points for parking
 - What types of rewards would you find attractive?
- Parking guidance systems
- Level

- Sector
- Space

- Advance space availability information
 - Airport web site
 - Cell phone or smart phone
 - App
 - Text message

 - Radio

Parking facilities

- Economy parking (\$8 a day)
- Regional park-and-ride lots with express bus service

Parking Exit

- Pay on foot before exiting
- Credit card use at exit
- Credit card use at entry and exit
- Toll tags (SunPass, SunPass Plus)

THANK PARTICIPANTS!

APPENDIX D

Materials and Equipment Checklist for Air Passenger Intercept Surveys and Sample Survey Team Training Agenda

Appendix D contains a materials and equipment checklist for air passenger intercept surveys and a sample of an interviewer training session agenda for these types of surveys. These documents were originally developed by JD Franz Research and Aviation System Consulting for large intercept surveys conducted in the San Francisco Bay Area. The checklist was recently confirmed and updated in consultation with Corey, Canary & Galanis Research.

MATERIAL AND EQUIPMENT CHECKLIST FOR AIR PASSENGER INTERCEPT SURVEYS



Office Supplies

- Pens
- Pencils
- Erasers
- Pencil Sharpeners
- Notebooks or Notepaper
- Staplers
- Scissors
- Rubber Bands
- Paper Clips
- Printer Paper
- Clipboards if Needed (Paper Surveys)
- Uniforms (Shirts, Aprons, Other Identifying Attire)
- Large collection envelopes (10" x 13") if paper surveys are used
- Name Tags
- Airport Issued ID Badges



Electronics

- Tablets or Other Electronic Data Gathering Devices if Needed (Electronic Surveys)
- Chargers
- SD Cards
- Laptops for Office Staff
- Flash Drives
- Printer
- Cell Phones and Charging Cords
- Power Strips (Overnight Charging)



Paperwork

- Intercept Survey Training Manuals
- Copies of Survey Instruments (Electronic Surveys Also)
- Show Cards
- Site Location Maps
- Airport Authorization Letters
- Client Contact Information
- Flight Schedules

Backup Flight Schedules
Interviewing Schedules
Sample
Time Sheets
Sign-In and Sign-Out Sheets
Equipment Sign-Out and Sign-In Sheets
Interviewer Results Forms
Overtime Forms
Expense Reimbursement Forms
Nightly Inventory Forms
Employee Scheduling and Availability Information
Employee Contact Information
Employment Agency or Field Service Contact Information

 **Other Logistics**

Location of Fed Ex or UPS
Location of Copy Service
Transit Tickets or Passes
Parking Passes
Car Rental Information
Air Travel Information
Hotel Arrangements
Driving Directions
Cash for Per Diems
Cash for Unexpected Expenses
On-Site Training Room
One-Site Pretest Debriefing Room
On-Site Project Office (Centrally Located, Sufficient Space)
On-Site Internet Access (Downloading and Transmitting Data)

 **Pandemic-Related Supplies**

Mask
Personal hand sanitizer bottle (3 oz or less)
Individual hand wipes (alcohol 60%+) for each respondent
Quart size Ziplock bags for used pens/pencils that are returned

NAME OF SPONSOR
NAME OF AIRPORT

SAMPLE AIRLINE PASSENGER SURVEY
INTERVIEWER TRAINING SESSION

AGENDA FOR DAY ONE

- 9:00 Welcome and Introductions
Project Overview
Role and Importance of Field staff
Time Frame
Schedules and Compensation
- 10:00 General Guidelines
Professionalism
Attire and Grooming
Punctuality
Interactions With Passengers
Communications With Supervisors
Time Management
- Move Quickly to Next Person
 - Use a Positive Assumption and Body Language
 - Smile
- Quality of Work
Challenging Situations
Checklist of Needed Items for Each Shift
What to Submit At the End of Each Shift
Airport Maps and Other Resources
- 11:00 Airport Tour
- 12:00 Break for Lunch
- 1:00 Review of Key Interviewing Practices and Procedures
Confidentiality
Basic Rules: Do's and Don'ts
Responses to Resisters and Questioners
Handling Open-Ended Questions
Handling "Other"

- 2:00 Sample Selection
What Is a Sample?
Importance of How People Are Selected
Survey Sample and Backup Sample
How to Read the Schedule
Selecting the Next Person at Security Screening
Start Point and Counting in Boarding Areas
What to Do When There are No Passengers There
What to Do When Time is Over
- 3:00 Break
- 3:15 Questionnaire Review
Structure
Questions
Key Considerations
- 4:00 Use of Tablets/Smart Phones
Checking In and Checking Out
Turning On and Off
Items to Enter Prior to Interviewing at Each Flight
- Date
 - Interviewer Name
 - Airline
 - Flight Number
 - Gate Number
 - Flight Destination
 - Scheduled Departure Time
 - Interview Start time
- Moving From One Question to the Next
Recording Answers
Moving From One Complete to the Next

Training Day #1 Concludes

NAME OF SPONSOR
NAME OF AIRPORT

SAMPLE AIRLINE PASSENGER SURVEY
INTERVIEWER TRAINING SESSION

AGENDA FOR DAY TWO

9:00 Review

Review of Key Points From Day One

Review of Concepts That Appear to Have Been Unclear

Review of Survey Protocols

Special Procedures – **What to Do If ...**

- You Meet Your Quota Early
- You Are Unable to Meet Your Quota
- Flight Delays and Cancelations Protocol

10:30 Break

Questions

Practice: Interview Each Other

Questions from Practice Session

12:00 Lunch

1:00 Live Practices

Practice in Terminals With Supervisors

Debriefing and Reminders

Final Questions

Training Concludes

APPENDIX E

Sample Questionnaires for Air Passenger Surveys

This appendix contains sample questionnaires from a range of recent air passenger surveys, including three intercept interview surveys and three surveys performed using self-administered questionnaires. A seventh survey was performed using a combination of self-administered questionnaires that were distributed at kiosks in the passenger terminal and an online survey that users of the airport wi-fi were requested to complete when they first connected to the wi-fi.

San Francisco International Airport 2018 Customer Survey

The first sample questionnaire was used by San Francisco International Airport to perform a customer satisfaction survey in 2018. The survey was conducted between May 1 and May 31, 2018. Air passengers were surveyed in the airline boarding gate lounges. A total of 211 flights were surveyed, resulting in just over 2,800 responses. The majority of respondents were handed a questionnaire which they completed and returned. About 12% of respondents were interviewed. Air passengers who could not complete the questionnaire before they boarded the flight could return the questionnaire by mail or complete an online survey. Only 25 responses were returned by mail and only 5 responses were obtained from the online survey.

San Francisco International Airport 2019 Guest Survey

The second sample questionnaire was used by San Francisco International Airport the following year in a targeted study to explore air passenger satisfaction with the security checkpoint screening in more detail than the customer survey undertaken in 2018. The study involved two rounds of 600 surveys of air passengers as they exited each checkpoint included in the study. The first round surveyed two checkpoints. After changes were made to address issues identified the surveys, a second round was performed at one of the domestic checkpoints to measure the change in passenger satisfaction.

Jackson Hole Airport 2019/2020 Customer Satisfaction Survey

The third sample questionnaire was used by Jackson Hole Airport, Wyoming, to conduct a passenger satisfaction survey in late 2019 and early 2020. These surveys have been conducted twice a year during peak travel seasons for a number of years, once during the period from late June to late September and once during the period from mid-December to the end of March. The survey has been performed in partnership with a local community organization, JH AIR (Air Improvement Resources), which promotes air service to the region.

The survey originally used paper questionnaires that were available in kiosks throughout the terminal. Air passengers completing the survey were entered into a drawing for travel or recreational awards as an

incentive to complete the survey. More recently, the survey has also been presented when users connect to the airport wi-fi. However, the wi-fi survey was broken into five smaller surveys with different subsets of the questions to reduce the length of the survey. The particular survey to be used is randomly selected when a user connects to the wi-fi. The full paper survey has continued to be available in the terminal kiosks.

Boston Logan International Airport 2016 Air Passenger Ground Access Survey

The fourth sample questionnaire was developed for the 2016 Air Passenger Ground Access Survey undertaken at Boston Logan International Airport by the Massachusetts Port Authority (Massport). The survey used a self-administered questionnaire that was distributed to passengers waiting in the airline gate lounges for selected flights. The completed questionnaires were collected before or as passengers boarded the flight, although the survey form was designed so that it could be returned by mail if passengers were not able to complete it before boarding the flight. The questionnaire was designed as a tri-fold form, both to facilitate respondents writing on it while holding it and to allow it to be mailed back. The introduction to the survey and the sequence of questions on the panels appear in the correct order when the questionnaire is folded.

The survey was conducted over a two-week period from Tuesday, April 25 to Monday, May 8, 2016. A total of 205 flights were surveyed, yielding just under 8,900 completed survey responses. More details of the survey are reported in:

Steer Davies Gleave, *2016 Logan International Airport Air Passenger Ground Access Survey*, Final Report, Prepared for the Massachusetts Port Authority, East Boston, MA, February 2017.

Los Angeles International Airport 2019 Passenger Survey

The fifth sample air passenger survey was undertaken for Los Angeles World Airports at Los Angeles International Airport (LAX) in 2019. The survey was administered by interviewing randomly selected air passengers in the post-security gate area of each terminal with the survey questions programmed on tablets. The survey was undertaken in two waves, from February 25 to March 7 (off-peak wave) and July 22 to 31 (peak wave). A total of 14,760 responses were obtained, 7,106 from the first wave and 7,654 from the second wave. Survey responses were obtained from passengers in each of the eight LAX passenger terminals. The number of survey responses obtained in each terminal approximately reflected the number of air passengers using that terminal. Only one respondent was interviewed from each air travel party and provided information about the number of other travelers in the party. The primary focus of the survey was on the use of ground transportation by the survey respondents for travel to the airport and the ground origin of their trip, although the survey also collected detailed information about traveler characteristics and the air trip they were undertaking. More details of the survey are reported in:

Unison Consulting, *2019 Passenger Survey – Los Angeles International Airport*, Prepared for Los Angeles World Airports, Los Angeles, CA, October 18, 2019.

Oakland International Airport 2014/2015 Ground Access Survey

The sixth sample air passenger survey was undertaken for the Port of Oakland at Oakland International Airport between May 6, 2014 and May 4, 2015. The survey took place continuously during this 12-month period in order to obtain data on the variation in air passenger characteristics at different times of the year. A similar survey was undertaken at the same time at San Francisco International Airport using the same methodology and essentially the same questionnaire, differing only in the descriptions of the relevant airport facilities and ground transportation services. Although the focus of the survey was on the use of ground

transportation by air passengers for travel to and from the airport and the ground origin of their trip, the survey also collected detailed information about traveler characteristics and the air trip they were undertaking.

The survey was administered by interviewing air passengers in airline boarding lounges for a sample of flights selected to provide a range of airlines, destinations, days of the week, and times of day throughout the year. Only one respondent was interviewed from each air travel party and provided information about the number of other travelers in the party. The interviews were administered using tablets, with the questions read by the interviewers. Passengers who arrived at the gate too late to be interviewed were provided a printed questionnaire that could be completed and returned by mail. There was also an online version of the survey, which those passengers could complete if they preferred. A total of 1,016 flights were surveyed, giving 9,640 survey responses. The majority of the survey responses (96%) were obtained from the interviews, with 4% obtained from the printed questionnaires returned by mail. Only 10 responses were completed online.

The printed version of the survey questionnaire is shown in this appendix for convenience. The questionnaire programmed into the tablets or online was identical, apart from the questions and response options being formatted for display. The questionnaire programmed into the tablets contained potential options for some of the write-in information in the printed questionnaire, such as hotel names or off-airport parking operators, to reduce the amount of typing required by the interviewers. More details of the survey are reported in:

Corey, Canapary & Galanis Research, *San Francisco International Airport (SFO) and Oakland International Airport (OAK) Ground Access Study 2014-2015, Summary Report*, Prepared for San Francisco International Airport and the Port of Oakland, San Francisco, CA, October 2017.

2019 Washington–Baltimore Regional Air Passenger Survey

The seventh sample questionnaire is one of three developed for the 2019 Washington–Baltimore Regional Air Passenger Survey that was undertaken by the National Capital Region Transportation Planning Board at Ronald Reagan Washington National Airport, Washington Dulles International Airport, and Baltimore/Washington International Thurgood Marshall Airport (BWI). The sample questionnaire shown was designed for use at BWI. Similar questionnaires were designed for use at National and Dulles Airports. The survey questionnaires were distributed to all adult passengers waiting in the airline gate lounges for selected flights for self-administration. The completed questionnaires were collected before or as passengers boarded the flight, although postage-paid envelopes were available so that the survey form could be returned by mail if passengers were not able to complete it before boarding the flight. The survey could also be completed online using the website link and survey ID number printed on the questionnaire. The questionnaire was designed as a tri-fold form, both to facilitate respondents writing on it while holding it and to allow it to be mailed back. The introduction to the survey and the sequence of questions on the panels appear in the correct order when the questionnaire is folded.

The survey was conducted over a two-week period from Wednesday, October 16 to Tuesday, October 29, 2019, with a few additional flights surveyed during the following days through November 12. Survey responses were obtained from approximately 23,860 passengers on 673 flights across the three airports. More details of the survey are reported in:

National Capital Region Transportation Planning Board, *Washington–Baltimore Regional Air Passenger Survey – 2019: General Findings*, Washington, DC, April 2020.

San Francisco International Airport 2017 Economic Impact Study Passenger Survey

The final sample survey questionnaire differs from the others in this appendix in that the air passenger survey was undertaken to gather data for an economic impact study and therefore focused on spending by visitors to the San Francisco Bay Area who were departing from San Francisco International Airport. Although the visitor spending questionnaire is dated 2012, it was apparently used for the 2017 Economic Impact Study Update. Similar questionnaires were prepared in Spanish, Cantonese, and Mandarin.

The survey questionnaires were distributed to passengers in airline boarding gate lounges for self-administration after asking whether they were visitors to the San Francisco Bay Area or local residents. Only visitors were surveyed and only one response was requested from each air travel party. Details of the study are reported in:

Economic Development Research Group, Inc., *2017 Economic Impact Study Update – San Francisco International Airport*, Prepared for City and County of San Francisco, San Francisco Airport Commission, San Francisco, CA, July 2017.

San Francisco International Airport (SFO)
2018 Customer Survey



San Francisco International Airport

Dear SFO Traveler:

SFO would like to hear your opinions about this airport. Information about your experience will provide SFO important feedback to maintain and improve services.

Flight Information

(Airline)	(Destination)	(Gate Number)	(Date)
-----------	---------------	---------------	--------

Your Trip Today

1. About what time did you arrive at SFO today? _____ : _____ AM PM

2. What is the main purpose of your trip today? *(select primary reason)*

Note: *If going home, please select purpose for your visit.*

- | | | |
|---|--|---|
| <input type="checkbox"/> Business | <input type="checkbox"/> School | <input type="checkbox"/> Other (specify): _____ |
| <input type="checkbox"/> Pleasure / Vacation / Recreation | <input type="checkbox"/> Conference / Convention | |
| <input type="checkbox"/> Visit friends or relatives | <input type="checkbox"/> Wedding / Funeral | |

3. How did you get to SFO today?

- Drove and parked →
- Dropped off
- Connecting from another flight
- Taxi
- Uber, Lyft, or similar service
- BART
- Door-to-door van service
- Free hotel shuttle
- Rental Car Center – AirTrain
- Other (specify): _____

3a. Did you park in the...

- Domestic (hourly) garage
- International garage
- SFO long term parking
- Off-airport parking

4. While at SFO **today**, did you...

	Yes	No	Don't Know
a. Check baggage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Purchase anything from an airport store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Make a restaurant purchase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Use free WiFi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use of SFO

5a. Counting today, about how many times have you flown **out of SFO in the past 12 months?**

- | | | |
|----------------------------------|---------------------------------------|---|
| <input type="checkbox"/> 1 time | <input type="checkbox"/> 3 – 6 times | <input type="checkbox"/> 13 – 24 times |
| <input type="checkbox"/> 2 times | <input type="checkbox"/> 7 – 12 times | <input type="checkbox"/> More than 24 times |

5b. Is this your **first** time flying out of SFO **ever?**

- No Yes

6. About how long have you been using SFO?

- Less than 1 year 1 – 5 years 6 – 10 years 10+ years

For office use

Interviewer: _____

Rating of SFO

7. How does SFO rate on each of the following attributes? (Circle a rating for each attribute)
 (5 = Outstanding, 4 = Above Average, 3 = Average, 2 = Below Average, 1 = Unacceptable)

	OUTSTANDING ←————→ UNACCEPTABLE					Have <i>never</i> Used or Visited/ Not Applicable
At San Francisco Airport (SFO)						
Artwork and exhibitions	5	4	3	2	1	<input type="checkbox"/>
Restaurants	5	4	3	2	1	<input type="checkbox"/>
Retail shops and concessions	5	4	3	2	1	<input type="checkbox"/>
Signs and directions inside SFO	5	4	3	2	1	<input type="checkbox"/>
Escalators/Elevators/Moving walkways	5	4	3	2	1	<input type="checkbox"/>
Information on screens/monitors	5	4	3	2	1	<input type="checkbox"/>
Information booths (lower level near baggage claim)	5	4	3	2	1	<input type="checkbox"/>
Information booths (upper level – departure area)	5	4	3	2	1	<input type="checkbox"/>
Accessing and using free WiFi at SFO	5	4	3	2	1	<input type="checkbox"/>
Getting to or from SFO / Parking						
Signs and directions on SFO airport roadways	5	4	3	2	1	<input type="checkbox"/>
Airport parking facilities	5	4	3	2	1	<input type="checkbox"/>
AirTrain	5	4	3	2	1	<input type="checkbox"/>
Long term parking lot shuttle (bus ride)	5	4	3	2	1	<input type="checkbox"/>
Airport Rental Car Center	5	4	3	2	1	<input type="checkbox"/>
Overall						
SFO Airport as a whole	5	4	3	2	1	<input type="checkbox"/>

Customer Experience

8. San Francisco Airport (SFO) is focused on improving the experience for travelers who use SFO. Please provide specific suggestions on ways SFO could improve your experience here:

SFO Cleanliness Rating

9. How would you rate the *general cleanliness* of SFO on the following... (Circle a rating for each)

						Have <i>never</i> Used or Visited/ Not Applicable
	CLEAN	AVERAGE			DIRTY	
Boarding areas	5	4	3	2	1	<input type="checkbox"/>
AirTrain	5	4	3	2	1	<input type="checkbox"/>
Airport Rental Car Center	5	4	3	2	1	<input type="checkbox"/>
Airport restaurants	5	4	3	2	1	<input type="checkbox"/>
Restrooms	5	4	3	2	1	<input type="checkbox"/>
Cleanliness at SFO overall	5	4	3	2	1	<input type="checkbox"/>

COMMENTS: _____

Security

10. How safe do you feel at SFO? (5 point scale)

- 5 **Extremely Safe**
 4
 3 **Neutral**
 2
 1 **Not Safe at All**

10a. Why do you say that?

TSA Pre✓™

TSA Pre✓™ allows some travelers to move through the security checkpoint at SFO more efficiently.

- Those selected will have a “TSA Pre✓™” indicator on their boarding pass.
- These travelers are instructed to keep on their shoes and belt, and keep their laptop in its case.

11. Did you go through the TSA Pre✓™ security line when you passed through security at SFO today?

- Yes Don't know
 No Did not go through security at SFO (connecting passenger)

(If “Yes” in Q11)

12. How would you rate your experience going through the TSA Pre✓™ security line (rather than the regular security line) at SFO today?

- Much Better Somewhat Worse
 Somewhat Better Much Worse
 About the Same Don't Know

12a. Briefly, why?

At SFO Today

13a. What county did you **depart from** to get to the Airport today?

- Alameda Santa Clara
 Contra Costa Solano
 Marin Sonoma
 Napa Other (specify): _____
 San Francisco Not applicable — connecting
 San Mateo from another flight

13b. How would you rate your experience getting to the Airport today? (Circle one)

EASY		AVERAGE		DIFFICULT	Don't Know/ Not Applicable
5	4	3	2	1	<input type="checkbox"/>

14. While at SFO today, how easy or difficult was it... (Circle a rating for each)

	EASY		AVERAGE		DIFFICULT	Don't Know/ Not Applicable
Finding your way around the Airport.....	5	4	3	2	1	<input type="checkbox"/>
Passing through security and screening.....	5	4	3	2	1	<input type="checkbox"/>

15. Thinking about everything you did from the time you arrived at SFO today until you came to the gate, did you encounter any problems?

- Yes → **15a.** (If “Yes”) Please describe problems:
 No
 Don't Know

SFO Recommendation

16. On a scale of 0 to 10, how likely is it that you would recommend SFO to a friend or colleague? (please circle one)

Not at all Likely

Extremely Likely

0 1 2 3 4 5 6 7 8 9 10

About Yourself

These questions are for classification purposes only.

17. Do you live in . . . ? (please check one)

- The 9-county Bay Area (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties)
- Northern California outside the Bay Area
- In another region

18. Where is your home located? City: _____ State/Province: _____

Zip Code (U.S. only): _____ Country: _____

19. Are you a member of CLEAR? Yes No

20. Age

- Under 18
- 18 – 24
- 25 – 34
- 35 – 44
- 45 – 54
- 55 – 64
- 65 and over

21. Gender

- Male
- Female
- Other (Specify): _____

22. Household Income (in US Dollars):

- Under \$50,000
 - \$50,000 - \$100,000
 - \$100,001 - \$150,000
 - Over \$150,000
- OR Other currency (specify): _____

23. Do you typically fly 100,000 miles* or more per year?

YES NO DON'T KNOW

*100,000 miles = about 161,000 kilometers

24. In the past two (2) years, have you used...

YES NO DON'T KNOW

- a. San Jose Airport?
- b. Oakland Airport?

Thank you!

COMMENTS: _____

If you would like to take this survey online, you may do so at www.flysfo.com/survey.

If you have any questions, please call Corey, Canapary & Galanis Research at 1-800-877-1201. Our mailing address is: CC&G Research, 447 Sutter Street – Penthouse North, San Francisco, CA 94108.

SFO Guest Survey 2019



San Francisco International Airport

Please help San Francisco International Airport (SFO) serve you better by completing this survey about your experience going through the security checkpoint today. Thank you!

1. Did you go through security (e.g. security checkpoint) to enter this terminal today?

- Yes *(continue)*
 No – I’m connecting in this terminal *(do not continue)*

2. How would you rate your SFO security checkpoint experience on each of the following:

	Excellent.....				Terrible	Don't Know
<u>Staff</u>						
a. Courtesy of checkpoint <u>entry staff</u>	5	4	3	2	1	<input type="checkbox"/>
b. Courtesy of <u>ID check podium staff</u>	5	4	3	2	1	<input type="checkbox"/>
c. Courtesy and helpfulness of checkpoint <u>screening staff</u>	5	4	3	2	1	<input type="checkbox"/>
d. Efficiency of <u>screening staff</u>	5	4	3	2	1	<input type="checkbox"/>
<u>Checkpoint Features</u>						
e. Signage to checkpoint.....	5	4	3	2	1	<input type="checkbox"/>
f. Checkpoint organization.....	5	4	3	2	1	<input type="checkbox"/>
g. Waiting time in security line.....	5	4	3	2	1	<input type="checkbox"/>
h. Noise level.....	5	4	3	2	1	<input type="checkbox"/>
i. Music selection and volume.....	5	4	3	2	1	<input type="checkbox"/>
j. Space allotted for you to prepare to go through screening (where luggage is placed on conveyor, etc.).....	5	4	3	2	1	<input type="checkbox"/>
k. Cleanliness of checkpoint area.....	5	4	3	2	1	<input type="checkbox"/>
l. Repacking area (once you've passed through security).....	5	4	3	2	1	<input type="checkbox"/>
<u>Overall</u>						
m. Overall rating of security checkpoint.....	5	4	3	2	1	<input type="checkbox"/>

3. What could be done to improve the security checkpoint experience?

Checkpoint Entry

4. Which of the following lines/areas did you use to enter the security checkpoint today? (check one)

- General/main security line
- PreCheck
- Premium
- CLEAR
- Don't know

SFO

5. What is the primary purpose of your trip?

- Business
- Personal
- Other (specify): _____

6. About how many times have you flown out of SFO in the past 12 months?

- 1
- 2
- 3 - 4
- 5 - 10
- 11 - 20
- More than 20

About Yourself

7. Do you live in.....

- The 9-county Bay Area
- Northern California outside the Bay Area
- Somewhere else in the United States
- Another country (outside of the U.S.)



Specify country: _____

8. Age:

- Under 18
- 18 - 34
- 35 - 44
- 45 - 64
- 65 and over

9. Gender

- Male
- Female
- Other: _____

Thank you for participating!



JACKSON HOLE AIRPORT SURVEY WINTER 2019/2020

As a traveler using Jackson Hole Airport, we would appreciate it if you would take a few minutes to complete the following survey. The survey is completely confidential and is being conducted for research purposes only. Upon completion, please drop the survey in one of the boxes provided.

As a token of our appreciation, completed surveys will be entered in a drawing for **7 nights lodging and 5-day lift tickets for two persons.** (Local residents will be eligible to win either a 2020/21 Jackson Hole Mountain Resort Season Pass or a Jackson Hole Golf & Tennis Season Pass.)

Your responses will help us better serve our airport users and visitors. We greatly appreciate your time and participation.

1. On which flight are you departing from Jackson Hole today?

- | | |
|--|---|
| <input type="radio"/> American to Chicago | <input type="radio"/> Delta to Salt Lake City |
| <input type="radio"/> American to Dallas/Ft. Worth | <input type="radio"/> Delta to Seattle |
| <input type="radio"/> American to Los Angeles | <input type="radio"/> United to Chicago |
| <input type="radio"/> American to New York-LGA | <input type="radio"/> United to Denver |
| <input type="radio"/> Delta to Atlanta | <input type="radio"/> United to Houston |
| <input type="radio"/> Delta to Los Angeles | <input type="radio"/> United to Los Angeles |
| <input type="radio"/> Delta to Minneapolis | <input type="radio"/> United to Newark |
| <input type="radio"/> Delta to New York-JFK | <input type="radio"/> United to San Francisco |

2. Today's date:

MONTH	DAY
<input type="radio"/> Dec	
<input type="radio"/> Jan	
<input type="radio"/> Feb	
<input type="radio"/> Mar	
<input type="radio"/> Apr	

3a. Did you consider other airports for your flight to/from Jackson Hole?

- Yes No
If yes, which one(s)? _____

3b. (IF YES) Why did you choose the Jackson Hole Airport? (Mark all that apply)

- Convenience of location/proximity to final destination(s)
 Price
 Availability/selection of flights
 Other: _____

4. How did you get to the Jackson Hole airport today?

- | | |
|--|------------------------------------|
| <input type="radio"/> Private vehicle (personal/friend/family) | <input type="radio"/> Limousine |
| <input type="radio"/> Rental car/rental car shuttle | <input type="radio"/> Uber/Lyft |
| <input type="radio"/> Lodge shuttle | <input type="radio"/> Bus |
| <input type="radio"/> Van/taxi | <input type="radio"/> Other: _____ |

5. With whom are you traveling today? (Mark all that apply)

- | | |
|---|---|
| <input type="radio"/> No one, traveling alone | <input type="radio"/> Friend(s) |
| <input type="radio"/> Spouse/significant other | <input type="radio"/> Group/club/organization |
| <input type="radio"/> Family/children/relatives | <input type="radio"/> Other: _____ |
| <input type="radio"/> Business associate(s) | |

6. INCLUDING YOURSELF, how many people are traveling with you in the following age groups? (Exclude tour group members unless you knew them and planned to travel with them prior to booking the tour.)

_____ Total number of adults (18 years and older)
 _____ Total number of children 13 to 17
 _____ Total number of children 12 and under

7. How many bags did your party check? _____ bags checked

8. (IF YOU ARE A VISITOR) How important was the availability of direct flights in your decision to come to Jackson Hole this visit?

<i>Not at All</i>										<i>Extremely</i>	
<i>Important</i>										<i>Important</i>	
1	2	3	4	5	6	7	8	9	10		
<input type="radio"/>											

9. Which of the following sources did you use to SEARCH for flight information to/from Jackson?

- | | |
|--|-----------------------------------|
| <input type="radio"/> Experience from previous trip | |
| <input type="radio"/> Word of mouth | |
| <input type="radio"/> Brochure about Jackson Hole | |
| <input type="radio"/> Direct mail | |
| <input type="radio"/> Email from resort | |
| <input type="radio"/> Jackson Hole Mountain Resort website | |
| <input type="radio"/> Jackson Hole Central Reservations | |
| <input type="radio"/> Jackson Hole Chamber of Commerce | |
| <input type="radio"/> Travel agent | <input type="radio"/> Expedia |
| <input type="radio"/> Airline website | <input type="radio"/> Priceline |
| <input type="radio"/> Other travel website → | <input type="radio"/> Travelocity |
| <input type="radio"/> Ski club/travel group | <input type="radio"/> Orbitz |
| <input type="radio"/> My company's travel department | <input type="radio"/> Kayak |
| <input type="radio"/> Other _____ | <input type="radio"/> Other _____ |
| <input type="radio"/> Uncertain | |

10. How did you BOOK your flight to/from Jackson Hole?

- | | |
|---|-----------------------------------|
| <input type="radio"/> Travel agent | |
| <input type="radio"/> Jackson Hole Central Reservations | |
| <input type="radio"/> Directly with airline via telephone | |
| <input type="radio"/> Directly with airline via airline website | |
| <input type="radio"/> Other travel website → | <input type="radio"/> Expedia |
| <input type="radio"/> Ski club/travel group | <input type="radio"/> Priceline |
| <input type="radio"/> My company's travel department | <input type="radio"/> Travelocity |
| <input type="radio"/> Tour operator | <input type="radio"/> Orbitz |
| <input type="radio"/> Don't know | <input type="radio"/> Kayak |
| <input type="radio"/> Other: _____ | <input type="radio"/> Other _____ |

11. Did you experience any difficulty in making your airline reservations to/from Jackson Hole this trip?

- Yes (explain) _____
 No

12. Did you or anyone else in your travel party use frequent flier miles to pay for flight(s) this trip? (Mark all that apply)

- Yes, I did
 Yes, other(s) in my party did
 No

13. (IF VISITOR) Did you or others in your party use a per-person airfare credit on qualifying packages booked through JH Central Reservations?
- Yes
 - No, but I was aware of an airfare credit offer
 - No, and I was not aware of an airfare credit offer

- 13a. (IF USED AIRFARE CREDITS) How important was the credit in your decision to visit Jackson Hole?

