ODOT TRIPCHECK.COM SURVEY

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SURVEY METHODOLOGY

SURVEY RESULTS

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INTRODUCTION

In April 2003, the Oregon Department of Transportation (ODOT) contracted with the University of Oregon Survey Research Laboratory (OSRL) to program and conduct the web-based data collection effort, the "ODOT TripCheck.com Survey." The study's goal was to identify and classify a random sample of TripCheck.com's audience, define audience groups, and determine each audience group's behaviors, opinions, and preferences about TripCheck.com's current and potential offerings.

This report summarizes the survey design, sampling methodology, and data collection; provides a demographic profile of survey respondents; and summarizes the study's main findings.

SURVEY METHODOLOGY

This section describes OSRL's procedures for developing and implementing the web survey instrument, the sampling to conduct this study, and the actual data collection.

SURVEY INSTRUMENT DEVELOPMENT

The survey's broad goals were to obtain information on visitor's TripCheck.com web site usage behavior, opinions about the site, and preferences about future online development of TripCheck.com. ODOT and OSRL consulted closely in the iterative process of developing, pretesting, revising, and finalizing survey questions.

The final survey instrument comprised the following specific subject areas:

1. Respondent evaluation of the **usefulness** of TripCheck.com.

2. How the respondent made **use** of each of the site's functionalities and **ratings** of the ease of use for each.

3. **Evaluation** of TripCheck.com as an information source for public transit.

4. **Opinions** about several possible upgrades and enhancements to TripCheck.com.

5. **Basic demographic data**, including age, level of skill in using the internet, location, employment status, use of a vehicle as a regular part of the job, work location, and location from which TripCheck.com is usually accessed.

The survey instrument was extensively pretested using OSRL's standard three-pronged pretest procedure, involving (a) potential members of the survey population, (b) OSRL's Questionnaire Review Committee, comprised of survey experts from our staff and university-wide advisory committee, and (c) potential users of the data, including ODOT personnel. Individual questions were pretested for clarity, accuracy, validity, and variability of response. The entire instrument was pretested for flow, length, comprehensiveness, and factors affecting respondents' cooperation and attention. Based on these pretests, the survey instrument was revised and finalized.

The survey was programmed in OSRL's web-based interviewing system and further pretested. All interviews were completely anonymous. Human subjects approval was obtained from the University of Oregon's Committee for the Protection of Human Subjects.

SAMPLING

OSRL's professional staff programmed a web sampling design that created a true random sample of TripCheck.com visitors so as to provide statistically valid data.

The study's original target number of completed surveys was 30,000 over a two-month period. Because of a longer period than anticipated in instrument design and the ODOT requirement to complete all survey activities by June 30, the data collection period lasted only eight days. Because TripCheck.com's visitors decline in the spring, an average of only 1,471 daily users visited the site during the field period. Of the total of 11,768 visitors, 2,942 invitations to participate were offered and 460 individuals accepted (16%, considerably better than the 6.25% OSRL projected). However, only 340 completed the survey, suggesting that a sizable proportion found the questionnaire burdensome. The final response rate was 12% of those invited, still better than the original assumption and suggesting that site users are interested and involved in the site and eager to help make it even better.

A sample size of 340 is associated with a moderate sampling error. Sampling errors are calculated to help users of the data assess how much confidence can be placed in a particular result from sample survey estimates in order to generalize back to the population. Sampling error is determined in part by sample size; the larger a sample is, the lower the sampling error. But sampling error is also determined by how much variability a particular variable has; thus, a 50-50 proportional split on a variable will have a higher estimated sampling error than a 95-5 proportional split. For a sample of 340 at the 95% confidence level, a variable with a 50-50 proportional split has a confidence interval of 5.3 percentage points. This means that you can be 95% sure that the true population figure is not outside the range 44.7% to 55.3% (i.e., 50% ± 5.2 percentage points) due to sampling error. All other splits have narrower confidence intervals, indicating that the survey findings were even more accurate. Other possible sources of survey error are not as straightforward to estimate, such as the bias introduced if those not accepting the invitation to participate are very different from those who do. For the purposes of this analysis we assume there are no such differences that would call into question the findings, and we have no reason to believe there are. Because of the quality assurance controls OSRL implements at

every stage of data collection, we can say with complete certainty that the responses reported accurately present the opinions and views of the responding TripCheck.com users as entered into the web questionnaire.

