Technical Report: Proposed EPA DBE Goals, Metropolitan Council FY 2024 - 2026

Submitted to:

Metropolitan Council

390 Robert Street North

Saint Paul, MN 55101-1805

Submitted by:

The Roy Wilkins Center for Human Relations and Social Justice

Hubert H. Humphrey School of Public Affairs

University of Minnesota

Technical Report: 10/03/2023

Acknowledgments

Dr. Samuel L. Myers, Jr., Roy Wilkins Professor of Human Relations and Social Justice and director of the Roy Wilkins Center, Hubert H. Humphrey School of Public Affairs, University of Minnesota, served as the principal investigator for the project, developing the methodology for the analysis and providing overall leadership to the project. Ms. Jacqueline Higgins, Principal at Energy Economics & Capture Management, was Project Manager for this analysis, wrote the reports and served as a liaison between the Roy Wilkins Center team and the Metropolitan Council. Dr. Tsze Chan, Statistician and Consultant, managed the data analysis, including the statistical analysis for the DBE availability calculation. Dr. Inhyuck Ha, Professor of Economics at Western Carolina University, performed statistical analysis for the utilization calculation and econometric analysis to adjust the base goal in the discrimination analysis. We acknowledge the consistently diligent and substantively valuable contributions of our doctoral candidates to the data analysis, Haiyue Jiang and Xiting Zhang. Mya Halvorson, Assistant to the Director of the Roy Wilkins Center, supervised our undergraduate research assistants, while becoming an indispensable asset to the team in countless ways.

We are grateful to the following individuals from Metropolitan Council: Ashanti Payne, Assistant Director, Office of Equity and Equal Opportunity, Megan Solberg, Manager, Trina Bolton, Senior Small Business Specialist and DeLores Aguirre, Small Business Specialist, for their partnership in the preparation of this report.

University of Minnesota
Roy Wilkins Center for Human Relations and Social Justice
263 Humphrey Center
30119th Avenue South
Minneapolis, MN 55455
myers006@umn.edu

Alternative formats of this report are available upon request.

Table of Contents

Executive Summary

The Metropolitan Council is the regional policy-making body, planning agency, and provider of essential services in the seven-county Twin Cities metro area. On April 1, 2023, the Metropolitan Council contracted with the Roy Wilkins Center, Hubert H. Humphrey School of Public Affairs, to produce proposed Disadvantaged Business Enterprise (DBE) program goal goals for fiscal years 2024-2026 on its Environmental Protection Agency- (EPA) funded expenditures.

In 2009, the Metropolitan Council received authorization from the EPA to set goals in compliance with the federal regulations governing the *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs* (hereafter referred to as "USDOT regulations").[1] A unique challenge to applying the US-DOT methodologies for recommending DBE goals for EPA projects of the Metropolitan Council is that there are relatively few prime contracts and even fewer DBE prime contractors, making conventional modeling of the adjustment to base goals unreliable. Moreover, the same number of firms on some of the lists used to measure availability produces the problem of small sample bias.

There were 55 prime contracts for the six years of data used. Of that total, only one prime was awarded to a DBE for $500,000 (or 0.1 percent of the total). During the same period, there were 477 subcontracts, totaling $106,623,634.73, of which 279 were awarded to DBEs (58.5 percent), where DBE share of total subcontract dollars equaled $37,538,337.85 (35.2 percent). The average DBE subcontract award equaled $134,546.01, while the average non-DBE subcontract award equaled $348,915.64. This means that while DBEs received most of the subcontracts, the average size of non-DBE subcontracts was more than 2.5 times larger than the average size of DBE contracts -- contradictory measures of the success of DBEs in the EPA competition.

Moreover, using two conventional measures of availability adapted from DBE goal setting in EPA setting– Bidders Lists and Vendors Lists– the research team uncovered uncharacteristically large DBE availability, far above current utilization. Three other measures of availability used in the analysis produce base goals on a smaller order of magnitude.[2]

Accordingly, the research team recommends that the Metropolitan Council focus on the availability rates from the three most reliable methods summarized in this report. The proposed EPA DBE goal for FY 2024-2026 is reported in Table 1. The base goal is 9.9 percent. An adjustment to the base goal due to prior unexplained gaps in contract and subcontract awards of 19.9 percent raises the base goal to an adjusted goal of 11.9 percent. The race-neutral portion of the adjusted DBE goal is 6.5

[1] See next section "Background" for a summary of the legal history and the eventual dismissal of reporting requirements for DBE goals setting on EPA-funded projects.

[2] See Table 4B for Availability Rates and the Base Goal calculated using the DBE Method, the Dun & Bradstreet Method and the American Business Survey.

percent and the race-conscious portion is 5.4 percent.

Table ES.1. Proposed Metropolitan Council EPA DBE Goals FY 2024–2026

Type	**3 Availability Methods**[a]
Base Goal	9.9%[b]
Discrimination Gap for Adjustment	19.9%
Adjusted Goal	11.9%
Race-Neutral (RN) Goal	6.5%
Race-Conscious (RC) Goal	5.4%

Source: RWC analytical methods and data sources are fully detailed in the Technical Report and Appendices.

[a] DBE Method, Dun & Bradstreet, American Business Survey

[b] Weighted Average of Base Goals computed using the DBE Method, D&B, and the American Business Survey. See Table 4 for details.

Background

On July 9, 2009, the Metropolitan Council received authorization from the U.S. Environmental Protection Agency (EPA) to meet the requirements for disadvantaged business enterprises (DBEs) inclusion and participation in projects supported under EPA assistance agreements by mirroring the US Department of Transportation's DBE program requirements under 49 C.F.R. §26.45.[3] Although EPA suspended the requirement that financial assistance recipients negotiate fair share objectives for DBE participation in EPA-funded contracts in October 2019,[4] Metropolitan Council has continued to adopt procurement goals that promote greater inclusion and identification of DBE entities in the Twin Cities area.

Therefore, this three-year goal is to be established in compliance with the federal regulations governing the *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs* (hereafter referred to as "USDOT regulations"). The USDOT

[3] US Environmental Protection Agency (EPA), Region 5, Letter from Adrienne M. Callahan, Disadvantaged Business Coordinator to Wanda Kirkpatrick, Director, Office of Diversity and Equal Opportunity, Metropolitan Council, July 9, 2009.

[4] Effective October 1, 2019, EPA approved a Class Exception to 40 CFR Part 33, Subpart D that included a requirement that recipients of federal assistance agreements negotiate a fair share requirement objective for minority business enterprises and women-owned businesses.

regulations provide guidance to state and local grant recipients on how to establish their annual DBE goal.

The current report uses this guidance and uses the best available data on contract awards, availability of DBEs in the relevant industries and geographic market areas to produce proposed base goals, any adjustments to the base goals, and estimation of the maximum portion of the adjusted goals that can be achieved through race- neutral means.

Between July 2015 and June 2022, Metropolitan Council issued 55 prime contracts totaling $346,863,481.25. For these years the DBE share of prime contract awards was 1.8 percent, and its share of prime contract award dollars was 0.1 percent. The DBE share of subcontract awards was 58.5 percent, and the DBE share of subcontract dollars was 35.2 percent.

Methodology

As a first step, the research team must determine availability rates in well-defined geographic market areas (GMAs). The second step is to produce any adjustments to the base DBE goal. A final step is to propose the maximum portion of the goal that can be achieved through race-neutral means.

Geographic Market Area

The research team established four different geographic market areas (GMAs) displayed in Table 3. All four are political jurisdictions defined by different aggregations of counties within Minnesota. Almost all Metropolitan Council's contracts have been within Minnesota, including vendors from other states with only a branch office in Minnesota.

Availability Analysis and Base Goal

In computing availability to determine a Base Goal, RWC used three d different data bases and approaches (DBE Method, Dun & Bradstreet Method, and the Annual Business Survey). For each method, the weights used are based on the share of contract dollars awarded within the defined GMAs. The availability rates were appropriately weighted by Metropolitan Council's expenditure projections to produce a base goal. Each of these methods have advantages and disadvantages summarized in the Technical Report. Table 4 reports the details of the calculations of the base goals by GMA and method.

Adjusted Goal

Regression analysis was used to estimate the percentage of the gap in contract awards between DBE and non- DBE prime and subcontractors that could not be explained by measured factors such as size, tenure, credit risk, year, location and industry. This unexplained gap is a proxy for the difference in outcomes due to unequal treatment of equally qualified DBEs and non-DBEs. The estimated adjustment factor equals 19.9 percent. This the adjusted goal is the base goal (9.9 percent) times the adjustment (1.199) or ***11.9 percent.***

Race Neutral Portion of Base Goal

The base goal is then partitioned between its race-conscious and race-neutral portion.[5] The methodology for computing the race-neutral portion of the DBE goal estimates the maximum share of the goal that can be achieved through race-neutral means. The logic of the analysis is that some share of previous DBE dollars awarded would have gone to DBEs without goals. The race-neutral analysis uses the best regression model that control for a list of relevant variables to predict DBE contract amounts with and without goals.[6]

Executive Summary Tables

Table ES.2. DBE Share of EPA Awarded Contract Amounts (2016-2022)

Type	N	Average Contract Amount	Total Contract Amount	Share
Prime Contracts				
DBE	1	$500,000.00	$500,000.00	0.1%
Non-DBE	54	$6,414,138.54	$346,363,481.25	99.9%
Total	55	$6,306,608.75	$346,863,481.25	100.0%
Subcontracts				
DBE	279	$134,546.01	$37,538,337.85	35.2%
Non-DBE	198	$348,915.64	$69,085,296.88	64.8%
Total	477	$223,529.63	$106,623,634.73	100.0%
Both Prime and Subcontracts*				
DBE	280	$135,851.21	$38,038,337.85	11.0%
FY 2016	45	$83,330.72	$3,749,882.59	14.2%
FY 2017	6	$113,441.67	$680,650.00	11.1%
FY 2018	39	$198,543.68	$7,743,203.43	13.8%
FY 2019	66	$58,297.45	$3,847,631.95	8.1%
FY 2020	45	$157,002.74	$7,065,123.38	9.6%
FY 2021	24	$138,740.40	$3,329,769.50	6.2%
FY 2022	33	$229,329.61	$7,567,877.00	16.0%
FY 2023	22	$184,281.82	$4,054,200.00	11.1%
Total	280	$135,851.21	$38,038,337.85	11.0%

Source: RWC analytical methods and data sources are fully detailed in the Technical Report and Appendices.

* The denominator of the share is total prime awarded contract dollars.

[5] Race-conscious and race-neutral portions of the goals are computed using a methodology upheld by the 3rd Circuit Federal Court in *GEOD v. New Jersey Transit* and published in the peer-reviewed journal *Applied Economics Letters*.

[6] Myers and Ha have pioneered the use of a detailed econometric procedure that maximizes the race-neutral component of the DBE goals.

