

APPENDIX D.

General Approach to Availability Analysis

The study team used an approach similar to a “custom census” to compile data on MBEs, WBEs and majority-owned firms available for ODOT contracts and developed dollar-weighted estimates of MBE/WBE availability based on analysis of individual ODOT and local agency transportation-related construction and engineering prime contracts and subcontracts. Appendix D further explains the availability methodology and results in five parts:

- A. General approach to collecting availability information;
- B. Development of the survey instruments;
- C. Execution of surveys;
- D. Additional considerations related to measuring availability; and
- E. The survey instrument.

A. General Approach to Collecting Availability Information

Keen Independent collected information from firms about their availability for ODOT and local government contracts through telephone surveys.

Listings. The firms contacted in the availability surveys came from several sources:

- Company representatives who had previously identified themselves to ODOT as interested in learning about future work by registering with the State of Oregon’s Oregon Procurement Information Network (ORPIN), through ODOT’s electronic Bidding Information Distribution system/database (eBIDS), through OWMESB directory of certified firms, or by bidding on or performing work on ODOT contracts.
- Businesses that Dun & Bradstreet (D&B) identified in certain transportation contracting-related subindustries in Oregon or Southwest Washington (D&B’s Hoover’s business establishment database).

The availability analysis focused on companies in Oregon and two counties in Washington (Clark and Skamania Counties) performing types of work most relevant to ODOT and local agency transportation construction and engineering contracts (including subcontracts, trucking and supplies for those contracts). As such, Keen Independent did not include all of the listings in the bidder/vendor lists or D&B database in the availability surveys, as described below.

ORPIN and other ODOT bidder, vendor and planholder lists. ODOT provided several lists of construction and professional services goods and other services bidders, vendors and planholders. The individuals and businesses on these lists identified that they are interested in bidding on ODOT construction- and engineering-related contracting opportunities. The lists include:

- ORPIN – Individuals and businesses interested in bidding on Oregon state agency (including ODOT) and many local government opportunities can register as a vendor on the Oregon Procurement Information Network (ORPIN), an online database of firms that have indicated they are ready, willing and able to perform work on public agency projects in the State of Oregon. ODOT provided a list of over 28,000 subscribers as of May 2015. Keen Independent analyzed the list and removed subscribers that did not pertain to transportation contracting.
- OCR updates – Businesses and individuals can sign up to receive ODOT Office of Civil Rights updates via email. This list includes more than 4,000 firms.
- Construction prequalified contractors – This is a list of prime construction contractors that have been approved to bid on ODOT construction contracts. Contractors must apply to be prequalified.
- Construction prime bidder – The construction prime bidder list includes all construction contractors who have submitted a prime bid for an ODOT construction project during the study period.
- Construction sub bidder – Prime bidders are asked to submit a Subcontractor Solicitation and Utilization Report (SSUR) form within 10 days of a project bid date showing all sub-proposers they sought or received sub-proposals from for the project, and whether or not the firm was utilized. The construction sub bid data was comprised of the sub bidder data from the SSUR.
- Construction planholders – Prime and subcontractors can sign up for ODOT’s electronic Bidding Information Distribution system/database (eBIDS). This enables them to view the plans and specifications for ODOT’s advertised projects. Contractors who want to bid as a prime must place themselves on the Holders of Bidding Plans list. Subcontractors and other interested parties (e.g., plan centers) who would like to download the plans and specifications must place themselves on the Holders of Informational Plans list. eBIDS users can view the planholders lists to find who to submit sub-quotes to or from which to request sub-quotes. Businesses who have registered on eBIDS comprise this list.
- Construction vendors – This list of firms includes all prime and subcontractors who have bid or been awarded an ODOT project.
- A&E bid respondents – this list was comprised of data collected on vendors who responded to RFPs for A&E and related services, Price Agreements and direct contracts.

- A&E sub bidders – Prime A&E bidders are also required to submit an SSUR form detailing all sub-proposers. Data in this list includes those A&E sub bidders included on all SSUR forms during the study period.
- A&E vendors – A&E vendors list includes all contractors that responded to an RFP, ITB or were added to an SSUR form by a prime proposer/bidder.

Keen Independent attempted to exclude any listings for government agencies or not-for-profit organizations. (Not all were excluded on the list, but representatives indicated that the organization was not a business when surveyed.)

Dun & Bradstreet Hoover’s database. There might be other firms available for ODOT work that do not appear on ODOT lists. Therefore, Keen Independent supplemented the firms on the ODOT lists by acquiring Dun & Bradstreet data for firms in Oregon and Southwest Washington doing business in relevant subindustries.

Dun & Bradstreet’s Hoover’s affiliate maintains the largest commercially-available database of U.S. businesses. The study team used D&B listings to supplement the companies identified in ODOT’s databases of bidders, vendors and planholders.

Keen Independent determined the types of work involved in ODOT contract elements by reviewing prime contract and subcontract dollars that went to different types of businesses during the study period. D&B classifies types of work by 8-digit work specialization codes.¹ Figure D-1 on the following page identifies the work specialization codes the study team determined were the most related to the study contract dollars.

Keen Independent obtained a list of firms from the D&B Hoover’s database within relevant work codes that had locations within Oregon and the two Washington counties. D&B provided phone numbers for these businesses.

Total listings. Keen Independent attempted to consolidate information when a firm had multiple listings across these data sources. After consolidation, the data sources provided 14,678 unique listings for the availability surveys.

Keen Independent did not draw a sample of those firms for the availability analysis; rather, the study team attempted to contact each business identified through telephone surveys and other methods. Some courts have referred to similar approaches to gathering availability data as a “custom census.”