DATA COLLECTION

The production version of the TripCheck.com online survey was launched on Tuesday, June 17 and continued for two days, when a programming problem caused a small number of respondents to be unable to input answers to the survey. The program was corrected and the web survey returned to active data collection for the period Tuesday, June 24 through Monday, June 30.

Of the 2,942 web site users invited to complete the online survey, 460 agreed (16%) and 340 actually completed enough of the questions to be included in this analysis (12%). Daily response rates varied from 8% to 15%. The 120 users who started but did not complete the survey amount to 26% of the 460 total, a relatively high proportion of breakoffs for a web survey.

SURVEY RESULTS

This section presents the web survey's main findings about TripCheck.com users, their patterns of usage, their opinions about TripCheck.com, and their preferences for site enhancement. More detailed analysis may be conducted by examining the banner tables in a later section of the project three-ring notebook and the raw Excel data file provided with it. Before presenting the substantive findings, we provide a demographic, social, and economic context for the results of randomly selected web survey respondents.

PROFILE OF RANDOMLY SELECTED WEB SURVEY RESPONDENTS

Respondent Characteristics: The survey included a series of demographic questions, which are useful in interpreting and explaining variation in survey findings from other questions.[1]

Looking at the sample's age composition by birth cohort, defined by grouped ages, illuminates the findings in terms of shared historical, economic, cultural and social histories. In this sample, 8% were born prior to or during the Great Depression (before 1938), 27% were born during the World War II era, 30% were born in the post-World War II Baby Boom, and 35% in the late 50s and after. The median age of respondents falls in the 45 to 54 year range.

Regarding labor force status, 82% of respondents are currently working for pay and 17% are unemployed or out of the labor force. Of those respondents working for pay, 38% report driving as a regular part of their job duties. Only a handful of respondents (10 out of 340) are employed by a trucking company. Over 58% of all respondents access TripCheck.com from either work alone or from both work and home, while 40% access the service only from home.

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[1] For an overview of the demographics of visitors to ODOT's web site as a whole, see the OSRL Report on the ODOT Project Communications Survey 2003.

Internet skills: The survey asked respondents to rate their own skills in accessing the Web. Over 40% labeled their skills "excellent" and over 47% "good." Clearly, most of the respondents to the survey are confident in their abilities to use web resources. Internet usage patterns did not suggest a clear demarcation of audience types.

USAGE PATTERNS AND EVALUATION OF TRIPCHECK.COM

The web survey's first question asks respondents how often they typically visit ODOT's TripCheck.com. More than 26% visit five or more times per week and another 17% visit three or four times per week. We characterize this audience as the "**power users**" of TripCheck.com. **Power users** tend to be older than other respondents. It is remarkable that power users constitute 43% of all users, and suggests TripCheck.com fulfills an important need in their lives.

Another 16% use the site once or twice per week, and an additional 12% report three or four visits per month. These are the site's "**loyal users**," visiting about once a week. **Loyal users** are more likely to be currently working for pay than **power users**. Adding the two audience groups, it is a testimony to the reliability and utility of the site that fully 70% visitors are regular users of TripCheck.com.

Finally, 29% report once a month (or less) use or answered "other." While a few of the latter commented "Many times a day," most reported they were first time users and had not established a pattern. We call these new users "**rookies**." **Rookies** are more likely to access TripCheck.com from home, rather than from work or both. Based on their experience with the site, their recurring need for information, and the site's ease of use, they will either become power or loyal users, or rarely visit the site again. So rookies are an important category for further analysis.