- Essential - I would not have visited Jackson Hole otherwise
- Important - it was one of several key considerations
- Not very important - it was a slight consideration
- Not at all important

14. a) When did you begin to consider taking this trip to/from Jackson Hole? (e.g., began considering JH along with other destinations)

- b) When did you **decide** to take your trip? (e.g., chose JH after evaluating other destinations)

- c) When did you **book** your flight to/from Jackson Hole?

Considered	Decided	Booked	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0-6 days before start of travel
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1-4 weeks in advance
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5-8 weeks in advance
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	9-12 weeks in advance
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3-4 months in advance
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4-5 months in advance
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6 or more months in advance

15. (IF VISITOR) What other resorts/destinations, if any, did you consider for this trip? _____

OR [] None - only considered Jackson Hole area

16. Are you a local resident of the area, or a visitor?

- Full-time local resident (reside in Jackson Hole or surrounding area for more than 3 months per year) (GO TO Q. 39)
- Part-time local resident (reside in Jackson Hole or surrounding area for 3 or fewer months per year)
- Visitor

VISITORS AND PART-TIME RESIDENTS ONLY

17. What was the MAIN purpose of your visit to Jackson Hole this trip? (Mark one only)

- Downhill skiing/snowboarding
- Snowmobiling
- Other leisure/recreation/holiday/sightseeing
- Business/professional
- Convention/conference/trade show
- Visit friends/relatives
- Combined business/pleasure
- Other: _____

18. In which of the following activities did you participate this trip?

- Downhill skiing/snowboarding
- Cross-country skiing
- Guided backcountry ski tours
- Snowcat skiing (at Grand Targhee)
- Helicopter skiing
- Snowshoeing
- Elk Refuge/wildlife viewing
- Sleigh ride
- Snowmobiling
- Shopping/galleries
- Visiting Yellowstone Park
- (snowmobiling or snow coach)
- Dog sledding
- Special event
- Rest and relaxation
- Other: _____

IF DOWNHILL SKIED/SNOWBOARDED THIS TRIP:

19. How many days this trip did you ski/ride at:
(Enter number of days for each resort; enter 0 if none)

Jackson Hole: _____ days this trip

Snow King: _____ days this trip

Grand Targhee: _____ days this trip

20. How do you classify your ability as a skier/snowboarder?

- This trip was my first time on
- skis
- Novice/beginner
- Low intermediate
- High intermediate
- Advanced
- Expert

21. What type of lodging did you stay in this trip?

- Rented lodging (hotel, condo, house, etc.):

Name of property: _____

Nightly rate: \$ _____

Property type: Hotel/motel Condo
 House Other

- Own my own accommodations (whole ownership)
- Own a timeshare/fractional unit
- Stayed in vacation unit owned by friends/relatives
- Stayed with friends/relatives who live in the area
- Other: _____

- 21a. How many people stayed in your lodging unit? _____

- 21b. (IF USED RENTAL LODGING) How did you book your lodging?

- Direct to property via web or phone
- Online travel agency (Expedia, Hotels.com, Booking.com, etc.)
- Online rent-by-owner (VRBO, Airbnb, HomeAway.com, etc.)
- Jackson Hole Central Reservations
- Travel agent/tour operator
- Ski club/travel group
- My company's travel department
- No reservations/walk in
- Other: _____
- Don't know/arranged by someone else

22. Location of your accommodations this trip:

- Town of Jackson
- Between Jackson and Teton Village
- Teton Village
- Wilson
- Moran Junction
- Yellowstone
- Grand Targhee
- Other: _____

23. During your trip, did you: (Mark all that apply)

- Dine at restaurant(s) in Town of Jackson
- Dine at restaurant(s) in Teton Village
- Make purchase(s) at store(s) in Town of Jackson
- Make purchase(s) at store(s) in Teton Village
- None of the above

24. What was the date of your arrival in Jackson Hole?

Month: _____

Day (enter number between 1 and 31): _____

25. Did you use a travel package this trip?

- No (GO TO Q. 27)

- Yes--Which of the following did your package include?

- Airfare
- Rental car/ground transportation
- Lodging--number of nights: _____
- Lift tickets
- Other: _____

26. (IF USED PACKAGE) What was the approximate total cost of your prepaid package, per person? \$ _____

27. Please rate the following aspects of your stay in Jackson Hole this trip.

	<i>Extremely</i>		<i>Extremely</i>
	<i>Dissatisfied</i>		<i>Satisfied</i>
	1	2	3
	4	5	6
	7	8	9
	10	n/a	

Overall lodging experience

Dining experience

Shopping experience

Overall skiing/riding experience

Variety of nonskiing activities

Area atmosphere/ambiance

Personal interaction with employees

Visitor info (visitor centers, signage, etc.)

Public transportation services

Scenery

Experience traveling to Jackson

Value of trip for price paid

Overall enjoyment of trip

28. How likely would you be to recommend the Jackson Hole area as a travel destination to a friend or relative?

	<i>Extremely</i>		<i>Extremely</i>
	<i>Unlikely</i>	<i>Neutral</i>	<i>Likely</i>
	0	1	2
	3	4	5
	6	7	8
	9	10	

29. Do you have any suggestions for improving the customer service experience in Jackson Hole?

30. In total, how many previous winter visits have you made to the Jackson Hole area in the past 5 years?

- None, first visit 8-10
- One 11-20
- 2-4 21 or more
- 5-7

31. (IF HAVE VISITED IN PAST 5 WINTERS) When did you last visit the Jackson Hole area in the winter?

- Earlier in 2019/2020 winter season
- 2018/19 winter season
- 2017/18 winter season
- 2016/17 winter season
- 2015/16 winter season
- 2014/15 winter season

32. Of all the places you could have gone to, what most influenced you to select the Jackson Hole area this trip?

33. Do you consider the proximity/convenience of the Jackson Hole Airport to destinations in the JH area (ski areas, etc.) to be:

- A significant reason for choosing JH over other mtn. resorts
- A positive aspect of JH, but relatively unimportant in deciding whether to visit JH
- I don't believe the airport is particularly convenient to local destinations
- Other: _____

34. Do you have any comments on your response to the previous question about the convenience of the Jackson Hole Airport to destinations in the area?

35. How likely are you to visit the Jackson Hole area next winter? ... and within the next three winters?

NEXT	IN NEXT 3	
WINTER	WINTERS	
<input type="radio"/>	<input type="radio"/>	100%-definitely
<input type="radio"/>	<input type="radio"/>	75%-probably
<input type="radio"/>	<input type="radio"/>	50%-maybe
<input type="radio"/>	<input type="radio"/>	25%-unlikely
<input type="radio"/>	<input type="radio"/>	0%-will not return within this time

(IF 50% OR LESS LIKELY IN 3 WINTERS) What is the primary reason you would not make a return trip?

36. In total, how many previous summer visits have you made to the Jackson Hole area in the past 5 years?

- None 5-7 11-20
- One 8-10 21 or more
- 2-4

37. How likely are you to visit the Jackson Hole area next summer? ... and within the next three summers?

NEXT	IN NEXT 3	
SUMMER	SUMMERS	
<input type="radio"/>	<input type="radio"/>	100%-definitely
<input type="radio"/>	<input type="radio"/>	75%-probably
<input type="radio"/>	<input type="radio"/>	50%-maybe
<input type="radio"/>	<input type="radio"/>	25%-unlikely
<input type="radio"/>	<input type="radio"/>	0%-will not visit within this time

(IF 50% OR LESS LIKELY IN 3 SUMMERS) What is the primary reason you would not visit in summer?

38. Other than airfare, lodging, and items included as part of a package, how much did you and your immediate travel party spend PER PERSON, PER DAY (on average) for the following items this trip? (Factor in \$0 for days when nothing was spent.)

\$ PER PERSON PER DAY (on average):

At Ski Area(s)

- \$ _____ Lift tickets
- \$ _____ On-mountain restaurants
- \$ _____ Lessons/equipment rentals/day care
- \$ _____ Other (incidentals, tips, sundries)

In Town/Base Area/Other

- \$ _____ Restaurants/food and beverage
- \$ _____ Shopping/retail purchases (ski equipment, apparel, gifts, souvenirs, etc.)
- \$ _____ Entertainment and amusement (concerts, movies, sports activities, etc.)
- \$ _____ Local transportation (taxi, bus, parking, car rental, etc.)
- \$ _____ Other (incidentals, tips, sundries)

39. Please rate the following attributes of the Jackson Hole Airport and flight service to Jackson.

	Extremely Dissatisfied		Extremely Satisfied								
	1	2	3	4	5	6	7	8	9	10	n/a
FLIGHTS TO/FROM JACKSON											
Availability of flights/seats on desired dates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convenience of flights (connections, schedules)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of your flight to Jackson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments?	_____										

	1	2	3	4	5	6	7	8	9	10	n/a
GROUND TRANSPORTATION											
Convenience of ground transportation to airport	<input type="radio"/>										
Cost of ground transportation to airport	<input type="radio"/>										
Any comments?	_____										

	1	2	3	4	5	6	7	8	9	10	n/a
AIRPORT TERMINAL OPERATIONS											
Efficiency of check-in on departure	<input type="radio"/>										
Efficiency of baggage claim on arrival	<input type="radio"/>										
Cleanliness of hallways and gate seating areas	<input type="radio"/>										
Cleanliness of restrooms	<input type="radio"/>										
Cleanliness of food concession areas	<input type="radio"/>										
Quality/variety of airport concession services	<input type="radio"/>										
Airport concession prices	<input type="radio"/>										
Seating availability in airport	<input type="radio"/>										
Signage (directions, flight info screens, etc.)	<input type="radio"/>										
Announcements on public address system	<input type="radio"/>										
Architectural design/aesthetics of terminal	<input type="radio"/>										
Any comments?	_____										

	1	2	3	4	5	6	7	8	9	10	n/a
EMPLOYEES											
Airline employees	<input type="radio"/>										
Security screening employees	<input type="radio"/>										
Concession employees at airport	<input type="radio"/>										
Other airport employees	<input type="radio"/>										
Any comments?	_____										

	1	2	3	4	5	6	7	8	9	10	n/a
OVERALL											
Overall airport experience	<input type="radio"/>										
Any comments?	_____										

40. Did you experience any problems at the airport today?

Yes, and the problem was resolved (describe: _____)

Yes, and the problem was not resolved (describe: _____)

No, did not have any problems

41. How satisfied were you with the following aspects of security screening?

	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	Don't Know
Courtesy of the passenger security screeners	<input type="radio"/>				
Time it took to screen you and your carry-on items	<input type="radio"/>				
Overall satisfaction with your experience at the passenger security checkpoint	<input type="radio"/>				

42. How would you rate the thoroughness of passenger screening you received?

Excessive Inadequate

Adequate Don't know

Finally, the following questions are for classification purposes only. All responses are strictly confidential.

43. I am: Male Female Other

44. In what year were you born?

45. Annual household income (before taxes):

\$0-24,999 \$100-149,999

\$25-49,999 \$150-199,999

\$50-74,999 \$200-249,999

\$75-99,999 \$250,000 or more

46. Marital/family status:

Single, no children

Couple, no children

Household with children

Empty-nester (children grown)

47. What is the ZIP code of your primary residence (if U.S.)?

(If not U.S.) Country of residence: _____

THANK YOU FOR YOUR PARTICIPATION!

Would you:

Like to be entered in prize drawing

Like to be added to our mailing list

Be willing to participate in future research (additional incentives provided)

If yes to any of the above options, please provide your confidential contact information:

FIRST NAME _____

EMAIL _____

PHONE (if don't have email) _____

Please deposit survey in drop box at Jackson Hole Airport.

If you need more time, please mail completed survey to:
RRC Associates
 4770 Baseline Road, Suite 360
 Boulder, CO 80303

About your recent air travel

16. In the last 12 months, how many times have you flown out of each of the following airports, including today?

	# FLIGHTS PRIMARILY FOR BUSINESS	# FLIGHTS PRIMARILY FOR LEISURE
Boston Logan Airport	_____	_____
Manchester (New Hampshire)	_____	_____
T.F. Green (Providence, RI)	_____	_____
Bradley (Hartford/Springfield)	_____	_____

When did you last fly out of Boston Logan? _____ / _____ / _____
MONTH MONTH YEAR

Finally, about yourself (for classification purposes only)

17. Are you . . . male female

18. In what year were you born? _____

19. Which of the following best describe(s) you? (Check all that apply)

- Working full time
- Student
- Person with a disability
- Working part time
- Retired
- Not working/other

20. Where is your home (primary or current residence)?

CITY OR TOWN STATE OR COUNTRY ZIP/POSTAL CODE, IF IN U.S.

21. In total, how many people live in your household? _____
 Please count all children and adults (including yourself).

22. How many automobiles do you and other members of your household own or lease? _____

23. What was the total income (before taxes) for your household for the year 2015? (Check one only)

- under \$30,000
- \$30,000 to under \$60,000
- \$60,000 to under \$90,000
- \$90,000 to under \$120,000
- \$120,000 to under \$150,000
- \$150,000 to under \$180,000
- \$180,000 to under \$200,000
- \$200,000 to under \$350,000
- \$350,000 to under \$500,000
- \$500,000 or more

24. Are you a member of the Parking PASSport program? (Check one only)

- PASSport member
- Aware of program, but not a member
- PASSport Gold member
- Not aware of the program

Thank you very much for your help. Please hand your completed questionnaire to the survey staff before boarding your flight, or mail it back soon to us postage-free.

LOGAN INTERNATIONAL AIRPORT 2016



Air Passenger Ground Access Survey

Please read the instructions below before completing the survey.

You have been selected to participate in Logan Airport's 2016 Air Passenger Ground Access Survey. Every person aged 18 or older boarding this flight (except those who arrived at Logan Airport today by air) is asked to fill out a questionnaire. When several people are traveling together, each one aged 18 or older should complete his or her own survey. Your answers are important and will help Logan Airport serve the public better. All replies are strictly confidential and will be used only for this study.

PLEASE COMPLETE THE SURVEY TODAY and return it before you board to a survey agent in the boarding area, or drop it in any mailbox (postage free) at your earliest convenience.

About your trip to Logan Airport for today's flight from Boston

For transportation agencies to improve ground travel options to the airport, it is very important for us to know exactly where passengers start their trips. Please give as much detail as you are able.

1. a. Airport for today's flight? (check one or write-in)

- My home
- Hotel
- Other residence
- University/college
- Business/office
- Other:

b. What is the address of this location?

NUMBER _____ OR _____ STREET NAME _____ NAME OF NEAREST CROSS STREET _____
 CITY OR TOWN OR BOSTON NEIGHBORHOOD _____ STATE _____ ZIP CODE _____

2. At approximately what time did you . . .

- a. leave the above starting point to come to the airport? _____ : _____ : _____
hour min. sec.
- b. arrive at the departures level of this airport terminal? _____ : _____ : _____
hour min. sec.

Continue inside →

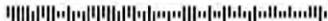
BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 1079 BOSTON, MA

POSTAGE WILL BE PAID BY ADDRESSEE

GRANITE STATE MARKETING RESEARCH, INC
 13 ORCHARD VIEW DR STE 3
 LONDONDERRY NH 03053-9971

Please tape here



NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES



3. How did you arrive at Logan Airport for **today's** flight? (Check one only to show the **primary form of transport** you used to reach the airport)

PRIVATE VEHICLE OR RENTAL VEHICLE

private vehicle (car, minivan, SUV, motorcycle, etc.)

rental vehicle (includes Zipcar and FlightCar)

↳ which company? _____

Was this vehicle... (Check one only)

driven away from the airport without being parked?

parked at the airport in a terminal garage or lot? (Central Parking garage, Terminal B garage, Terminal E lot)

parked at the airport in the economy parking garage?

parked at the airport in an overflow lot? (Red, Green, Blue)

parked in a lot off the airport grounds? (Park-Shuttle-Fly, FlightCar, Preflight, Thrifty Parking, etc.)

TAXI, CAR SERVICE, SHUTTLE, OR VAN

taxicab

Uber/Lyft/Fasten

car service ("black car," executive sedan, private limo, etc.)

free hotel or other courtesy shuttle

other shared ride van or limo

Name of company/service/hotel: _____

BUS, SUBWAY, OR WATER

Logan Express bus from (circle one below)

↳ Back Bay Braintree Framingham Peabody Woburn

other scheduled express bus service which operator? (e.g. C&J, Concord, P&B, Peter Pan): _____

charter/group tour bus

MBTA Silver Line bus

MBTA Blue Line subway (and shuttle bus)

↳ At which MBTA station did you begin your transit trip? _____

LINE/ROUTE (e.g. Red) _____ STATION NAME (e.g. Harvard)

MBTA water ferry

water taxi

OTHER

other please specify: _____

If you're not sure which box to check, write name of carrier or describe here.

Open and continue inside →

2

4. How many people came to the airport together and are traveling on the same flight as you?

Number of people, including you: _____

Number of them completing a questionnaire, including you: _____

5. How many people were in your vehicle when it arrived at the airport, including the driver?

Number of people, including you: _____

6. Were you or any passengers dropped off at a terminal?

yes no

↳ How many people were dropped off? _____

7. If you arrived in a vehicle that was parked at the airport, for how long do you expect it to be parked?

under 4 hours 4 - 24 hours longer: _____ days

8. If you arrived by bus (including Logan Express), subway, or water, how did you get to the location where you boarded the vehicle? (Check all that apply)

walked bus

drove and parked subway

dropped off commuter rail

taxicab bicycle

Uber/Lyft/Fasten other: _____

9. If the means of travel you used to get to the airport today were not available, how would you have arrived at the airport instead?

private vehicle, dropped off MBTA Blue Line subway

private vehicle, parked (check one): MBTA Silver Line bus

Central Parking Logan Express (check one)

Economy Back Bay

Terminal B or E Braintree

Off-airport Framingham

rental vehicle/Zipcar/FlightCar Peabody

taxicab Woburn

Uber/Lyft/Fasten other scheduled bus

car service ("black car," limo, etc.) water ferry/water taxi

free courtesy shuttle other (or name of service): _____

other shared ride van or limo

3

About your air travel today

10. Which flight from Logan are you taking today?

AIRLINE _____ FLIGHT NO. _____ on April May June, 2016

11. What will be your final destination airport on today's air trip?

CITY/AIRPORT _____ U.S. STATE OR FOREIGN COUNTRY _____

12. Is your air travel today primarily part of a business trip?

yes no

13. Will your airline ticket, ground transportation to the airport, or your parking cost be reimbursed by your employer or other organization? (Don't count payment by a friend or relative.)

yes, some or all of the costs will be paid back to me

no, my costs will not be reimbursed

14. In total, how many pieces of luggage are all the people you counted in Question 4 taking on this flight? (If none, enter "0")

Number of pieces of luggage to check: _____

Number of carry-on pieces: _____

15. Is Logan Airport at the "home" end of your air trip?

yes no

↳ a. When will you return to Logan?

today tomorrow days from now

today yesterday days ago

b. What time of day will your return flight arrive at Logan?

hour _____ mins. _____

hour _____ mins. _____

A.M. P.M.

c. How do you expect to travel from Logan Airport when you return?

↳ (Check one in the box below) ↳

picked up by someone else

private vehicle parked at airport

rental vehicle/Zipcar/FlightCar

taxicab

Uber/Lyft/Fasten

car service ("black car," limo, etc.)

free courtesy shuttle

other shared ride van or limo

MBTA Blue Line subway (8 shuttle bus)

MBTA Silver Line bus

Logan Express bus

other scheduled express bus

charter/tour bus

water ferry or water taxi

other: _____

fold in and continue →

4

LAX 2019 PASSENGER SURVEY QUESTIONNAIRE

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
001	Terminal / Single	What terminal are you departing from today?	[1] Terminal 1 [2] Terminal 2 [3] Terminal 3 [4] Terminal 4 [5] Terminal 5 [6] Terminal 6 [7] Terminal 7 [8] Terminal 8 [9] TBIT Tom Bradley International Terminal [10] Refused to be surveyed [11] Doesn't speak English	Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question End of Survey End of Survey
002	All Airlines / ItemSelectionList	If airline is not listed, press NEXT Which airline are you flying with today?	(FileName: ALL Airlines.txt)	Next Question
003	OTHER airline / Verbatim	What other airline are you flying with today?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
004	Airport destination / Single	Where is your final airport destination today?	[1] Another U.S. state (not in California) [2] Another part of California (not in So Cal) [3] Airport in Southern California [4] Another country	Next Question Next Question Next Question Next Question
005	Frequency / Single	In the past 12 months, how often have you flown from LA Airport, including today's trip?	[1] First time/once [2] 2 to 3 times [3] 4 to 5 times [4] 6 to 8 times [5] 9 to 12 times [6] More than 12 times	Next Question Next Question Next Question Next Question Next Question Next Question
006	Connecting flight / Single	Are you connecting/ transferring flights here at Los Angeles Airport?	[1] No - Starting trip here at LA Airport [2] Yes - Connecting to another plane [3] Stopping at LA Airport and leaving on same plane	Prior to arriving at LAX Next Question End of Survey
007	Origin of connecting flight / Single	CONNECTING PASSENGERS ONLY What airport did your flight come from?	[1] Another U.S. state (not in California) [2] Another part of California (not in So Cal) [3] Airport in Southern California [4] Another country	Next Question Next Question Next Question Next Question
008	Terminal landed / Single	CONNECTING PASSENGERS ONLY Did you arrive in this terminal or a different terminal at LA Airport?	[1] Landed in this terminal [2] Landed in different terminal	Next Question Next Question

Note: Branching and skip patterns are programmed into electronic tablets for data collection and will not appear in paper questionnaire.

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
009	Terminal arrived / Single	CONNECTING PASSENGERS ONLY At what terminal did your plane land?	[1] Terminal 1 [2] Terminal 2 [3] Terminal 3 [4] Terminal 4 [5] Terminal 5 [6] Terminal 6 [7] Terminal 7 [8] Terminal 8 [9] Tom Bradley International Terminal TBIT [10] I don't know/ don't remember	Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question
010	Originating airline / Verbatim	CONNECTING PASSENGERS ONLY What airline did you use to fly to LA Airport?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
011	Travel between terminals / Single	CONNECTING PASSENGERS ONLY How did you travel between terminals?	[1] Walked between terminals [2] Used the airport shuttle bus [3] Other	Next Question Next Question Next Question
012	Time between terminals / Single	CONNECTING PASSENGERS ONLY How long did it take you to get from one terminal to the other? From the time you left one terminal and arrived at another. (Estimate number of minutes)	[1] Less than 10 minutes [2] 10-15 minutes [3] 16-20 minutes [4] 21-30 minutes [5] More than 30 minutes	Next Question Next Question Next Question Next Question Next Question
013	Leave the premises / Single	CONNECTING PASSENGERS ONLY During your layover (connection time), did you leave LA Airport premises?	[1] No [2] Yes	Next Question Next Question

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
020	So Cal County Origination / Single	What part of Southern California did you depart from prior to coming to LA Airport today?	[1] Los Angeles County [2] Orange County [3] Riverside County [4] San Bernardino County [5] Ventura County [6] San Diego County [7] Santa Barbara County [8] Kern County [9] Don't know [10] Other	Next Question Orange County Riverside County San Bernardino Ventura County San Diego County Santa Barbara County Kern County So Cal Map Other So Cal Area
021	LA Neighborhood / ItemSelectionList	Press NEXT if area is not listed What part of the LA area did you come from prior to coming to this Airport?	(FileName: LA-Neighborhood_list_2015.txt)	Next Question
022	LA Neighborhood MAP / Info		(Picturename:)	Next Question
023	Other LA Area / Verbatim	What other area of Los Angeles did you come from prior to coming to this Airport? PLEASE BE SPECIFIC - INDICATE CLOSEST LANDMARK OR NEIGHBORHOOD	(Minimum Digits: 0) (Maximum Digits: 300)	Dwell time OD
024	Orange County / ItemSelectionList	What part of Orange County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: Orange County Cities.txt)	Dwell time OD
025	Riverside County / ItemSelectionList	What part of Riverside County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: Riverside cities.txt)	Dwell time OD
026	San Bernardino / ItemSelectionList	What part of San Bernardino County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: san bernardino cities.txt)	Dwell time OD
027	Ventura County / ItemSelectionList	What part of Ventura County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: Ventura Cities.txt)	Dwell time OD
028	San Diego County / ItemSelectionList	What part of San Diego County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: San Diego cities.txt)	Dwell time OD
029	Santa Barbara County / ItemSelectionList	What part of the Santa Barbara County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: Santa Barbara Cities.txt)	Dwell time OD

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
030	Kern County / ItemSelectionList	What part of the Kern County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER"	(FileName: Kern County cities.txt)	Dwell time OD
031	Attraction name / Single	What local attraction?	[1] Beverly Hills [2] Disneyland [3] Disney Concert Hall [4] Hollywood Blvd [5] Knott's Berry Farm [6] La Brea Tar Pits [7] LA Coliseum [8] LA Convention Center [9] Magic Mountain [10] Malibu [11] Staples Center [12] Santa Monica Beach [13] Universal Studios [14] Venice Beach [15] Other	Dwell time OD Dwell time OD Next Question
032	Attraction OTHER / Verbatim	What OTHER location attraction?	(Minimum Digits: 0) (Maximum Digits: 300)	Dwell time OD
033	So Cal Map / Info		(Picturename:)	Next Question
034	Other So Cal Area / Verbatim	What other area of Southern California did you come from prior to coming to this Airport? PLEASE BE SPECIFIC - INDICATE CLOSEST LANDMARK OR NEIGHBORHOOD	(Minimum Digits: 0) (Maximum Digits: 300)	Dwell time OD
035	Dwell time OD / Single	How much time before your flight did you arrive at your terminal today?	[1] Less than 1 hour [2] 1 < 2 hours [3] 2 < 3 hours [4] 3 < 4 hours [5] 4 < 6 hours [6] 6 < 8 hours [7] 8 < 10 hours [8] 10 < 12 hours [9] More than 12 hours [10] Don't know	Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question Next Question
036	People inside terminal / Single	(EXCLUDING PEOPLE TRAVELING WITH YOU) How many people came inside the terminal with you to see you off today?	[1] None [2] 1 [3] 2 [4] 3 [5] 4 [6] 5 or more	Next Question Next Question Next Question Next Question Next Question Next Question

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
037	Primary form of transportation / Single	What was the primary form of transportation you used to get to LA Airport today?	[1] Private vehicle [2] Rental vehicle [3] Taxi [4] Limousine/town car [5] Shuttle/van (Private - non stop direct service) [6] Airport shuttle/van - multiple stops (Super Shuttle, Prime Time) [7] Hotel courtesy van [8] Paid ride app (Uber, Lyft, Opoli) [9] LA Union Station Flyaway [10] Hollywood Flyaway [11] Long Beach Flyaway [12] Van Nuys Flyaway [13] Westwood Flyaway [14] MTA (Metro) or other public transit [15] Green line/light rail [16] Organized group/tour bus or van [17] Scheduled airport bus/van (Disneyland, Santa Barbara, Cruise Ship bus, etc.) [18] Dockless scooter/bike [19] Walk [20] Don't know [21] Other	Dropped off or vehicle p... Next Question Travel party using same.. Travel party using same.. Travel party using same.. US resident US resident Travel party using same.. US resident US resident US resident US resident US resident Specify transit agency a.. US resident US resident US resident Other primary transport..
038	If rental car(1) / Single	If rental car, what type...	[1] Traditional rental car [2] Peer to peer (Turo, Getaround, TravelCar)	Rental car drop off Rental car drop off
039	Other primary transportation / Verbatim	What other means of primary transportation did you use to get to LA airport today?	(Minimum Digits: 0) (Maximum Digits: 300)	Real time traffic info
040	Specify transit agency and bus line or route /	Please specify the transit agency and bus line or route you used to get to this airport	[1] MTA (Metro) [2] Santa Monica/Big Blue bus [3] Culver City Bus [4] Torrance Transit [5] Other [6] Didn't use/ doesn't apply to me [7] Don't know/ don't remember	Next Question Next Question Next Question Next Question Next Question Next Question Next Question
041	What is the other transit agency / Verbatim	What is the other transit agency and bus line or route you used to get to the airport?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
042	Rental car drop off / Single	Did you go directly to rental car agency?	[1] YES [2] NO - I dropped off people at curb first, then returned car [3] NEITHER - I parked the rental car	Travel party using same.. Travel party using same.. Vehicle parked at airport

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
043	Dropped off or vehicle parked / Single	Were you dropped off at the curb or was the vehicle parked by you or someone else?	[1] I was dropped off at curb and driver left [2] I was dropped off at curb then driver parked the car [3] Vehicle was parked by me or someone in my travel party	Travel party using same.. Next Question Next Question
044	Vehicle parked at airport / Single	Was the vehicle parked in one of the Airport parking lots/ garages right here across the terminal?	[1] Yes - Parked here at Airport lot/ garage (across the terminal) [2] No - Parked at OFF-airport lot/ garage (away from terminal)	Travel party using same.. Next Question
045	Name of parking lot / ItemSelectionList	If parking lot is not listed, press NEXT What is the name of the lot where car is parked?	(FileName: Parking Lots.txt)	Next Question
046	Name of other lot where car is parked / Verbatim	What is the name of the other lot where the car is parked?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
047	Parking preference / Single	OFF AIRPORT PARKERS What is the most important factor in deciding where to park?	[1] <i>Convenient location</i> [2] <i>Good price</i> [3] <i>Valet parking</i> [4] <i>Reserved or guaranteed parking</i> [5] <i>Frequent parker program</i> [6] <i>Covered parking</i> [7] <i>Frequent shuttles</i> [8] <i>Luggage handling assistance</i> [9] <i>Safe location</i> [10] <i>Amount of walking required</i> [11] <i>Amenities offered (e.g. car wash, oil change, free water, etc.)</i> [12] EV charger [13] Other	Travel party using same.. Travel party using same.. Next Question
048	Other parking preference / Verbatim	OFF AIRPORT PARKERS What other factor is important to you?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
049	Travel party using same vehicle / Single	NOT INCLUDING THE DRIVER How many travelers were in the same vehicle with you?	[1] 0 - Rode alone [2] 1 [3] 2 [4] 3 [5] 4 [6] 5 or more	Next Question Next Question Next Question Next Question Next Question Next Question
050	Use of I-405 or I-105 / Single	Did you use the San Diego Freeway (Interstate 405) or the Century Freeway (Interstate 105) to get to this airport today?	[1] Yes, San Diego Freeway (I-405) [2] Yes, Century Freeway (I-105) [3] Yes, used both I-405 AND I-105 [4] No - Didn't use freeway [5] Don't know	Next Question Which I-105 exit Which exit used today Which surface street us.. LA Street Map

