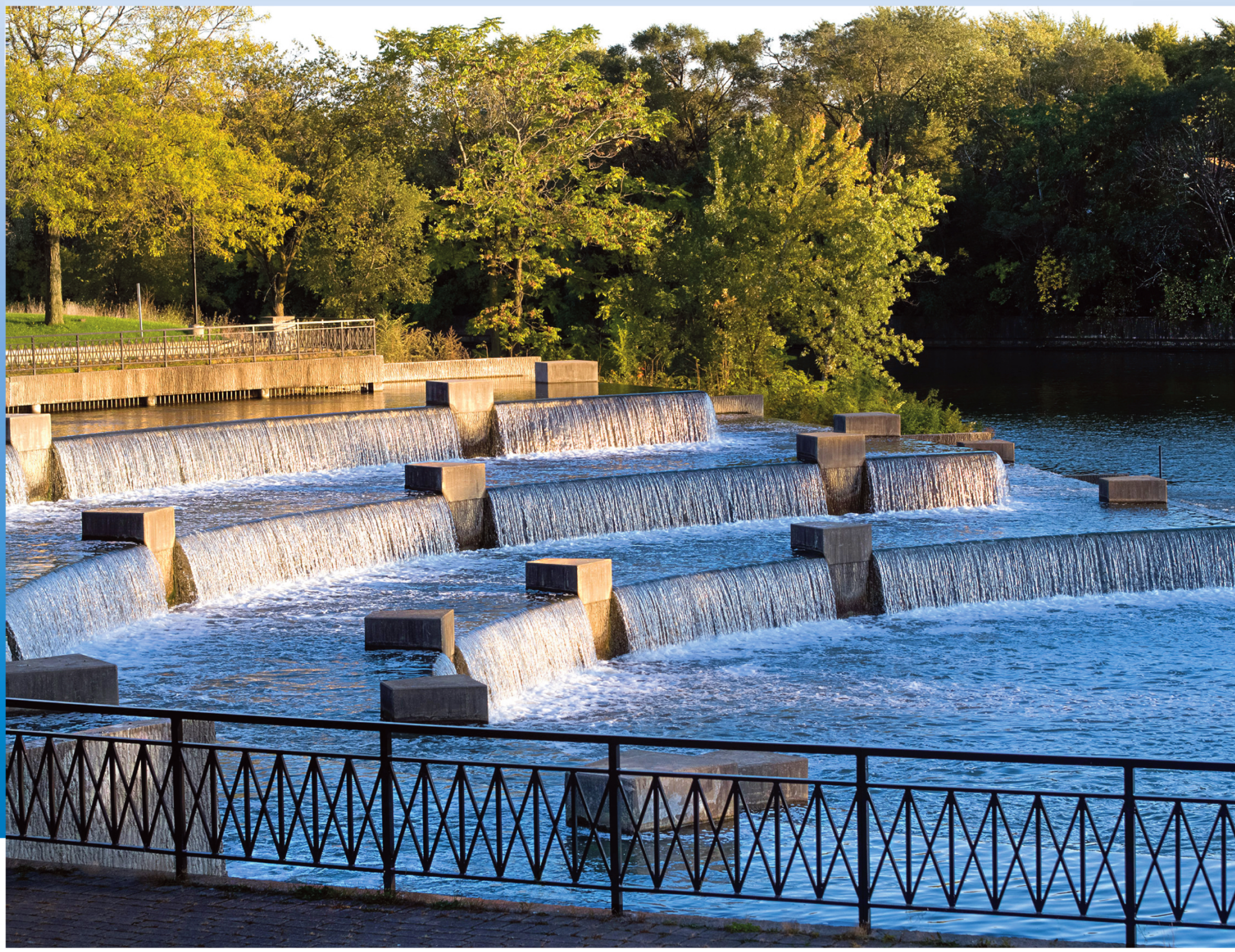
Metropolitan Water Reclamation District of Greater Chicago Disparity Study 2021



COLETTE HOLT & ASSOCIATES

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO DISPARITY STUDY

2021

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About the Study Team

Colette Holt & Associates ("CHA"). CHA is a national law and consulting firm specializing in issues related to Minority, Women, and Disadvantaged Business Enterprise programs, business diversity initiatives, and affirmative action issues. The firm has conducted court-approved disparity studies and designed court-approved programs for over 30 years, including for numerous government agencies. CHA also provides training, monitoring, and investigative services across the country to agencies and businesses. CHA is led by Colette Holt, J.D., the founding principal of Colette Holt & Associates and a nationally recognized attorney and expert. Ms. Holt is also a frequent expert witness, and a media author, on these issues. In addition to Ms. Holt, the firm consists of Steven C. Pitts, Ph. D., who serves as the team's economist and statistician; Ilene Grossman, B.S., Project Administrator; Glenn Sullivan, B.S., Director of Technology; Victoria Farrell, MBA, Director Qualitative Data Collection; and Joanne Lubart, J.D., Associate Counsel.

Sandi Llano & Associates, Inc. With more than 30 years of experience, Sandi Llano established Sandi Llano & Associates, Inc. to continue advocating for equal access to business opportunities for disadvantaged, minority- and women-owned firms. After retiring as the Disadvantaged Business Enterprise Director for Metra, Ms. Llano provides consulting services to governments and firms on compliance with contracting equity requirements, best practices for M/W/DBE programs, and representation for M/W/DBEs as their mentor and advocate.

Acknowledgments

We wish to express special appreciation to Brian Perkovich, Regina Berry, P.J. Spencer, Margaret Conway, Yatanya Thompson, and the staff at MWRD for their assistance in conducting this study.

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I. Executive Summary

Colette Holt & Associates ("CHA") was retained by the Metropolitan Water Reclamation District of Greater Chicago ("MWRD" or "District") to perform a disparity study examining its contracting Affirmative Action Program for Minority- and Woman-Owned Business Enterprises ("M/WBE or AA Program"). In this Study, we examined MWRD's utilization of M/WBEs on construction and construction-related services contracts[1] during fiscal years 2015 through 2019; the availability of these firms as a percentage of all firms in the District's geographic and industry market areas; and any disparities between the District's utilization of M/WBEs and M/WBE availability. We further analyzed disparities in the Chicago Metropolitan Area and the wider Illinois economy, where affirmative action is rarely practiced, to evaluate whether barriers continue to impede opportunities for minorities and women when remedial intervention is not imposed. We also gathered qualitative data about the experiences of minority- and woman-owned firms in obtaining MWRD contracts and associated subcontracts. Based on these findings, we evaluated the M/WBE Program for conformance with constitutional standards and national best practices for government contracting affirmative action programs.

The methodology for this study embodies the constitutional principles of *City of Richmond v. Croson*, Seventh Circuit Court of Appeals' case law and best practices for designing race- and gender-conscious and small business contracting programs. The CHA approach has been specifically upheld by the federal courts, including in Illinois. It is also the approach developed by Ms. Holt for the National Academy of Sciences that is now the recommended standard for conducting legally defensible disparity studies.

A. Summary of Strict Constitutional Standards Applicable to MWRD's Affirmative Action Program

To be effective, enforceable, and legally defensible, a race-based program for public sector contracts must meet the judicial test of constitutional "strict scrutiny". Strict scrutiny is the highest level of judicial review. The District must meet this test to ensure any race- and gender-conscious program is in legal compliance.

Strict scrutiny analysis has two prongs:

1. The government must establish its "compelling interest" in remediating race discrimination by current "strong evidence" of the persistence of

1. The AA Program covers only these contracts in these industries.

discrimination. Such evidence may consist of the entity's "passive participation" in a system of racial exclusion.

2. Any remedies adopted must be "narrowly tailored" to that discrimination; the program must be directed at the types and depth of discrimination identified.[2]

The compelling governmental interest prong has been met through two types of proof:

1. Statistical evidence of the underutilization of minority or woman firms by the agency and/or throughout the agency's geographic and industry market area compared to their availability in the market area.
2. Anecdotal evidence of race- or gender-based barriers to the full and fair participation of minority and woman firms in the market area and seeking contracts with the agency. Anecdotal data can consist of interviews, surveys, public hearings, academic literature, judicial decisions, legislative reports, and other information.

The narrow tailoring prong has been met by satisfying five factors to ensure that the remedy "fits" the evidence:

1. The necessity of relief;
2. The efficacy of race-neutral remedies at overcoming identified discrimination;
3. The flexibility and duration of the relief, including the availability of waiver provisions;
4. The relationship of numerical goals to the relevant market; and
5. The impact of the relief on the rights of third parties.

Most federal courts have subjected preferences for Woman-Owned Business Enterprises to "intermediate scrutiny". Gender-based classifications must be supported by an "exceedingly persuasive justification" and be "substantially related to the objective".[3] The quantum of evidence necessary to satisfy intermediate scrutiny is less than that required to satisfy strict scrutiny. However, appellate courts have applied strict scrutiny to the gender-based presumption of social disadvantage in reviewing the constitutionality of the Disadvantaged Business Enterprise ("DBE") program or held that the results would be the same under strict scrutiny.

Proof of the negative effects of economic factors on M/WBEs and the unequal treatment of such firms by actors critical to their success will meet strict scrutiny. Studies have been conducted to gather the statistical and anecdotal evidence necessary to support the use of race- and gender-conscious measures to combat dis-

2. *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989).
3. *Cf. United States v. Virginia*, 518 U.S. 515, 532 n.6 (1996).

crimination. These are commonly referred to as “disparity studies” because they analyze any disparities between the opportunities and experiences of minority- and woman-owned firms and their actual utilization compared to White male-owned businesses. Specific evidence of discrimination or its absence may be direct or circumstantial and should include economic factors and opportunities in the private sector affecting the success of M/WBEs. High quality studies also examine the elements of the agency’s program to determine whether it is sufficiently narrowly tailored.

B. M/WRD’s Affirmative Action Program

1. Program Elements

The District implemented an affirmative action program for construction contracts in 1978 (“Appendix D”). The M/WBE Program (“Program”) has been revised several times in the ensuring years, and now include construction-related services contracts (“Appendix A”).

a. Program Administration

Appendix D sets forth the general provisions of the Program. Appendix D establishes a District Affirmative Action Program Administrator (“Administrator”) who is responsible for implementing the Program. The Administrator reports directly to the Executive Director (“ED”). The Administrator currently manages a team of 10 diversity officers and administrative specialists who support implementation of the Program.

b. Program Eligibility

To be eligible to participate in the Program, a firm must be certified as an MBE or WBE and meet business size and personal net worth limitations. It must also be located in the market area and have registered as a vendor or submitted bids to the District. The District allows self-identification at the time of registration as a District vendor. M/WBEs state that they are minority or woman-owned and provide a copy of an acceptable certification.[4] This list is provided to bidders. At the point in which a firm is listed on the Utilization Plan, the District conducts its own verification.

4. The District recognizes minority-owned or woman-owned businesses certified by the City of Chicago; Cook County, Illinois; the Illinois United Certification Program for the U.S. Department of Transportation’s Disadvantaged Business Enterprise program; the Women’s Business Development Center of Chicago; the Chicago Minority Supplier Development Council; the U.S. Small Business Administration’s 8(A) program; and the Illinois Department of Central Management Services.

c. Race- and Gender-Neutral Measures

The District employs several race- and gender-neutral measures to promote equal contracting opportunities. These include providing information on upcoming contracts; offering training and technical assistance; holding mandatory pre-bid conferences to assist certified firms to understand the requirements of a specific project and to network with other firms; maintaining databases of interested firms; monitoring compliance with Program requirements; and developing reports for the Board of Commissioners ("BOC") and the public.

d. Contract Goal Setting Policies and Procedures

The Diversity Administrator sets the applicable goals on a contract-by-contract basis, which centers around the MWRD overall goals of 20% MBE, 10% WBE and 10% SBE participation established by the Ordinance. Goals are applied to contracts with estimated total expenditures in excess of $100,000. There must be at least three MBEs and three WBEs on the District's vendor list in the scopes of the work to be performed in order to set goals.

e. Counting MBE and WBE Participation

The District counts towards the goal, the entire amount of the portion of a contract that is performed by MBEs and WBEs by their own forces, including the cost of supplies and materials. Bidders can meet contract goals by entering into a Joint Venture partnership with MBEs and WBEs; by utilizing MBEs and WBEs as first tier subcontractors; or by direct purchase of materials from MBEs and WBEs. Only work performed by first tier MBE and WBE subcontractors is counted towards contract goals. MBEs and WBEs may not subcontract their work. If the subcontracting firm is both an MBE and WBE, the bidder can count the participation towards either the MBE goal or WBE goal, but not both. MBEs and WBEs may be counted toward achievement of an SBE goal.

The Administrator has the authority to approve requests to count materials and supplies of over 25% towards the contract goal.

Contract goal credit will only be counted if the MBE and WBE are performing a Commercially Useful Function ("CUF"). A firm performs a CUF when it fulfills, performs, manages and supervises a distinct work element of the contract. The subcontracted work must be commensurate with the payment amount.

f. Submission of Utilization Plans

For construction contracts, a signed MBE and WBE Utilization Plan is due at the time of submission of the bid. The Utilization Plan must list each MBE and WBE to be used to meet the contact goal, along with any required supplemental information. In addition, bidders must submit a copy of each MBE and WBE subcontractor's certification[5] and Letter of Intent listed in the Utilization Plan. Bidders seeking a full or partial goal reduction (waiver) must submit a Waiver Request Form, documenting Good Faith Efforts ("GFEs") to meet the goal(s). Detailed guidance on establishing GFEs is provided with the solicitation.

g. Contract Compliance

Prior to award of the contract, the Diversity Section verifies that the firms listed on the Utilization Plan meet certification requirements and that their participation is in compliance with Appendix D. In addition, the Administrator must review any Mentor-Protege relationship proposed to meet the contract goal.

After contract award, the Diversity Section is responsible for monitoring the prime contractor's compliance with the accepted Utilization Plan. The Diversity Section uses an online compliance monitoring and reporting system, as well as field visits. Prime contractors must submit monthly status reports. If the contractor fails to comply with reporting requirements, the District may withhold 50% of the current progress payment. Further progress payments may be withheld until the contractor complies with the reporting requirements.

Once a Utilization Plan is accepted as part of the contract, prime contractors cannot make any changes or substitutions of MBEs and WBEs listed without prior written approval of the Administrator. Participation of certified firms that are not listed on the Utilization Plan and did not receive prior written approval will not be counted towards the contract goal.

The Diversity Section monitors CUF through on-site interviews, inspections on vendor's premises, desk audits/investigations, and compliance reviews with vendor and District staff.

Any significant changes in M/WBE commitments must be timely and in writing. Changes without prior written approval from the Administrator constitute a breach of contract and may subject the prime contractor to sanctions.

5. Documentation showing that the subcontractor is an MBE or WBE that meets the requirements in Appendix D is sufficient at bid submission.

h. Sanctions for Non-Compliance

Sanctions for non-compliance are levied when the prime contractor or subcontractor has committed fraud or a misrepresentation or has not complied with the requirements of Appendix D or the firm's contract. The Diversity Administrator must notify the prime contractor or subcontractor in writing of the violation and may withhold up to 100% of the current progress or final payment due to the prime contractor for up to 90 days. If the violation is not corrected or cannot be resolved through conciliation, the Administrator refers the matter to the District's ED. The ED may send the matter back to the Administrator with directions or issue a "show cause" notice to the prime contractor or subcontractor. The contractor will have 15 calendar days after receiving the notice to file a response in writing. A hearing before an appointed Hearing Officer must be scheduled within 30 days of receiving the ED's request. Within 30 calendar days after the hearing, the Hearing Officer is required to issue written findings of fact, conclusions of law, and any recommended sanctions. The BOC reviews the findings and recommendations and makes the final determination whether to impose sanctions.

i. Technical Assistance, Outreach and Training

The Diversity Section and user department staff assist M/WBEs throughout the solicitation process by conducting mandatory pre-bid conferences to provide project information, explain Program requirements, and offer an opportunity to network with contractors. The District also works closely with local assist agencies to disseminate information about District contracting opportunities and requirements.

The MWRD website[6] website[6] provides access to resources to assist MBEs and WBEs, as well as prime contractors, with doing business with the District. The District has recently started posting videos of outreach presentations and roundtables with local community groups on the website.

In addition, to these resources, the District participates in a large number of events hosted by local organizations to increase awareness of M/WBE's District contracting opportunities. This includes several annual Vendor Outreach Fairs which attract vendors in the construction and consulting industries. Also, the District regularly participates in luncheons, dinners and events hosted by local assist agencies, community groups, and other local governmental agencies.

6. https://mwrd.org/affirmative-action.

j. Staff Training

Diversity Section staff regularly attend the American Contract Compliance Association's annual National Training Institute, where they receive extensive training on national best practices for M/WBE programs. They also participate in regular training on EBuilder, the District's bid management, procurement, construction operations system; training on the Prism registration, payment and reporting system; and SAP software training. In 2019, they participated in training offered by the Inspector General and the Chicago Urban League.

2. Business Owner Interviews

To explore the impacts of MWRD's Affirmative Action Program, we interviewed 74 individuals about their experiences and solicited their suggestions for changes. We also collected written comments.

Access to information about contracting opportunities: Many interviewees expressed frustration with accessing information about District contracting and procurement opportunities. Several certified firms complained that outreach events often fail to include actual contracting decision makers. A more modern procurement system was a frequent recommendation to assist small firms to have access to District contracts. Having to depend on large consulting firms to get information on District opportunities puts small businesses and M/WBEs at a competitive disadvantage. A semi-annual procurement forecast was another approach recommended to provide more information to small firms.

Access to prime contracts: A preference for longstanding incumbents hurts M/WBEs and new firms. Many M/WBE consulting firm participants in particular, felt that the District's opportunities are foreclosed to them; it was described as an "invitation only" process. Opening up opportunities to any firm that wants to submit a proposal was one suggestion to make the procurement process more inclusive. Contract size and complexity were other barriers to M/WBE and small firm participation. "Unbundling" contracts was often recommended as a means to increase inclusion. Another suggestion is to revise the current SBE program to become a small business target market initiative.

Payments: Few firms reported issues with payment by the District.

Program eligibility: The requirement for additional certification review by the District of firms already certified by a local agency was repeatedly raised as an unnecessary burden on M/WBEs. Many prime contractors echoed the concern that the additional certification requirement creates unnecessary problems. Smaller M/WBEs were reported to sometimes decline to work on a District contract because of this extra process.

Meeting contract goals: Most prime bidders and proposers were able to meet the M/WBE goals. Many prime contractors urged the District to set contract specific goals based on the availability of M/WBEs to perform the specific scopes of work of the project. While there is a GFEs process on paper, some prime contractors felt that GFEs documentation would never be approved by the District.

Counting M/WBE participation: Several prime vendors as well as M/WBEs urged the District to count second and lower tier subcontracting participation towards contract goals. Several prime contractors questioned why the District only counts dollars to M/WBEs listed on the initial compliance plan, regardless of whether the certified firms actually performed on the contracts. Prime contractors want credit for all their M/WBE spend, not only for the firms listed at the time of bid submission to meet the contract goal. The requirement to fully rewrite the Utilization Plan when a change order is issued by the District was reported to impose unnecessary burdens on the prime contractor and the M/WBE subcontractors. Firms urged the District to follow the national practice and commonly accepted local approach that counts dollars spent with certified material suppliers at 60% of the dollar value.

Supportive services and technical assistance: Supportive services and technical assistance to increase M/WBEs' ability to bid on District prime contracts was welcomed by many interviewees.

C. Utilization, Availability, and Disparity Analyses of MWRD's Construction and Construction-Related Services Contracts

This Study examined the District's construction and construction-related services contract dollars for projects for fiscal years 2015 through 2019. The Final Contract Data File ("FCDF") contained 151 prime contracts and 485 subcontracts.[7] The net dollar value of contracts to prime contractors and subcontractors was $461,583,321. The following tables present key results.

Table 1-1 presents data on the 82 NAICS codes contained in the FCDF. The third column represents the share of all contracts to firms performing work in a particular NAICS code. The fourth column presents the cumulative share of MWRD spending from the NAICS code with the largest share to the NAICS code with the smallest share.

7. North American Industry Classification System ("NAICS") codes of prime contractors and subcontractors were missing so these were assigned by CHA.

Table 1-1: Industry Percentage Distribution of MWRD Contracts by Dollars

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
237110	Water and Sewer Line and Related Structures Construction	18.3%	18.3%
237990	Other Heavy and Civil Engineering Construction	17.1%	35.4%
238220	Plumbing, Heating, and Air-Conditioning Contractors	10.8%	46.2%
238910	Site Preparation Contractors	7.5%	53.7%
238210	Electrical Contractors and Other Wiring Installation Contractors	7.3%	60.9%
484220	Specialized Freight (except Used Goods) Trucking, Local	6.6%	67.5%
237310	Highway, Street, and Bridge Construction	5.7%	73.2%
541330	Engineering Services	5.4%	78.7%
221310	Water Supply and Irrigation Systems	2.0%	80.7%
562998	All Other Miscellaneous Waste Management Services	1.9%	82.5%
237120	Oil and Gas Pipeline and Related Structures Construction	1.6%	84.2%
238990	All Other Specialty Trade Contractors	1.2%	85.4%
562991	Septic Tank and Related Services	1.0%	86.4%
238190	Other Foundation, Structure, and Building Exterior Contractors	0.8%	87.2%
238120	Structural Steel and Precast Concrete Contractors	0.8%	88.0%
238290	Other Building Equipment Contractors	0.8%	88.8%
541370	Surveying and Mapping (except Geophysical) Services	0.7%	89.5%
238160	Roofing Contractors	0.7%	90.2%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.7%	90.9%
423830	Industrial Machinery and Equipment Merchant Wholesalers	0.7%	91.6%
238320	Painting and Wall Covering Contractors	0.6%	92.2%
561730	Landscaping Services	0.6%	92.9%

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
541611	Administrative Management and General Management Consulting Services	0.5%	93.4%
221320	Sewage Treatment Facilities	0.5%	93.8%
517312	Wireless Telecommunications Carriers (except Satellite)	0.4%	94.3%
444190	Other Building Material Dealers	0.4%	94.7%
562212	Solid Waste Landfill	0.4%	95.1%
541511	Custom Computer Programming Services	0.4%	95.6%
236220	Commercial and Institutional Building Construction	0.4%	96.0%
238110	Poured Concrete Foundation and Structure Contractors	0.4%	96.4%
115112	Soil Preparation, Planting, and Cultivating	0.4%	96.7%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	0.3%	97.1%
561720	Janitorial Services	0.3%	97.4%
561990	All Other Support Services	0.2%	97.6%
562910	Remediation Services	0.2%	97.8%
562112	Hazardous Waste Collection	0.2%	98.0%
236210	Industrial Building Construction	0.2%	98.3%
562920	Materials Recovery Facilities	0.1%	98.4%
238350	Finish Carpentry Contractors	0.1%	98.5%
238140	Masonry Contractors	0.1%	98.7%
541620	Environmental Consulting Services	0.1%	98.8%
423510	Metal Service Centers and Other Metal Merchant Wholesalers	0.1%	98.9%
488210	Support Activities for Rail Transportation	0.1%	99.0%
238390	Other Building Finishing Contractors	0.1%	99.1%
541380	Testing Laboratories	0.1%	99.2%
221330	Steam and Air-Conditioning Supply	0.1%	99.2%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	0.1%	99.3%

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
541340	Drafting Services	0.1%	99.4%
423490	Other Professional Equipment and Supplies Merchant Wholesalers	0.1%	99.4%
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	0.05%	99.5%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	0.04%	99.5%
424690	Other Chemical and Allied Products Merchant Wholesalers	0.04%	99.5%
424910	Farm Supplies Merchant Wholesalers	0.04%	99.6%
423390	Other Construction Material Merchant Wholesalers	0.04%	99.6%
238330	Flooring Contractors	0.04%	99.7%
541310	Architectural Services	0.04%	99.7%
541320	Landscape Architectural Services	0.03%	99.7%
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	0.03%	99.8%
238150	Glass and Glazing Contractors	0.03%	99.8%
561410	Document Preparation Services	0.02%	99.8%
561320	Temporary Help Services	0.02%	99.8%
326199	All Other Plastics Product Manufacturing	0.02%	99.9%
811111	General Automotive Repair	0.02%	99.9%
237130	Power and Communication Line and Related Structures Construction	0.02%	99.9%
541690	Other Scientific and Technical Consulting Services	0.02%	99.9%
423840	Industrial Supplies Merchant Wholesalers	0.01%	99.9%
541922	Commercial Photography	0.01%	99.9%
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	0.01%	99.9%
238310	Drywall and Insulation Contractors	0.01%	99.9%
484210	Used Household and Office Goods Moving	0.01%	99.96%
531320	Offices of Real Estate Appraisers	0.01%	99.96%
323111	Commercial Printing (except Screen and Books)	0.01%	99.97%

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	0.01%	99.98%
518210	Data Processing, Hosting, and Related Services	0.01%	99.98%
423440	Other Commercial Equipment Merchant Wholesalers	0.005%	99.99%
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	0.004%	99.99%
541211	Offices of Certified Public Accountants	0.003%	99.99%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	0.003%	99.998%
561621	Security Systems Services (except Locksmiths)	0.001%	99.999%
541110	Offices of Lawyers	0.001%	99.9996%
541191	Title Abstract and Settlement Offices	0.0002%	99.9998%
454310	Fuel Dealers	0.0002%	100.0000%
TOTAL		**100.0%**	

Source: CHA analysis of MWRD data

To determine the geographic market area, we applied the standard of identifying the firm locations that account for at least 75% of contract and subcontract dollar payments in the FCDF.[8] Firm location was determined by ZIP code and aggregated into counties as the geographic unit. Contracts awarded to firms located in the state of Illinois accounted for 92.4% of all dollars during the study period. The six counties within the Chicago Metropolitan Area – Cook, DuPage, Kane, Lake, McHenry, and Will– captured 97.2% of the state dollars and 89.9% of the entire FCDF. Therefore, these six counties were determined to be the geographic market for MWRD, and we limited our analysis to firms in these counties.

The next step was to determine the dollar value of the District's utilization of M/WBEs as measured by payments to prime firms and subcontractors and disaggregated by race and gender.[9]

8. National Academies of Sciences, Engineering, and Medicine 2010, *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*. Washington, DC: The National Academies Press. https://doi.org/10.17226/14346 ("*National Disparity Study Guidelines*"), at p. 29.
9. For our analysis, the term "M/WBE" includes firms that are certified by government agencies and minority- and woman-owned firms that are not certified.

Table 1-2 presents the distribution of contract dollars. Chapter IV provides detailed breakdowns of these results.

