

## **APPENDIX C.**

### **Availability Survey**

This appendix describes study team steps to analyzing MBE/WBE availability for transportation construction and engineering work in Oklahoma. It expands on the analysis presented in Section IV by explaining:

- A. Overall approach;
- B. Development of list of business establishments;
- C. Development of questionnaire;
- D. Interview execution and performance; and
- E. Additional Considerations.

#### **A. Overall Approach**

BBC contracted with Customer Research International (CRI) to conduct telephone interviews with business establishments in Oklahoma. The business establishments interviewed were those identified in a Dun & Bradstreet (D&B) database as doing work in fields closely related to transportation construction and engineering. Business establishments with locations in Oklahoma were interviewed.

The study team attempted to contact every listing in relevant industry codes rather than drawing a sample of listings from the D&B database. CRI attempted to reach 4,056 business listings. The study team successfully contacted 2,145 business establishments, about 74 percent of the establishments with valid phone listings (1,141 listings were non-working, duplicate or wrong numbers). About 1,000 establishments that were successfully contacted indicated they were not interested in participating in a discussion of availability for ODOT work. More than 1,000 firms completed interviews about firm characteristics, their interest and qualifications for ODOT work, and other topics. After screening for qualifications, interest in future transportation construction and engineering work, and other factors, BBC identified 542 firms as available for ODOT construction and engineering-related work.

#### **B. Development of List of Business Establishments**

BBC developed a list of business establishments to contact for availability interviews based on a D&B database of establishments with locations in Oklahoma. The study team determined business specializations that accounted for most transportation construction and engineering work. BBC then identified the 8-digit D&B industry codes best corresponding to that work and collected information about Oklahoma firms that D&B listed as having their primary lines of business within those industries.

The study team did not expect every firm in these lines of business to be available for transportation construction or engineering work. In some subindustries, BBC anticipated that relatively few firms would perform that type of work. In the same vein, the study team did not design the research effort so that every firm possibly performing transportation construction or engineering-related work would be called as part of the interviews. To do so would have required including subindustries that are only marginally related to transportation construction and engineering. In addition, some firms within the core lines of work encompassed by the interviews were either missing from the D&B database or might not have responded to the interview effort. Finally, only firms with Oklahoma locations were included in the interviews. For these reasons, the interviews do not represent a complete census of all firms possibly available for transportation contracting work in Oklahoma. The study team's goal was to develop unbiased estimates of the relative availability of MBE/WBEs among firms doing business in Oklahoma within the lines of work principally involved in transportation contracting. Although the interviews are not a complete census, it does approach one when considering statistical reliability of results, as explained further in this appendix.

**Identifying the relevant subindustries for Oklahoma transportation contracting.** BBC determined the types of firms involved in ODOT transportation construction and engineering services by reviewing the dollars of ODOT prime contracts and subcontracts going to different types of businesses. Appendix B describes the study team's collection and analysis of ODOT contract and subcontract data for the study period.

D&B has developed 8-digit industry codes that provide more precise definitions of firm specializations than the 4-digit SIC codes or the NAICS codes that have been prepared by the federal government. Figure C-1 on the following page lists industry codes for construction and engineering-related firms that were contacted as part of the telephone interview process.

**Determining list of establishments to be contacted.** Each Oklahoma business establishment within relevant subindustries for which D&B had a phone number was included in the list purchased from D&B. There was no "sampling" of business establishments from the D&B list. BBC purchased information on 4,056 business establishments to be contacted as part of the availability interviews. This number included 3,430 construction-related establishments and 626 engineering-related establishments.

Because D&B organizes its database by "business establishment," not by "firm," BBC purchased the business listings in that fashion. Therefore, multiple Oklahoma locations for a single firm were obtained in the list of establishments to be called. The study team attempted to contact each establishment by telephone. (BBC's methods for consolidating information for multiple establishments into a single record for a firm are described later in this appendix.)

**Figure C-1.**  
**Transportation contracting fields included in interviews**

Industry code	Industry description	Industry code	Industry description
<b>Construction</b>			
<b>Highway and tunnel construction</b>		<b>Excavation, grading and erosion control</b>	
1611-0000	Highway and street construction	0181-9902	Sod farms
1611-0200	Surfacing and paving	0782-9903	Landscape contractors
1611-0202	Concrete construction: roads, highways, sidewalks, etc.	1629-0400	Land preparation construction
1611-0204	Highway and street paving contractor	1629-0401	Land leveling
1611-0205	Resurfacing contractor	1629-9902	Earthmoving contractor
1611-0207	Gravel or dirt road construction	1629-9906	Trenching contractor
1611-9901	General contractor, highway and street construction	1794-0000	Excavation work
1771-0000	Concrete work	1794-9901	Excavation and grading, building construction
1771-0200	Curb and sidewalk contractors	1795-9901	Concrete breaking for streets and highways
1771-0201	Curb construction	1795-9902	Demolition, buildings and other structures
1771-0301	Blacktop (asphalt) work		
<b>Drainage structures and utilities</b>		<b>Bridge construction and repair</b>	
1623-0000	Water, sewer, and utility lines	1622-0000	Bridge, tunnel, and elevated highway construction
1623-0201	Cable laying construction	1622-9901	Bridge construction
1623-0300	Water and sewer line construction	1622-9902	Highway construction, elevated
1623-0302	Sewer line construction		
1623-0303	Water main construction	<b>Painting and striping</b>	
1623-9906	Underground utilities contractor	1721-0300	Industrial painting
		1721-0302	Bridge painting
<b>Fencing, guardrail and barriers</b>		<b>Construction supplies</b>	
1611-0101	Guardrail construction, highways	2951-0000	Asphalt paving mixtures and blocks
1799-9912	Fence construction	2951-0201	Asphalt and asphaltic paving mixtures (not from refineries)
		2952-0000	Asphalt felts and coatings
<b>Trucking and hauling</b>		<b>Machinery and equipment</b>	
4212-0000	Local trucking, without storage	5082-0300	General construction machinery and equipment
4213-0000	Trucking, except local	7359-0000	Equipment rental and leasing, nec
4213-9903	Contract haulers		
<b>Electrical, lighting and signals</b>		<b>Traffic control</b>	
1611-0102	Highway and street sign installation	7359-9912	Work zone traffic equipment (flags, cones, barrels, etc.)
3669-0206	Traffic signals, electric		
<b>Other construction services</b>		<b>Other construction supplies</b>	
1629-0100	Dams, waterways, docks, and other marine construction	1442-0000	Construction sand and gravel
1629-0103	Dam construction		
1629-0111	Pier construction		
1741-0102	Retaining wall construction		
<b>Engineering and other professional services</b>			
<b>Engineering services</b>		<b>Consulting and research</b>	
8711-0000	Engineering services	8731-0302	Environmental research
8711-0400	Construction and civil engineering	8748-0204	Traffic consultant
8711-0402	Civil engineering		
8711-9903	Consulting engineer	<b>Surveying and mapping services</b>	
		8713-0000	Surveying services