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
051	Which I-405 exit / Single	Which San Diego Freeway (I-405) exit did you use to get to LA Airport?	[1] Century Blvd [2] El Segundo Blvd [3] Howard Hughes Parkway/ Sepulveda Blvd [4] Imperial Hwy [5] La Tijera Blvd [6] Manchester Blvd [7] Other [8] Don't know	Real time traffic info Real time traffic info Next Question LA Street Map
052	Other I-405 exit / Verbatim	Which other I-405 exit did you use?	(Minimum Digits: 0) (Maximum Digits: 300)	Real time traffic info
053	Which I-105 exit / Single	Which Century Freeway (I-105) exit did you use to get to LA Airport?	[1] La Cienega Blvd [2] Aviation Blvd [3] Hawthorne Blvd [4] Imperial Hwy [5] Nash Street [6] Sepulveda Blvd [7] Other [8] Don't know	Real time traffic info Real time traffic info Next Question LA Street Map
054	Which other I-105 exit did you use / Verbatim	Which other I-105 exit did you use?	(Minimum Digits: 0) (Maximum Digits: 300)	Real time traffic info
055	Which exit used today / Single	If you used both I-405 and I-105, which exit did you use to get to LA Airport today?	[1] Aviation Blvd. [2] Century Blvd. [3] Imperial Hwy (from I-405) [4] Imperial Hwy (from I-105) [5] La Cienega Blvd. [6] La Tijera Blvd. [7] Manchester Ave. [8] Nash Street [9] Sepulveda Blvd./Howard Hughes Parkway (from I-405) [10] Sepulveda Blvd. (from I-105) [11] Other [12] Don't know	Real time traffic info Real time traffic info Which other exit LA Street Map(1)

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
056	Which surface street used / Multi Normal	Which of the following surface streets did you use to get to this airport? CHOOSE ALL THAT APPLY	[1] Airport Blvd [2] Arbor Vitae St [3] Aviation Blvd [4] Century Blvd [5] El Segundo Blvd [6] Imperial Highway [7] La Cienega Blvd [8] La Tijera Blvd [9] Lincoln Blvd [10] Manchester Blvd [11] Sepulveda Blvd [12] Westchester Parkway [13] Other [14] Don't know (Min: 0, Max: 0, Exclusive: 0)	Next Question
057	LA Street Map(1) / Info		(Picturename:)	Next Question
058	Which other surface street / Verbatim	Which other surface street did you use to get to the airport?	(Minimum Digits: 0) (Maximum Digits: 300)	Real time traffic info
059	LA Street Map / Info		(Picturename:)	Next Question
060	Which other exit / Verbatim	Which other exit did you use today to get to the airport?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
061	Real time traffic info / Single	What type of real-time traffic information did you or driver use to make routing decisions when traveling to LA Airport today?	[1] None [2] Mobile app (Google maps, Waze, Apple maps, other) [3] In car navigation system [4] Local radio traffic reports [5] Not sure/don't know [6] Other	US resident US resident US resident US resident US resident Next Question
062	Other real time traffic info / Verbatim	What was the other source of real time traffic information you or driver used?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
063	US resident / Single	PRIMARY RESIDENCE Where do you live?	[1] U.S. [2] Outside of U.S.	Next Question Nights in So Cal
064	Live in So Cal area / Single	Do you currently live in the Southern California area? (North of Mexico border to Santa Barbara)	[1] Yes - I live in Southern California [2] No - I am visiting Southern California	Next Question Nights in So Cal

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
071	Picture of APM / Info	ILLUSTRATIVE PURPOSES ONLY Are you aware of the future Automated People Mover (APM) that will connect remote facilities to the existing terminals?	(Picturename: LAX APM photo.jpg)	Next Question
072	Aware of APM / Single	PLEASE ANSWER A FEW MORE QUESTIONS Are you aware of the future Automated People Mover (APM) that will connect new parking, rental car, transfer facilities that are located away from the airport to the existing terminals?	[1] No [2] Yes	Next Question Next Question
073	Photo of APM options / Info	ILLUSTRATIVE PURPOSES ONLY The future APM will connect new parking, rental car, transfer facilities that are located away from the airport to the existing terminals	(Picturename: LAX APM LAYOUT2.jpg)	Next Question
074	Travel time saving APM / Single	How much time would you need to save to consider using the new APM from one of the remote locations (parking, rental car, transfer facilities) to travel to the existing terminals?	[1] 0-5 minutes [2] 6-10 minutes [3] 11-15 minutes [4] 16-20 minutes [5] More than 20 minutes [6] Not sure	Next Question Next Question Next Question Next Question Next Question Next Question
075	Likely to use APM / Single	How likely would you use the new APM at one of the remote locations (parking, rental car, transfer facilities) to travel to existing terminals?	[1] Very likely [2] Likely [3] Unlikely [4] Very unlikely [5] Not sure	Next Question Next Question Next Question Next Question Next Question
076	Parking for APM / Single	IF YOU PARKED TODAY... What would encourage you to use the new parking facilities and future APM instead of another parking lot?	[1] Shorter travel time [2] Lower parking rates [3] Convenience [4] Less traffic congestion [5] Other [6] Not sure	Next Question Next Question Next Question Next Question Next Question Next Question
077	Parking for APM other / Verbatim	What is the other reason?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
078	Nights in So Cal / Numeric	SOUTHERN CALIFORNIA VISITORS How many nights did you stay in the Southern California area? (If None, Enter '0')	(Minimum Digits: 0) (Maximum Digits: 3)	Next Question
079	Luggage / Single	How many pieces of luggage did you check in (for yourself)?	[1] None - I only have check-in luggage [2] 1 [3] 2 [4] 3 [5] 4 [6] 5 or more	Next Question Next Question Next Question Next Question Next Question Next Question

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
080	Main purpose of trip / Single	What is the main purpose of your trip today?	[1] Business related [2] Pleasure/ personal reasons [3] Business and pleasure/personal [4] Other	Others traveling with you Others traveling with you Others traveling with you Next Question
081	What the other main purpose of your trip /	What is the other main purpose of your trip?	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question
082	Others traveling with you / Single	Are you traveling with others today?	[1] Yes [2] No	Next Question Assistance
083	Travel party size / Matrix	How many people are traveling with you today?	[1] Column 1 = 0 [2] Column 2 = 1 [3] Column 3 = 2 [4] Column 4 = 3 [5] Column 5 = 4 [6] Column 6 = 5 or more Row 1 = Adults 18 or older Row 2 = Children 10-17 years old Row 3 = Children 4-9 years old Row 4 = Babies/ toddlers (in stroller)	Next Question
084	Assistance / Matrix	A FEW MORE QUESTIONS What did you or anyone in your travel party use?	[1] Column 1 = No [2] Column 2 = Yes Row 1 = Wheelchair Row 2 = Smarte carte (cart for luggage)	Next Question
085	Age range / Single	What is your age range, please?	[1] 18-24 [2] 25-34 [3] 35-44 [4] 45-54 [5] 55-65 [6] 65-74 [7] 75 and up	Next Question Next Question Next Question Next Question Next Question Next Question Next Question
086	Gender / Single	How would you describe yourself?	[1] Male [2] Female [3] Transgender [4] Do not identify as female, male or transgender	Next Question Next Question Next Question Next Question
087	Traveling with animal / Single	Are you traveling with service animal?	[1] No [2] Yes - Dog [3] Yes - Cat [4] Yes - Other	Net Promoter Net Promoter Net Promoter Next Question
088	What other animal / Verbatim	What other type of animal...	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question

Nbr	Question Name / Type	Header Question Text	Choices <i>(italic for randomized choices)</i>	Branching and Skip Patterns
089	Overall Satisfaction / Single	REGARDING YOUR OVERALL TRAVEL EXPERIENCE TODAY How would you rate your experience at LAX today?	[1] Not sure [2] Excellent [3] Very Good [4] Good [5] Fair [6] Poor	Next Question Next Question Next Question Next Question Next Question Next Question
090	Final comments - new / Verbatim	Any final comments you would like to share...	(Minimum Digits: 0) (Maximum Digits: 300)	Next Question

OAKLAND INTERNATIONAL AIRPORT SURVEY OF AIR PASSENGERS



Q1. Are you starting here at this airport, or did you connect from another flight?

- Starting here *GO TO Q3*
- Connecting from another flight

Q2. During your layover here at OAK, did you leave the Airport?

- Yes
- No

Q3. Including yourself, how many people are traveling together with you on the same flight today?

Q4. And how many of these are children age 12 and under?

[IF YOU ARE A CONNECTING PASSENGER, END SURVEY HERE]

Q5. What is the main purpose of your trip?

- Convention or conference
- Other business trip
- Visit friends or relatives
- Vacation
- School
- Personal or family emergency
- Some other purpose *(SPECIFY)* _____

Q6. Where did you leave from today?

- | | |
|---|---|
| <input type="checkbox"/> Home | <input type="checkbox"/> School or university |
| <input type="checkbox"/> Hotel (including motel or other lodging) | <input type="checkbox"/> Someone else's home |
| <input type="checkbox"/> Work | <input type="checkbox"/> An attraction |
| <input type="checkbox"/> Convention Center | <input type="checkbox"/> Somewhere else |

Q6A. In what city is that?

Q6B. What is the street address or nearest intersection there?

Q6C. Could you please give me the zip code?

Q7. How did you get to the airport today?

Enter the main mode of transportation.

- Private car/vehicle
- Rental car
- Taxi/Cab
- Rideshare service

↳ And what is the name of that service?

- Uber
- Uber-X
- Lyft
- Sidecar
- Other *(SPECIFY)*

- Limousine serving your party only
- AirBART from BART
- AirBART from Amtrak
- Scheduled airport bus

↳ And what is the name of that bus?

- AC Transit (Public Transit) Bus
- AC Transit from Amtrak
- AC Transit from BART
- Shared ride van serving more than one party

↳ And what is the name of that van service?

- Hotel/Motel Courtesy Shuttle
- Chartered bus or van serving your travel party only
- Something else

(CONTINUED ON NEXT PAGE)

COMPLETE ONE OF THE SECTIONS BELOW (BASED ON HOW YOU GOT THE AIRPORT TODAY)

IF RENTAL CAR:

Q8. Were any passengers dropped off at the curb in front of the terminal before returning the rental car?

- Yes
- No
- Don't know

CONTINUE TO Q9 ON NEXT PAGE

IF DROVE:

Q8A. Were any passengers dropped off at the curb in front of the terminal before parking?

- Yes
- No
- Don't know

Q8B. Was the vehicle parked at or near the airport?

- Yes – parked at airport or nearby
- No

Q8C. Where was the vehicle parked ?

- Airport – Daily Lot
- Airport – Economy Lot
- Airport – Premier Lot
- Airport – Hourly Lot
- Off-Airport Lot

↳ What is the name of the parking company?

- Hotel/Motel Parking
- Airport Employee Lot
- Other:

Q8D. And how long will it be parked there?

- Less than a day: _____ Hours
- Days: _____

Q8E. Did you drive a plug-in electric vehicle to the airport?

- Yes
- No

(IF YES:)

Q8E.1 What make of electric car is it?

Q8E.2 Did you charge it while it was parked?

- Yes
- No

CONTINUE TO Q9 ON NEXT PAGE

IF BART, CALTRAIN OR AMTRAK:

Q8A. At what station did you get on BART/Caltrain/Amtrak?

Q8B. And how did you get to that station?

- Walked
- Drove and parked
- Dropped off
- Taxi/Cab
- Rideshare
- Amtrak
- Caltrain
- Other public transit name: _____
- Other:

CONTINUE TO Q9 ON NEXT PAGE

IF AIRPORT BUS OR PUBLIC BUS:

Q8. How did you get to the bus?

- Walked
- Drove and parked
- Dropped off
- Taxi/Cab
- Rideshare
- Amtrak
- Caltrain
- Other public transit (SPECIFY): _____
- Other:

CONTINUE TO Q9 ON NEXT PAGE

IF SHARED-RIDE VAN:

Q8. Was the van chartered for you or your party only?

- Yes
- No

CONTINUE TO Q9 ON NEXT PAGE

IF HOTEL/MOTEL SHUTTLE:

Q8A. What is the name of the hotel where you boarded the shuttle?

Q8B. Did you stay at that hotel?

- Yes
- No

Q8C. Did you park at that hotel?

- Yes
- No

IF UBER, LYFT OR SIDECAR:

Q8A. How did you typically get to the airport prior to these services (e.g. Uber, Lyft, Sidecar, etc.)?

- Private car/vehicle
- Limousine
- Public transit bus
- Rental car
- BART
- Shared ride van
- Taxi/cab

(CONTINUED ON NEXT PAGE)

Q9. What is your final airport destination on today's trip?

Q10. How many people traveling with you came to the airport in the same vehicle, including yourself?

of people _____

Q11. How many total pieces of luggage did your travel party check?

Total pieces of luggage _____

SAME VEHICLE ONLY. IF TRAVELING ALONE, JUST LIST THE # YOU CHECKED

Q12. Will your trip to the airport, or parking costs, be reimbursed as a business expense?

- Yes
- No
- Not sure

Q13. Do you live in Northern California?

- Yes *ANSWER NORTHERN CALIFORNIA RESIDENTS SECTION*
- No *SKIP TO VISITORS SECTION*

NORTHERN CALIFORNIA RESIDENTS

Q14A. How many nights will you be away from home on this trip?

Q14B. Will you fly back into this airport?

- Yes *ASK Q14C.*
- No *SKIP TO Q14D.*

Q14C. When you return, how will you leave the airport?

- Picked up by someone in a private vehicle
- Private vehicle parked at airport or nearby
- Rental car
- Taxi/Cab
- Rideshare
- Limousine service serving your party
- BART/AirBART
- Amtrak
- Scheduled airport bus
- AC Transit
- Shared-Ride Van
- Hotel/Motel Courtesy Shuttle
- Chartered bus or van serving your travel party only

- Other: _____
- Not sure/don't recall

CONTINUE TO Q15 ON NEXT PAGE

Q14D. How are you returning?

- Flying back into San Jose Airport
- Flying back into Sonoma Airport
- Flying back into San Francisco Airport
- Flying back into Sacramento Airport
- Car/Motorcycle
- Bus
- Train
- Ship
- Other: _____
- Not returning

CONTINUE TO Q15 ON NEXT PAGE

VISITORS

Q14A. How many days did you spend in the Bay Area this trip?

Q14B. Did you fly into this airport?

- Yes *ASK Q14C.*
- No *SKIP TO Q14D.*

Q14C. And how did you leave the airport?

- Picked up by someone on a private vehicle
- Private vehicle parked at airport or nearby
- Rental car
- Taxi/Cab
- Rideshare
- Limousine service serving your party only
- BART/AirBART
- Amtrak
- Scheduled airport bus
- AC Transit
- Shared-Ride Van
- Hotel/Motel Courtesy Shuttle
- Chartered bus or van serving your travel party only

- Other: _____
- Not sure/don't recall

CONTINUE TO Q15 ON NEXT PAGE

Q14D. How did you arrive in the Bay Area?

The Bay Area is defined as the counties of San Francisco, Alameda, Contra Costa, Santa Clara, Marin, Sonoma, Napa, and Solano.

- Flew into San Jose Airport
- Flew into Sonoma County Airport
- Flew into San Francisco Airport
- Flew in Sacramento Airport
- Car/Motorcycle
- Bus
- Train
- Ship
- Other: Name: _____

(CONTINUED ON NEXT PAGE)

Q15. In the past twelve months, including this trip, how many times have you flown out of...?

Q15A. Oakland _____#

Q15B. Sacramento _____#

Q15C. San Francisco _____#

Q15D. San Jose _____#

Now just a few questions about you for classification purposes...

Q16. Do you live in the United States?

- Yes
- No

Q17. What is your home Zip Code?

(ANSWER ONLY IF IN U.S.)

Q18. In what country do you live?

Q19. What is the total annual income of your entire household last year before taxes?

- UNDER \$25,000
- \$25,000–\$49,999
- \$50,000–\$74,999
- \$75,000–\$99,999
- \$100,000–\$149,999
- \$150,000–\$199,999
- \$200,000–\$299,000
- \$300,000 and over
- Don't know
- Another currency

↳ Currency name _____

↳ Foreign currency amount _____

Q20. What is your age range, please?

- UNDER 18
- 18–24
- 25–34
- 35–44
- 45–54
- 55–64
- 65 and over

Q21. GENDER

- Male
- Female
- Other

Those are all of the questions we have for you today.
Thank you very much for your participation.

I ✈ OAK
Park Close. Fly on time.

To complete the survey online, please use the following link or QR code:

<http://bitly.com/1juZkwY>



4. How many people live in your household, including yourself?

Person(s) (Write '1' if you live alone)

5. Check your age group:
- 01 18 or younger
 - 02 19-24
 - 03 25-34
 - 04 35-49
 - 05 50-64
 - 06 65 or older

6. What is your household's total annual income?
- 01 Less than \$25,000
 - 02 \$25,000-\$49,999
 - 03 \$50,000-\$99,999
 - 04 \$100,000-\$149,999
 - 05 \$150,000-\$199,999
 - 06 \$200,000 or more

7. How much did you spend on airport concessions during your visit? (Include expenses only within the airport terminal area such as food, souvenirs, spa visit, etc. Do not include expenses outside of the airport terminal area such as parking.)

- 01 \$0
- 02 \$1-\$24
- 03 \$25-\$49
- 04 \$50-\$99
- 05 \$100 or more

E. PLEASE WRITE ANY COMMENTS YOU WOULD LIKE TO SHARE

Thanks for Your Help!

AIR PASSENGER SURVEY – BWI AIRPORT

A. ABOUT YOUR TRIP TODAY

1. How did you get to Baltimore/Washington International Thurgood Marshall Airport for this trip? (Check ONE answer)

- 01 By GROUND TRANSPORTATION (e.g., car, taxi, ride-hailing, Metro, etc.)
- 02 I was on this flight when it arrived at this airport.
- 03 I made a connection at this airport from a DOMESTIC FLIGHT...
- 04 I made a connection at this airport from an INTERNATIONAL FLIGHT...

STOP – That is all we need to know. _____ Airlines.

2. What is the final destination of your trip today?

City _____
 State/Province _____ Country _____

3. What is the primary purpose of your trip? (Check ONE answer)

- 01 Business related to the federal government (including military)
- 02 Business related to state or local government
- 03 Business that is not related to government
- 04 Vacation or holiday
- 05 Personal or family affairs
- 06 Student or school related
- 07 Other: _____

B. ABOUT YOUR GROUND TRIP TO BWI MARSHALL AIRPORT:

1. Where did you start your ground trip to this airport (BWI)? (Check ONE answer)

- 01 Private residence
- 02 Hotel/Motel
- 03 Short term rental (e.g., Airbnb, VRBO)
- 04 My regular place of employment
- 05 Another place of business
- 06 Other: _____

**2019
WASHINGTON – BALTIMORE
REGIONAL AIR PASSENGER
SURVEY**

**TO DETERMINE LOCAL AIRPORT NEEDS
BWI**

This survey concerns your trip today. Please complete this form, even if you have received a form on other days. All answers are confidential. Personal identification is not required. Thank you for your cooperation.

You can take this survey online by visiting

<http://gowba.info/air>

or scan the QR code below.

ID number below is required to access online survey.

This survey is being conducted by:
 Metropolitan Washington Council of Governments
 Maryland Aviation Administration
 in cooperation with the airlines
 serving the region's airports.

ID NUMBER (PASSWORD)

2. What is the address of the place you started your trip today?

Street Number _____ Street Name _____ City/Quadrant (e.g., SW, NE) _____

City _____ State _____ Zip Code _____

Hotel/Motel or Business Name _____

3. What time did you begin your trip to the airport today? (Enter time and circle AM or PM)

□□ : □□ AM PM

4. What time did you arrive at the airport today? (Enter time and circle AM or PM)

□□ : □□ AM PM

5. How many people who came to the airport with you are on your flight?

_____ Person(s) (Including yourself)

6. How did you travel to this airport today?

(Check ONE primary mode of travel)

- ₀₁ Private Car
- ₀₂ Rented Car
- ₀₃ Taxi
- ₀₄ Ride-hailing (e.g., Uber, Lyft)
- ₀₅ Airport van/limo (e.g., SuperShuttle)
- ₀₆ Hotel/Motel courtesy bus
- ₀₈ Amtrak/MARC
- ₀₉ Light Rail
- ₁₀ Metrobus/MTA Bus/RTA Bus

₁₁ Walked from place where your trip started today

₁₂ Biked from place where your trip started today

₉₅ Other: _____

→ If you walked or biked to the airport, please describe your trip route, including your start and end point.

7. What was your MAIN reason for choosing your mode of GROUND transportation to this airport TODAY? (Check ONE answer)

- ₀₁ Cost
- ₀₂ Reliability
- ₀₃ Travel Time
- ₀₄ Convenience
- ₀₅ Comfort
- ₀₆ Other: _____

8. How much did you spend on all ground transportation to this airport except parking?

- ₀₁ \$0
- ₀₂ \$1-\$4
- ₀₃ \$5-\$9
- ₀₄ \$10-\$24
- ₀₅ \$25-\$49
- ₀₆ \$50-\$99
- ₀₇ \$100 or more

9. If you arrived in a private or rented car, taxi, or ride-hailing vehicle (e.g., Uber, Lyft) did you carpool with someone else? (Skip if does not apply)

₀₁ Yes ₀₂ No

10. If you arrived in a private vehicle - excluding rental cars - answer below. (Skip if does not apply)

a. Were you dropped off at the terminal curbside?

₀₁ Yes ₀₂ No

b. Where was that vehicle parked (after drop-off)?

- ₀₁ It was not parked
- ₀₂ Hourly Parking Garage
- ₀₃ Daily Garage
- ₀₄ Express Parking Lot
- ₀₅ Long Term A or B
- ₀₆ BWI Rail Station Garage
- ₀₇ Off-Airport Private Parking
- ₁₁ Valet Parking

C. ABOUT YOUR AIRPORT CHOICE

1. Rank the three most important reasons for choosing BWI Marshall Airport for your flight today. (Write 1 for first choice, 2 for second, etc.)

- _____ Closest airport
- _____ Easy road access
- _____ Easy access by Metrorail or public transit
- _____ Convenient van/limo or shuttle bus service
- _____ Good parking facilities
- _____ More convenient flight times
- _____ Less expensive airfare
- _____ Only airport with non-stop flights
- _____ Only airport that serves my destination
- _____ Frequent flyer / airline loyalty program
- _____ Other: _____

2. Rank the region's airports in your order of preference. (Write 1 for first choice, 2 for second, etc.)

- _____ BWI Marshall
- _____ Washington Dulles International
- _____ Reagan Washington National

D. ABOUT YOURSELF

1. If you live locally, how many nights will you be away?

_____ Night(s) (Write '0' if you will return today)

2. If you were visiting, how many nights did you stay in the area?

_____ Night(s) (Write '0' if you arrived today)

3. What is the location of your current residence?

City/County _____ State _____ Zip Code _____

Country _____

Turn Page →

PASSENGER SURVEY - SAN FRANCISCO INTERNATIONAL AIRPORT (SFO) 2012			
Carrier	Flight#	Destination	Date
<p>Dear Air Passenger: This survey is part of an Economic Impact Study being conducted of visitors to the San Francisco Bay Area who fly in and out of the San Francisco International Airport (SFO). Would you please allow us to take a few minutes of your time to ask you questions concerning your stay in the San Francisco Bay area and how much you spent here? All answers will be kept confidential, and your help is greatly appreciated. Please answer for your entire traveling party.</p>			
1 Where do you live?			
If U.S., what City: _____		State: _____	Zip code: _____ If not USA, what country? _____
2 What is the primary purpose of your trip?			
<input type="checkbox"/> Business/Convention		<input type="checkbox"/> Pleasure/Personal	<input type="checkbox"/> Other (specify): _____
3 How many nights did you spend in the San Francisco Bay area? <input type="text"/>			
4 What kind of overnight accommodations did you stay in, and in what city were they located?			
<input type="checkbox"/> Hotel/Motel/Resort (or paid lodging)		<input type="checkbox"/> Private Home (or free lodging)	<input type="checkbox"/> Other _____
In what city? _____			
5 Please indicate how much you spent OFF-AIRPORT on each item below while visiting the San Francisco Bay area.			
Lodging	\$ _____	Entertainment	\$ _____ In-town taxis \$ _____
Food/Beverage	\$ _____	Retail Purchases	\$ _____ Other (specify): \$ _____
Rental Car	\$ _____		
6 How many people in your party were covered by these expenditures? (Enter a "1" if only for yourself.) <input type="text"/>			
7 If you did not rent a car, what mode of transportation did you use to travel to and from the San Francisco International Airport?			
<input type="checkbox"/> Private Car		<input type="checkbox"/> Taxi	<input type="checkbox"/> Limousine <input type="checkbox"/> Public Bus <input type="checkbox"/> Charter Bus <input type="checkbox"/> BART
<input type="checkbox"/> Scheduled Airporter		<input type="checkbox"/> Door-to-door Van (e.g., Bayporter, SuperShuttle, etc.) <input type="checkbox"/> Hotel/Motel Shuttle	
What was the total cost? \$ _____			
8 Approximately how soon before your scheduled departure time did you arrive at the Airport today? <input type="text"/> hour(s) <input type="text"/> minute			
9 Please provide the following demographic information for yourself and those traveling with you:			
The number of Males: <input type="text"/>		Ages: <input type="text"/>	
The number of Females: <input type="text"/>		Ages: <input type="text"/>	
Please use the back of this form for any additional comments you may have about your experience at SFO today. Thank you!!			

APPENDIX F

Sample Questionnaires for Groundside Surveys

This appendix contains sample survey questionnaires and forms from several airport groundside studies undertaken at three different airports over the past 15 years. Although most of these studies were undertaken some time ago, the issues being addressed have not changed so the questions and methodology will be of interest to airports contemplating similar studies in the future.

Toronto Pearson International Airport 2005 Groundside Survey

The questionnaires and observation forms in this appendix have been included with the permission of the Greater Toronto Airports Authority. They include interview questionnaires and observation forms for the vehicle/passenger survey used during the 2005 Groundside Survey.

Each questionnaire or form was accompanied by a page of notes. These notes were affixed to the back of each clipboard for handy reference by the interviewer/surveyor.

Table F-1 lists the groundside area associated with each form.

Table F-1. Groundside interview forms and locations

Form Designation	Associated Area
CI—Curbside interview CA—Curbside activity	All curb areas including taxi queues, bus stops, and public areas, both arrivals and departures
PI1—Parking interview at the ticket spitter	Entrance to the parking lots of Terminal 2 (demolished since 2005) and Terminal 3
PI2—Parking interview for “pay on foot” machines	The two main payment machine areas at Terminal 1
RI—Rental car interview	Drop-off and pick-up areas
II—Inter-terminal bus interview	Shuttle bus service between terminals

Source: Cripwell, J.P., *Survey Design Report, 2005 Ground Transportation Survey*, Toronto Pearson International Airport, June 2005.

San Francisco International Airport 2012 Shared-Ride Van Survey

The next questionnaire in the appendix was developed for a survey of shared-ride van users at San Francisco International Airport in 2012. The objective of the survey was to obtain information about the users of shared-ride services and their satisfaction with the service provided.

The survey was conducted on the terminal curbside and was administered to both enplaning passengers arriving at the airport by shared-ride van and deplaning passengers who were waiting for or about to board

a shared-ride van for their trip from the airport to their final destination in the region. The questionnaire included in this appendix was used to interview enplaning passengers. The questionnaire for deplaning passengers was essentially the same, except for wording changes to reflect the direction of travel. In the case of the survey of deplaning passengers, questions about their satisfaction with the shared-ride van services referenced their use of shared-ride van on previous air trips, since they had not yet used the van service on their current trip. If the survey respondents had not used a shared-ride van to or from the airport in the past year, the satisfaction questions were skipped.

Los Angeles International Airport Groundside Studies

The final two forms in the appendix illustrate two groundside studies undertaken for Los Angeles World Airports at Los Angeles International Airport.

The first form shows sample results of a terminal curbside survey undertaken in 2014 as part of the planning for the LAX Landside Access Modernization Program to gather information on vehicle dwell times and passenger loads on shared-ride modes, such as shared-ride vans, courtesy shuttles, charter buses, and scheduled bus services. The sample form shows vehicle arrival and departure times from the Level 2 (arrivals) curbside at the Tom Bradley International Terminal on August 8, 2014 from about 7:41 am to about 8:21 am, with the type of vehicle and the number of passengers alighting.

The second form shows sample results from a count of vehicles entering and exiting access driveways to airport-related facilities outside the Central Terminal Area, including public and employee parking facilities, rental car facilities, and cargo facilities. These counts are undertaken annually on one or more Fridays in August for three hours: the morning commute peak hour (assumed to be 8:00 am to 9:00 am), the peak hour for traffic to and from the airport (assumed to be 11:00 am to noon), and the afternoon commute peak hour (assumed to be 5:00 pm to 6:00 pm). Friday is assumed to be the peak day for airport traffic. Vehicles using each driveway are generally counted on one Friday. Counts are made using video recording, with vehicles being classified as cars, trucks, or shuttles, with separate counts for inbound trips (to the facilities) and outbound trips (from the facilities). These counts have been undertaken since 2006. The sample form shows the counts in 2018 for inbound trips in the 8:00 am to 9:00 am morning peak hour for two groups of facilities: cargo facilities and off-airport parking facilities. This form is extracted from a much larger table that shows the inbound and outbound counts for all the facilities for the three time periods (the complete table would be unreadable if reproduced in its entirety on an appendix page).

More details of these studies are reported in:

Los Angeles World Airports, *Draft Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, State Clearinghouse Number 2015021014, Los Angeles, CA, September 2016. Appendix N: On-Airport Traffic.

Los Angeles World Airports, *Traffic Generation Report – Los Angeles International Airport: August 2018*, Prepared by the Planning and Development Group, Los Angeles, CA, November 2019.