Table 1-2: Distribution of MWRD Contract Dollarsby Race and Gender (share of total dollars)

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
237990	0.0%	0.0%	0.5%	0.0%	0.5%	0.0%	0.5%	99.5%	100.0%
237110	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	99.7%	100.0%
238220	15.9%	7.6%	4.1%	0.0%	27.6%	15.2%	42.8%	57.2%	100.0%
238210	10.7%	19.9%	0.0%	0.0%	30.7%	7.6%	38.3%	61.7%	100.0%
238910	0.0%	10.2%	0.0%	0.0%	10.3%	39.6%	49.9%	50.1%	100.0%
484220	3.5%	76.7%	0.2%	0.0%	80.5%	18.8%	99.2%	0.8%	100.0%
237310	49.7%	2.5%	12.8%	0.0%	65.0%	3.8%	68.8%	31.2%	100.0%
541330	3.4%	0.4%	30.7%	0.0%	34.5%	4.0%	38.6%	61.4%	100.0%
221310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
237120	0.0%	8.1%	0.0%	0.0%	8.1%	50.8%	58.8%	41.2%	100.0%
238990	0.0%	13.5%	0.0%	0.0%	13.5%	11.3%	24.8%	75.2%	100.0%
238190	0.0%	0.0%	15.0%	0.0%	15.0%	71.5%	86.5%	13.5%	100.0%
541370	9.8%	0.5%	0.0%	0.0%	10.2%	1.2%	11.5%	88.5%	100.0%
238120	0.0%	64.7%	0.0%	0.0%	64.7%	7.9%	72.5%	27.5%	100.0%
238160	22.1%	0.3%	1.0%	0.0%	23.4%	5.7%	29.0%	71.0%	100.0%
562998	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
238290	16.5%	3.4%	1.2%	0.0%	21.2%	0.4%	21.6%	78.4%	100.0%
238320	0.4%	26.1%	0.0%	0.0%	26.5%	41.7%	68.2%	31.8%	100.0%
811310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541611	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
561730	0.0%	9.6%	62.6%	0.0%	72.2%	0.0%	72.2%	27.8%	100.0%
221320	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
517312	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
444190	98.9%	0.0%	0.0%	0.0%	98.9%	0.0%	98.9%	1.1%	100.0%
562212	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
236220	19.2%	23.2%	56.4%	0.0%	98.9%	1.1%	100.0%	0.0%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
238110	0.0%	5.4%	0.0%	0.0%	5.4%	94.6%	100.0%	0.0%	100.0%
115112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424720	0.0%	32.4%	34.7%	0.0%	67.1%	31.6%	98.7%	1.3%	100.0%
561720	36.1%	0.0%	0.0%	0.0%	36.1%	0.0%	36.1%	63.9%	100.0%
541511	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423830	4.2%	0.0%	0.0%	0.0%	4.2%	0.0%	4.2%	95.8%	100.0%
561990	0.0%	3.1%	0.0%	0.0%	3.1%	68.9%	72.0%	28.0%	100.0%
562910	0.0%	42.4%	0.0%	0.0%	42.4%	0.0%	42.4%	57.6%	100.0%
236210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562920	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
238140	0.0%	0.0%	0.0%	0.0%	0.0%	89.5%	89.5%	10.5%	100.0%
541620	16.1%	0.0%	0.0%	0.0%	16.1%	59.7%	75.8%	24.2%	100.0%
423510	21.9%	0.0%	0.0%	0.0%	21.9%	63.3%	85.2%	14.8%	100.0%
238350	70.6%	0.0%	0.0%	0.0%	70.6%	1.1%	71.7%	28.3%	100.0%
238390	0.0%	37.7%	0.0%	0.0%	37.7%	0.0%	37.7%	62.3%	100.0%
541380	0.0%	1.8%	70.2%	0.0%	72.0%	24.8%	96.8%	3.2%	100.0%
221330	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
423490	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541340	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
423610	81.1%	0.0%	7.4%	0.0%	88.5%	0.0%	88.5%	11.5%	100.0%
423120	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424910	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
238330	0.0%	0.0%	0.0%	0.0%	0.0%	92.8%	92.8%	7.2%	100.0%
424690	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541310	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
541320	0.0%	23.2%	0.0%	0.0%	23.2%	17.2%	40.4%	59.6%	100.0%
423330	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
238150	0.0%	0.0%	0.0%	0.0%	0.0%	85.8%	85.8%	14.2%	100.0%
561410	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
561320	0.0%	74.9%	0.0%	0.0%	74.9%	11.0%	85.9%	14.1%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
541690	0.0%	0.0%	34.3%	0.0%	34.3%	65.7%	100.0%	0.0%	100.0%
423840	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541922	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
238310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
484210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
531320	19.2%	0.0%	0.0%	0.0%	19.2%	80.8%	100.0%	0.0%	100.0%
323111	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
518210	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
237130	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541715	85.1%	0.0%	0.0%	0.0%	85.1%	14.9%	100.0%	0.0%	100.0%
541211	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423720	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
423320	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541191	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
454310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Total	7.4%	10.0%	3.7%	0.0%	21.2%	12.4%	33.6%	66.4%	100.0%
Total	**7.4%**	**10.0%**	**3.7%**	**0.0%**	**21.2%**	**12.4%**	**33.6%**	**66.4%**	**100.0%**

Source: CHA analysis of MWRD data

Using the modified "custom census" approach to estimating availability and the further assignment of race and gender using the FCDF, the Master M/W/DBE Directory and other sources, we determined the unweighted availability of M/WBEs in the District's market area. For further explanation of the role of unweighted and weighted availability and how these are calculated, please see Appendix D of this Report.[10]

Table 1-3: Aggregated Unweighted M/WBE Availability for MWRD Contracts

Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
2.4%	1.7%	1.2%	0.1%	5.3%	6.3%	11.6%	88.4%	100.0%

Source: CHA analysis of MWRD data

10. The USDOT "Tips for Goal Setting" urges recipients to weight their headcount of firms by dollars spent. *See* Tips for Goal-Setting in the Disadvantaged Business Enterprise Program, ttps://www.transportation.gov/osdbu/disadvantaged-business-enterprise/tips-goal-setting-disadvantaged-business-enterprise.

We next determined the aggregated availability of M/WBEs, weighted by the District's spending in its geographic and industry markets. Table 1-4 presents these results. The overall, weighted M/WBE availability result can be used by M/WRD to determine its overall, aspirational MBE and WBE goals.

Table 1-4: Aggregated Weighted Availability

Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
4.4%	6.8%	3.3%	0.1%	14.5%	8.8%	23.3%	76.7%	100.0%

Source: CHA analysis of MWRD data; Hoovers; CHA Master Directory

We next calculated disparity ratios for total M/WBE utilization compared to the total weighted availability of M/WBEs, measured in dollars paid.

A *disparity ratio* is the relationship between the utilization and weighted availability, determined above. Mathematically, this is represented by:

$$DR = U/WA$$

Where DR is the disparity ratio; U is utilization rate; and WA is the weighted availability.

The courts have held that disparity results must be analyzed to determine whether the results are "significant". There are two distinct methods to measure a result's significance. First, a "large" or "substantively significant" disparity is commonly defined by courts as utilization that is equal to, or less than, 80% of the availability measure. A substantively significant disparity supports the inference that the result may be caused by the disparate impacts of discrimination.[11] Second, statistically significant disparity means that an outcome is unlikely to have occurred as the result of random chance alone. The greater the statistical significance, the smaller the probability that it resulted from random chance alone.[12] A more in-depth discussion of statistical significance is provided in Chapter IV and Appendix C to this Report.

Table 1-5 presents the calculated disparity ratios for each demographic group. The disparity ratios for three groups – Blacks, Hispanics, and MBEs as a whole– are substantively significant. The disparity ratio for White Women is statistically significant at the 0.01 level.

11. *See* U.S. Equal Employment Opportunity Commission regulation, 29 C.F.R. §1607.4(D) ("A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact.").
12. A chi-square test – examining if the utilization rate was different from the weighted availability – was used to determine the statistical significance of the disparity ratio.

Table 1-5: Disparity Ratios by Demographic Group

	Black	Hispanic	Asian	Native American	MBE	White Woman	M/WBE	Non-M/WBE
Disparity Ratio	168.0%	147.7%	114.5%	0.0%‡	145.7%**	141.1%	143.9%***	86.6%***

Source: CHA analysis of MWRD data
*** Indicates statistical significance at the 0.001 level
** Indicates statistical significance at the 0.01 level
‡ Indicates substantive significance

In summary, we found that M/WBEs were concentrated in a smaller subset of industries than non-M/WBEs. For some industries, only a few M/WBEs received contracts in contrast to non-M/WBEs. This suggests that although the District's AA Program has been quite successful in creating opportunities for minority and woman firms, these benefits have not been spread evenly across all groups or industries. We find the data as a whole support the conclusion that M/WBEs have not reached parity in all aspects of the District's contracting activities compared to non-M/WBEs.

D. Analysis of Disparities in the MWRD Marketplace

Evidence of the experiences of minority- and woman-owned firms outside of the District's M/WBE program is relevant and probative of the likely results of the agency adopting a race-neutral program, because contracting diversity programs are rarely imposed outside of specific government agencies. To examine the outcomes throughout the MWRD area economy, we explored two Census Bureau datasets and the government and academic literature relevant to how discrimination in the District's industry market and throughout the wider economy affects the ability of minorities and women to fairly and fully engage in the District's prime contract and subcontract opportunities.

We analyzed the following data and literature:

- Chicago Metropolitan Area data from the Census Bureau's American Community Survey from 2015 through 2019. This rich data set establishes with greater certainty any causal links between race, gender and economic outcomes. We employed a multiple regression statistical technique to examine the rates at which minorities and women form firms. In general, we found that even after considering potential mitigating factors, business formation rates by Blacks, Hispanics, and White women are lower compared to White males. The data indicate that non-Whites and White women receive lower wages and that Blacks and White women receive lower business earnings after controlling for possible explanatory factors. These analyses support the conclusion that barriers to business success do affect non-Whites and White women entrepreneurs.

- State of Illinois Industry Data from the Census Bureau's 2017 Annual Business Survey. This dataset indicated large disparities between M/WBE firms and non-M/WBE firms when examining the sales of all firms, the sales of employer firms (firms that employ at least one worker), and the payroll of employer firms.
- Surveys and literature on barriers to access to commercial credit and the development of human capital further establish that minorities continue to face constraints on their entrepreneurial success based on race. These constraints negatively impact the ability of firms to form, to grow, and to succeed. These results support the conclusions drawn from the anecdotal interviews and analysis of the District's contract data that M/WBEs face obstacles to achieving success on contracts outside of M/WBE programs.

All three types of evidence have been found by the federal courts in Illinois to be relevant and probative of whether a government agency will be a passive participant in overall marketplace discrimination without some type of affirmative intervention. This evidence supports the conclusion that the District should consider the use of race-conscious contract goals to ensure a level playing field for all firms.

E. Qualitative Evidence of Race and Gender Barriers in the District's Marketplace

In addition to quantitative data, anecdotal evidence of firms' marketplace experiences is relevant to evaluating whether the effects of current or past discrimination continue to impede opportunities for M/WBEs such that race-conscious contract goals are needed to ensure equal opportunities to compete for contracts. To explore this type of anecdotal evidence, we received input from 74 participants in small group business owner interviews.

Many minority and woman business owners reported that while some progress has been made in integrating their firms into public and private sector contracting activities through race- and gender-conscious contracting programs, significant barriers remain.

The following are the most common views expressed by numerous participants.

- Many minority and woman owners reported that they continue to experience negative assumptions and perceptions about their competency and capabilities. There is often a stigma to being an M/WBE.
- Some women continue to encounter sexist behaviors and attitudes.

- Moving from the subcontractor or subconsultant role to take on prime work has perils for M/WBEs.
- Access to surety bonding and working capital were especially problematic for M/WBEs.
- Most M/WBEs agreed that contract goals remain necessary to level the playing field on the basis of race or gender.

We have also provided a summary of the anecdotal data from our disparity studies for other Illinois agencies as Appendix E to this Report.

F. Recommendations for Enhancements to MWRD's Affirmative Action Program

The quantitative and qualitative data in this study provide a thorough examination of the evidence regarding the experiences of M/WBEs in the District's geographic and industry markets for construction and construction-related services contracts. As required by strict constitutional scrutiny, we analyzed evidence of the District's utilization of M/WBEs as a percentage of all firms as measured by dollars spent, as well as M/WBEs' experiences in obtaining contracts in the public and private sectors. We gathered statistical and anecdotal data to provide the agency with the evidence necessary to determine whether there is a strong basis in evidence for the continued use of race- and gender-conscious goals, and if so, how to narrowly tailor its Affirmative Action Program for M/WBEs.

MWRD has implemented an aggressive and successful program for many years. Utilization of M/WBEs has exceeded availability for most groups. This is the outcome of imposing goals, conducting outreach and enforcing requirements. The results have been exemplary.

However, evidence beyond the District's achievements strongly suggests these results reflect the effect of the Program. Outside of MWRD contracts, M/WBEs face large disparities in opportunities for public sector and private sector work in the construction and related services industries. The records and findings in the unsuccessful challenges to the programs of the City of Chicago, the Illinois Department of Transportation, and the Illinois Tollway support the conclusion that the current effects of past discrimination and ongoing bias would be barriers to District work in the absence of affirmative action remedies. As also documented in our studies for other Chicago and Illinois agencies, business owners reported instances of bias and discrimination, and that they receive little work without the use of contract goals.

Based upon these results, we make the following recommendations.

1. Augment Race- and Gender-Neutral Measures

The courts require that governments use race- and gender-neutral approaches to the maximum feasible extent to address identified discrimination. This is a critical element of narrowly tailoring the Program, so that the burden on non-M/WBEs is no more than necessary to achieve the District's remedial purposes. Increased participation by M/WBEs through race-neutral measures will also reduce the need to set M/WBE contract goals. We therefore suggest the following enhancements of MWRD's current efforts, based on the business owner interviews, the input of agency staff, and national best practices for M/WBE programs.

a. Utilize Technology to Increase Outreach and Access to Information

Many M/WBEs stated that they found it challenging to obtain information about District opportunities and contract awards, as well as to network with District decision makers. A common suggestion was for the District to harness technology to conduct business through virtual platforms.

b. Implement a Complete Electronic Contracting Data Collection, Monitoring and Notification System

A critical element of this Study and a major challenge was data collection of full and complete prime contract and associated subcontractor records. As is very common, the District did not have all the information needed for the inclusion of subcontractor payments in the analysis, especially for non-certified subcontractors. The lack of a system also makes it more difficult to monitor, enforce, and review the Program. Outreach could be more automated and convenient, and many interview participants noted that antiquated methods such as faxes burdened their ability to access information in a timely and efficient manner. We therefore recommend the District implement an electronic data collection system for the M/WBE Program with increased functionality.

c. Ensure Bidder Non-Discrimination and Fairly Priced Subcontractor Quotations

Appendix D requires contractors to adopt explicit non-discrimination contractual provisions and commit to equal opportunity measures for their subcontractors and employees. We reiterate our recommendation that the District require bidders to maintain all subcontractor quotes received on larger projects. At the District's discretion, the prices and scopes can then be compared to ensure that bidders are in fact soliciting and contracting with subcontractors on a non-discriminatory basis and that M/WBEs are not inflating quotes.

d. Focus on Enhancing Opportunities on Design Projects

M/WBEs reported that, in their experience, the process for awarding design contracts was not sufficiently transparent or inclusive. There was a common perception that District design work is by “invitation only” and that the prequalification process locks out new firms and M/WBEs. While a prequalification requirement reduces the burden on agency staff, it imposes a barrier to full participation by M/WBEs. We therefore suggest the District revise the current prequalification process for consultants.

e. Continue to Focus on Reducing Barriers to M/WBE Prime Contract Awards

The District has developed contract specifications with an eye towards “unbundling projects” into less complex scopes and lower dollar values (for example, issuing separate contracts for plant locations). It has also increased the use of Job Order Contracts, which have lower bonding, financing, and experience standards on some contracts. These efforts should continue.

We again suggest reviewing surety bonding, insurance, and experience requirements in general to ensure that they are no greater than necessary to protect MWRD’s interests. These are possible barriers to contracting by small firms that have been mentioned by the courts as areas to be considered. Steps might include reducing or eliminating insurance requirements on smaller contracts and removing the cost of the surety bonds from the calculation of lowest apparent bidder on appropriate solicitations.

f. Revise the Small Business Enterprise Program Element

The District currently sets a goal of up to 10% for participation by SBEs on construction contracts, and M/WBEs can be double counted towards the SBE goal. While this has been a race-neutral component of the Program for many years, whatever its original purpose, there is no basis for the goal and we posit that it is a major reason for the high utilization of M/WBEs since bidders almost always count the M/WBEs that they are using to meet those goals. It increases work for District staff and prime bidders while adding confusion since MWRD is the only local agency that uses this approach.

We reiterate our recommendation from the 2016 Report that the District adopt a more useful race- and gender-neutral element of its Program. An effective approach would be to set aside some smaller contracts for bidding only by SBEs as prime contractors and consultants. If implemented on a fully race- and gender-neutral basis, this is a constitutionally acceptable method to increase opportunities for all small firms. SBE set asides are especially useful for those industries that do not primarily operate on a prime vendor-subcontractor model, such as consulting services. It will reduce the need to set contract goals to ensure equal opportunities, and is an approach specifically approved by the courts. Many firms, both M/WBEs and non-M/WBEs, endorsed this recommendation.

g. Consider Partnering with Other Agencies to Implement a Small Contractor Bonding and Financing Program

Access to bonding and working capital are major barriers to the development and success of M/WBEs and small firms. Traditional underwriting standards have often excluded these businesses. We therefore again recommend that the District explore working with other local agencies on a bonding and financing program. This approach has proven to be effective in increasing M/WBEs' ability to obtain not only subcontracts but also prime contracts.

h. Develop a Mentor-Protégé Program

The District has had a Mentor-Protégé program element as part of its Ordinance for many years, whereby mentors may receive credit towards meeting M/W/SBE contract goals and protégés would receive support to increase their experience and capacities. However, there are no criteria for approval or required elements. We again suggest the District develop a program, including standards for participation, how credit will be given for utilization of the protégé, reimbursable expenses, program monitoring, and measures for program success.

i. Elevate the Affirmative Action Program to the Department Level

The Program currently reports to the Executive Director. While it is clear the District is fully committed to the objectives of the Program, the Diversity Administrator should be elevated to the position of department head to underline and support the message that this is a core value for the agency. Further, there are times when the Program's goals of diversity, equity, and inclusion may be different from those of other departments. Giving the Program the full stature and authority of a department will make it clear that equal contracting opportunity is as important as all other critical functions.

2. Continue to Implement Narrowly Tailored Race- and Gender-Conscious Measures

a. Use the Study to Set the Overall, Annual Aspirational MBE and WBE Goals

The District's program has been very successful in opening up opportunities for M/WBEs on its contracts. As reported in Chapter IV, utilization has been significantly higher than availability. When we examined whether firms were concentrated within an industry or between industries on the basis of race or gender, however, a picture emerged of unequal outcomes for M/WBEs compared to non-M/WBEs.

Further, as documented in Chapter V, when examining outcomes in the wider economy using Census Bureau data, it is clear that M/WBEs do not yet enjoy full and fair opportunities to compete for construction and construction-related services contracts. The results of numerous small business credit surveys also reveal that M/WBEs, especially Black-owned firms, suffer significant barriers to business financing. There are also race-based barriers to the development of the human capital necessary for entrepreneurial success.

Our interviews with 77 individuals about their experiences in the District's market area further buttress the conclusion that race and sex discrimination remain persistent barriers to equal contracting opportunities. Many M/WBEs reported that they still encounter barriers based on their race and/or gender and that without affirmative intervention to increase opportunities through contract goals, they will continue to be denied full and fair chances to compete.

In our judgment, the District's utilization of M/WBEs is the result of the operations of its Program, not the cessation of discrimination outside of contracting affirmative action programs. Without the use of goals, the agency may become a "passive participant" in the market failure of discrimination.

We therefore recommend that the District continue to use narrowly tailored measures. These should include using the weighted availability estimates in Table 4-9 to set its overall, annual aspirational MBE and WBE goals.

b. Use the Study to Set M/WBE Contract Goals

In addition to setting an overall, annual target, the District should use the Study's detailed unweighted availability estimates as the starting point for contract specific goals. As discussed in Chapter II of this Report, MWRD's constitutional responsibility is to ensure that goals are narrowly tailored to the specifics of the project. This methodology involves four steps:

- Weight the estimated dollar value of the scopes of the contract by six-digit NAICS codes, as determined during the process of creating the solicitation.
- Determine the unweighted availability of M/WBEs in those scopes as estimated in the study.
- Calculate a weighted goal based upon the scopes and the availability of at least three available firms in each scope.
- Adjust the resulting percentage based on current market conditions and progress towards the annual goals.

Written procedures spelling out the steps should be drafted.

This constitutionally mandated approach may result in goals that are higher or lower than the annual goals, including no goals where there are insufficient subcontracting opportunities (as is often the case with supply contracts) or an insufficient number of available firms.

We urge MWRD to bid some contracts without goals that it determines have significant opportunities for M/WBE participation, especially in light of the high participation of M/WBEs during the study period. These "control contracts" can illuminate whether certified firms are used or even solicited in the absence of goals. The development of some "unremediated markets" data, as held by the courts, will be probative of whether the M/WBE program remains needed to level the playing field for minorities and women and was important to our successful defense of IDOT's DBE program.

The District's procurement function uses National Institute of Government Purchasing ("NIGP") codes instead of the NAICS codes employed for this study. NIGP codes are too granular to permit solid statistical analysis, but if the District is wedded to continuing to use NIGP codes, a crosswalk is available to convert NIGP codes into NAICS codes so that the availability data in the study can form the basis for setting contract-specific goals.

The District should further consider providing the list of codes used to set the contract goal with the solicitation. This would provide guidance to prime firms on possible subcontracting scopes for making GFEs, as well as increase transparency about how the program operates. GFEs could be defined as, among several other elements, an adequate solicitation of firms certified in these codes. It will be necessary to stress that firms may meet the goal using firms outside of these industries and that only soliciting firms in these identified industries does not *per se* constitute making GFEs to meet the goal.

The District also enters into intergovernmental agreements with other agencies to partially fund specific projects. These agencies then procure contracts with these cost sharing funds. We recommend that, where appropriate, the District negotiate with these agencies to apply its program to the portion of the work performed with District funds. This could include eligibility, goal setting, monitoring, and reporting requirements. We note that smaller agencies may lack the administrative resources to execute this complex program and so the District may need to consider taking over the implementation function. Further, we recognize that this Report does not provide a basis for applying race- and gender-conscious measures to the funds of other agencies and therefore express no opinion about the legal basis for another entity's application of the District's Program.

c. Continue to Apply Narrowly Tailored Eligibility Standards

The Affirmative Action Ordinance adopted a personal net worth test and size standards for certification. These requirements should be continued.

Many business owners, both M/WBEs and non-M/WBEs, urged the District to revise its approach to certification. The requirement for a second verification process and review for firms already certified by other government agencies was reported to be burdensome, unnecessary, and sometimes a barrier to certified, legitimate firms performing on MWRD contracts. It also has led to delays in starting work on projects while already certified firms go through this additional review. While this has been a unique feature of the District's Program since its early days, current certification processes for Chicago area governments have obviated concerns about whether firms certified by those agencies are legitimate M/WBEs. Staff and business owner resources can be better deployed elsewhere.

We therefore recommend that the District accept, without additional verification, the following governmental certifications because they apply the narrowly tailored eligibility standards that the federal courts require:

- City of Chicago Minority- or Woman-Owned Business Enterprise.
- Cook County Minority- or Woman-Owned Business Enterprise.
- Illinois Unified Certification Program for the U.S. Department of Transportation Disadvantaged Business Enterprise program.[13]

13. The members of the Illinois Unified Certification Program are the Illinois Department of Transportation; the City of Chicago; the Chicago Transit Authority; Metra; and Pace Bus.

- U.S. Small Business Administration 8(a) program.

d. Revise the Rules for Counting M/WBE Participation Towards Contract Goals

We recommend that the District count second and lower tier M/WBE participation. Several general contractors noted that this highly unusual limitation of counting for goal credit only first tier subcontractors and suppliers makes it more difficult for them to meet goals. It may also deprive some M/WBEs of the chance to work on District projects in smaller scopes that are not bid directly to the prime contractor. A comprehensive data collection system will permit such utilization to be tracked appropriately.

Next, we suggest adopting the approach of the USDOT DBE program and the City of Chicago that supplier participation be credited at 60%, not the current 25% ceiling. This is the lowest level, of which we are aware anywhere in the country and may be so low as to effectively reduce any incentive to utilize M/WBE suppliers.

Further, we urge the District to allow M/WBEs to subcontract work, so long as such subcontracting is within standard industry practices. Limiting the performance of minorities and women on a contract reduces their opportunities for growth and development, imposes a requirement not placed on non-M/WBEs, and forces them to behave in a fashion that is outside of the way the rest of the world does business. The national best practice is to count all dollars spent with M/WBEs and "back out" dollars they subcontract to non-M/WBEs. Again, a comprehensive data collection system will be able to capture actual M/WBE spend.

Finally, all dollars paid to M/WBEs should be credited towards contract goals, regardless of when the certified firm was added to the project. Again, it is highly unusual to limit credit to only firms on the original compliance plan. Counting all dollars will incentivize prime contractors to use additional M/WBEs beyond those listed at bid or proposal submission time.

e. Review and Revise Program Administration Documents

Both District staff and prime contractors suggested that the waiver policy be more specific in the solicitations and more widely disseminated. This type of flexibility is critical to a determination that the program remains narrowly tailored. Moreover, to the extent prime vendors believe GFEs documentation will not be accepted, it may reduce the number of bids or proposals submitted, thereby reducing competition for District work. It is important to make it clear that a bidder's legitimate GFEs documentation will be approved.

Finally, we suggest a thorough review of current documents and forms. Several items have not been revised in many years and are in need of clarification; some still require notarization. Fillable PDFs and online submissions will assist everyone to comply with the program. Requiring the use of NAICS codes on utilization plans will assist with tracking, goal setting, and future disparity studies.

3. Develop Performance Measures for Program Success

MWRD should develop quantitative performance measures for M/WBEs and the overall success of the Program to evaluate its effectiveness in reducing the systemic barriers identified in this Report. In addition to meeting the overall, annual goals, possible benchmarks might be:

- The number of bids or proposals, the industry and the dollar amount of the awards, and the goal shortfall, where the bidder was unable to meet the goals and submitted GFEs to do so.
- The number, dollar amount, and the industry code of bids or proposals rejected as non-responsive for failure to make GFEs to meet the goal.
- The number, industry, and dollar amount of M/WBE substitutions during contract performance.
- Increased bidding by certified firms as prime vendors.
- Increased prime contract awards to certified firms.
- Increased "capacity" of certified firms, as measured by bonding limits, size of jobs, profitability, complexity of work, etc.
- Increased variety in the industries in which M/WBEs are awarded prime contracts and subcontracts.

4. Continue to Conduct Regular Program Reviews

MWRD adopted a sunset date for the current Ordinance, and we suggest this approach be continued. Data should be reviewed approximately every five to six years, to evaluate whether race- and gender-based barriers have been reduced such that affirmative efforts are no longer needed, and if such measures are necessary, to ensure that they remain narrowly tailored.

II. Legal Standards for Local Government Contracting Equity Programs

A. Summary of Constitutional Equal Protection Standards

To be effective, enforceable, and legally defensible, a race-based affirmative action program for public sector contracts, regardless of funding source, must meet the judicial test of constitutional "strict scrutiny".[14] Strict scrutiny constitutes the highest level of judicial review.[15] The strict scrutiny analysis is comprised of two prongs or elements:

1. The government must establish its "compelling interest" in remediating race discrimination by current "strong evidence" of the persistence of discrimination. Such evidence may consist of the entity's "passive participation" in a system of racial exclusion.
2. Any remedies adopted must be "narrowly tailored" to that discrimination; the program must be directed at the types and depth of discrimination identified.[16]

The compelling governmental interest prong has been met through two types of proof:

1. Quantitative evidence of the underutilization of minority- or woman-owned firms by the agency and/or throughout the agency's geographic and industry market area as compared to their availability in the market area.
2. Qualitative evidence of race- or gender-based barriers to the full and fair participation of minority- and woman-owned firms in the market area or in seeking contracts with the agency.[17,18] Anecdotal data can consist of

14. *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989).
15. Strict scrutiny is used by courts to evaluate governmental action that classifies persons on a "suspect" basis, such as race. It is also used in actions purported to infringe upon fundamental rights. Legal scholars frequently note that strict scrutiny constitutes the most rigorous form of judicial review. *See, for example*, Richard H. Fallon, Jr., *Strict Judicial Scrutiny*, 54 UCLA Law Review 1267, 1273 (2007).
16. *Croson*, 488 U.S. at 510.
17. *Id*. at 509.

interviews, surveys, public hearings, academic literature, judicial decisions, legislative reports, and other information.

The narrow tailoring prong has been met by satisfying the following five factors to ensure that the remedy "fits" the evidence upon which the agency relies:

1. The necessity of relief;[19]
2. The efficacy of race-neutral remedies at overcoming identified discrimination;[20]
3. The flexibility and duration of the relief, including the availability of waiver provisions;[21]
4. The relationship of numerical goals to the relevant labor market;[22] and
5. The impact of the relief on the rights of third parties.[23]

In *Adarand Constructors, Inc. v. Peña*,[24] the United States Supreme Court extended the analysis of strict scrutiny to race-based federal enactments such as the United States Department of Transportation ("USDOT") federal Disadvantaged Business Enterprise ("DBE") program for federally assisted transportation contracts.[25] Just as in the local government context, the national legislature must have a compelling governmental interest for the use of race-conscious programs adopted by state and local governments, and the remedies adopted must be narrowly tailored to that evidence.[26]

Most federal courts, including the Seventh Circuit,[27] have subjected preferences for Woman-Owned Business Enterprises ("WBEs") to "intermediate scrutiny".[28]

18. For the MWRD Study Update, CHA has included the qualitative or anecdotal evidence collected for our Chicago area and Illinois studies.
19. *Id*. at 507; *Adarand Constructors, Inc. v. Pena*, 515 U.S. 200, 237-238 (1995) ("*Adarand III*").
20. *United States v. Paradise*, 480 U.S. 149, 171 (1987).
21. *Id*.
22. *Id*.
23. *Croson*, 488 U.S. at 506.
24. *Adarand III*, 515 U.S. at 200.
25. The federal DBE Program regulation is set forth in 49 Code of Federal Regulations Part 26 and Part 23. Part 26 addresses participation by DBEs in United States Department of Transportation Financial Assistance Programs. Part 23 deals with participation of DBEs in airport concessions.
26. *See, for example, Croson*, 488 U.S. at 492-493; *Adarand III*, 515 U.S. 200, 227; *see generally Fisher v. University of Texas*, 133 S. Ct. 2411 (2013).
27. *W.H. Scott Construction Co., Inc., v. City of Jackson, Mississippi*, 199 F.3d 206, 215 n.9 (5th Cir. 1999).
28. *See, e.g., Associated Utility Contractors of Maryland v. Mayor of Baltimore*, 83 F. Supp. 2d 613, 620 (D. Md. 2000); *Scott*, 199 F.3d at 206, 215, *Engineering Contractors Association of South Florida, Inc. v. Metropolitan Dade County*, 122 F.3d 895 (11th Cir. 1997) ("*Engineering Contractors II*"); *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1519 (10th Cir. 1994) ("*Concrete Works II*"); *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 6 F.3d 990, 1009-1011 (3rd Cir. 1993) ("*Philadelphia II*"); *Coral Construction Co. v. King County, Washington*, 941 F.2d 910, 930-931 (9th Cir. 1991).