Table ES.3. Metropolitan Council Geographic Market Areas (GMAs) for EPA DBE Goals (2016-2022)

Geographical Market Area		Prime Contracts only			Subcontracts only		
	GMA	N	Contract Amount	Share	N	Contract Amount	Share
Total		55	$346,863,481.25	-	477	$106,623,634.73	-
All counties in MN	GMA-1	52	$346,241,881.25	99.82%	432	$96,758,514.45	90.75%
MN 9 counties [a]	GMA-2	52	$346,241,881.25	99.82%	369	$80,297,417.54	75.31%
Twin Cities MSA (15 counties)[b]	GMA-3	47	$238,547,718.96	68.77%	416	$92,648,329.66	86.89%
MN 7 counties [c]	GMA-4	46	$238,474,118.96	68.75%	364	$77,327,058.47	72.52%

Source: RWC analytical methods and data sources are fully detailed in the Technical Report and Appendices.

[a] MN 7 counties plus Crow Wing and Meeker

[b] For primes, no contracts are awarded in 7 counties - Chisago, Issanti, Le Sueur, Mille Lacs, Sherburne and Wright in MN, and Pierce, WI. For subs, no contracts are awarded in 3 counties - Le Sueur and Mille Lacs in MN and Pierce, WI.

[c] Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington

Table ES.4. EPA Weighted Availability Rate and Base Goal by Method

(weighted by contract amount**)**

Method	GMA1	GMA2	GMA3	GMA4	Weighted average	Base Goal
ABS List Method	10.72%				10.72%	**9.94%**
DBE List Method	6.58%	13.31%	13.22%	13.92%	11.45%	
Dun & Bradstreet List Method	6.19%	8.28%	7.86%	8.65%	7.65%	

Source: RWC analytical methods and data sources are fully detailed in the Technical Report and Appendices.

GMA1: State of Minnesota

GMA2: 9 Counties (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington, Crow Wing and Meeker)

GMA3: Twin Cities MSA (15 Counties: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington, Isanti, Le Sueur, Mille Lacs, Sherburne, Wright, Chisago of MN; Pierce, St. Croix of WI)

GMA4: 7 Metro Counties (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington)

Technical Report

Background

The Metropolitan Council is the regional policy-making body, planning agency, and provider of essential services in the seven-county Twin Cities metro area. On April 1, 2023, the Metropolitan Council contracted with the Roy Wilkins Center, Hubert H. Humphrey School of Public Affairs, to produce proposed Disadvantaged Business Enterprise (DBE) program goal goals for fiscal years 2024-2026 on its Environmental Protection Agency- (EPA) funded expenditures.

Guidance and Objectives for Goal Setting

On July 9, 2009, the Metropolitan Council received authorization from the U.S. Environmental Protection Agency (EPA) to meet the requirements for disadvantaged business enterprises (DBEs) inclusion and participation in projects supported under EPA assistance agreements by mirroring the US Department of Transportation's DBE program requirements under 49 C.F.R. §26.45.[7] Although EPA suspended the requirement that financial assistance recipients negotiate fair share objectives for DBE participation in EPA-funded contracts in October 2019,[8] Metropolitan Council has continued to adopt procurement goals that promote greater inclusion and identification of DBE entities in the Twin Cities area.

Therefore, this three-year goal is to be established in compliance with the federal regulations governing the *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs* (hereafter referred to as "USDOT regulations"). The USDOT regulations provide guidance to state and local grant recipients on how establish their annual DBE goal [*49 C.F.R. §26.45*]. [9]

The overall goal must be based on demonstrable evidence of the availability of ready, willing and able Disadvantaged Business Enterprises (DBEs) relative to all businesses ready, willing and able to participate on USDOT-assisted contracts (hereafter, the "relative availability of DBEs"). The guidance provides examples for examining evidence in the recipient's jurisdiction of DBE availability, including a review of a bidders list and a certified DBE directory. Other methods or combinations of methods to

[7] US Environmental Protection Agency (EPA), Region 5, Letter from Adrienne M. Callahan, Disadvantaged Business Coordinator to Wanda Kirkpatrick, Director, Office of Diversity and Equal Opportunity, Metropolitan Council, July 9, 2009.

[8] Effective October 1, 2019, EPA approved a Class Exception to 40 CFR Part 33, Subpart D that included a requirement that recipients of federal assistance agreements negotiate a fair share requirement objective for minority business enterprises and women-owned businesses.

[9] https://www.ecfr.gov/current/title-49/section-26.45 49 CFR 26.45

determine a base figure may be used, subject to approval by the concerned operating administration. Any methodology chosen must be based on demonstrable evidence of local market conditions and be designed to ultimately attain a goal that is rationally related to the relative availability of DBEs in the market area.

The objectives of the goal are to reflect the relative availability of DBEs in the market area and to determine the expected level of DBE participation absent the effects of discrimination. Therefore, as a first step in goal setting, a recipient of federal funds must determine a base figure for the relative availability of DBEs in the geographical market. The second step is to adjust the base figure if evidence suggests that there are additional market barriers to DBE participation.

The USDOT identifies several objectives for DBE goal setting requirement. As listed under *49 CFR §26.1*,[10] the goals seek:

a) To ensure nondiscrimination in the award and administration of DOT-assisted contracts in the Department's highway, transit, and airport financial assistance programs;

b) To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;

c) To ensure that the Department's DBE program is narrowly tailored in accordance with applicable law;

d) To ensure that only firms that fully meet this part's eligibility standards are permitted to participate as DBEs;

e) To help remove barriers to the participation of DBEs in DOT-assisted contracts;

f) To promote the use of DBEs in all types of federally-assisted contracts and procurement activities conducted by recipients;

g) To assist the development of firms that can compete successfully in the marketplace outside the DBE program; and

h) To provide appropriate flexibility to recipients of Federal financial assistance in establishing and providing opportunities for DBEs.

The Roy Wilkins Center uses this guidance and the best available data on contract awards, availability of DBEs in the relevant industries and geographic market areas to produce proposed base goals, adjustments to the base goals, and estimation of the maximum portion of the adjusted goals that can

[10] https://www.ecfr.gov/current/title-49/section-26.1 49 CFR 26.1

be achieved through race-neutral means.

Data Collection

Data used in this report primarily were compiled from four sources: data provided by the Metropolitan Council between April and June 2023, Dun & Bradstreet Hoover's data, the State and the County Business Patterns of 2021 and the Annual Business Survey of 2020. A complete list of data sources and associated information are listed in this Report.

Metropolitan Council Data

EPA Contracts File

The Metropolitan Council provided a contracts file consisted of 55 contracts, 532 companies from 2016 – 2022. These firms were uploaded to the Dun & Bradstreet website to merge with the Hoover's dataset to obtain individual firm information such as years found, total sales, credit risk, and others that were used in the econometric analysis. The merging rate was 83.6%. Firms with missing the firm information from the Dun & Bradstreet were excluded from the econometric analysis.

Vendors List

Vendors refer to firms that have done business with the Metropolitan Council. The Metropolitan Council provided 2 sets of vendors – the active vendors and the inactive vendors.[11] The active vendors file has a total count of 10,589 entries, and the inactive vendors, 19,126. To avoid including businesses that are no longer in business, only the active vendors were included in the analysis. The vendors file provides information on the vendor's name, vendor ID, and addresses, but not the NAICS code. The research team uploaded all the active vendors to the Dun & Bradstreet website to merge with the Hoover's dataset to get the NAICS code. After merging and removing duplicates, 38% of the active unique vendors did not have a NAICS code and were excluded from the analysis.

Bidders List

The research team received a total of 97 pdf files listing the bidders who were either a prime or a sub to bid for a contract between 2016 and 2022. There are 4 types of pdf files: the A-1 files, the Sub files, the Bidsum files, and the Resp files. The A-1 and the Sub list the prime and the sub of a bid. The Bidsum and the Resp list primarily the primes in a bid. The research team transcribed all the Bidsum and the Resp files, and the A-1/Sub files that were not in the contract awarded files. and conducted internet searches to identify the addresses of these companies. The companies were then uploaded to Dun and Bradstreet to obtain the NAICS code. About 36.7% of the uploaded companies did not find a match. The companies from the award contract files were then also added.

Forecast Projects

The Metropolitan Council also provided project dollar amount, project primary and secondary NAICS codes, and share of the project dollar amount by NAICS codes of projects forecasted for 2024-2026.

[11] Active vendors are defined as companies that had a financial transaction with the Council in the last 5 years.

When the project value was given in a range instead of a fix amount, the mid-point was used. The research team compiled a total of 16 NAICS codes and over $563 million in contract dollars.

Private Economic Data

Dun & Bradstreet Hoover's Data

The research team used Dun & Bradstreet Hoover's database in two ways. The first way is to upload individual companies (1000 companies maximum per upload) to the site, select the company information needed, and download the results. Information such as a NAICS code for the vendors and the bidders, and business information such as credit risk, number of employees, and total sales for the awardees in the Semi-Annual Award files were obtained through uploading. The second way is to obtain aggregated counts of companies for a particular NAICS code in a particular city/county/state with certain characteristics such as Minority Owned status, Women Owned status, and total sales amount.

Public Data

DBE List

The research team the Minnesota Unified Certification Program (MnUCP) Excel file provided by the Metropolitan Council as the list of DBEs in the state of Minnesota. The file has the name of the firms, the NAICS code, and addresses of the companies. A company is repeated as a separate entry for each NAICS code it has. In total, there were 4,455 entries and 1,266 companies.

The Annual Business Survey (ABS)

ABS, one of the business and financial surveys collected by the Bureau of Census, provides information on selected economic and demographic characteristics for businesses and business owners by sex, ethnicity, race, and veteran status. Using the public data available on the ABS website, the research team generated multiple tables with respect to minority or women own businesses in July-August of 2023. The data for each firm in the ABS sample were weighted to represent the national population of firms more appropriately.

ABS has several limitations. Data tables are only available at the national level, and not at the state or lower levels. A second limitation is that ABS data only have 2-digit NAICS codes, instead of 6-digit NAICS codes used in the other datasets. The use of 2-digit NAICS codes could over or underestimate the number of women or minority owned businesses. The third limitation is that there is no designated field of DBE in the data set. To be qualified as a DBE, the business must be certified as a minority owned or a woman owned business with a net worth or revenue below a certain amount. Although public use data can generate data table on women and minority owned businesses, ABS does not include net worth and revenue information to determine the DBE status.

County and State Business Pattern (CBP)

CBP is an annual series that provides subnational economic data by industry. The research team downloaded the 2021 Complete County file and the Complete State file from the CBP site of the US

Bureau of Census. Each of these files have the counts of establishments at 2-6 digits NAICS codes. Due to privacy concerns, a NAICS code that has fewer than 4 establishments in a county is omitted. The same NAICS code, however, is included in the state file if there are sufficient counts at the state level.