Greater Toronto Airports Authority Curbside Interviews

										C	I				
1. Interviewer Initials			2. Station No.			3. Interview No.									
4. Date			2	0	0	5	0	6	5. Time (24h clock)			H	H	M	M
6. Type of Vehicle															
1-Private Vehicle		6-Local Bus (TTC, MT)			9-Remote Parking			13-Other Coach							
2-Taxi		7-Pacific Western Bus - Downtown			10 - Rental Courtesy			14-Truck							
3-Limo		8-Hotel Courtesy			12-Out of Town Service - Small			15-Other							
5-TTC Route 192															
7. No. of occupants (including the driver)															
We are conducting an interview survey of the groundside facilities today at Pearson International Airport. Please help us by answering a few short questions about your trip to the airport today. This information will be used for statistical purposes only.															
8. Have you been interviewed during this trip to the airport today? Yes or No (If Yes then the interview is complete.)															
9. Where did you begin your vehicle trip to the airport today?												Postal Code			
												Address, Municipality			
												Intersection, Municipality			
												Landmark, Hotel			
												Municipality			
10. What type of establishment is at this location?															
1-Residence				3-Hotel/Motel											
2-Business				4-Other											
11. What is the main purpose of your trip to the airport today?															
1-To meet an air passenger (Go to A)				5-Dropping bags for a later flight (Go to B)											
2-To send-off an air passenger (Go to B)				6-Business at the airport (Survey complete)											
3-You will be an air passenger (Go to B)				7-Sightseeing (Survey complete)											
4-You were an air passenger (Go to A)				8-Other Specify _____ (Survey complete)											
A							B								
Arriving Air Passengers							Departing Air Passengers								
12. Did you also park at the airport before coming to the curb? Yes/No							12. Will you also park at the airport? Yes/No								
13. How many air passengers will leave the airport in this vehicle?							13. How many air passengers came to the airport in this vehicle?								
14. How many bags did you check?							14. How many bags will you check?								
15. At what city or airport did this air journey begin?							15. At what city or airport will this air journey end?								
16. Which airline was used?							16. Which airline will be used?								
17. What time did the flight arrive?							17. What time will the flight depart?								
18. Are the air passengers returning home?							18. Are the air passengers leaving from home?								
19. What was/is the main purpose of this air journey?															
1-Business				3-Personal Business											
2-Pleasure				4-Other: Specify											
20. How many days were you away, or will you be away?															
21. Survey Result															
C-Complete				I-Incomplete				L-Language		R-Refusal					
22. Comments:															



Greater Toronto Airports Authority Terminal 1 Parking Interviews

										P	I	1										
1. Interviewer Initials			2. Station No.			3. Interview No.																
4. Date			2	0	0	5	0	6	5. Time (24h clock)			H	H	M	M							
6. Type of Vehicle																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 90%;">1- Private Vehicle</td> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>															1- Private Vehicle	<input checked="" type="checkbox"/>						
1- Private Vehicle	<input checked="" type="checkbox"/>																					
7. Parking Ticket Number																						
<p>We are conducting an interview survey of the groundside facilities today at Pearson International Airport. Please help us by answering a few short questions about your trip to the airport today. This information will be used for statistical purposes only.</p>																						
8. Have you been interviewed during this trip to the airport today? Yes or No (Y/N) (If Yes then the interview is complete.)																						
9. No. of occupants (including the driver)																						
10. What is the main purpose of your trip to the airport today?																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1-To meet an air passenger (Go to A)</td> <td style="width: 50%;">5-Dropping off bags for later flight (Go to B)</td> </tr> <tr> <td>2-To send-off an air passenger (Go to B)</td> <td>6-Business at the airport (Survey complete)</td> </tr> <tr> <td></td> <td>7-Sightseeing (Survey complete)</td> </tr> <tr> <td>4-You were an air passenger (Go to A)</td> <td>8-Other Specify _____ (Survey complete)</td> </tr> </table>					1-To meet an air passenger (Go to A)	5-Dropping off bags for later flight (Go to B)	2-To send-off an air passenger (Go to B)	6-Business at the airport (Survey complete)		7-Sightseeing (Survey complete)	4-You were an air passenger (Go to A)	8-Other Specify _____ (Survey complete)										
1-To meet an air passenger (Go to A)	5-Dropping off bags for later flight (Go to B)																					
2-To send-off an air passenger (Go to B)	6-Business at the airport (Survey complete)																					
	7-Sightseeing (Survey complete)																					
4-You were an air passenger (Go to A)	8-Other Specify _____ (Survey complete)																					
A Arriving Air Passengers							B Departing Air Passengers															
11. Will you also use the curb area to pick up your passengers today? Yes/No/Don't Know							11. Did you also use the curb area to drop passengers before parking? Yes/No															
12. How many air passengers will leave the airport in this vehicle?							12. How many air passengers came to the airport in this vehicle?															
13. How many bags were checked							13. How many bags did they check?															
14. At what city or airport did this air journey begin?							14. At what city or airport will their air journey end?															
15. Which airline is being used?							15. Which airline was used?															
16. What time did the flight arrive?							16. What time will the flight depart?															
17. Where will you end your vehicle trip from the airport today?							Postal Code		Address, Municipality		Intersection, Municipality		Landmark, Hotel		Municipality		17. Where did you begin your vehicle trip to the airport today?					
18. What type of establishment is at this location?																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1-Residence</td> <td style="width: 50%;">3-Hotel/Motel</td> </tr> <tr> <td>2-Business</td> <td>4-Other</td> </tr> </table>					1-Residence	3-Hotel/Motel	2-Business	4-Other														
1-Residence	3-Hotel/Motel																					
2-Business	4-Other																					
19. Are the air passengers returning home?							19. Are the air passengers leaving from home?															
20. What was/is the main purpose of this air journey?																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1-Business</td> <td style="width: 50%;">3-Personal Business</td> </tr> <tr> <td>2-Pleasure</td> <td>4-Other: Specify</td> </tr> </table>					1-Business	3-Personal Business	2-Pleasure	4-Other: Specify														
1-Business	3-Personal Business																					
2-Pleasure	4-Other: Specify																					
21. How many days were you away, or will you be away?																						
22. Would you use a Curbside Valet Parking Service, if offered?																						
23. Survey Result																						
C-Complete			I-Incomplete			L-Language			R-Refusal													
Comments:																						



**Greater Toronto Airports Authority
Terminals 2 and 3 Parking Lot Interviews**

										P	I	2				
1. Interviewer Initials			2. Station No.			3. Interview No.										
4. Date			2	0	0	5	0	6	5. Time (24h clock)				H	H	M	M
6. Type of Vehicle																
<input type="checkbox"/> 1-Private Vehicle <input checked="" type="checkbox"/> X																
7. Parking Ticket No.																
8. No. of occupants (including the driver)																
We are conducting an interview survey of the groundside facilities today at Pearson International Airport. Please help us by answering a few short questions about your trip to the airport today. This information will be used for statistical purposes only.																
9. Have you been interviewed during this trip to the airport today? Yes or No (If Yes then the interview is complete.)																
10. Where did you begin your vehicle trip to the airport today?										Postal Code Address, Municipality Intersection, Municipality Landmark, Hotel Municipality						
11. What type of establishment is at this location?																
<input type="checkbox"/> 1-Residence <input type="checkbox"/> 2-Business			<input type="checkbox"/> 3-Hotel/Motel <input type="checkbox"/> 4-Other													
12. What is the main purpose of your trip to the airport today?																
<input type="checkbox"/> 1-To meet an air passenger (Go to A) <input type="checkbox"/> 2-To send-off an air passenger (Go to B) <input type="checkbox"/> 3-You will be an air passenger (Go to B)				<input type="checkbox"/> 5-Dropping bags for a later flight (Go to B) <input type="checkbox"/> 6-Business at the airport (Survey complete) <input type="checkbox"/> 7-Sightseeing (Survey complete) <input type="checkbox"/> 8-Other Specify _____ (Survey complete)												
A Arriving Air Passengers						B Departing Air Passengers										
13. Will you also use the curb area to pick up your passengers today? Yes/No/Don't Know						13. Did you also use the curb area to drop passengers before parking? Yes/No										
14. How many air passengers will leave the airport in this vehicle?						14. How many air passengers came to the airport in this vehicle?										
15. How many bags did they check?						15. How many bags will you check?										
16. At what city or airport did this air journey begin?						16. At what city or airport will this air journey end?										
17. Which airline was used?						17. Which airline will be used?										
18. What time will the flight arrive?						18. What time will the flight depart?										
19. Are the air passengers returning home?						19. Are the air passengers leaving from home?										
20. What was/is the main purpose of this air journey?																
<input type="checkbox"/> 1-Business <input type="checkbox"/> 2-Pleasure			<input type="checkbox"/> 3-Personal Business <input type="checkbox"/> 4-Other: Specify The													
21. How many days were you away, or will you be away?																
22. Would you use a Curbside Valet Parking Service, if offered?																
23. Survey Result																
<input type="checkbox"/> C-Complete <input type="checkbox"/> I-Incomplete <input type="checkbox"/> L-Language <input type="checkbox"/> R-Refusal																
Comments:																



Greater Toronto Airports Authority Rental Parking Interviews

												R	I		
1. Interviewer Initials			2. Station No.			3. Interview No.									
4. Date		2	0	0	5	0	6	5. Time (24h clock)			H	H	M	M	
6. Type of Vehicle												<input type="checkbox"/> 4-Rental <input type="checkbox"/> 10-Courtesy Vehicle			
7. No. of occupants (including the driver)															
We are conducting an interview survey of the groundside facilities today at Pearson International Airport. Please help us by answering a few short questions about your trip to the airport today. This information will be used for statistical purposes only.															
8. Have you been interviewed during this trip to the airport today? Yes or No (If Yes then the interview is complete.)															
9. What is the main purpose of your trip to the airport today?												<input type="checkbox"/> 3-Dropping off rental - you will be an air passenger (Go to B) <input type="checkbox"/> 4-Picking up rental - you were an air passenger (Go to A) <input type="checkbox"/> 5-Dropping off rental - you will not be an air passenger (interview complete) <input type="checkbox"/> 6-Picking up rental - you were not an air passenger (interview complete)			
A Arriving Air Passengers						B Departing Air Passengers									
10. How many bags did you check?						10. How many bags will you check?									
11. At what city or airport did this air journey begin?						11. At what city or airport will this air journey end?									
12. Which airline was used?						12. Which airline will be used?									
13. What time did the flight arrive?						13. What time will the flight depart?									
14. Where will your vehicle trip end today?						Postal Code Address, Municipality Intersection, Municipality Landmark, Hotel Municipality		14. Where did your vehicle trip start today?							
15. What type of establishment is at this location?												<input type="checkbox"/> 1-Residence <input type="checkbox"/> 2-Business <input type="checkbox"/> 3-Hotel/Motel <input type="checkbox"/> 4-Other			
16. What was/is the main purpose of this air journey?												<input type="checkbox"/> 1-Business <input type="checkbox"/> 2-Pleasure <input type="checkbox"/> 3-Personal Business <input type="checkbox"/> 4-Other: Specify The			
17. How many days were you away, or will you be away?															
18. Survey Result												<input type="checkbox"/> C-Complete <input type="checkbox"/> I-Incomplete <input type="checkbox"/> L-Language <input type="checkbox"/> R-Refusal			
Comments:															



Greater Toronto Airport Groundside Authority

Check List for Supervisors

Supervisor	Team	Date	
1) Start Shift Report for the day			
2) Check with Drake for changes to personnel for the day			
3) Enter team list on Shift Report, ready for sign-in			
4) Vests ready for team pick-up			
5) Get a supply of envelopes			
	a. Team members to complete one on sign-in		
6) Pack bag for the day.			
	a. Pencils		
	b. Sharpener		
	c. Forms – given team composition		
	d. Extra Clipboard		
	e. Cell phone		
	f. Comment cards		
	g. Team member envelopes		
7) Update Surveyor Evaluation Forms from previous day's work			
8) Brief team members on new or changed protocols			
9) First part of team to go with assigned Survey Management Team member to start survey – perhaps 10 minutes prior to shift start.			
10) If all members signed-in then take second part of team to start survey.			
11) If members missing.			
	a. Inform Drake		
	b. Await instructions on incoming new team member.		
	c. Adjust team assignments to compensate.		
	d. Take remainder of team to start survey.		
	e. Standby surveyor will be brought to you – on site.		



Greater Toronto Airports Authority Surveyor Evaluation Form

Supervisor: _____

Date: _____

Surveyor Name: _____

- Completes all relevant survey header information – initials, numbers, station, and date
- Chooses respondents accordingly – finding new vehicles and groups as quickly as possible after completing an interview
- Conveys invitation for the survey in a complete and cordial fashion
- Corresponds with interviewees politely
- Considers appropriateness of answers and probes for further completeness or clarification and where necessary gives examples.
- Has thorough knowledge of the questionnaire
- Is able to switch between interview types
- Has thorough knowledge of the terminal and sectors
- Punctuality
- Attendance

SAN FRANCISCO INTERNATIONAL AIRPORT



SURVEY OF ENPLANING PASSENGERS ABOUT SHARED-RIDE VANS

Recruitment

APPROACH PASSENGERS AS THEY ARE EXITING THE VAN.

RECORD NAME OF VAN COMPANY:

- | | |
|----------------------|---------------------|
| 1 AMERICAN AIRPORTER | 7 PETER'S |
| 2 ADVANCED | 8 QUAKE CITY |
| 3 AIRPORT EXPRESS | 9 SF CITY |
| 4 GO LORRIES | 10 SOUTH & EAST BAY |
| 6 PACIFIC | 11 SUPER SHUTTLE |

Introduction

Good (morning) (afternoon). My name is YOUR FULL NAME, and we are doing a very brief survey of passengers at San Francisco Airport about transportation services. (I only need about three minutes of your time.)

Screening

A. Are you taking a plane out of the airport today?

YES: CONTINUE

NO: THANK AND TERMINATE

Interview

1. Are you a resident of the San Francisco Bay Area or a visitor?

- 1 RESIDENT (CONTINUE)
- 2 VISITOR (SKIP TO Q4)

IF RESIDENT, ASK:

2. And do you live in San Francisco or somewhere else? (IF SOMEWHERE ELSE: And would that be in the East Bay, on the Peninsula south to Mountain View, in the South Bay south of Mountain View, or somewhere else? [IF SOMEWHERE ELSE, ASK: And where would that be?])

- 1 SAN FRANCISCO (CONTINUE)
- 2 EAST BAY (SKIP TO Q4)
- 3 PENINSULA (SKIP TO Q4)
- 4 SOUTH BAY (SKIP TO Q4)
- 5 SOMEWHERE ELSE: _____ (SKIP TO Q4)

IF SAN FRANCISCO, ASK:

3. Which of these neighborhoods is closest to where you live? SHOW CARD AND RECORD CODE: _____

4. Did you come from (IF RESIDENT: home), the home of friends or relatives, a hotel, a place of business, a convention center, or somewhere else? (And where would that be?)

- 1 HOME (SKIP TO Q8)
- 2 HOME OF FRIENDS/RELATIVES (CONTINUE)
- 3 HOTEL (CONTINUE)
- 4 PLACE OF BUSINESS (CONTINUE)
- 5 CONVENTION CENTER (CONTINUE)
- 6 SOMEWHERE ELSE: _____ (CONTINUE)

IF VISITOR OR IF RESIDENT COMING FROM SOMEWHERE OTHER THAN HOME, ASK:

5. And was the place you came from in San Francisco or somewhere else? (IF SOMEWHERE ELSE: And would that be in the East Bay, on the Peninsula south to Mountain View, in the South Bay south of Mountain View, or somewhere else? [IF SOMEWHERE ELSE, ASK: And where would that be?])

- 1 SAN FRANCISCO (CONTINUE)
- 2 EAST BAY (SKIP TO Q8)
- 3 PENINSULA (SKIP TO Q8)
- 4 SOUTH BAY (SKIP TO Q8)
- 5 SOMEWHERE ELSE: _____ (SKIP TO Q8)

IF SAN FRANCISCO, ASK:

6. Which of these neighborhoods is closest to where you came from? SHOW CARD AND RECORD CODE: _____ (SKIP TO Q8)

99 DON'T KNOW (CONTINUE)

IF NEIGHBORHOOD UNKNOWN, ASK:

7. What is the Zip Code of the place you came from?

_____ 9999 DON'T KNOW

8. Why did you decide to take a shared-ride van to TYPE OF DESTINATION (Q4) today? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER REASONS: Why else? IF "CONVENIENT," PROBE: What do you mean by "convenient"? RECORD VERBATIM.

9. Now I (VAN IS THERE: see) (VAN HAS LEFT: saw) that you took a NAME OF VAN COMPANY van to the airport today. Why did you decide to use NAME OF VAN COMPANY today? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER REASONS: Why else?

IF "CONVENIENT," PROBE: What do you mean by "convenient"? IF "HAD A RESERVATION," PROBE: Why did you make a reservation with NAME OF VAN COMPANY rather than with some other company? RECORD VERBATIM.

10. Did your van arrive within the time window the shuttle company gave you, did it arrive before the time window started, or did it arrive after the time window ended?

- 1 WITHIN (SKIP TO Q12)
- 2 BEFORE (CONTINUE)
- 3 AFTER (CONTINUE)

IF BEFORE OR AFTER TIME WINDOW, ASK:

11. How many minutes (before the time window started) (after the time window ended) did the van arrive? _____

12. How many stops did the van make **after your stop** on the way to the airport? _____

13. Including this trip, about how many shared-ride van trips have you made **to or from** San Francisco Airport in the past year? _____

ASK Q14 IF ONLY ONE TRIP. ASK Q15 IF MORE THAN ONE TRIP.

14. Would you say you were very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the _____ on this trip? How about with the _____?

	VERY SAT	SOME SAT	SOME DISSAT	VERY DISSAT	DK/NO OPINION
a. punctuality of the pick-up	4	3	2	1	9
b. number of stops the van made	4	3	2	1	9
c. number of people on the van	4	3	2	1	9
d. safety of the driver's driving	4	3	2	1	9
e. courtesy of the driver	4	3	2	1	9
f. driver's knowledge of area geography	4	3	2	1	9
g. comfort of the vehicle	4	3	2	1	9
h. cleanliness of the vehicle	4	3	2	1	9
i. safety of the vehicles	4	3	2	1	9

SKIP TO Q16.

15. In general, would you say you have been very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the _____?
How about with the _____?

	VERY SAT	SOME SAT	SOME DISSAT	VERY DISSAT	DK/ NO OPINION	NOT APPLICABLE
a. punctuality of pick-ups when you were going to the airport	4	3	2	1	9	7
b. wait times when you were leaving the airport	4	3	2	1	9	7
c. number of stops the van made	4	3	2	1	9	-
d. number of people on the van	4	3	2	1	9	-
e. safety of the drivers' driving	4	3	2	1	9	-
f. courtesy of the drivers	4	3	2	1	9	-
g. drivers' knowledge of area geography	4	3	2	1	9	-
h. comfort of the vehicles	4	3	2	1	9	-
i. cleanliness of the vehicles	4	3	2	1	9	-
j. safety of the vehicles	4	3	2	1	9	-

16. Is there anything else you would like to tell us about the shared-ride van service to and from San Francisco Airport? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER THINGS: What else? RECORD VERBATIM.

17. What is the main purpose of the trip you are taking today?

- 1 VACATION
- 2 VISIT FRIENDS OR RELATIVES
- 3 TRAVEL TO OR FROM SCHOOL
- 4 OTHER PERSONAL – WEDDING, FUNERAL, FAMILY EMERGENCY
- 5 CONVENTION OR CONFERENCE
- 6 OTHER BUSINESS TRIP
- 7 OTHER: _____

18. Including yourself, how many people are in your travel party today? (IF MORE THAN FIVE PEOPLE, SAY: Are all these people family, friends, or colleagues? [A travel party does not include members of a tour group or all the people on a bus or van.]) _____

19. What is your age, please? _____

00 REFUSED

THANK RESPONDENT!

20. RECORD GENDER:

- 1 MALE
- 2 FEMALE

21. RECORD INTERVIEW LOCATION

- 1 TERMINAL 1
- 2 TERMINAL 2
- 3 TERMINAL 3
- 4 INTERNATIONAL TERMINAL

NAME: _____

INTERVIEW DATE: 8/____/12

INTERVIEW TIME:

- 1 MORNING 2 AFTERNOON

VEHICLE DWELL TIME AND OCCUPANCY SURVEY
Los Angeles International Airport

Surveyor Name: Jim Regas

Terminal: TBIT

AM

Level: 2

Curb:

	Private Car	Private Car/ing Shuttles	Public Transportation Bus	Charter / Intensity Bus	Limousine	Fly Away	SuperShuttle	Los Buses	Hotel Shuttle	Taxicab	Private Vehicle	Notes ⁿ	Passengers	Time Vehicle Stops at Curb (hr:min:sec)	Time Vehicle Departs Curb (hr:min:sec)	
X														4	7 : 41 : 17	7 : 41 : 23
												Unmarked Van		4	7 : 43 : 8	7 : 44 : 17
					X									4	7 : 44 : 35	7 : 44 : 53
								X						1	7 : 45 : 12	7 : 45 : 27
					X									6	7 : 45 : 41	7 : 46 : 9
										X				3	7 : 46 : 16	7 : 47 : 24
											X			3	7 : 47 : 39	7 : 48 : 10
		X												1	7 : 48 : 25	7 : 48 : 49
		X												2	7 : 49 : 19	7 : 50 : 21
										X				4	7 : 50 : 39	7 : 51 : 40
							X							1	7 : 51 : 21	7 : 52 : 24
											X			1	7 : 52 : 46	7 : 53 : 18
											X			2	7 : 53 : 46	7 : 54 : 29
										X				3	7 : 55 : 11	7 : 56 : 24
												Mobility Assisted		1	7 : 56 : 5	7 : 59 : 20
												Prime Time		1	7 : 57 : 19	8 : 0 : 36
											U			4	7 : 57 : 41	8 : 0 : 19
							X							2	8 : 0 : 27	8 : 0 : 40
										X				3	8 : 1 : 21	8 : 1 : 54
		X												1	8 : 2 : 8	8 : 2 : 24
											X			1	8 : 2 : 36	8 : 3 : 27
										X				1	8 : 3 : 17	8 : 3 : 29
					X									4	8 : 4 : 27	8 : 4 : 51
			X											3	8 : 6 : 19	8 : 7 : 16
								X						4	8 : 8 : 33	8 : 9 : 6
									X					1	8 : 10 : 39	8 : 10 : 56
											X			1	8 : 11 : 1	8 : 11 : 39
								X						2	8 : 11 : 27	8 : 11 : 52
							X							2	8 : 12 : 21	8 : 12 : 34
		X												4	8 : 14 : 46	8 : 15 : 39
												Airport Center Express		1	8 : 15 : 46	8 : 16 : 22
												Unmarked Van		16	8 : 17 : 51	8 : 20 : 45
											X			2	8 : 19 : 21	8 : 20 : 32
					X									2	8 : 20 : 17	8 : 20 : 52

Source: Los Angeles World Airports, *Draft Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, Appendix N: On-Airport Traffic, page 110.

LAX Airport Driveway Vehicle Counts: August 2018

LOCATION		Date Recorded	Day	AM (8 AM - 9 AM)			
				Cars	Trucks	Shuttles	Total
Cargo Facilities							
Aviation Boulevard and 104th Street (west leg)		8/3/2018	FRI	140	44	1	185
Aviation Boulevard and 111th Street (west leg)		8/3/2018	FRI	89	55	0	144
Century Boulevard and Airport Drive (south leg)		8/3/2018	FRI	85	9	0	94
Century Boulevard and Airport Boulevard (south leg)		8/3/2018	FRI	48	13	0	61
Century Boulevard and Postal Road (south leg)		8/3/2018	FRI	24	16	0	40
Century Boulevard and International Road (south leg)		8/3/2018	FRI	47	8	0	55
Imperial Highway and Imperial Terminal (north leg)		8/3/2018	FRI	69	13	0	82
Imperial Highway and California Street (north leg)		8/10/2018	FRI	70	13	2	85
Imperial Highway and Hughes Way (north leg)		8/3/2018	FRI	70	17	0	87
Imperial Highway and unsignalized driveway e/o Hughes Way (north leg)		8/3/2018	FRI	38	32	0	70
Imperial Highway and Kilroy Center Drive (north leg)		8/3/2018	FRI	3	2	0	5
Imperial Highway and Douglas Street (north leg)		8/3/2018	FRI	66	32	0	98
Imperial Highway and unsignalized driveway w/o Aviation Blvd (north leg)		8/3/2018	FRI	27	23	0	50
Subtotal				776	277	3	1056
Off Airport Parking Facilities							
The Parking Spot - two driveways on Bellanca Avenue s/o 98th Street		8/3/2018	FRI	5	0	0	5
The Parking Spot - driveway on 98th Street w/o Bellanca Avenue		8/3/2018	FRI	6	0	12	18
The Parking Spot - driveway on Century Boulevard w/o Bellanca Avenue		8/10/2018	FRI	41	0	0	41
Wally Park Express - 96th Street e/o Sepulveda Blvd		8/10/2018	FRI	4	0	8	12
Wally Park Express - Sepulveda Blvd s/o 96th Street		8/10/2018	FRI	10	0	7	17
Wally Park - 2 driveways on Bellanca Ave n/o 98th Street		8/3/2018	FRI	169	0	11	180
Parking Spot - Sepulveda Westway s/o Westchester Pkwy		8/10/2018	FRI	35	0	1	36
Parking Spot - Westchester Pkwy w/o Sepulveda Blvd		8/10/2018	FRI	24	0	10	34
Park One - "Little" Century Blvd w/o Sepulveda Blvd		8/10/2018	FRI	27	0	0	27
Park One - South side of 96th Street west of Alverstone Avenue		8/11/2017	FRI	32	0	7	39
Quik Park - 98th Street w/o Vicksburg Ave		8/18/2017	FRI	49	0	17	66
Subtotal				402	0	73	475

Source: Los Angeles World Airports, Traffic Generation Report – Los Angeles International Airport: August 2018, Table 8 (part).

APPENDIX G

Sample Questionnaires for Employee Surveys

This appendix contains two sample questionnaires for airport employee surveys. The first questionnaire is reproduced from ACRP Report 26: *Guidebook for Conducting Airport-User Surveys* (which this report replaces) and is based on employee surveys performed by Jacobs Consultancy at various airports that were focused mainly on employee use of airport concessions.

The second questionnaire was developed for a 2017 survey of employees at New York LaGuardia Airport.

New York LaGuardia Airport 2017 Employee Survey

The LaGuardia Airport (LGA) employee survey was undertaken in August 2017 to obtain data on employee mode of travel to and from work and likely use of a planned people-mover, termed AirTrain LGA, to improve the connection between the airport and the New York subway system and Long Island Rail Road. The survey was programmed on tablets and employees were interviewed at three locations: the airport Identification Badging office, Hangar 7, and the Delta Airlines terminal. Survey responses were obtained from 824 employees.

The survey questionnaire included questions addressing the likely use of the planned AirTrain service by the respondents (pages 5 to 7 of the questionnaire), which have been omitted from the copy of the questionnaire in this appendix, since they would not apply in any other situation. However, they can be found in the report cited below.

More details of the survey and its use in the AirTrain ridership forecasting are given in:

The Port Authority of New York & New Jersey, *AirTrain LGA: LGA Ground Access Mode Choice Model and AirTrain Ridership Forecast 2025-2045*, New York, NY, October 2018. Appendix A: Airport Surveys Used in the Modeling Process.

**XXX INTERNATIONAL AIRPORT
EMPLOYEE SURVEY**

Hello, we are undertaking a survey for the XXX International Airport to obtain customer input to the terminal modernization plan. Your responses will help us to plan the facilities, shops & services for the terminal re-development at the airport.

Please provide information about your employment and use of the concessions

- A1. Do you work full time or part-time at the airport?
 1 Full-time
 2 Part time
- A2. Who do you work for at the airport?
 1 Airport / Security
 2 Airline
 3 Other
- A3. Where do you mostly work? **(Check 1 box)**
 1 In the terminal
 2 In an office within the terminal
 3 In an office outside the terminal
 4 On the ramp
 5 In a remote facility (i.e., hanger)
 6 On board a plane
 8 Outside front of terminal
- Other **[SPECIFY]** _____

- B1. How often do you bring your own meal to work?
 [WRITE IN NUMBER] _____ times per week
- B2. How often do you visit and how much do you spend on average at the restaurants and shops at the airport:
 (Select most appropriate time frame – day, week OR month – and input frequency & amount)

Restaurants: (including coffee shops, kiosks, etc)	
_____ visits per day	\$ _____ per day
OR _____ visits per week	\$ _____ per week
OR _____ visits per month	\$ _____ per month
Retail Shops: (books, magazines, gifts, clothes, etc.)	
_____ visits per day	\$ _____ per day
OR _____ visits per week	\$ _____ per week
OR _____ visits per month	\$ _____ per month

- B3. If you don't use the food & beverage concessions at the airport, what are your reasons for not doing so?
(Check All applicable answers)
- 1 Poor selection of restaurant/food outlets
 2 Poor selection of food offered
 3 No seats/tables available
 4 Lines for service usually too long
 5 Facilities are dirty
 6 Prices are too high
 7 Restaurants/outlets often closed
 8 Don't have time
 9 Prefer to bring my own food with me
- Other **[SPECIFY]** _____

STORE PREFERENCES

- C1. Which types of food service do you prefer?
(Check 1 box)
- 1 Combination of national and local brands
 2 Mainly national brands
 3 Mainly local/regional brands
 4 No preference
- C2. What types of retail stores would you prefer?
(Check all applicable answers)
- 1 Nationally owned stores
 2 Regionally known or owned stores
 3 Specialty shops
 4 No preference

Below is a general list of store products and services. Please read this list and indicate which of these stores you would visit if they were available at the airport.