Gender-based classifications must be supported by an “exceedingly persuasive justification” and be “substantially related to the objective”.[29] The quantum of evidence necessary to satisfy intermediate scrutiny is less than that required to satisfy strict scrutiny. However, appellate courts have applied strict scrutiny to the gender-based presumption of social disadvantage in reviewing the constitutionality of the DBE program[30] or held that the results would be the same under strict scrutiny.[31]

Classifications not based upon a suspect class (race, ethnicity, religion, national origin, or gender) are subject to the lesser standard of review referred to as “rational basis scrutiny”.[32] The courts have held there are no equal protection implications under the Fourteenth Amendment of the United States Constitution for groups not subject to systemic discrimination.[33] In contrast to both strict scrutiny and intermediate scrutiny, rational basis means the governmental action or statutory classification must be “rationally related” to a “legitimate” government interest.[34] Thus, preferences for persons with disabilities or veteran status may be enacted with vastly less evidence than that required for race- or gender-based measures to combat historic discrimination.[35]

Unlike most legal challenges, the defendant bears the initial burden of producing “strong evidence” in support of its race-conscious program.[36] As held by the Seventh Circuit,[37] the plaintiff must then proffer evidence to rebut the government’s case, and bears the ultimate burden of production and persuasion that the affirmative action program is unconstitutional.[38] “[W]hen the proponent of an affirmative action plan produces sufficient evidence to support an inference of discrimination, the plaintiff must rebut that inference in order to prevail.”[39]

29. *Cf. United States v. Virginia*, 518 U.S. 515, 532 n.6 (1996).
30. *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 720 (7th Cir. 2007), *cert. denied*, 15-1827, June 26, 2017 (“*Northern Contracting III*”).
31. *Western States Paving Co., Inc. v. Washington State Department of Transportation*, 407 F.3d 983 (9th Cir. 2005), *cert. denied*, 546 U.S. 1170 (2006).
32. *See generally, Coral Construction Co v. King County*, 941 F. 2d 910 (9th Cir. 1991); *Equal. Found. v. City of Cincinnati*, 128 F. 3d 289 (6th Cir. 1997).
33. *United States v. Carolene Products Co.*, 304 U.S. 144 (1938).
34. *Heller v. Doe*, 509 U.S. 312, 320 (1993).
35. The standard applicable to status based on sexual orientation or gender identity has not yet been clarified by the courts.
36. *Aiken v. City of Memphis*, 37 F.3d 1155, 1162 (6th Cir. 1994).
37. *See generally Dunnett Bay Construction Company v. Borggren*, 799 F. 3d 676, 2015 WL 4934560 at **18-22 (7th Cir. 2015).
38. *Scott*, 199 F.3d at 219; *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1166 (10th Cir. 2000), 532 U.S. 941, *cert. granted then dismissed as improvidently granted,* 534 U.S. 103 (2001) (“*Adarand VII*”).
39. *Engineering Contractors II*, 122 F.3d at 916.

A plaintiff "cannot meet its burden of proof through conjecture and unsupported criticism of [the government's] evidence."[40] To successfully rebut the government's evidence, a plaintiff must introduce "credible, particularized evidence" that rebuts the government's showing of a strong basis in evidence.[41] For example, in the challenge to the Minnesota and Nebraska DBE programs, "plaintiffs presented evidence that the data was susceptible to multiple interpretations, but they failed to present affirmative evidence that no remedial action was necessary because minority-owned small businesses enjoy non-discriminatory access to, and participation in, federally assisted highway contracts. Therefore, they failed to meet their ultimate burden to prove that the DBE program is unconstitutional on this ground."[42] When the statistical information is sufficient to support the inference of discrimination, the plaintiff must prove that the statistics are flawed.[43] A plaintiff cannot rest upon general criticisms of studies or other related evidence; it must meet its burden that the government's proof is inadequate to meet strict scrutiny, rendering the legislation or government program illegal.[44]

To meet strict scrutiny, studies have been conducted to gather the statistical and anecdotal evidence necessary to support the use of race- and gender-conscious measures to combat discrimination. These are commonly referred to as "disparity studies" because they analyze any disparities between the opportunities and experiences of minority- and woman-owned firms and their actual utilization compared to White male-owned businesses. More rigorous studies also examine the elements of the agency's program to determine whether it is sufficiently narrowly tailored. The following is a detailed discussion of the legal parameters and the requirements for conducting studies to support legally defensible programs.

B. Elements of Strict Scrutiny

In its decision in *City of Richmond v. J.A. Croson Co.*, the United States Supreme Court established the constitutional contours of permissible race-based public contracting programs. Reversing long established Equal Protection jurisprudence,[45] the Court, for the first time, extended the highest level of judicial exam-

40. *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 989 (10th Cir. 2003), *cert. denied*, 540 U.S. 1027 (2003) (10th Cir. 2003) ("*Concrete Works IV*").

41. *H.B. Rowe Co., Inc. v. Tippett*, 615 F.3d 233 (4th Cir. 2010); *Midwest Fence Corp. v. U.S. Department of Transportation, Illinois Department of Transportation, Illinois State Toll Highway Authority*, 84 F. Supp. 3d 705 (N.D. Ill. 2015) ("*Midwest Fence I*"), *affirmed*, 840 F.3d 932 (7th Cir. 2016) ("*Midwest Fence II*").

42. *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation*, 345 F.3d. 964, 970 (8th Cir. 2003), *cert. denied*, 541 U.S. 1041 (2004).

43. *Coral Construction*, 941 F. 2d at 921; *Engineering Contractors II*, 122 F.3d at 916.

44. *Adarand VII*, 228 F.3d at 1166; *Engineering Contractors II*, 122 F.3d at 916; *Concrete Works II*, 36 F.3d at 1513, 1522-1523; *Webster v. Fulton County, Georgia*, 51 F.Supp.2d 1354, 1364 (N.D. Ga. 1999), *aff'd per curiam*, 218 F. 3d 1267 (11th Cir. 2000); *see also Wygant v. Jackson Board of Education*, 476 U.S. 267, 277-278 (1986).

ination from measures designed to limit the rights and opportunities of minorities to legislation that inures to the benefit of these victims of historic, invidious discrimination. Strict scrutiny requires that a government entity prove both its "compelling governmental interest" in remediating identified discrimination based upon "strong evidence"[46] and that the measures adopted to remedy that discrimination are "narrowly tailored" to that evidence. However benign the government's motive, race is always so suspect a classification that its use must pass the highest constitutional test of "strict scrutiny". Many programs fail to meet the "compelling governmental interest" requirement, the "narrow tailoring" requirement, or both.

The Court struck down the City of Richmond's Minority Business Enterprise Plan ("Plan") because it failed to satisfy the strict scrutiny analysis applied to "race-based" government programs. The City's "set-aside" Plan required prime contractors awarded City construction contracts to subcontract at least 30% of the project to Minority-Owned Business Enterprises ("MBEs").[47] A business located anywhere in the nation was eligible to participate so long as it was at least 51% owned and controlled by minority citizens or lawfully-admitted permanent residents.

The Plan was adopted following a public hearing during which no direct evidence was presented that the City had discriminated on the basis of race in contracts or that its prime contractors had discriminated against minority subcontractors. The only evidence before the City Council was: (a) Richmond's population was 50% Black, yet less than one percent of its prime construction contracts had been awarded to minority businesses; (b) local contractors' associations were virtually all White; (c) the City Attorney's opinion that the Plan was constitutional; and (d) generalized statements describing widespread racial discrimination in the local, Virginia, and national construction industries.

In affirming the Court of Appeals' determination that the Plan was unconstitutional, Justice Sandra Day O'Connor's plurality opinion rejected the extreme positions that local governments either have *carte blanche* to enact race-based legislation or must prove their own active participation in discrimination:

> [A] state or local subdivision…has the authority to eradicate the effects of private discrimination within its own legislative jurisdiction…. [Richmond] can use its spending powers to remedy private discrimination, if it identifies that discrimination with the particularity required by the Fourteenth Amendment…[I]f the City could show that

45. U.S. Const. Amend. XIV, §1.
46. There is no precise mathematical formula to assess what rises to the level of "strong evidence". However, statistical evidence of discrimination constitutes a primary method used to determine whether strong evidence exists to adopt a program to remediate that discrimination.
47. The City described its Plan as remedial. It was enacted to promote greater participation by minority business enterprises in public construction projects.

> it had essentially become a "passive participant" in a system of racial exclusion …[it] could take affirmative steps to dismantle such a system.[48]

Strict scrutiny of race-based remedies is required to determine whether racial classifications are in fact motivated by notions of racial inferiority or blatant racial politics. This highest level of judicial review "smokes out" illegitimate uses of race by ensuring that the legislative body is pursuing an important enough goal to warrant use of a highly suspect tool.[49] It also ensures that the means chosen "fit" this compelling goal so closely that there is little or no likelihood that the motive for the classification was illegitimate racial prejudice or stereotype. The Court made clear that strict scrutiny is designed to expose racial stigma; racial classifications are said to create racial hostility if they are based on notions of racial inferiority.

Richmond's evidence was found to be lacking in every respect.[50] The City could not rely upon the disparity between its utilization of MBE prime contractors and Richmond's minority population because not all minority persons would be qualified to perform construction projects; general population representation is irrelevant. No data were presented about the availability of MBEs in either the relevant market area or their utilization as subcontractors on City projects.

According to Justice O'Connor, the extremely low MBE membership in local contractors' associations could be explained by "societal" discrimination or perhaps Blacks' lack of interest in participating as business owners in the construction industry. To be relevant, the City would have to demonstrate statistical disparities between eligible MBEs and actual membership in trade or professional groups. Further, Richmond presented no evidence concerning enforcement of its own anti-discrimination ordinance. Finally, the City could not rely upon Congress' determination that there has been nationwide discrimination in the construction industry. Congress recognized that the scope of the problem varies from market to market, and, in any event, it was exercising its powers under Section Five of the Fourteenth Amendment. Local governments are further constrained by the Amendment's Equal Protection Clause.

> In the case at hand, the City has not ascertained how many minority enterprises are present in the local construction market nor the level of their participation in City construction projects. The City points to no evidence that qualified minority contractors have been passed over for City contracts or subcontracts, either as a group or in any individual

48. 488 U.S. at 491-92.
49. *See also Grutter v. Bollinger*, 539 U.S. 306, 327 (2003) ("Not every decision influenced by race is equally objectionable, and strict scrutiny is designed to provide a framework for carefully examining the importance and the sincerity of the reasons advanced by the governmental decisionmaker for the use of race in that particular context.").
50. The City cited past discrimination and its desire to increase minority business participation in construction projects as the factors giving rise to the Plan.

> case. Under such circumstances, it is simply impossible to say that the City has demonstrated "a strong basis in evidence for its conclusion that remedial action was necessary."[51]

This analysis was applied only to Blacks. The Court emphasized that there was "absolutely no evidence" of discrimination against other minorities. "The random inclusion of racial groups that, as a practical matter, may have never suffered from discrimination in the construction industry in Richmond, suggests that perhaps the City's purpose was not in fact to remedy past discrimination."[52]

Having found that Richmond had not presented evidence in support of its compelling interest in remediating discrimination—the first prong of strict scrutiny—the Court made two observations about the narrowness of the remedy–the second prong of strict scrutiny. First, Richmond had not considered race-neutral means to increase MBE participation. Second, the 30% quota had no basis in evidence, and was applied regardless of whether the individual MBE had suffered discrimination.[53] The Court noted that the City "does not even know how many MBEs in the relevant market are qualified to undertake prime or subcontracting work in public construction projects."[54]

Recognizing that her opinion might be misconstrued to eliminate all race-conscious contracting efforts, Justice O'Connor closed with these admonitions:

> Nothing we say today precludes a state or local entity from taking action to rectify the effects of identified discrimination within its jurisdiction. If the City of Richmond had evidence before it that non-minority contractors were systematically excluding minority businesses from subcontracting opportunities, it could take action to end the discriminatory exclusion. Where there is a significant statistical disparity between the number of qualified minority contractors willing and able to perform a particular service and the number of such contractors actually engaged by the locality or the locality's prime contractors, an inference of discriminatory exclusion could arise. Under such circumstances, the City could act to dismantle the closed business system by taking appropriate measures against those who discriminate based on race or other illegitimate criteria. In the extreme case, some form of narrowly tailored racial preference might be necessary to break down patterns of deliberate exclusion... Moreover, evidence of a pattern of individual discriminatory acts can, if supported by

51. *Croson*, 488 U.S. at 510.
52. *Id*.
53. *See Grutter*, 529 U.S. at 336-337 (quotas are not permitted; race must be used in a flexible, non-mechanical way).
54. *Croson*, 488 U.S. at 502.

> appropriate statistical proof, lend support to a local government's determination that broader remedial relief is justified.[55]

While much has been written about *Croson*, it is worth stressing what evidence was, and was not, before the Court. First, Richmond presented *no* evidence regarding the availability of MBEs to perform as prime contractors or subcontractors and *no* evidence of the utilization of minority-owned subcontractors on City contracts.[56] Nor did Richmond attempt to link the remedy it imposed to any evidence specific to the program; it used the general population of the City rather than any measure of business availability.

Some commentators have taken this dearth of any particularized proof and argued that only the most particularized proof can suffice in all cases. They leap from the Court's rejection of Richmond's reliance on only the percentage of Blacks in the City's population to a requirement that only firms that bid or have the "capacity" or "willingness" to bid on a particular contract at a particular time can be considered in determining whether discrimination against Black businesses infects the local economy.[57]

This argument has been rejected explicitly by some courts. In denying the plaintiff's summary judgment motion to enjoin the City of New York's Minority- and Woman-Owned Business Enterprise ("M/WBE") construction ordinance, the court stated:

> [I]t is important to remember what the *Croson* plurality opinion did and did not decide. The Richmond program, which the *Croson* Court struck down, was insufficient because it was based on a comparison of the minority population in its entirety in Richmond, Virginia (50%) with the number of contracts awarded to minority businesses (0.67%). There were no statistics presented regarding the number of minority-owned contractors in the Richmond area, *Croson*, 488 U.S. at 499, and the Supreme Court was concerned with the gross generality of the statistics used in justifying the Richmond program. There is no indication that the statistical analysis performed by [the consultant] in the present case, which does contain statistics regarding minority contractors in New York City, is not sufficient as a matter of law under *Croson*.[58]

55. *Id*. at 509 (citations omitted).
56. *Id*. at 502.
57. *See, for example, Northern Contracting III*, 473 F.3d at 723.
58. *North Shore Concrete and Associates, Inc. v. City of New York*, 1998 U.S. Dist. Lexis 6785, *28-29 (E.D. N.Y. 1998); *see also Harrison & Burrowes Bridge Constructors, Inc. v. Cuomo*, 981 F.2d 50, 61-62 (2nd Cir. 1992) ("Croson made only broad pronouncements concerning the findings necessary to support a state's affirmative action plan"); *cf. Concrete Works II*, 36 F.3d at 1528 (City may rely on "data reflecting the number of MBEs and WBEs in the marketplace to defeat the challenger's summary judgment motion").

Further, Richmond made no attempt to narrowly tailor a goal for the procurement at issue that reflected the reality of the project. Arbitrary quotas, and the unyielding application of those quotas, did not support the stated objective of ensuring equal access to City contracting opportunities. The *Croson* Court said nothing about the constitutionality of flexible goals based upon the availability of MBEs to perform the scopes of the contract in the government's local market area. In contrast, the USDOT DBE program avoids these pitfalls. The federal DBE program "provides for a flexible system of contracting goals that contrasts sharply with the rigid quotas invalidated in *Croson*."[59]

While strict scrutiny is designed to require clear articulation of the evidentiary basis for race-based decision-making and careful adoption of remedies to address discrimination, it is not, as Justice O'Connor stressed, an impossible test that no proof can meet. Strict scrutiny need not be "fatal in fact".

C. Establishing a "Strong Basis in Evidence" for MWRD's Program for Minority- and Woman-Owned Construction Businesses

The case law on the DBE program should guide the MWRD's program for locally funded contracts. Whether the program is called an M/WBE program or a DBE program or any other moniker, the strict scrutiny test applies. As discussed, 49 C.F.R. Part 26 has been upheld by every court, and local programs for M/WBEs will be judged against this legal framework.[60] As previously noted, programs for veterans, persons with disabilities, preferences based on geographic location or truly race- and gender-neutral small business efforts are not subject to strict scrutiny but rather the lower level of scrutiny called "rational basis". Therefore, no evidence comparable to that in a disparity study is needed to enact such initiatives.

It is well established that disparities between an agency's utilization of M/WBEs and their availability in the relevant marketplace provide a sufficient basis for the consideration of race- or gender-conscious remedies. Proof of the disparate impacts of economic factors on M/WBEs and the disparate treatment of such firms by actors critical to their success is relevant and probative under the strict scrutiny standard. Discrimination must be shown using sound statistics and econometric models to examine the effects of systems or markets on different groups, as well as by evidence of personal experiences with discriminatory conduct, policies, or systems.[61] Specific evidence of discrimination or its absence may be direct

59. *Western States Paving*, 407 F.3d at 994.
60. *Midwest Fence II*, 840 F.3d. at 953.
61. *Adarand VII*, 228 F.3d at 1166 ("statistical and anecdotal evidence are appropriate").

or circumstantial and should include economic factors and opportunities in the private sector affecting the success of M/WBEs.[62]

Croson's admonition that "mere societal" discrimination is not enough to meet strict scrutiny is met where the government presents evidence of discrimination in the industry targeted by the program. "If such evidence is presented, it is immaterial for constitutional purposes whether the industry discrimination springs from widespread discriminatory attitudes shared by society or is the product of policies, practices, and attitudes unique to the industry... The genesis of the identified discrimination is irrelevant." There is no requirement to "show the existence of specific discriminatory policies and that those policies were more than a reflection of societal discrimination."[63]

MWRD need not prove that it is itself guilty of discrimination to meet its burden. In upholding Denver's M/WBE construction program, the court stated that Denver can show its compelling interest by "evidence of private discrimination in the local construction industry coupled with evidence that it has become a passive participant in that discrimination...[by] linking its spending practices to the private discrimination."[64] Denver further linked its award of public dollars to discriminatory conduct through the testimony of M/WBEs that identified general contractors who used them on City projects with M/WBE goals but refused to use them on private projects without goals.

The following are the evidentiary elements courts will examine in determining the constitutional validity of MWRD's race- and gender-conscious program and the steps in performing a disparity study necessary to meet those elements.

1. Define MWRD's Market Area

The first step is to determine the relevant geographic market area in which MWRD operates. *Croson* states that a state or local government may only remedy discrimination within its own contracting market area. The City of Richmond was specifically faulted for including minority contractors from across the country in its program, based on national data considered by Congress.[65] MWRD must therefore empirically establish the geographic and product dimensions of its contracting and procurement market area to ensure that the program meets strict scrutiny. This is a fact driven inquiry; it may or may not be the case that the market area is the government's jurisdictional boundaries.[66] This study employs long established economic principles to empirically estab-

62. *Id*.
63. *Concrete Works IV*, 321 F.3d at 976.
64. *Id*. at 977.
65. *Croson*, 488 U.S. at 508.
66. *Concrete Works II*, 36 F.3d at 1520 (to confine data to strict geographic boundaries would ignore "economic reality").

lish MWRD's geographic and product market area to ensure that any program based on the study satisfies strict scrutiny.

A commonly accepted definition of geographic market area for disparity studies is the locations that account for at least 75% of the agency's contract and subcontract dollar payments.[67] Similarly, the accepted approach is to analyze those detailed industries that make up at least 75% of the prime contract and associated subcontract payments for the study period.[68] This produces the utilization results within the geographic market area.[69]

2. Determine the MWRD's Utilization of M/WBEs

The study should next determine MWRD's utilization of M/WBEs in its geographic market area. Generally, this analysis should be limited to formally procured contracts, since it is unlikely that it is realistic or useful to set goals on small dollar purchases. Developing the file for analysis involves the following steps:

- Develop the initial contract data files. This involves first gathering MWRD's records of its payments to prime contractors, and if available, associated subcontractors.
- Develop the final contract data file. Whatever data are missing (often race and gender ownership, North American Industry Classification System ("NAICS") or other industry codes, work descriptions or other important information not collected by the agency) must be reconstructed by the consultant. Using surveys is unlikely to yield sufficient data. It is also important to research whether a firm that has an address outside the market area has a location in the geographic market area (contract records often have far flung addresses for payments). All necessary data for at least 80% of the contract dollars in the final contract data files should be collected to ensure a comprehensive file that mirrors the MWRD's contracting and procurement activities.

3. Determine the Availability of M/WBEs in MWRD's Market Area

Next, the study must estimate the availability of minorities and women in MWRD's relevant geographic market area to participate in the MWRD's con-

67. National Academies of Sciences, Engineering, and Medicine 2010, *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*. Washington, DC: The National Academies Press. https://doi.org/10.17226/14346 ("*National Disparity Study Guidelines*").
68. *Id*. at 50-51.
69. For this Report, we found the MWRD's market area to be Cook, Dupage, Kane, Lake, McHenry and Will counites. Please see Chapter IV for additional details.

tracts as prime contractors and associated subcontractors. Based on the product and geographic utilization data, the study should calculate unweighted and weighted M/WBE availability estimates of ready, willing, and able firms in MWRD's market. These results will be a narrowly tailored, dollar-weighted average of all the underlying industry availability numbers; larger weights will be applied to industries with relatively more spending and lower weights applied to industries with relatively less spending. The availability figures should be sub-divided by race, ethnicity, and gender.

The availability analysis involves the following steps:

1. The development of the Merged Business Availability List. Three data sets are used to develop the Merged Business Availability List:
   - The firms in the M/WBE Master Directory. This methodology includes both certified firms and non-certified firms owned by minorities or women.[70] The Master Directory consists of all available government and private D/M/WBE directories, limited to firms within MWRD's geographic and product market.
   - The firms contained in the MWRD's contract data file. This will require the elimination of any duplications because a firm might have received more than one contract for work in a given NAICS code during the study period.
   - Firms extracted from the Dun & Bradstreet MarketPlace/Hoovers database, using the relevant geographic and product market definitions.
2. The estimation of unweighted availability. The Merged Business Availability List will be the available universe of relevant firms for the study. This process will significantly improve the identification of minority-owned and woman-owned businesses in the business population. Race and sex must be assigned to any firm not already classified.[71] This will produce estimates of woman and minority business availability in the MWRD's markets for each NAICS code in the product market; for woman and minority business availability for all NAICS codes combined; and for the broad industry categories of goods, services, and construction. The detailed results should also be the basis for contract specific goal setting methodology.

70. *See National Disparity Study Guidelines*, Chapter III, at 33-34.
71. We note this is an improvement over the approach described in the *National Disparity Study Guidelines*, which recommended a survey to assign classifications. While it is more labor intensive to actually assign race, gender and industry code to each firm than using a mathematical formula derived from survey results, it greatly improves the accuracy of the assignments, resulting in more narrowly tailored results.

3. The estimation of weighted availability. Using the weights from the utilization analysis, the unweighted availability should be adjusted for the share of MWRD's spending in each NAICS code. The unweighted availability determination will be weighted by the share of dollars MWRD actually spends in each NAICS code, derived from the utilization analysis. These resulting weighted availability estimates will be used in the calculation of disparity indices.

   This adjustment is important for two reasons. First, disparity analyses compare utilization and availability. The utilization metrics are shares of dollars. The unweighted availability metrics are shares of firms. In order to make comparable analyses, the dollar shares are used to weight the unweighted availability. Second, any examination of MWRD's overall usage of available firms must be conducted with an understanding of what NAICS codes received what share of agency spending. Absent this, a particular group's availability share (high or low) in an area of low spending would carry equal weight to a particular group's availability share (high or low) in an area of large spending.

This methodology for estimating availability is usually referred to as the "custom census" approach with refinements. This approach is favored for several reasons. As recognized by the courts and the *National Disparity Study Guidelines*,[72] this methodology in general is superior to the other methods for at least four reasons.

- First, it provides an internally consistent and rigorous "apples to apples" comparison between firms in the availability numerator and those in the denominator. Other approaches often have different definitions for the firms in the numerator (*e.g.*, certified M/WBEs or firms that respond to a survey) and the denominator (*e.g.*, registered vendors or the Census Bureau's County Business Patterns data).
- Second, by examining a comprehensive group of firms, it "casts a broader net" beyond those known to the agency. As held by the federal court of appeals in finding the Illinois Department of Transportation's program to be constitutional, the "remedial nature of [DBE programs] militates in favor of a method of DBE availability calculation that casts a broader net" than merely using bidders lists or other agency or government directories.[73] A broad methodology is also recommended by the Federal DBE Program, which has been upheld by every court.[74] A custom census

72. *National Disparity Study Guidelines*, at 57-58.
73. *Northern Contracting III*, 473 F.3 at 723.
74. *See Tips for Goal Setting in the Disadvantaged Business Enterprise (DBE) Program*, https://www.transportation.gov/sites/dot.gov/files/docs/Tips_for_Goal-Setting_in_DBE_Program_20141106.pdf.

is less likely to be tainted by the effects of past and present discrimination than other methods, such as bidders lists, because it seeks out firms in the agency's market areas that have not been able to access its opportunities.

- Third, this approach is less impacted by variables affected by discrimination. Factors such as firm age, size, qualifications, and experience are all elements of business success where discrimination would be manifested. Several courts have held that the results of discrimination – which impact factors affecting capacity – should not be the benchmark for a program designed to ameliorate the effects of discrimination. They have acknowledged that minority and woman firms may be smaller, newer, and otherwise less competitive than non-M/WBEs because of the very discrimination sought to be remedied by race-conscious contracting programs. Racial and gender differences in these "capacity" factors are the *outcomes* of discrimination and it is therefore inappropriate as a matter of economics and statistics to use them as "control" variables in a disparity study.[75]
- Fourth, it has been upheld by every court that has reviewed it, including in the failed challenge to the Illinois Department of Transportation's DBE program[76] and most recently in the successful defense of the Illinois State Toll Highway's DBE program.[77]

Other methodologies relying only on vendor or bidder lists may overstate or understate availability as a proportion of MWRD's actual markets because they reflect only the results of the agency's own activities, not an accurate portrayal of marketplace behavior. Other methods of whittling down availability by using assumptions based on surveys with limited response rates or guesses about firms' capacities easily lead to findings that woman and minority businesses no longer face discrimination. Firms that fail to respond to a survey are called "unavailable" even if the firm is actually working on agency contracts.

Many plaintiffs have argued that studies must somehow control for "capacity" of M/WBEs to perform specific agency contracts. The definition of "capacity" has varied based upon the plaintiff's particular point of view, but it has generally meant firm age, firm size (full time employees), firm revenues, bonding limits and prior experience on agency projects (no argument has been made outside of the construction industry).

75. For a detailed discussion of the role of capacity in disparity studies, see the *National Disparity Study Guidelines*, Appendix B, *Understanding Capacity*.
76. *Northern Contracting III*, 473 F.3d at 715.
77. *Midwest Fence II*, 840 F.3d at 932; *see also Northern Contracting III*, 473 F.3d at 715 (CHA served as testifying experts for the Tollway).

This test has been rejected by the courts when directly addressed by the plaintiff and the agency. As recognized by the courts and the *National Disparity Study Guidelines*, these capacity factors are not race- and gender-neutral variables. Discriminatory barriers depress the formation of firms by minorities and women, and the success of such firms in doing business in both the private and public sectors. In a perfectly discriminatory system, M/WBEs would have no "capacity" because they would have been prevented from developing any "capacity". That certainly would not mean that there was no discrimination or that the government must sit by helplessly and continue to award tax dollars within the "market failure" of discrimination and without recognition of systematic, institutional race- and gender-based barriers. It is these types of "capacity" variables where barriers to full and fair opportunities to compete will be manifested. Capacity limitations on availability would import the current effects of past discrimination into the model, because if M/WBEs are newer or smaller because of discrimination, then controlling for those variables will mask the phenomenon of discrimination that is being studied. In short, identifiable indicators of capacity are themselves impacted and reflect discrimination. The courts have agreed. Based on expert testimony, judges understand that factors such as size and experience reflect outcomes influenced by race and gender: "M/WBE construction firms are generally smaller and less experienced *because* of discrimination."[78] Significantly, *Croson* does not "require disparity studies that measure whether construction firms are able to perform a *particular contract*."[79]

To rebut this framework, a plaintiff must proffer its own study showing that the disparities disappear when whatever variables it believes are important are held constant and that controlling for firm specialization explained the disparities.[80] "Since the state defendants offered evidence to do so, the burden then shifted to Midwest Fence to show a genuine issue of material fact as to whether the state defendants had a substantial basis in evidence for adopting their DBE programs. Speculative criticism about potential problems will not carry that burden."[81] "To successfully rebut the [Illinois] Tollway's evidence of discrimination, [plaintiff] Midwest [Fence] must come forward with a neutral explanation for the disparity, show that the Tollway's statistics are flawed, demonstrate that the observed disparities are insignificant, or present contrasting data of its own. *See Concrete Works IV*, 321 F.3d at 959 (citation omitted). Again, the Court finds that Midwest has failed to make this showing."[82]

78. *Concrete Works IV*, 321 F.3d at 983 (emphasis in the original).
79. *Id*.
80. Conjecture and unsupported criticism of the government are not enough. The plaintiff must rebut the government's evidence and introduce "credible, particularized evidence" of its own. *See Midwest Fence II*, 840 F.3d at 942 (upholding the Illinois Tollway's program for state funded contracts modeled after Part 26 and based on CHA's expert testimony).
81. *Midwest Fence II*, 840 F.3d at 952.