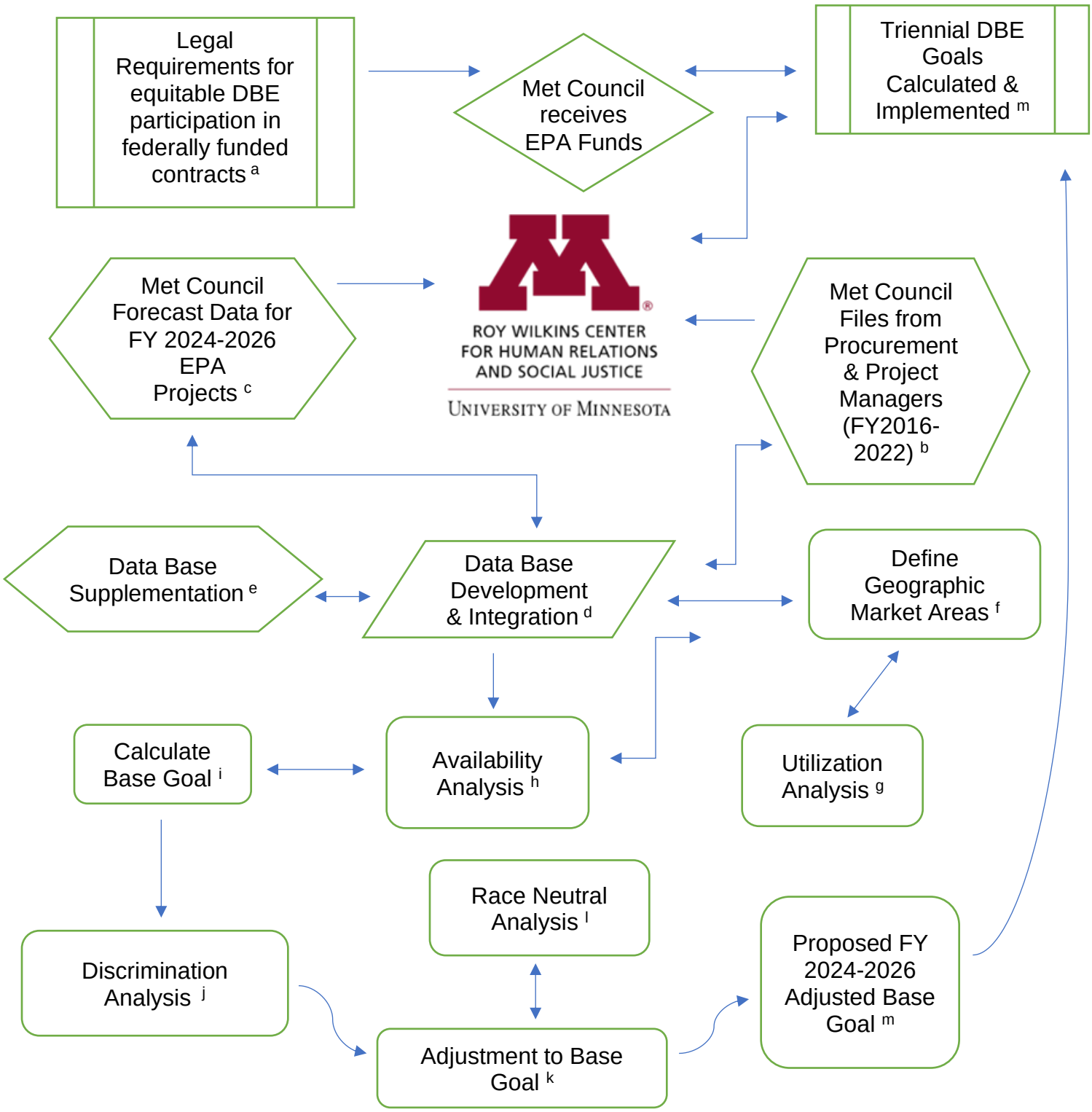
List of Data Sources

The following are sources for the data used in this analysis:

1. Vendors list: received active and inactive vendors excel files from Metropolitan Council, April 13, 2023.
2. Bidders list – received pdf files from Metropolitan Council, April 13, 2023.
3. DBE list – received the Minnesota Unified Certification Program Directory excel file from the Metropolitan Council, April 13, 2023
4. Future Projects: received from Metropolitan Council, May 2023.
5. Dun & Bradstreet, Hoover data downloads:
   a) Last download of matched vendors, August 14, 2023; https://app.hoovers.dnb.com/list
   b) Last download of matched Bidders, August 24, 2023; https://app.hoovers.dnb.com/list
   c) Last download of matched DBE list, August 14, 2023; https://app.hoovers.dnb.com/list
6. County Business Pattern, Complete County File, 2021; https://www.census.gov/data/datasets/2021/econ/cbp/2021-cbp.html
7. County Business Patterns, Complete State File 2021; https://www.census.gov/data/datasets/2021/econ/cbp/2021-cbp.html
8. EPA Contract Data file, received from Metropolitan Council, April 13, 2023
9. Annual Business Survey, 2020; https://data.census.gov/table?q=AB2000CSA01:+Annual+Business+Survey:+Statistics+for+Employer+Firms+by+Industry,+Sex,+Ethnicity,+Race,+and+Veteran+Status+for+the+U.S.,+States,+and+Metropolitan+Areas:+2020&tid=ABSCS2020.AB2000CSA01
10. Dun and Bradstreet list method: aggregated counts of women and minority owned businesses were obtained from searches by NAICS code and by GMAs on the D&B website; early August, 2023; https://app.hoovers.dnb.com/search/company
11. Definition of NAICS: https://www.census.gov/naics
12. Version of STATA for analysis: 17, 18.

Methodology

Figure 1. RWC Methodology Flow Chart



Notes on Figure 1

[a] Code of Federal Regulations 46 Section 26.45 and US Department of Transportation Guidelines (USDOT)

[b] Contract award files on semi-annual reports, Vendors List and PDF Bid files

[c] Metropolitan Council Office of Equity and Equal Opportunity provided files from the Council's projected capital expenditures during FY 2024-2026.

[d] Compilation of Contract Award Files and Bidders List; merging of Bidders List and Vendors List with DBE List and integration of supplementary data from Dun & Bradstreet Hoover's, County and State Business Patterns and Annual Business Survey into usable databases.

[e] Public data from US Census State and County Business Patterns for 2021, The Annual Business Survey for 2020, and the April 2023Minnesota Unified Certification Program Directory; private economic from Dun & Bradstreet Hoover's database.

[f] Defining the Minnesota counties and MSAs that accounted for at least 75 percent of the awarded contract value and where the marginal contribution to the contract value was at least one percent of the dollars spent during the reporting period.

[g] DBE share of prime and subcontracts during the research period in number of awards, in dollar value and percent of total value.

[h] Determining the rate of availability of ready, willing and able Disadvantaged Business Enterprises (DBEs) relative to all businesses ready, willing and able to participate on USDOT-assisted contracts in the geographic market area. This analysis utilizes certified DBE lists from the State of Minnesota, Vendors and Bidders Lists from Metropolitan Council, amplified by methods utilizing public and private data to attain the broadest possible measure of available DBEs in a given industrial code.

[l] The Base Goal is determined by averaging the weighted availability rates across all methods of analysis identified in the availability analysis.

[j] Discrimination analysis measures the probability of a DBE receiving a contract award compared to a non-DBE firm when variables other than race, ethnicity or gender are held constant. When variables such as credit risk, size and tenure are equal, buyers or investors are likely to be indifferent to doing business with a DBE or a non-DBE with similar company ratings. If there is a significant difference in utilization, then discrimination is likely to be a possible factor.

[k] Adjustments to the base goal are permitted under USDOT regulations to account for evidence of past discrimination and/or differences in a DBE firm's ability to get financing, bonding or insurance, education, training or apprenticeship opportunities. 49 CFR 26.45(d) https://www.ecfr.gov/current/title-49/part-26/section-26.45#p-26.45(d)

[l] The analysis must indicate the maximum feasible portion of the adjusted base goal that can be achieved by race neutral means., i.e., the share of dollars that would have gone to DBEs without goals for contracts and firms that are comparable. The logic underlying the race neutral analysis is that some share of DBE dollars awarded would have gone to DBEs without goals. The difference between the adjusted base goal and the race neutral portion is the race conscious portion or (1- race neutral portion of the goal). The RWC identifies the proportion of the proposed adjusted goal that can be achieved by race neutral means and by race conscious means.

[m] RWC provides to Metropolitan Council the proposed triennial goal. It is an adjustment from the base goal, using the discrimination analysis calculation of the unexplained gap between DBE and non-DBE contract awards, apportioned between race neutral and race conscious goals.

Defining the Geographic Market Area

To satisfy requirements set forth in the USDOT regulations as well as comply with the Supreme Court's narrowly tailored standard, the Metropolitan Council's EPA DBE goal must be based on a narrowly defined geographic market. To define the geographic market in such a manner, the research team analyzed Metropolitan Council's contracts awarded between June 2015 and December 2022. These contracts were ranked from the highest to lowest dollar amount across all counties such that the sum in each area was greater than 75% of the total awarded contract value, and such that and the marginal contribution of each county to the overall total contract amount was at least 1 percent of total dollars spent over the reporting period.

The research team identified four GMAs that capture the overwhelming majority of EPA-funded prime and subcontracts awarded between June 2016 and December 2022. All four GMAs were derived using the political jurisdiction method (PJM) of defining GMAs by different aggregations of counties in Minnesota. The first method, PJM-1, represents the State of Minnesota. The second method, PJM-2, defines those Minnesota counties where there are enough contract dollars to represent the Minnesota counties where the total contract amount or prime contract awarded exceeds 70 percent of the total for the study period. Table 1 shows the four narrowly defined GMAs for EPA DBE goals.

Table 1. Metropolitan Council Geographic Market Areas (GMAs) for EPA DBE Goals

Geographical Market Area	GMA	Prime Contracts only			Subcontracts only		
		N	Contract Amount	Share	N	Contract Amount	Share
Total		55	$346,863,481.25	-	477	$106,623,634.73	-
All counties in MN	1	52	$346,241,881.25	99.82%	432	$96,758,514.45	90.75%
MN 9 counties (MN 7 counties plus Crow Wing and Meeker)	2	52	$346,241,881.25	99.82%	369	$80,297,417.54	75.31%
Twin Cities MSA (15 counties)[1]	3	47	$238,547,718.96	68.77%	416	$92,648,329.66	86.89%
MN 7 counties (Anoka, Carver, Dakota, Hennepin Ramsey, Scott, and Washington)	4	46	$238,474,118.96	68.75%	364	$77,327,058.47	72.52%

Source: EPA Contracts FY2016-2023

[1] For primes, no contracts are awarded in 7 counties - Chisago, Issanti, Le Sueur, Mille Lacs, Sherburne and Wright in MN, and Pierce, WI. For subs, no contracts are awarded in 3 counties - Le Sueur and Mille Lacs in MN and Pierce, WI.

More than 99.8 percent of prime contracts were awarded in the State of Minnesota between FY 2016-2022. See Appendix A, Table 1 for Prime Contract data and Table 2 for Subcontract data during these years.

Utilization

Share of Awarded Contracts

As shown in Table 2, the utilization analysis shows that 99.9 percent of prime contract dollars were awarded to non-DBE contractors (equivalent to $346.3 million) while 0.1 percent of prime contracts, or $500,000, was awarded to one DBE contractor. Of the 477 total subcontracts, 279 were awarded to DBEs for the period FY2016 – 2022. DBEs were awarded 35.2 percent of subcontracts dollars, or $37.5 million of a total of $106.6 million in subcontracts.