- D. Convenience Products**
- 1 Business/office supplies
 2 Greeting Cards
 3 Books/Magazines/ Newspapers
 4 Personal Care Items
 5 Any Other Suggestions:

- E. Items for Gifts or Personal Use**
- 1 Cosmetics/Soap/Gifts

- 2 Candy/Chocolates
 3 Arts and Crafts
 4 Wine/Liquor
 5 Tapes/Compact Discs
 6 Gift Food/Local Food
 7 Entertainment retail
 8 Toys/Games/ Stuffed Animals
 9 Golf/Tennis/Sporting Goods
 10 Jewelry
 11 China/Pottery
 12 Watches
 13 Electronics Shop

- 14 Local Theme Shop
 15 Museum Shop
 16 Other Suggestions:

- F. Apparel and Accessories**
- 1 Women's Stockings, Socks, Scarves, Shoes
 2 Women's Clothing
 3 Men's Clothing
 4 Men's Ties, Belts, Shoes and Socks
 5 Children's /Infants Clothing

- 6 Luggage, Handbags, Leather Goods
- 7 Sports Clothing
- 8 Jeans
- 9 Other Suggestions:

- G. Convenience & Personal Services**
- 1 Post Office
 - 2 Business Centre with Fax and Photocopy
 - 3 Courier (FedEx, UPS, etc)
 - 4 Shoe Shine
 - 5 Barber Shop/Hair Salon
 - 6 Florist
 - 7 Automated teller machines
 - 8 Lottery Ticket Sales
 - 9 1-Hour Photo Developing
 - 10 Pharmacy / Drug Store
 - 11 Massage therapy
 - 12 Health Club/Spas
 - 13 Any Other Suggestions:

- H. Travel Services**
- 1 Automobile Service Station
 - 2 Travel Agent
 - 3 Baggage Lockers/ Storage
 - 4 Travel Insurance
 - 5 Courtesy Telephone
 - 6 Hotel Information
 - 7 Tourism Information
 - 8 Concierge Service
 - 9 Other Suggestions:

- I. Leisure Services**
- 1 Arcade/Game Room
 - 2 Children's Play Area
 - 3 Internet Kiosks
 - 4 TV/Video Monitors
 - 5 Chapel/Meditation Room
 - 6 Other Suggestions:

- J. Food & Beverage – Type of Service**
- 1 Fast Food/Food Court
 - 2 Full (Table) Service Restaurant

- 3 Cafe (limited service restaurant)
- 4 Cafeteria (Self Service)
- 5 Cocktail bar, lounge, pub
- 6 Specialty food served at kiosk or cart

- K. Food Services - Type of Food**
- 1 Pizza
 - 2 Salads
 - 3 Deli - Sandwiches
 - 4 Chinese
 - 5 Health Food
 - 6 Coffee/Donuts
 - 7 Italian Food/Pasta
 - 8 Chicken
 - 9 Hamburgers/ Hot dogs
 - 10 Tex-Mex
 - 11 Fish & Chips
 - 12 Seafood
 - 13 Steak / Ribs
 - 14 Soup
 - 15 Baked goods/pastry
 - 16 Ice Cream/Frozen Yoghurt
 - 17 Pretzels Popcorn
 - 18 Juice/Fruit
 - 19 Specialty Coffee (expresso, cappuccino, etc.)
 - 20 Other suggestions:

Please indicate which stores you would likely visit if they were present at the airport

- M. Apparel**
- 1 Banana Republic
 - 2 Victoria Secret
 - 3 Tie Rack
 - 4 Chanel
 - 5 Louis Vuitton
 - 6 Mont Blanc
 - 7 Brooks Brothers
 - 8 Sunglass Hut
 - 9 Wilson's Leather
 - 10 Leather Care
 - 11 Bon Voyage Luggage
 - 12 US Open Golf House
 - 13 PGA Tour Shop
 - 14 Tony Bahama
 - 15 Airport Wireless palmOne
 - 16 Other(s):

- N. Books and Records**
- 1 Barnes & Noble
 - 2 Books A Million
 - 3 Hudson Booksellers
 - 4 WH Smith
 - 5 Music World
 - 6 Sam Goody
 - 7 Other suggestions:

- O. Beauty**
- 1 The Body Shop
 - 2 Bath & Body Works
 - 3 Clinique / Estee Lauder
 - 4 Perfumania
 - 5 Other suggestions:

Please indicate which restaurants you would likely visit if they were present at the airport

- 1 Starbucks
- 2 Seattle's Best
- 3 Krispy Kreame
- 4 Samuel Adam's Brewhouse
- 5 Subway
- 6 Arby's
- 7 Au Bon Pain
- 8 McDonald's
- 9 Burger King
- 10 Wendy's
- 11 Krystal (burgers)
- 12 KFC
- 13 Church's Chicken
- 14 Chick-Fil-A
- 15 Taco Bell
- 16 Chili's
- 17 Pizza Hut
- 18 Domino's
- 19 Papa John's
- 20 Quizno's
- 21 Golden Rule BBC+Grill
- 22 Milo's Southwest Grill
- 23 Applebee's
- 24 Ruby Tuesday
- 25 Zoe's Kitchen
- 26 TGI Fridays
- 27 Sbarro, The Italian Eatery
- 28 Waffle House
- 29 Ben & Jerry's
- 30 Dairy Queen
- 31 Baskin/Robbins 31 Flavors
- 32 Marble Slab Creamery
- 33 Godiva Chocolatier
- 34 Candy Express
- 35 Other suggestions:

LGA Employee Survey

TO BE FILLED OUT BY INTERVIEWER BEFORE INITIATING SURVEY:

Interview Date: ___/___/___ Interview Time: ___:___ AM / PM Interviewer ID / Name: _____

Interview Platform/Location (Completed by interviewer) _____

1. Do you work at LGA Airport? This includes any employer at or near LGA Airport, or if you are employed by an airline. (Check ONE box)

- 1 Yes 2 No (Term) 3 Refused (Term)

2. **Note ONLY – No Response Required** Thank you for taking the LGA Airport Employee Travel Survey! We have a few questions about how you travel to, from, and within LGA. Your answers will help us to improve your travel options in the future.

2a. Do you live in the New York, New Jersey, Connecticut or Pennsylvania local areas? (Check ONE box)

- 1 Yes 2 No

2b. [IF Q2a is "No", ASK] From which location did you come to LGA today? READ LIST

- 1 Hotel near LGA 2 Other hotel 3 Other accommodation

3. For which type of company or entity do you work at LGA? (Check ALL that apply)

- | | |
|---|--|
| <input type="checkbox"/> 1 Airline flight crew | <input type="checkbox"/> 5 Airport ground transportation |
| <input type="checkbox"/> 2 Airline other | <input type="checkbox"/> 6 Airport contractor |
| <input type="checkbox"/> 3 Airport security | <input type="checkbox"/> 7 Other (please specify) _____ |
| <input type="checkbox"/> 4 Airport vendor (store, restaurant, etc.) | |

4. Do you work at that company full time or part time? (Check ONE box)

- 1 Full time 2 Part Time

5. What is the primary location of your work? (Check ONE box)

- | | |
|---|--|
| <input type="checkbox"/> 1 Terminal A | <input type="checkbox"/> 7 Car rental area at Federal Circle |
| <input type="checkbox"/> 2 Terminal B | <input type="checkbox"/> 8 Parking area
(please specify parking lot) _____ |
| <input type="checkbox"/> 3 Terminal C | <input type="checkbox"/> 9 Employee Parking area
(please specify parking lot) _____ |
| <input type="checkbox"/> 4 Terminal D | <input type="checkbox"/> 009 Other (Specify) _____ |
| <input type="checkbox"/> 5 Cargo area
(please specify building number) _____ | |
| <input type="checkbox"/> 6 Hangar area | |

6. In a typical week, how many days do you work at LGA Airport? (Check ONE box)

- | | |
|-----------------------------------|-----------------------------------|
| <input type="checkbox"/> 1 1 day | <input type="checkbox"/> 8 5 days |
| <input type="checkbox"/> 2 2 days | <input type="checkbox"/> 9 6 days |
| <input type="checkbox"/> 3 3 days | <input type="checkbox"/> 0 7 days |
| <input type="checkbox"/> 4 4 days | |

7. What time does/did your most recent shift at LGA Airport start? (Please indicate the time, including AM or PM)

<input type="checkbox"/> 12	<input type="checkbox"/> 00
<input type="checkbox"/> 1	<input type="checkbox"/> 30
<input type="checkbox"/> 2	
<input type="checkbox"/> 3	
<input type="checkbox"/> 4	<input type="checkbox"/> AM
<input type="checkbox"/> 5	<input type="checkbox"/> PM
<input type="checkbox"/> 6	
<input type="checkbox"/> 7	
<input type="checkbox"/> 8	
<input type="checkbox"/> 9	
<input type="checkbox"/> 10	
<input type="checkbox"/> 11	

8. About how long is/was your shift? (Please indicate the number of hours)

9. Typically, how long is your door to door commute to work? (Please indicate the number of minutes)

10. For your commute to work today, what is the address or nearest intersection (or zip code) of your starting location? (Please be as specific as possible)

11. How did you get to the airport for work today? (Check ALL that apply)

Personal Car

- 1 Drive your own car
- 2 Shared a ride in another person's private vehicle

Rental Car

- 3 Drive or was passenger in Rental Car
(Please specify company name) _____

Rail/Train/Subway

- 4 NJ Transit or Amtrak
- 5 PATH
- 6 Metro-North Railroad
- 7 NYC Subway
(Please specify all lines) _____
- 8 LIRR

Hired Car/ Van Service

- 9 Taxi
- 10 Limo/Executive Car/Town Car Service
- 11 Uber

- 12 Lyft

Bus

- 13 Public/City Bus (that is, a local bus)
- 14 NYC Airpporter Bus from Manhattan
- 15 Newark Liberty Airport Express Bus from Manhattan
- 16 NYC Airpporter Bus between JFK/LaGuardia Airports
- 17 Chartered/Tour Bus
- 18 Transbridge Bus

Local Airport Transport

- 19 Hotel/Motel Shuttle/Van
- 20 On-Airport Parking Lot Bus
- 21 On-Airport Terminal Access Shuttle Bus
- 22 Off-Airport Parking Co. Shuttle/Van
(Please specify Company) _____
- 23 Other (Specify) _____

11a. **Ask only if Q.11 equals Public/City Bus** Which NYC Transit/MTA bus route did you take to LaGuardia Airport today? (Check ALL that apply)

- 1 Q70 SBC LaGuardia Link
- 2 M60 SBS
- 3 Q47
- 4 Q33 (then walk to airport)
- 5 Q48
- 6 Q72
- 7 Q23 (then walk to airport)

12. **Ask only if Q.11 = LIRR, NYC Subway or NYC Bus** How did you pay for your transit ride today? (Check ONE box)

- 1 Pay per ride (MetroCard or LIRR ticket)
- 2 Monthly pass
- 3 Weekly pass
- 4 10 Ride pass
- 5 Did not have to pay to ride

13. **Ask only if Q11 = LIRR, NYC Subway or NYC Transit bus** Is your public transit cost reimbursed by your employer? (Check ONE box)

- 1 Yes – Fully reimbursed
- 2 Yes – Partially reimbursed
- 3 No

13a. **Ask only if Q11 = LIRR, NYC Subway or NYC Transit bus** Was a private car available to you for this trip? (Check ONE box)

1 Yes 2 No – I do not own a car 3 No – I own a car but it was used by somebody else

14. **Ask only if Q11 = Drive own car** What is the main reason that you drove yourself to the airport for work today? (Check ONE box)
- 1 Cost
 - 2 Convenience
 - 3 Only available mode of transportation
 - 4 Other (Specify) _____

15. **Ask only if Q11 = Drive own car or Shared a ride** Are you part of a shared ride or carpool group? (Check ONE box)

- 1 Yes
- 2 No

16. **Ask only if Q15 = Yes** Was the car you rode to work in today driven... (Check ONE box)

- 1 To your work location, then off-airport
- 2 To your work location, then to an on-airport parking facility
- 3 Directly to an off-airport parking facility
- 4 Directly to an on-airport parking facility

17. **Ask only if Q15 = Yes** Did you/the driver of the car pay for parking today? (Check ONE box)

- 1 Yes, fully paid by me/driver
- 2 Yes, fully or partially re-imbursed by employer
- 3 No, employer provides parking
- 4 No

18. **Ask only if Q11 = Drive own car or Shared a ride** Where did you/the driver park the car? (Check ONE box)

- 1 P6, Parking Lot (near Terminal A)
- 2 P2 Parking Garage (in front of Terminal B)
- 3 P4 Parking Garage (in front of Terminal C)
- 4 Employee Parking Lot
- 5 P10 Parking Lot (near Terminal A)-Long Term Parking
- 6 P4 Parking Lot (in front of Terminals C & D)
- 7 P5 Parking Lot (on the side of Terminal D)

19a. Do you travel from terminal to terminal during your workday? (Check ONE box)

- 1 Yes
- 2 No

19b. **Ask only if Q19a = Yes** How many times per day?

Please specify the number of times per day _____

19c. **Ask only if Q19a = Yes** What mode of travel did you use to get from terminal to terminal?

Please specify the mode of travel: _____

20. In what year were you born? (Please indicate full year, for example, 1988)

--	--	--	--

21. In US dollars, what was the total combined income (before taxes) for your household in 2016? (Check ONE box)

- | | |
|--|--|
| 1 <input type="checkbox"/> Under \$25,000 | 7 <input type="checkbox"/> \$150,000 - \$174,999 |
| 2 <input type="checkbox"/> \$25,000 - \$49,999 | 8 <input type="checkbox"/> \$175,000 - \$199,999 |
| 3 <input type="checkbox"/> \$50,000 - \$74,999 | 9 <input type="checkbox"/> \$200,000 - \$299,999 |
| 4 <input type="checkbox"/> \$75,000 - \$99,999 | 10 <input type="checkbox"/> \$300,000 or greater |
| 5 <input type="checkbox"/> \$100,000 - \$124,999 | 999 <input type="checkbox"/> Decline to answer |
| 6 <input type="checkbox"/> \$125,000 - \$149,999 | |

22. (Do not read) (Check ONE box)

- 1 Male 2 Female

23. Please rank the relative importance of the following airport access trip attributes. (Please use 1 for the most important item and 7 for the least important item; please assign a number to each item)

- | | |
|-----------------------------------|-------------------------|
| ___ Total travel time | ___ Convenience |
| ___ Number of transfers | ___ Comfort |
| ___ Predictability of travel time | ___ Safety and Security |
| ___ Cost per person | |

24. Please rank the relative importance of the following airport access convenience factors. (Please use 1 for the most important item and 7 for the least important item; please assign a number to each item)

- | | |
|--|---|
| ___ Waiting time (e.g. waiting for the subway or taxi) | ___ Ease of payment options (i.e. mobile payment) |
| ___ Walking time | ___ Ease of transfer (if transfer required) |
| ___ Avoiding stairs | |
| ___ Crowding (possibility of finding a seat) | |

APPENDIX H

Sample Questionnaires for Concessionaire and Tenant Surveys

Surveys of airport concessionaires and other tenants are typically conducted for one of two purposes: to assemble data for economic impact studies or to measure tenant satisfaction with airport tenant communications and procedures. This appendix contains two sample questionnaires that address the first of these purposes.

San Francisco International Airport 2017 Economic Impact Study Tenant Survey

The first questionnaire was used to obtain employment and spending data from airport tenants at San Francisco International Airport in support of the 2017 Economic Impact Study Update for the airport. More details of this study are reported in:

Economic Development Research Group, Inc., *2017 Economic Impact Study Update – San Francisco International Airport*, Prepared for City and County of San Francisco, San Francisco Airport Commission, San Francisco, CA, July 2017.

Wyoming Division of Aeronautics 2020 Economic Impact Study

The second questionnaire was used to obtain employment, spending, and aviation activity data from airport tenants at Wyoming airports in support of the 2020 economic impact study covering all general aviation and commercial airports in Wyoming.

San Francisco International Airport Economic Impact Study

Airport Tenant Survey Questionnaire

The questions below will provide data needed to analyze the economic impacts of companies that operate at the San Francisco International Airport. Your confidential responses will be sent to ***** with the Economic Development Research Group (EDR Group). Company-specific responses will not be available to the Airport Staff and will be kept confidential. Only industry totals and averages will be reported. Please complete this survey by **Friday, January 11**.

PLEASE READ BEFORE BEGINNING

1. Please gather the following information before starting. Once you have this information the survey should take 5 minutes or less to complete.

- Total number of full-time and part-time employees (including on payroll and contracted staff, if any)
- Counties where employees live
- Annual payroll, including contract staff, if any (this will help assure overall accuracy of the study and will not be attributed to your company).

2. Please answer this survey for activities at San Francisco International Airport and also for operations off-airport that would not exist were it not for SFO. For example, your business on-airport could be supported by a warehouse or back office space that is located "outside the fence" of the airport. **Please only include off-airport operations that are 100% dedicated to supporting your on-airport activities.**

- 1) What is your firm's primary product or service? (Write in answer that best describes your business. Multiple answers can be provided if you have two or more business types.)

- 2) How many people does your firm employ or contract with at the San Francisco International Airport?

- Full Time (30 hours per week or more) _____
- Part Time (Less than 30 hours per week) _____
- Independent Contractors (full and part time) .. _____
- **Total** _____

- 3) Please provide the number of employees that live in the Bay Area counties listed below. This is to document the economic importance of the Airport to each Bay Area County as well as the Bay Area overall.

COUNTY	NUMBER OF EMPLOYEES
San Mateo County	_____
San Francisco County	_____
Santa Clara County	_____
Alameda County	_____
Marin County	_____
Contra Costa County	_____
Sonoma County	_____
Napa County	_____
Solano County	_____
Outside of Bay Area	_____
Total (should match total in Question #2)	_____

- 8) Please write in your name as survey responder, and your contact information in case we need to ask a follow up question

Name _____
Company _____
Email Address _____
Phone (555-5555-555) _____

Once again, thank you for your assistance.
Please fax or mail responses to ***** with EDR Group at

2140 Shattuck Ave. #2239, Berkeley, Ca. 94702
510-898-1778 (fax)
510-684-6253 (phone)
*****@edrgroup.com



AIRPORT TENANT SURVEY

The Wyoming Department of Transportation's Aeronautics Division is updating the state's economic impact study for all general aviation and commercial airports. We need your help as we gather critical information in support of this effort. This study will ultimately identify the economic impacts and other benefits generated and supported by airports in Wyoming. It will also focus on collecting specific examples from all airport tenants on the ways each airport supports the communities it serves. Your timely and complete participation in this survey effort is critical to the success of this study and to our efforts.

THANK YOU FOR ASSISTING US WITH THIS IMPORTANT EFFORT!

This survey can be completed online or you can provide your responses using this enclosed survey. We encourage all airport tenants to complete the on line version of the study. The survey can be completed on line at: <https://wyecon.wufoo.com/forms/tenant-survey>. An envelope with pre-paid postage is included for your convenience. If mailing your completed survey, please be sure to maintain a copy for your records. A member of the consulting team will be contacting you to review your responses.

Please complete and return this survey by December 20, 2019.

1. Business Information:

Business Name: _____

Contact Name: _____

Business Phone: _____

Business Email: _____

2. Airport where your business is located in Wyoming: _____

3. Please check the PRIMARY category that describes your aviation-related business:

- | | |
|--|---|
| <input type="checkbox"/> FBO | <input type="checkbox"/> Medical/Emergency Services |
| <input type="checkbox"/> Aircraft Rental or Charter | <input type="checkbox"/> Military |
| <input type="checkbox"/> Aircraft Maintenance/Avionics | <input type="checkbox"/> Aviation Education |
| <input type="checkbox"/> Aircraft Sales | <input type="checkbox"/> Government (including FAA) |
| <input type="checkbox"/> Flight/Mechanic Training | <input type="checkbox"/> Air Cargo/Freight |
| <input type="checkbox"/> Rental Car | <input type="checkbox"/> Corporate Flight Department |
| <input type="checkbox"/> Auto Parking | <input type="checkbox"/> Agricultural/Timber Spraying |
| <input type="checkbox"/> Other Ground Transportation | <input type="checkbox"/> Terminal Concessions |
| <input type="checkbox"/> Airline | <input type="checkbox"/> Other (please specify type of business): |
| <input type="checkbox"/> Security/TSA | _____ |



For the employment/payroll questions that follow, please provide information only for this Wyoming airport. If you have operations at other airports (either in Wyoming or in other states), please do not report that information here. You will receive a separate survey if you have operations at other airports in Wyoming. The name of your business will not be reported in any study documents.

4. How many full-time people does your business employ at this airport? _____
A. What is the total annual salary for all of these full-time employees (exclude benefits)? \$ _____
5. How many part-time people does your business employ at this airport? _____
A. What is the total annual salary for all part-time employees (exclude benefits)? \$ _____
6. How many employees do you have that work on a seasonal basis? _____
A. What is the total annual salary for all seasonal employees (exclude benefits)? \$ _____
7. If your aviation business is located at one of Wyoming's commercial airports, what percent of all employees reported in Questions #4, #5, and #6 are dedicated to supporting the airport's commercial airline function? _____%
8. Please provide your annual cost to purchase goods, materials, and supplies to run your business: \$ _____
A. If the operating expenses reported for Question #8 include the purchase of fuel which is then resold, please indicate how much is spent annually to purchase fuel: \$ _____
B. If you are a tenant that supports the airport's commercial airline function, approximately what percent of the operating budget reported in #8A is devoted to the commercial airline function? _____%
9. If your business has completed any major construction or capital improvement projects at this airport over the past five years that have been funded exclusively through private investment, please provide the total estimated cost for these improvements:
A. Total estimated cost for the improvement: \$ _____
B. Type(s) of project(s): _____
C. If your project was at a commercial airport, what percent of the project cost reported in #9A was related to supporting the airport's commercial airline function? _____%
10. If your business accommodates transient (visiting) general aviation aircraft, what is the typical fleet mix for the weekly visiting aircraft arrivals?
A. Number of weekly visiting aircraft arrivals by single-engine aircraft: _____
i. Number of pilots/passengers typically arriving on each single-engine aircraft: _____
B. Number of weekly visiting aircraft arrivals by multi-engine aircraft: _____
i. Number of pilots/passengers typically arriving on each multi-engine aircraft: _____
C. Number of weekly visiting aircraft arrivals by business jets: _____
i. Number of pilots/passengers typically arriving on each business jet: _____



11. Of all annual general aviation visitors who arrive in Wyoming via your airport what percent stay only for the day and what percent stay one or more nights on their trip? Day only _____% One or more nights _____% (answer should total 100%).

12. One objective in this study is to demonstrate how this airport supports the communities it serves. To help us meet this objective, please provide as much information as you can related to the types of activities this airport supports:

	Yes	No	Name(s) of User(s)
State/Federal Agencies			
Search and Rescue			
Customs			
Colleges/Universities			
Local Businesses			
Visiting Businesses			
Hospitals/Clinics			
Flying Doctors			
Patient Transport			
Military Operations			
Law Enforcement			
Resorts/Recreation			
Medical Flights			
Aerial Observation of Wildlife			
Power Line Patrols			
Natural Resource Management			
Inspection of Water Resources			
Forest Fire Fighting			
Aerial Applicators			
Just-in-Time Shipments			
Other (please specify)			

THANK YOU FOR YOUR PARTICIPATION!

A member of our consulting team will be contacting you to review your survey results and to discuss with you other aspects of this important project.

APPENDIX I

Sample Questionnaires for Area Resident and Business Surveys

Appendix I contains two questionnaires that were developed for use with area residents and businesses. Both address reactions to the COVID-19 pandemic. Both were conducted for San Francisco International Airport and were designed by Corey, Canapary & Galanis Research.

INSERT -2 HERE



SFO - Bay Area Businesses Recovery Survey 2020 (May/June 2020)

San Francisco Airport (SFO) is conducting a survey with employees from Bay Area companies about air travel for the remainder of 2020. The survey will take about 8-10 minutes to complete. Your response is very important to SFO.

Inform respondent:

- *This survey is being conducted by San Francisco International Airport (SFO)*
- *No selling is involved*

Travel Policy

1. Has your company limited employee air travel since the Coronavirus outbreak?

- Yes
- No
- Don't know (thank and discontinue)

2. In what month did company air travel policies begin to change?

- April 2020
- March 2020
- February 2020
- January 2020 or earlier
- NA – Our organization has not restricted travel

3. Briefly describe your company's current air travel policy for the remainder of 2020.

4. At what point do you anticipate your company will resume limited employee air travel?

- Next month, June 2020 (or sooner)
- The 3rd quarter of 2020, July to Sep
- The 4th quarter of 2020, Oct to Dec
- The first half of 2021, Jan to Jun
- The second half of 2021, Jul - Dec
- Sometime in 2022 or later
- Other (specify) _____
- Not applicable, our employees are flying on a limited basis now

5. At what point do you anticipate your company will resume regular employee air travel?

- Next month, June 2020 (or sooner)
- The 3rd quarter of 2020, July to Sep
- The 4th quarter of 2020, Oct to Dec
- The first half of 2021, Jan to Jun
- The second half of 2021, Jul - Dec
- Sometime in 2022 or later
- Other (specify) _____
- Not applicable, our employees are flying on a regular basis now

SFO Changes

6. SFO and other airports are currently considering changes to help make travelers feel safer. Using a 5-point scale, please rate the importance of each idea below in making business travelers feel safer when using SFO... (If necessary: Some of these changes have already been implemented and some are being considered)

	Extremely Important	Not Important			
a. Strict social distancing guidelines and enforcement throughout SFO	5	4	3	2	1
b. Having hand sanitizer readily available	5	4	3	2	1
c. Ensuring everyone is wearing a mask or face covering.....	5	4	3	2	1
d. Clearly posting when an area was last cleaned.....	5	4	3	2	1
e. Having a Covid-19 test site at SFO.....	5	4	3	2	1
f. Mandatory temperature checks for all passengers at SFO	5	4	3	2	1
g. Mandatory health questionnaire for everyone arriving into SFO	5	4	3	2	1
h. Installing plexiglass barriers	5	4	3	2	1
i. Installing a virus killing air filtration system	5	4	3	2	1
j. Developing virtual lines at SFO - where travelers wait remotely until it's their turn to go through security or board a plane.....	5	4	3	2	1
k. Requiring that all SFO vendors accept contactless payments	5	4	3	2	1

(if rated more than one item extremely important)

7. Of those you rated extremely important [read list], which one is **most important** (in making business travelers feel safer when using SFO)?

8. In your own words, what should SFO be doing to help business travelers feel their health is being protected when using SFO? Anything else?

(if needed add, this could include some of the ideas you just rated or other actions you can think of)

Company

9. About how many people are employed at all of your Bay Area locations?

- | | |
|--|--|
| <input type="checkbox"/> Fewer than 50 | <input type="checkbox"/> 501 – 1,000 |
| <input type="checkbox"/> 51 - 100 | <input type="checkbox"/> 1,001 – 2,500 |
| <input type="checkbox"/> 101 - 500 | <input type="checkbox"/> More than 2,500 |

10. How many Bay Area locations do you have:

_____ (write in)

11. In what industry is your company:

_____ (write in)

12. Before the Coronavirus, approximately what share of your company's air travel by employees was for international travel compared to domestic air travel?

International air travel: _____%

Domestic air travel: _____%

13. Does your company have a preferred airline that you use most often?

- No
 Yes --> 13a. What airline? _____

Suggestions

14. Finally, do you have any additional suggestions for SFO about how best to welcome business travelers back as the Bay Area recovers from the Coronavirus outbreak?

Thank you!

Recruiting screener:

San Francisco Airport (SFO) is conducting a survey with employees from Bay Area companies about air travel for the remainder of 2020. The survey will take about 8-10 minutes to complete. Your response is very important to SFO.

- a. Are you familiar with your company's air travel policies?
 - Yes
 - No (*thank and discontinue*)

- b. Has your company limited employee air travel since the Coronavirus outbreak?
 - Yes
 - No
 - Don't know (*thank and discontinue*)

- c. Can we schedule a time to conduct this important survey?
 - Yes (*specify date/time for call*) _____
 - Prefer to complete online survey (*request email and offer to email survey url*)
 - Referral (*specify name/contact info*) _____
 - Refused

Participant name: _____

Company name: _____

Phone Number: _____

Email: _____



SFO - Bay Area Residents Recovery Survey 2020 (v2.2)

This is _____ with Corey Research calling on behalf of San Francisco International Airport (SFO). We are conducting an important survey with Bay Area residents about air travel in 2020 (given the COVID-19 situation).

If needed, inform respondent:

- *This survey is being conducted by CC&G on behalf of San Francisco International Airport (SFO)*
- *No selling is involved*
- *Adults who live in the Bay Area and have used SFO since 2019 qualify*

Screener

1. Have you used SFO (San Francisco International Airport) this year (2020) or last year (in 2019)?

- Yes
- No (thank and discontinue)

2. In which Bay Area county do you live?

- Alameda
- Contra Costa
- Marin
- Napa
- Santa Clara
- San Francisco
- San Mateo
- Solano
- Sonoma
- Outside of Bay Area (thank and discontinue)
- Don't know county – write city here: _____

Flying in 2020

1. Do you usually fly for business or pleasure?

(If needed: ask respondent what they do most often)

- Business
- Pleasure
- Other (specify): _____

2. In general, how concerned are you about flying for the remainder of 2020 because of the COVID-19 situation? Use a 5-point scale where 5 is very concerned and 1 is not at all concerned.

- 5 = Very Concerned
- 4
- 3
- 2
- 1 = Not at all Concerned
- Don't know (do not read)

3. In a few words, what about the COVID-19 situation and flying concerns you most?

4. At what point will you consider flying again? Would you say...(read list)

(Note: Your best guess is fine; please respond whether or not you have plans to fly.)

- This month or next (May or June 2020)
- Third quarter of 2020 (July/Aug/Sep)
- Fourth quarter of 2020 (Oct/Nov/Dec)
- First half of 2021 (Jan to Jun)
- Second half of 2021 (Jul to Dec)
- Sometime in 2022 or later
- Other (specify) _____

SFO Changes

5. SFO and other airports are currently considering changes to help make travelers feel safer. Using a 5-point scale, please rate the importance of each idea below in **making you feel safer when using SFO**, where 5= "Extremely Important" and 1 = "Not important."

(If necessary: Some of these changes have already been implemented and some are being considered)

	Extremely Important				Not DK	
	Important					
a. Strict social distancing guidelines and enforcement throughout SFO	5	4	3	2	1	<input type="checkbox"/>
b. Having hand sanitizer readily available.....	5	4	3	2	1	<input type="checkbox"/>
c. Ensuring everyone is wearing a mask or face covering...	5	4	3	2	1	<input type="checkbox"/>
d. Clearly posting when an area was last cleaned	5	4	3	2	1	<input type="checkbox"/>
e. Having a COVID-19 test site at SFO	5	4	3	2	1	<input type="checkbox"/>

- f. Mandatory temperature checks for all travelers at SFO .5 4 3 2 1
- g. Mandatory health questionnaire for everyone flying into SFO5 4 3 2 1
- h. Installing plexiglass barriers5 4 3 2 1
- i. Installing a virus killing air filtration system.....5 4 3 2 1

Developing virtual lines at SFO - where travelers wait remotely until it's their turn to go through security or board a plane.....5 4 3 2 1

- j. Requiring that all SFO vendors accept contactless payments5 4 3 2 1

(if rated more than one item extremely important)

6. Of those you rated extremely important ['5' - read list], which one is **most important** in making you feel safer when using SFO?

7. In your own words, what should SFO be doing to help travelers feel their health is being protected when using SFO? Anything else?