Note: 8-digit SIC codes were developed by Dun & Bradstreet.

Source: BBC Research and Consulting from Dun & Bradstreet Marketplace, 2009-2010.

## C. Development of Questionnaire

The study team drafted a telephone interview guide to collect business information from transportation construction and engineering firms. Before the interview guide was used in the field, ODOT staff reviewed the questionnaire. BBC has used similar questionnaires in other availability analyses for state departments of transportation. The basic interview document for construction firms is provided in Figure C-4 at the end of this appendix. The questionnaire was slightly modified for certain groups of firms based on line of work in order to use the terms commonly employed in those fields. For example, the words “prime consultant” and “subconsultant” were substituted for “prime contractor” and “subcontractor” when interviewing engineering-related firms.

A fax/email version of the questionnaire was also developed for firms that were initially contacted by telephone but that preferred to complete the questionnaire in hard copy format. Those firms returned completed questionnaires to BBC via fax or e-mail.

**Interview structure.** The questionnaires included the following sections. Note that each section was asked of all firms. Interviewers did not know ownership status when calling a firm.

**Identification of purpose.** The interviews began by identifying the Oklahoma Department of Transportation as the survey sponsor and describing the purpose of the study (“developing a list of companies involved in construction, maintenance or design work on a wide variety of road, highway and other transportation projects”).

**Verification of correct firm name.** The interviewer verified that he or she had reached the correct business, and if not, inquired about the correct contact information for that business. When the firm name was not correct, interviewers asked if the respondent knew how to contact the company. The BBC study team followed up with the desired company based on the new contact information (see areas “X” and “Y” of the Availability Questionnaire in Figure C-4).

**Performance of transportation construction or engineering work.** Firms were asked, “First, I want to confirm that your firm does work or provides materials related to transportation construction, maintenance or design of roads and highways. Is this correct?” Interviewers continued with firms responding “yes” to this question (Question A1). BBC instructed interviewers that “doing work” included trying to sell that work.

**Verification of for-profit business status.** The interviewer also asked whether the organization was a for-profit business as opposed to a government or not-for-profit entity (Question A2). Interviewers continued with firms responding “yes” to this question. (Tribally-owned businesses were treated as for-profit businesses for purposes of the availability analysis.)

**Confirmation of main line of business.** Construction firms were asked to identify types of work they perform from a list developed based on ODOT’s prequalification categories (Question A3). They also confirmed their primary line of business according to D&B (Question A4). Firms seeking to change or clarify this description were then asked to identify their primary line of business (Question A4b). (After the interview was complete, BBC coded the new information on primary line of business into appropriate industry codes.)

**Sole location, or multiple locations.** Because the study team interviewed business establishments, business owners and managers were asked if they had other locations in Oklahoma (Question A5). They were also asked if the establishment was an affiliate or subsidiary of another firm (Question A9). (A discussion of how BBC consolidated this information into a single response for a firm is presented later in this appendix.)

**Past bids or work with ODOT, local governments and the private sector.** The interview inquired about bids for or work on past state, local government and private sector transportation projects. This area of questions also asked whether the firm had bid or worked as a prime contractor or as a subcontractor or supplier (Questions B1–B12).

**Qualifications and interest in future transportation work.** Firm representatives were asked about their qualifications and interest in future transportation work. The interview questions asked whether they were qualified and interested in work for ODOT or local governments. Separate questions asked about qualifications and interest in this work as a prime contractor and/or as a subcontractor (Questions B13–B14).

**Geographic areas.** Interviewers asked a series of questions to identify the geographic areas in which the firm could work. These geographic areas included counties and regions of the state that correspond to ODOT divisions (Question C1a – C1e).

**Year firm established.** Interviewers asked firms to identify the approximate year that the firm was established (Question D1).

**Largest contracts.** Interviewers asked firms to identify the largest transportation-related prime contract or subcontract they had been awarded in Oklahoma in the past five years. They were also asked about the largest prime contract or subcontract that they had bid on in Oklahoma in the past five years (Questions D2–D4).

**Ownership.** Firms were asked whether they were at least 51 percent owned and controlled by women and/or minorities (Questions E1–E3). If firms indicated that they were minority-owned, they were also asked about the race/ethnicity of ownership.

**Business background.** Several questions collected information on 2008 revenues and number of employees (Questions F1–F6). For firms with multiple establishments, the interview also asked about revenue and employee numbers for all locations.

**Comments about the marketplace and doing business with ODOT.** Near the end of the interview, CRI asked a series of questions concerning general insights on the marketplace and ODOT contracting practices (Question G1a – G1m). This set of questions was introduced with the following statement: “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 we ask you these questions.”