Table 2. Utilization Rate of Certified DBEs in EPA-funded Contract Awards

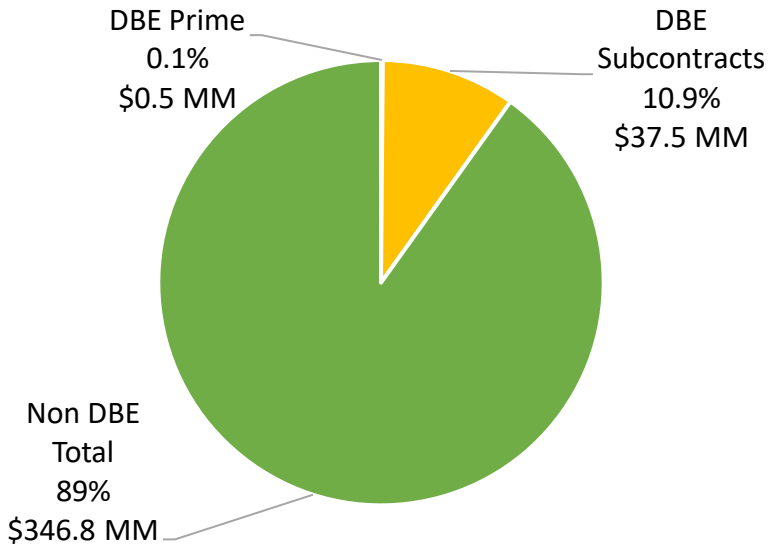
Type	N	Average Contract Amount	Total Contract Amount	Share of Dollars
Prime Contracts				
DBE	1	$500,000.00	$500,000.00	0.1%
Non-DBE	54	$6,414,138.54	$346,363,481.25	99.9%
Total	55	$6,306,608.75	$346,863,481.25	100.0%
Subcontracts				
DBE	279	$134,546.01	$37,538,337.85	35.2%
Non-DBE	198	$348,915.64	$69,085,296.88	64.8%
Total	477	$223,529.63	$106,623,634.73	100.0%
Both Prime and Subcontracts*				
DBE	280	$135,851.21	$38,038,337.85	11.0%

Source: EPA Contracts FY2016-2023

* The denominator of the share is total prime awarded contract dollars.

Figure 2 depicts the nearly invisible 0.1 percent share of prime contracts awarded to DBEs. Most of the DBE contract awards are from subcontracts. The figure shows the DBE share of total contract dollars awarded is small and DBEs cannot compete for subcontracts.

Figure 2. DBE Share of Total Contract Dollars (FY2016-2022)



Demographic Distribution of Contracts

Table 3. Utilization Rates of Certified DBEs by Gender and by Fiscal Year

Type	N	Average Contract Amount	Total Contract Amount	DBE Share
Both DBE Prime and Subcontracts*				
Overall	280	$135,851.21	$38,038,337.85	11.0%
Female	176	$124,117.90	$21,844,751.12	6.3%
Male	104	$155,707.56	$16,193,586.73	4.7%
Both DBE Prime and Subcontracts by Fiscal Year**				
FY2016	45	$83,330.72	$3,749,882.59	14.2%
FY2017	6	$113,441.67	$680,650.00	11.1%
FY2018	39	$198,543.68	$7,743,203.43	13.8%
FY2019	66	$58,297.45	$3,847,631.95	8.1%
FY2020	45	$157,002.74	$7,065,123.38	9.6%
FY2021	24	$138,740.40	$3,329,769.50	6.2%
FY2022	33	$229,329.61	$7,567,877.00	16.0%
FY2023	22	$184,281.82	$4,054,200.00	11.1%

*The denominator of the share is total prime contract dollars.

**The denominator of the share is total prime contract dollars each year.

Figure 3. DBE Share by Gender of all Contracts

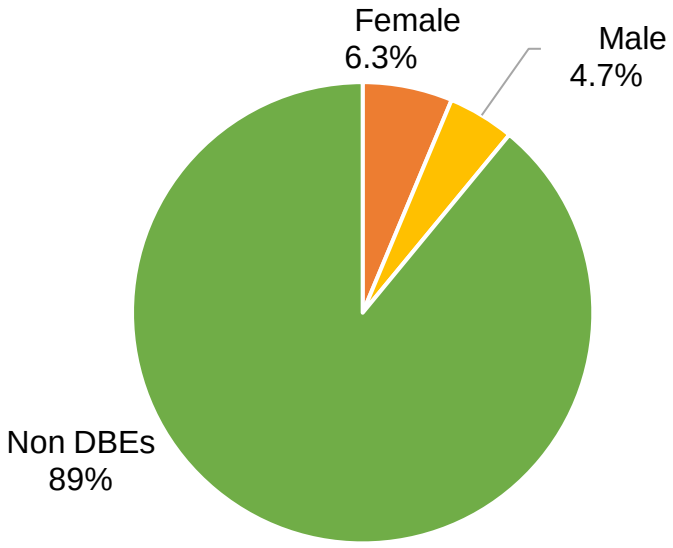
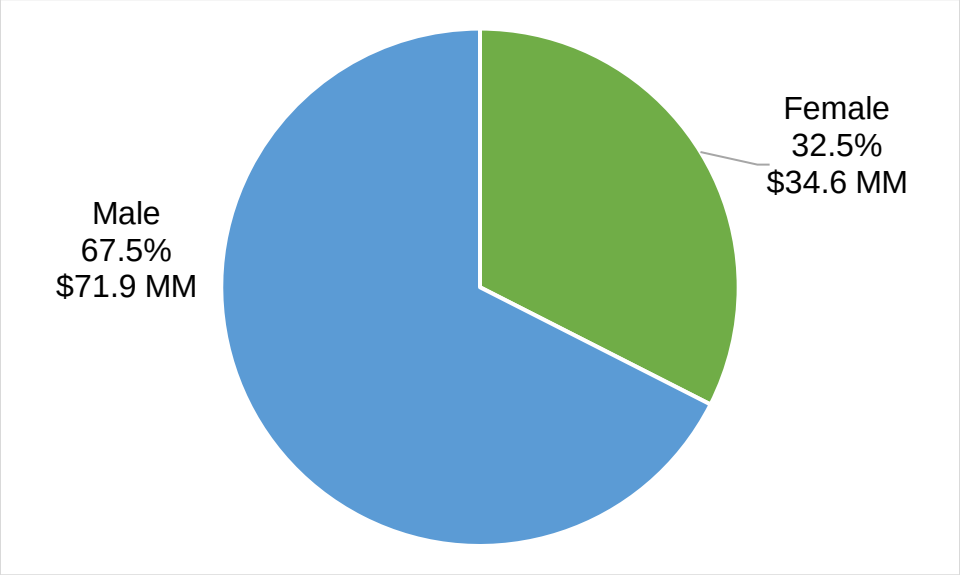


Table 4. Distribution of Contract Dollars by Gender

Type	N	Average Contract Amount	Total Contract Amount	Share
Prime Contracts				
Female	2	$3,587,450.00	$7,174,900.00	2.1%
Male	53	$6,409,218.51	$339,688,581.25	97.9%
Overall	55	$6,306,608.75	$346,863,481.25	100.0%
Subcontracts				
Female	193	$179,470.05	$34,637,720.55	32.5%
Male	284	$253,471.53	$71,985,914.18	67.5%
Overall	477	$223,529.63	$106,623,634.73	100.0%

Source: EPA Contracts FY2016-2023

Figure 4. Distribution of Subcontract Dollars by Gender



Availability Analysis

Availability rates were calculated separately using the Bidders List, the Vendors List, the DBE List and the RWC methods for ABS data and the Dun & Bradstreet Hoover's data. Although each method differs, the calculation shares the following steps.

1. The availability rate is the number of ready, willing and able DBE firms of an industry (represented by a NAICS code) divided by the number of all firms in the same industry within a defined GMA. Only industries to be used in the forecast projects are included.

2. The research team identified 16 six-digit NAICS codes associated with the forecast projects.[12] The share of forecasted expenditure in each of the 16 NAICS code is calculated which is then multiplied, by each industry, to the rate. See Table 5 for the share of future expenditure by industry.

3. As shown in the general formula below, sum the availability rates across the industries (NAICS codes) for a given GMA. The actual numerator and denominator differ according to the data list or method used.

$$Availability\ Rate = \sum_{j=1}^{n} \frac{\#\ of\ DBEs\ in\ NAICS_j}{Total\ Number\ of\ Firms\ in\ NAICS_j} weight_j\ , where\ j = industry$$

The research team conducted Step 1- 3 above with each of the methods listed above. When calculating the rates from the Vendors List and the Bidders List, the research team uncovered uncharacteristically large DBE availability, far above current utilization. The other measures of availability used in the analysis – DBE List, ABS and the Dun and Bradstreet data - produce base goals on a smaller order of magnitude.

[12] According to U.S. Department of Transportation regulations, the availability rate should be weighted by the "amount of money to be spent" in each industry. The research team obtained a copy of Metropolitan Council's estimated expenditures for the FY 2024-2026, broken down by NAICS code. Metropolitan Council provided its projected expenditures for EPA-funded projects, identified by NAICS codes, for the next three years. To calculate the weights for the availability analysis, the research team categorized projected expenditures by NAICS code. The result was 16 NAICS codes.

Table 5. EPA Weights by 6-Digit NAICS Codes

NAICS	Estimated Future Spending	Weight
237110	$142,516,000	0.2528
237310	$2,323,000	0.0041
237990	$73,284,000	0.1300
238110	$39,951,000	0.0709
238120	$62,050,000	0.1101
238140	$4,074,000	0.0072
238160	$4,242,000	0.0075
238210	$112,588,000	0.1997
238220	$78,819,500	0.1398
238320	$168,000	0.0003
238390	$224,000	0.0004
238910	$33,986,000	0.0603
238990	$112,000	0.0002
484220	$2,825,000	0.0050
561730	$5,512,500	0.0098
561990	$1,025,000	0.0018
Total	$563,700,000	1.0000

Availability Rates

MNUCP DBE List

The research team obtained the list of certified DBEs the Minnesota Uniform Certification Program. The numerator and denominator of this availability rate come from different sources.

- The numerator in the availability rate is the number of certified DBE firms for specified NAICS codes within a given geographic market area.
- The denominator is the number of firms in the Complete County Business Patterns (CBP), for GMAs 2,3 and 4, and the Complete State file for the state of Minnesota (GMA1), of the same NAICS codes and geographic market area.
- The ratio is then multiplied by the share of future expenditures of a NAICS code.
- Sum the resulting ratios across NAICS codes for a given GMA.

See Table 6 for the availability rate for the DBE List method by GMAs. Additional details are provided in Appendix Table C.1.