(if needed add, this could include some of the ideas you just rated or other actions you can think of)

SFO Travel

8. About how often did you fly out of SFO in **2019**?

- Every week
- 2 – 3 times a month
- Monthly
- Every couple of months
- 3 times

- 2 times
- Once
- Did not use SFO in 2019
- If easier, type in number of times flew out of SFO (specify): _____
- Don't know (do not read)

8a. What share of these SFO flights were for business? Would you say all, most, about half, less than half or none?

- All
- Most
- About half
- Less than half
- None
- Not applicable – did not use SFO in 2019
- Don't know (do not read)

9. Did you fly to any international destinations from SFO in **2019**?

(Note: This includes any destinations outside the U.S., including Mexico and Canada)

- No
- Yes
- Don't know (do not read)

About You

These questions are for classification purposes only.

10. What is your approximate age?

- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 and older
- Refused (do not read)

11. What gender do you identify with....

- Female
- Male
- Other (specify) _____

12. What was your approximate household income in 2019?

- Under \$50,000
- \$50,000 - \$100,000
- \$100,001 - \$150,000
- Over \$150,000

Refused (do not read)

Suggestions

Finally, do you have any additional suggestions for SFO about how best to welcome travelers back as the Bay Area recovers from the Coronavirus outbreak?

13. Could you please tell me your first name
(full wording on programmed version)

Thank you!

APPENDIX J

Sample Questionnaires for Air Cargo Surveys

Sample Survey Questionnaires in Previous ACRP Reports

A number of survey questionnaires have been included in previous ACRP reports on air cargo analysis and facilities planning, as discussed in Chapter 15 (Section 15.2). In particular, ACRP Web-only Document 20: *Guidebook for Estimating the Economic Impact of Air Cargo Operations at Airports* includes an appendix with sample questionnaires for surveys of air carriers, freight forwarders, and shippers. Since these are available in that report, they are not repeated here.

Air Cargo Shipper Survey

The following survey questionnaire was developed for use in the Phoenix Regional Air Cargo Planning Study (InterVISTAS, 2014) to conduct an online survey of air cargo shippers in Arizona.

Project Background

The City of Phoenix and Phoenix Sky Harbor International Airport (PHX) are conducting a Regional Air Cargo Planning Study for the Phoenix region.

The Study seeks to:

1. Analyze current/future regional demand for air cargo services, and
2. Identify possible air cargo facilities and infrastructure needs at Phoenix metropolitan area airports.

A key component of the Study process is the involvement of air cargo stakeholders – including shippers and manufacturers. To better understand the needs of the community for air cargo services, PHX has developed this short survey - which takes approximately 10 minutes to complete.

The information provided will remain confidential and will be summarized to maintain the anonymity of individual participants. The surveys are scheduled to close on Sunday, March XX, 2013. For the topics that will be covered, we'll be focusing on your operations here in Arizona. If you have other locations outside of Arizona, please do not consider them when answering the questions.

We thank you for your time in completing this survey.

***1. Please provide us with some information about yourself and your company.**

Name	<input type="text"/>
Title	<input type="text"/>
Organization Name	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
Email address	<input type="text"/>
Phone	<input type="text"/>

Overview of Business

2. Describe your company's main activities in the Phoenix/Arizona region.

3. What are the main products produced at your Phoenix/Arizona region facility?

4. How many employees are located at the Phoenix/Arizona region facility(ies) referenced in Question 3?

Number of employees

*5. Does your company currently ship goods by air freight?

Please exclude use of air express for shipment of documents (e.g., FedEx or UPS for legal documents etc.)

- Yes
- No

Future Use of Air Freight

*6. Do you foresee future use of air freight shipments for your company?

- Yes
- No

Understanding Your Air Freight Operations

7. Who primarily directs the movement of air shipments?

- Corporate Traffic/Logistics Manager
- Freight forwarder
- Other (please specify)

Air Freight Usage

8. What types of products do you ship by air related to your Phoenix/Arizona region facility?

Inbound products/commodities:

Outbound products/commodities:

9. Which of the following special handling needs do your products or source materials have?

Please select all that apply

Temperature-sensitive

Foreign Trade Zone

High-security

Oversize

HAZMAT

Time Sensitive

Bonded warehousing

Other (please specify)

10. What is the estimated portion of your total freight volume that moves via air transportation?

Inbound via air (%)

Outbound via air (%)

11. How frequently do you utilize air transportation for inbound and outbound shipments?

Daily

Weekly

Monthly

Other (please specify)

Air Freight Usage Domestic vs. International

12. Thinking about your air shipments from your local facility, what is the estimated portion related to domestic versus international destinations?

Answer must add to 100%

U.S. Domestic (%)

International (%)

13. What are the destination countries of OUTBOUND international air freight?

Please select all that apply

- | | | |
|---|------------------------------------|---|
| <input type="checkbox"/> Australia | <input type="checkbox"/> Germany | <input type="checkbox"/> Singapore |
| <input type="checkbox"/> Brazil | <input type="checkbox"/> Hong Kong | <input type="checkbox"/> South Korea |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Israel | <input type="checkbox"/> Taiwan |
| <input type="checkbox"/> China (excl. Hong Kong) | <input type="checkbox"/> Japan | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> France | <input type="checkbox"/> Malaysia | |
| <input type="checkbox"/> Other Countries (please specify all other locations) | | |

14. What are the origin countries of INBOUND international air freight?

Please select all that apply

- | | | |
|---|--------------------------------------|---|
| <input type="checkbox"/> Canada | <input type="checkbox"/> India | <input type="checkbox"/> Singapore |
| <input type="checkbox"/> China (excl. Hong Kong) | <input type="checkbox"/> Italy | <input type="checkbox"/> South Korea |
| <input type="checkbox"/> Czech Republic | <input type="checkbox"/> Japan | <input type="checkbox"/> Taiwan |
| <input type="checkbox"/> France | <input type="checkbox"/> Malaysia | <input type="checkbox"/> Thailand |
| <input type="checkbox"/> Germany | <input type="checkbox"/> Netherlands | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Other Countries (please specify all other locations) | | |

Annual Air Shipments

15. On an annual basis, please estimate the weight of total shipments you make by air to **U.S. DOMESTIC locations?**

Outbound U.S. DOMESTIC combined gross weight (lbs)

Inbound U.S. DOMESTIC combined gross weight (lbs)

16. On an annual basis, please estimate the weight of total shipments you make by air to **INTERNATIONAL locations?**

Outbound INTERNATIONAL combined gross weight (lbs)

Inbound INTERNATIONAL combined gross weight (lbs)

Airports used for air shipments

17. What are the main airports utilized for your outbound and inbound air shipments?

Please identify percent (%) share of your total air shipments for each airport listed. Answer must add to 100%

PHX - Phoenix Sky Harbor International Airport (%)	<input type="text"/>
LAX - Los Angeles International Airport (%)	<input type="text"/>
SFO - San Francisco International Airport (%)	<input type="text"/>
DFW - Dallas/Fort Worth International Airport (%)	<input type="text"/>
ORD - O'Hare International Airport (%)	<input type="text"/>
JFK - John F. Kennedy International Airport (%)	<input type="text"/>
ATL - Hartsfield-Jackson Atlanta International Airport (%)	<input type="text"/>
MIA - Miami International Airport (%)	<input type="text"/>
ONT - LA/Ontario International Airport (%)	<input type="text"/>
LAS - Las Vegas McCarran International Airport (%)	<input type="text"/>
Other	<input type="text"/>

18. Please share some information about the reasons for the airport choices you make.

	Not at all Important	Not Important	Neither Important or Unimportant	Important	Very Important	N/A
Low Rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freight forwarder preference	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Direct flights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High frequency flights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Services with freighter aircraft	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choice / preference of air carriers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Airport proximity to company origin/destination facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Specialized facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foreign Trade Zone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="text"/>					

Future Shipments by Air

19. Based on information you may have about your company's growth markets and geographies of interest, what markets will have increased importance from an air shipment perspective over the next 5 years?

- | | | |
|---|------------------------------------|---|
| <input type="checkbox"/> U.S. Domestic | <input type="checkbox"/> Germany | <input type="checkbox"/> Netherlands |
| <input type="checkbox"/> Australia | <input type="checkbox"/> Hong Kong | <input type="checkbox"/> Singapore |
| <input type="checkbox"/> Brazil | <input type="checkbox"/> India | <input type="checkbox"/> South Korea |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Israel | <input type="checkbox"/> Taiwan |
| <input type="checkbox"/> China (excl. Hong Kong) | <input type="checkbox"/> Japan | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> France | <input type="checkbox"/> Malaysia | |
| <input type="checkbox"/> Other Countries (please specify all other locations) | | |

20. Over the next 5 years, do you think air freight usage related to your company's Phoenix/Arizona region operations will increase, decrease, remain stable?

Please provide a percentage estimate for any expected change

Expected 5-year increase (%)	<input style="width: 60px; height: 15px;" type="text"/>
Expected 5-year decrease (%)	<input style="width: 60px; height: 15px;" type="text"/>
Remain Stable (<i>please enter 0</i>)	<input style="width: 60px; height: 15px;" type="text"/>

Comments on Arizona Region Airports

21. What are your thoughts about the current air cargo facilities and infrastructure at the airports in the Phoenix/Arizona region?

For example, roadway access, specialized facilities, parking etc.

22. What are your thoughts about the current air services at the airports in the Phoenix/Arizona region as they relate to air cargo?

23. Do you have any additional thoughts you would like to share before we conclude?

24. Thank you for your participation in this survey. Should we have any further questions, may we contact you?

Yes

No

Thank you!

Thank you for your time.

For more information about Phoenix Sky Harbor International Airport, please visit our [website](#).



Sample Truck Driver Questionnaire and Truck Count Form

The following questionnaire and truck count forms in this appendix have been included with the permission of the Greater Toronto Airports Authority. They represent a driver interview questionnaire and observation and interview truck count forms for the air cargo truck survey used-undertaken during the 2005 Groundside Survey. ~~The observation forms are provided here for completeness, although observation surveys at airports are not within the scope of this guidebook.~~

Each questionnaire or form is accompanied by a page of notes. These notes were affixed to the back of each clipboard for handy reference by the interviewer/surveyor.



Greater Toronto Airports Authority
Cargo Area Driver Interview Survey

										C	G	3																	
1. Observer Initials			2. Station				4. Interview No.																						
3. Date			2	0	0	5	0	6		5. Time (24hr)	H	H	M	M															
6. Vehicle Type							7. Inbound/Outbound																						
8. Trucking Company Name																													
<p align="center">We are conducting a survey of the cargo facilities today at Pearson International Airport. Please help us by answering a few short questions about your trip to the airport today. This information will be used for statistical purposes only.</p>																													
9. For which cargo operator did or will you load?						10. Freight Forwarder?																							
11. For which cargo operator did or will you unload?						12. Freight Forwarder?																							
13. What was the origin of this trip?																													
14. Where was your last pick up before coming here?																													
15. What is the final destination of this trip?																													
16. Where will be your next delivery after leaving here?																													
17. What type of trip is this?																													
1-Part of peddle run			2-Start/End of peddle run			3-Line haul																							
18. If this is a peddle run: what other stops did/will you make on this trip, including other airport cargo facilities?																													
19. Which major highways did you use to get to this cargo facility? (Select all that apply.)																													
1-401 Eastbound			2-401 Westbound			3-427 Northbound			4-427 Southbound			5-403/410			6-QEW			7-407 Eastbound			8-407 Westbound			9-404/DVP					
20. Which main arterials did you use to get to this cargo facility? (Select all that apply.)																													
1-Dixie Rd.			2-Derry Rd.			3-Airport Rd.			4-Britannia Rd. E			5-Courtneypark Dr.			6-Convoir Dr.			7-Renforth Dr.			8-Carlingview Dr.			9-Silver Dart Dr.			10-Other		
Approximately how full is your vehicle?						21. By weight			%			22. By Volume			%														
23. Does/Did this trip include crossing into or from the United States? (Y/N)																													
24. If yes, what border crossing did you use? (one only)																													
1-Queenston-Lewiston, Niagara Falls			2-Rainbow Bridge, Niagara Falls			3-Peace Bridge, Fort Erie			4-Thousand Islands Bridge			5-Hwy 16 Prescott			6-Hwy 138, Cornwall			7-Ambassador Bridge, Windsor			8-Detroit-Windsor Tunnel, Windsor			9-Bluewater Bridge, Samia			10-Other Specify		
25. Is this a scheduled trip? (Y/N)																													
26. If this is a scheduled trip how often is it made? Number of times per day /week /month.																													
27. If this is not a scheduled trip, approximately how often do you carry air cargo to or from Pearson?																													
28. Survey Result																													
C-Complete			I-Incomplete			R-Refusal																							
29. Comments																													
1 Car			2 Van or light truck			3 Cube Van (no swivel)			4 Straight truck (double rear axle)			5 Tractor-trailer			6 Flatbed			7 Other											

Cargo Area Driver Interview Survey**CG3 Notes**

8. Trucking Company Name – Most obvious name from side of truck
9. Loading company, airline or freight forwarder where load taken on. Indicate freight forwarder in question 10 with Y.
11. Same as 9 but for unloading operation. Freight forwarder indicated in question 12.
13. Origin, or first starting point today.
14. Last stop before coming to the airport.
15. Final destination of the trip, or last stop of the day.
16. Next stop after the airport stop.
17. Trip type, line haul, one load, one unload, no intermediate stops: or peddle run with multiple stops. Use answer 2 if this is either the start or end point of a peddle run.
18. Other stops in a peddle run. This need not be exhaustive, get as many as reasonable.
19. Major highways, restrict answers to multi-lane divided highways, see 20 for arterials. Add other highways as necessary, eg. I-81 in New York State.
20. Major arterials in the immediate vicinity of the airport, tick all that are mentioned. Write in others as specified.
21. and 22. Are for approximate load. Specify either percent by weight or percent by volume which ever is applicable, or mentioned by the driver. If driver just says "Full", leave 21 blank and put 100% in 22.
23. US bound origins or destinations, yes or no.
24. If yes to 23, specify border crossing point. Most popular and nearest are listed. Write in any other one that is mentioned.
25. Regular scheduled trip, if yes specify frequency and units in 26.
27. If not scheduled, specify frequency and units (day, week, month).
28. If all questions answered, code Complete, if driver refuses code Refusal (form to be submitted), if driver quits part way through code Incomplete.
29. Specify any other comments here.

Cargo Area Activity Survey - Notes

Dock – Number near the door

Time In – Time the truck stops at dock

Type – From list

Tractor – Enter 1 if tractor leaves a trailer at the dock, otherwise leave blank

Time out – Time the truck leaves the dock

APPENDIX K

Instruments Used in Project 01-43 Research

Appendix K includes the three instruments that the ACRP 01-43 Project Team employed in conducting the research in support of this project. The instruments include:

1. The questionnaire used for the telephone survey of airport representatives;
2. The interview guide for discussions with airport representatives during site visits, which were conducted virtually due to the Covid-19 pandemic; and
3. The focus group moderator's outline.

AIRPORT COOPERATIVE RESEARCH PROGRAM



SURVEY ABOUT CONDUCTING AIR PASSENGER RESEARCH ACRP PROJECT 01-43

Respondent Selection

IF RESPONDENT NAME IS PROVIDED, ASK FOR RESPONDENT BY NAME.

IF NO NAME IS PROVIDED, ASK FOR SOMEONE WHO IS RESPONSIBLE FOR OR FAMILIAR WITH THE AIRPORT'S RESEARCH AMONG CUSTOMERS, INCLUDING PASSENGERS, MEETERS, GREETERS, AND WELL-WISHERS, AND PEOPLE WHO USE RELATED SERVICES OPERATED OR HOSTED BY THE AIRPORT SUCH AS PARKING FACILITIES AND HOTELS. IF THE PERSON YOU SPEAK WITH DOESN'T KNOW, PROBE WITH THE FOLLOWING LIST OF POSSIBILITIES. AS NECESSARY, ADD THAT THEIR AIRPORT MAY HAVE SIMILAR AREAS WITH DIFFERENT NAMES.

- Business Intelligence
- Customer Experience
- Customer Research
- Development
- Marketing
- Marketing Research
- Planning

Introduction

Mr./Ms./Dr. _____, this is YOUR FULL NAME calling on behalf of JD Franz Research. We are undertaking a study for the Airport Cooperative Research Program of the Transportation Research Board about various kinds of research among air passengers and other airport customers. (IF ASKED: It is ACRP Project 01-43.) Today, we are conducting a survey among representatives from a sample of (IN US/CANADA: North American) (OUTSIDE US/CANADA: international) airports to explore their use of customer research. By customer research, we mean research among air passengers, meeters, greeters, and well-wishers, and people who use related services operated or hosted by the airport such as parking facilities, car rental services, and hotels. The results of this research will be used to develop best management practice guidelines for conducting consumer research at airports. This will also involve updating ACRP Report 26, which is entitled *Guidebook for Conducting Airport-User Surveys*.

Is this something you are sufficiently familiar with at NAME OF AIRPORT to discuss?

YES – THANK AND SKIP TO QB

NO – ASK FOR REFERRAL USING QA

- A. Would you be able to refer me to someone else at NAME OF AIRPORT who might be able to answer our questions? PROBE FOR INFORMATION BELOW. FOLLOW UP WITH NEW CONTACT.

NAME: _____

TITLE: _____

PHONE NUMBER: _____

- B. Is this a convenient time to talk for about ten to twelve minutes? If you have a lot of research to talk about, we can either go past twelve minutes or schedule another time to continue. You can also always say you don't have very much time and just talk about the research efforts that are most important or interesting to you.

YES – THANK AND CONTINUE

NO – ACCEPT AND RESCHEDULE

Interview

4. First, has your airport conducted customer research of the sort I just described in the past five years? IF RESPONDENT ASKS WHAT WE MEAN BY THIS, READ DESCRIPTION.

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q3)

IF YES:

5. Could you please give me an overview of that research in terms of the projects that have been undertaken? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER THINGS AS APPROPRIATE: What else? IF COMING FROM Q8, IDENTIFY THE NEW INFORMATION WITH CODE X.

SKIP TO Q4 OR Q5 IF COMING FROM Q1.
SKIP TO Q9 IF COMING FROM Q8.

IF NO:

6. Just to make sure we aren't missing anything ... Your airport has done no air passenger surveys, surveys of other customers, surveys of the traveling public, observational studies of airport operations, focus groups with customers or members of the traveling public, or any other types of research in the past five years?

CORRECT – THANK AND TERMINATE
NOT CORRECT – Then let's continue. RETURN TO QUESTION 2

ASK Q4 IF ONLY ONE RESEARCH EFFORT IN Q2.
ASK Q5 IF MORE THAN ONE RESEARCH EFFORT IN Q2.

- 7. How was that research conducted? PROBE FOR TYPE OF RESEARCH AND IMPLEMENTATION METHOD OR METHODS. PROBE FOR CLARITY AND SPECIFICS.

AREAS OF PROBING:

PURPOSE OF THE STUDY

AREAS OF INQUIRY – WHAT KIND OF INFORMATION WAS SOUGHT

TARGET AUDIENCE – WHO WAS INTERVIEWED/OBSERVED/INVOLVED

SAMPLE SIZE – NUMBER OF PEOPLE INTERVIEWED/OBSERVED/INVOLVED

METHOD – IN-PERSON INTERVIEW, TELEPHONE INTERVIEW, SELF-ADMINISTERED SURVEY, WEB/INTERNET SURVEY, OBSERVATION, OTHER

DATA COLLECTION – PAPER, ELECTRONIC DEVICES

SKIP TO Q7.

- 8. Of all of these studies, which one would you say would be the most interesting or useful for other airports or airport managers to learn about?

9. And how was that research conducted? PROBE FOR NATURE AND TYPE OF RESEARCH. PROBE FOR IMPLEMENTATION METHOD OR METHODS. PROBE FOR CLARITY AND SPECIFICS.

AREAS OF PROBING:

PURPOSE OF THE STUDY

AREAS OF INQUIRY – WHAT KIND OF INFORMATION WAS SOUGHT

TARGET AUDIENCE – WHO WAS INTERVIEWED/OBSERVED/INVOLVED

SAMPLE SIZE – NUMBER OF PEOPLE INTERVIEWED/OBSERVED/INVOLVED

METHOD – IN-PERSON INTERVIEW, TELEPHONE INTERVIEW, SELF-

ADMINISTERED SURVEY, WEB/INTERNET SURVEY, OBSERVATION, OTHER

DATA COLLECTION – PAPER, ELECTRONIC DEVICES

10. After the research was completed, how and by whom were the results used? PROBE FOR CLARITY AND SPECIFICS. IF RESPONDENT SAYS RESULTS WERE NOT USED, ASK: By whom were the results reviewed or considered?

11. Now just to make sure we haven't missed anything ... Has your airport has conducted any other air passenger surveys, surveys of other customers, surveys of the traveling public, observational studies of airport operations, focus groups with customers or members of the traveling public, or any other types of research in the past five years?

YES (RETURN TO Q2)

NO (CONTINUE)

12. Now turning to other areas of research ... In addition to conducting research with customers, has your airport conducted any research among _____ in the past five years? How about with _____?

	YES	NO	DON'T KNOW
a. employees	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
b. concessionaires	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
c. other tenants	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
d. members of the traveling public in general	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
e. members of the general public in the region	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
f. regional businesses	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
g. other transportation providers in the region	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
h. other organizations in the region (and what would those be? _____)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

13. Now thinking about ways of conducting research ... Has your airport ever used tablets or smart phones to collect research data?

1 YES

2 NO

14. Has your airport ever conducted research studies using _____? How about _____?

	YES	NO	DON'T KNOW
a. a combination of two quantitative methods, such as telephone and web-based surveys	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
b. a survey posted on a website	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
c. a survey adapted for use on cell phones, also referred to as a "mobile-friendly" survey	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
d. a survey adapted for use on tablets	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
e. a survey conducted via text messaging	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
f. a survey conducted via interactive voice response, or IVR, which employs automated calling and interviewing	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
g. a micro-survey that pops up when someone connects with Wi-Fi	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
h. a combination of quantitative and qualitative methods, such as a survey plus in-depth interviews or focus groups	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
i. qualitative methods other than in-depth interviews, such as bulletin boards and live chat	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
j. content analysis of social media posts	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
k. some other new or innovative strategy? (And what would that be? _____)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

ASK Q12 FOR ALL YES ANSWERS IN Q11.

15. And how has _____ been used? PROBE FOR CLARITY AND SPECIFICS FOR EVERY "YES" RESPONSE.

16. Has your airport ever conducted research using information obtained from social media?

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q16)

IF YES, ASK:

17. For studies utilizing social media data, has your airport used _____? How about _____? RANDOMIZE ORDER.

	YES	NO	DON'T KNOW
a. Facebook	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
b. Twitter	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
c. Instagram	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
d. Snapchat	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
e. WhatsApp	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
f. Some other platform? (And what would that be?) _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

ASK Q15 FOR ALL YES ANSWERS IN Q14.

18. And how has _____ been used? PROBE FOR CLARITY AND SPECIFICS FOR EVERY "YES" RESPONSE.

19. Has your airport ever used _____ as a source of information for its research efforts? How about _____?

	YES	NO	DON'T KNOW
a. airport beacon tracking data	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
b. biometrics	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
c. cell phone tracking data	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
d. eye-tracking	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
e. financial transaction data	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
f. heat mapping	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
g. web scraping	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
h. some other new data source? (And what would that be?) _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

ASK Q17 FOR ALL YES ANSWERS IN Q16.

20. And how has _____ been used? PROBE FOR CLARITY AND SPECIFICS FOR EVERY "YES" RESPONSE.

21. Is there any research that your airport has found to be particularly successful, either in terms of the methods used, the usefulness of the results, or both?

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q20)

☛ IF YES, ASK:

22. And what would that be? PROBE FOR CLARITY AND SPECIFICS. PROBE TO ENSURE WE KNOW WHY THE STRATEGY WAS SUCCESSFUL.

23. Is there any research that your airport has found to be less than fully successful, again either in terms of the methods used, the usefulness of the results, or both?

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q22)

• IF YES, ASK:

24. And what would that be? PROBE FOR CLARITY AND SPECIFICS.
PROBE TO ENSURE WE KNOW WHY THE STRATEGY WAS SUCCESSFUL.

25. As far as you know, has the value of the information provided by customer research at NAME OF AIRPORT ever been assessed in any way?

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q26)

• IF YES, ASK:

26. And would you say this assessment was formal or informal?

- 1 FORMAL
- 2 INFORMAL
- 3 DON'T KNOW

27. How and by whom was the assessment conducted? PROBE FOR CLARITY AND SPECIFICS.

28. Were the results of the assessment reported quantitatively in terms of dollars, qualitatively, or both?

- 1 QUANTITATIVELY
- 2 QUALITATIVELY
- 3 BOTH
- 4 DON'T KNOW

29. Are you familiar with ACRP Report 26? (That is the publication entitled *Guidebook for Conducting Airport-User Surveys*.)

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q28)

☛ IF YES, ASK:

30. And would that be very or somewhat familiar?

- 4 VERY FAMILIAR (SKIP TO Q29)
- 3 SOMEWHAT FAMILIAR (SKIP TO Q29)

☛ IF NO, ASK:

31. And would that be completely or somewhat unfamiliar?

- 1 COMPLETELY UNFAMILIAR (SKIP TO Q41)
- 2 SOMEWHAT UNFAMILIAR (CONTINUE)

☛ IF VERY OR SOMEWHAT FAMILIAR OR SOMEWHAT UNFAMILIAR, ASK:

32. Have you – or you and your colleagues – ever made use of the guidance in that report?

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q34)

• IF YES, ASK:

33. And how did you – or you and your colleagues - use it?
PROBE FOR CLARITY AND SPECIFICS.

34. Would you say that the information in the *Guidebook* was very, somewhat, not very, or not at all helpful?

- 1 VERY (CONTINUE)
- 2 SOMEWHAT (CONTINUE)
- 3 NOT VERY (SKIP TO Q33)
- 4 NOT AT ALL (SKIP TO Q33)
- 5 DON'T KNOW/NO OPINION (SKIP TO Q34)

• IF VERY OR SOMEWHAT HELPFUL:

35. And could you please tell me why you said the information in the *Guidebook* was (very) (somewhat) helpful? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER REASONS: Why else?

• IF NOT VERY OR NOT AT ALL HELPFUL:

36. And could you please tell me why you said the information in the Guidebook was (not very) (not at all) helpful? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER REASONS: Why else?

37. Do you have any suggestions for revisions to the *Guidebook* for the upcoming second edition?

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q36)

• IF YES, ASK:

38. And what would you suggest? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER SUGGESTIONS: What else?

39. As far as you know, has anyone else at your airport or any other airport you have worked for made use of the guidance in ACRP Report 26? (That is the publication entitled *Guidebook for Conducting Airport-User Surveys.*)

- 1 YES (CONTINUE)
- 2 NO (SKIP TO Q41)
- 3 NOT SURE (SKIP TO Q41)

☛ IF YES, ASK:

40. And how did they use it? PROBE FOR CLARITY AND SPECIFICS.

41. Would you say that the information in the *Guidebook* was very, somewhat, not very, or not at all helpful to them?

- 1 VERY (CONTINUE)
- 2 SOMEWHAT (CONTINUE)
- 3 NOT VERY (SKIP TO Q40)
- 4 NOT AT ALL (SKIP TO Q40)
- 5 DON'T KNOW/NO OPINION (SKIP TO Q41)

• IF VERY OR SOMEWHAT HELPFUL:

42. And could you please tell me why you said the information in the *Guidebook* was (very) (somewhat) helpful? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER REASONS: Why else?

• IF NOT VERY OR NOT AT ALL HELPFUL:

43. And could you please tell me why you said the information in the *Guidebook* was (not very) (not at all) helpful? PROBE FOR CLARITY AND SPECIFICS. PROBE FOR OTHER REASONS: Why else?

44. Before we conclude this conversation, is there anything you would like to add?

45. Is there anyone else at NAME OF AIRPORT you believe we should contact as part of this study?

- 1 YES (CONTINUE)
- 2 NO (THANK AND TERMINATE)

👉 IF YES, ASK:

46. Could you please give me that person's name, title, and phone number?

NAME: _____

TITLE: _____

PHONE NUMBER: _____

ASK Q44 IF RESPONDENT APPEARS TO HAVE AN EXEMPLARY OR ROBUST RESEARCH PROGRAM. MAKING THIS DISTINCTION WILL BE COVERED IN THE INTERVIEWER BRIEFING.

47. As a follow-up to this survey, the ACRP project will be conducting site visits to airports that appear to have research programs of interest and focus groups with program managers. Is either of these something you would be interested in being involved in?

- 1 YES
- 2 NO
- 3 NOT SURE

RECORD ANY COMMENTS RESPONDENT VOLUNTEERS IN RESPONSE TO QUESTION 44.

THANK RESPONDENT!

48. RECORD AIRPORT CODE:

____ _

49. RECORD AIRPORT CATEGORY:

- 1 US AIRPORT
- 2 CANADIAN AIRPORT
- 3 OVERSEAS AIRPORT

50. RECORD AIRPORT TYPE AND SIZE CATEGORY:

- 1 LARGE HUB
- 2 MEDIUM HUB
- 3 SMALL HUB
- 4 NON-HUB
- 5 CANADIAN

NAME OF RESPONDENT:

TITLE OF RESPONDENT:

DATE COMPLETED:

___/___/___

INTERVIEWER:

NAME OF AIRPORT
INTERVIEW GUIDE FOR DISCUSSIONS WITH AIRPORT REPRESENTATIVES

Background

Introduction: Purpose of the Discussions

Overview of the Existing Research Program

Research Program

51. Overall, how do you feel about the research program at AIRPORT?
52. What aspects do you like?
53. What aspects concern you?
54. How well does the program address information needs of the airport that could be handled via research?
55. Which of such information needs are fully addressed?
56. Which of such information needs are partially addressed?
57. Which of such information needs are not addressed?
58. What are the strengths and weaknesses of the airport's research program?
59. What are the program's strengths?
60. Are there aspects of the program you would consider exemplary?
61. What are the program's weaknesses?
62. How would you like to see the program expanded or improved?
63. Are there aspects of research programs at other airports that you would like AIRPORT to consider?
64. What would be your aspirations for the future of the program in the best of all possible worlds?
65. How would you prioritize these things?
66. Is there research that is currently underway or that will be underway in the next couple of days that it would be beneficial for me to observe?
67. Please tell me about it – what it is, what it is intended to accomplish, what I could see, what I could learn?