The interview also included an open-ended question about the Oklahoma marketplace (Question G2): “Finally, we’re asking for general insights on starting and expanding a business in your field or winning work as a prime or subcontractor. Do you have any thoughts to offer on these topics?”

**Contact information.** The interview concluded by collecting complete contact information for the establishment (Questions H1–H6).

#### **D. Interview Execution and Performance**

BBC contracted with Customer Research International (CRI) to conduct the telephone interviews. BBC routinely holds planning sessions with CRI executives and training sessions with CRI interviewers as part of BBC's ongoing relationship with the firm. CRI programmed and conducted the interviews and provided daily reports on results. BBC instructed CRI to make at least five attempts to reach a person at each phone number. This design is intentionally persistent to minimize non-response.

BBC instructed CRI staff to identify and interview an available company representative such as the owner, manager, chief financial officer or other key official who could answer questions about the company's line of business, past contracts, financial and employment figures, interest in work with various clients, and ownership status. The interviews were conducted from December 2009 through January 2010.

**Performance.** The interview process began with a very large number of D&B business listings for organizations in Oklahoma in certain lines of work related to transportation construction and engineering. At the end of the availability analysis process, firms reporting that they are available for, had bid on, or had performed transportation construction or engineering work were included in the database used for the availability analysis.

**Valid business listings.** Some of the business listings purchased from D&B were:

- Duplicate numbers (28 listings);
- Non-working phone numbers (925 listings); or
- Wrong numbers for the desired businesses (188 listings that could not be reached through follow-up calls).

Figure C-2, on the following page, shows how the beginning set of 4,056 listings was reduced to 2,915 because of these factors. Some non-working phone numbers and some wrong numbers for the desired businesses reflect firms going out of business or changing their names and phone numbers between the time that D&B listed them in its database and the time that the study team attempted to contact them.

Figure C-2 also shows the final disposition of the 2,915 business establishments that CRI attempted to contact:

- Slightly more than 10 percent of business establishments could not be reached after a minimum of five phone calls (298 establishments). Call-backs to these business establishments were made at different times of day and different days of the week in order to maximize response.
- About 14 percent of business establishments could not provide a staff member to complete the interview after a minimum of five phone calls (393 establishments).

- Interviews were only conducted in English. Less than 1 percent of business establishments could not communicate with the interviewer due to language barriers (10 establishments).
- Slightly more than 2 percent of business establishments asked the study team to send the questionnaire via fax or e-mail but did not successfully obtain the fax or e-mail (after multiple attempts) or received the questionnaire but did not return a completed interview to BBC (69 establishments).

In sum, BBC successfully contacted 2,145 business establishments, or about 74 percent of the business establishments with valid phone listings.

**Figure C-2.**  
**Disposition of**  
**attempts to**  
**interview D&B**  
**business listings**

Note:

\* After multiple attempts to complete interview.

Source:

BBC Research & Consulting from  
2009–2010  
Availability Interviews.

	Number of firms	Percent of business listings
<b>Beginning list</b>	<b>4,056</b>	
Less duplicate numbers	28	
Less non-working phone numbers	925	
Less wrong number/business	188	
<b>Unique business listings with working phone numbers</b>	<b>2,915</b>	
Less no answer*	298	10.2 %
Less could not reach responsible staff member	393	13.5
Less language barrier	10	0.3
Less unreturned fax/email	69	2.4
<b>Establishments successfully contacted</b>	<b>2,145</b>	<b>73.6 %</b>

**Establishments not interested in discussing availability for ODOT work.** Figure C-3 shows that among the 2,145 business establishments successfully contacted, 1,061 establishments were not interested in discussing availability for ODOT work. Many of these firms indicated that they did not perform transportation work and were not interested in conducting the interview. More than 50 percent of the business firms successfully contacted completed interviews about firm characteristics (1,084 establishments).

**Firms that report being available for transportation construction and engineering work.** Among the business establishments that completed interviews, only a portion was deemed available for any type of ODOT or local government transportation construction and engineering work, as explained below:

- Eighteen individual establishments of multi-location firms completed the interview. Prior to analyzing results, BBC collapsed responses from these multiple establishments into a single response (described below). This removed nine establishments from the availability analysis (about 1 percent of total completed interviews).
- Slightly more than 30 percent of the firms that completed an interview indicated they did not perform transportation construction, maintenance or design work (335 establishments). The interview ended when a business owner or manager reported that the business did not do that type of work.

- About 1 percent of interviewed establishments indicated that they were involved in transportation construction, maintenance or design work but reported main lines of work that were well outside the scope of the availability analysis (11 establishments). For example, some firms identified by D&B as highway construction or concrete firms reported in the interview that they did transportation construction-related work, but that their primary line of business was single family homebuilding or other specialties outside the scope of the study. CRI completed the full interview with these firms. Prior to analyzing results, BBC excluded them from the final data set.
- About 1 percent of the interviewed establishments were excluded because they were an organization other than a for-profit business (16 establishments). Non-profit and public sector agencies were not to be included in the availability analysis as the study focuses on for-profit firms (including tribal organizations). The interview ended when a respondent reported that the establishment was something other than a for-profit business.
- One hundred and four firms who were interested in future projects in Oklahoma were not counted as firms available for ODOT and local agency transportation projects because they had not bid or received awards for similar projects in Oklahoma within the past five years. BBC included responses from these firms when analyzing marketplace conditions (see Section III) but not when calculating availability for ODOT contracts.
- Seventeen additional firms were not counted as firms available for ODOT or local agency transportation projects because they said they were not interested in either prime contracting or subcontracting opportunities on such projects. Responses from these firms were included when analyzing marketplace conditions but not when calculating availability for ODOT work.

After these exclusions, the interview effort produced a database of 542 firms for the availability analysis (see Figure C-3).