There are also practical reasons to not circumscribe availability through "capacity" limitations. First, there is no agreement concerning what variables are relevant or how those variables are to be measured for the purpose of examining whether race and gender barriers impede the success of minority and woman entrepreneurs. ["Plaintiff's' expert] and Midwest Fence have not explained how to account for relative capacity."[83] For example, a newly formed firm might be the result of a merger of much older entities or have been formed by highly experienced owners; it is unclear how such variations would shed light on the issues in a disparity study. Second, since the amount of necessary capacity will vary from contract to contract, there is no way to establish universal standards that would satisfy the capacity limitation. Third, firms' capacities are highly elastic. Businesses can add staff, rent equipment, hire subcontractors, or take other steps to be able to perform a particular scope on a particular contract. Whatever a firm's capacity might have been at the time of the study, it may well have changed by the time the agency seeks to issue a specific future solicitation. Fourth, there are no reliable data sources for the type of information usually posited as important by those who seek to reduce availability estimates using capacity factors. While a researcher might have information about firms that are certified as M/WBEs or that are prequalified by an agency (which usually applies only to construction firms), there is no database for that information for non-certified firms, especially White male-owned firms that usually function as subcontractors. Any adjustment to the numerator (M/WBEs) must also be made to the denominator (all firms), since a researcher cannot assume that all White male-owned firms have adequate capacity but that M/WBEs do not.

Capacity variables, such as the length of time the owner has been in business, the receipts of the firms, the number of employees and other information, should be examined at the economy-wide level of business formation and earnings, discussed in Chapter V, not at the first stage of the analysis. To import these variables into the availability determination would confirm the downward bias that discrimination imposes on M/WBEs' availability and the upward bias enjoyed by non-M/WBEs. These factors should also be explored during anecdotal data collection, discussed in Chapter VI, to develop data on how the formation and development of M/WBEs are affected by these types of factors. The ability of firms to perform a particular contract or scope of work is also relevant to contract goal setting, where the agency must use its judgment about whether to adjust the initial goal that results from the study data based on current market conditions and current firm availability.

82. *Midwest Fence I*, 2015 WL 1396376 at *22).
83. *Midwest Fence II*, 840 F.3d at 952.

4. Examine Disparities between MWRD's Utilization of M/WBEs and M/WBE Availability

A disparity study for a local government must analyze whether there are statistically significant disparities between the availability of M/WBEs and their utilization on agency contracts.

> Where there is a significant statistical disparity between the number of qualified minority contractors willing and able to perform a particular service and the number of such contractors actually engaged by the locality or the locality's prime contractors, an inference of discriminatory exclusion could arise… In the extreme case, some form of narrowly tailored racial preference might be necessary to break down patterns of deliberate exclusion.[84]

This is known as the "disparity ratio" or "disparity index" which is a critical element of the statistical evidence. A disparity ratio measures the participation of a group in the government's contracting opportunities by dividing that group's utilization by the availability of that group and multiplying that result by 100. Courts have looked to disparity indices in determining whether strict scrutiny is satisfied.[85] An index less than 100% indicates that a given group is being utilized less than would be expected based on its availability.

The courts have held that disparity results must be analyzed to determine whether the results are "significant". There are two distinct methods to measure the significance of a result. First, a "large" or "substantively significant" disparity is commonly defined by courts as utilization that is equal to or less than 80% of the availability measure. This is based on the Equal Employment Opportunity Commission's "eighty percent rule" that a ratio less than 80% presents a *prima facie* case of discrimination by supporting the inference that the result may be caused by the disparate impacts of discrimination.[86] Second, statistically significant disparity means that an outcome is unlikely to have occurred as the result of random chance alone. The greater the statistical significance, the smaller the probability that it resulted from random chance alone.[87] A more in-depth discussion of statistical significance is provided in Appendix C.

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84. *Croson*, 488 U.S. at 509; *see Webster*, 51 F.Supp.2d at 1363, 1375.
85. *Scott*, 199 F.3d at 218; see also *Concrete Works II*, 36 F.3d at 1526-1527; *O'Donnell Construction Co., Inc, v. State of Columbia*, 963 F.2d 420, 426 (D.C. Cir. 1992); *Cone Corporation v. Hillsborough County*, 908 F.2d 908, 916 (11th Cir. 1990), *cert. denied*, 498 U.S. 983 (1990).
86. 29 C.F.R. §1607.4(D) ("A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact."); *see Engineering Contractors II*, 122 F3d at 914.

In addition to creating the disparity ratio, correct measures of availability are necessary to determine whether discriminatory barriers depress the formation of firms by minorities and women, and the success of such firms in doing business in both the private and public sectors, known as an "economy-wide" disparity analysis.[88]

MWRD need not prove that the statistical inferences of discrimination are "correct". In upholding Denver's M/WBE Program, the Tenth Circuit Court of Appeals noted that strong evidence supporting Denver's determination that remedial action was necessary need not have been based upon "irrefutable or definitive" proof of discrimination. Statistical evidence creating inferences of discriminatory motivations was sufficient and, therefore, evidence of market area discrimination was properly used to meet strict scrutiny. To rebut this type of evidence, the plaintiff must prove by a preponderance of the evidence that such proof does not support those inferences.[89]

Nor must MWRD demonstrate that the "ordinances will *change* discriminatory practices and policies" in the local market area; such a test would be "illogical" because firms could defeat the remedial efforts simply by refusing to cease discriminating.[90]

MWRD need not prove that private firms directly engaged in any discrimination in which the government passively participates do so intentionally, with the purpose of disadvantaging minorities and women.

> Denver's only burden was to introduce evidence which raised the inference of discriminatory exclusion in the local construction industry and link its spending to that discrimination.... Denver was under no burden to identify any specific practice or policy that resulted in discrimination. Neither was Denver required to demonstrate that the purpose of any such practice or policy was to disadvantage women or minorities. To impose such a burden on a municipality would be tantamount to requiring proof of discrimination and would eviscerate any reliance the municipality could place on statistical studies and anecdotal evidence.[91]

87. A chi-square test – examining if the utilization rate was different from the weighted availability - is used to determine the statistical significance of the disparity ratio.
88. *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868 at *69 (Sept. 8, 2005) ("*Northern Contracting II*") (IDOT's custom census approach was supportable because "discrimination in the credit and bonding markets may artificially reduce the number of M/WBEs").
89. *Concrete Works IV*, 321 F. 3d at 971.
90. *Id*. at 973 (emphasis in the original).
91. *Id*. at 971.

Similarly, statistical evidence by its nature cannot identify the individuals responsible for the discrimination; there is no need to do so to meet strict scrutiny, as opposed to an individual or class action lawsuit.[92]

5. Analyze Economy-Wide Evidence of Race- and Gender-Based Disparities in the Chicago Area Market

The courts have repeatedly held that analysis of disparities in the rates at which M/WBEs in the government's markets form businesses compared to similar non-M/WBEs, their earnings from such businesses, and their access to capital markets are highly relevant to the determination of whether the market functions properly for all firms regardless of the race or gender of their ownership. These analyses contributed to the successful defense of the Illinois Tollway's DBE program[93]. As similarly explained by the Tenth Circuit, this type of evidence

> demonstrates the existence of two kinds of discriminatory barriers to minority subcontracting enterprises, both of which show a strong link between racial disparities in the federal government's disbursements of public funds for construction contracts and the channeling of those funds due to private discrimination. The first discriminatory barriers are to the formation of qualified minority subcontracting enterprises due to private discrimination, precluding from the outset competition for public construction contracts by minority enterprises. The second discriminatory barriers are to fair competition between minority and non-minority subcontracting enterprises, again due to private discrimination, precluding existing minority firms from effectively competing for public construction contracts. The government also presents further evidence in the form of local disparity studies of minority subcontracting and studies of local subcontracting markets after the removal of affirmative action programs.... The government's evidence is particularly striking in the area of the race-based denial of access to capital, without which the formation of minority subcontracting enterprises is stymied.[94]

92. *Id*. at 973.
93. *Midwest Fence I*, 2015 WL 1396376 at *21 ("Colette Holt's updated census analysis controlled for variables such as education, age, and occupation and still found lower earnings and rates of business formation among women and minorities as compared to white men.").
94. *Adarand VII*, 228 F.3d at 1147, 1168-69.

Business discrimination studies and lending formation studies are relevant and probative because they show a strong link between the disbursement of public funds and the channeling of those funds due to private discrimination. "Evidence that private discrimination results in barriers to business formation is relevant because it demonstrates that M/WBEs are precluded *at the outset* from competing for public construction contracts. Evidence of barriers to fair competition is also relevant because it similarly demonstrates that *existing* M/WBEs are precluded from competing for public contracts."[95] Despite the contentions of plaintiffs that possibly dozens of factors might influence the ability of any individual to succeed in business, the courts have rejected such impossible tests and held that business formation studies are not flawed because they cannot control for subjective descriptions such as "quality of education", "culture" and "religion".[96]

For example, in unanimously upholding the Federal DBE Program for federally assisted transportation-related-contracts, the courts agree that disparities between the earnings of minority-owned firms and similarly situated non-minority-owned firms and the disparities in commercial loan denial rates between Black business owners compared to similarly situated non-minority business owners are strong evidence of the continuing effects of discrimination.[97] The Eighth Circuit Court of Appeals took a "hard look" at the evidence Congress considered, and concluded that the legislature had

> spent decades compiling evidence of race discrimination in government highway contracting, of barriers to the formation of minority-owned construction businesses, and of barriers to entry. In rebuttal, [the plaintiffs] presented evidence that the data were susceptible to multiple interpretations, but they failed to present affirmative evidence that no remedial action was necessary because minority-owned small businesses enjoy non-discriminatory access to and participation in highway contracts. Thus, they failed to meet their ultimate burden to prove that the DBE program is unconstitutional on this ground.[98]

95. *Id*.
96. *Concrete Works IV*, 321 F3d at 980.
97. *Id*.; *Western States*, 407 F.3d at 993; *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2004 U.S. Dist. LEXIS 3226 at *64 (N.D. Ill., Mar. 3, 2004) ("*Northern Contracting I*").
98. *Sherbrooke*, 345 F.3d. at 970; *see also, Adarand VII*, 228 F.3d at 1175 (Plaintiff has not met its burden "of introducing credible, particularized evidence to rebut the government's initial showing of the existence of a compelling interest in remedying the nationwide effects of past and present discrimination in the federal construction procurement subcontracting market.").

6. Evaluate Anecdotal Evidence of Race- and Gender-Based Barriers to Equal Opportunities in the Chicago Area Market

A study should further explore anecdotal evidence of experiences with discrimination in contracting opportunities because it is relevant to the question of whether observed statistical disparities are due to discrimination and not to some other non-discriminatory cause or causes. As observed by the Supreme Court, anecdotal evidence can be persuasive because it "brought the cold [statistics] convincingly to life."[99] Testimony about discrimination practiced by prime contractors, bonding companies, suppliers, and lenders has been found relevant regarding barriers both to minority firms' business formation and to their success on governmental projects.[100] While anecdotal evidence is insufficient standing alone, "[p]ersonal accounts of actual discrimination or the effects of discriminatory practices may, however, vividly complement empirical evidence. Moreover, anecdotal evidence of a [government's] institutional practices that exacerbate discriminatory market conditions are [sic] often particularly probative."[101] "[W]e do not set out a categorical rule that every case must rise or fall entirely on the sufficiency of the numbers. To the contrary, anecdotal evidence might make the pivotal difference in some cases; indeed, in an exceptional case, we do not rule out the possibility that evidence not reinforced by statistical evidence, as such, will be enough."[102]

There is no requirement that anecdotal testimony be "verified" or corroborated, as befits the role of evidence in legislative decision-making as opposed to judicial proceedings. "[Plaintiff] offered no rationale as to why a fact finder could not rely on the State's 'unverified' anecdotal data. Indeed, a fact finder could very well conclude that anecdotal evidence need not– and indeed cannot– be verified because it 'is nothing more than a witness' narrative of an incident told from the witness' perspective and including the witness' perceptions.'"[103] Likewise, the Tenth Circuit held that "Denver was not required to present corroborating evidence and [plaintiff] was free to present its own witnesses to either refute the incidents described by Denver's witnesses or to relate their own perceptions on discrimination in the Denver construction industry."[104]

99. *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).
100. *Adarand VII*, 228 F.3d at 1168-1172.
101. *Concrete Works II*, 36 F.3d at 1520,1530.
102. *Engineering Contractors II*, 122 F.3d at 926.
103. *H.B. Rowe Co., Inc. v. Tippett*, 615 F.3d 233,249 (4th Cir. 2010).
104. *Concrete Works IV*, 321 F.3d at 989.

D. Narrowly Tailoring a Minority- and Woman-Owned Business Enterprise Program for MWRD

Even if MWRD has a strong basis in evidence to believe that race-based measures are needed to remedy identified discrimination, the program must still be narrowly tailored to that evidence. In striking down the City of Chicago's earlier M/WBE construction program, the court held that "remedies must be more akin to a laser beam than a baseball bat."[105] In contrast, as discussed above, programs that closely mirror those of the Federal DBE Program[106] have been upheld using that framework.[107] The courts have repeatedly examined the following factors in determining whether race-based remedies are narrowly tailored to achieve their purpose:

- The necessity of relief;[108]
- The efficacy of race- and gender-neutral remedies at overcoming identified discrimination;[109]
- The relationship of numerical benchmarks for government spending to the availability of minority- and woman-owned firms and to subcontracting goal setting procedures;[110]
- The flexibility of the program requirements, including the provision for good faith efforts to meet goals and contract specific goal setting procedures;[111]
- The relationship of numerical goals to the relevant market;[112]
- The impact of the relief on third parties;[113] and
- The over inclusiveness of racial classifications.[114]

105. *Builders Association of Greater Chicago v. City of Chicago*, 298 F. Supp.2d 725, 742 (N.D. Ill. 2003).
106. Although numerous regulatory pronouncements have been issued since the federal DBE program was revamped in 1999, the 1999 rule remains in effect.
107. *See, e.g., Midwest Fence II*, 840 F.3d at 953 (upholding the Illinois Tollway's program for state funded contracts modelled after Part 26 and based on CHA's expert testimony).
108. *Croson* at 507; *Adarand III* at 237-238.
109. *Paradise*, 480 U.S. at 171.
110. *Id*.
111. *Id*.
112. *Id*.
113. *Croson* at 506.
114. *Paradise*, 480 U.S. at 149, 171; *see also Sherbrooke*, 345 F.3d at 971-972.

1. Consider Race- and Gender-Neutral Remedies

Race- and gender-neutral approaches are necessary components of a defensible and effective M/WBE program,[115] and the failure to seriously consider such remedies has proven fatal to several programs.[116] Difficulty in accessing procurement opportunities, restrictive bid specifications, excessive experience requirements, and overly burdensome insurance and/or bonding requirements, for example, might be addressed by MWRD without resorting to the use of race or gender in its decision-making. Effective remedies include unbundling of contracts into smaller units that facilitate small business participation; providing technical support; and developing programs to address issues of financing, bonding, and insurance important to all small and emerging businesses.[117] Further, governments have a duty to ferret out and punish discrimination against minorities and women by their contractors, staff, lenders, bonding companies or others.[118]

The requirement that the agency must meet the maximum feasible portion of the goal through race-neutral measures, as well as estimate that portion of the goal that it predicts will be met through such measures, has been central to the holdings that the DBE program rule meets narrow tailoring.[119] The highly disfavored remedy of race-based decision making should be used only as a last resort.

However, strict scrutiny does not require that every race-neutral approach must be implemented and then proven ineffective before race-conscious remedies may be utilized.[120] While an entity must give good faith consideration to race-neutral alternatives, "strict scrutiny does not require exhaustion of every possible such alternative…however irrational, costly, unreasonable, and unlikely to succeed such alternative might be... [S]ome degree of practicality is

115. *Croson*, 488 U.S. at 507 (Richmond considered no alternatives to race-based quota); *Associated General Contractors of Ohio v. Drabik*, 214 F.3d 730, 738 (6th Cir. 2000) ("*Drabik II*"); *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 91 F.3d 586, 609 (3rd Cir. 1996) ("*Philadelphia III*") (City's failure to consider race-neutral alternatives was particularly telling); *Webster*, 51 F.Supp.2d at 1380 (for over 20 years County never seriously considered race-neutral remedies); *cf. Aiken v. City of Memphis*, 37 F.3d 1155, 1164 (6th Cir. 1994) (failure to consider race-neutral method of promotions suggested a political rather than a remedial purpose).

116. *See, e.g.*, *Florida A.G.C. Council, Inc. v. State of Florida*, Case No.: 4:03-CV-59-SPM at 10 (N. Dist. Fla. 2004) ("There is absolutely no evidence in the record to suggest that the Defendants contemplated race-neutral means to accomplish the objectives" of the statute.); *Engineering Contractors II*, 122 F.3d at 928.

117. *See* 49 C.F.R. §26.51; *Midwest Fence I*, 2015 WL 1396376 at *22 ("the Illinois Tollway has implemented at least four race-neutral programs to increase DBE participation, including: a program that allows smaller contracts to be unbundled from larger ones, a Small Business Initiative that sets aside contracts for small businesses on a race-neutral basis, partnerships with agencies that provide support services to small businesses, and other programs designed to make it easier for smaller contractors to do business with the Tollway in general. The Tollway's race-neutral measures are consistent with those suggested under the Federal Regulations").

118. *Croson*, 488 U.S. at 503 n.3; *Webster*, 51 F.Supp.2d at 1380.

119. *See, e.g., Sherbrooke*, 345 F.3d. at 973.

120. *Grutter*, 529 U.S. at 339.

subsumed in the exhaustion requirement."[121] Actual results matter, too. "Like [the Illinois Department of Transportation], the [Illinois] Tollway uses race- and gender-neutral measures.... Those measures have not produced substantial DBE participation, however, so the Tollway also sets DBE participation goals."[122]

2. Set Targeted M/WBE Goals

Numerical goals or benchmarks for M/WBE participation must be substantially related to their availability in the relevant market.[123] For example, the DBE program rule requires that the overall goal must be based upon demonstrable evidence of the number of DBEs ready, willing, and able to participate on the recipient's federally assisted contracts.[124] "Though the underlying estimates may be inexact, the exercise requires the States to focus on establishing realistic goals for DBE participation in the relevant contracting markets. This stands in stark contrast to the program struck down in *Croson*."[125]

It is settled case law that goals for a particular solicitation should reflect the particulars of the contract, not reiterate annual aggregate targets; goals must be contract specific. In holding the City of Chicago's former construction program to be insufficiently narrowly tailored, the court found that the MBE and WBE goals were "formulistic" percentages not related to the availability of firms.[126] Contract goals must be based upon availability of M/WBEs to perform the anticipated scopes of the contract, location, progress towards meeting annual goals, and other factors.[127] Not only is transparent, detailed contract goal setting legally mandated,[128] but this approach also reduces the need to conduct good faith efforts reviews, as well as the temptation to create "front" companies and sham participation to meet unreasonable contract goals. While this is more labor intensive than defaulting to the annual, overall goals, narrow tailoring requires contract goal setting.

121. *Coral Construction*, 941 F.2d at 923.
122. *Midwest Fence II*, 840 F. 3d at 938.
123. *Webster*, 51 F.Supp.2d at 1379, 1381 (statistically insignificant disparities are insufficient to support an unexplained goal of 35% M/WBE participation in County contracts); *see also Associated Utility Contractors of Maryland, Inc. v. Mayor and City Council of Baltimore, et al.*, 83 F.Supp.2d 613, 621 (D. Md. 2000) ("*Baltimore I*").
124. 49 C.F.R. §26.45 (b).
125. *Sherbrooke*, 345 F.3d. at 972.
126. *BAGC v. Chicago*, 298 F. Supp.2d at 740.
127. *Midwest Fence I*, 2015 WL 1396376 at *23.
128. *See also Coral Construction*, 941 F.2d at 924.

3. Ensure Flexibility of Goals and Requirements

It is imperative that remedies not operate as fixed quotas.[129] An M/WBE program must provide for contract awards to firms who fail to meet the contract goals but make good faith efforts to do so. In *Croson*, the Court refers approvingly to the contract-by-contract waivers used in the USDOT's DBE program,[130] a feature that has been central to the holding that the DBE program meets the narrow tailoring requirement. If the standards for evaluating whether a bidder who fails to meet the contract goal has made good faith efforts to so

> seems vague, that is likely because it was meant to be flexible.... A more rigid standard could easily be too arbitrary and hinder prime contractors' ability to adjust their approaches to the circumstances of particular projects. Midwest Fence's real argument seems to be that in practice, prime contractors err too far on the side of caution, granting significant price preferences to DBEs instead of taking the risk of losing a contract for failure to meet the DBE goal. Midwest Fence contends this creates a de facto system of quotas because contractors believe they must meet the DBE goal in their bids or lose the contract. But Appendix A to the [DBE program] regulations cautions against this very approach.... Flexibility and the availability of waivers affect whether a program is narrowly tailored. The regulations caution against quotas; provide examples of good faith efforts prime contractors can make and states can consider; and instruct a bidder to use "good business judgment" to decide whether a price difference between a DBE and a non-DBE subcontractor is reasonable or excessive in a given case. For purposes of contract awards, this is enough to "give fair notice of conduct that is forbidden or required," [citation omitted].[131]

Chicago's program failed narrow tailoring by imposing a "rigid numerical quota" on prime bidders' utilization of MBEs and WBEs.[132] By contrast, the constitutionally sound Illinois Tollway's program provides for detailed waiver provisions, including rights of appeal of adverse determinations that the bidder made a good faith effort to meet a contract goal.[133]

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129. *See* 49 C.F.R. §26.43 (quotas are not permitted and set-aside contracts may be used only in limited and extreme circumstances "when no other method could be reasonably expected to redress egregious instances of discrimination").
130. *Croson*, 488 U.S. at 508; *see also Adarand VII*, 228 F.3d at 1181.
131. *Midwest Fence II*, 840 F3d at 948.
132. *BAGC v. Chicago*, 298 F. Supp.2d at 740 ("Waivers are rarely or never granted… The City program is a rigid numerical quota…formulistic percentages cannot survive strict scrutiny.").
133. *Midwest Fence I*, 2015 WL 1396376 at *23.

4. Review Program Eligibility Over-Inclusiveness and Under-Inclusiveness

The over- or under-inclusiveness of those persons to be included in MWRD's program is an additional consideration and addresses whether the remedies truly target the evil identified. Over-inclusiveness addresses the question whether a remedial program grants preferences or confers benefits to groups without examining whether each group is actually disadvantaged.

The groups to include must be based upon evidence demonstrating disparities caused by discrimination.[134] The "random inclusion" of ethnic or racial groups that may never have experienced discrimination in the entity's market area may indicate impermissible "racial politics".[135] In striking down Cook County, Illinois' construction program, the Seventh Circuit remarked that a "state or local government that has discriminated just against Blacks may not by way of remedy discriminate in favor of Blacks and Asian-Americans and women."[136] However, at least one court has held some quantum of evidence of discrimination for each group is sufficient; *Croson* does not require that each group included in the ordinance suffer equally from discrimination.[137] Therefore, remedies should be limited to those firms owned by the relevant minority groups, as established by the evidence, that have suffered actual harm in the market area.[138]

The over-inclusiveness concern is mitigated by the requirement that the firm's owner(s) must be disadvantaged.[139] The Federal DBE Program's rebuttable presumptions of social and economic disadvantage, including the requirement that the disadvantaged owner's personal net worth not exceed a certain ceiling and that the firm meet the Small Business Administration's size definitions for its industry, have been central to the courts' holdings that it is narrowly tailored.[140] "[W]ealthy minority owners and wealthy minority-owned firms are excluded, and certification is available to persons who are not presumptively

134. *Philadelphia II*, 6 F.3d 990, 1007-1008 (strict scrutiny requires data for each minority group; data was insufficient to include Hispanics, Asians or Native Americans).
135. *Webster*, 51 F.Supp.2d at 1380–1381.
136. *Builders Association of Greater Chicago v. County of Cook*, 256 F.3d 642, 646 (7th Cir. 2001).
137. *Concrete Works IV*, 321 F.3d at 971 (Denver introduced evidence of bias against each group; that is sufficient); *cf. Midwest Fence II*, 840 F3d at 945 ("Midwest has not argued that any of the groups in the table [in the expert report] were not in fact disadvantaged at all.").
138. *Rowe*, 615 F.3d at 233, 254 ("[T]he statute contemplates participation goals only for those groups shown to have suffered discrimination. As such, North Carolina's statute differs from measures that have failed narrow tailoring for overinclusiveness.").
139. In the DBE program, preferences are limited to small businesses and owners whose personal net worth is not over the prescribed threshold. Additionally, a qualifying small business owned by a White male can become a program beneficiary based upon criteria set forth in Part 26 for an individual showing of social and economic disadvantage. *See generally, Northern Contracting I*; Part 26, Appendix E: *Individual Determinations of Social and Economic Disadvantage*.

[socially] disadvantaged but can demonstrate actual social and economic disadvantage. Thus, race is made relevant in the program, but it is not a determinative factor."[141] In contrast, Chicago's program was held to fail strict scrutiny because "[t]he 'graduation' revenue amount is very high, $27,500,000, and very few have graduated. There is no net worth threshold. A third generation Japanese-American from a wealthy family, and with a graduate degree from MIT, qualifies (and an Iraqi immigrant does not)."[142]

5. Evaluate the Burden on Third Parties

Failure to make "neutral" changes to contracting and procurement policies and procedures that disadvantage M/WBEs and other small businesses may result in a finding that the program unduly burdens non-M/WBEs.[143] The trial court in the City of Chicago case noted that "there was little testimony about the effectiveness of race-neutral programs."[144] However, "innocent" parties can be made to share some of the burden of the remedy for eradicating racial discrimination.[145]

> The Court reiterates that setting goals as a percentage of total contract dollars does not demonstrate an undue burden on non-DBE subcontractors. The Tollway's method of goal setting is identical to that prescribed by the Federal Regulations, which this Court has already found to be supported by "strong policy reasons" [citation omitted].... Here, where the Tollway Defendants have provided persuasive evidence of discrimination in the Illinois road construction industry, the Court finds the Tollway Program's burden on non-DBE subcontractors to be permissible.[146]

140. *Sherbrooke*, 345 F.3d at 973; *see also Grutter*, 539 U.S. at 341; *Adarand VII*, 228 F.3d at 1183-1184 (personal net worth limit is element of narrow tailoring); *cf. Associated General Contractors of Connecticut v. City of New Haven*, 791 F.Supp. 941, 948 (D. Conn. 1992), *vacated on other grounds*, 41 F.3d 62 (2nd Cir. 1992) (definition of "disadvantage" was vague and unrelated to goal).
141. *Sherbrooke*, 345 F.3d. at 973.
142. *BAGC v. Chicago*, 298 F. Supp.2d at 739-740.
143. *See Engineering Contractors Assoc. of South Florida, Inc. v. Metropolitan Dade County*, 943 F.Supp. 1546, 1581-1582 (S.D. Fla. 1996) ("*Engineering Contractors I*") (County chose not to change its procurement system).
144. *BAGC v. Chicago*, 298 F. Supp.2d at 742.
145. *Concrete Works IV*, 321 F.3d at 973; *Wygant*, 476 U.S. at 280-281; *Adarand VII*, 228 F.3 at 1183 ("While there appears to be no serious burden on prime contractors, who are obviously compensated for any additional burden occasioned by the employment of DBE subcontractors, at the margin, some non-DBE subcontractors such as *Adarand* will be deprived of business opportunities"); *cf. Northern Contracting II*, at *5 ("Plaintiff has presented little evidence that is [sic] has suffered anything more than minimal revenue losses due to the program.").
146. *Midwest Fence I*, 2015 WL 1396376 at *22.

Burdens must be proven and cannot constitute mere speculation by a plaintiff.[147] "Implementation of the race-conscious contracting goals for which [the federal authorizing legislation] provides will inevitably result in bids submitted by non-DBE firms being rejected in favor of higher bids from DBEs. Although the result places a very real burden on non-DBE firms, this fact alone does not invalidate [the statute]. If it did, all affirmative action programs would be unconstitutional because of the burden upon non-minorities."[148]

Narrow tailoring does permit certified firms acting as prime contractors to count their self-performance towards meeting contract goals if the study finds discriminatory barriers to prime contract opportunities. There is no requirement that a program be limited only to the subcontracting portions of contracts. Part 26 provides this remedy for discrimination against DBEs seeking prime contractor work,[149] and it does not limit the application of the program to only subcontracts.[150] The trial court in upholding the Illinois DOT's DBE program explicitly recognized that barriers to subcontracting opportunities also affect the ability of DBEs to compete for prime work on a fair basis.