For the detailed verbatim answers of all respondents selecting "other" for this question, please refer to *Narrative Answers to Open-Ended Questions* in the project notebook.

The next set of three questions investigates seasonal use of TripCheck.com. Over 57% report more need for the service in certain seasons. Of these, 91% identify winter (December, January, and February) as the season of primary use. Fall (42%), Spring (35%), and Summer (19%) are the seasons identified as the second most often used time of year. As might be expected, **power users** report more year-round use while **loyal users** are slightly more likely to visit the site on a seasonal basis.

Answers to the question regarding how respondents first learned about the site can be found in the *Narrative Answers to Open-Ended Questions* in the project notebook. There is a mix between word of mouth and links from other web sites. Some of the comments suggest that users may not realize they are on the ODOT site: "Been with AAA almost 50 years." More explicit and persistent branding might be useful to secure the credit that is due to ODOT for this service.

The next question in the web survey seeks to identify the TripCheck.com features used most often, and the respondent's rating of feature quality. Regular usage figures, from highest to lowest proportion of respondents, were camera views (87% used regularly), road conditions and construction information (67%), weather reports (53%), incident reports (43%), snow

parks/scenic byways/rest areas (11%), commercial trucking (5%), bicycle information (2%), public transportation (2%), and rideshare opportunities (1%). **Power users** were more likely to use the camera views and incident reports; **loyal users** and **rookies** were more likely to use the road conditions and construction information.

Of the most regularly used features on the site, the highest rated is camera views at 78% "excellent" or "very good," road conditions at 77%, weather reports (76%), and incident reports (66%). These are very high approval ratings. In evaluation questions of this sort, any "fair" or "poor" total over 10% is cause for concern, but none of the most used functionalities receive scores even approaching this threshold, except for incident reports at 7.2% "fair" or "poor." Narrative comments to be discussed later suggest that problems with timeliness and completeness of traffic delay reports – perhaps the greatest challenge for any DOT web site – are behind this murmuring of complaint.

Next, the survey asks three overall evaluative questions. Ideally, ODOT would like most users to find exactly the information they need from the web site. About 24% of respondents indicate this is the case. Another 65% offer that they "usually" find what they need on the site. Only 2% answer that they "rarely" or "never" found the information they need. **Power users** and **rookies** are a bit less satisfied with the site's ability to meet their needs than are **loyal users**.

Verbatim answers to the follow-up question about what respondents were looking for that they could not find were neither numerous nor particularly informative. They are available for review at *Narrative Answers to Open-Ended Questions* in the project notebook as variable FIND2. The narrative comments to subsequent questions, discussed later in this report, clearly identify areas that may be responsible for the number of respondents answering "usually" to this question, rather than "always."

An impressive 72% of respondents state that the information they find on the site is "very useful," and another 26% find it "somewhat useful." Only 5 respondents out of the 329 answering the question say it is "not very" or "not at all" useful. Based on this finding, TripCheck.com might well be one of the most useful information products of Oregon state government, if not the most useful. In terms of audience type, the **power users** are the most satisfied, trailed only slightly by the **loyal users**. The **rookies** were least likely to find the site "very useful." These results are very positive, but suggest that meeting more of new and infrequent user's needs could be a fruitful area of potential programming activity on TripCheck.com.

About 65% of respondents report the information on the site is "very accurate," and another 33% indicate it is "somewhat accurate." **Power users** and **loyal users** are more likely to rate the information as "very accurate" than **rookies**. It is only in comparison with the high usefulness reported in the previous question that this result suggests a need to prioritize improving the accuracy of the site. Of course, the high level of usefulness makes the accuracy that much more of an issue for users.