¹ D&B has developed 8-digit industry codes to provide more precise definitions of firm specializations than the 4-digit SIC codes or the NAICS codes that the federal government has prepared.

Telephone surveys. Keen Independent retained Customer Research International (CRI) to conduct telephone surveys with listed businesses. After receiving the list described above, CRI used the following steps to complete telephone surveys with business establishments:

- Firms were contacted by telephone. Up to five phone calls were made at different times of day and different days of the week to attempt to reach each company.
- Interviewers indicated that the calls were made on behalf of the Oregon Department of Transportation for purposes of expanding its list of companies interested in performing ODOT transportation-related work.
- Some firms indicated in the phone calls that they did not work in the transportation contracting industry or had no interest in ODOT work, so no further survey was necessary. (Such surveys were treated as complete at that point.)

Online surveys. For firms from the ODOT sources described above that had email addresses, ODOT Office of Civil Rights distributed a request to complete the online availability survey through the eGovDelivery list service.

Other avenues to complete a survey. Even if a company was not directly contacted by the study team, business owners could complete a survey for their company online or request a fax version of the survey.

Figure D-1. D&B 8-digit codes for availability list source

Code	Description	Code	Description
07820207	Sodding contractor	17919902	Concrete reinforcement, placing of
07829903	Landscape contractors	17919905	Iron work, structural
14420000	Construction sand and gravel	17919907	Precast concrete struct. frmng or panels, placing
14420200	Gravel and pebble mining	17940000	Excavation work
14420201	Gravel mining	17949901	Excavation and grading, building construction
16110000	Highway and street construction	17950000	Wrecking and demolition work
16110100	Highway signs and guardrails	17959901	Concrete breaking for streets and highways
16110101	Guardrail construction, highways	17959902	Demolition, buildings and other structures
16110102	Highway and street sign installation	17990900	Building site preparation
16110200	Surfacing and paving	17990901	Boring for building construction
16110202	Concrete construction: roads, hwys, sidewalks	17990903	Shoring and underpinning work
16110203	Grading	17999906	Core drilling and cutting
16110204	Highway and street paving contractor	17999907	Dewatering
16110205	Resurfacing contractor	17999908	Diamond drilling and sawing
16110206	Sidewalk construction	17999912	Fence construction
16110207	Gravel or dirt road construction	17999929	Sign installation and maintenance
16119900	Highway and street construction, nec	17999932	Welding on site
16119901	General contractor, hwy and street construction	29110501	Asphalt or asphaltic matls, made in refineries
16119902	Highway and street maintenance	29110505	Road materials, bituminous
16119903	Highway reflector installation	29110506	Road oils
16220000	Bridge, tunnel, and elevated hwy construction	29510000	Asphalt paving mixtures and blocks
16229900	Bridge, tunnel, and elevated highway, nec	29510200	Paving mixtures
16229901	Bridge construction	29510201	Asphalt/asphaltic pvng mixtures (not from ref.)
16229902	Highway construction, elevated	29510202	Coal tar paving materials (not from refineries)
16229903	Tunnel construction	29510203	Concrete, asphaltic (not from refineries)
16229904	Viaduct construction	29510204	Concrete, bituminous
16239902	Manhole construction	29510206	Road materials, bituminous (not from ref.)
16290400	Land preparation construction	32720000	Concrete products, nec
16299901	Blasting contractor, except building demolition	32720710	Pier footings, prefabricated concrete
16299902	Earthmoving contractor	32720711	Piling, prefabricated concrete
16299903	Land clearing contractor	32729903	Paving materials, prefabricated concrete
16299904	Pile driving contractor	32729904	Prestressed concrete products
16299906	Trenching contractor	32730000	Ready-mixed concrete
17210300	Industrial painting	33120400	Structural and rail mill products
17210302	Bridge painting	33120405	Structural shapes and pilings, steel
17210303	Pavement marking contractor	33120500	Bar, rod, and wire products
17310000	Electrical work	34410200	Fabricated structural metal for bridges
17319903	General electrical contractor	34410201	Bridge sections, prefabricated, highway
17410100	Foundation and retaining wall construction	34490100	Fabricated bar joists, concrete reinforcing bars
17410102	Retaining wall construction	34490101	Bars, concrete reinforcing: fabricated steel
17710000	Concrete work	42120000	Local trucking, without storage
17710200	Curb and sidewalk contractors	42120200	Liquid transfer services
17710201	Curb construction	42120201	Liquid haulage, local
17710202	Sidewalk contractor	42120202	Petroleum haulage, local
17710301	Blacktop (asphalt) work	42129904	Draying, local: without storage
17719901	Concrete pumping	42129905	Dump truck haulage
17719902	Concrete repair	42129908	Heavy machinery transport, local
17719904	Foundation and footing contractor	42129912	Steel hauling, local
17910000	Structural steel erection	42130000	Trucking, except local
17919900	Structural steel erection, nec	42139902	Building materials transport

Figure D-1. D&B 8-digit codes for availability list source (cont.)