> This requirement that goals be applied to the value of the entire contract, not merely the subcontracted portion(s), is not altered by the fact that prime contracts are, by law, awarded to the lowest bidder. While it is true that prime contracts are awarded in a race- and gender-neutral manner, the Regulations nevertheless mandate application of goals based on the value of the entire contract. Strong policy reasons support this approach. Although laws mandating award of prime contracts to the lowest bidder remove concerns regarding direct discrimination at the level of prime contracts, the indirect effects of discrimination may linger. The ability of DBEs to compete successfully for prime contracts may be indirectly affected by discrimination in the subcontracting market, or in the bonding and financing markets. Such discrimination is particularly burdensome in the construction industry, a highly competitive industry with tight profit margins, considerable hazards, and strict bonding and insurance requirements.[151]

147. *Rowe*, 615 F.3d at 254 (prime bidder had no need for additional employees to perform program compliance and need not subcontract work it can self-perform).
148. *Western States Paving*, 407 F.3d at 995.
149. 49 C.F.R. §26.53(g) ("In determining whether a DBE bidder/offeror for a prime contract has met the contractor goal, count the work the DBE has committed to perform with its own forces as well as the work that it has committed to be performed by DBE subcontractors and suppliers.").
150. 49 C.F.R. §26.45(a)(1).
151. *Northern Contracting II*, 2005 U.S. Dist. LEXIS 19868 at 74.

6. Examine the Duration and Review of the Program

Race-based programs must have durational limits. A race-based remedy must "not last longer than the discriminatory effects it is designed to eliminate."[152] The unlimited duration and lack of review were factors in the court's holding that the earlier iteration of the City of Chicago's M/WBE construction program was no longer narrowly tailored; Chicago's program was based on 14-year-old information which, while it supported the program adopted in 1990, no longer was sufficient standing alone to justify the City's efforts in 2004.[153,154] How old is too old is not definitively answered[155]; however, governments would be wise to analyze data at least once every five or six years.[156]

In contrast, the Federal DBE Program's periodic review by Congress has been repeatedly held to provide adequate durational limits.[157,158] Similarly, "two facts [were] particularly compelling in establishing that [North Carolina's M/WBE program] was narrowly tailored: the statute's provisions (1) setting a specific expiration date and (2) requiring a new disparity study every five years."[159]

E. Cases from the Seventh Circuit Court of Appeals

Although discussed above as part of the elements of studies upon which successful race- and gender-conscious programs have been defended, it is instructive to review the three cases from the Seventh Circuit Court of Appeals, which governs Illinois, to illustrate almost all of these principles.

152. *Adarand III*, 515 U.S. at 238.
153. *BAGC v. Chicago*, 298 F.Supp.2d at 739.
154. The City's program was revised to comply with the court's decision in 2004 and subsequently reauthorized based on new data in 2009 and 2015.
155. *See, e.g., Associated General Contractors of Ohio, Inc. v. Drabik*, 50 F.Supp.2d 741, 747, 750 (S.D. Ohio 1999) ("*Drabik I*") ("A program of race-based benefits cannot be supported by evidence of discrimination which is now over twenty years old.... The state conceded that it had no additional evidence of discrimination against minority contractors, and admitted that during the nearly two decades the Act has been in effect, it has made no effort to determine whether there is a continuing need for a race-based remedy."); *Brunet v. City of Columbus*, 1 F.3d 390, 409 (6th Cir. 1993), *cert. denied sub nom. Brunet v. Tucker*, 510 U.S. 1164 (1994) (fourteen-year-old evidence of discrimination was "too remote to support a compelling governmental interest.").
156. Chicago's program was amended based on new evidence in 2009 and 2015.
157. *See Western States Paving*, 407 F.3d at 995.
158. The Federal DBE Program was reauthorized in the Infrastructure and Investment and Jobs Act, Public Law No: 117-58 earlier this year.
159. *Rowe*, 615 F.3d at 253.

1. *Builders Association of Greater Chicago v. City of Chicago*

Plaintiff brought suit in 1996 to challenge the constitutionality of the City of Chicago's construction M/WBE Program. In defending the action, the City relied upon the types and quality of evidence discussed above in establishing its strong basis in evidence for its M/WBE program designed to remedy discrimination against minority- and woman-owned construction firms.[160] However, the program as implemented in 2003 when the case was tried, had not been reviewed since its inception in 1990. The court therefore found it was no longer sufficiently narrowly tailored to meet strict constitutional scrutiny. The court stayed the final order enjoining the implementation of the Program for six months, to permit the City to review the ruling and adopt a new program.[161]

The opinion first reviews the historical proof of discrimination against minorities, particularly Blacks, in the Chicago construction industry. While not legally mandated, Chicago was a *de facto* segregated city and "City government was implicated in that history." After the election of Harold Washington as the first Black mayor in 1983, several reports focused on the exclusion of minorities and women from City procurement opportunities as well as pervasive employment discrimination by City departments. Mayor Washington imposed an executive order mandating that at least 25% of City contracts be awarded to minority-owned businesses and five percent to woman-owned businesses.

In response to *Croson*, Chicago commissioned a Blue Ribbon Panel in 1990 to recommend an effective program that would survive a constitutional challenge. Based upon the Panel's Report, and 18 days of hearings with over 40 witnesses and 170 exhibits, Chicago adopted a new program that retained the 25% MBE and five percent WBE goals; and provided that larger construction contracts could have higher goals.

The court held that the playing field for minorities and women in the Chicago area construction industry in 2003 was still not level. The City presented a great amount of statistical evidence. Despite the plaintiff's attacks about over-aggregation and disaggregation of data and which firms were included in the analyses, "a reasonably clear picture of the Chicago construction industry emerged… While the size of the disparities was disputed, it is evident that minority firms, even after adjustment for size, earn less and work less, and have less sales compared to other businesses". That there was perhaps over-

160. *BAGC v. City*, 298 F. Supp.2d at 725.

161. A similar suit was filed against Cook County's Program, which was declared unconstitutional in 2000. *Builders Association of Greater Chicago v. County of Cook*, 123 F.Supp.2d 1087 (N.D. Ill. 2000); *aff'd*, 256 F.3d 642 (7th Cir. 2001). In contrast to the City of Chicago, Cook County presented very little statistical evidence, and none directed towards establishing M/WBE availability, utilization, economy-wide evidence of disparities, or other proof beyond anecdotal testimony. It also provided no evidence related to narrow tailoring.

utilization of M/WBEs on City projects was not sufficient to abandon remedial efforts, as that result is "skewed by the program itself."

Further, while it is somewhat unclear whether disparities for Asians and Hispanics result from discrimination or the language and cultural barriers common to immigrants, there were two areas "where societal explanations do not suffice". The first is the market failure of prime contractors to solicit M/WBEs for non-goals work. Chicago's evidence was consistent with that presented of the effects of the discontinuance or absence of race-conscious programs throughout the country and in Illinois. Not only did the plaintiff fail to present credible alternative explanations for this universal phenomenon but also this result "follows as a matter of economics… [P]rime contractors, without any discriminatory intent or bias, are still likely to seek out the subcontractors with whom they have had a long and successful relationship… [T]he vestiges of past discrimination linger on to skew the marketplace and adversely impact M/WBEs disproportionately as more recent entrants to the industry… [T]he City has a compelling interest in preventing its tax dollars from perpetuating a market so flawed by past discrimination that it restricts existing M/WBEs from unfettered competition in that market."[162]

The judge also relied upon the City's evidence of discrimination against minorities in the market for commercial loans. Even the plaintiff's experts were forced to concede that, at least as to Blacks, credit availability appeared to be a problem. Plaintiff's expert also identified discrimination against White females in one data set.

The City provided a witness who spoke of market failures resulting in the inability of minority and woman owners to meet the three imperatives of construction: management, money, and markets. Market failure, in particular, resulted from prime contractors' failure to solicit minority and woman business owners for non-goals work. Fourteen minority and woman construction firm owners testified to the race- and gender-based discrimination and barriers they encountered to full and fair opportunities to compete for City prime and subcontracts in construction. The overriding theme was that these firms were not solicited or were rarely solicited for non-goals works by prime contractors that bid city jobs, even though the M/WBEs expressed interest in performing private work.

After finding that Chicago met the test that it present "strong evidence" of its compelling interest in taking remedial action, the court held that the program was no longer narrowly tailored to address these market distortions and barriers because:

162. *BAGC v. Chicago*, 298 F. Supp.2d at 738.

- There was no meaningful individualized review of M/WBEs' eligibility;
- There was no sunset date for the ordinance or any means to determine a date;
- The graduation threshold of $27.5M was very high and few firms had graduated;
- There was no personal net worth limit;
- The percentages operated as quotas unrelated to the number of available firms;
- Waivers were rarely granted;
- No efforts were made to impact private sector utilization of M/WBEs; and
- Race-neutral measures had not been promoted, such as linked deposit programs, quick pay, contract downsizing, restricting prime contractors' self-performance, reducing bonds and insurance requirements, local bid preferences for subcontractors and technical assistance.

2. *Northern Contracting, Inc. v. Illinois Department of Transportation*

In this challenge to the constitutionality of the DBE program, the Seventh Circuit Court of Appeals affirmed the district court's trial verdict that the Illinois Department of Transportation's application of Part 26 was narrowly tailored.[163] Like every other circuit that has considered the issue, the court held that IDOT had a compelling interest in remedying discrimination in the market area for federally funded highway contracts, and its DBE Plan was narrowly tailored to that interest and in conformance with the regulations.

To determine whether IDOT met its constitutional and regulatory burdens, the court reviewed the evidence of discrimination against minority and woman construction firms in the Illinois area. IDOT had commissioned an Availability Study to meet Part 26 requirements. The IDOT Study included a custom census of the availability of DBEs in IDOT's market area similar to that employed in this Report, weighted by the location of IDOT's contractors and the types of goods and services IDOT procures. The Study determined that DBEs comprised 22.77% of IDOT's available firms.[164] It next examined the possible impact of discrimination on the formation of firms. As required by "step 2" of Part 26,

163. *Northern Contracting III*, 473 F.3d at 715. Ms. Holt authored IDOT's DBE goal submission and testified as IDOT's expert witnesses at the trial.

164. This baseline figure of DBE availability is the "Step 1" estimate USDOT grant recipients must make pursuant to 49 C.F.R. §26.45(c).

IDOT considered whether to adjust the step 1 base figure to account for the "continuing effects of past discrimination" (often called the "but for" discrimination factor).[165] The Availability Study analyzed Census Bureau data to determine whether and to what extent there are disparities between the rates at which DBEs form businesses relative to similarly situated non-minority men, and the relative earnings of those businesses. Controlling for numerous variables such as the owner's age, education, and the like, the Study found that in a race- and gender-neutral market area the availability of DBEs would be approximately 20.8% higher, for an estimate of DBE availability "but for" discrimination of 27.51%.

In addition to the IDOT Study, the court also relied upon:

- An Availability Study conducted for Metra, the Chicago-area commuter rail agency;
- Expert reports relied upon in *BAGC v. Chicago*;
- Expert reports and anecdotal testimony presented to the Chicago City Council in support of the City's revised 2004 M/WBE Program ordinance;
- Anecdotal evidence gathered at IDOT's public hearings on the DBE program;
- Data on DBE involvement in construction projects in markets without DBE goals;[166] and
- IDOT's "zero goals" experiment. This was designed to test the results of "race-neutral" contracting policies, that is, the utilization of DBEs on contracts without goals. IDOT issued some solicitations for which there was significant DBE availability to perform the scopes of work without a DBE goal. In contrast to contracts with goals, DBEs received approximately 1.5% of the total value of these "zero goals" contracts.

Based upon this record, the Court of Appeals agreed with the trial court's judgment that the Program was narrowly tailored. IDOT's plan was based upon sufficient proof of discrimination such that race-neutral measures alone would be inadequate to assure that DBEs operate on a "level playing field" for government contracts.

> The stark disparity in DBE participation rates on goals and non-goals contracts, when combined with the statistical and

165. 49 C.F.R. §26.45(d)(3).
166. *Northern Contracting III*, 473 F.3d at 719 ("Also of note, IDOT examined the system utilized by the Illinois State Toll Highway Authority, which does not receive federal funding; though the Tollway has a DBE goal of 15%, this goal is completely voluntary -- the average DBE usage rate in 2002 and 2003 was 1.6%. On the basis of all of this data, IDOT adopted 22.77% as its Fiscal Year 2005 DBE goal.").

anecdotal evidence of discrimination in the relevant marketplaces, indicates that IDOT's 2005 DBE goal represents a "plausible lower-bound estimate" of DBE participation in the absence of discrimination.... Plaintiff presented no persuasive evidence contravening the conclusions of IDOT's studies, or explaining the disparate usage of DBEs on goals and non-goals contracts.... IDOT's proffered evidence of discrimination against DBEs was not limited to alleged discrimination by prime contractors in the award of subcontracts. IDOT also presented evidence that discrimination in the bonding, insurance, and financing markets erected barriers to DBE formation and prosperity. Such discrimination inhibits the ability of DBEs to bid on prime contracts, thus allowing the discrimination to indirectly seep into the award of prime contracts, which are otherwise awarded on a race- and gender-neutral basis. This indirect discrimination is sufficient to establish a compelling governmental interest in a DBE program.... Having established the existence of such discrimination, a governmental entity has a compelling interest in assuring that public dollars, drawn from the tax contributions of all citizens, do not serve to finance the evil of private prejudice.[167]

3. *Midwest Fence, Corp. v. U.S. Department of Justice, Illinois Department of Transportation and the Illinois Tollway*

Most recently and saliently for the City of Chicago's local M/WBE construction program, the challenge to Part 26, IDOT's implementation of those regulations and its DBE program for state funded contracts, and to the Illinois Tollway's[168] separate DBE program was rejected.[169]

Plaintiff Midwest Fence is a White male-owned fencing and guardrail specialty contractor owned and controlled by White males that typically bids on projects as a subcontractor. From 2006-2010, Midwest generated average gross sales of approximately $18M per year. It alleged that the DBE programs failed to meet the requirement that they be based on strong evidence of discrimination, and that the remedies were neither narrowly tailored on their face nor as applied. In sum, plaintiff's argument was that the agencies lacked proof of discrimination, and it bore an undue burden under the programs as a specialty

167. *Northern Contracting II*, at *82 (internal citations omitted); *see Croson*, 488 U.S. at 492.
168. The Tollway is authorized to construct, operate, regulate, and maintain Illinois' system of toll highways. The Tollway does not receive any federal funding.
169. *Midwest Fence I*, 2015 WL 1396376.

trade firm that directly competes with DBEs for prime contracting and subcontracting opportunities.

The district court granted summary judgment in favor of all defendants on all claims. It found that the USDOT DBE Program serves a compelling government interest in remedying a history of discrimination in highway construction contracting. The court observed that Midwest Fence's challenge to the Tollway's program[170] mirrored the challenge to the IDOT's program and held that the Tollway, like IDOT, established a strong basis in evidence for its remedial program, finding that both programs imposed minimal burdens on non-DBEs, employed numerous race-neutral measures, and ensured significant and ongoing flexibility and adaptability to local conditions.[171]

The Seventh Circuit Court of Appeals affirmed the district court's grant of summary judgment. It reiterated its decision in *Northern Contracting III* that the USDOT DBE Program is facially constitutional. "We agree with the district court and with the Eighth, Ninth, and Tenth Circuits that the federal DBE program is narrowly tailored on its face, so it survives strict scrutiny."[172]

The bases upon which the Tollway's program were held to be constitutional are especially instructive for theCity of Chicago. Before adopting the Program, the Tollway set aspirational goals on a number of small contracts. These attempts failed: in 2004, the Tollway did not award a single prime contract or subcontract to a DBE. Additionally, in adopting its program, the Tollway considered anecdotal evidence provided in *Northern Contracting* consisting of the testimony of several DBE owners regarding barriers they faced.[173]

The Tollway's DBE program substantially mirrors that of Part 26 and was based on studies similar to those relied upon by IDOT.

Further, its

> method of goal setting is identical to that prescribed by the Federal Regulations, which this Court has already found to be supported by "strong policy reasons". [citation omitted] Although the Tollway is not beholden to the Federal Regulations, those policy reasons are no different here… [W]here the Tollway Defendants have provided persuasive evidence of discrimination in the Illinois road construction industry, the Court finds the Tollway Program's burden on non-

170. The Tollway adopted its own DBE program in 2005. Although the Tollway does not receive federal funds, it opted to mostly mirror the provisions of Part 26.
171. *Midwest Fence II*, 840 F. 3d at 932.
172. *Midwest Fence II*, 840 F. 3d at 945.
173. *Northern Contracting II*, 2005 WL 2230195 at *13-14.

DBE subcontractors to be permissible… The Tollway's race-neutral measures are consistent with those suggested under the Federal Regulations. See, 49 U.S.C. §26.51. The Court finds that the availability of these programs, which mirror IDOT's, demonstrates 'serious, good faith consideration of workable race-neutral alternatives.' [citations omitted] In terms of flexibility, the Tollway Program, like the Federal Program, provides for waivers where prime contractors are unable to meet DBE participation goals, but have made good faith efforts to do so… Because the Tollway demonstrated that waivers are available, routinely granted, and awarded or denied based on guidance found in the Federal Regulations, the Court finds the Tollway Program sufficiently flexible. Midwest's final challenge to the Tollway Program is that its goal-setting process is "secretive and impossible to scrutinize." [reference omitted] However, the Tollway has plainly laid out the two goal-setting procedures it has employed since the program's enactment… The Tollway Defendants have provided a strong basis in evidence for their DBE Program. Midwest, by contrast, has not come forward with any concrete, affirmative evidence to shake this foundation.[174]

174. *Midwest Fence I*, 2015 WL 1396376 at *22-23.

III. MWRD's Affirmative Action Contracting Program

A. Affirmative Action Contracting Program Elements

1. Program Overview and Objectives

The District was one of the first Chicago area agencies to adopt a program to address discrimination and promote equality in public contracting. In 1978, the Board of Commissioners ("BOC") enacted the Affirmative Action Ordinance ("Appendix D") to ensure competitive contract opportunities for small, minority- and woman-owned business enterprises ("M/WBEs") in construction projects. Appendix D was revised in 2001, 2009, 2015, and 2020. Appendix A was adopted in 2015 to apply the provisions of the Program and Appendix D to consultant contracts.

2. Program Administration

Appendix D sets forth the general provisions of the District's Affirmative Action Program for MBEs and WBEs ("AA Program" or "M/WBE Program"). Appendix D establishes a District Affirmative Action Program Administrator ("Administrator") who is responsible for implementing the Program. The Administrator reports directly to the Executive Director ("ED"). The Administrator currently manages a team of 10 diversity officers and administrative specialists who support implementation of the Program. The Administrator is responsible for:

- Setting contract goals.
- Reviewing pre- and post-award Utilization Plans to determine compliance with program requirements, including whether MBEs and WBEs are performing a commercially useful function ("CUF").
- Approving Mentor Protege and Joint Venture relationships.
- Reviewing certifications to determine their validity and decertifying firms if necessary.

- Approving any changes in the Utilization Plan throughout the life of the contract.
- Managing the District's "Prism" online Program compliance monitoring system.
- Approving substitutions of M/WBEs during performance.

Annual participation goals are targeted levels established by the District for annual aggregate participation of MBEs and WBEs in District construction contracts. Under Appendix D, all construction and consulting contracts awarded by the District with an estimated total expenditure exceeding $100,000 are covered by the Program. Emergency contracts are excluded. Appendix A sets the same goals for consulting contracts with expected expenditures in excess of $100,000. Contracts to furnish and deliver material, supplies and equipment over $25,000, and services over $10,000, including construction, are awarded by the BOC.

District staff submits an annual report to the BOC. The report includes:

- The level of MBE, WBE, or SBE participation achieved in each year in District construction contracts subject to Appendix D.
- Identification of any problems with the enforcement of Appendix D.
- Any recommendations with respect to improving the implementation of Appendix D.

3. Program Eligibility

The District recognizes minority-owned or woman-owned businesses certified by the City of Chicago; Cook County, Illinois; the Illinois United Certification Program for the U.S. Department of Transportation's Disadvantaged Business Enterprise program; the Women's Business Development Center of Chicago; the Chicago Minority Supplier Development Council; the U.S. Small Business Administration's 8(A) program; and the Illinois Department of Central Management Services.

Minority and Woman Business Enterprises must meet the following criteria to become certified for goal credit on District contracts:

- The firm must be independently owned and controlled by a Socially and Economically Disadvantaged person, which is defined as at least 51% owned by an Asian American, African American, Hispanic American, Native American, or individual members of other groups whose participation is required under state or federal regulations or by court order, or groups found by the District to be Socially Disadvantaged by having suffered racial or ethnic prejudice or cultural bias within American society.

- The firm's annual gross receipts, averaged over the preceding five fiscal years, cannot exceed $41.25M, including all its domestic and foreign affiliates.
- The applicant owner's Personal Net Worth must not exceed $2M, indexed annually for the Chicago Metro Area Consumer Price Index, published by the U.S. Department of Labor, Bureau of Labor Standards, beginning January 2008.[175]

Small Business Enterprises must also meet the M/WBE size restrictions.

All minority, woman and small businesses must be "Participating Businesses". A participating business is defined as a business located within the counties of Cook, DuPage, Kane, Lake, McHenry, or Will in the State of Illinois or Lake County in the State of Indiana, and which has the majority of its regular full-time work force located in this region, or a business which has been placed on the District's vendor list or has bid on or sought District work.

The District allows self-identification at the time of registration as a District vendor. M/WBEs state that they are minority or woman-owned and provide a copy of an acceptable certification. This list is provided to bidders. At the point in which a firm is listed on the Utilization Plan, the District conducts its own verification.

4. Race- and Gender-Neutral Measures

As prescribed by Appendix D, Section 7, MWRD has many possible race- and gender-neutral measures to facilitate participation of all small businesses in the District's contracting activities. These include:

- Arranging solicitation times for the presentations of bids, specifications, and delivery schedules to facilitate the participation of interested contractors and subcontractors.
- Providing timely information on contracting procedures, bid preparation, and specific contracting opportunities.
- Assisting MBEs and WBEs with training on the technical aspects of preparing bids for MWRD contracts.

175. The 2021 City of Chicago limit is $2,379,729.54.

- Assisting businesses in overcoming barriers in obtaining bonding and financing and providing support for business development and process management.
- Prohibiting prime contractors from requiring bonding from subcontractors, where appropriate.
- Holding mandatory pre-bid conferences, where appropriate, to provide contract information and requirements to encourage bidders to use all available firms as subcontractors.
- Adopting prompt payment procedures that include requiring prime contractors to promptly pay subcontractors and investigating reports of excessive delays in payments.
- Developing linked deposit and other financing and bonding assistance programs to assist small firms.
- Reviewing retainage, bonding, and insurance requirements and their application to bid calculations to eliminate unnecessary barriers to contracting with the District.
- Collecting information from prime contractors on District construction contracts about bids received from all subcontractors for District contracts and the expenditures to subcontractors utilized by prime contractors on District construction contracts.
- Limiting the self-performance of prime contractors, where appropriate.
- Developing future policies to award contracts to SBEs to the extent practicable.
- Maintaining information on all firms bidding on District prime contracts and subcontracts.
- Awarding a representative sample of District contracts without goals, to determine MBE, WBE, and SBE utilization in the absence of goals, at the discretion of the Board of Commissioners.
- Referring complaints of discrimination against MBEs, WBEs, or SBEs to the appropriate authority for investigation and resolution.

5. Contract Goal Setting Policies and Procedures

The overall participation goals established by the Ordinance are 20% MBE, 10% WBE and 10% SBE. Contract goals are set on a contract-by-contract basis by the Diversity Administrator in consultation with the Director of Procurement and Materials Management (“PMM”). Contract goals are applied to contracts with estimated total expenditures in excess of $100,000. There must be at least three MBEs and three WBEs on the District's vendor list in the scopes of the work to be performed in order to set goals on a project. Contract documents must include the designated contract goal.

6. Counting MBE and WBE Participation

The entire amount of the portion of a contract that is performed by MBEs and WBEs by their own forces, including the cost of supplies and materials, is counted toward the goal. Bidders can meet contract goals by entering into a Joint Venture partnership with MBEs and WBEs; by utilizing MBEs and WBEs as first tier subcontractors; or by direct purchase of materials from MBEs and WBEs. Only work performed by first tier MBE and WBE subcontractors is counted towards contract goals. MBEs and WBEs may not subcontract their work. If the subcontracting firm is both an MBE and WBE, the bidder can count the participation towards either the MBE goal or WBE goal, but not both. MBEs and WBEs may be counted toward achievement of an SBE goal.

The Administrator has the authority to approve requests to count materials and supplies of over 25% towards the contract goal.

Contract goal credit will only be counted if the MBE and WBE are performing a CUF. A firm performs a CUF when it fulfills, performs, manages, and supervises a distinct work element of the contract. The subcontracted work must be commensurate with the payment amount.

7. Submission of Utilization Plans

For construction contracts, a signed MBE and WBE Utilization Plan is due at the time of submission of the bid. The Utilization Plan must list each MBE and WBE intended to be used to meet the contract goal, along with any required supplemental information. In addition, bidders must submit a copy of each MBE and WBE subcontractor's certification[176] and Letter of Intent listed in the Utilization Plan. Bidders seeking a full or partial "waiver" (that is, goal reduction) must submit a Waiver Request Form.

Failure to fully complete and submit the required forms or failure to sign the Signature Sections of the forms results in the rejection of the bid as non-responsive. Bids exceeding the 25% Supplier Utilization cap without prior authorization from the Administrator will also be considered non-responsive. Firms are required to sign and execute the Utilization Signature Section, even if a waiver is being requested. The bidder is responsible for the return of all MBE

176. Documentation showing that the subcontractor is an MBE or WBE that meets the requirements in Appendix D is sufficient at bid submission.

and WBE documentation requested by the Diversity Section within seven business days of the request. If the required documentation is not provided within the seven-day period, the bid will be referred back to the Director of PMM and the Administrator for final determination.

A bidder that cannot meet the contract goal must file a waiver request documenting its Good Faith Efforts ("GFEs") to meet the goal(s). A Contractor Information Form is also required.

Evidence of GFEs includes, but is not limited to, the following:

- Attendance at pre-bid conferences conducted by the District to connect contractors with MBEs and WBEs and inform MBEs and WBEs of subcontract opportunities.
- Make timely written solicitations of available MBEs and WBEs identified on the District's vendor list that provide relative services for the project.
- Review lists of available MBEs and WBEs maintained by the District or other state and local governments and agencies prior to bid opening.
- Advertise not less than 15 calendar days prior to the bid opening date in one or more daily newspapers or trade publications for proposals or bids by MBEs and WBEs for subcontracts on the project.
- Provide MBEs and WBEs with convenient and timely opportunities to review and obtain relevant plans, specifications or terms and conditions of the contract to provide MBEs and WBEs with enough time to prepare an informed response.
- Divide total contract requirements into small tasks or quantities and adjust performance bond and insurance requirements or assist MBEs in obtaining required bonding, insurance, or financing, as feasible and to encourage participation of MBEs and WBEs.
- Directly contact MBEs and WBEs to determine if they are interested in making bids or proposals.
- Negotiate in good faith with MBEs and WBEs prior to the bid opening and do not reject as unsatisfactory any bids or proposals submitted by MBEs or WBEs without justifiable reason, including the lack of bonding capacity or the ability to obtain insurance requirements such as Completed Builders Risk (All Risk) Insurance, Comprehensive General Liability Insurance, Contractor Contractual Liability Insurance, and Public Liability Insurance.
- Create delivery schedules, where the requirements of the work permit, which will encourage participation by MBEs and WBEs.

- Enter into joint ventures with MBEs and WBEs.
- Use the services and assistance of the District, the Small Business Administration, the Office of Minority Business Enterprises of the U.S. Department of Commerce, and appropriate community and minority and woman's business organizations.

The Administrator will evaluate the request and consult with the Director of PMM. Failure to cooperate with the Diversity Section during the review of the request can result in rejection of the bid or waiver request. If the Administrator determines that the bidder did not make GFEs, the bid will be rejected as non-responsive.

Projects awarded under Job Order Contracts also require submission of a Utilization Plan and Subcontractor's Letter of Intent, and must follow all compliance requirements, including demonstration of GFEs.

For consulting contracts, the proposer must make GFEs to ensure that qualified M/WBEs are utilized on the contract and to provide maximum opportunities for M/WBE participation. GFEs must be made despite the fact that the Consultant may have the capability to complete the project without the use of subconsultants.

8. Pre-Award Compliance Review

Prior to award of the contract, the Diversity Section verifies that the firms listed on the Utilization Plan meet certification requirements and their participation is in compliance with Appendix D. Verification includes obtaining and reviewing the Contract Verification form, the Letter of Intent, MBE and WBE Verification Form, and Personal Financial Statement, along with an MBE or WBE Site Visit if one has not been performed in the last two years. In addition, the Administrator must review any Mentor-Protege relationship proposed to meet the contract goal.