**Figure C-3.**  
**Screening of completed**  
**business telephone**  
**interviews for possible**  
**inclusion in the availability**  
**analysis**

Source:  
BBC Research & Consulting from  
2009-2010 Availability Interviews.

	Number of firms
<b>Establishments successfully contacted</b>	<b>2,145</b>
Less establishments not interested in discussing availability for ODOT work	1,061
<b>Establishments that completed interviews about firm characteristics</b>	<b>1,084</b>
Less multiple establishments	9
Less no road or highway-related work	335
Less line of work outside scope	11
Less not a business	16
Less no past bid/award	154
Less no interest in future work	17
<b>Firms available for Oklahoma DOT work</b>	<b>542</b>



**Study team identification and coding of responses from multi-location firms.** Multiple responses from different establishments operating under the same firm name were combined into a single, summary case according to the following rules:

- If any of the establishments reported bidding or working on a contract within a particular sector, the firm summary for that variable was coded to an affirmative response for the corresponding sector;
- The types of work (prime contractor, subcontractor, supplier or trucker) that establishments reported were summed to a single variable, again corresponding to the appropriate sector; and
- If any establishment said that it was interested and able to work within one of the five geographic regions (see part C of the interview instrument in Figure C-4), the firm summary reflected that geographic scope.

Except when there was a large discrepancy among the individual responses in a set of establishments' self-reported founding dates, BBC used the median founding date provided by the multiple establishments. The firm summary variables for contract sizes and firm revenue are equivalent to the largest dollar amounts indicated by any of its establishments. The summary number of firm employees in Oklahoma is equal to the most common or the mean response of the multiple establishments. Finally, firms with multiple locations were re-coded as woman- or minority-owned, DBE, or certified small businesses if the majority of duplicate establishments indicated such status.

## **E. Additional Considerations**

The study team explored several possible limitations in its approach to estimating relative availability. These include:

- Assessing relative MBE/WBE availability and not providing a count of all firms available for transportation construction and engineering-related work;
- Use of telephone interviews of firms as an approach to determining relative MBE/WBE availability for a state DOT's contracts;
- Use of D&B as the sample frame;
- Selection of specific industry;
- Non-response bias; and
- Reliability of answers to interview questions.

**Not providing a count of all firms available for ODOT work.** The purpose of the availability interviews is to estimate the *percentage* of firms available for transportation construction and engineering work that are minority- and women-owned and controlled (i.e., "relative" MBE/WBE availability). The interviews provide such information. The interviews do not provide a comprehensive listing of every firm available for transportation work and should not be used as such.

The interview approach of measuring relative availability has been approved by federal courts (see, for example, the Seventh Circuit decision on *Northern Contracting*) when considering state implementation of the Federal DBE Program.<sup>1</sup> Use of a survey is recommended as an approach to measuring availability in the USDOT guidance on goal-setting.<sup>2</sup>

**Use of telephone interviews.** USDOT guidance for determining relative availability of DBEs mentions simply dividing the number of firms in an agency's DBE directory by the total firms in the marketplace, as reported in U.S. Census data. As another option, the USDOT suggests using a list of pre-qualified firms or a bidders list to analyze the relative availability of DBEs for an agency's contracts and subcontracts.

There are several reasons the study team rejected these approaches:

- Dividing a simple count of certified DBEs by a U.S. Census count of total firms does not provide the data on firm characteristics the study team desired for this disparity study. For example, the interviews provide additional data on individual firms' qualifications and interest in transportation work.
- As mentioned previously, ODOT does not maintain a comprehensive pre-qualification list that applies to subcontractors and prime consultants for engineering-related contracts.
- ODOT has a contact list for engineering-related firms, but no such list for construction. Firms are not required to be on the ODOT list to compete for Department prime contracts and subcontracts.
- A "custom census" approach to measuring availability that starts with D&B data has been positively reviewed by the court cases involving DBE goal setting for state departments of transportation (see, for example, *Northern Contracting* in Appendix C).

The methodology applied in the ODOT study takes this "custom census" approach and adds several layers of refinement in more precisely measuring MBE/WBE availability.

For all of these reasons, the study team selected use of telephone interviews as a step toward analyzing MBE/WBE availability.

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<sup>1</sup> *N. Contracting, Inc. v. Illinois DOT*, 473 F.3d 715 (7th Cir. 2007)

<sup>2</sup> USDOT. *Tips for Goals Setting in the Disadvantaged Business Enterprise (DBE) Program* (<http://osdbu.dot.gov/?TabId=133>)

**Use of D&B list.** Dun & Bradstreet provides the most comprehensive private database of business listings in the United States. Even so, this database does not include all establishments operating in Oklahoma:

- **New firms.** There can be a lag between formation of a new business and inclusion in the database. This means that the newest firms are underrepresented in the sample frame. Based on the firms successfully interviewed, newly formed firms are more likely than older firms to be minority- or women-owned, which suggests that MBEs and WBEs might be underrepresented in the final database of interviewed firms.
- **Home-based businesses.** The D&B database is more likely to miss a business working out of the home than a firm with a distinct business office. Small, home-based firms are more likely than large firms to be minority- or women-owned, which again suggests that MBEs and WBEs might be underrepresented in the final availability data set.

**Selection of specific industry.** Defining an industry based on specific industry codes (e.g., SIC, NAICS or D&B industry codes) is a standard step when analyzing an economic sector. Government and private sector economic data are typically organized according to these industry codes. As with any such research, there are limitations when choosing the specific D&B codes to define sets of establishments to be interviewed. For example, it was not possible for BBC to include all industries possibly related to transportation construction and engineering without interviewing nearly every industry in Oklahoma.