Code	Description	Code	Description
42139904	Heavy hauling, nec	87110402	Civil engineering
42139905	Heavy machinery transport	87110404	Structural engineering
42139908	Liquid petroleum transport, non-local	87119903	Consulting engineer
49590102	Sweeping service: road, airport, parking lot, etc.	87120101	Architectural engineering
50320100	Paving materials	87130000	Surveying services
50320101	Asphalt mixture	87139900	Surveying services, nec
50320102	Paving mixtures	87139901	Photogrammetric engineering
50320504	Concrete mixtures	87139902	Aerial digital imaging
50329901	Aggregate	87310302	Environmental research
50329904	Cement	87349909	Soil analysis
50329905	Gravel	87419902	Construction management
50329908	Stone, crushed or broken	87420402	Construction project management consultant
50399912	Soil erosion control fabrics	87420410	Transportation consultant
50510209	Forms, concrete construction (steel)	87480200	Urban planning and consulting services
50630504	Signaling equipment, electrical	87480204	Traffic consultant
50990304	Reflective road markers	87489905	Environmental consultant
52110502	Cement	89990700	Earth science services
52110506	Sand and gravel	89990701	Geological consultant
73530000	Heavy construction equipment rental	89990702	Geophysical consultant
73539901	Cranes and aerial lift equipment, rental or leasing		
73539902	Earth moving equipment, rental or leasing		
73599912	Work zone traffic eqpt (flags, cones, barrels, etc.)		
73890800	Mapmaking services		
73890801	Mapmaking or drafting, including aerial		
73890802	Photogrammatic mapping		
73899909	Crane and aerial lift service		
73899921	Flagging service (traffic control)		
73899937	Pilot car escort service		
87110000	Engineering services		
87110400	Construction and civil engineering		

B. Development of the Survey Instruments

Keen Independent developed the survey instruments through the following steps:

- Keen Independent drafted an availability survey instrument; and
- ODOT staff and the Quality Service Provider reviewed the draft survey instrument.

The final telephone survey instrument is presented at the end of this appendix.

Survey structure. The availability survey included nine sections. The study team did not know the race, ethnicity or gender of the business owner when calling a business establishment. Obtaining that information was a key component of the survey.

Areas of survey questions included:

- **Identification of purpose.** The surveys began by identifying ODOT as the survey sponsor and describing the purpose of the study (i.e., “compiling a list of companies interested in working on road, highway and bridge projects”).
- **Verification of correct business name.** CRI confirmed that the business reached was in fact the business sought out.
- **Contact information.** CRI then collected complete contact information for the establishment and the individual who completed the survey.
- **Verification of work related to transportation-related projects.** The interviewer asked whether the organization does work or provides materials related to construction, maintenance or design on transportation-related projects (Question 1). Interviewers continued the survey with businesses that responded “yes” to that question.
- **Verification of for-profit business status.** The survey then asked whether the organization was a for-profit business as opposed to a government or not-for-profit entity (Question 2). Interviewers continued the survey with businesses that responded “yes” to that question.
- **Identification of main lines of business.** Businesses then chose from a list of work types that their firm performed in categories of construction-related work, engineering-related work and supply activities. In addition to choosing all areas that the firms did work, the study team asked businesses to briefly describe their main line of business as an open-ended question.
- **Sole location or multiple locations.** The interviewer asked business owners or managers if their businesses had other locations and whether their establishments were affiliates or subsidiaries of other firms. (Keen Independent combined responses from multiple locations into a single record for multi-establishment firms.)
- **Past bids or work with government agencies and private sector organizations.** The survey then asked about bids and work on past government and private sector contracts. The questions were asked in connection with both prime contracts and subcontracts.
- **Qualifications and interest in future transportation work.** The interviewer asked about businesses’ qualifications and interest in future work with ODOT and other government agencies in connection with both prime contracts and subcontracts.
- **Geographic areas.** Interviewees were asked whether they could do work in several geographic areas in Oregon: Portland/Hood River region, Willamette Valley and Northwest Oregon region, Southwestern Oregon, Central Oregon and Eastern Oregon.
- **Largest contracts.** The study team asked businesses to identify the value of the largest transportation-related contract or subcontract on which they had bid on or had been awarded in Oregon during the past seven years.

- **Ownership.** Businesses were asked if at least 51 percent of the firm was owned and controlled by women and/or minorities. If businesses indicated that they were minority-owned, they were also asked about the race and ethnicity of owners. The study team reviewed reported ownership against other available data sources such as DBE and MBE directories.
- **Business background.** The study team asked businesses to identify the approximate year in which they were established. The interviewer asked several questions about the size of businesses in terms of their revenues and number of employees. For businesses with multiple locations, this section also asked about their revenues and number of employees across all locations.
- **Potential barriers in the marketplace.** Establishments were asked a series of questions concerning general insights about the marketplace and ODOT contracting practices including obtaining loans, bonding and insurance. The survey also included two open-ended questions; one asking how firms find out about ODOT prime and subcontracting opportunities, and one asking for any general thoughts about contracting with ODOT. In addition, the survey included a question asking whether interviewees would be willing to participate in a follow-up survey about marketplace conditions.

C. Execution of Surveys

Keen Independent held planning and training sessions with CRI as part of the launch of the availability surveys. CRI began conducting full availability surveys in June of 2015 and completed the surveys in mid-August.

To minimize non-response, CRI made at least five attempts at different times of day and on different days of the week to reach each business establishment. CRI identified and attempted to interview an available company representative such as the owner, manager or other key official who could provide accurate and detailed responses to the questions included in the survey.

Establishments that the study team successfully contacted. Figure D-2 on the following page presents the disposition of the businesses the study team attempted to contact for availability surveys.

Note that the following analysis is based on business counts after Keen Independent removed duplicate listings (beginning list of 14,678 unique businesses).

Non-working or wrong phone numbers. Some of the business listings that the study team attempted to contact were:

- Non-working phone numbers (2,212); or
- Wrong numbers for the desired businesses (84).

Some non-working phone and wrong numbers reflected business establishments that closed, were sold or changed their names and phone numbers between the time that a source listed them and the time that the study team attempted to contact them.