9. Contract Performance Compliance

After contract award, the Diversity Section is responsible for monitoring the prime contractor's compliance with the accepted Utilization Plan. The Diversity Section uses an online compliance monitoring and reporting system, as well as field visits. Prime contractors must submit monthly status reports with their invoices to attest to their compliance with the Utilization Plan by providing all MBE and WBE payments to date, MBE and WBE work performed on the contract, and any prior paid waivers of lien for MBE and WBE contractors. To verify this information, M/WBEs must submit quarterly status reports attesting to the payments they have received and the work they have performed. If the contractor fails to comply with these reporting requirements, the District may withhold 50% of the current progress payment. Further progress payments may be withheld until the contractor complies with the reporting requirements.

Once a Utilization Plan is accepted as part of the contract, prime contractors cannot make any changes or substitutions of MBEs and WBEs listed without prior written approval of the Administrator. Participation of certified firms that are not listed on the Utilization Plan and did not receive prior written approval by the Administrator will not be counted towards the contract goal.

The Diversity Section monitors CUF through on-site interviews, inspections on vendor's premises, desk audits/investigations, and compliance reviews with vendor staff and District staff.

Any significant change to M/WBE commitments must be timely and in writing. Changes without prior written approval of the Administrator constitute a breach of contract and may subject the prime contractor to sanctions. If it comes to the attention of District staff that a prime contractor is using an M/WBE not listed on the Utilization Plan, the contractor is notified in writing of the apparent violation and that progress payments may be withheld. Prior to issuing a finding of non-compliance, the Administrator may meet with the contractor to discuss the violation.

A prime contractor must demonstrate "good cause" when seeking to terminate or reduce the work scope of a certified firm listed in the Utilization Plan. Good cause is limited to the following:

1. The certified firm fails or refuses to execute a written contract.
2. The certified firm becomes bankrupt, insolvent or exhibits financial instability.
3. The certified firm is not eligible to work on public works projects because of suspension and debarment.
4. The Administrator has determined that the listed certified firm is not a responsible contractor.
5. The certified firm voluntarily withdraws from the project and notifies the Diversity Section in writing.
6. The certified firm is ineligible to receive credit for the type of work required.
7. The certified firm owner dies or becomes disabled and is unable to complete the work on the contract.
8. Other good cause as determined by the Administrator.

The prime contractor must give written notice to the M/WBE, with a copy to the Administrator that provides an explanation of its intent to terminate or reduce the M/WBE's work scope. The prime contractor must make GFEs to find a substitute MBE or WBE to meet the original contractual commitments to the extent possible.

If the prime contractor fails to achieve the level of participation in the Utilization Plan as a result of the District's reduction of the work, it must submit a written request to amend the Utilization Plan. A letter of release signed by the subcontractor must accompany the request. If, due to a change order, there is more than a 10% increase in the total value of the contract, the prime contractor is required to increase utilization of MBEs and WBEs proportionately to the original contract utilization commitment, where feasible.

If the prime contractor determines that the conditions of work indicate a reduced work scope, it must exercise GFEs to fulfill its MBE and WBE contractual commitments. The prime contractor must submit the request for an amendment of the Utilization Plan to the Administrator within 14 calendar days of making that determination. The MBE and WBE must be notified of this intent in writing and provided the detailed reasons for the request. The Diversity Section reviews the request based on the prime contractor's compliance with GFEs and contractual commitments.

10. Sanctions for Non-Compliance

Sanctions for non-compliance are levied when the prime contractor or subcontractor has committed fraud or a misrepresentation against the District or has not complied with the requirements of Appendix D or its contract. The Diversity Administrator must notify the prime contractor or subcontractor in writing of the violation and may withhold up to 100% of the current progress or final payment due to the prime contractor for up to 90 days. The withheld amount is based on the degree to which the contractor has failed to meet its MBE or WBE commitments or make GFEs. The contractor or subcontractor has 10 calendar days from receipt of the notice to request a meeting with the Administrator.

If the violation is not corrected or cannot be resolved through conciliation, the Administrator refers the matter to the District's ED. The ED may send the matter back to the Administrator with directions or issue a "show cause" notice to the prime contractor or subcontractor. The contractor will have 15 calendar days after receiving the notice to file a response in writing. A hearing before an appointed Hearing Officer must be scheduled within 30 days of receiving the ED's request to allow the District and contractor or subcontractor to present evidence. Show cause hearings are conducted on the record and all testimony is given under oath. Within 30 calendar days after the hearing, the Hearing

Officer is required to issue a written finding of fact, conclusions of law, and any recommended sanctions. The BOC reviews the findings and recommendations and makes the final determination whether to impose sanctions.

Sanctions include:

1. Withholding up to 50% of the current progress payment, and if necessary, 100% of any future or final payment due the contractor.
2. Declaring the prime contractor or subcontractor to be non-responsible and disqualifying/debarring them from eligibility to bid on District contracts for at least one year and not more than three years. For second and third violations, the minimum disqualification period is 18 months and 24 months, respectively.
3. Rejecting bids by the prime contractor for other contracts that are yet to be awarded, if the violation is for false documentation, statements, or fraud.
4. Declaring the MBE or WBE to be ineligible for participation for a period of one year but not more than three years for MBE or WBE firms misrepresenting their status or not operating as an independent business.
5. Forfeiting and deducting the prime contractor's progress or final payments up to the dollar amount that the MBE or WBE goal was not met.
6. Referring the matter to the Office of the Attorney General or the Cook County State's Attorney for follow-up action.

11. Technical Assistance, Outreach, and Training

The Diversity Section and user department staff assist MBEs and WBEs throughout the solicitation process by conducting mandatory pre-bid conferences to provide project information, explain Program requirements, and offer an opportunity to network with contractors. The District also works closely with local assist agencies to disseminate information about District contracting opportunities and requirements. Contract announcements are advertised in the Sun Times.

The MWRD website[177] provides access to resources to assist MBEs and WBEs, as well as prime contractors, with doing business with the District. The website provides the MWRD Vendor Application form to register as an MWRD vendor to receive faxes, emails, and mailed contract announcements in their selected NIGP codes. The website provides information about upcoming bids and RFPs under the coming contract section, contract announcements, contract bid

177. https://mwrd.org/affirmative-action.

opening results, and contracts awarded that offer assistance to MBEs and WBEs in identifying bidding opportunities and preparing scopes of work and prices for subcontracting work.

A guide to doing business with the District of Greater Chicago is posted on the website and is available to download. The guide provides instructions to register as a MWRD vendor, how to access bid announcements, how to submit bids, the vendor selection process, the contract approval process, invoicing once becoming an MWRD vendor, and instructions on applying for certification.

The District has recently started posting videos of outreach presentations and roundtables with local community groups on the website. These videos provide important information about the contracting application process and EProcurement initiatives. There is also a step-by-step guide and training presentation on how to use the Prism online payment and monitoring system. Other helpful information such as relevant Ordinances and the list of assist agencies and their contact information are also available on the website.

In addition to these resources, the District participates in a large number of events hosted by local organizations to increase awareness of M/WBE's District contracting opportunities. This includes several annual Vendor Outreach Fairs which attract vendors in the construction and consulting industries. These include several Vendor Outreach Fairs to construction and consulting vendors each year. These fairs include local representatives from governments, assist agencies, and prime contractors and consultants. They are designed to facilitate networking between primes and M/WBEs and provide important information about potential contracting opportunities. In October 2021, the Diversity Section hosted a virtual Latinx Heritage Month Business Roundtable to discuss contracts with the Engineering Department and to encourage participation in the Affirmative Action Program.

The District regularly participates in luncheons, dinners, and events hosted by local assist agencies, community groups, and other Chicago governmental agencies. Between 2018 and 2021, District representatives participated in more than 24 sponsored events.[178]

12. Staff Training

Diversity Section staff regularly attend the American Contract Compliance Association's annual National Training Institute, where they receive extensive training on national best practices for M/WBE programs. They also participate

178. Examples include the Rainbow Push Women's luncheon in 2019; the African American History Month Celebration in 2020' a Chinese Lunar New Year Dinner in 2020; and the Federation of Women Contractors dinner in 2019.

in regular training on EBuilder, the District's bid management, procurement, construction operations system; training on the Prism registration, payment and reporting system; and SAP software training. In 2019, they participated in training offered by the Inspector General and the Chicago Urban League.

B. Experiences with MWRD's Affirmative Action Program

To explore the impacts of MWRD's Affirmative Action Program, we interviewed 74 individuals about their experiences and solicited their suggestions for changes. We also collected written comments.

The following are summaries of the topics discussed during the group interviews and in the written submissions. Quotations are indented and have been edited for readability. They are representative of the views expressed.

Many interviewees expressed frustration with accessing information about District contracting and procurement opportunities. Several certified firms complained that outreach events often fail to include actual contracting decision makers.

> I never received one job for attending [outreach events]. They don't send the decision makers, and no matter how often you follow-up afterward, you get crickets. They are a complete waste of time. Just ask them to introduce us to the actual people that will award the work.

> If you're coming in as a sub, as we are right now, we don't get to get any face time with a client, so that when the next opportunity does avail itself, we really don't know those people that are making the decisions and they don't know us.... people develop some biases over time and just go back to the same people they like working with.

A more modern procurement system was a frequent recommendation to assist small firms to do District work.

> MWRD is sending out faxes as a method of solicitation and collecting responses. This is not current with the times, where there are more inclusive methods to deliver and collect information.

A preference for longstanding incumbents hurts M/WBEs and new firms.

> I've been in this business, in this industry for 25 years. I've made my name on being 50% better than most everybody else out there. And yet, when I run up against bureaucratic agencies that have project managers that have been there for 30 years, 40 years, that's the old guard.

> You see the same names all the time, same prime, same this, same that. People other than two major contractors shouldn't even bother bidding it to the District, because they seem to get every job.

Many M/WBE consulting firm participants, in particular, felt that the District's opportunities are foreclosed to them. It was described as an "invitation only" process designed for incumbents.

> It's by invite only. How do you get on this invite list?

> MWRD does everything in the dark, behind closed doors, under the curtains, and it's not transparent at all. Sometimes, four or five people will even get the solicitation, and no one else even knows it's out.

> They're not really interested in expanding out of their favorites because, as with all engineering work, it's about risk.

> Only the five firms that are on their short-list from six or seven years ago even realize that the project has hit the streets.

> The problem is for the District to be the one inviting who comes to the dinner. That's the problem. They invite five, maybe up to 10 firms, to bid on their job. That shouldn't be.

> How would you even submit when you don't know what the opportunities are, when it's coming out?… We've had the expertise and the knowledge base that we could bring to MWRD, but if you're not invited, you don't know what's coming up. You don't know what type of work is available. You just can't wake up one day and say, "I'm going to submit a proposal to MWRD."

> Even when they have small jobs, they only invite the big engineering firms. I mean, there's been plenty of jobs that we've been a sub on, that we could have done as a prime, but we didn't get invited.

> There's certainly a lot of stuff that they do that we could do as a prime, but we don't get invited.

Having to depend on large consulting firms to get information on District opportunities puts small businesses and M/WBEs at a competitive disadvantage.

> Having to find out about an agency's process through firms is not very beneficial.

> The process is not open enough. Not only is it not open, you don't really know what the process is until you have some, I guess, inside connect, or some of the larger firms can really walk you through how things get done. We lucked out … in 2019 to partner with a much larger firm who had a project. That has been keeping us busy. But outside of

> that, we just don't really understand how you'd navigate the MWRD system.

> Firms of our size have to call these individuals trying to get on teams, and they also have their favorites that they've typically worked with. It makes it real difficult to get on the team.

Opening up opportunities to any firm that wants to submit a proposal was one suggestion to make the procurement process more inclusive.

> It's been very difficult to get anything with them. I believe that their process of selecting prime consultants should be opened the way IDOT and the Tollway does theirs, which is to release a PSB and let everybody go at it. MWRD, I believe, selects their prime to bid on their jobs, even before they advertise the job.

> I think if you're pre-qualified to do the job, you should be able to bid on their jobs. It shouldn't be by invitations.

A semi-annual procurement forecast was another approach to providing more information to small firms.

> Publishing books that give you an idea of how big a project is, that you can go after, or how small it is, that you might be interested in. That makes a big difference.

Contract size and complexity were other barriers to M/WBE and small firm participation. “Unbundling” contracts was often recommended as a means to increase inclusion.

> They need to unbundle their projects and make them smaller. I think MWRD are having the same problem the Tollway had a couple of decades ago where their projects are so huge where small companies cannot go after them, but the Tollway made that decision at one point to unbundle their projects and make them smaller. I mean, those that could not be unbundled stayed unbundled, but they were able to break off many of their projects and make them smaller for small companies to go after. So, I would really urge MWRD to invest into unbundling their projects, where it is not only the big boys who will be doing direct business with them, but the smaller firms can also do direct business with them.

> We've got to start giving [M/WBEs] projects for them, that they can get experience on, that they can start showing the bonding companies, that they have the ability to do a project.

> MWRD is just going to be, sorry to say this, just another agency that has a nice PR firm for minorities until they start unbundling.

Another suggestion is to revise the current SBE program to become a small business target market initiative.

> Small business set asides and/or bid incentives that give you a little bit of an edge against the larger business have been beneficial.
>
> Give [contracts] specifically to smaller companies, so they can grow their experience, and their capacity, and capabilities.
>
> The [Illinois] Tollway does a lot of projects where they simply unbundle it, only for MBEs, DBEs and VBEs.
>
> [A setaside is] a great opportunity for the small firms to show what they're made of based on what they performed so far.

Few firms reported issues with payment by the District.

> The District pays pretty good.
>
> They pay consistently.
>
> They're one of the better agencies in the city as far as paying properly.

The requirement for additional certification review by the District of firms already certified by a local agency was repeatedly raised as an unnecessary burden on M/WBEs.

> The paperwork is quite extensive and time consuming. Streamline the certifications (more reciprocity).

Many prime contractors echoed the conclusion that the additional certification requirement creates unnecessary problems.

> When they certify their M[BE]s and W[BE]s, S[BE]s, they should do it prior to bid, not after bid. It's something that they are one of the few agencies, maybe they're the only agency [that does this].... [They] tell us after the fact whether they approve the plan that we put together, whether they meet the requirements or not, et cetera, which is problematic on our end. It's better to know that they are certified and acceptable before we turn in the bid, as opposed to after.
>
> We do a lot of their work and we just, on a recent job, they just decided that somebody wasn't responding to them, so they couldn't review them and verify and approve them for the job. We're off trying to find somebody else after the fact, which slows down the progress of the award process and obviously signing contracts and getting a notice to proceed. It puts us at a disadvantage if we can't find somebody that fits the requirements that we put in on bid day, as far as dollars and capability.

> They have people listed as Ms and Ws in their directory, but then they won't approve them when you use them on a bid. That's another problem. There's an instance right now where they're still listed on their system as a W, but they won't approve them for a W and they don't update their own directories.
>
> The District will say they'll accept the city cert[ification], CMS cert, even their own cert. But after the fact, they're still making phone calls, gathering information from the Ms and Ws. At the very least, it just delays the process before it gets to the Board, delays award, delays us getting our subcontracts out to the Ms and Ws, and it's just a redundancy.
>
> Right now, we're experiencing [price] escalations that are out of this world. And when your job is sitting there for three, four, five, six, seven months waiting for an award because they're still deciding whether they're going to accept your plan or not, it's a problem for us on multiple fronts.
>
> They might think you're trying to do everyone a favor by allowing a self-serve or accepting the CMS certification that might not need the same revenue or net worth departments, but in the long run… it just causes more problems.
>
> [The District's approach is] a reason to use repeat Ms and Ws because it makes it an easy process for us to get a job from bid to award.

Smaller M/WBEs were reported to sometimes decline to work on a District contract because of this extra process.

> I've had some walk away from it because they say it's not worth all the trouble for a hundred thousand dollars worth of work. And so, we've obviously had that happen.
>
> You almost have to do it beforehand to avoid a lot of confusion, a lot of time, effort, a lot of costs for some contractors who, if they only have a small amount of work, potentially they'll want a job with MWRD because [it's] 20 hours worth of work and a bunch of accounting firms, getting inside their stuff and they're putting documents together. Is that worth it if the contract potential might be, is only $10[,000] or $15,000? I think for some smaller companies it might not be. So, it just creates some confusion, time, effort, costs that if they did it in advance, you could avoid.
>
> We brought on a WBE. She had the certification from the City [of Chicago] … but not MWRD.… She's a one-person firm. She declined.

> She was able to get certified with the City, but she said [MWRD] was just a bizarre process for her.

Most prime bidders and proposers were able to meet the M/WBE goals.

> We did have good success in attracting a number of minority firms, whatever [scopes] we advertise for them.

> We've had good success with the District and we've had various success with our S/M/WBE programs and consultants that we work with.

Many prime contractors and consultants urged the District to set contract specific goals based on the availability of M/WBEs to perform the specific scopes of work of the project.

> There has to be some flexibility within some of these projects within the MWRD depending on the type of project and the availability of diversity contractors out there that can be doing certain deals and maybe have to lower the percentages on certain areas.

> Some of these firms are so small they can only do so much work. Their capacity for doing work. But they just never changed their mind. Maybe they need to get a realistic view of the real world based upon the percentages.

> The goals are probably just like most agencies, a little bit on the high side, or too high. And one thing they don't do is they don't vary the goals per project at all. I mean, it's just like the City of Chicago. These are published goals. If you can't meet them, file a waiver.... It's 20, 10, and 10. Period, regardless of the work.

> The District needs to step back a little bit when they review these contracts or they review these requests for bid on certain things and say, okay, what is the availability under the scope of work out there and include that and then be flexible within their contract or their bid requests for that scope of work, depending on what's available. I think they would even get more bidders.

While there is a good faith efforts process on paper, some prime contractors felt that good faith efforts documentation would never be approved by the District.

> They need to recognize that those are only goals. As long as everybody makes an honest, good faith effort, most of the time you're going to meet those goals, but there are instances and they don't seem to recognize that.

Prime consulting firms reported it was difficult to substitute a non-performing sub-consultant or change the composition of the team.

> It is sometimes frustrating, the lack of flexibility. Oftentimes when you make your team agreements at the time of the proposal, and by the time you're actually executing the work, it's very challenging to switch players or to add additional teams because quite frankly, sometimes the skill sets, they don't line up and they thought it would based on the scope. But, it turns out, one firm and the other doesn't really have those skills. It's very difficult to change the team once you're underway. That can be a definite challenge that I've come across. There's a lack of flexibility there. The answer was basically, well, you can add somebody, but it doesn't necessarily swap your percentages. It would be in addition too, so if we need to bring another firm in there's no give on the contract side.

> We have to keep that [certified] firm and meet that firm's goal, period [even if the certified firm cannot do the work]. Find something else for them to do and fill in the gap. The skillset gap is on us.... You figure out how you're going to get it done. If it isn't with the firms you intended, well that's not [the District's] problem.

> We ran into a situation where we were told that we cannot change the team. If you could allocate the work to another firm within the team, you could do that, but you could not hire someone else, give the job to someone else that was no part of the team.... You couldn't change the team composition, but [the] percentage that were allocated to each one did change. As long as the overall was met it was okay.

Some construction firms had a very different experience.

> We actually threw a sub off the project because he just was not performing. We just notified the District that we were doing this and the reason why we're doing it and we had no issues at all.

> They're pretty reasonable to deal with substitutions when they happen.

Most firms reported that the District adequately monitors compliance with M/WBE program requirements.

> From an enforcement standpoint, they've been absolutely phenomenal. I can't say enough about them.

> There's like eight diversity officers. I mean, that's more than most agencies and private companies ever have.

Some minority participants commented that the Diversity Section needs more authority to enforce compliance.

> [Name] is very active and serious, but I just don't know how much power [he or she] has in terms of being able to make change.... If they had some more autonomy and more power to push the envelope on our behalf a lot more, I think we'd be able to get somewhere.

> There are some good GCs out here that, and I think MWRD, if they have a little bit more power in their diversity team to sink their teeth in to making the program better for us, I think that'll help a lot.

Several prime vendors as well as M/WBEs urged the District to count second and lower tier subcontracting participation towards contract goals.

> Count subcontractors and sub-subcontractors toward the goal (sub-tiers).

> I wish that they were a little more flexible on the allowing of second tier subcontractors. Because it gets so stringent that your hands are tied in certain respects.... [The District counts lower tier trucking firms who subcontract to certified truckers but] if you have an electrical MBE, they won't allow that electrical firm to bring in a minority electrical firm below that. And it kind of does not promote diversity there. So, if you have an electrical firm that is not an M or W but wants to mentor or bring in an M or W electrician, they're not allowed to handle it. That has to be from the prime directly to that [M/WBE]. So, that second tier sub, which in relationships, you're kind of getting in the middle of it, and it's very difficult.

> I echo the concerns that the second tier [M/W]BEs [aren’t counted].

> The City of Chicago accepts [lower tier participation].

Several prime contractors questioned why the District will only count dollars to M/WBEs listed on the initial compliance plan, regardless of whether the certified firms actually performed on the contracts. Prime contractors want credit for all their M/WBE spend, not only for the firms listed at the time of bid submission to meet the contract goal.

> We would only list the DB[E] firms and or amounts to get to the 20%, which is original contract goal, and not to exceed it.... And now, you want to bring [another M/WBE] on because they're already on the project. We want to add them to maintain or just be over that goal. Right? But not to be held to an overcommitment that we may not be able to meet at the end of the day. Obviously, if we're 99% done with the job, that's not a problem. And say the last one percent with this

> additional DBE, we're going to obviously get there without having an issue of not underrunning the goal. But I'm talking about the concerns between zero and 20% completion on the project. It's a large project, say for the one I'm on $110M, it's not a $2M job where from bid day, the scope is pretty much set and there's not going to be a whole lot of fluctuation, unless a major change to the contract comes from the owner.… It's a slam dunk in our opinion, but it ends up not being a slam dunk and it leaves us befuddled.
>
> I'll call them backups, where we have multiple Ms and Ws, that if we can award them, if they're low and we give them the work, but we don't have them on the plan. So, say we have somebody for $500,000, and now they've done $250,000 worth of work. And all of a sudden we have a M or W go bankrupt. Or the District changes the scope of work and they take away a couple of hundred thousand dollars worth of work. I'd like to get credit for the full $500,000. We have a contract with them, they've been out there doing the work. They're a legitimate M, but [the District] will tell you that, "Well, I didn't get to inspect and verify that they did the $250,000 worth of work. So, therefore I can't give you credit for that. But if you apply and put them on the plan and submit everything back into me, we will consider giving them credit for the balance of the $250,000 of their contract." It kind of defeats the purpose, from a 5,000-foot view. The goal is to create a substantial workforce, or I should say subcontractors of Ms and Ws. And so, when we're trying to use them, and use them not because we want them on the plan, but because we just want to basically keep a, I'll say, stable of Ms and Ws that we can rely on, that we can create relationships with throughout our, I'll say our work cycle. And to deny us that, it's counterproductive.
>
> [The District has] said, "Well, you can't get certification for that sub if they've already performed work on a contract, until they get approved in the plan." So, if I erroneously ask 50% down the schedule, and they already performed 50% of the work in the job, I can only ask and obtain DBE participation for the remaining 50% of that scope they're going to perform on the contract after I get approval. Even though they may have been certified from day one of bid day.

The requirement to fully rewrite the Utilization Plan when a change order is issued by the District was reported to impose unnecessary burdens on the prime contractor and the M/WBE subcontractors.

> You should only have to submit the new documentation for the new [M/W/]BE sub, and the offsetting documents to reduce the contract value for the [M/W/]BE that's going to under-run the original

> commitment, and not have everybody submit all the documentation again. Because that's currently a request of me. It's not just onerous to the contractor, it's obviously onerous to the subs that aren't really being impacted by the requested change. Unnecessary paperwork, duplicate paperwork for documentation that's already on the file.... I've been required to submit all the documentations for all the DBEs in the current plan, again.

Another suggested revision to counting M/WBE utilization was to follow the national and most common local approach and count dollars spent with certified material suppliers at 60% of the dollar value.

> [Take] another look at [the 100% supplier piece], so we can get some more people actually working on the projects. I think you have to look at that because I just don't think that's fair.... We're actually trying to put people on the job and put people to work. I think keep it standard, just like everywhere else, do the 60% for the suppliers and do the 100% for the contractors.

Supportive services and technical assistance to increase M/WBEs' ability to bid on District prime contracts was welcomed by many interviewees.

> The Tollway's Technical Assistance Program, I think, has been extremely helpful for me. I've taken advantage of it as well. And the Tollway also has a program called P for G, Partnering For Growth, that I'm a part of as well. And they really stand by what they say and they're really trying to help minority and smaller businesses build capacity. So, I think if the MWRD had a program similar to that, to partner up with a larger firm and kind of help build capacity and strategically build your growth, I think it certainly would be helpful.

C. Conclusion

The District's Affirmative Action Program implementation generally complies with M/WBE national best practices. Overall, minority and woman firms obtained work as prime vendors and subcontractors. Prime contractors and consultants were generally able to comply with program requirements. The program was supported by participants and was generally viewed as important to the growth and development of M/WBEs. Few issues with timely payments were reported. However, there are some challenges to address, including broadening outreach and increasing communication of prospective contracting opportunities, especially for consulting firms; increasing current efforts to unbundle contracts; removing hurdles that make it difficult for subcontractors to move into the role of prime vendors and adopting a small business target market program element; eliminating the requirement that already certified firms seek additional certification by the District; setting contract specific goals; revising counting rules; and the lack of a supportive services program.

IV. Utilization, Availability and Disparity Analysis for the Metropolitan Water Reclamation District of Greater Chicago

A. Contract Data Overview

This Study examined the Metropolitan Water Reclamation District of Greater Chicago's ("MWRD's") construction and construction-related services contract dollars for projects for fiscal years 2015 through 2019. The Final Contract Data File ("FCDF") contained 151 prime contracts and 485 subcontracts.[179] Because of this relatively small number of contracts, we did not have to develop a sample and so we analyzed the entire corpus of records, including job order contracts. The net dollar value of contracts to prime contractors and subcontractors was $461,583,321. Tables 4-1 and 4-2 present the distribution of these contracts and the net dollar value of contracts between prime contractors and subcontractors.

Table 4-1: Final Contract Data File Contracts between Prime Contractors and Subcontractors

Business Type	Total Contracts	Share of Total Contracts
Prime Contractors	151	23.7%
Subcontractor	485	76.3%
TOTAL	**636**	**100.0%**

Source: CHA analysis of MWRD data

179. NAICS codes of prime contractors and subcontractors were missing so these were assigned by CHA.

Table 4-2: Final Contract Data File Net Dollar Value of Contracts between Prime Contractors and Subcontractors

Business Type	Total Contract Dollars	Share of Total Contract Dollars
Prime Contractors	$275,605,194	59.7%
Subcontractor	$185,978,127	40.3%
TOTAL	**$461,583,321**	**100.0%**

Source: CHA analysis of MWRD data

The FCDF was used to determine the geographic and product markets for the analysis, and to estimate the utilization of Minority- and Woman-owned Business Enterprises ("M/WBEs") of MWRD's contract spending. We then used the FCDF, in combination with other databases (as described below), to calculate M/WBE unweighted and weighted availability in MWRD's marketplace.

The balance of this Chapter presents detailed information on:

- The Final Contract Data File
- MWRD's geographic market
- The utilization analysis
- The availability analysis
- The disparity analysis

B. Analysis of MWRD's Construction and Construction-Related Services Contracts

As discussed in Chapter II, the federal courts[180] require that a government agency narrowly tailor its race- and gender-conscious contracting program elements to its geographic market area. This element of the analysis must be empirically established.[181] The accepted approach is to analyze those detailed industries, as

180. *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 508 (1989) (Richmond was specifically faulted for including minority contractors from across the country in its program based on the national evidence that supported the USDOT DBE program); *see* 49 C.F.R. §26.45(c); https://www.transportation.gov/osdbu/disadvantaged-business-enterprise/tips-goal-setting-disadvantaged-business-enterprise ("D. Explain How You Determined Your Local Market Area.... your local market area is the area in which the substantial majority of the contractors and subcontractors with which you do business are located and the area in which you spend the substantial majority of your contracting dollars.").

181. *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1520 (10th Cir. 1994) (to confine data to strict geographic boundaries would ignore "economic reality").

defined by six-digit North American Industry Classification System ("NAICS") codes,[182] that make up at least 75% of the prime contract and subcontract payments for the study period.[183]

Table 4-3 identifies all of the NAICS codes in the Final Contract Data File. In Section B-1, we identify MWRD's geographic market. This step of identifying the geographic market imposes a spatial constraint on this data set. Having established the geographic market, we constrain the Final Contract Data File by this spatial parameter in Section B-2. Table 4-4 presents the resulting data.

Table 4-3: Industry Percentage Distribution of MWRD Contracts by Dollars

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
237110	Water and Sewer Line and Related Structures Construction	18.3%	18.3%
237990	Other Heavy and Civil Engineering Construction	17.1%	35.4%
238220	Plumbing, Heating, and Air-Conditioning Contractors	10.8%	46.2%
238910	Site Preparation Contractors	7.5%	53.7%
238210	Electrical Contractors and Other Wiring Installation Contractors	7.3%	60.9%
484220	Specialized Freight (except Used Goods) Trucking, Local	6.6%	67.5%
237310	Highway, Street, and Bridge Construction	5.7%	73.2%
541330	Engineering Services	5.4%	78.7%
221310	Water Supply and Irrigation Systems	2.0%	80.7%
562998	All Other Miscellaneous Waste Management Services	1.9%	82.5%
237120	Oil and Gas Pipeline and Related Structures Construction	1.6%	84.2%
238990	All Other Specialty Trade Contractors	1.2%	85.4%
562991	Septic Tank and Related Services	1.0%	86.4%
238190	Other Foundation, Structure, and Building Exterior Contractors	0.8%	87.2%
238120	Structural Steel and Precast Concrete Contractors	0.8%	88.0%

182. www.census.gov/eos/www/naics.