Use of Research Results

68. How effective do you feel AIRPORT in general and your “clients” in particular are in utilizing research results?

69. What are the airport's strengths in this regard?
70. What are the airport's weaknesses in this regard?
71. What programs or services would help you and others improve in this regard?
72. What programs or services would improve the value the airport and your "clients" derive from research?

ACRP Report 26

73. As you probably know, end product of this project is an update to ACRP Report 26, which is entitled "Guidebook for Conducting Airport User Surveys" (Check for familiarity to ask or phrase questions appropriately)
74. What is important to include in a guidebook for conducting research at airports?
75. What is important to include in an updated version of the existing document? Why?
76. What should be deleted or replaced? Why?
77. What kinds of tools and instruments should the document contain?
78. Do you have examples you would like to share?

Conclusion

79. Is there anything you would like to add?

ACRP PROJECT 01-43



CONDUCTING CONSUMER RESEARCH OF AIR PASSENGERS

FOCUS GROUPS WITH AIRPORT REPRESENTATIVES

MODERATOR'S OUTLINE

INTRODUCTIONS

Introduce Self

- Professional researcher, Principal Investigator on the ACRP project
- Role here is moderator - lead discussion
- No vested interest in outcome

Introduce Topic

- What going to be talking about today is research with air passengers, meeters and greeters, visitors, and other airport constituents, which the research team believes all of you do in an exemplary way
- First a few basic focus group rules
- Then get to know each other

Ground Rules

- Observers – None, Heather
- Taping (Audio – No Use of Video)
 - Can't focus and take notes
 - Sure know what said
 - Audio will be transcribed and used as basis for report, nothing attributed
 - Speak up and distinctly; quiet voices
 - No talking at the same time
 - Audiotape doesn't understand (nod, shake head)

- Would appreciate everyone participating – every opinion important
- May ask to cut short so others can talk – **part of process, don't take personally, equity issue**
- OK not to know answer to a question – **as you know, don't know legitimate opinion** – often valuable itself
- May well disagree – more interesting that way – please disagree with idea, not person – not disagreeable
- Questions?

Participant Introductions

- Name
- Airport where you work
- Your position
- How long there and in research profession
- Why decided to participate today

SETTING THE STAGE

- Go around room the other way, talk briefly about the research efforts at your airport
 - What are you doing?
- If a lot, what is particularly worth sharing – or what particularly pleased with?
 - Why are you doing it?
 - How are you doing it?
 - How often are you doing it?
 - How is it being used?
 - What, if anything, would you like to change?
- Are there research projects you would like to be doing but are not?
 - What are they?
 - Why would you like to do this?
- What does all that you have talked about say about the “state of the art”?
- What areas seem to be particularly strong?
- What areas appear to need amplification or improvement?
- To what extent do you look to other airports' research for insights or inspiration?

- Where?
- How?

IMPACT OF COVID

- How have things changed in the “Age of COVID”?
- What further changes are anticipated?
- How has this impacted intercept interviewing?
 - How are surveys conducted?
 - How are passengers reacting?
- How has this impacted intercept interviewing?

USERS AND USE OF RESEARCH DATA

- How is the relationship between researchers and research users structured?
 - Who determines what will be studied? How?
 - Is there user involvement in implementation? In what way?
 - Is there user involvement in data analysis? In what way?
- How does the airport determine the allocation of resources to actions that could improve performance scores?
 - Who is involved?
 - How are the targets determined?
- How do or would you quantify the financial benefit to the airport of better information?
- How do you feel about making your research information publicly available?
 - How would you do this?
 - How would you obtain the resulting insights?
 - Would you encourage feedback? How?

TECHNICAL ISSUES (GUIDEBOOK)

- Integration of inputs from various sources
 - Intercept and electronic data?
 - Electronic data from various sources or vendors?
 - Are there issues?
 - Are there useful techniques?
- Important to have single overall customer experience score? Why or why not?
- Equally, more, or less important to look at scores for particular areas or topics? Why or why not?
- Brevity Versus Information Needs
 - How balance need for short surveys versus wide variety of information?
 - Possible techniques heard about or used?
 - Vary questions across respondents?
 - Some questions essential?
- Online Surveys
 - What are possible incentives?
 - What incentives have worked particularly well?
- Arriving Passengers
 - Possible to substitute departing passengers? How?
 - Where and how to intercept arriving passengers?
- How determine the appropriate sample size for an intercept survey?
- No one mentioned using financial transaction data as an input – is there any use?

EXISTING ACRP REPORT 26

Some of you are familiar with ACRP Report 26, entitled "Guidebook for Conducting Air Passenger Surveys," some are not (None in Group 1, two in Group II)

IF NOT:

- Any idea why it has not come to attention?
- Possible solutions to this going forward?

IF YES:

- What think of it?
- Used?
 - Why or why not?
 - How?
 - How did it work?
 - Parts particularly helpful?
 - Suggestions for improvement?
- Part of project is to review and update the Guidebook
- Focus of present document is survey research
- Add other types of quantitative research?
 - What?
 - Why?
- Add qualitative research methods?
 - What?
 - Why?
- Add new and emerging methods?
 - What?
 - Why?

- What kinds of information should it contain?
 - Level of sophistication
 - Specific topics
 - Types of guidance
 - Tools – what kind?
 - Instruments – what kind?

REPORT DISSEMINATION

- How do you think it would be best to publish the report?
- Publicize the report?
- Make sure people who could use the report know about it?
- Get the report to the people who could use it?
 - Airport representatives
 - Consultants

CONCLUSION AND SUMMARY

- Is there anything you would like to add?
- What one thing would you like to make sure I tell the research team about what came up in this discussion?

THANK PARTICIPANTS!

Case Studies

Six airports were selected as candidates for site visits because they were identified as having some of the most innovative, interesting, and varied research programs among the airports that participated in the telephone survey interviews. These airports were as follows:

Table 1: Candidate Airports

Airport	Size Category	Geographic Area
Atlanta Hartsfield-Jackson International Airport	Large Hub	Southern U.S.
Minneapolis-St. Paul International Airport	Large Hub	Central U.S.
San Francisco International Airport	Large Hub	Western U.S.
Raleigh Durham International Airport	Medium Hub	Southern U.S.
Eugene Airport	Small Hub	Western U.S.
Dublin Airport, Ireland*	Commercial Service Hub	Western Europe

*Note: At the request of the Project Panel one non-U.S. airport was included in the case studies.

The site visits were intended to be conducted in person but were eventually undertaken via various online meeting platforms such as Teams and Zoom because of the pandemic. Dates of the visits were July 22 through August 5, 2020.

During the visit conversations, careful attention was paid to clearly documenting each airport’s experience with airport user surveys, customer research, research pertaining to non-aeronautical revenue generation, and the use of social media and other new and emerging data sources and technologies. Recommendations for consideration included what worked on the ground, what appeared not to work, and how the design, execution, reporting, and implementation of research could be improved.

Draft case study reports on the visits were developed by those conducting the interviews and were shared with the subject airports to provide an opportunity to correct any errors or misunderstandings. All six of the airports provided authorization to publish the resulting case studies, which are presented on the following pages.

ACRP Project 01-43: Conducting Consumer Research of Air Passengers
Case Study for San Francisco International Airport (SFO)
Site Visit Conducted on July 22, 2020

Background

The site visit to San Francisco International Airport was conducted with Director of Guest Experience Christopher Birch. Joining him for portions of the call were Jon Canapary, President of Corey, Canapary & Galanis Research, and Rajiv Vaidyanathan, a Professor at the University of Minnesota and Executive Director of the Association for Consumer Research. The visit commenced on Wednesday, July 22, 2020 at 11:00 a.m. PDT and lasted approximately three hours.

Current Research

The immediate initial response to this question was, "Not nearly enough." The Director is pleased with what is happening on a regular basis but would like to do more on an ad hoc basis. Budgets have been reduced but what is required has not changed. They have been able to continue their core activities but have not been able to expand beyond that.

Most of what the Director does is research about demographics, behavior, and customer satisfaction. He would like to add meeters-greeters. Moreover, much of the information that has been gathered in the past may no longer be relevant.

If the post-pandemic world looks like the pre-pandemic world, then the older data remain pertinent; the drivers of satisfaction will be the same. If the environment of the future is fundamentally touchless and physically distant, on the other hand, a lot of research will lose its relevance, and the airport will need to ask different questions.

Business traffic has been reduced and is now stable at about a third of its previous level. They do not spend a lot of money, but they are loyal, and they make United flights happen. The big unknown is whether they will be coming back, when, and to what extent. Will business be done on Zoom and Skype? He does not believe people will want to continue to work from home or not travel, but that is an open question. Meanwhile, leisure travelers are carrying the load.

It looks as if for the next few years at least, things like cleanliness are going to be more important than the amenities the airport has been focusing on, such as a children's play room and a yoga room. The airport's ability to put travelers' minds at ease in terms of health and safety and to exert control over other people in terms of social distancing and mask-wearing will be paramount.

With COVID, the airport had to give up focus groups, which they did every couple of years. They were planning to do them this year about public awareness of services and amenities, but decided it would not be feasible. Funding for research was reduced, so they asked Canapary (Corey, Canapary & Galanis Research, their outside research provider) to start talking to area residents and businesses about what worries people, what the sources of their travel anxieties are, and what they want the airport to be talking about when restrictions are lifted and people start to travel again.

Toward these ends, they did telephone surveys of area residents and of area businesses and travel coordinators about previous travel behavior, changes in travel policy, and when they plan to start booking again. The third phase of the project, scheduled to take place in August, will be an intercept survey of departing passengers about how they feel about air travel in general as well as their attitudes toward masks and distancing. There will also be questions about the screening and testing of customers. For example: If someone has a temperature of 100.5, should they be prohibited from flying? The airport will be testing employees, but what about passengers? What will make people comfortable with traveling?

Now that the airport has established its priorities, the airport needs to know how guests rate their efforts. The questions are being asked in a way that understanding can be refined down to the specific boarding area where the guests were seated when they were asked.

Future Research

In terms of interviewers being near passengers and handing them things, this is being considered as an issue of passenger concern. Paper questionnaires will be wrapped individually, which is not the best because of the use of plastic, but there does not seem to be an alternative. Only passengers with masks will be interviewed, and social distancing of six feet will be observed. The airport has had a mask requirement for quite a while, but it was not enforced at the time of

the site visit. Now, in early October, mask violations are reported to the San Francisco Police Department's Airport Bureau for enforcement.

Research money will probably continue to be used on travel anxiety. Questions will focus on rating airports on their ability to keep passengers safe and secure and to communicate what they are doing for health and safety. This goes beyond cleanliness, and it appears it will be around for the long term.

As noted previously, the Director would really like to conduct a survey of meeters-greeters. They dabbled with a new ACI (Airports Council International) employee survey product last year, but they did not prepare adequately. He would also love to hear from employees. Do they understand that the airport is an entity separate from airlines and concessions? What is the tenant culture? How do they feel about the overall experience? What is the situation with parking?

There are additional opportunities for more research with people who are not traveling for business. It would help the airport with marketing airlines and in better understanding the needs of the travelling public in general.

It would also be beneficial to do some research outside of the airport. For example: What about Uber and Lyft? What is the handoff between them and the airport like? They are significant – **80 percent of the airport's commercial ground traffic is TNC (Transportation Network Companies)**. They did do a couple of ground access surveys with Oakland (OAK) and San Jose (SJC).

Exemplary Work

According to the ASQ (Airport Service Quality Survey), an airport's checkpoint experience is the Number 1 driver of satisfaction. They therefore decided to use a substantial amount of funding from the annual survey, which was discontinued, to conduct checkpoint surveys. Topics included entry staff, screening, the recompose area, music level, and anything else they had the ability to change. They learned that they could get a four- or five-star rating even with wait times that were viewed as being too long, but not with low cleanliness ratings.

A certain amount of waiting is expected at security. Cleanliness seems to be even more important than waiting; lack of it has a greater impact on scores. They made some changes in cleaning, sampled again, and got better results. It

was the first time they had decided to look at something specific instead of things in general, and it turned out to be extremely useful.

The airport has Xovis technology for measuring wait times at checkpoints as well as Feedback Now for ratings. They are now trying to compare the results from the two systems. It makes no sense to try to decrease wait times beyond a certain point if this does not increase satisfaction. This work is still in process, so there are no results yet.

Researchers have placed an outsized importance on a one-dimensional attribute of “wait time” when there is more to a good checkpoint experience than that. Also, it is more relevant to talk about “time to gate,” combining the wait time with the walk time. Speaking strictly about wait times, it may be more relevant to determine what wait times have the most positive effect on satisfaction. For example: Is there an ROI on getting wait times from ten minutes down to five minutes?

Data Use

There are a couple of groups that “grab” the data for their own use. These include planning and concessions. Most research is targeted to specific groups, such as wayfinding or landside operations, and the Director’s group works with them to come up with the “most impactful” presentations and arguments for making better decisions. This is only partially successful – people are experts in their field and are going to act accordingly. One prime example is wayfinding, where the research shows a need for improvements in one area, but the emphasis is in another area. Survey results are “not always the main consideration.”

The Director typically tries to provide conclusions and insights and “tie it to their life.” He makes it a point to “show them a visual that means something to them” – an illustration, a photo, what something looks like. The time to get in front of decision-makers is limited, “once a quarter at best,” and visuals help explain the point.

Research Vendor

At this point in the conversation, Jon Canapary, the President of Corey, Canapary & Galanis, the airport's research vendor, joined the conversation. The firm has been working with the airport for “quite a while,” conducting surveys and focus groups and using other methodologies as needed.

Important considerations in conducting airport research include quick badging with the associated need for staff planning, the time sensitivity of respondents with the associated need to keep survey lengths down, the variance in time sensitivity depending on where the passengers are, and methods for asking sensitive questions like those about income in a public place.

Hybrid surveys, which have become more common lately, give passengers the opportunity to continue or even fully participate online. Another particularly effective use of hybrid surveys is with customers, particularly business travelers, who arrive at the gate just before boarding.

In terms of sampling, the firm spends considerable time training surveyor staff to obtain a “good cross-section of customer types.” It is also important to make sure interviewers continue their work through boarding. People who arrive at the last minute are different from those who arrive with plenty of time to spare.

Questionnaire length is key. Stakeholders want to “throw a lot of questions in”; they work on what is needed rather than what is “nice to have.”

Multi-lingual capability is also “critical.” They typically work in four languages: English, Spanish, Japanese, and Chinese; Spanish and Chinese seem to be the most important at this airport. They also use both “dialects” of Chinese (Mandarin and Cantonese). This is not perfect; bilingual personnel cannot be everywhere there might be someone who speaks another language. Also, matching languages to flights is always a challenge.

Speaking more broadly, one thing that is valuable is having an ongoing survey program such as the ASQ. If there is a change in the ratings, it is possible to consider that in terms of what might be happening.

In general, no matter what kind of survey is being used, wayfinding is an important issue. It matters to the passengers, to vendors, and to the airport. It is also related to satisfaction and revenue. If passengers have more time because it is easy to get where they need to go, they are more likely to stop and spend money. The relationship between dwell time and passenger spending could even be a useful ongoing survey.

Another area of potential interest is traveler typology. People who use the airport regularly could be communicated with regularly in terms of their choice and their propensity to choose another airport.

Since the pandemic started, surveying has been limited. They are not really able to do it, and it is not considered essential. They started looking at this in March. The ASQ survey is on paper, so they made sure the questionnaires and pens were shrink-wrapped. They also need to maintain distance. How this works out will be made clear when they go back out in two to three weeks (early to mid-August).

Meanwhile, they have been conducting research by phone and online. They started surveying about attitudes toward travel a month and a half previously. Specifically, they were focusing on how travel would be envisioned in the coming year.

The advantage SFO has in having a contract in place to conduct ongoing as well as ad hoc research is that they can react quickly to something they need to know. An ad hoc survey can be turned around in three weeks, which would be impossible without an existing contract. They also have the ongoing ASQ to track things from year to year.

Data for the airport get used more thoroughly than they are by other Corey, Canapary & Galanis clients. One example is being able to include quickly obtained data in a Request for Proposals for an economic study. Research does not “go into a drawer”; it is “used pretty widely.” This is in part because it is timely; it can be conducted quickly when an issue arises.

Use begins with planning and a commitment to planning. Other organizations do not have the ability to change what is in a contract, but the airport does. Research needs are identified as they come up, and there is the flexibility to deal with them. There is also a commitment to use targeted design so that surveys are not too long.

Another thing the relationship emphasizes is dedication to data quality, from questionnaire design through training to data tabulation. Also, because the engagement is long-term, there is a commitment to innovation and to meeting needs as they change. The airport is responsive to information requests from the research firm regardless of the difficulty involved.

Interesting Studies

The airport has conducted two studies that may be of particular interest to other airports. The first is the wayfinding survey, because it was conducted while the actual design was in process. Possible physical elements and signage could be

tested both with mock-ups and live, and the airport was willing to make changes accordingly. It was not an easy process, and some of the indicated changes were costly, but they prevented even more expensive alterations later on.

The second is the telephone study of perceptions of the airport relative to future travel. It was both timely and highly useful. This differentiates it from “your typical survey at the airport.”

Guidebook

The first thing that seems important is sampling to get a good cross-section of passengers. It is possible to do this without going overboard and using resources to do “what looks good on paper.” This is particularly true when surveying departing passengers.

Surveying arriving passengers, even with a short questionnaire, is a lot more difficult. Getting a cross-section of passengers is not as easy. Also, although stakeholders may object, it is essential to have a truly focused, short questionnaire.

Another consideration is where to intercept people. The airport's experience is that it works best to conduct surveys of arrivals in a variety of areas, including exits from security, baggage claim, car rental areas, and public transit. Although the baggage claim default is the easiest, it will not yield a good cross-section.

To accomplish this well, strong protocols are needed. It is also important to consider whether an arrival survey is required at all. What is the survey intended to accomplish? Is the value equal to the challenge of implementation? General perceptions and passenger demographics can be obtained from departing passengers far more easily.

About a third of the complaints the airport receives come from arriving passengers, however, so this target audience is important. Unfortunately, there is a severely limited amount of time available to interview most of them.

Other Uses of the Airport's Data

At this point in the visit, Rajiv Vaidyanathan, a Professor at the University of Minnesota and Executive Director of the Association for Consumer Research, joined the call. The Director noted that the airport publishes all of its research

data, landing information, and financial information on the Web for public use. Dr. Vaidyanathan is one of the data users.

More specifically, the Professor teaches market research at the undergraduate level and data analysis and statistics at the graduate level. He connected with the Director because he wanted to use real-world data in his courses. Textbook data are too clean and streamlined; real data are needed to teach students to become “savvy consumers of data.” This includes issues such as the importance of having clear research objectives, running analyses for the purpose of obtaining actionable results, and deriving recommendations from analyses. Because the airport's data are updated on a regular basis, students are also working with current information.

One reason the Professor decided to use the San Francisco data is access. Obtaining access to raw real-world datasets is difficult. With these data, students have to start with data cleaning. Simultaneously, they conduct secondary research on universal topics such as airport satisfaction and current topics such as the impact of COVID on passenger expectations. Everything in the class is tied to this real-world example.

The Director then noted that surveys can and should be designed such that they speak to marketing people. Often, he uses surveys to address his own information needs, and this conversation is a reminder that that is not what a survey should do.

One other thought the Professor had is that the academic community and other data users are reaping a substantial benefit from using the freely available data, but the reverse is not the case. It would be nice if those who developed insights from the data shared them with the airport. Much of the information others develop could be useful for the airport's purposes. The Director also noted at this point that the data have about 1,000 downloads, but feedback on the data's utility is sporadic. What the City's policy is in this regard is unknown. This subject probably merits discussion in the Guidebook.

ACRP Project 01-43: Conducting Consumer Research of Air Passengers
Case Study for Raleigh-Durham International Airport (RDU)
Site Visit Conducted on July 23, 2020

Background

The site visit to Raleigh-Durham Airport was conducted with Director of Air Service Development Kenneth L. Strickland. It took place on Thursday, July 23 at 10:00 a.m. PDT and lasted approximately an hour.

Mr. Strickland (hereafter referred to as “the Director”) took over the research function at RDU in June after his predecessor retired. It was the predecessor who completed the telephone interview for this project. When we contacted the Director about the site visit after her departure, he said he believed he could be helpful and would be pleased to participate.

Current Research

RDU’s budget has been “zeroed out almost entirely” due to the pandemic. The only research tool they have is the SurveyGizmo account that the incumbent pays for personally. There may, however, be an opportunity for the airport to do some ad hoc research related to COVID and its impacts, with two such efforts underway or recently completed.

Because the Director has an extensive background in market research, he is planning to bring more studies that were previously outsourced in-house. This will also serve to control costs. Customer segmentation, which he undertook at Tampa and would like to do at RDU, would need to be done with an outside entity.

Recent research has been limited to “essentially one-and-a-half-projects.” The first was a survey that was designed in-house and fielded through some community partner organizations, such as chambers of commerce and visitor bureaus. Many of the larger employers in the area were included in the sample of 75 companies that were asked to distribute questionnaires to their employees. The focus of the survey was on business travel in the COVID environment, specifically on current and expected impacts of the pandemic.

The other study was about to undergo a test launch at the time of the visit. It is a 15-minute consumer survey to be sent to a sample of people on the airport’s parking list of about 50,000 email addresses. This survey is designed to address a

variety of research questions, including basic consumer segments in the current market. It appears that the people who are currently traveling are the least frequent fliers; as a result, smaller airports are saying, "We are only down 30 percent, what's your problem?" Any insights will be valuable to the airlines, with which the Director maintains a dialogue.

Another objective is to measure awareness of the airport's efforts to make the airport safe and of the sources of that awareness. Also being addressed is the extent to which travelers have changed or are planning to change their parking behavior, how and why they have altered their ways of arriving at the airport, and what role safety plays in these decisions. Finally, there are inquiries about how safe people feel in the airports' stores and whether they are thinking about or planning to change their behavior relative to concessions.

As a matter of course, the Director likes to do follow-up research, so he plans to conduct online focus groups to "dig deeper" into some of the issues.

Conducting the groups online will be "weird" because he is used to moderating groups in person, but "the bullets are flying," so he needs to be resourceful. He imagines that the "trickiest thing" will be the person who wants to dominate the conversation; it seems easier to shift the conversation in person.

The other focus group the Director conducted at RDU was with the "airport spotters," whose hobby it is come out to the airport to take photographs of planes. Airport spotters perceived an adversarial relationship between their group and the airport's law enforcement and operations personnel, believing they view the spotters as a security threat. He held a group with several of the most active spotters with the sole incentive of coffee and doughnuts. The result was a "win-win" that led to changes designed to improve relations.

Going forward, the Director is going to see how well a \$25 Amazon gift card does as an incentive. RDU is more inclined to fund operations than research activities.

Ultimately, the airport needs to move to an "ongoing tracking project," either a survey like the ASQ or something home-grown. The Director has already rejected JD Power because it is "not set up to run year-round," and continuous surveying has "tremendous value." He also is pushing to start Wi-Fi surveys; in his previous position at Tampa, this platform was used both to obtain tracking data and to ask ad-hoc questions. How to do this with no budget is being worked on.

For now, all research in the COVID era is being conducted electronically. They are considering using guest service representatives to conduct some type of intercept survey, but they have not figured out how to do so.

Future Research

As the environment for research becomes safer, there are KPIs (key performance indicators) from a guest experience perspective that the Director would like to understand better. These need to be measured, and the measurements need to be tracked. Among the most important are the ambience of the airport and cleanliness, both in the terminal and in the bathrooms. From his perspective, five measures would likely provide all of the necessary information about customer satisfaction. Other key questions include intent to make a purchase at the airport, actual purchase behavior, arrival method, and parking. Segmenting the market in terms of ridesharing versus parking will be a key undertaking.

Use of Results

Sometimes it is difficult to persuade management of the importance of a study. The air spotter survey is a good example. People were not necessarily concerned that this group was dissatisfied because they thought security and safety were more important, and the two could not be reconciled.

At another airport, the Director did a study about officers carrying long rifles in which they showed passengers a picture of an officer with the rifle and a picture of an officer with the rifle cropped out. The two variables that predicted perceptions were political ideology and airport size. The more liberal people were, the less supportive they were of rifles. Also, people in large airports felt the use of long rifles was consistent with the environment; in smaller airports it seemed inconsistent or out of place. In the end, the results were shelved; people did not want to change.

Often, the Director conducts research that was never asked for. He tries to anticipate questions and conduct the research ahead of time, discovering insights that were never requested. Sometimes this is welcome and appreciated, and sometimes it is not. What he is trying to do is build a knowledge base.

A lot of airport researchers are dependent on consultants and contractors; they do not have the experience to create studies on their own. It is to a pleasure to contribute things that the organization did not have previously.

One thing that is nice about the airport research profession is that people share a lot; most are not competitors. Also, they are government agencies, so what they do is a matter of public record. This makes the work easier, because there is never a question about what to share; the law is always clear.

Guidebook for Conducting Air Passenger Surveys

The Director was not familiar with this document before he became involved in the current project. When he was asked to participate, however, he went back and looked it up. Because he just gave it a passing glance, he cannot really comment on it, but he kept thinking it would have been a useful tool in which he would have invested time when he started in airport research. He is not sure why the profession was never made aware of it or how it was marketed.

There is definitely a need for standardization in things like question wording. At a minimum, there should be an industry preference. On the other hand, it is difficult to come up with something original, because everyone wants to do what BWI or Miami is doing.

During his first job in the profession, the Director had a subscription to a quarterly periodical for airport research professionals that had a mix of practical material about things that had actually been done at airports and less practical, academic information. If it is possible, it would be useful to incorporate airport insights into the guidebook. As he recalls, the name of the journal was "Airport Management Quarterly" or "Journal of Airport Management."

Other Thoughts

One thing that is worth bearing in mind is the distinction between airport authorities and municipal airports. There is a continuum between the private sector on one end and government on the other end. This impacts the appetite for research. The Director's experience is that the appetite gets stronger toward the private sector end of the continuum.

Airports in the private sector are run more like companies. There is a lot more opportunity to challenge assumptions and delve into the best way to approach an issue. On the government side, the focus is more on the standard way of

doing things or “the way we’ve always done it.” At some places, they even have the answer and are looking for data to validate it.

Size is also a factor. Larger airports tend to have more rules and less flexibility. Sometimes it takes more time to get things approved than it is worth. At smaller airports, there can be a lot more freedom to do edgy things.

ACRP Project 01-43: Conducting Consumer Research of Air Passengers
Case Study for Minneapolis-St. Paul International Airport
Site Visit Conducted on July 27, 2020

Background

The site visit to Minneapolis-St. Paul International Airport (MSP) was conducted with Assistant Director of Customer Experience Phil Burke, Customer Research Analyst Steven Gentry, and Customer Programs Specialist Katlyn Schenck. It took place on Monday, July 27, 2020 at 1:00 p.m. PDT and lasted two hours.

Historically, MSP has not had a standalone customer experience department, but that was added about a year ago. The way it is structured, they say the Customer Research Analyst analyzes information, and the Assistant Director uses that information to enhance the customer experience.

When the Customer Research Analyst came to the airport nine years ago, there was no customer experience research team or group. He liked the fact that he could build it from the ground up. There were no preconceived notions; he had free reign to do what he thought was in the best interests of the airport.

Over time, they built up ten systems for gathering data, but that is not the end. It never ends. They get a lot of information as secondary data, and sometimes it does not go as deep as they want or is not segmented the way they want. Going forward, they hope to get the systems to segment a little more.

Another issue is that it is unrealistic to expect senior staff to look at ten separate processes. The Analyst noted that the plan was to take all of the processes and combine them into a single point – a single percentage - that senior staff could look at and say, “Oh, that’s where we are.” Then people could determine what was changing the percentage up or down and “jump in” to fix it. This plan was changed because of COVID -19.

It is also important to note that a lot of information is “going into thin air.” An example would be the 120,000 calls the information and paging office gets every year. The idea was to capture these calls and other data not presently considered into the single metric. How various data sources would be weighted has been an ongoing discussion.

They recognize this is an ambitious goal, but they learned there are companies doing this that they were close to requesting proposals from. There are also a

couple of other airports that do this, but it is more commonplace outside the industry. They know that the Metropolitan Washington Airports Authority is doing it, and possibly one other airport. The Hyatts and Best Buys of the world are doing it already. The software programs are out there.

Current Research

Certain things have been paused given the current COVID situation. The ASQ surveys have not been “out and about” for some time, probably since early or mid-March. Research that is done on the Internet and via email continues, but the ASQ and NTTO (National Travel and Tourism Office) surveys are completely on hold. Everything that requires face-to-face interviewing was put on hold.

The ten data sources include the ASQ and then the compliments and complaints database that has been around since 1998 and is managed by the Customer Programs Specialist. Sources for this database include any way in which a compliment or complaint can come into the paging office, including phone calls, emails, and comment cards that can be found throughout the airport.

These are entered into the database and sent out to tenants and stakeholders for response. The Specialist tracks the closing rates on a monthly and annual basis. On average, about 30-40 compliments and complaints are entered every month. The ratio is generally 30 percent compliments to 70 percent complaints, which is relatively good compared to a lot of organizations.

There are times, however, when there are spikes, such as when there was a lot of construction at the security checkpoint. That year, there were 260 complaints, which is much higher than normal. With COVID, on the other hand, there are only about 15-20 per month, and most of them are about the virus itself. Questions raised include why the airport is operating at all during the pandemic, mask usage, flight testing, and similar issues.

The next information source is the Travelers Assistance compliments and complaints database. This is operated by the volunteers, who work at booths, direct traffic, and serve as guides. They fill out daily compliments and complaints sheets following the ASQ 29 data categories, with about 400 entered a day. This enables the airport to track issues by location. They can also see how issues have changed over time; for example, Wi-Fi has virtually dropped off

as an issue because they enhanced their service. The people are volunteers, so the data collection is not perfect, but they get some great information.

These data tend to be “a little harsher” than the compliments and complaints database. The volunteers are the first in line to hear about problems. When people are upset, they are prone to go up to a friendly person – the first person they see.

Another challenge is educating the volunteers about the differences among comments, compliments, and complaints. Also, right now, there is no category for comments (“There is no Starbuck’s on this concourse”), so they tend to be classified as complaints (“Man, I sure wish you had a Starbuck’s here”). The narrative is not transmitted, so there is no way to check the classification.

Eventually, they would like to shift this from paper to iPads. That would not only save paper, but it would also be easier to transmit the information to the research staff. One challenge is that the volunteer population tends to be older, so some may have concerns about transitioning to electronic data reporting.

In the COVID environment, they put up Plexiglas shields at the information booths to make the volunteers feel more comfortable. They were also issued masks and other personal protective equipment such as hand sanitizer.