Figure D-2.
Disposition of
attempts to
survey business
establishments

Note:
Study team made at
least five attempts to
complete an interview
with each establishment.

Source:
Keen Independent from
2015 Availability Surveys.

	Number of firms	Percent of business listings
Beginning list	14,678	
Less non-working phone numbers	2,212	
Less wrong number	84	
Firms with working phone numbers	12,382	100.0 %
Less no answer	4,781	38.6
Less could not reach responsible staff member	351	2.8
Less could not continue in English or Spanish	11	0.2
Less unreturned fax/email	87	0.7
Less said already completed online survey, but hadn't	33	9.4
Firms successfully contacted	7,119	57.5 %

Working phone numbers. As shown in Figure D-2, there were 12,382 businesses with working phone numbers that the study team attempted to contact. For various reasons, the study team was unable to contact some of those businesses:

- **No answer.** Some businesses could not be reached after at least five attempts at different times of the day and on different days of the week (4,781) establishments.
- **Could not reach responsible staff member.** For a small number of businesses (351), a responsible staff person could not be reached to complete the after repeated attempts.
- **Could not complete the survey in English or Spanish.** Businesses with language barriers during an initial call were re-contacted by a Spanish-speaking CRI interviewer, as appropriate. The interviewee was asked if there was anyone available to perform the survey in English. If not, Questions 1 and 2 of the instrument were asked in Spanish. If the firm appeared that it performed transportation related work, the interviewer asked if the company would like to complete an email or faxed questionnaire (in English), which was then sent. This approach appeared to nearly eliminate any language barriers to participating in the availability surveys. Language barriers presented a difficulty in conducting the survey for only 11 companies (mix of languages such as Russian, Romanian, etc.).
- **Unreturned fax or email surveys.** The study team sent email invitations to those who requested a link to the online survey or requested to do the survey via fax. There were 87 businesses that requested such surveys but did not return them.
- **Respondent indicated that they had already completed an online survey.** There were 33 respondents who said that they had already completed an online survey that were not found within the online survey responses.

After taking those unsuccessful attempts into account, the study team was able to successfully contact 7,119 businesses, or 57.5 percent of those with working phone numbers.

Establishments included in the availability database. Figure D-3 presents the disposition of the 7,119 businesses the study team successfully contacted and how that number resulted in the 1,639 businesses the study team included in the availability database.

Figure D-3.
Disposition of
successfully
contacted
businesses

Source:
Keen Independent from
2015 Availability Surveys.

	Number of firms
Firms successfully contacted	7,119
Less businesses not interested in discussing availability for ODOT work	1,170
Less no longer in business	807
Firms that completed interviews about business characteristics	5,142
Less no road and highway related work	2,918
Less not a for-profit business	90
Less residence, not a business	407
Less duplicate responses	143
Qualified firms from initial list	1,584
Plus other firms that completed online survey	55
Total firms included in availability database	1,639

Establishments not interested in discussing availability for ODOT work. Of the 7,119 businesses that the study team successfully contacted, 1,170 were not interested in discussing their availability for ODOT work. In Keen Independent’s experience, those types of responses are often firms that do not perform relevant types of work. Another 807 respondents indicated that their companies were no longer in business.

Businesses included in the availability database. Many firms completing availability surveys were not included in the final availability database because they indicated that they did not perform work related to transportation contracting or reported that they were not a for-profit business:

- Keen Independent excluded 2,918 businesses that indicated that they were not involved in transportation contracting work.
- Of the completed surveys, 90 indicated that they were not a for-profit business (including non-profits or government agencies). Another 407 indicated that the call was to a residence and that there was no active business at that location. Surveys ended when respondents reported that their establishments were not for-profit businesses.
- There were 143 duplicate responses excluded at this point of the analysis (answers were consolidated).

After those final screening steps, the survey effort produced a database of 1,639 businesses potentially available for ODOT work.

Coding responses from multi-location businesses. As described above, there were multiple responses from some firms. Responses from different locations of the same business were combined into a single, summary data record after reviewing the multiple responses.

D. Additional Considerations Related to Measuring Availability

The study team made several additional considerations related to its approach to measuring availability, particularly as they related to ODOT's implementation of the Federal DBE program.

Not providing a count of all businesses available for ODOT work. The purpose of the availability surveys was to provide precise, unbiased estimates of the percentage of MBE/WBEs potentially available for ODOT work. The research appropriately focused on firms in highway-related subindustries and the relevant geographic area for ODOT transportation contracting. Subindustries that comprised a very small portion of ODOT highway-related work were not included. Keen Independent did not purchase Dun & Bradstreet data for firms outside Oregon and Southwest Washington. And, not all firms on the list of businesses completed surveys, even after repeated attempts to contact them. Therefore, the availability analysis did not provide a comprehensive listing of *every* business that could be available for all types of ODOT work and should not be used in that way.

There were some firms receiving ODOT work that did not complete an availability survey. Further research indicated that some were out of business by the time that the survey was conducted or might have been no longer interested in ODOT work. Keen Independent's review of each of the 25 firms receiving the most ODOT work that were not on the availability list found that each were either located outside Oregon and Southwest Washington or performed types of businesses outside the focus of the availability survey. And, Keen Independent's analysis of MBE/WBE and majority-owned firms receiving ODOT work found that MBE/WBEs were as or more likely to have completed an availability survey as majority-owned firms.