183. National Academies of Sciences, Engineering, and Medicine 2010, *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*. Washington, DC: The National Academies Press. https://doi.org/10.17226/14346 ("*National Disparity Study Guidelines*").

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
238290	Other Building Equipment Contractors	0.8%	88.8%
541370	Surveying and Mapping (except Geophysical) Services	0.7%	89.5%
238160	Roofing Contractors	0.7%	90.2%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.7%	90.9%
423830	Industrial Machinery and Equipment Merchant Wholesalers	0.7%	91.6%
238320	Painting and Wall Covering Contractors	0.6%	92.2%
561730	Landscaping Services	0.6%	92.9%
541611	Administrative Management and General Management Consulting Services	0.5%	93.4%
221320	Sewage Treatment Facilities	0.5%	93.8%
517312	Wireless Telecommunications Carriers (except Satellite)	0.4%	94.3%
444190	Other Building Material Dealers	0.4%	94.7%
562212	Solid Waste Landfill	0.4%	95.1%
541511	Custom Computer Programming Services	0.4%	95.6%
236220	Commercial and Institutional Building Construction	0.4%	96.0%
238110	Poured Concrete Foundation and Structure Contractors	0.4%	96.4%
115112	Soil Preparation, Planting, and Cultivating	0.4%	96.7%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	0.3%	97.1%
561720	Janitorial Services	0.3%	97.4%
561990	All Other Support Services	0.2%	97.6%
562910	Remediation Services	0.2%	97.8%
562112	Hazardous Waste Collection	0.2%	98.0%
236210	Industrial Building Construction	0.2%	98.3%
562920	Materials Recovery Facilities	0.1%	98.4%
238350	Finish Carpentry Contractors	0.1%	98.5%
238140	Masonry Contractors	0.1%	98.7%

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
541620	Environmental Consulting Services	0.1%	98.8%
423510	Metal Service Centers and Other Metal Merchant Wholesalers	0.1%	98.9%
488210	Support Activities for Rail Transportation	0.1%	99.0%
238390	Other Building Finishing Contractors	0.1%	99.1%
541380	Testing Laboratories	0.1%	99.2%
221330	Steam and Air-Conditioning Supply	0.1%	99.2%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	0.1%	99.3%
541340	Drafting Services	0.1%	99.4%
423490	Other Professional Equipment and Supplies Merchant Wholesalers	0.1%	99.4%
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	0.05%	99.5%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	0.04%	99.5%
424690	Other Chemical and Allied Products Merchant Wholesalers	0.04%	99.5%
424910	Farm Supplies Merchant Wholesalers	0.04%	99.6%
423390	Other Construction Material Merchant Wholesalers	0.04%	99.6%
238330	Flooring Contractors	0.04%	99.7%
541310	Architectural Services	0.04%	99.7%
541320	Landscape Architectural Services	0.03%	99.7%
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	0.03%	99.8%
238150	Glass and Glazing Contractors	0.03%	99.8%
561410	Document Preparation Services	0.02%	99.8%
561320	Temporary Help Services	0.02%	99.8%
326199	All Other Plastics Product Manufacturing	0.02%	99.9%
811111	General Automotive Repair	0.02%	99.9%
237130	Power and Communication Line and Related Structures Construction	0.02%	99.9%

NAICS	NAICS Code Description	Pct Contract Dollars	Cumulative Pct Contract Dollars
541690	Other Scientific and Technical Consulting Services	0.02%	99.9%
423840	Industrial Supplies Merchant Wholesalers	0.01%	99.9%
541922	Commercial Photography	0.01%	99.9%
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	0.01%	99.9%
238310	Drywall and Insulation Contractors	0.01%	99.9%
484210	Used Household and Office Goods Moving	0.01%	99.96%
531320	Offices of Real Estate Appraisers	0.01%	99.96%
323111	Commercial Printing (except Screen and Books)	0.01%	99.97%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	0.01%	99.98%
518210	Data Processing, Hosting, and Related Services	0.01%	99.98%
423440	Other Commercial Equipment Merchant Wholesalers	0.005%	99.99%
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	0.004%	99.99%
541211	Offices of Certified Public Accountants	0.003%	99.99%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	0.003%	99.998%
561621	Security Systems Services (except Locksmiths)	0.001%	99.999%
541110	Offices of Lawyers	0.001%	99.9996%
541191	Title Abstract and Settlement Offices	0.0002%	99.9998%
454310	Fuel Dealers	0.0002%	100.0000%
TOTAL		**100.0%**	

Source: CHA analysis of MWRD data

1. MWRD's Geographic Market

Firm location was determined by ZIP code and aggregated into counties as the geographic unit. Contracts awarded to firms located in the state of Illinois accounted for 92.4% of all dollars during the study period. The six counties within the Chicago Metropolitan Area – Cook, DuPage, Kane, Lake, McHenry, and Will– captured 97.2% of the state dollars and 89.9% of the entire FCDF.

Therefore, these six counties were determined to be the geographic market for MWRD, and we limited our analysis to firms in these counties.

2. MWRD's Utilization of M/WBEs in its Geographic and Product Market

Having determined MWRD's geographic market area, the next step was to determine the dollar value of MWRD's utilization of M/WBEs[184] as measured by net payments to prime firms and subcontractors and disaggregated by race and gender. Tables 4-4 through 4-6 present data on the utilization of contract dollars. (Note that the contract dollar shares in Table 4-4 are equivalent to the weight of spending in each NAICS code. These data were used to calculate weighted availability[185] from unweighted availability, as discussed below.)

Table 4-4: NAICS Code Distribution of Contract Dollars in the Constrained Product Market

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
237990	Other Heavy and Civil Engineering Construction	$76,543,912	18.4%
237110	Water and Sewer Line and Related Structures Construction	$75,995,272	18.3%
238220	Plumbing, Heating, and Air-Conditioning Contractors	$45,692,344	11.0%
238210	Electrical Contractors and Other Wiring Installation Contractors	$32,314,048	7.8%
238910	Site Preparation Contractors	$31,809,116	7.7%
484220	Specialized Freight (except Used Goods) Trucking, Local	$27,854,504	6.7%
237310	Highway, Street, and Bridge Construction	$26,261,742	6.3%
541330	Engineering Services	$17,637,540	4.3%
221310	Water Supply and Irrigation Systems	$9,190,379	2.2%
237120	Oil and Gas Pipeline and Related Structures Construction	$7,472,754	1.8%
238990	All Other Specialty Trade Contractors	$5,269,948	1.3%

184. For our analysis, the term "M/WBE" includes firms that are certified by government agencies and minority- and woman-owned firms that are not certified. As discussed in Chapter II, the inclusion of all minority- and female-owned businesses in the pool casts the broad net approved by the courts and that supports the remedial nature of these programs. *See Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 723 (7th Cir. 2007) (The "remedial nature of the federal scheme militates in favor of a method of DBE availability calculation that casts a broader net.").

185. *See* "Tips for Goal Setting in the Disadvantaged Business Enterprise Program" ("F. Wherever Possible, Use Weighting. Weighting can help ensure that your Step One Base Figure is as accurate as possible. While weighting is not required by the rule, it will make your goal calculation more accurate. For instance, if 90% of your contract dollars will be spent on heavy construction and 10% on trucking, you should weight your calculation of the relative availability of firms by the same percentages.") (emphasis in the original), https://www.transportation.gov/osdbu/disadvantaged-business-enterprise/tips-goal-setting-disadvantaged-business-enterprise.

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
238190	Other Foundation, Structure, and Building Exterior Contractors	$3,853,231	0.9%
541370	Surveying and Mapping (except Geophysical) Services	$3,295,318	0.8%
238120	Structural Steel and Precast Concrete Contractors	$3,267,401	0.8%
238160	Roofing Contractors	$3,265,010	0.8%
562998	All Other Miscellaneous Waste Management Services	$3,223,750	0.8%
238290	Other Building Equipment Contractors	$3,054,109	0.7%
238320	Painting and Wall Covering Contractors	$2,943,512	0.7%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	$2,640,869	0.6%
541611	Administrative Management and General Management Consulting Services	$2,330,671	0.6%
561730	Landscaping Services	$2,321,788	0.6%
221320	Sewage Treatment Facilities	$2,120,165	0.5%
517312	Wireless Telecommunications Carriers (except Satellite)	$2,074,055	0.5%
444190	Other Building Material Dealers	$2,037,419	0.5%
562212	Solid Waste Landfill	$2,010,123	0.5%
236220	Commercial and Institutional Building Construction	$1,930,130	0.5%
238110	Poured Concrete Foundation and Structure Contractors	$1,754,654	0.4%
115112	Soil Preparation, Planting, and Cultivating	$1,684,920	0.4%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	$1,431,295	0.3%
561720	Janitorial Services	$1,394,686	0.3%
541511	Custom Computer Programming Services	$1,273,579	0.3%
423830	Industrial Machinery and Equipment Merchant Wholesalers	$1,200,221	0.3%
561990	All Other Support Services	$1,144,596	0.3%
562910	Remediation Services	$1,026,459	0.2%
236210	Industrial Building Construction	$934,329	0.2%
562920	Materials Recovery Facilities	$684,623	0.2%
238140	Masonry Contractors	$590,733	0.1%
541620	Environmental Consulting Services	$558,908	0.1%
423510	Metal Service Centers and Other Metal Merchant Wholesalers	$557,862	0.1%
238350	Finish Carpentry Contractors	$499,527	0.1%
238390	Other Building Finishing Contractors	$390,927	0.1%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
541380	Testing Laboratories	$388,912	0.1%
221330	Steam and Air-Conditioning Supply	$300,625	0.1%
423490	Other Professional Equipment and Supplies Merchant Wholesalers	$249,500	0.1%
541340	Drafting Services	$245,883	0.1%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	$240,081	0.1%
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	$220,817	0.1%
424910	Farm Supplies Merchant Wholesalers	$203,196	0.05%
238330	Flooring Contractors	$185,602	0.04%
424690	Other Chemical and Allied Products Merchant Wholesalers	$182,175	0.04%
541310	Architectural Services	$164,805	0.04%
541320	Landscape Architectural Services	$155,805	0.04%
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	$140,284	0.03%
238150	Glass and Glazing Contractors	$119,866	0.03%
561410	Document Preparation Services	$98,814	0.02%
561320	Temporary Help Services	$94,154	0.02%
541690	Other Scientific and Technical Consulting Services	$72,546	0.02%
423840	Industrial Supplies Merchant Wholesalers	$64,590	0.02%
541922	Commercial Photography	$43,100	0.01%
238310	Drywall and Insulation Contractors	$41,602	0.01%
484210	Used Household and Office Goods Moving	$39,800	0.01%
531320	Offices of Real Estate Appraisers	$35,100	0.01%
323111	Commercial Printing (except Screen and Books)	$33,929	0.01%
518210	Data Processing, Hosting, and Related Services	$23,558	0.01%
237130	Power and Communication Line and Related Structures Construction	$20,327	0.005%
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	$17,740	0.004%
541211	Offices of Certified Public Accountants	$16,088	0.004%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	$15,000	0.004%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	$2,500	0.001%
541191	Title Abstract and Settlement Offices	$1,025	0.0002%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
454310	Fuel Dealers	$891	0.0002%
TOTAL			**100.0%**

Source: CHA analysis of MWRD data

Table 4-5: Distribution of Contract Dollars by Race and Gender (total dollars)

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
237990	$0	$0	$368,246	$0	$368,246	$0	$368,247	$76,175,664	$76,543,911
237110	$0	$0	$4,635	$0	$4,635	$185,510	$190,145	$75,805,127	$75,995,272
238220	$7,254,160	$3,483,202	$1,877,012	$0	$12,614,375	$6,953,241	$19,567,616	$26,124,730	$45,692,346
238210	$3,462,358	$6,445,796	$0	$0	$9,908,154	$2,454,759	$12,362,913	$19,951,136	$32,314,049
238910	$0	$3,251,292	$11,580	$0	$3,262,872	$12,599,724	$15,862,595	$15,946,521	$31,809,116
484220	$970,778	$21,373,434	$44,021	$0	$22,417,633	$5,237,012	$27,625,245	$229,259	$27,854,504
237310	$13,052,841	$645,864	$3,366,189	$0	$17,064,894	$994,541	$18,059,435	$8,202,308	$26,261,743
541330	$594,838	$73,926	$5,421,995	$0	$6,090,760	$712,031	$6,802,791	$10,834,748	$17,637,539
221310	$0	$0	$0	$0	$0	$0	$0	$9,190,379	$9,190,379
237120	$0	$602,154	$0	$0	$602,154	$3,793,215	$4,395,369	$3,077,384	$7,472,753
238990	$0	$711,166	$0	$0	$711,166	$596,761	$1,307,927	$3,962,021	$5,269,948
238190	$0	$0	$578,610	$0	$578,610	$2,753,406	$3,332,016	$521,215	$3,853,231
541370	$322,246	$14,865	$0	$0	$337,111	$40,207	$377,318	$2,918,000	$3,295,318
238120	$0	$2,112,865	$0	$0	$2,112,865	$257,628	$2,370,493	$896,908	$3,267,401
238160	$722,262	$9,500	$31,278	$0	$763,040	$184,977	$948,017	$2,316,993	$3,265,010
562998	$0	$0	$0	$0	$0	$3,223,750	$3,223,750	$0	$3,223,750
238290	$504,908	$103,962	$37,451	$0	$646,321	$12,811	$659,132	$2,394,977	$3,054,109

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
238320	$12,915	$768,250	$0	$0	$781,165	$1,226,054	$2,007,219	$936,293	$2,943,512
811310	$0	$0	$0	$0	$0	$0	$0	$2,640,869	$2,640,869
541611	$0	$0	$0	$0	$0	$2,330,671	$2,330,671	$0	$2,330,671
561730	$0	$222,037	$1,453,961	$0	$1,675,997	$0	$1,675,997	$645,791	$2,321,788
221320	$0	$0	$0	$0	$0	$2,120,165	$2,120,165	$0	$2,120,165
517312	$0	$0	$0	$0	$0	$0	$0	$2,074,055	$2,074,055
444190	$2,014,371	$0	$0	$0	$2,014,371	$0	$2,014,371	$23,048	$2,037,419
562212	$0	$0	$0	$0	$0	$0	$0	$2,010,123	$2,010,123
236220	$371,348	$447,882	$1,089,093	$0	$1,908,323	$21,807	$1,930,130	$0	$1,930,130
238110	$0	$94,070	$0	$0	$94,070	$1,660,584	$1,754,654	$0	$1,754,654
115112	$0	$0	$0	$0	$0	$0	$0	$1,684,920	$1,684,920
424720	$0	$463,886	$496,353	$0	$960,239	$452,701	$1,412,940	$18,355	$1,431,295
561720	$503,347	$0	$0	$0	$503,347	$0	$503,347	$891,339	$1,394,686
541511	$0	$0	$0	$0	$0	$0	$0	$1,273,579	$1,273,579
423830	$50,550	$0	$0	$0	$50,550	$0	$50,550	$1,149,671	$1,200,221
561990	$0	$35,500	$0	$0	$35,500	$789,177	$824,677	$319,919	$1,144,596
562910	$0	$435,385	$0	$0	$435,385	$0	$435,385	$591,074	$1,026,459
236210	$0	$0	$0	$0	$0	$0	$0	$934,329	$934,329
562920	$0	$0	$0	$0	$0	$684,623	$684,623	$0	$684,623
238140	$0	$0	$0	$0	$0	$528,758	$528,758	$61,975	$590,733
541620	$90,000	$0	$0	$0	$90,000	$333,839	$423,840	$135,068	$558,908
423510	$122,434	$0	$0	$0	$122,434	$352,953	$475,387	$82,475	$557,862
238350	$352,588	$0	$0	$0	$352,588	$5,538	$358,126	$141,401	$499,527

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
238390	$0	$147,566	$0	$0	$147,566	$0	$147,566	$243,361	$390,927
541380	$0	$6,972	$273,062	$0	$280,034	$96,625	$376,659	$12,253	$388,912
221330	$0	$0	$0	$0	$0	$300,625	$300,625	$0	$300,625
423490	$0	$0	$0	$0	$0	$0	$0	$249,500	$249,500
541340	$0	$0	$245,883	$0	$245,883	$0	$245,883	$0	$245,883
423610	$194,639	$0	$17,871	$0	$212,511	$0	$212,511	$27,570	$240,081
423120	$0	$0	$0	$0	$0	$0	$0	$220,817	$220,817
424910	$0	$0	$0	$0	$0	$0	$0	$203,196	$203,196
238330	$0	$0	$0	$0	$0	$172,222	$172,222	$13,380	$185,602
424690	$0	$0	$0	$0	$0	$0	$0	$182,175	$182,175
541310	$0	$0	$164,805	$0	$164,805	$0	$164,805	$0	$164,805
541320	$0	$36,130	$0	$0	$36,130	$26,760	$62,890	$92,915	$155,805
423330	$140,284	$0	$0	$0	$140,284	$0	$140,284	$0	$140,284
238150	$0	$0	$0	$0	$0	$102,856	$102,856	$17,010	$119,866
561410	$0	$0	$0	$0	$0	$98,814	$98,814	$0	$98,814
561320	$0	$70,477	$0	$0	$70,477	$10,356	$80,834	$13,320	$94,154
541690	$0	$0	$24,900	$0	$24,900	$47,646	$72,546	$0	$72,546
423840	$0	$0	$0	$0	$0	$0	$0	$64,590	$64,590
541922	$0	$0	$0	$0	$0	$43,100	$43,100	$0	$43,100
238310	$0	$0	$0	$0	$0	$0	$0	$41,602	$41,602
484210	$0	$0	$0	$0	$0	$0	$0	$39,800	$39,800
531320	$6,750	$0	$0	$0	$6,750	$28,350	$35,100	$0	$35,100
323111	$0	$0	$0	$0	$0	$33,929	$33,929	$0	$33,929

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
518210	$0	$0	$23,558	$0	$23,558	$0	$23,558	$0	$23,558
237130	$0	$0	$0	$0	$0	$0	$0	$20,327	$20,327
541715	$15,100	$0	$0	$0	$15,100	$2,640	$17,740	$0	$17,740
541211	$0	$0	$0	$0	$0	$0	$0	$16,088	$16,088
423720	$0	$0	$0	$0	$0	$15,000	$15,000	$0	$15,000
423320	$0	$0	$0	$0	$0	$0	$0	$2,500	$2,500
541191	$0	$0	$1,025	$0	$1,025	$0	$1,025	$0	$1,025
454310	$0	$0	$0	$0	$0	$0	$0	$891	$891
Total	**$30,758,718**	**$41,556,181**	**$15,531,530**	**$0**	**$87,875,828**	**$51,485,366**	**$139,331,795**	**$275,622,949**	**$414,954,744**

Source: CHA analysis of MWRD data

Table 4-6: Distribution of Contract Dollars by Race and Gender (share of total dollars)

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
237990	0.0%	0.0%	0.5%	0.0%	0.5%	0.0%	0.5%	99.5%	100.0%
237110	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	99.7%	100.0%
238220	15.9%	7.6%	4.1%	0.0%	27.6%	15.2%	42.8%	57.2%	100.0%
238210	10.7%	19.9%	0.0%	0.0%	30.7%	7.6%	38.3%	61.7%	100.0%
238910	0.0%	10.2%	0.0%	0.0%	10.3%	39.6%	49.9%	50.1%	100.0%
484220	3.5%	76.7%	0.2%	0.0%	80.5%	18.8%	99.2%	0.8%	100.0%
237310	49.7%	2.5%	12.8%	0.0%	65.0%	3.8%	68.8%	31.2%	100.0%
541330	3.4%	0.4%	30.7%	0.0%	34.5%	4.0%	38.6%	61.4%	100.0%
221310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
237120	0.0%	8.1%	0.0%	0.0%	8.1%	50.8%	58.8%	41.2%	100.0%
238990	0.0%	13.5%	0.0%	0.0%	13.5%	11.3%	24.8%	75.2%	100.0%
238190	0.0%	0.0%	15.0%	0.0%	15.0%	71.5%	86.5%	13.5%	100.0%
541370	9.8%	0.5%	0.0%	0.0%	10.2%	1.2%	11.5%	88.5%	100.0%
238120	0.0%	64.7%	0.0%	0.0%	64.7%	7.9%	72.5%	27.5%	100.0%
238160	22.1%	0.3%	1.0%	0.0%	23.4%	5.7%	29.0%	71.0%	100.0%
562998	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
238290	16.5%	3.4%	1.2%	0.0%	21.2%	0.4%	21.6%	78.4%	100.0%
238320	0.4%	26.1%	0.0%	0.0%	26.5%	41.7%	68.2%	31.8%	100.0%
811310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541611	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
561730	0.0%	9.6%	62.6%	0.0%	72.2%	0.0%	72.2%	27.8%	100.0%
221320	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
517312	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
444190	98.9%	0.0%	0.0%	0.0%	98.9%	0.0%	98.9%	1.1%	100.0%
562212	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
236220	19.2%	23.2%	56.4%	0.0%	98.9%	1.1%	100.0%	0.0%	100.0%
238110	0.0%	5.4%	0.0%	0.0%	5.4%	94.6%	100.0%	0.0%	100.0%
115112	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424720	0.0%	32.4%	34.7%	0.0%	67.1%	31.6%	98.7%	1.3%	100.0%
561720	36.1%	0.0%	0.0%	0.0%	36.1%	0.0%	36.1%	63.9%	100.0%
541511	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423830	4.2%	0.0%	0.0%	0.0%	4.2%	0.0%	4.2%	95.8%	100.0%
561990	0.0%	3.1%	0.0%	0.0%	3.1%	68.9%	72.0%	28.0%	100.0%
562910	0.0%	42.4%	0.0%	0.0%	42.4%	0.0%	42.4%	57.6%	100.0%
236210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562920	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
238140	0.0%	0.0%	0.0%	0.0%	0.0%	89.5%	89.5%	10.5%	100.0%
541620	16.1%	0.0%	0.0%	0.0%	16.1%	59.7%	75.8%	24.2%	100.0%
423510	21.9%	0.0%	0.0%	0.0%	21.9%	63.3%	85.2%	14.8%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
238350	70.6%	0.0%	0.0%	0.0%	70.6%	1.1%	71.7%	28.3%	100.0%
238390	0.0%	37.7%	0.0%	0.0%	37.7%	0.0%	37.7%	62.3%	100.0%
541380	0.0%	1.8%	70.2%	0.0%	72.0%	24.8%	96.8%	3.2%	100.0%
221330	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
423490	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541340	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
423610	81.1%	0.0%	7.4%	0.0%	88.5%	0.0%	88.5%	11.5%	100.0%
423120	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424910	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
238330	0.0%	0.0%	0.0%	0.0%	0.0%	92.8%	92.8%	7.2%	100.0%
424690	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541310	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
541320	0.0%	23.2%	0.0%	0.0%	23.2%	17.2%	40.4%	59.6%	100.0%
423330	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
238150	0.0%	0.0%	0.0%	0.0%	0.0%	85.8%	85.8%	14.2%	100.0%
561410	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
561320	0.0%	74.9%	0.0%	0.0%	74.9%	11.0%	85.9%	14.1%	100.0%
541690	0.0%	0.0%	34.3%	0.0%	34.3%	65.7%	100.0%	0.0%	100.0%
423840	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541922	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
238310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
484210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
531320	19.2%	0.0%	0.0%	0.0%	19.2%	80.8%	100.0%	0.0%	100.0%
323111	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
518210	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
237130	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541715	85.1%	0.0%	0.0%	0.0%	85.1%	14.9%	100.0%	0.0%	100.0%
541211	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423720	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
423320	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
541191	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
454310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Total	**7.4%**	**10.0%**	**3.7%**	**0.0%**	**21.2%**	**12.4%**	**33.6%**	**66.4%**	**100.0%**

Source: CHA analysis of MWRD data

3. Availability of M/WBEs in MWRD's Geographic and Product Market

Estimates of the availability of M/WBEs in MWRD's geographic market are a critical component of MWRD's compliance with its constitutional obligations to ensure its program is narrowly tailored. As discussed in Chapter II, the courts require that the availability estimates reflect the number of "ready, willing and able" firms that can perform on specific types of work involved in the recipient's prime contracts and associated subcontracts. Availability estimates are also crucial for MWRD to determine its annual MBE and WBE targets and to set narrowly tailored contract goals.

To examine whether M/WBEs are receiving full opportunities on MWRD contracts, these narrowly tailored availability estimates were compared to the utilization percentage of dollars received by M/WBEs, discussed below in Section C.

We applied the "custom census" approach, with refinements, to estimating availability, discussed in Chapter II. Using this framework, CHA utilized three databases to estimate availability:

- The Final Contract Data File (described in Section B of this Chapter).
- The Master M/WBE Directory compiled by CHA.
- Dun & Bradstreet/Hoovers Database.

First, we eliminated any duplicate entries in the geographically constrained FCDF. Some firms received multiple contracts for work performed in the same NAICS codes. Without this elimination of duplicate listings, the availability database would be artificially large. This list of unique firms comprised the first component of the study's availability determination.

To develop the Master Directory, we utilized the Illinois Unified Certification Directory, the City of Chicago Certified Directory, Cook County, Illinois' Certified Directory, and the MWRD Contract Data File to compile the Master Directory. We limited the firms we used in our analysis to those operating within MWRD's product market.

We next developed a custom database from Hoovers, a Dun & Bradstreet company for minority- and woman-owned firms and non-M/WBEs. Hoovers maintains a comprehensive, extensive, and regularly updated listing of all firms conducting business. The database includes a vast amount of information on each firm, including location and detailed industry codes, and is the broadest publicly available data source for firm information. We purchased the information from Hoovers for the firms in the NAICS codes located in MWRD's market area in order to form our custom Dun & Bradstreet/Hoovers Database. In the initial download, the data from Hoovers simply identified a firm as being minority-owned.[186] However, the company does keep detailed information on ethnicity (*i.e.*, is the minority firm owner Black, Hispanic, Asian, or Native American). We obtained this additional information from Hoovers by special request.

The Hoovers database is the most comprehensive list of minority-owned and woman-owned businesses available. It is developed from the efforts of a national firm whose business is collecting business information. Hoovers builds its database from over 250 sources, including information from government sources and various associations, and its own efforts. Hoovers conducts an audit of the preliminary database prior to the public release of the data. That audit must result in a minimum of 94% accuracy. Once published, Hoovers has an established protocol to regularly refresh its data. This protocol involves updating any third-party lists that were used and contacting a selection of firms via Hoover's own call centers.

We merged these three databases to form an accurate estimate of firms available to work on MWRD contracts. For an extended explanation of how unweighted and weighted availability are calculated, please see Appendix D.

Tables 4-7 through 4-9 present data on:

1. The unweighted availability percentages by race and gender and by NAICS codes for MWRD's product market. These results can be used by MWRD as the starting point to set narrowly tailored contract-specific goals;
2. The weights used to adjust the unweighted numbers;[187] and
3. The final estimates of the weighted averages of the individual six-digit level availability estimates in MWRD's market area.

We "weighted" the availability data for two reasons. First, the weighted availability represents the share of total possible contractors for each demographic group, weighted by the distribution of contract dollars across the NAICS codes in which MWRD spends its dollars. Weighting is necessary because the dispar-

186. The variable is labeled: "Is Minority Owned" and values for the variable can be either "1" (for yes) or blank.
187. These weights are equivalent to the share of contract dollars presented in the previous section.

ity ratio, discussed below, must be an "apples-to-apples" comparison. The numerator – the utilization rate – is measured in dollars *not* the number of firms. Therefore, the denominator – availability – must be measured in dollars, not the number of firms.

Second, weighting also reflects the importance of the availability of a demographic group in a particular NAICS code, that is, how important that NAICS code is to MWRD's contracting patterns. For example, in a hypothetical NAICS Code 123456, the total available firms are 100 and 60 of these firms are M/WBEs; hence, M/WBE availability would be 60%. However, if MWRD spends only one percent of its contract dollars in this NAICS code, then this high availability would be offset by the low level of spending in that NAICS code. In contrast, if MWRD spent 25% of its contract dollars in NAICS Code 123456, then the same availability would carry a greater weight.

To calculate the weighted availability for each NAICS code, we first determined the unweighted availability for each demographic group in each NAICS code (presented in Table 4-7). In the previous example, the unweighted availability for M/WBEs in NAICS Code 123456 is 60%. We then multiplied the unweighted availability by the share of MWRD spending in that NAICS code presented in Table 4-8. This share is the *weight.* Using the previous example where MWRD spending in NAICS Code 123456 was one percent, the component of M/WBE weighted availability for NAICS Code 123456 would be 0.006: 60% multiplied by one percent.