A further limitation to the use of D&B codes to classify businesses, or any other work type classification method, is that some codes are imprecise and overlap with other business specialties. Even though BBC used D&B's own 8-digit industry codes, D&B does not maintain a detailed 8-digit code for each firm in its database. In addition, businesses often span several types of work, even at the 4-digit level of specificity. This overlap makes classifying businesses into a single line of business difficult and imprecise. When firm owners and managers were asked to identify primary lines of business, they often gave broad answers. For these reasons, BBC collapsed many of the industry codes into broader work categories in the final database of firms available for transportation-related work.

**Non-response bias.** Analysis of non-response bias considers whether firms not successfully interviewed are different from those successfully interviewed and included in the final data set. There are opportunities for non-response bias in any primary research effort. The study team considered the potential for non-response bias due to:

- Research sponsorship;
- Work specializations; and
- Language barriers.

**Research sponsorship and introduction.** Interviewers introduced themselves by identifying ODOT as the interview sponsor in order to encourage firms that performed transportation construction and engineering work to participate in the interview. Firms would be less likely to answer somewhat sensitive business questions asked by an interviewer that was unable to identify the sponsor of the interview. In fact, some firms asked to check with ODOT to verify its sponsorship prior to participating in the interview.

Analysis of interview refusal rates suggests that sponsorship had an overwhelmingly positive effect on response rates. Only 4 percent of business listings potentially contacted refused to conduct the interview.

**Work specializations.** Businesses in highly-mobile fields, such as trucking, may be more difficult to reach than firms more likely to work out of a fixed office (e.g., engineering firms). This suggests that response rates will differ by business specialization.

If all interviewed firms were simply counted to determine relative MBE/WBE availability, this would lead to estimates that relied too heavily on fields that could be easily contacted by telephone. This potential non-response bias is minimal in this study because the availability analysis compares firms 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 an interview is less important because the number of MBE/WBE trucking firms completing interviews is compared with total number of trucking firms, not all firms across all fields.

**Language barriers.** ODOT contracting documents are in English and not other languages. The study team made the decision to only include businesses able to complete the interview in English in the availability analysis so to remove language barriers as a potential explanation for any differences in outcomes observed between MBE/WBEs and majority-owned firms.

Individuals who could not communicate in English well enough to complete the interview and could not locate another individual to answer interview questions in English were not captured in the availability analysis. Choosing to conduct the study in English and not translate it into other languages may have an effect on the relative number of Hispanic American-owned firms that completed the interviews.

**Response reliability.** Firm owners and managers were asked questions that may be difficult to answer, including firm revenues and employment. For this reason, the study team prompted them with D&B information for their establishment and asked them to confirm that information or provide more accurate estimates. Further, respondents were typically not asked to give absolute figures for difficult questions such as firm revenues. Rather, they were given ranges of dollar figures or employment levels.

BBC explored reliability by analyzing consistency of interview responses for the firm revenues and firm employment questions. BBC found interview responses to these difficult questions to be internally consistent. Firms with smaller employee numbers reported revenues consistent with their employment levels.

## **Summary**

“Custom census” approaches to availability that begin with D&B data have been reviewed positively by federal courts. The study team’s methodology for analyzing MBE/WBE availability takes the previous custom census approach as a starting point and added several layers of additional screening when determining firms available for transportation construction and engineering-related work.

The study team attempted to complete interviews with all Oklahoma firms that according to D&B to have a primary line of business within transportation construction and engineering-related industry codes. (There was no “sampling” from the sample frame in preparing the list of firms to be interviewed.) The study team attempted to contact 4,056 business listings, about 1,200 of which were found to be invalid listings. A relatively high proportion of the remaining establishments were successfully contacted, and over 1,000 business establishments completed availability interviews.

BBC examined several potential sources of non-response bias. It is possible that MBEs and WBEs were somewhat under-represented in the final database of available firms. However, BBC concludes that this potential under-representation of MBE/WBEs does not significantly affect the analyses.

## Figure C-4. Interview Instrument [Construction]

Hello. My name is [interviewer name] from CRI. We are calling on behalf of the Oklahoma Department of Transportation (ODOT).

We are developing a list of companies involved in construction, maintenance, and design on a wide range of road, highway and other transportation projects. With whom can I speak 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 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]?**

1=RIGHT COMPANY – SKIP TO A1

2=NOT RIGHT COMPANY – SKIP TO Y1

3=REFUSE TO GIVE INFORMATION – TERMINATE

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

1=Yes, same owner doing business under a different name – SKIP TO Y4

2=Yes, can give information about named company – SKIP TO Y2

3=Company bought/sold/changed ownership – SKIP TO Y4

4=No, does not have information – TERMINATE

5=Refused to give information – TERMINATE

**Y1. ENTER NEW NAME**

1=VERBATIM

**Y2. Can you give me the phone number of [firm name]?**

(ENTER UPDATED PHONE OF NAMED COMPANY)

1=VERBATIM

**Y3. Can you give me the complete address or city for [*firm name*]?**

(NOTE TO INTERVIEWER - RECORD IN THE FOLLOWING FORMAT:

. STREET ADDRESS

. CITY

. STATE

. ZIP)

1=VERBATIM

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

(ENTER UPDATED NAME)

1=VERBATIM

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

(ENTER UPDATED NAME)

1=VERBATIM

**Y6. Can I have a telephone number for them?**

(ENTER UPDATED PHONE)

1=VERBATIM

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

1=VERBATIM

**Y8. Do you work for this new company?**

1=YES - CONTINUE

2=NO – TERMINATE

**A1. First, I want to confirm that your firm does work or provides materials related to construction, maintenance or design of roads and highways. Is this correct?**

(NOTE TO INTERVIEWER – INCLUDES ANY WORK RELATED TO CONSTRUCTION, MAINTAINENCE OR DESIGN SUCH AS BUILDING AND PARKING FACILITIES, PAVING AND CONCRETE, TUNNELS, BRIDGES AND ROADS. IT ALSO INCLUDES DESIGN, ENGINEERING, PLANNING, ENVIRONMENTAL ASSESMENT OR RELATED PROFESSIONAL SERVICES.)