Federal courts have approved similar approaches to measuring availability that Keen Independent used in this study. The United States Department of Transportation's (USDOT's) "Tips for Goals Setting in the Disadvantaged Business Enterprise (DBE) Program" also recommends a similar approach to measuring availability for agencies implementing the Federal DBE Program.²

Not using a "headcount" based solely on ODOT lists. USDOT guidance for determining MBE/WBE availability recommends dividing the number of businesses in an agency's DBE directory by the total number of businesses in the marketplace, as reported in U.S. Census data. As another option, USDOT suggests using a list of prequalified businesses or a bidders list to estimate the availability of MBE/WBEs for an agency's prime contracts and subcontracts.

Keen Independent used ODOT lists that included firms that expressed interest in ODOT work, but included other firms potentially available for ODOT contracts as well. This helps capture firms that might have been discouraged from pursuing ODOT work and would not appear on ODOT lists.

Keen Independent's approach to measuring availability used in this study also incorporates several layers of refinement to a simple head count approach. For example, the surveys provide data on businesses' qualifications, size of contracts they bid on and interest in ODOT work, which allowed the study team to take a more refined approach to measuring availability.

² Tips for Goal-Setting in the Disadvantaged Business Enterprise (DBE) Program. Retrieved from <http://www.osdbu.dot.gov/dbeprogram/tips.cfm>

Using D&B lists. Keen Independent supplemented business lists obtained from ODOT with Dun & Bradstreet business listings for Oregon and Southwest Washington. Note that D&B does not require firms to pay a fee to be included in its listings — it is completely free to listed firms. D&B provides the most comprehensive private database of business listings in the United States. Even so, the database does not include all establishments operating in Oregon due to the following reasons:

- There can be a lag between formation of a new business and inclusion in D&B listings, meaning that the newest businesses may be underrepresented in the sample frame.
- Although D&B includes home-based businesses, those businesses are more difficult to identify and are thus somewhat less likely than other businesses to be included in D&B listings. Small, home-based businesses are more likely than large businesses to be minority- or women-owned, which again suggests that MBE/WBEs might be underrepresented in the final availability database.
- Some businesses providing transportation construction or engineering-related work might not be classified as such in the D&B data.

Because Keen Independent used several ODOT data sources of business listings for the availability analysis as well as D&B lists, the final survey list captures some firms not included in the D&B data. (The study team estimates that about one-quarter of the completed surveys were firms not on the D&B list.)

Selection of specific subindustries. Keen Independent identified specific subindustries when compiling business listings from Dun & Bradstreet. D&B provides highly specialized, 8-digit codes to assist in selecting firms within specific specializations. There are limitations when choosing specific D&B work specialization codes to define sets of establishments to be surveyed, which leave some businesses off the contact list. However, Keen Independent's use of additional ODOT data (ORPIN, eBids, bidders/proposers lists, planholders lists, etc.) for Oregon mitigates this potential concern.

Large number of companies reporting that they do not perform highway-related work or were not interested in discussing ODOT work. Many firms contacted in the availability surveys indicated that they did not perform related work or were otherwise not interested in ODOT work. The number of responses fitting these categories reflects the fact that Keen Independent was necessarily broad when developing its initial lists.

For example, Dun & Bradstreet does not have a subindustry code that identifies the subset of electrical firms or trucking firms that perform highway-related work. Therefore, Keen Independent acquired a general list of electrical firms (code 17310000) and local trucking firms (code 42120000), and through surveys identified which firms would perform highway or other transportation work. Most did not. Most of the firms indicating that they were not interested in discussing ODOT work were in electrical, trucking, site work and engineering services.

There were some companies that had actually performed ODOT contracts that responded in the availability survey that they were not interested in discussing their availability for ODOT work or did not perform relevant work. These firms accounted for only 3 percent of the total of such responses, and there was no indication that MBE/WBEs were underrepresented in the final availability database due to these types of responses.

Non-response bias. An analysis of non-response bias considers whether businesses that were not successfully surveyed are systematically different from those that were successfully surveyed and included in the final data set. There are opportunities for non-response bias in any survey effort. The study team considered the potential for non-response bias due to:

- Research sponsorship;
- Differences in success reaching potential interviewees; and
- Language barriers.

Research sponsorship. Interviewers introduced themselves by identifying ODOT as the survey sponsor because businesses may be less likely to answer somewhat sensitive business questions if the interviewer was unable to identify the sponsor.

Differences in success reaching potential interviewees. There might be differences in the success reaching firms in different types of work. However, Keen Independent concludes that any such differences did not lead to lower estimates of MBE/WBE availability than if the study team had been able to successfully reach all firms.

Businesses in highly mobile fields, such as trucking, are more difficult to reach for availability surveys than businesses more likely to work out of fixed offices (e.g., engineering firms). That assertion suggests that response rates may differ by work specialization. Simply counting all surveyed businesses across work specializations to determine overall MBE/WBE availability would lead to estimates that were biased in favor of businesses that could be easily contacted by email or telephone.

However, work specialization as a potential source of non-response bias in the availability analysis is minimized because the availability analysis examines businesses within particular work fields before determining an MBE/WBE availability figure. In other words, the potential for trucking firms to be less likely to complete a survey is less important because the number of MBE/WBE trucking firms is compared with the number of total trucking firms when calculating availability for trucking work.

Keen Independent examined whether minority- and women-owned firms were more difficult to reach in the telephone survey and found no indication that interviewers were less likely to complete telephone surveys with MBE/WBEs than majority-owned firms. The study team examined response rates based on MBE/WBE versus non-MBE/WBE business ownership data that Dun & Bradstreet had for firms in the list purchased from this source. Comparing MBE/WBE representation on the initial list from Dun & Bradstreet with MBE/WBE representation on the list of firms (from the D&B source) that were successfully contacted, MBE/WBE firms were just slightly more likely to be successfully contacted than majority-owned firms (7.4% of initial list and 8.0% of successfully surveyed firms). There is no indication that there were differences in response rates that materially affected the estimates of MBE/WBE availability in this study.