Two open-ended questions follow, capturing a wide range of thoughtful and helpful ideas for change in the site and additions to TripCheck.com. The full text of these responses can be found at *Narrative Answers to Open-Ended Questions* in the project notebook as variables CHANGE and FEATUR2. Many of the answers can be summarized as requests for "more of the same:"

more cams, quicker maintenance on broken cams, more publicity prior to big traffic weekends, more information on construction and delays, more small area data, more weather reports. The quantity and quality of these answers is remarkable, indicating that users take a great deal of interest in the site. In effect, it is a "membership site" and many users feel that they are stakeholders in it. ODOT may wish to make more of this unusual level of loyalty to TripCheck.com.

A few representative verbatim comments are included here to give a flavor of the answers. Also incorporated are comments from the final question, asking respondents if there is anything they wish to add (available in the ***Narrative Answers to Open-Ended Questions*** in the project notebook as variable ENDING):

> *What I find most useful are the road cams. There should be more of them, especially in eastern and southeast Oregon. As I said before, Ladd can be frozen, slicker than slobbers and a white out condition and still the camera. More cameras on coast and eastern Oregon.*

> *Reduce the click stream to certain content areas of my interest, i.e.: highway cameras. They provide an instantaneous view of highway conditions in real time. For choosing a route to Central Oregon from the coast, it is great to see each pass or route.*

> *As a pilot, I am required to use all available information related to safety as a matter of preflight preparation. The weather reporting information at Murder Creek and on Enchanted Way give me low level winds and winds in the area I expect to land.*

> *Continue the great work. Also, provide a Web page to solicit donations for the support of the website via Credit Card.*

> *This was my first time and I thought it was a great help. Maybe an MP3 file, with a voice introducing you to the TripCheck and its [available] assistance.*

> *TripCheck is an exceptionally valuable website and I use it for all my travels to Oregon. Please continue to make it available and continue to improve it. Thanks for a job well done!*

> *Trip check is a very useful tool in planning my trips. I'd like to thank ODOT for having this tool. Even though times are rough, money is tight, ODOT continues to take the time to improve the content of its website. Thank you.*

> *None -- but really important to keep this site up -- it's important to safety and commerce no matter the state's budget woes.*

> *Thanks for the survey. I just want to give ODOT a big "atta boy" for their excellent website. In my opinion, absolutely one of the best around. Good work.*

A final question in this section asks about usage of the ODOT Road Condition hot line. About 36% of respondents report using that resource. This did not vary by user type.

The next section of the web survey investigates how users employ the site to plan their trips and check road conditions. The trip planning functionality of TripCheck.com is used more by **rookies** than by **power users**, with **loyal users** in between the two audiences. About half the users (47%) report their current use of the site is to plan a trip. Of these, 42% are planning a recreation or sport-related trip, 20% a work-related trip of less than 60 miles, and 12% a work related trip of more than 60 miles. Another 26% answered "other," and a review of those answers (found in their entirety in *Narrative Answers to Open-Ended Questions* as variable PLAN1TXT) suggests that they could easily be recoded into the categories provided, in roughly the same proportion.

The site overwhelmingly caters to travelers with a destination in Oregon. Seventy-two percent of the trip planners report a destination in Oregon and 11% are just travelling through. Another 17% answered "both." Most travel by personal vehicle, with only 13% in a company vehicle or other mode of transportation. Verbatim answers to the "other" category can be found in *Narrative Answers to Open-Ended Questions* in the project notebook, as variable PLAN3TXT.

The site earns high marks in terms of ease of use for planning a trip. Two-thirds of respondents planning a trip report using the site was "very easy." Another 28% rate it "somewhat easy," and only 5% say "somewhat difficult." **Power users** and **loyal users** find it easier to use than **rookies**, suggesting that pretesting of revised screens be conducted on naïve users. Regarding trip planning tools the respondents prefer, starting with the most favored, the preferences were: maps showing routes with the fewest delays (55%); section by section maps, the current offering (53%); maps organized by shortest distance (45%); by major highways (41%); most scenic routes (36%); and structured from city to city (36%). Respondents could vote for any or all of these options, and most did vote for all of them, suggesting that a cafeteria approach of functions would meet with user approval.