(NOTE TO INTERVIEWER - INCLUDES HAVING DONE WORK, TRYING TO SELL THIS WORK, OR PROVIDING MATERIALS)

1=Yes

2=No - TERMINATE

**A2. Let me confirm that [*firm name / new firm name*] is a business, as opposed to a non-profit organization, a foundation or a government office. Is that correct?**

1=Yes, a business

2=A tribally-owned organization

3=No, other – TERMINATE

(NOTE TO INTERVIEWER – THE SURVEY SHOULD CONTINUE IF THE ENTITY IS A TRIBALLY-OWNED CONCERN)

**A3. Next, we're interested in the types of work that [*firm name / new firm name*] performs. Does your firm do: [READ, MULITPUNCH]**

1=Grading

2=Drainage structures

3= Paving and coldmilling

4=Bridge construction and repair

5=Fencing, guardrail and barriers

6=Painting and striping

7=Traffic control

8=Electrical, lighting and signals

91=Any other types? (Record verbatim)

92=(Other2 – Verbatim)



93=(Other3 – Verbatim)

**A4a. Let me also confirm what your primary line of business is. The information we have from Dun & Bradstreet indicates that your main line of business is [SIC Code description]. Is this correct?**

(NOTE TO INTERVIEWER - IF ASKED, DUN & BRADSTREET OR D&B, IS A COMPANY THAT COMPILES BUSINESS INFORMATION THROUGHOUT THE COUNTRY)

1=Yes – SKIP TO A5

2=No

98= (DON'T KNOW)

99= (REFUSED)

**A4b. What would you say is the main line of business at [firm name / new firm name]?**

(ENTER VERBATIM RESPONSE)

1=VERBATIM

**A5. Is this the sole location for your business, or do you have offices in other locations?**

1=Sole location – SKIP TO A8

2=Have other locations

98= (DON'T KNOW)

99= (REFUSED)

**A8. Is your company a subsidiary or affiliate of another firm?**

1=Independent – SKIP TO B1

2=Subsidiary or affiliate of another firm

98= (DON'T KNOW)

99= (REFUSED)

**A9. What is the name of your parent company?**

1=ENTER NAME

98= (DON'T KNOW)

99= (REFUSED)

**A9. ENTER NAME OF PARENT COMPANY**

1=VERBATIM

**B1. Next, I have a few questions about your company's role in construction, maintenance or design work related to roads and highways. During the past five years, has your company submitted [a bid || qualifications || a proposal] or a price quote to any part of a state or local government project in Oklahoma?**

1=Yes

2=No – SKIP TO B3

98= (DON'T KNOW) – SKIP TO B3

99= (REFUSED) – SKIP TO

**B2. Were those [bids || qualifications || proposals] or price quotes to work as [a prime contractor, a subcontractor, or as a supplier || a prime consultant or as a subconsultant]?**

1=Prime contractor/consultant

2=Subcontractor/subconsultant

3=Supplier (or manufacturer)

4=Prime and Sub

5=Sub and Supplier

6=Prime and Supplier

7=Prime, Sub, and Supplier

8=Trucker

10=(Supplier and Trucker)

11=(Prime and Trucker)

12=(Sub and Trucker)

13= (Prime, Supplier, and Trucker)

14= (Sub, Supplier, and Trucker)

15= (Prime, Sub, and Trucker)

16= (Prime, Sub, Supplier, Trucker)

98= (DON'T KNOW)

99= (REFUSED)

**B3. During the past five years, has your company received an award for work [as a prime contractor or as a subcontractor || as a prime consultant or as a subconsultant] to any part of a state or local government project in Oklahoma?**

1=Yes

2=No – SKIP TO B9

98= (DON'T KNOW) – SKIP TO B9

99= (REFUSED) – SKIP TO B9

**B4. Were those awards to work as [*a prime contractor, a subcontractor, or as a supplier || a prime consultant or as a subconsultant*]?**

1=Prime contractor/consultant	10= (Supplier and Trucker)
2=Subcontractor/subconsultant	11= (Prime and Trucker)
3=Supplier (or manufacturer)	12= (Sub and Trucker)
4=Prime and Sub	13= (Prime, Supplier, and Trucker)
5=Sub and Supplier	14= (Sub, Supplier, and Trucker)
6=Prime and Supplier	15= (Prime, Sub, and Trucker)
7=Prime, Sub, and Supplier	16= (Prime, Sub, Supplier, Trucker)
8=Trucker	98= (DON'T KNOW)
	99= (REFUSED)

**B9. Again thinking about construction, maintenance or design work related to roads and highways during the past five years, has your company submitted [*a bid || qualifications, a proposal*] or a price quote for any part of a private sector contract in Oklahoma?**

- 1=Yes
- 2=No – SKIP TO B11
- 98= (DON'T KNOW) – SKIP TO B11
- 99= (REFUSED) – SKIP TO B11

**B10. Were those [*bids || proposals*] or price quotes to work as [*a prime contractor, a subcontractor, or as a supplier || a prime consultant or as a subconsultant*]?**

1=Prime contractor/consultant	10= (Supplier and Trucker)
2=Subcontractor/consultant	11= (Prime and Trucker)
3=Supplier (or manufacturer)	12= (Sub and Trucker)
4=Prime and Sub	13= (Prime, Supplier, and Trucker)
5=Sub and Supplier	14= (Sub, Supplier, and Trucker)
6=Prime and Supplier	15= (Prime, Sub, and Trucker)
7=Prime, Sub, and Supplier	16= (Prime, Sub, Supplier, Trucker)
8=Trucker	98= (DON'T KNOW)
	99= (REFUSED)

**B11. During the past five years, has your company received an award for work as a [*prime contractor or as a subcontractor* || *prime consultant or as a subconsultant*] for any part of a private sector contract in Oklahoma?**