Dun & Bradstreet Method

The Dun & Bradstreet (D & B) Hoover's dataset was used to estimate the share of DBE firms among all the firms in each NAICS code. While there is no DBE variable in the D & B dataset, the research

team used “women-owned” or “minority-owned” small businesses as a proxy for DBE firms. In order to be qualified for as a DBE, a firm has to be owned by women or minorities, its owner must have a personal net worth of less than $1.32 million, and its revenue must be below a certain threshold for each NAICS code according to SBA size criteria.[13] [14]

- The numerator is the number of non-overlapping women and minority owned small business of an industry within a GMA. As a firm can be both minorty and woman owned, the numerator was dervied from subtracting the numbe of overlapping women and minority-owned small businesses from the sum total of women-owned small businesses and minority-owned small businesses of an industry.

- The denominator is the total number of Employer Firms in the same industry as the numerator.

- The ratio is then multiplied by the share of future expenditures of a NAICS code.

- Sum the resulting ratios across NAICS codes for a given GMA.

See Table 6 for the availability rate for the Dun & Bradstreet Method by GMAs. Additional details are provided in Appendix Table C.2.

American Survey of Business

The ABS method utilizes the Annual Business Survey (ABS) data to identify the fraction of DBE firms among all the employer firms for each NAICS code. ABS do not identify whether a firm is DBE, instead, a firm’s owners are classified by sex, ethnicity, and race. To be qualified as a DBE, over 51% of the business is owned by one of the federally defined minorities and the firm must have a net worth and revenue lower than a standard. ABS do not include the business net worth and revenue information. The research team based the calculation on non-overlapping women and minorities owned firms as proxy for DBEs. This may overestimate the rate as there might be women or minority-owned firms that have net-worth or revenue larger than the thresholds for small business. In addition, ABS provides only national data, not at the state or lower levels, and the calculation is based on 2-

[13] In the D&B dataset, there is no owner’s personal net worth variable, but there are firm total sales and number of employees information. Thus, the research team uses the revenue criteria, along with the women/minority status to narrow down the qualified DBE firms. The revenue criteria mean the firm should either have total sales below a threshold or the number of employees below a certain threshold depending on its NAICS code.

[14] For all the firms in Minnesota, 46908 out of 622050 (7.54%) are missing in sales and 43657 out of 622050 (7.02%) are missing in the number of employees. Among all the women-owned firms in Minnesota, 650 out of 26286 (2.47%) are missing in sales, and 636 out of 26286 (2.42%) are missing in number of employees. For minority-owned firms, 196 out of 2391 (8.20%) are missing in sales, and 196 out of 2391 (8.20%) are missing in number of employees. The dataset has more missing values in minority-owned firms than in women-owned firms. In this study, firms with missing values in sales or numbers of employees are excluded when counting the number of DBE firms, which might deflate the result.

digit NAICS codes.

- The numerator is the number of non-overlapping women and minority owned small business of an industry of US. As a firm can be both minorty and woman owned, the numerator was dervied from subtracting the number of overlapping women and minority-owned small businesses from the sum total of women-owned small businesses and minority-owned small businesses of an industry.
- The denominator is the total number of Employer Firms in the same industry as the numerator.
- The ratio is then multiplied by the share of future expenditures of a NAICS code.
- Sum the resulting ratios across NAICS codes.

See Table 6 for the availability rates for the ABS Method by GMAs. Additional details are provided in Appendix Table C.3.

Table 6. Availability Analysis by Methods and GMAs

Method	GMA-1	GMA-2	GMA-3	GMA-4	Weighted Average
DBE List Method	6.58%	13.22%	13.92%	13.31%	11.45%
D & B Method	6.19%	7.86%	8.65%	8.28%	7.65%
ABS Method	10.72%				10.72%
Distribution of the award amount and proportional weights					
Percent Distribution of Award Amount	97.7%	73.0%	69.6%	94.1%	
	(a)	(b)	(c)	(d)	
Proportional Weight	29.2%	21.8%	20.8%	28.1%	
	(e)	(f)	(g)	(h)	

GMA-1: State of Minnesota
GMA-2: Twin Cities MSA (15 Counties)
GMA-3: 7 Metro Counties
GMA-4: 9 Counties (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington, Crow Wing and Meeker)
(e) = (a)/[(a)+(b)+(c)+(d)]
(f) = (b)/[(a)+(b)+(c)+(d)]
(g) = (c)/[(a)+(b)+(c)+(d)]
(h) = (d)/[(a)+(b)+(c)+(d)]

The Base Goal

Depending on the method used for calculating availability, each defined GMA captures a different share of available current contracts. As a result, each method also yields a different DBE availability goal for each market. To derive a single base goal that is based on all the goals calculated for each GMA, it is necessary to weight each geographic market-specific goal according to the percentage of contract dollars awarded in that area. Therefore, the availability rate of in a given GMA is multiplied by a proportional weight based on the awarded contracts amount in the same GMA (see Table 7). The average of the weighted availability averages across the three methods is the base goal - 9.9 percent- as shown in Table 7 below.

Table 7. EPA Weighted Availability Rate and Base Goal

Method	Weighted Average
ABS List Method	10.7%
DBE List Method	11.5%
D&B List Method	7.7%
Base Goal	**9.9%**

Adjustment to the Base Goal

Consistent with USDOT guidelines, the second step after calculating a base goal is to determine whether there is sufficient evidence in the GMAs to warrant an adjustment. Table 8 summarizes the USDOT guidelines for adjusting the base goal, under CFR, title 49, part 26, section 26.45(d) 15.

[15] 49 CFR 26.45(d) https://www.ecfr.gov/current/title-49/part-26/section-26.45#p-26.45(d)

Table 8. USDOT Guidelines for Adjusting the Base Goal

There are many types of evidence that must be considered when adjusting the base figure. These include:

- The current capacity of DBEs to perform work in the USDOT-assisted contracting program, as measured by the volume of work DBEs have performed in recent years;
- Evidence from disparity studies conducted anywhere within the jurisdiction, to the extent it is not already accounted for in the base figure; and
- If the base figure is the goal of another recipient, adjust it for differences in the local market and the relevant contracting program.

If available, consider the evidence from related fields that affect the opportunities for DBEs to form, grow and compete. These include, but are not limited to:

- Statistical disparities in the ability of DBEs to get the financing, bonding and insurance required to participate in the contract;
- Data on employment, self-employment, education, training and union apprenticeship programs, to the extent it relates to the opportunities for DBEs to perform the required contract work.

Adjustments to the base figure that account for the continuing effects of past discrimination (often called the "but for" factor) or the effects of an ongoing DBE program must be based on demonstrable evidence that is logically and directly related to the effect for which the adjustment is sought.

The evidence RWC considered when proposing an adjustment to the base goal focused on the current capacity of DBEs in the GMAs to perform the expected EPA-assisted work during FY 2024-2026 in the in the industrial codes forecast.

Table 9 shows the proposed adjusted DBE goal of 11.9 percent for the period FY 2024-2026.This adjusted base goal was calculated using the evidence and methodology from the research team's discrimination analysis. The discrimination gap for this adjustment was estimated to be 19.9 percent above the base goal of 9.9 percent. Description of the methodology follows.

Table 9. Proposed EPA Triennial DBE Goal for FY 2024-2026

Type	Goal	RN/RC Portion	Note
Base Goal	9.9%		(a)
Discrimination Gap for Adjustment	19.9%		(b)
Adjusted Goal	**11.9%**		(c)= (a)× [1 + (b)]
Race-Neutral (RN) Goal	6.5%	54.8%	= (c) × 54.8%
Race-Conscious (RC) Goal	5.4%	45.2%	= (c) × 45.2%

Data and Methodology Used for Adjustments

The research team estimated the measures of discrimination for prime contracts and subcontracts in four model specifications. The reasons for different specifications include the fact that there are missing values for some observations on the credit risk, tenure, and size of firms.

Oaxaca Decomposition Models

The research team used the Blinder-Oaxaca-Duncan residual difference decomposition[16] method to make the base goal adjustment. The residual difference decomposition estimates separately the log-transformed contract amounts to DBEs and non-DBEs and computes the amount that DBEs would have received had they been treated like equally situated non-DBEs. The difference between the actual contract amounts and the "equal-treatment" amounts defines the discriminatory portion of the gap between DBEs and non-DBEs.

Gelbach Decomposition Models

The Gelbach decomposition is an extension of the Oaxaca-Blinder-Duncan decomposition that allows for more flexibility and detailed analysis. A generalization of this technique is often used for the nonlinear case. This method first run a base regression, run a full regression with additional regressors, and computes the difference in the coefficient estimates. Similar to the Oaxaca-Blinder-Duncan decomposition, the Gelbach decomposition decomposes the gap into two main components – explained and unexplained components.

[16] Many analysts reference the technique simply as the Oaxaca method, due to the continuing role that Ronald Oaxaca has played in developing and expanding the decomposition methodology. Blinder, Alan, (1973), Wage Discrimination: Reduced Form and Structural Estimates, *Journal of Human Resources*, 8, issue 4, p. 436-455; Oaxaca, Ronald, (1973), Male-Female Wage Differentials in Urban Labor Markets, *International Economic Review*, 14, issue 3, p. 693-709

Table 10. EPA Discrimination Analysis for Goal Adjustments

Method	Model	Mean Difference in Log Contract Amount by DBE Status (A)	Explained Gap (B)	Unexplained Gap (C)	Unexplained Portion (= C/A)
Oaxaca Decomposition	1	0.9431	0.6907	0.2524	26.8%
	2	0.9565	0.8326	0.1239	13.0%
Gelbach Decomposition	3	-	-	-	25.2%
	4	-	-	-	12.4%
Average					19.9%

Source: EPA Contracts FY2016-2023
Model 1: Oaxaca Decomposition
Model 2: Oaxaca Decomposition; Missing values are replaced with means
Model 3: Gelbach first stage estimator of unrestricted model 1
Model 4: Gelbach first stage estimator of unrestricted model 2
(A) = mean of predicted value of ln(contract amount of non-DBE) - mean of predicted value of ln(contract amount of DBE)

Table 10 shows the discrimination analysis used four methods of estimating the unexplained portion from the residual difference composition for prime and subcontractors contract disparities. The average across the four models equals 19.9 percent. This adjustment was applied to the base goal as the "discrimination gap" resulting in a proposed base goal of 11.9 percent shown on Table 9.

Race Neutral Analysis

In compliance with federal regulations, state and local transportation authorities must identify the maximum feasible portion of the DBE goal that can be achieved through race-neutral measures and the percentage of the goal that can only be achieved through race-conscious measures [*49 C.F.R. §26.51* Specific excerpts from the regulatory code state: [17]

(a) You must meet the maximum feasible portion of your overall goal by using race-neutral means of facilitating race-neutral DBE participation. Race-neutral DBE participation includes any time a DBE wins a prime contract through customary competitive procurement procedures or is awarded a subcontract on a prime contract that does not carry a DBE contract goal."

(b) Each time you submit your overall goal for review by the concerned operating administration, you must also submit your projection of the portion of the goal that you expect to meet through race-

[17] https://www.ecfr.gov/current/title-49/section-26.51 Citation 49 CFR 26.51

neutral means and your basis for that projection.

(c) You must establish contract goals to meet any portion of your overall goal you do not project being able to meet using race-neutral means.