Potential language barriers. Because of the methods explained previously in this appendix, any language barriers were minimal. Study results do not appear to have been affected by conducting the principal portions of the availability survey in English. Callbacks to firms in Spanish when an initial call identified an individual who only spoke Spanish appeared to be effective.

Response reliability. Business owners and managers were asked questions that may be difficult to answer, including questions about revenues and employment.

Keen Independent explored the reliability of survey responses in a number of ways. For example:

- Keen Independent reviewed data from the availability surveys in light of information from other sources such as ORPIN and other vendor information that the study team collected from ODOT. This includes data on the race/ethnicity and gender of the owners of DBE-certified businesses and was compared with survey responses concerning business ownership.
- Keen Independent compared survey responses about the largest contracts that businesses won during the past seven years with actual ODOT and local agency contract data.
- Keen Independent used DBE directories and other sources of information to confirm information about the race/ethnicity and gender of business ownership that it obtained from availability surveys. The study team re-contacted companies for clarification in the event of any inconsistencies in race, ethnicity and gender ownership information for the firm.

A copy of the survey instrument for construction and engineering follows.

E. ODOT Disparity Study — Standard Availability Survey Instrument

Hello. My name is [interviewer name]. We are calling on behalf of the Oregon Department of Transportation (ODOT). [pronounced ore'-u-gun] This is not a sales call. ODOT [pronounced "Oh-dot"] is compiling a list of companies interested in working on road, highway and bridge projects. This includes any construction, engineering and design, trucking and materials supply on highways, roads, bridges and related projects for state and local governments.

Who can I speak with to get the information we need from your firm?

[After reaching THE OWNER OR an appropriately senior staff member, the interviewer should re-introduce the purpose of the survey and begin with questions]

[IF NEEDED ... We are contacting thousands of contractors, engineering firms, trucking companies, suppliers and other types of businesses in Oregon.]

IF INTERVIEWEE REQUESTS ADDITIONAL INFORMATION ... You can visit the study website at www.ODOTdbestudy.com to learn more. And, you can call Tiffany Hamilton at ODOT, (503) 986-4355.

[IF ASKED, THE INFORMATION DEVELOPED IN THESE INTERVIEWS WILL ADD TO ODOT'S EXISTING DATA ON COMPANIES INTERESTED IN WORKING WITH THE DEPARTMENT]

X1. I have a few basic questions about your company and the type of work you do. Can you confirm that this is [firm name]?

- Right company – SKIP TO 1
- Not right company
- Refuse to give information – TERMINATE

Y1. Can you give me any information about [firm name]?

- Yes, same owner doing business under a different name – SKIP TO Y4
- Yes, can give information about named company
- Company bought/sold/changed ownership – SKIP TO Y4
- No, does not have information – TERMINATE
- Refused to give information – TERMINATE

Y3. Can you give me the complete address or city for [firm name]? – SKIP TO Y5

(NOTE TO INTERVIEWER - RECORD IN THE FOLLOWING FORMAT:

- STREET ADDRESS _____
- CITY _____
- STATE _____
- ZIP _____

Y4. And what is the new name of the business that used to be [firm name]?

- (ENTER UPDATED NAME)

Y5. Can you give me the name of the owner or manager of the new business?

- (ENTER UPDATED NAME)

Y6. Can I have a telephone number for him/her?

- (ENTER UPDATED PHONE)

Y7. Can you give me the complete address or city for [new firm name]?

- STREET ADDRESS _____
- CITY _____
- STATE _____
- ZIP _____

Y8. Do you work for this new company?

- Yes
- No - TERMINATE

1. Does your firm do any work related to road, highway and bridge projects? This includes any construction, engineering and design, trucking and materials supply on highways, roads, bridges and related projects.

- Yes No

2. Is your firm a business, as opposed to a non-profit organization, a foundation or a government office?

- Yes No

IF YOU ANSWER NO TO QUESTION 1 OR 2, THE SURVEY IS COMPLETE.

IF YES TO QUESTIONS 1 AND 2, CONTINUE TO QUESTION 3.

IF INTERVIEWEE IS UNWILLING TO COMPLETE THE REMAINDER OF THE INTERVIEW VIA PHONE...

Z1. You also have the option to complete the survey online at www.ODOTdbestudy.com, can we send you a link?

- Yes No

If Yes, record email address:

Z2. **[Answer if 'No' to Z1. Otherwise skip to Q3.]** Would you be interested in completing the survey via fax?

- Yes No

If Yes, record fax number: _____

Type of Work

3. What types of work does your firm perform related to construction, maintenance or design of road, highway or bridge projects? Please indicate all that apply.

Construction-related

- Bridge and elevated highway construction
- Asphalt and concrete paving
- General road construction and widening
- Excavation, site prep, grading and drainage
- Drilling and foundations
- Electrical work including lighting and signals
- Temporary traffic control
- Striping or pavement marking
- Installation of guardrails, fencing or signs
- Landscaping and related work including erosion control
- Painting for road or bridge projects
- Concrete flatwork (including sidewalk, curb and gutter)
- Other concrete work
- Structural steel work
- Pavement surface treatment (such as sealing)
- Pavement milling
- Concrete pumping
- Concrete cutting
- Trucking and hauling
- Wrecking and demolition
- Underground utilities
- Other _____

Engineering-related

- Engineering
- Transportation planning
- Construction management
- Environmental consulting
- Inspection and testing
- Surveying and mapping
- Other _____

4. Does your firm sell: (Check all that apply.)

- Aggregate materials supply
- Asphalt, concrete or other paving materials
- Traffic or highway signs
- Fence or guardrail materials
- Steel
- Petroleum
- Other _____

5. Please briefly describe the main line of business at your firm. In what industry would you classify the primary line of work at your firm?