1=Yes

2=No – SKIP TO B13

98= (DON'T KNOW) – SKIP TO B13

99= (REFUSED) – SKIP TO B13

**B12 Were those awards to work as [*a prime contractor, a subcontractor, or as a supplier?* || *a prime consultant or as a subconsultant?*]**

1=Prime contractor/consultant

2=Subcontractor/subconsultant

3=Supplier (or manufacturer)

4=Prime and Sub

5=Sub and Supplier

6=Prime and Supplier

7=Prime, Sub, and Supplier

8=Trucker

10= (Supplier and Trucker)

11= (Prime and Trucker)

12= (Sub and Trucker)

13= (Prime, Supplier, and Trucker)

14= (Sub, Supplier, and Trucker)

15= (Prime, Sub, and Trucker)

16= (Prime, Sub, Supplier, Trucker)

98= (DON'T KNOW)

99= (REFUSED)

**B13. Is your company qualified and interested in working with the Oklahoma Department of Transportation or local governments as a [*prime contractor* || *prime consultant*]?**

1=Yes

4=No

98= (DON'T KNOW)

99= (REFUSED)

**B14. Is your company qualified and interested in working with the Oklahoma Department of Transportation or local governments as a [*subcontractor or supplier* || *subconsultant*]?**

1=Yes

4=No

98= (DON'T KNOW)

99= (REFUSED)

**C1. I now want to ask you about the geographic area your company serves.**

**C1a. Could your company do work or serve customers in the Tulsa area and other parts of Northeast Oklahoma?**

**NORTHEAST OKLAHOMA INCLUDES THE OSAGE, PAWNEE, CREEK, TULSA, CRAIG, MUSKEGEE, SEQUOYAH AND MCINTOSH AREAS, (ODOT Divisions 1 and 8).**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**C1b. Could your company do work or serve customers in Southeast Oklahoma?**

**SOUTHEAST OKLAHOMA INCLUDES THE MCCURTAIN, PUSHMATAHA, PITTSBURGH, BRYAN, ATOKA, LEFLORE AND LATIMER AREAS, (ODOT Division 2).**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**C1c. Could your company do work or serve customers in the Oklahoma City area and other parts of Central Oklahoma (ODOT Division 3, 4 and 7)?**

**CENTRAL OKLAHOMA INCLUDES THE OKLAHOMA CITY, GRANT, KAY, LOGAN, LINCOLN, SEMINOLE, GARVIN GRADY, STEPEHENS JEFFERSON AND LOVE AREAS.**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**C1d. Could your company do work or serve customers in the Oklahoma Panhandle?**

**OKLAHOMA'S PANHANDLE INCLUDES THE CIMARRON, TEXAS, BEAVER, WOODWARD, ALFALFA AND MAJOR AREAS, (ODOT Division 6).**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**C1e. Could your company do work or serve customers in the Southwest Oklahoma?**

**SOUTHWEST OKLAHOMA INCLUDES THE TILLMAN, JACKSON, WASHITA, KIOWA, BECKHAM, DEWEY, HARMON, CUSTER, AND ROGER MILLS AREAS, (ODOT Division 5).**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**D1. About what year was your firm established?**

(RECORD FOUR-DIGIT YEAR, e.g., '1977')

(9998 = DON'T KNOW)

(9999 = REFUSED)

1=NUMERIC (1600-2008)

**D2. In rough dollar terms, what was the largest transportation-related contract or subcontract your company was awarded in Oklahoma during the past five years?**

(NOTE TO INTERVIEWER - INCLUDES CONTRACTS NOT YET COMPLETE)

(NOTE TO INTERVIEWER - READ CATEGORIES IF NECESSARY)

1=\$100,000 or less

7=More than \$10 million to \$20 million

2=More than \$100,000 to \$500,000

8=\$20 million to \$50 million

3=More than \$500,000 to \$1 million

9=Greater than \$50 million

4=More than \$1 million to \$2 million

97= (NONE)

5=More than \$2 million to \$5 million

98= (DON'T KNOW)

6=More than \$5 million to \$10 million

99= (REFUSED)

**D3. Was this the largest transportation contract or subcontract that your company [*bid* || *proposed*] on or submitted quotes for in Oklahoma during the past five years?**

1=Yes – SKIP TO E1

2=No

98= (DON'T KNOW) – SKIP TO E1

99= (REFUSED) – SKIP TO E1

**D4. What was the largest contract or subcontract that your company [*bid* || *proposed*] on or submitted quotes for in Oklahoma during the past five years?**

(READ CATEGORIES IF NECESSARY)

1=\$100,000 or less

2=More than \$100,000 to \$500,000

3=More than \$500,000 to \$1 million

4=More than \$1 million to \$2 million

5=More than \$2 million to \$5 million

6=More than \$5 million to \$10 million

7=More than \$10 million to \$20 million

8=\$20 million to \$50 million

9=Greater than \$50 million

97= (NONE)

98= (DON'T KNOW)

99= (REFUSE)

**E1. My next questions are about the ownership of the business. 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 [*firm name* / *new firm name*] a woman-owned business?**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**E2. 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 [*firm name* || *new firm name*] a minority-owned business?**

1=Yes

2=No – SKIP TO E4

3= (OTHER GROUP - SPECIFY)

98= (DON'T KNOW)

99= (REFUSED)

**E2. OTHER GROUP - SPECIFY**

1=VERBATIM

**E3. Would you say that the minority group ownership is mostly African American, Asian-Pacific American, Subcontinent Asian American, Hispanic American, or Native American?**

1=African-American

2=Asian Pacific American (persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia(Kampuchea),Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong)

3=Hispanic American (persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race)

4=Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians)

5=Subcontinent Asian American (persons whose Origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka)

6= (OTHER - SPECIFY)

98= (DON'T KNOW)

99= (REFUSED)