The next data input is on-time performance. Every month, they track all airlines and compare themselves to 30 major airports in the United States in terms of on-time arrivals and departures. “The longer a customer is sitting at our airport, frustrated that they cannot get out, the more they find things that they do not like about the airport. And they do.”

Kipsu is the next data source. Kipsu is a text messaging program. Throughout the airport, there are signs saying if you have a question, text it to us. Kipsu will then route the text to the information office, from which people will receive a real-time response from 8:00 am to 8:00 pm. “The great thing about it is there’s a ton of sentiment and information” in the texts; the airport captures the volume of texts and runs sentiment analysis software on the content. The software is called **Semantra**. There are about 5,000 of these texts a month, so it is a “wonderful” source of data.

Next is social media, specifically Twitter, because it works well with the software program that they use for sentiment analysis. They use the Meltwater program to collect social media posts that mention MSP from every source everywhere in

the world. The airport then runs a sentiment analysis on the content. Before COVID, there were about 4,000 comments per month from in this analysis.

Then there is the International Passenger Departure Survey, which is the NTTO from the Department of Commerce. Before COVID, the airport conducted this survey every month among passengers on direct international flights. It is an intercept survey at the gates using paper. "If you go to tablets, you tend to disenfranchise certain groups from the survey... I've heard that people who are of a certain age group are less likely to want to accept a tablet."

Questions in this survey include passengers' experience in the United States and their experience at the airport. The State of Minnesota and other local cities use the information from the survey to determine how best to market the area to other countries.

The airport also tracks Customs and Border Protection document check wait times. This information is used to determine passengers' satisfaction level.

Next is the international passenger origin survey. A company called DIIO, which is a competitor of OAG, has a software program that allows the airport to track every passenger coming into MSP to their point of origin through the entire itinerary. So, if the passenger gets off a plane from Chicago but flew there from Johannesburg via Moscow, the software knows they originated in South Africa. The data are then aggregated to show the numbers of passengers that arrive from each international origin. This information is shared with commercial management and the airport's community partners.

Then there is Xovis, a software program that is used to track wait times for passengers at the security checkpoints. It provides real-time data on average and predicted wait times. This is still in the "proof of concept" phase because there has been a lot of construction in the terminal lobby, and the system had to "relearn" where passengers are. It is smart enough to differentiate among passenger types, such as those in first class or those with TSA pre-check.

This is extremely important when the airport is very busy. Staffing decisions have been made based on the results. It is not as important now, but the airport believes that passengers will be coming back. They also have the idea of using Xovis in other areas, such as the ticketing lobby and baggage check. The company that produces the software is in Europe, and it is predominantly used

there, but they are becoming more prominent in North America. MSP is either the first or second United States airport to adopt it.

Desired Improvements

As noted previously, the airport would like to be able to combine all of their metrics into a single score. When asked what else they would like to improve, they noted that they do a really good job of gathering data and providing it to others who need it. The next thing they would like to be able to do is understand why various scores are not as high as they should be and help people determine what to do to improve them.

So, for example, if Starbucks has a long wait time early in the morning, what is causing it, and how can this be fixed? How can they enhance the customer experience? The data need to be actionable. Fortunately, the MSP culture is one of continuous improvement and has been for many years. Making change based on data is a logical next step.

Exemplary Activities

The airport has two committees that were implemented in 2014 and that were based on work done by the Mayo Clinic. They are based on the goal of making sure the customer (patient) has an exemplary experience.

The first is a Travelers Advisory Committee, which includes leaders from airport management, some airport staff, a major airline, and frequent travelers. The last of these are the most important participants. The airport also focuses on having a good demographic cross-section on the committee, such as domestic versus international travelers, small and large businesses, and corporate versus other kinds of travel agencies. The membership is currently about 25 people, with 15 or 16 frequent travelers.

The committee meets on a quarterly basis and met in person until the pandemic struck. They started meeting at the airport, but it is difficult to find a parking place there, and then people had to go through security to a meeting room. This did not seem conducive to a “friendly meeting environment,” so they now meet either elsewhere on airport property or even offsite.

The “sister committee” is the TDAC (Travelers With Disabilities Advisory Committee). It has a similar composition in terms of airport staff, but the other half are disability advocates. Disabilities that are represented include the deaf

and hard of hearing, the blind and those with low vision, paraplegics and quadriplegics, and most recently those with dementia. This committee also meets quarterly, again with the goal of improving the customer experience at the airport. Thinking about serving people with dementia is new territory. One of the biggest challenges has been working with advocates who expect immediate results.

The committee membership is about 30-35 people. It has had a lot of momentum and has led to some “pretty interesting” improvements. Whenever there is a meeting at the airport about design, the airport always pauses to make sure the TDAC is involved. The biggest example would be the restrooms, which at MSP are “award-winning.” How far a stall door should be left open is an issue for the blind. In another case, there was a decision to use air dryers to supplement paper towels. Not only were people not using the air dryers all that much, but the hard of hearing responded negatively to the noise, so they were removed.

For now, the members of the committees are almost all local. They would love to have inbound or connecting travelers as well, but they have not figured out how to do this yet. It probably is not realistic given travelers' busy schedules. One member of the disabilities committee represents the Open Doors Organization, which is based in Chicago. The representative lives in New York, and they pay for her travel to the meetings.

The word about these efforts has been getting out, and other airports are starting similar programs. It is not difficult to do; it's just a matter of viewing it as important and focusing on it.

Another undertaking the airport views as being exemplary is the Customer Service Action Council (CSAC), which just celebrated its 20th anniversary. It was formed in response to a Minnesota state quality initiative, which charged the organization with providing “world-class, customer-service-oriented air transportation services” at MSP. This organization meets monthly and has multiple committees.

All tenants throughout the airport are members. Also on the council are representatives of the airlines, customs, the TSA, airport police, and other airport staff. Meeting attendance is typically 70-80 people a month.

At the meetings, they talk about a variety of customer service initiatives. The Customer Research Analyst presents the research data every quarter because this information is important to members. They want to know where the airport ranks, and they get excited when they see high scores. There is also a discussion of some specific aspect of customer service every month. Most recently, the conversations have focused on how to make employees and passengers feel safe. To keep the momentum during the pandemic, meetings have been held over Skype.

The Council has a number of committees that focus on specific areas. There was a Benchmarking Committee when the airport overhauled its concessions that assessed practices at other airports. The team included vendors, architects, and people from the MSP IT team. Then there was a Parking Committee because there was going to be a new parking structure. This team looked at issues ranging from pre-paid parking to signage to lights to indicate such things as open spots.

This year's strategic focus was on the "end-to-end passenger journey." The goal was to identify what is most important to the customer. They called this the "Three W's": Washroom (Cleanliness), Wayfinding, and Waiting (Wait Time). They then identified all of the ASQ participants that scored higher than MSP on these dimensions and had teams visit them. In order to look at an industry leader outside of airports, they also included Disney World. During the visits, they met with representatives of the organizations and also made their own observations.

After this, the pandemic hit, so the program was paused. They think it will resume in 2022.

The Forum Committee plans two to three public forums a year on topics such as customer service and current airport or aviation issues. These forums are open to all MSP employees and volunteers. Examples include members of the cast of the show "Survivor" talking about the "gritty world of customer service" as an illustration of "toughing it out," a wrestling coach when the area was planning to host the NCAA (National Collegiate Athletic Association) wrestling tournament (later cancelled due to the pandemic) who talked about the wrestler as a customer demographic in terms of such things as what they like to eat and the terminology they use. There were also going to be airfield tours for the wrestlers, but those were postponed due to the pandemic.

The MSP Nice Awards program recognizes every employee who receives a compliment from any source, be it a phone call, an email, or social media. The employee receives a framed portrayal of the compliment and a \$25 Target gift card. These, too, are now on hold. The record was 360 awards in 2019.

There is also an MSP Nice Celebration Committee. This is a big event that recognizes all of the employees and volunteers who received Nice Awards in the preceding year. This used to be held at the airport, but space was an issue, so it is now held at an offsite hotel. They have a live band, performers such as a magician, and prizes. Going above and beyond for the event emphasizes the importance of going above and beyond for customers.

The MSP Jobs Committee has been around for five years and meets once a month. Their goal is to identify employment barriers in order to maximize recruitment and retention. In addition to trying to find ways to get people to work at the airport, they hold multiple job fairs during the year. There is also an English Learning Program that is free to employees and represents paid time.

The Building on Success Committee is designed to identify key issues that affect travelers and employees and make recommendations to the CSAC. One example was both staff and travelers noting that employees were napping in public areas, which led to the realization that there were insufficient employee lounges. This is the committee's current focus.

Finally, there is the Airport Customer Service Hero committee. This is an annual award that recognizes exceptional service in enhancing the customer experience within the Metropolitan Airports Commission airports, which include MSP and six general aviation airports. Winners receive \$1,000 and their names shown on a trophy that is displayed in the terminal.

The airport is proud of their committees and has talked about them at multiple conferences about the customer experience. This sharing has led to other airports trying to emulate MSP's efforts at their own properties. Last year, all of these undertakings were highlighted in a 7-8 minute video that can be shared with anyone who is interested.

[Guidebook](#)

The Customer Research Analyst has read the Guidebook and thought it was “very good”; he enjoyed it. As it was written a number of years ago, there are a lot of things that could be updated.

ACRP Project 01-43: Conducting Consumer Research of Air Passengers
Case Study for Eugene Airport (EUG)
Site Visit Conducted on July 29, 2020

Background

The site visit to Eugene Airport was conducted with Acting Airport Director Cathryn Stephens, A.A.E. It took place on Wednesday, July 29, 2020, at 10:00 a.m. PDT and lasted approximately an hour.

Current Research

Eugene Airport has been conducting fundamentally the same passenger intercept survey with the same contracted research firm (local firm Advanced Market Research) for a long time. This is a positive because the airport is consistently “comparing apples to apples” over the years. The questionnaire is custom designed for the airport and is reviewed every year for changes. As a general rule, one or two questions are altered each year. The airport tries to keep the survey length to no more than ten minutes.

Both departing and arriving passengers are interviewed for this study. Departing passengers are interviewed at the gates; arriving passengers are interviewed when they emerge from the secure area and at baggage claim.

The airport’s air service development consultant conducts a study once a year. They pull ticket information from a source that may be travel agents or the DOT. This information includes passenger origins and destinations as well as the price paid for the ticket. The airport then looks at the price differential between their airport and Portland International Airport (PDX) in the context of the economic “tipping point” that will persuade people to drive to Portland.

This study also shows the airport what its leading routes are as well as the nonstop routes they are not offering. The latter routes will then be discussed with the airlines that serve the airport. The goal is to bring in new routes.

Another important piece of information derived from this study is the performance of existing routes. When routes with performance challenges such as low load factors are identified, the situation is discussed with the airline. It is not always a marketing problem; it can be a pricing problem. There are times when this approach has actually saved routes. The airlines do not always have the capacity to perform analyses like this for their thousands of routes.

Research That Would Be Desirable

If the airport wanted to expand what it is doing, it would definitely want to utilize more data science information gathering. An example would be anonymized data capture around security screening checkpoints. This has been discussed with a couple of vendors, but they either did not price it acceptably, had too many other customers to be interested, or went out of business. One of the things the airport wants to do with these data is sell them as a revenue generator, but proposing companies have failed to make this feasible. Eventually, this will probably come to pass.

The data would be collected from cell phone pings. This would help the TSA have an electronic count of their throughput, which would solve the problems they have counting and measuring how long it takes people to get through a checkpoint. It would also track people going to concessions; the information could also be used to offer a coupon for that concession. Again, anonymized data could be sold to organizations that would be interested in it, such as airlines, hoteliers, and the concessionaires.

Ability to Address Information Needs

The existing survey provides a good baseline, which is what the airport needs. Having the flexibility to change a question or two each year is important. One example would be asking about desired restaurant concessions when an **existing contract is coming to an end**. The airport's air service development consultant is able to obtain more information from ticket purchases.

Both the passenger survey and the demand analysis are used to inform the **airport's marketing plan**. **Target markets are identified, and there is market segmentation by demography and geography**. This is particularly useful for digital marketing, especially where those who drive to Portland are concerned. Other segmentation includes business versus leisure travelers as well as people affiliated with area universities. Segments can be specifically targeted with digital media.

Innovative Approaches

Awhile back, the airport put up a geofence for Uber and Lyft drivers that would enable the airport to charge them \$1 per trip. Because geofences are easy to establish, they decided to erect such a fence around their catchment area. They then put another geofence around the Portland International Airport (PDX) terminal building. If people from the EUG catchment area were found in the PDX terminal, the airport sent them an ad using digital media. The result was an “absolutely insane” click-through rate.

As this was extremely inexpensive to do, it was “wildly successful.” Unfortunately, the COVID-19 pandemic hit before the campaign could be fully executed, so it remained a small undertaking. That said, the airport believes this is a viable research and outreach option of benefit to small airports that “live in the shadow of a large hub.”

Effect of COVID-19

EUG conducts their annual passenger intercept survey in October, and they are currently planning to do so this October. The time around Halloween is avoided because the holiday “makes everything weird.”

Things will definitely be different this year given the pandemic, and the airport needs to understand that. There has not been much discussion of protocols yet, but the present discussion reminded them that they need to begin to address possible changes. Social distancing will be involved, and masks will be required. It may also be possible for passengers to use tablets so that they are not near an interviewer. Finally, it seems that it may be a challenge to get the required 400 interviews in one week given the decrease in passenger numbers.

ACRP Project 01-43: Conducting Consumer Research of Air Passengers
Case Study for Hartsfield-Jackson Atlanta International Airport (ATL)
Site Visit Conducted on July 30, 2020

Background

The site visit to Hartsfield-Jackson Atlanta International Airport (ATL) was conducted with Director of Customer Experience Steve Mayers. It took place on Wednesday, July 30, 2020 at 10:00 a.m. PDT and lasted approximately 90 minutes.

Current Research

Mr. Mayers (hereafter referred to as “the Director”) presented a PowerPoint deck reflecting the studies to ACRP team members. Studies that are conducted include two Avius surveys: one commercial and another for employees. There are also four ASQ surveys: departures, arrivals, employees, and commercial.

Avius, however, provides instant feedback. The Director displayed a dashboard that showed cleanliness ratings for all airport restrooms at every hour of the day. It also presented the data by location and restroom gender, with the number of responses by day and time of day. In addition, Avius provides an explanation that accompanies each rating. This information, in turn, suggests options for fixing identified issues.

The survey device is an iPad securely affixed to an outer restroom wall. The Director said customers have no concerns about touching it to register a rating because people assume the restrooms are one of the first places to be cleaned.

There is also a KPI feature by location. The visual, which can be green or red, increases in size depending on the magnitude of the ratings. This function is used for contractors. The goal is for cleaning contractors to receive a 95 percent satisfaction rating, and they may not receive a quarterly bonus if they do not achieve that level. When scores are low, the airport and the contractor meet to discuss the issues and how to correct them.

Every time there is a negative rating, the Director receives an email through a program called the Smart Restroom Program. Although this approach can generate a high volume of emails, satisfaction with restrooms is an important part of the airport’s success and is therefore prioritized. Often, a major problem –

like a repair contractor failing to reconnect exhaust fans – can be identified quickly and remedied.

ATL also incorporates text analytics, a part of artificial intelligence. Text analytics assess what people say during the day to give the airport immediate feedback. Continuing with the restroom example, when people say they are unhappy, they are asked if they have additional comments or suggestions about ways to improve. Avius will cumulate the numbers of times people say “trash,” as an example, along with the times of day these mentions occurred.

Avius is also used in a similar way at the end of TSA checkpoints. Oftentimes, it's not the TSA; they did not dress you, and they did not pack your bag. So, it is often user error. The vast majority of TSA staff are there because they love what they do. But when there is a TSA representative who has an attitude problem, management will address.

To work with social media, the airport uses Tatvam Analytics, a Georgia-based firm. The Director takes the digital marketplace very seriously. He wants to know what people are saying and analyze it. If all of the sources – like Facebook, Twitter, Yelp, Google, and others – are saying the same thing, then there is a problem. Avius can also be used to cross-correlate information collected on-site, such as in the restrooms, with comments on social media.

The airport recently decided to track what people are saying about COVID-19. Tatvam will show the number of mentions, what they are saying, and ratings issued. During the pandemic, restroom ratings “took a dive.” Cleanliness was very important. Wayfinding and restaurants were rated higher. And all of this can be tied back to customer satisfaction and revenue.

The coronavirus measurement in the example the team was observing was very high, meaning that a lot of people were talking about it. The Director can then review actual user comments. What are they worried about? Cleanliness? People not social-distancing? Then his team tries to engage and educate travelers by responding publicly and providing them with facts. This is generally done online unless people are threatening, in which case it is taken offline. People who are critical can also be invited to contact the appropriate representative at the airport.

According to the Director, “If you are not responding to people's posts on social media, then you are allowing them to write your story.”

With Avius, the Director can also see how other airports are faring. This data identifies specific airports, and, typically, airports of the same or similar size are ideal for comparison.

This kind of information can also be helpful in an emergency. Social media posts can be sent to the Centralized Command and Control Center to see what people are saying and determine how to react and respond.

Another data source the airport uses is Optimus, a Customer Relationship Management (CRM) system. During the site visit, a team member tested the system by sending an email to the Director. Within a minute or two, there was a response with a case number. The response said that the team member mentioned was contacted and that there would be further communication. This type of response is also provided for postal mail, phone calls, website comments, and on-site comments.

Avius is then used to categorize and analyze the content of communications, resulting in a searchable database. If there is an interest in or concern about parking, the Director can search to find all communications about parking within a given time period. The Director can also track each case from initiation to when it is resolved, i.e., "closed." Everything is in real time.

Communications are also assigned to one of three priority categories: high, neutral and low. High priorities include major accidents on the premises or allegations of discrimination. Neutral items would include complaints about smelly bathrooms. Finally, compliments would be categorized as low priority.

With respect to positive feedback, the airport has an employee recognition program, ATL Wows. Input for Wows comes from surveys and from QR code readers throughout the airport. The airport wants employees to know that there are customers who are observing all the time. And like other surveys, feedback on ATL Wows QR readers can be positive or negative.

There is also Avius technology that collects data on staff observations. Customer service staff are assigned to observe 10 employees every day with respect to KPIs; the data is then recorded on an iPad. A video or photo is captured of the observed employee to accompany the data. Examples would be wearing a clean uniform, wearing appropriate footwear, making eye contact, and smiling.

Philosophy

The reason the Director wanted to be involved in this ACRP project is that “the game has changed” with respect to the collection and use of data. In the past, data was escalated to the airlines or the concessionaires. Airports did not care, because they were making money regardless with the MAG (Minimum Annual Guarantee); fees were paid whether planes departed full or empty.

Then things started to change, and airports realized that they have a mutual customer with airlines and concessions. Their success is the airport's success as well. So, measurement relative to that success becomes important. There are certain KPIs that need to be understood and studied. And when the pandemic began, the customer was at the forefront of everything. It should have been that way a long time ago.

Exemplary Tool

From the Director's perspective, the tool of which he is most fond and proud is Tatvam. It is “an entire world by itself,” he said. A great deal of what airport research encompasses is “physical stuff” – restroom visits, interactions with people on-site, phone calls, emails. The digital marketplace is intriguing because what is in people's minds, i.e., what they are thinking, is revealed in real time. Analysis and decisions can be immediate. He is also proud of Tatvam because he helped develop it specifically for application at airports.

Now, he is developing a customer experience roadmap and customer experience manual. The airport will then be rolling out Avius to all touchpoints in the customer experience. For example, with concessionaires, these would include such activities as ordering and payment. It would then be possible to examine revenue and customer satisfaction per hour in real time to show the correlation between satisfaction and sales.

Data Use

Use of the data is still a challenge, because some leaders are resistant to change and remain comfortable in the old methods that worked. Sometimes, the reaction is simply, “The Director knows what he's doing, so just give him the money to do it.” It is not sufficiently satisfying to hear people talk about the metrics in meetings with partners, but not fully understand the scope and impact. That is why he is developing a dashboard for daily ratings.

That said, they are very interested in Tatvam analytics because it takes everything that was shared on a given day, plus the airport's rating, and emails it to them daily.

Guidebook

The Director said he was planning to take another look at what the team sent relative to the Guidebook and then offer feedback.

ACRP Project 01-43: Conducting Consumer Research of Air Passengers
Case Study for Dublin Airport (DUB)
Site Visit Conducted on August 5, 2020

Background

The site visit to Dublin Airport was conducted with Insights and Planning Manager Catherine Abbey (hereafter referred to as “the Manager”). It took place on Wednesday, July 29, 2020 at 7:00 a.m. PDT and lasted approximately an hour-and-a-half.

History

People have an affinity for the Dublin airport; it is an iconic company and has an iconic building. One of the buildings is even nationally listed. Much of the surrounding housing was built for people who work at the airport. The result is that, “We are constantly under scrutiny, under the microscope.”

When the Manager came to the airport over 20 years ago, there were about 15 or 16 million passengers a year. That number is now up to 32 million. They were also “at the bottom and ... really, really bad.” Now, they have won Best Airport in Europe.

To achieve this, they had to persuade a government regulator that they were a growing entity and needed to use research to make decisions. The passenger is the most important component, and passenger research cannot be left in a filing cabinet.

It took a fair amount of effort convince the airport and the regulator that research was an investment that needed to be made in order not to be the worst airport in Europe. Research can be a “tick the box” exercise, but for this airport, it now has either to be in the interest of the customer or lead to an increase in revenue.

Although “commercially driven” and “regulated” don’t always mix, the regulator has been a “very positive” thing to have. With an unregulated company, one could have “any sort of nonsense going on” in the organization. Although there was some discussion over the targets set, overall the relationship has yielded a “very successful job.”

One example of when things don't necessarily mesh is when the regulator wanted to know more about the levels of disabilities among travelers. Assistance is provided free of charge and without any requirement for evidence; this is a European directive. Researchers are not allowed to inquire about the specific disabilities people have, however. Thus it was not possible to answer the regulator's question.

Walking distance is another issue. Ease of movement can be addressed to some degree, but the distance is what it is. Also, unlike ease of movement, which has a "massive impact" on satisfaction, distance is not correlated with attitudes toward the passenger journey. Yet the regulator requires a score of 7.5 out of ten on walking distance. How this score could be improved is not at all clear.

Understanding problems requires determining the reasons using regression. What does the data mean? What is the issue? For example, the airport appeared in years past to have a serious problem with cleanliness. As it turned out, however, the airport wasn't dirty, it was just old. It looked dirty because it was shabby.

Team Structure

The marketing team has three sections. These are the Insights, Business to Consumer, and Business to Business departments. Business to Consumer does the advertising and manages the website, while Business to Business is the conduit to the airlines and to stakeholders, including the County Council. There are a lot of relations with the Council, and these relations can be challenging from time to time.

Current Research

Dublin Airport customarily has a "very busy" research program, but it is currently "quite quiet." The program is primarily face-to-face interviewing at the gates, baggage hall (claim), the taxi ranks (stands), and the bus stops. Face-to-face interviewing has been cut out entirely. Many flights have been discontinued, and there are very few passengers. The United States and the UK provide a large share of passengers, and people from both areas have been banned.

At the moment, international flying is not recommended by the Irish government, and people appear to be following this recommendation. When air travel resumes, research will likely resume as well.

Research was stopped primarily because of the decrease in the hit rate. It isn't economical to have people out interviewing and not getting many takers. Airport managers outside the research team don't necessarily understand that not every passenger who is asked to participate is willing to do so. They also don't understand the manner in which passengers are to be selected.

Face-to-face interviewing has been supplanted to some degree by online research while there is a pandemic. The airport bought into a syndicated five-country omnibus survey about a wide variety of topics. They were able to purchase their own questions about travel and the airport for inclusion in this survey.

The airport continues to take part in the survey, which they call the COVID Tracker. This tracker doesn't lead to an understanding trip purposes and the like, but they can determine people's likelihood of flying in the next three months, where they would go if they could fly, and what would entice them to do so. Likelihood of flying actually ebbs and flows exactly as restrictions are introduced, lifted, or re-introduced.

Ireland has been one of the hardest-hit European countries in terms of travel; there are only ten countries from which people can enter without restrictions. Everyone else is required to quarantine. As a result, with kudos to the Irish government, there are only about 40 new COVID cases a day and no deaths. But travel is suffering. Unfortunately, cases have risen significantly, but thankfully the number of deaths has not.

The online omnibus is the only research currently ongoing. There was another recent online study, managed internally, that looked at people who had signed up for the Dublinairport.com website. The goal of that research was to find out what sorts of safety measures people would expect when they returned to traveling. Emphasis was placed on hand sanitizer, social distancing, and masks.

Most recently, the airport was conducting four tracking surveys: Passenger Tracking, the CSM, or Customer Service Monitor (including an "extended CSM" or "on my way" survey that is designed to understand public transportation usage), the Food and Beverage tracker, and the ACI's ASQ study. The "on my way" study was added because the regulator gave the airport a public transportation target to achieve and the airport had no data on this issue.

The Passenger Tracking survey is the largest one the airport conducts. It serves all of the organization's internal customers, including the various commercial departments, aviation business development, and marketing. It is the "cornerstone" of the airport's research program.

Only the flights that in combination carry 95 percent of passengers are included in the sampling frame for the tracking surveys. Sampling is non-proportional, with some flights being oversampled and some being undersampled, so that flights of particular interest have a sufficient number of completed interviews. The overall data are then weighted.

The airport is very scientific about how it samples flights and within flights in order to obtain accurate data. Surveys are also conducted in two seasons: summer and winter. Samples are designed to reflect the flight schedules within those two seasons.

Now, with low passenger numbers, making this work is not guaranteed; the flight schedules are not stable enough to conduct the surveys using the same sampling strategies and frames. The expense of interviewers therefore can't be justified at the present time. The situation is being continuously monitored to ensure that the airport will be able to return to research when it is appropriate – that is, when there will be a good return on the investment in terms of results.

In terms of survey content, clearly, a tracker shouldn't change, or there is something wrong with it. There is, however, a small area of the survey that can be modified to assess new topics of interest. This is always at the end so as not to affect the tracking data themselves. Also, changes are made between survey periods, not during them.

The airport also does a lot of qualitative research, but it almost always emerges from issues that the tracker raises. It isn't possible to understand something in depth during a survey that is seven minutes long.

Qualitative techniques the airport uses include online communities, which are exciting but expensive, focus groups, and in-depth interviews at the gates. Some of this work is done in-house, and some is done by outside agencies. Focus groups are done in person in Ireland and the UK, including Northern Ireland, as well as online in the United States.

[Research in the Age of COVID](#)

The Manager is constantly monitoring passenger volume to determine when the number of passengers provides a “green light” to return to in-person research. This is an economic decision; the interviewers have to be paid. Managing the budget is a very important consideration.

When the airport decides it is safe to return to in-person research, research staff will follow the same rules as other staff: approaching cautiously, practicing social distancing, and wearing masks. The tracking study is conducted by interviewers using tablets, so there is no physical contact.

The ACI survey is a pen and paper study. How this might be handled is a concern that has yet to be addressed. That said, this survey was conducted years ago to develop a baseline and understand benchmarking. It was also designed to be responsive to the government regulator, who had given the airport targets to achieve based on the survey results.

The ACI is short and has a five-point scale, whereas the CSM has a ten-point scale. The latter allows for more granularity. The regulator has now moved to using the CSM, so the issues with the ACI survey are of lesser concern. That said, there is still a 250,000 Euro penalty for any failing score on the CSM.

Target scores for the CSM were set across a wide range of passenger measures, such as cleanliness of the terminal and courtesy and helpfulness of airport staff. If the target is not met by even one decimal point, the airport has failed in that quarter.

For measures such as the length of the security queues, Bluetooth and Wifi signals from the mobile phones of passengers in queue are used to measure wait time. If the queue is longer than 30 minutes, then the airport has failed on that occasion.

It is possible for the airport to incur a large number of fines given the number of targets the regulator has set. During the pandemic, however, the regulator has suspended the monitoring.

Now, the ACI has said they want to switch to using tablets, which will be very expensive. In addition, carrying around two or three tablets to survey multiple passengers simultaneously would be difficult physically. ACI has also said that the tablets should be handed out. Keeping an eye on them would be a challenge; people could walk away with them or leave them on a chair. It is

likely that budgets will be cut going forward, so the likelihood of adopting tablets in the near future is remote.

Use of Results

The Insights Department works on business to consumer research and promotion. There is also a business to business component that reaches out to the airlines and also to local county councils. The latter involves a lot of interaction, some of which can be challenging.

Research touches every aspect of the airport in one way or another. A point of pride for the marketing team is that passenger traffic has increased from 15 or 16 million when the Manager started 22 years ago to 32 million. They also won Best Airport in Europe from the ACI and designed and built a second terminal. The second of these would not have been possible if they hadn't had the research to show it was needed.

In terms of the ACI, when the Manager arrived, Dublin was at the bottom of the European list (25 out of 25) for its size category. No one recognized that research results need to be understood: What does the score mean? What is the problem? How can it be fixed? The transformation from last to first took seven years of analysis and addressing issues. Now the airport is at the point where they are fixing "tiny things."

Another important consideration is having to convince people about spending money. Many of the managers at the airport are accountants, and they are careful about funds. It is essential to be able to justify the use of resources in terms of tangible change.

Today, all of the company's departments use the research results. One example was using passenger tracking research to estimate the size of the market for security fast-tracking in terms of passenger interest given current and projected metrics. The result was a highly successful advertising campaign that generated commercial growth.

Research can certainly be a "tick the box" exercise, but as a general rule at Dublin, researchers have to demonstrate a potential impact on the customer or on revenue. It has to have a *raison d'être*.

All internal customers are given the research results; one of the biggest users is the business to business group that works with commercial customers. Key areas

are food and beverage, bus companies, car rental companies, and the property team that looks after the buildings and the site. Sometimes they question the data or how they were obtained, but mostly they are “delighted” because they wouldn’t have the information otherwise.

Even though there is no competing airport in Ireland – Cork is under the same management – it is important to make the airport a good experience. “You are their first beacon and their last light.”

Aspirations for the Future

When COVID is behind us, the Manager would “like [research] to continue very much in earnest.” She would also like the people who produce it to “be more proud.” The enterprise is “a bit of a quiet section,” but it doesn’t oversee a “tick the box exercise.” They should be saying to their internal customers, “You didn’t know that until we told you!”

For the most part, however, people are already holding decisions until they “hear from the passengers.” This is a “step forward,” but it is not fully recognized. This will likely come in time as researchers become increasingly confident and attended to.