(e.2).…over the period covered by your overall goal, you must set contract goals so that they will cumulatively result in meeting any portion of your overall goal you do not project being able to meet through the use of race-neutral means."

Myers and Ha have pioneered the use of a detailed econometric procedure that maximizes the race-neutral component of the DBE goals.[18] This method has established a rigorous standard for maximizing the race-neutral portion of the overall DBE goal.[19] The logic of the analysis is that some share of DBE dollars awarded would have gone to DBEs without goals. One can compute the share of dollars that would have gone to DBEs without goals for contracts and firms that are comparable. This method requires the estimation of a regression model that controls for a list of relevant variables.

The race-neutral analysis uses the best regression model for predicting DBE contract amounts with and without goals. Table 11 shows the estimation of goals that can be achieved by race-neutral measures and the goals that must be achieved with race-conscious goals. Based on the evidence from DBE contract awards during the period FY 2016 – 2022, 59.3 percent of DBE contracts were awarded without goals in place. Using a different method of estimation, the Dummy Variable Method, the mean of the estimated contract amount without DBE goals in place would be 50.3 percent. The average of these two methods yields a 54.8 percent estimate of the DBE goal component that can be achieved by race neutral means. The underlying regression results are shown in Appendix Table D.5.

Table 9 shows that the adjusted base goal of 11.9 percent can be apportioned between a race neutral component and a race conscious component. The maximum goal attainable by race neutral means is 6.5 goal (or 54.8 percent x 11.9 percent) and the race conscious goal is 5.4 percent (11.9 percent – 6.5 percent).

[18] Myers, Samuel L. and Inhyuck "Steve" Ha. "Estimation of Race Neutral Goals in Public Procurement and Contracting," *Applied Economics Letters*, 2009, vol. 16, issue 3, pages 251-256.

[19] 2010-10-19, Civil Action No. 04-2425, GEOD CORPORATION, et al., Plaintiffs v. NEW JERSEY TRANSIT CORPORATION, et al., Defendants.

Table 11. EPA Race Neutral Analysis

Method	N	Contract Amount	Race Neutral Portion	Note
A. Log-Contract Amount Model (Both Prime and Subcontracts)				
Predicted DBE amount (a)	280	$15,776,364.80		
Estimated DBE amount setting 0% goal (b)	280	$9,353,117.20	59.3%	= b/a
B. Log-Contract Amount Model (Subcontracts only)				
Predicted DBE amount (c)	279	$14,947,042.77		
Estimated DBE amount setting 0% goal (d)	279	$7,512,460.02	50.3%	= d/c
Average			54.8%	

Source: EPA Contracts FY2016-2023

Additional data are provided in the Appendices that follow.

APPENDIX A: Geographic Market Area Definition

Table A.1. EPA Distribution of Contract Amount by State: Prime and Subcontracts

Type	N	Average Contract Amount	Total Contract Amount	Share
Prime Contracts				
CO	1	$500,000.00	$500,000.00	0.1%
MN	52	$6,658,497.72	$346,241,881.25	99.8%
WI	1	$73,600.00	$73,600.00	0.0%
Unknown	1	$48,000.00	$48,000.00	0.0%
Total	55	$6,306,608.75	$346,863,481.25	100.0%
Subcontracts				
CA	2	$689,450.00	$1,378,900.00	1.3%
CO	3	$21,752.00	$65,256.00	0.1%
FL	2	$112,739.00	$225,478.00	0.2%
IA	3	$50,059.67	$150,179.00	0.1%
IL	3	$239,733.79	$719,201.38	0.7%
IN	1	$23,550.00	$23,550.00	0.0%
MN	433	$223,617.82	$96,826,514.45	90.8%
MO	1	$1,727,588.41	$1,727,588.41	1.6%
ND	1	$20,876.25	$20,876.25	0.0%
NY	1	$1,283,373.00	$1,283,373.00	1.2%
OH	1	$4,750.00	$4,750.00	0.0%
OR	1	$45,000.00	$45,000.00	0.0%
SD	1	$9,455.86	$9,455.86	0.0%
TX	3	$719,282.27	$2,157,846.81	2.0%
UT	1	$547,595.48	$547,595.48	0.5%
WI	18	$54,135.84	$974,445.09	0.9%
Unknown	2	$231,812.50	$463,625.00	0.4%
Total	477	$223,529.63	$106,623,634.73	100.0%

Source: EPA Contracts FY2016-2023

APPENDIX B: Utilization Analysis

Table B.1. DBE Share of EPA Funded Contracts by NAICS
(Primes and Subcontracts combined)

NAICS	Non-DBE			DBE			DBE Share
	N	Average Contract Amount	Total Contract Amount	N	Average Contract Amount	Total Contract Amount	
Prime Contracts							
237110	13	$8,807,050.49	$114,491,656.32				0.0%
237990	1	$2,971,780.00	$2,971,780.00				0.0%
238210	3	$13,187,833.33	$39,563,500.00				0.0%
238220	4	$19,481,540.18	$77,926,160.70				0.0%
238910	1	$62,906.00	$62,906.00				0.0%
423430	1	$788,420.18	$788,420.18				0.0%
423690	1	$595,324.05	$595,324.05				0.0%
541330	29	$3,765,517.24	$109,200,000.00	1	$500,000.00	$500,000.00	0.5%
Unknown	1	$763,734.00	$763,734.00				0.0%
Total	54	$6,414,138.54	$346,363,481.25	1	$500,000.00	$500,000.00	0.1%
Subcontracts							
237110	84	$276,594.46	$23,233,934.99	121	$122,196.74	$14,785,805.20	38.9%
237990	9	$110,976.22	$998,786.00	16	$30,417.06	$486,672.88	32.8%
238210	20	$588,905.22	$11,778,104.47	17	$209,084.47	$3,554,436.00	23.2%
238220	55	$578,131.40	$31,797,227.17	39	$204,806.10	$7,987,437.84	20.1%
541330	30	$42,574.81	$1,277,244.25	86	$124,697.51	$10,723,985.93	89.4%
Total	198	$348,915.64	$69,085,296.88	279	$134,546.01	$37,538,337.85	35.2%

Source: EPA Contracts FY2016-2023

APPENDIX C: Availability Analysis

Table C.1 DBE List Method by GMAs

GMA 1 State of Minnesota

NAICS	Weight	Numerator	Denominator	Unweighted	Weight Rate
237110	0.2528	22	277	0.0794	2.01%
237310	0.0041	51	270	0.1889	0.08%
237990	0.13	12	131	0.0916	1.19%
238110	0.0709	22	550	0.0400	0.28%
238120	0.1101	11	61	0.1803	1.99%
238140	0.0072	18	510	0.0353	0.03%
238160	0.0075	18	470	0.0383	0.03%
238210	0.1997	29	1581	0.0183	0.37%
238220	0.1398	12	1844	0.0065	0.09%
238320	0.0003	31	785	0.0395	0.00%
238390	0.0004	16	211	0.0758	0.00%
238910	0.0603	68	976	0.0697	0.42%
238990	0.0002	69	1150	0.0600	0.00%
484220	0.005	108	770	0.1403	0.07%
561730	0.0098	48	2358	0.0204	0.02%
561990	0.0018	12	304	0.0395	0.01%
Average					6.58%

Table C.1 DBE List Method by GMAs

GMA 2 Twin Cities MSA (15 counties)

NAICS	Weight	Numerator	Denominator	Unweighted	Weight Rate
237110	0.2528	16	120	0.1333	3.37%
237310	0.0041	34	98	0.3469	0.14%
237990	0.13	9	31	0.2903	3.77%
238110	0.0709	20	250	0.0800	0.57%
238120	0.1101	8	24	0.3333	3.67%
238140	0.0072	17	279	0.0609	0.04%
238160	0.0075	14	346	0.0405	0.03%
238210	0.1997	26	844	0.0308	0.62%
238220	0.1398	12	1023	0.0117	0.16%
238320	0.0003	26	598	0.0435	0.00%
238390	0.0004	16	164	0.0976	0.00%
238910	0.0603	49	426	0.1150	0.69%
238990	0.0002	54	751	0.0719	0.00%
484220	0.005	70	313	0.2236	0.11%
561730	0.0098	36	1585	0.0227	0.02%
561990	0.0018	8	143	0.0559	0.01%
Average					13.22%

Table C.1 DBE List Method by GMAs

GMA 3 Seven counties

NAICS	Weight	Numerator	Denominator	Unweighted Rate	Weight Rate
237110	0.2528	12	88	0.1364	3.45%
237310	0.0041	29	81	0.3580	0.15%
237990	0.13	7	22	0.3182	4.14%
238110	0.0709	14	175	0.0800	0.57%
238120	0.1101	6	19	0.3158	3.48%
238140	0.0072	13	207	0.0628	0.05%
238160	0.0075	14	292	0.0479	0.04%
238210	0.1997	23	628	0.0366	0.73%
238220	0.1398	11	757	0.0145	0.20%
238320	0.0003	24	508	0.0472	0.00%
238390	0.0004	15	137	0.1095	0.00%
238910	0.0603	42	269	0.1561	0.94%
238990	0.0002	46	553	0.0832	0.00%
484220	0.005	59	203	0.2906	0.15%
561730	0.0098	32	1305	0.0245	0.02%
561990	0.0018	8	123	0.0650	0.01%
Average					13.92%

Table C.1 DBE List Method by GMAs

GMA 4 - Nine counties

NAICS	Weight	Numerator	Denominator	Unweighted Rate	Weight Rate
237110	0.2528	12	100	0.1200	3.03%
237310	0.0041	30	89	0.3371	0.14%
237990	0.13	7	22	0.3182	4.14%
238110	0.0709	14	190	0.0737	0.52%
238120	0.1101	6	19	0.3158	3.48%
238140	0.0072	13	223	0.0583	0.04%
238160	0.0075	14	295	0.0475	0.04%
238210	0.1997	23	666	0.0345	0.69%
238220	0.1398	11	803	0.0137	0.19%
238320	0.0003	24	521	0.0461	0.00%
238390	0.0004	15	137	0.1095	0.00%
238910	0.0603	43	298	0.1443	0.87%
238990	0.0002	46	587	0.0784	0.00%
484220	0.005	60	220	0.2727	0.14%
561730	0.0098	33	1354	0.0244	0.02%
561990	0.0018	8	136	0.0588	0.01%
Average					13.31%

Table C.2. Dun & Bradstreet Method by GMAs

GMA 1. State of Minnesota

NAICS	Weight	Threshold	Number of DBE* Firms	Total Number of Firms	Weighted DBE* Share
237110	0.2528	$45.0	35	638	0.0139
237310	0.0041	$45.0	55	820	0.0003
237990	0.1300	$45.0	12	238	0.0066
238110	0.0709	$19.0	49	1557	0.0022
238120	0.1101	$19.0	12	58	0.0228
238140	0.0072	$19.0	29	1045	0.0002
238160	0.0075	$19.0	41	1615	0.0002
238210	0.1997	$19.0	122	2914	0.0084
238220	0.1398	$19.0	114	4637	0.0034
238320	0.0003	$19.0	114	3856	0.0000
238390	0.0004	$19.0	10	489	0.0000
238910	0.0603	$19.0	92	1740	0.0032
238990	0.0002	$19.0	178	4591	0.0000
484220	0.0050	$34.0	30	376	0.0004
561730	0.0098	$9.5	126	4581	0.0003
561990	0.0018	$16.5	1029	20897	0.0001
					6.19%