**E3. OTHER - SPECIFY**

1=VERBATIM

**F1. Dun & Bradstreet indicates that your company has about [number] employees working out of just your location. Is that a fairly accurate average thinking about the past 12 months?**

(NOTE TO INTERVIEWER - INCLUDES EMPLOYEES WHO WORK AT THAT LOCATION AND THOSE WHO WORK FROM THAT LOCATION)

1=Yes – SKIP TO F3

2=No

98= (DON'T KNOW)

99= (REFUSED) – SKIP TO F3

**F2. About how many employees did you have working out of just your location, on average, over the course of last 12 months?**

(RECORD NUMBER OF EMPLOYEES)

1=NUMERIC (1-999999999)

**F3. Dun & Bradstreet lists the annual gross revenue of your company, just considering your location, to be [dollar amount]. Is that accurate for 2008?**

1=Yes – SKIP TO F5

2=No

98= (DON'T KNOW)

99= (REFUSED) – SKIP TO F5

**F4. Roughly, what was the gross revenue of your company, just considering your location, in 2008? Would you say . . . (READ LIST)**

1=Less than \$200,000

7=\$10 Million - \$24.9 Million

2=\$200,000 - \$499,999

8=\$25 Million - \$49.9 Million

3=\$500,000 - \$999,999

9=\$50 Million or more

4=\$1 Million - \$2.49 Million

98= (DON'T KNOW)

5=\$2.5 Million - \$4.9 Million

99= (REFUSED)

6=\$5 Million - \$9.9 Million

**F5. For 2008, about how many employees did you have, on average, for all of your locations?**

1= (ENTER RESPONSE)

98= (DON'T KNOW)

99= (REFUSED)

**F5. RECORD NUMBER OF EMPLOYEES**

1=VERBATIM

**F6. Roughly, what was the gross revenue of your company, for all of your locations in 2008?**

**Would you say . . . (READ LIST)**

1=Less than \$200,000

2=\$200,000 - \$499,999

3=\$500,000 - \$999,999

4=\$1 Million - \$2.49 Million

5=\$2.5 Million - \$4.9 Million

6=\$5 Million - \$9.9 Million

7=\$10 Million - \$24.9 Million

8=\$25 Million - \$49.9 Million

9=\$50 Million or more

98= (DON'T KNOW)

99= (REFUSED)

**G1. 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 we ask you these questions.**

**G1a. Has your company experienced any difficulties in obtaining lines of credit or loans?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1b. Has your company obtained or tried to obtain a bond for a project?**

1=Yes

2=No [SKIP TO G1d]

98= (Don't know) [SKIP TO G1d]

99= (Does not apply) [SKIP TO G1d]

**G1c. Has your company had any difficulties obtaining bonds needed for a project?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1d. Have any insurance requirements on projects presented a barrier to bidding?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1e. Has the size of projects presented a barrier to bidding?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1f. Has your company experienced any difficulties learning about bid opportunities with the Oklahoma Department of Transportation?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1g. Has your company experienced any difficulties learning about bid opportunities with local governments or the private sector in Oklahoma?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1h. Has your company experienced any difficulties learning about subcontracting opportunities in Oklahoma?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1i. Has your company experienced any difficulties receiving payment in a timely manner?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1j. Has your company looked into or applied for prequalification for Oklahoma Department of Transportation prime contracts?**

1=Yes

2=No [SKIP TO G1m]

98= (Don't know) SKIP TO G2

99= (Does not apply) SKIP TO G2

**G1k. Has your company experienced any difficulties with the Oklahoma Department of Transportation prequalification process?**

1=Yes

2=No

98= (Don't know)

99= (Does not apply)

**G1l. What were those difficulties?**

\_\_\_\_\_[OPEN-ENDED TO START, WILL CLOSE AFTER INITIAL SURVEYS]

98= (Don't know)

GO TO G2

**G1m. Why not?**

\_\_\_\_\_[OPEN-ENDED TO START, WILL CLOSE AFTER INITIAL SURVEYS]

98= (Don't know)

**G2. Finally, we're asking for general insights on starting and expanding a business in your field or winning work as a prime or subcontractor. Do you have any thoughts to offer on these topics?**

1=VERBATIM (PROBE FOR COMPLETE THOUGHTS)

97= (NOTHING/NONE/NO COMMENTS)

98= (DON'T KNOW)

99= (REFUSED)

**G3. Would you be willing to participate in a follow-up interview about any of these issues?**

1=Yes

2=No

98= (DON'T KNOW)

99= (REFUSED)

**H1. Just a few last questions. What is your name and position at [*firm name* / *new firm name*]?**

(RECORD FULL NAME)

1=VERBATIM

**H2. What is your position?**

1=Receptionist

2=Owner

3=Manager

4=CFO

5=CEO

6=Assistant to Owner/CEO

7=Sales manager

8=Office manager

9=President

9= (OTHER - SPECIFY)

99= (REFUSED)

**H2. OTHER - SPECIFY**

1=VERBATIM

**H3. For purposes of receiving information from ODOT, is your mailing address [*firm address*]:**

1=Yes – SKIP TO H5

2=No

98= (DON'T KNOW)

99= (REFUSED)

**H4. What mailing address should they use to get any materials to you?**

1=VERBATIM

**H5. What fax number could they use to fax any materials to you?**

1=NUMERIC (1000000000-9999999999)

**H6. What e-mail address could they use to get any materials to you?**

1=ENTER E-MAIL

97= (NO EMAIL ADDRESS)

98= (DON'T KNOW)

99= (REFUSED)

**H6. (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)**

1=VERBATIM

Thank you very much for your participation. If you have any questions, please contact Susan McClune at the Oklahoma Department of Transportation. Her phone number is 405-522-1983. If you would like to contact her via email, her email address is [smcclune@ODOT.ORG](mailto:smcclune@ODOT.ORG).