6. Does your firm have offices in multiple locations?

- Yes No Don't know

7. Is your company a subsidiary or affiliate of another firm?

- Independent
- Subsidiary of another firm *Parent company name:* _____
- Affiliate of another firm *Affiliated company name:* _____
- Don't know

Role in Construction, Maintenance, Engineering or Other Work

The following questions pertain to your role in work related to transportation projects [For example: road, highway and bridge projects]

8. During the past five years, has your company submitted a bid or a price quote for any part of a contract for a state or local government agency in Oregon? [Examples include ODOT, cities or counties.]
- Yes No Don't know
9. [Answer if 'Yes' to Q8. Otherwise skip to Q10.] Were those bids or price quotes to work as a prime contractor, a subcontractor, a trucker/hauler, or as a supplier? Check all that apply.
- Prime Contractor Trucker / Hauler
 Subcontractor Supplier
 Other _____
10. During the past five years, has your company worked on any part of a contract for a state or local government agency in Oregon?
- Yes No Don't know
11. [Answer if 'Yes' to Q10. Otherwise skip to Q12.] Did your company work as a prime contractor, a subcontractor, a trucker/hauler, or as a supplier? Check all that apply.
- Prime Contractor Trucker / Hauler
 Subcontractor Supplier
 Other _____
12. During the past five years, has your company submitted a bid or a price quote for any part of a contract for a private sector project in Oregon?
- Yes No Don't know
13. [Answer if 'Yes' to Q12. Otherwise skip to Q14.] Were those bids or price quotes to work as a prime contractor, a subcontractor, a trucker/hauler, or as a supplier? Check all that apply.
- Prime Contractor Trucker / Hauler
 Subcontractor Supplier
 Other _____
14. During the past five years, has your company worked on any part of a contract for a private sector project in Oregon?
- Yes No Don't know

15. **[Answer if 'Yes' to Q14. Otherwise skip to Q16]** Did your company work as a prime contractor, a subcontractor, a trucker/hauler, or as a supplier? Check all that apply.
- Prime Contractor Trucker / Hauler
- Subcontractor Supplier
- Other _____
16. Thinking about future transportation work, is your company qualified and interested in working with ODOT as a prime contractor?
- Yes No Don't know
17. Thinking about future transportation-related work, is your company qualified and interested in working with cities, counties or other local agencies in Oregon as a prime contractor?
- Yes No Don't know
18. Thinking about future transportation-related work, is your company qualified and interested in working with ODOT as a subcontractor, trucker/hauler, or supplier?
- Yes No Don't know
19. Thinking about future transportation-related work, is your company qualified and interested in working with cities, counties or other local agencies in Oregon as a subcontractor, trucker/hauler, or supplier?
- Yes No Don't know

Geographic Areas Your Company Serves in Oregon

20. My next questions are about the geographic areas in Oregon where your company can work.
- 20a. Can your company do work in the Portland/Hood River region? [EITHER AREA IF HAVE A QUESTION]
- Yes No Don't know
- 20b. Willamette Valley and Northwest Oregon region. [pronounced will-a'-met, with a short a] **such as Salem, Newport and Eugene?**
- Yes No Don't know
- 20c. Southwestern Oregon **such as Roseburg and Medford?**
- Yes No Don't know
- 20d. Central Oregon **such as Bend and Klamath Falls?**
- Yes No Don't know
- 20e. Eastern Oregon **such as Pendleton, La Grande and Burns?**
- Yes No Don't know

Contract History

24. In rough dollar terms, what was the largest road-, highway-, or bridge-related contract or subcontract your company was awarded in Oregon during the past five years? Please include any government or private-sector contracts and any contracts not yet completed.
- | | |
|---|---|
| <input type="checkbox"/> Less than \$100,000 | <input type="checkbox"/> \$10 million up to \$20 million |
| <input type="checkbox"/> \$100,000 up to \$500,000 | <input type="checkbox"/> \$20 million up to \$50 million |
| <input type="checkbox"/> \$500,000 up to \$1 million | <input type="checkbox"/> \$50 million up to \$100 million |
| <input type="checkbox"/> \$1 million up to \$2 million | <input type="checkbox"/> More than \$100 million |
| <input type="checkbox"/> \$2 million up to \$5 million | <input type="checkbox"/> None |
| <input type="checkbox"/> \$5 million up to \$10 million | <input type="checkbox"/> Don't know |
- 24a. Was this the largest road-, highway-, or bridge-related contract or subcontract that your company bid on or submitted quotes for in Oregon during the past five years?
- Yes No Don't know
25. **[Answer if 'No' in Q24a.]** What was the largest road-, highway-, or bridge-related contract or subcontract that your company bid on or submitted quotes for in Oregon during the past five years?
- | | |
|---|---|
| <input type="checkbox"/> \$100,000 or less | <input type="checkbox"/> \$10 million up to \$20 million |
| <input type="checkbox"/> \$100,000 up to \$500,000 | <input type="checkbox"/> \$20 million up to \$50 million |
| <input type="checkbox"/> \$500,000 up to \$1 million | <input type="checkbox"/> \$50 million up to \$100 million |
| <input type="checkbox"/> \$1 million up to \$2 million | <input type="checkbox"/> More than \$100 million |
| <input type="checkbox"/> \$2 million up to \$5 million | <input type="checkbox"/> None |
| <input type="checkbox"/> \$5 million up to \$10 million | <input type="checkbox"/> Don't know |