GMA 2. Twin Cities MSA

NAICS	Weight	Threshold	Number of DBE* Firms	Total Number of Firms	Weighted DBE* Share
237110	0.2528	$45.0	20	282	0.0179
237310	0.0041	$45.0	32	408	0.0003
237990	0.1300	$45.0	6	90	0.0087
238110	0.0709	$19.0	26	839	0.0022
238120	0.1101	$19.0	9	34	0.0291
238140	0.0072	$19.0	18	549	0.0002
238160	0.0075	$19.0	32	1190	0.0002
238210	0.1997	$19.0	85	1524	0.0111
238220	0.1398	$19.0	79	2544	0.0043
238320	0.0003	$19.0	83	2965	0.0000
238390	0.0004	$19.0	6	281	0.0000
238910	0.0603	$19.0	37	592	0.0038
238990	0.0002	$19.0	142	3136	0.0000
484220	0.0050	$34.0	6	115	0.0003
561730	0.0098	$9.5	77	2755	0.0003
561990	0.0018	$16.5	701	13633	0.0001
					7.86%

Table C.2. Dun & Bradstreet Method by GMAs

GMA 3. Seven Counties (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington)

NAICS	Weight	Threshold	Number of DBE* Firms	Total Number of Firms	Weighted DBE* Share
237110	0.2528	$45.0	16	207	0.0195
237310	0.0041	$45.0	28	330	0.0003
237990	0.1300	$45.0	6	76	0.0103
238110	0.0709	$19.0	22	648	0.0024
238120	0.1101	$19.0	8	28	0.0315
238140	0.0072	$19.0	14	418	0.0002
238160	0.0075	$19.0	30	1006	0.0002
238210	0.1997	$19.0	76	1266	0.0120
238220	0.1398	$19.0	69	1994	0.0048
238320	0.0003	$19.0	71	2644	0.0000
238390	0.0004	$19.0	6	215	0.0000
238910	0.0603	$19.0	30	397	0.0046
238990	0.0002	$19.0	123	2629	0.0000
484220	0.0050	$34.0	4	80	0.0003
561730	0.0098	$9.5	59	2238	0.0003
561990	0.0018	$16.5	642	12127	0.0001
					8.65%

GMA 4. Nine Counties

NAICS	Weight	Threshold	Number of DBE* Firms	Total Number of Firms	Weighted DBE* Share
237110	0.2528	$45.0	16	226	0.0179
237310	0.0041	$45.0	28	347	0.0003
237990	0.1300	$45.0	6	83	0.0094
238110	0.0709	$19.0	26	695	0.0027
238120	0.1101	$19.0	8	28	0.0315
238140	0.0072	$19.0	14	460	0.0002
238160	0.0075	$19.0	30	1030	0.0002
238210	0.1997	$19.0	76	1342	0.0113
238220	0.1398	$19.0	69	2110	0.0046
238320	0.0003	$19.0	73	2698	0.0000
238390	0.0004	$19.0	6	228	0.0000
238910	0.0603	$19.0	31	466	0.0040
238990	0.0002	$19.0	125	2709	0.0000
484220	0.0050	$34.0	6	91	0.0003
561730	0.0098	$9.5	69	2358	0.0003
561990	0.0018	$16.5	658	12461	0.0001
					8.28%

Table C.3. Annual Business Survey, National Level

2-digit NAICS	Nonoverlapping Women or Minority Owned	Total	DBE Share	Weighted relative DBE Share
23	1772	16833	0.11	0.1035
48-49	550	4293	0.13	0.0006
56	1963	7488	0.26	0.0030
				11%

APPENDIX D: Quantitative Analysis

Table D.1. Variables used in the Regression Analyses

Variable Name	Description
MN	Location (= 1 if in MN; = 0 otherwise)
Prime	Prime Contract (= 1 if prime; = 0 otherwise)
Construction	= 1 if 2-digit NAICS code = 23; = 0 otherwise
FY2016	Year (= 1 if FY 2016; = 0 otherwise)
FY2017	Year (= 1 if FY 2017; = 0 otherwise)
FY2018	Year (= 1 if FY 2018; = 0 otherwise)
FY2019	Year (= 1 if FY 2019; = 0 otherwise)
FY2020	Year (= 1 if FY 2020; = 0 otherwise)
FY2021	Year (= 1 if FY 2021; = 0 otherwise)
FY2022	Year (= 1 if FY 2022; = 0 otherwise)
More than one award	= 1 if awarded more than one contract; = 0 otherwise
High Risk	Credit risk (= 1 high; = 0 otherwise)
Revenue	Firm's revenue (in USD)
Employees	Firm's total number of employees (in persons)
Tenure	Firm's age (in years)
NAICS_237110	= 1 if NAICS code = 237110; = 0 otherwise
NAICS_237990	= 1 if NAICS code = 237990; = 0 otherwise
NAICS_238220	= 1 if NAICS code = 238220; = 0 otherwise
DBE Goal	DBE Goal (in percent)
DBE	= 1 if DBE; = 0 otherwise

Source: EPA Contracts FY2016-2022

Table D.2. Mean Difference Test by DBE Status

Point of Differentiation	Non-DBE		DBE		t stat.	p-value	
	N	Mean	N	Mean			
Prime Contract Amount	54	$6,414,139	1	$500,000	-	-	
Prime Log-Contract Amount	54	14.8425	1	13.1224	-	-	
Subcontract Amount	198	$348,916	279	$134,546	3.2304	0.0014	***
Sub Log-Contract Amount	198	10.7769	279	10.6866	0.5169	0.6055	

Source: EPA Contracts FY2016-2023
Statistically significant *** at 99%, ** at 95%, * at 90%

Table D.3. Underlying Regression Results for Goal Adjustments (Model 1)

	Non-DBE				DBE			
	Coeff.	Std. err.	t stat		Coeff.	Std. err.	t stat	
Prime	4.3111	0.4101	10.51		-	-	-	
MN	-0.4662	0.5342	-0.87		0.1146	1.1320	0.10	
Construction	1.1679	0.6113	1.91	**	-0.7294	0.3412	-2.14	**
FY2016	-0.0434	1.3380	-0.03		-0.8810	0.5867	-1.50	
FY2017	-0.9180	1.4987	-0.61		-0.2129	0.8683	-0.25	
FY2018	-0.3847	1.3383	-0.29		-0.4718	0.5737	-0.82	
FY2019	-1.0137	1.2129	-0.84		-1.3969	0.4735	-2.95	***
FY2020	-0.7537	1.3200	-0.57		-0.1265	0.5860	-0.22	
FY2021	-0.1641	1.3796	-0.12		-0.6536	0.6431	-1.02	
FY2022	-0.5985	1.3528	-0.44		0.2409	0.5360	0.45	
More than one award	0.8804	0.3195	2.76	***	0.0642	0.3309	0.19	
Tenure	0.0082	0.0055	1.48		0.0031	0.0106	0.29	
Revenue	0.0000	0.0000	-1.11		0.0000	0.0000	0.41	
High Risk	-0.0401	0.6235	-0.06		0.4775	0.4135	1.15	
Constant	10.0732	1.3143	7.66	***	11.4658	1.0592	10.82	***
Number of Observations = 172					Number of Observations = 247			
F(14, 157) = 10.96					F(13, 233) = 2.65			
Prob>F = 0.0000					Prob>F = 0.0018			
Adjusted R-squared = 0.4492					Adjusted R-squared = 0.0801			

Source: EPA Contracts FY2016-2023
Statistically significant *** at 99%, ** at 95%, * at 90%

Table D.4. Underlying Regression Results for Goal Adjustments (Model 2)

	Non-DBE				DBE			
	Coeff.	Std. err.	t stat		Coeff.	Std. err.	t stat	
Prime	4.5892	0.3350	13.70	***	2.2652	1.7140	1.3200	
MN	-0.2258	0.3740	-0.60		0.3993	0.5907	0.68	
Construction	1.2325	0.4458	2.76	***	-0.6269	0.3122	-2.01	**
FY2016	-1.2092	0.9180	-1.32		-0.9964	0.5297	-1.88	*
FY2017	-2.7248	1.0171	-2.68	***	-0.2935	0.8201	-0.36	
FY2018	-1.3499	0.8983	-1.50		-0.5710	0.5104	-1.12	
FY2019	-1.4313	0.8222	-1.74		-1.4326	0.4260	-3.36	***
FY2020	-1.4507	0.9019	-1.61		-0.2466	0.5284	-0.47	
FY2021	-1.0586	0.9636	-1.10		-0.5402	0.5762	-0.94	
FY2022	-1.4278	0.9223	-1.55		0.0847	0.4831	0.18	
More than one award	0.3467	0.2502	1.39		0.0750	0.2785	0.27	
Tenure†	0.0072	0.0050	1.44		0.0044	0.0094	0.47	
Revenue†	0.0000	0.0000	-1.16		0.0000	0.0000	0.31	
High Risk†	0.2635	0.5082	0.52		0.4754	0.3910	1.22	
Constant	10.8920	0.9032	12.06	***	11.1685	0.6611	16.89	***
Number of Observations = 249					Number of Observations = 280			
F(14, 234) = 7.34					F(14, 265) = 2.72			
Prob>F = 0.0000					Prob>F = 0.0009			
Adjusted R-squared = 0.4798					Adjusted R-squared = 0.0793			

Source: EPA Contracts FY2016-2023
Statistically significant *** at 99%, ** at 95%, * at 90%
† Missing values are replaced with means

Table D.5. EPA Underlying Regression Results for Race Neutral Analysis (Method 2)

	Method 2			
	Coeff.	Std. err.	t stat	
MN	-0.2267	0.3383	-0.67	
Prime	1.5672	0.3215	4.87	***
FY2017	-0.7854	0.3110	-2.53	**
FY2018	-0.6158	0.2704	-2.28	**
FY2019	0.1286	0.2251	0.57	
FY2020	-0.8355	0.2520	-3.32	***
FY2021	-0.8384	0.3137	-2.67	***
More than one award	-0.2316	0.2110	-1.10	
High Risk	0.0504	0.2904	0.17	
Revenue	0.0000	0.0000	-0.34	
Tenure	0.0038	0.0059	0.64	
NAICS_23	0.4398	0.4044	1.09	
NAICS_33	0.7214	0.4816	1.50	
NAICS_42	0.9801	0.4661	2.10	
NAICS_48	0.6934	0.5242	1.32	
NAICS_54	0.2955	0.4142	0.71	
NAICS_56	-0.1375	0.5672	-0.24	
DBE Goal	0.1074	0.0125	8.60	***
Constant	10.4878	0.6049	17.34	***
Number of Observations =	516			
F(18, 497) =	9.51			
Prob>F =	0.00			
Adjusted R-squared =	0.2293			

Source: EPA Contracts FY 2016-2022

Statistically significant *** at 99%, ** at 95%, * at 90%

APPENDIX E: Demographic Data

Table E.1. MNUCP DBE List by Gender, Race and Ethnicity

Ethnicity	Count	Percent
Caucasian Female	559	40.5
Asian - Pacific American [a]	95	6.9
Asian - Subcontinent American [b]	63	4.6
Black American	440	31.9
Hispanic American	143	10.4
Native American	51	3.7
Others	6	0.4
Missing	24	1.7
Total	1381	100

Note: Disadvantaged Business Enterprise (DBE) as defined by the Minnesota Unified Certification Program Document is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals. In this table, a company can appear multiple times when there are more than one owner, and the owners are socially and economically disadvantaged. The gender and ethnicity of each owner is counted accordingly. The total count therefore is larger than the number of unique companies in the directory. Three companies that are listed as solely owned by Caucasian males are dropped.