The next set of questions deals with the use of TripCheck.com to investigate road conditions, one of the most significant user interests and needs. Almost two-thirds of respondents seeking trip planning information include road conditions as part of their inquiry. Over 92% of them report being able to find the road condition information they need in previous visits to TripCheck.com, with 99% reporting that finding the information was "very easy" or "somewhat easy." Only a handful of users indicate what it was they could not find, and those verbatims can be found in *Narrative Answers to Open-Ended Questions* in the project notebook as variable ROADCON3.

Eighty-two percent of respondents who use the site to learn about road conditions say that TripCheck.com is their primary source of this information, and almost half the individuals using this service indicate they will change their travel plans based on what they learn at the site. This does not vary by audience type. Only four respondents were able to identify an alternative source, and these verbatims can be found in *Narrative Answers to Open-Ended Questions* in the project notebook as the variable named ROADCON6TXT. These impressive numbers speak to the crucial importance of the service to its users. This can be a two edged sword. The fact that the site has no effective competition places an extra burden on TripCheck.com to provide comprehensive, accurate, and timely information about road conditions – a significant challenge.

There appears to be more potential than actual usage of the site for public transit. When asked if they use TripCheck.com to get public transportation information, only 21 individuals (6%) answered in the affirmative. This small number means that the subsequent questions – about the type of information searched for, the information's accuracy, and so on – do not provide useful information.

UPGRADING TRIPCHECK.COM

The survey offered a variety of possible site upgrades for users to evaluate. The first was a congestion map; respondents were asked if they would use such a map. Over two-thirds of respondents say they would, and of those, 26% say such maps would be very important to them. **Power users** feel a congestion map would be more important than **loyal users**, who in turn rate its importance higher than **rookies**. About 30% report that they would use information formatted for delivery to cell phones and PDAs from TripCheck.com, and 26% of them say such a service would be very important to them. The next questions ask how this information should be formatted, but the same pattern recurs that was observed before – percentages similar across all options, from 58% for organization by major highways to 39% for organization by state section, as TripCheck.com is now structured.

About 38% of respondents indicate they would use the trucking information described on the questionnaire. Of these, 29% indicate the information would be "very important" and 59% say "somewhat important." The highest proportion of respondents would prefer trucker information presented by major highways (55%), followed by routes with shortest time (47%), with least road construction (42%), with shortest distance (41%), organized by state section, like the current TripCheck.com (40%), and from city to city (36%).

The next series of questions asked respondents about their likely use of commercial services information on TripCheck.com. Fifty-nine percent of respondents say they would use information about restaurants, hotels, gas stations and so on, on the site. Although not a majority, the 40% not favoring this feature suggests ambivalence about including commercial information on the government-sponsored site. Of those likely to use such services, 24% say they judge them "very important" and 53% "somewhat important." This does not vary by audience type. As to the preferred means of presenting commercial information, 64% favored presentation by exit number, 55% in printable maps, 47% by major highways, and 29% by state section like TripCheck.com now.

Almost two-thirds of respondents said they would use roadside tourism information if available on TripCheck.com. This is "very important" to 21% of users and "somewhat important" to 64%. These proportions do not vary by audience type. In terms of how users prefer the information be presented, the range was extremely narrow, from 46% for presentation by major highways to 45% for routes with the least road construction.

Finally, respondents were asked to indicate which TripCheck.com-like information they would favor in non-interactive displays at rest areas. Almost 90% selected road conditions and construction information, followed by cameras (60%), weather reports (59%), commercial services

(38%), and snow parks/scenic byways/rest areas (26%). When asked to select their one most preferred functionality, respondents chose road conditions (59%), cameras (26%), weather reports (14%), and lastly snowpark/scenic byways/rest areas (1%).