Ownership

26. A business is defined as woman-owned if more than half—that is, 51 percent or more—of the ownership and control is by women. By this definition, is your firm a woman-owned business?
- Yes No Don't know
27. A business is defined as minority-owned if more than half—that is, 51 percent or more—of the ownership and control is African American, Asian, Hispanic, Native American or another minority group. By this definition, is your firm a minority-owned business?
- Yes No Don't know

28. **[Answer if ‘Yes’ in Q27.]** Would you say that the minority group ownership is mostly African American, Asian-Pacific American, Subcontinent Asian American, Hispanic American, or Native American?
- | | |
|--|--|
| <input type="checkbox"/> African American | <input type="checkbox"/> Native American |
| <input type="checkbox"/> Asian-Pacific American | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Subcontinent Asian American | <input type="checkbox"/> Don’t know |
| <input type="checkbox"/> Hispanic American | |

Business Background

29. About what year was your firm established? _____

30. About how many employees did you have working out of just your location, on average, over the past three years?

(RECORD NUMBER OF EMPLOYEES)

1=NUMERIC (1-999999999)

31. Think about the annual gross revenue of your company, considering just your location. Please estimate the annual average for the past three years (or for the years your company was in business if started after 2012).

- | | |
|---|---|
| <input type="checkbox"/> Up to \$0.5 million | <input type="checkbox"/> \$10.1 million to \$15 million |
| <input type="checkbox"/> \$0.6 million to \$1 million | <input type="checkbox"/> \$15.1 million to \$24.0 million |
| <input type="checkbox"/> \$1.1 million to \$2.5 million | <input type="checkbox"/> \$24.1 million to \$36.5 million |
| <input type="checkbox"/> \$2.6 million to \$5 million | <input type="checkbox"/> \$36.6 million or more |
| <input type="checkbox"/> \$5.1 million to \$7.5 million | <input type="checkbox"/> Don’t know |
| <input type="checkbox"/> \$7.6 million to \$10 million | |

32. [IF “YES” TO 6] About how many employees did you have, on average, for all of your locations over the past three years? _____

33. [IF “YES” TO 6] Think about the annual gross revenue of your company, for all your locations. Please estimate the annual average for the past three years (or for the years your company was in business if started after 2012).

- | | |
|---|---|
| <input type="checkbox"/> Up to \$0.5 million | <input type="checkbox"/> \$10.1 million to \$15 million |
| <input type="checkbox"/> \$0.6 million to \$1 million | <input type="checkbox"/> \$15.1 million to \$24.0 million |
| <input type="checkbox"/> \$1.1 million to \$2.5 million | <input type="checkbox"/> \$24.1 million to \$36.5 million |
| <input type="checkbox"/> \$2.6 million to \$5 million | <input type="checkbox"/> \$36.6 million or more |
| <input type="checkbox"/> \$5.1 million to \$7.5 million | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> \$7.6 million to \$10 million | |

Barriers or Difficulties

Finally, we're interested in whether your company has experienced barriers or difficulties associated with starting or expanding a business in your industry or with obtaining work. Think about your experiences within the past five years as you answer these questions.

34. Has your company experienced any difficulties in obtaining lines of credit or loans?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Does not apply |

35. Has your company obtained or tried to obtain a bond for a project?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Does not apply |

36. **[Answer if 'Yes' in Q35. Otherwise skip to Q37.]** Has your company had any difficulties obtaining bonds needed for a project?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Does not apply |

37. Have you had any difficulty in being prequalified for work in Oregon?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Does not apply |

38. Have any insurance requirements on projects presented a barrier to bidding?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Does not apply |

39. Has the size of large projects presented a barrier to bidding?
- Yes No
- Don't know Does not apply
40. Has your company experienced any difficulties learning about bid opportunities with ODOT?
- Yes No
- Don't know Does not apply
41. Has your company experienced any difficulties learning about bid opportunities with cities, counties and other local agencies in Oregon?
- Yes No
- Don't know Does not apply
42. Has your company experienced any difficulties learning about bid opportunities in the private sector in Oregon?
- Yes No
- Don't know Does not apply
43. Has your company experienced any difficulties learning about subcontracting opportunities in Oregon?
- Yes No
- Don't know Does not apply
44. Has your company experienced any difficulties networking with prime contractors or customers?
- Yes No
- Don't know Does not apply
45. Has your company experienced any difficulties obtaining final approval on your work from inspectors or prime contractors?
- Yes No
- Don't know Does not apply
46. Has your company experienced any difficulties receiving payment in a timely manner?
- Yes No
- Don't know Does not apply

Interviewee and other Contact Information

50. Just a few last questions. What is your name at [*firm name / new firm name*]?

(RECORD FULL NAME)

51. What is your position?

Receptionist

Assistant to Owner/CEO

Owner

Sales manager

Manager

Office manager

CFO

President

CEO

OTHER: _____

52. For purposes of receiving procurement information from ODOT, is your mailing address [*firm address*]:

Yes – SKIP TO 54

No

DON'T KNOW

53. What mailing address should ODOT use to get any materials to you?

54. What fax number could ODOT use to fax any materials to you?

55. What e-mail address could ODOT use to get any materials to you?

55a. (RECORD EMAIL ADDRESS) (VERIFY ADDRESS LETTER BY LETTER: EXAMPLE: 'John@CRI-RESEARCH.COM'
SHOULD BE VERIFIED AS: J-O-H-N-at-C-R-I-hyphen-R-E-S-E-A-R-C-H-dot-com)

End of survey message:

Thank you for your time. This is very helpful for ODOT.