[a] "Asian-Pacific Americans," which includes 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), Republic of the Northern Marianas Islands, Samoa, Macao, Fiji, Tonga, Kirbati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong.

[b] "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.

Source: Minnesota Unified Certification Program Document, Revised Sept 1, 2016.

Figure E.1. MNUCP DBE Directory by Gender, Race and Ethnicity

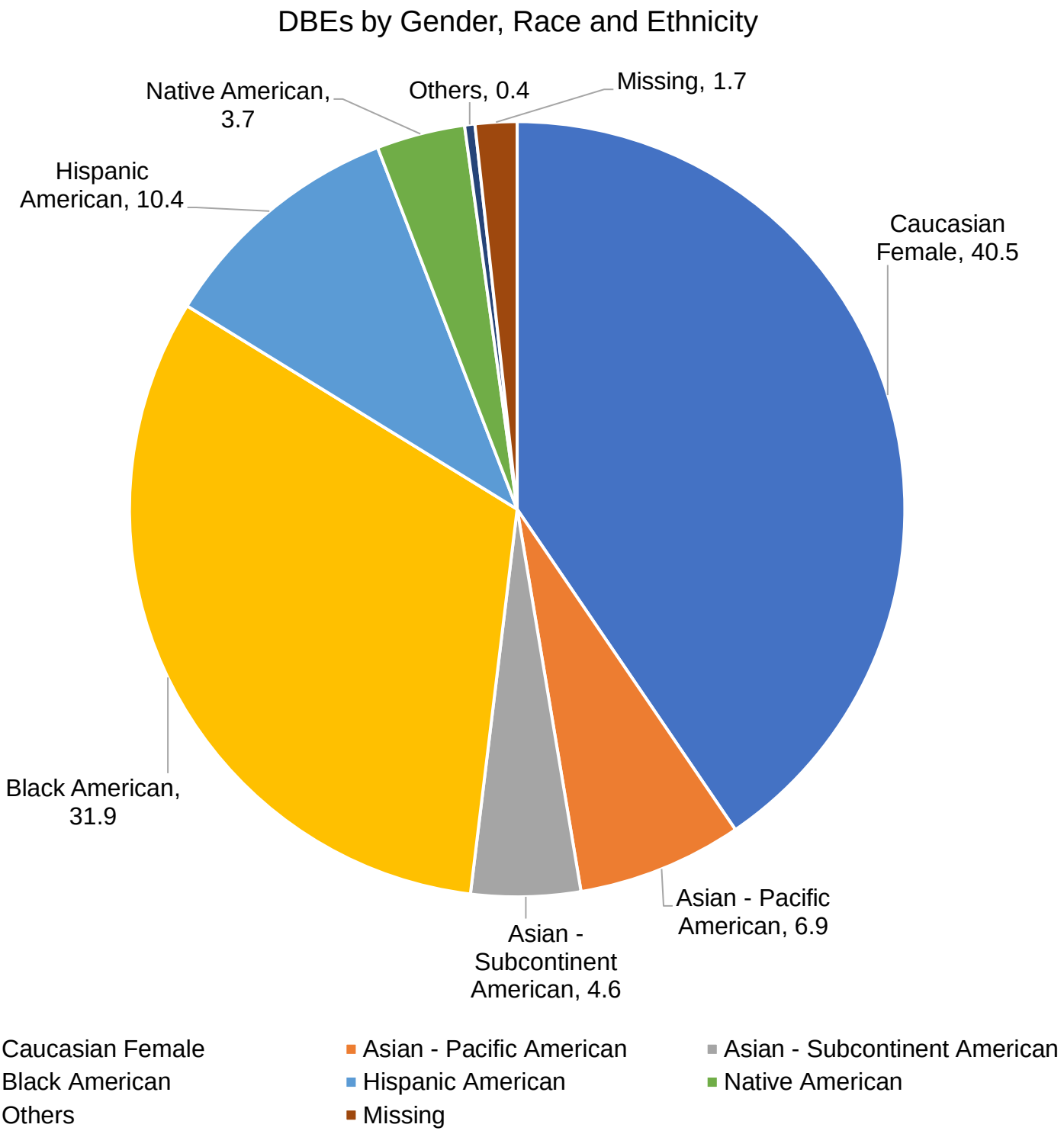


Table E.2. EPA DBE Bidders List by Race, Gender and Ethnicity

	Count	Percent
Asian -Pacific American [a]	5	6.5%
Asian -Subcontinent American [b]	2	2.6%
Black American	6	7.8%
Caucasian Female	51	66.2%
Hispanic American	9	11.7%
Native American	3	3.9%
Missing	1	1.3%
Total	77	100.0%

Note: Disadvantaged Business Enterprise (DBE) as defined by the Minnesota Unified Certification Program Document is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals. In this table, a company can appear multiple times when there are more than one owner, and the owners are socially and economically disadvantaged. The gender and ethnicity of each owner is counted accordingly. The total count therefore is larger than the number of unique companies in the directory. Three companies that are listed as solely owned by Caucasian males are dropped.

[a] "Asian-Pacific Americans," which includes 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), Republic of the Northern Marianas Islands, Samoa, Macao, Fiji, Tonga, Kirbati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong.

[b] "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.

Source: Minnesota Unified Certification Program Document, Revised Sept 1, 2016.

Figure E.2. EPA DBE Bidders List by Race, Gender and Ethnicity

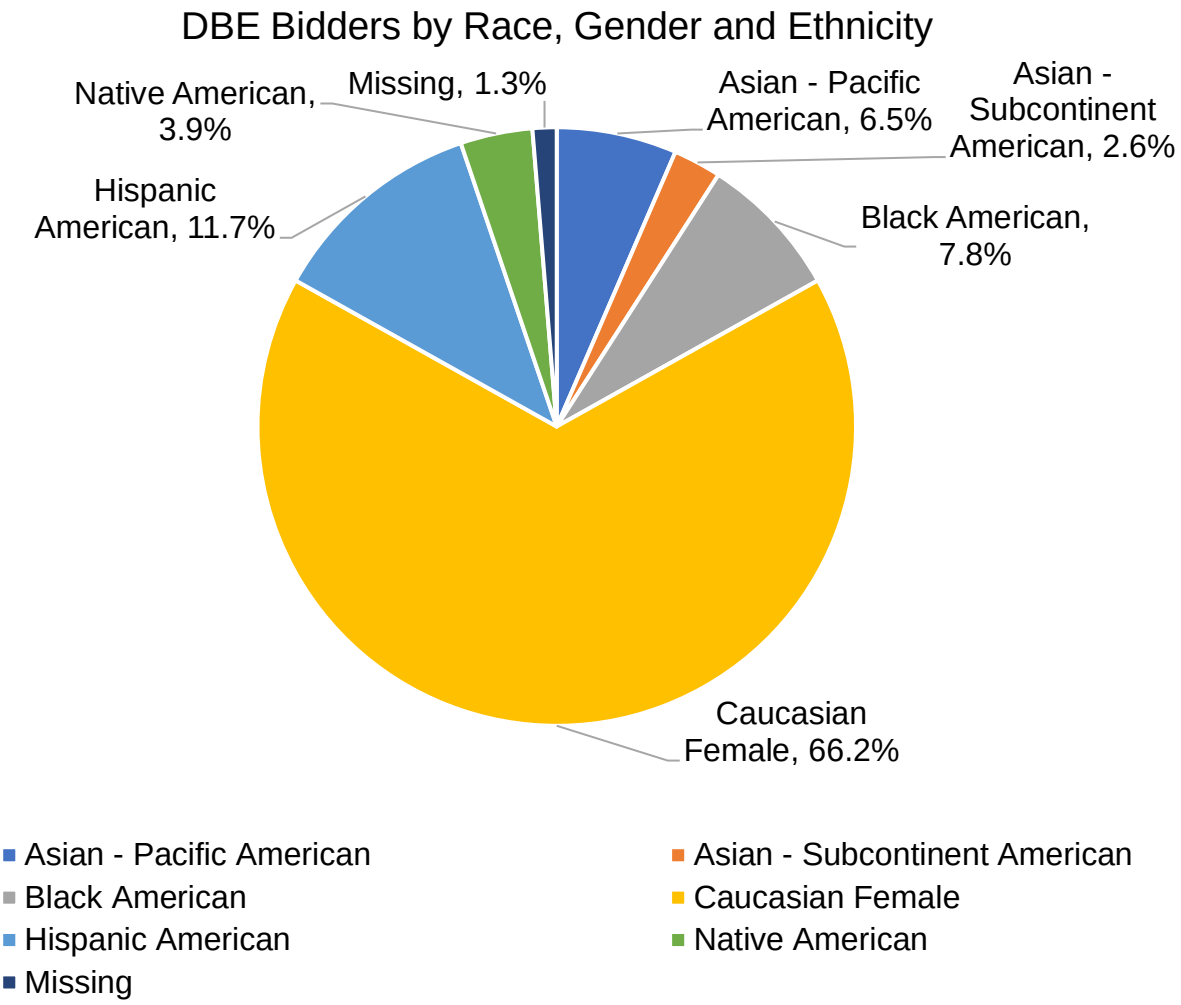


Table E.3. EPA/FTA Active DBE Vendors List by Race and Ethnicity

	Count	Percent
Asian - Pacific American [a]	18	11.4%
Asian - Subcontinent American [b]	3	1.9%
Black American	35	22.2%
Caucasian Female	73	46.2%
Hispanic American	20	12.7%
Native American	5	3.2%
Missing	4	2.5%
Total	158	100.0%

Note: Disadvantaged Business Enterprise (DBE) as defined by the Minnesota Unified Certification Program Document is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals. In this table, a company can appear multiple times when there are more than one owner, and the owners are socially and economically disadvantaged. The gender and ethnicity of each owner is counted accordingly. The total count therefore is larger than the number of unique companies in the directory. Three companies that are listed as solely owned by Caucasian males are dropped.

[a] "Asian-Pacific Americans," which includes 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), Republic of the Northern Marianas Islands, Samoa, Macao, Fiji, Tonga, Kirbati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong.

[b] "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka.

Source: Minnesota Unified Certification Program Document, Revised Sept 1, 2016.

Figure E.3. EPA/FTA Active Vendors List by Race, Gender and Ethnicity