We performed this calculation for each NAICS code and then summed all of the individual components for each demographic group to determine the weighted availability for that group. The results of this calculation are presented in Table 4-9.

Table 4-7: Unweighted M/WBE Availability for MWRD Contracts

NAICS	Black	Hispanic	Asian	Native American	MBE	White Woman	M/WBE	Non-M/WBE	Total
115112	4.5%	0.0%	0.0%	0.0%	4.5%	4.5%	9.1%	90.9%	100.0%
221310	0.0%	3.4%	0.0%	0.0%	3.4%	2.9%	6.4%	93.6%	100.0%
221320	0.0%	5.1%	0.0%	0.0%	5.1%	10.3%	15.4%	84.6%	100.0%
221330	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%	50.0%	100.0%
236210	9.2%	6.7%	3.6%	0.0%	19.5%	9.2%	28.7%	71.3%	100.0%
236220	6.1%	5.1%	2.2%	0.5%	13.9%	6.9%	20.8%	79.2%	100.0%
237110	2.2%	6.7%	5.0%	0.0%	13.9%	9.0%	22.9%	77.1%	100.0%
237120	6.9%	2.3%	1.5%	0.8%	11.5%	11.5%	22.9%	77.1%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Woman	M/WBE	Non-M/WBE	Total
237130	10.8%	10.8%	9.7%	0.0%	31.2%	9.7%	40.9%	59.1%	100.0%
237310	6.3%	10.6%	3.8%	0.3%	21.0%	9.2%	30.2%	69.8%	100.0%
237990	7.7%	8.2%	6.0%	0.0%	21.9%	9.8%	31.7%	68.3%	100.0%
238110	2.8%	4.8%	1.1%	0.0%	8.7%	6.0%	14.6%	85.4%	100.0%
238120	9.0%	19.3%	2.1%	0.0%	30.3%	18.6%	49.0%	51.0%	100.0%
238140	2.1%	2.4%	0.2%	0.0%	4.8%	4.7%	9.5%	90.5%	100.0%
238150	3.8%	3.8%	0.0%	0.0%	7.6%	6.2%	13.8%	86.2%	100.0%
238160	1.0%	0.9%	0.4%	0.0%	2.3%	3.2%	5.5%	94.5%	100.0%
238190	6.3%	12.6%	4.5%	0.0%	23.4%	13.5%	36.9%	63.1%	100.0%
238210	2.6%	2.0%	0.6%	0.1%	5.4%	7.2%	12.6%	87.4%	100.0%
238220	1.5%	1.3%	0.3%	0.0%	3.1%	3.8%	6.9%	93.1%	100.0%
238290	9.0%	7.6%	2.8%	0.0%	19.4%	12.5%	31.9%	68.1%	100.0%
238310	3.7%	6.3%	0.8%	0.0%	10.8%	5.6%	16.3%	83.7%	100.0%
238320	1.6%	1.3%	0.2%	0.1%	3.2%	3.4%	6.6%	93.4%	100.0%
238330	1.7%	3.4%	1.2%	0.0%	6.4%	6.4%	12.7%	87.3%	100.0%
238350	7.9%	6.7%	2.2%	0.0%	16.7%	6.9%	23.6%	76.4%	100.0%
238390	3.3%	4.0%	0.7%	0.0%	7.9%	5.3%	13.2%	86.8%	100.0%
238910	4.7%	8.7%	1.8%	0.1%	15.3%	10.9%	26.2%	73.8%	100.0%
238990	1.5%	1.7%	0.4%	0.0%	3.6%	3.2%	6.9%	93.1%	100.0%
323111	0.8%	0.5%	0.7%	0.0%	2.0%	8.0%	9.9%	90.1%	100.0%
423120	0.4%	0.9%	0.9%	0.0%	2.2%	3.9%	6.1%	93.9%	100.0%
423320	0.6%	2.2%	1.5%	0.0%	4.3%	5.3%	9.6%	90.4%	100.0%
423330	4.0%	2.0%	2.0%	0.0%	8.1%	2.0%	10.1%	89.9%	100.0%
423490	1.3%	0.6%	1.3%	0.0%	3.2%	9.7%	13.0%	87.0%	100.0%
423510	1.1%	0.6%	0.7%	0.0%	2.4%	5.0%	7.4%	92.6%	100.0%
423610	2.7%	2.1%	1.6%	0.1%	6.6%	8.7%	15.3%	84.7%	100.0%
423720	1.9%	1.2%	0.0%	0.0%	3.1%	8.5%	11.6%	88.4%	100.0%
423830	0.5%	0.3%	0.4%	0.0%	1.3%	4.8%	6.1%	93.9%	100.0%
423840	1.0%	1.3%	0.6%	0.0%	2.9%	6.8%	9.6%	90.4%	100.0%
424690	1.0%	1.3%	1.9%	0.0%	4.2%	7.6%	11.8%	88.2%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Woman	M/WBE	Non-M/WBE	Total
424720	1.5%	1.5%	2.7%	0.0%	5.7%	6.6%	12.3%	87.7%	100.0%
424910	0.0%	0.0%	0.8%	0.0%	0.8%	4.7%	5.5%	94.5%	100.0%
444190	1.7%	1.2%	0.0%	0.0%	2.9%	7.1%	10.0%	90.0%	100.0%
454310	0.0%	0.9%	0.0%	0.0%	0.9%	3.5%	4.3%	95.7%	100.0%
484220	9.4%	22.4%	4.7%	0.0%	36.6%	17.7%	54.3%	45.7%	100.0%
484210	2.4%	1.4%	0.0%	0.0%	3.8%	6.5%	10.3%	89.7%	100.0%
517312	0.2%	0.0%	1.5%	0.0%	1.7%	1.2%	2.9%	97.1%	100.0%
518210	2.5%	0.7%	1.9%	0.1%	5.2%	5.9%	11.1%	88.9%	100.0%
531320	2.6%	0.0%	0.0%	0.0%	2.6%	5.1%	7.8%	92.2%	100.0%
541191	0.0%	0.0%	0.8%	0.0%	0.8%	2.4%	3.3%	96.7%	100.0%
541211	1.2%	0.4%	0.4%	0.0%	2.0%	5.8%	7.8%	92.2%	100.0%
541310	1.7%	2.2%	2.3%	0.1%	6.3%	7.9%	14.2%	85.8%	100.0%
541320	0.8%	0.9%	0.3%	0.0%	2.0%	4.0%	6.0%	94.0%	100.0%
541330	3.1%	3.0%	5.0%	0.2%	11.3%	5.2%	16.5%	83.5%	100.0%
541340	8.6%	5.2%	22.4%	0.0%	36.2%	12.1%	48.3%	51.7%	100.0%
541370	4.6%	5.0%	5.0%	0.0%	14.5%	11.2%	25.7%	74.3%	100.0%
541380	1.0%	1.2%	3.4%	0.1%	5.6%	4.1%	9.7%	90.3%	100.0%
541511	1.6%	0.4%	3.9%	0.0%	5.9%	4.4%	10.3%	89.7%	100.0%
541611	3.2%	0.9%	1.0%	0.1%	5.3%	8.2%	13.4%	86.6%	100.0%
541620	4.5%	3.8%	2.4%	0.2%	10.9%	11.6%	22.5%	77.5%	100.0%
541690	4.5%	2.2%	2.8%	0.1%	9.7%	9.8%	19.5%	80.5%	100.0%
541715	2.3%	2.1%	1.5%	0.2%	6.0%	3.9%	9.9%	90.1%	100.0%
541922	1.3%	0.2%	0.2%	0.0%	1.6%	6.6%	8.2%	91.8%	100.0%
561320	3.6%	2.5%	1.9%	0.0%	8.0%	10.2%	18.2%	81.8%	100.0%
561410	2.7%	0.0%	0.0%	0.7%	3.4%	30.8%	34.2%	65.8%	100.0%
561720	2.9%	0.8%	0.3%	0.1%	4.0%	7.7%	11.7%	88.3%	100.0%
561730	1.0%	2.0%	0.3%	0.0%	3.3%	3.6%	6.9%	93.1%	100.0%
561990	2.8%	0.4%	0.5%	0.0%	3.8%	7.8%	11.6%	88.4%	100.0%
562212	1.6%	0.8%	0.0%	0.0%	2.5%	1.6%	4.1%	95.9%	100.0%
562910	11.6%	14.7%	1.6%	0.0%	27.9%	10.1%	38.0%	62.0%	100.0%

NAICS	Black	Hispanic	Asian	Native American	MBE	White Woman	M/WBE	Non-M/WBE	Total
562920	0.2%	0.2%	0.2%	0.0%	0.6%	3.8%	4.4%	95.6%	100.0%
562998	11.3%	7.5%	0.0%	0.0%	18.9%	18.9%	37.7%	62.3%	100.0%
811310	0.5%	0.8%	0.2%	0.0%	1.5%	4.5%	6.0%	94.0%	100.0%
Total	**2.4%**	**1.7%**	**1.2%**	**0.1%**	**5.3%**	**6.3%**	**11.6%**	**88.4%**	**100.0%**

Source: CHA analysis of MWRD data; Hoovers; CHA Master Directory

Table 4-8: Distribution of MWRD Spending by NAICS Code (the Weights)

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
115112	Soil Preparation, Planting, and Cultivating	0.4%
221310	Water Supply and Irrigation Systems	2.2%
221320	Sewage Treatment Facilities	0.5%
221330	Steam and Air-Conditioning Supply	0.1%
236210	Industrial Building Construction	0.2%
236220	Commercial and Institutional Building Construction	0.5%
237110	Water and Sewer Line and Related Structures Construction	18.3%
237120	Oil and Gas Pipeline and Related Structures Construction	1.8%
237130	Power and Communication Line and Related Structures Construction	0.005%
237310	Highway, Street, and Bridge Construction	6.3%
237990	Other Heavy and Civil Engineering Construction	18.4%
238110	Poured Concrete Foundation and Structure Contractors	0.4%
238120	Structural Steel and Precast Concrete Contractors	0.8%
238140	Masonry Contractors	0.1%
238150	Glass and Glazing Contractors	0.03%
238160	Roofing Contractors	0.8%
238190	Other Foundation, Structure, and Building Exterior Contractors	0.9%
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%
238290	Other Building Equipment Contractors	0.7%

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
238310	Drywall and Insulation Contractors	0.01%
238320	Painting and Wall Covering Contractors	0.7%
238330	Flooring Contractors	0.04%
238350	Finish Carpentry Contractors	0.1%
238390	Other Building Finishing Contractors	0.1%
238910	Site Preparation Contractors	7.7%
238990	All Other Specialty Trade Contractors	1.3%
323111	Commercial Printing (except Screen and Books)	0.01%
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	0.1%
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	0.001%
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	0.03%
423490	Other Professional Equipment and Supplies Merchant Wholesalers	0.1%
423510	Metal Service Centers and Other Metal Merchant Wholesalers	0.1%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	0.1%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	0.004%
423830	Industrial Machinery and Equipment Merchant Wholesalers	0.3%
423840	Industrial Supplies Merchant Wholesalers	0.02%
424690	Other Chemical and Allied Products Merchant Wholesalers	0.04%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	0.3%
424910	Farm Supplies Merchant Wholesalers	0.05%
444190	Other Building Material Dealers	0.5%
454310	Fuel Dealers	0.0002%
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%
484210	Used Household and Office Goods Moving	0.01%
517312	Wireless Telecommunications Carriers (except Satellite)	0.5%
518210	Data Processing, Hosting, and Related Services	0.01%

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
531320	Offices of Real Estate Appraisers	0.01%
541191	Title Abstract and Settlement Offices	0.0002%
541211	Offices of Certified Public Accountants	0.004%
541310	Architectural Services	0.04%
541320	Landscape Architectural Services	0.04%
541330	Engineering Services	4.3%
541340	Drafting Services	0.1%
541370	Surveying and Mapping (except Geophysical) Services	0.8%
541380	Testing Laboratories	0.1%
541511	Custom Computer Programming Services	0.3%
541611	Administrative Management and General Management Consulting Services	0.6%
541620	Environmental Consulting Services	0.1%
541690	Other Scientific and Technical Consulting Services	0.02%
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	0.004%
541922	Commercial Photography	0.01%
561320	Temporary Help Services	0.02%
561410	Document Preparation Services	0.02%
561720	Janitorial Services	0.3%
561730	Landscaping Services	0.6%
561990	All Other Support Services	0.3%
562212	Solid Waste Landfill	0.5%
562910	Remediation Services	0.2%
562920	Materials Recovery Facilities	0.2%
562998	All Other Miscellaneous Waste Management Services	0.8%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.6%
Total		**100.0%**

Source: CHA analysis of MWRD data

As explained above, the aggregated availability of M/WBEs, weighted by MWRD's spending in its geographic and industry markets, is 23.3% for MWRD's contracts. Table 4-9 presents these results for each of the racial and gender categories. The overall, weighted M/WBE availability results can be used by MWRD to determine its overall, annual aspirational MBE and WBE goals.

Table 4-9: Aggregated Weighted Availability for MWRD Contracts

Black	Hispanic	Asian	Native American	MBE	White Women	M/WBE	Non-M/WBE	Total
4.4%	6.8%	3.3%	0.1%	14.5%	8.8%	23.3%	76.7%	100.0%

Source: CHA analysis of MWRD data; Hoovers; CHA Master Directory

4. Analysis of the Concentration of Contract Dollars among Firms

In addition to examining the level of M/WBE and non-M/WBE contract dollars utilization, another important dimension to a disparity analysis is the level of contract dollars concentration among M/WBE and non-M/WBE firms. This approach is important because the success of a group in receiving contract dollars may be caused by an unusual amount of dollars concentrated among a few firms. If that is the case, then a race- or gender-based remedial program may still be supportable even though a few firms have been able to overcome discriminatory barriers. This section presents data to examine this issue.

Prior to presenting these results data, it is important to emphasize two important facts: 1) the three NAICS codes that provide the most contract dollars to M/WBEs capture a smaller share of overall MWRD spending than the top three NAICS codes for MWRD spend; and 2) the three NAICS codes that provide the most contract dollars to M/WBEs are different from the three NAICS codes that provide non-M/WBE firms their most contract dollars.

With respect to the first issue, Table 4-10 presents data on the share of MWRD contract dollars received by the top three NAICS codes for each demographic group. (Note: these shares are equivalent to the weights presented in Table 4-8.) The three NAICS codes where MWRD spent most of its contract dollars capture 47.8% of all MWRD spending. However, for each M/WBE group, the corresponding figure for the share of spending captured by the top three codes is approximately half of this: ranging between 21.6% and 25.5 %.

Table 4-10: Comparison of the Share of MWRD Spending Captured by the Top Three NAICS Codes for Each Demographic Group

Demographic Group	Share of All MWRD Spending in the Top Three NAICS Codes for Each Group
All	47.8%
Black	25.1%
Hispanic	25.5%
Asian	21.6%
White Woman	25.4%
Non-M/WBE	47.8%

Source: CHA analysis of MWRD data

With respect to the second issue, Table 4-11 provides more detail on the data presented in Table 4-10. The Table lists the top three codes for each group and their corresponding share of MWRD spending. NAICS code 238220 (Plumbing, Heating, and Air-Conditioning Contractors) is the only MWRD top three code that appears for all demographic groups. We can conclude that the NAICS codes that are important to non-M/WBEs are different than the codes that are important to M/WBEs.

Table 4-11: The Top Three MWRD Spending NAICS Codes for Each Demographic Group

NAICS	NAICS Code Label	WEIGHT	Total of Top Three Codes
All			
237990	Other Heavy and Civil Engineering Construction	18.4%	
237110	Water and Sewer Line and Related Structures Construction	18.3%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	47.7%
Black			
237310	Highway, Street, and Bridge Construction	6.3%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%	25.1%
Hispanic			
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%	

NAICS	NAICS Code Label	WEIGHT	Total of Top Three Codes
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	25.5%
Asian			
541330	Engineering Services	4.3%	
237310	Highway, Street, and Bridge Construction	6.3%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	21.6%
White Woman			
238910	Site Preparation Contractors	7.7%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%	25.4%
Non-M/WBE			
237990	Other Heavy and Civil Engineering Construction	18.4%	
237110	Water and Sewer Line and Related Structures Construction	18.3%	
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	47.7%

Source: CHA analysis of MWRD data

Tables 4-12 through 4-27 present more details on how MWRD spending varies across groups and within groups. These results illustrate the different levels of concentration of contract dollars among M/WBEs compared to non-M/WBEs. For each demographic group, we re-state the three NAICS codes where the group receives the largest share of MWRD's spending (first presented in Table 4-11). We next present the share of all group contract dollars and compare that share to the corresponding share received by non-M/WBEs. Finally, we examine each of the NAICS codes individually to compare the concentration of contract dollars among the three largest firms for that group to the concentration of contract dollars among the three largest non-M/WBEs.

Tables 4-12 through 4-15 present data for Black-owned firms.

- Table 4-12 presents the three NAICS codes where Black firms received the largest share of their contract dollars. While these codes captured 77.3% of all Black contract dollars, the corresponding figure for non-M/WBEs was 19.7%. In particular, while MWRD only spent 6.3% of its dollars in NAICS code 237310, 42.4% of all Black contract dollars came from this code. This disproportionality was evident in the other two leading codes for Black firms: NAICS code 238220 contributed 23.6% to all Black contract dollars but just 11.0% to all MWRD spending; NAICS code 238210 contributed 11.3% to all Black contract dollars but just 7.8% to all MWRD spending.

- Table 4-13 presents data on the firm concentration in NAICS 237310. Here, two Black firms each received one contract from MWRD; in contrast, five non-M/WBE firms received six contracts. One Black firm received 96.4% of all Black contract dollars; this was similar to the share of all non-M/WBE contract dollars received by the top non-M/WBE firm.
- Table 4-14 presents data on the firm concentration in NAICS 238220. In this code, seven Black firms received nine contracts; for non-M/WBEs, the corresponding figures were 10 firms received 20 contracts. Here, one firm received 24.3% of all Black contract dollars; in contrast, the top non-M/WBE firm received 56.4% of all non-M/WBE dollars.
- Table 4-15 presents data on the firm concentration in NAICS 238210. Seven Black firms received nine contracts; for non-M/WBEs, the corresponding figures were 15 firms receiving 23 contracts. One firm received 75.1% of all Black contract dollars; in contrast, the top non-M/WBE firm received only 30.1% of all non-M/WBE dollars.

Table 4-12: Three NAICS Codes where Black Firms Received the Most Spending

NAICS Code	NAICS Code Label	Weight	Share of Total Black Dollars	Share of Total Non-M/WBE Dollars
237310	Highway, Street, and Bridge Construction	6.3%	42.4%	3.0%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	23.6%	9.5%
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%	11.3%	7.2%
Total 3-code Share of Total Group Dollars			77.3%	19.7%

Source: CHA analysis of MWRD data

Table 4-13: Comparison of Black and non-M/WBE Firm Concentration
NAICS Code 237310: Highway, Street, and Bridge Construction

	Black	Non-M/WBE
Number of Contracts	2	6
Number of Firms	2	5
Share of #1	96.4%	96.7%
Share of #2	3.6%	1.6%
Share of #3	0.0%	1.1%
Share of Top 3	100.0%	99.4%

Source: CHA analysis of MWRD data

Table 4-14: Comparison of Black and non-M/WBE Firm Concentration
NAICS Code 238220: Plumbing, Heating, and Air-Conditioning Contractors

	Black	Non-M/WBE
Number of Contracts	9	20
Number of Firms	7	10
Share of #1	24.3%	56.4%
Share of #2	21.8%	32.8%
Share of #3	19.6%	5.1%
Share of Top 3	65.7%	94.3%

Source: CHA analysis of MWRD data

Table 4-15: Comparison of Black and non-M/WBE Firm Concentration
NAICS Code 238210: Electrical Contractors and Other Wiring Installation Contractors

	Black	Non-M/WBE
Number of Contracts	9	23
Number of Firms	7	15
Share of #1	75.1%	30.1%
Share of #2	8.5%	27.1%
Share of #3	6.0%	23.7%
Share of Top 3	89.5%	80.8%

Source: CHA analysis of MWRD data

Tables 4-16 through 4-19 present data for Hispanic-owned firms.

- Table 4-16 presents the three NAICS codes where Hispanic firms received the largest share of their contract dollars. While these codes comprised 75.3% of all Hispanic contract dollars, the corresponding figure for non-M/WBEs was 16.8%. In particular, while MWRD only spent 6.7% of its dollars in NAICS code 484110, 51.4% of all Hispanic contract dollars came from this code. This disproportionality was evident in the other two leading codes for Hispanic firms: NAICS code 238210 contributed 15.5% to all Hispanic contract dollars but just 7.8% to all MWRD spending; NAICS code 238220 contributed 8.4% to all Hispanic contract dollars and 11.0% to all MWRD spending.
- Table 4-17 presents data on the firm concentration in NAICS 484110. Here, nine Hispanic firms received 13 contracts from MWRD; in contrast, two non-M/WBEs received four contracts. One Hispanic firm received 75.8% of all Hispanic contract dollars; the top non-M/WBE received 50.2% of all non-M/WBE contract dollars received by the top non-M/WBE.
- Table 4-18 presents data on the firm concentration in NAICS 238210. Three Hispanic firms received seven contracts; for non-M/WBEs, the corresponding figures were 15 firms received 23 contracts. One firm received 58.1% of all Hispanic contract dollars; in contrast, the top non-M/WBE received only 30.1% of all non-M/WBE dollars.
- Table 4-19 presents data on the firm concentration in NAICS 238220. In this code, seven Hispanic firms received 10 contracts; for non-M/WBEs, the corresponding figures were 10 firms received 20 contracts. One firm received 29.0% of all Hispanic contract dollars; in contrast, the top non-M/WBE received 56.4% of all non-M/WBE dollars.

Table 4-16: Three NAICS Codes where Hispanic Firms Received the Most Spending

NAICS Code	NAICS Code Label	Weight	Share of Total Hispanic Dollars	Share of Total Non-M/WBE Dollars
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%	51.4%	0.1%
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%	15.5%	7.2%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	8.4%	9.5%
Total 3-code Share of Total Group Dollars			75.3%	16.8%

Source: CHA analysis of MWRD data

Table 4-17: Comparison of Hispanic and non-M/WBE Firm Concentration
NAICS Code 484220: Specialized Freight (except Used Goods) Trucking, Local

	Hispanic	Non-M/WBE
Number of Contracts	13	4
Number of Firms	9	2
Share of #1	75.8%	50.2%
Share of #2	13.3%	49.8%
Share of #3	3.0%	0.0%
Share of Top 3	92.1%	100.0%

Source: CHA analysis of MWRD data

Table 4-18: Comparison of Hispanic and non-M/WBE Firm Concentration
NAICS Code 238210: Electrical Contractors and Other Wiring Installation Contractors

	Hispanic	Non-M/WBE
Number of Contracts	7	23
Number of Firms	3	15
Share of #1	58.1%	30.1%
Share of #2	41.8%	27.1%
Share of #3	0.1%	23.7%
Share of Top 3	100.0%	80.8%

Source: CHA analysis of MWRD data

Table 4-19: Comparison of Hispanic and non-M/WBE Firm Concentration
NAICS Code 238220: Plumbing, Heating, and Air-Conditioning Contractors

	Hispanic	Non-M/WBE
Number of Contracts	10	20
Number of Firms	7	10
Share of #1	29.0%	56.4%
Share of #2	26.1%	32.8%
Share of #3	24.6%	5.1%
Share of Top 3	79.7%	94.3%

Source: CHA analysis of MWRD data

Tables 4-20 through 4-23 present data for Asian-owned firms.

- Table 4-20 presents the three NAICS codes where Asian firms received the largest share of their contract dollars. While these codes captured 68.7% of all Asian contract dollars, the corresponding figure for non-M/WBEs was 16.4%. In particular, while MWRD only spent 4.3% of its dollars in NAICS code 541330, 34.9% of all Asian contract dollars came from this code. This disproportionality was evident in the other two leading codes for Asian firms: NAICS code 237310 contributed 21.7% to all Asian contract dollars but just 6.3% to all MWRD spending; NAICS code 238220 contributed 12.1% to all Asian contract dollars and 11.0% to all MWRD spending.
- Table 4-21 presents data on the firm concentration in NAICS 541330. Four Asian firms received five contracts from MWRD; in contrast, 13 non-M/WBEs firms 15 contracts. One Asian firm received 95.0% of all Asian contract dollars; the top non-M/WBE received 49.7% of all non-M/WBE contract dollars received by all non-M/WBEs.
- Table 4-22 presents data on the firm concentration in NAICS 237310. Three Asian firms received five contracts; for non-M/WBEs, the corresponding figures were five firms received six contracts. One firm received 58.3% of all Asian contract dollars; in contrast, the top non-M/WBE received 96.7% of all non-M/WBE dollars.
- Table 4-23 presents data on the firm concentration in NAICS 238220. In this code, two Asian firms received three contracts; for non-M/WBEs, the corresponding figures were 10 firms received 20 contracts. One firm received 50.7% of all Asian contract dollars; in contrast, the top non-M/WBE firm received 56.4% of all non-M/WBE dollars.

Table 4-20: Three NAICS Codes where Asian Firms Received the Most Spending

NAICS Code	NAICS Code Label	Weight	Share of Total Asian Dollars	Share of Total Non-M/WBE Dollars
541330	Engineering Services	4.3%	34.9%	3.9%
237310	Highway, Street, and Bridge Construction	6.3%	21.7%	3.0%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	12.1%	9.5%
Total 3-code Share of Total Group Dollars			68.7%	16.4%

Source: CHA analysis of MWRD data

Table 4-21: Comparison of Asian and non-M/WBE Firm Concentration NAICS Code 541330: Engineering Services

	Asian	Non-M/WBE
Number of Contracts	5	15
Number of Firms	4	13
Share of #1	95.0%	49.7%
Share of #2	3.4%	17.9%
Share of #3	1.3%	12.9%
Share of Top 3	99.6%	80.6%

Source: CHA analysis of MWRD data

Table 4-22: Comparison of Asian and non-M/WBE Firm Concentration NAICS Code 237310: Highway, Street, and Bridge Construction

	Asian	Non-M/WBE
Number of Contracts	5	6
Number of Firms	3	5
Share of #1	58.3%	96.7%
Share of #2	41.3%	1.6%
Share of #3	0.4%	1.1%
Share of Top 3	100.0%	99.4%

Source: CHA analysis of MWRD data

Table 4-23: Comparison of Asian and non-M/WBE Firm Concentration NAICS Code 238220: Plumbing, Heating, and Air-Conditioning Contractors

	Asian	Non-M/WBE
Number of Contracts	3	20
Number of Firms	2	10
Share of #1	50.7%	56.4%
Share of #2	49.3%	32.8%
Share of #3	0.0%	5.1%
Share of Top 3	100.0%	94.3%

Source: CHA analysis of MWRD data

Tables 4-24 through 4-27 present data for White woman-owned firms.

- Table 4-24 presents the three NAICS codes where White woman firms received the largest share of their contract dollars. While these codes comprise 48.1% of all White woman contract dollars, the corresponding figure for non-M/WBEs was 15.3%. In particular, while MWRD only spent 7.7% of its dollars in NAICS code 238910, 24.5% of all White woman contract dollars came from this code. This disproportionality was evident in the other two leading codes for White woman firms: NAICS code 238220 contributed 13.5% to all White woman contract dollars but just 11.0% to all MWRD spending; NAICS code 484220 contributed 10.2% to all White woman contract dollars and 6.7% to all MWRD spending.
- Table 4-25 presents data on the firm concentration in NAICS 238910. Ten White woman firms received 14 contracts; for non-M/WBEs, the corresponding figures were 11 firms receiving 11 contracts. One firm received 82.2% of all White woman contract dollars; in contrast, the top non-M/WBE firm received only 50.3% of all non-M/WBE dollars.
- Table 4-26 presents data on the firm concentration in NAICS 238220. Here, eight White woman firms received 13 contracts from MWRD; in contrast, 10 non-M/WBE firms received 20 contracts. One White woman firm received 32.8% of all White woman contract dollars; the top non-M/WBE received 56.4% of all non-M/WBE contract dollars received by the top non-M/WBE.
- Table 4-27 presents data on the firm concentration in NAICS 484220. In this code, six White woman firms received 16 contracts; for non-M/WBEs, the corresponding figures two firms received four contracts. Here, one firm received 54.9% of all White woman contract dollars; in contrast, the top non-M/WBE received 50.2% of all non-M/WBE dollars.

Table 4-24: Three NAICS Codes where White Woman Firms Received the Most Spending

NAICS Code	NAICS Code Label	Weight	Share of Total White Woman Dollars	Share of Total Non-M/WBE Dollars
238910	Site Preparation Contractors	7.7%	24.5%	5.8%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	13.5%	9.5%
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%	10.2%	0.1%
Total 3-code Share of Total Group Dollars			48.1%	15.3%

Source: CHA analysis of MWRD data

Table 4-25: Comparison of White Woman and non-M/WBE Firm Concentration NAICS Code 238910: Site Preparation Contractors

	White Woman	Non-M/WBE
Number of Contracts	14	11
Number of Firms	10	11
Share of #1	82.2%	50.3%
Share of #2	5.3%	26.5%
Share of #3	5.3%	9.5%
Share of Top 3	92.8%	86.4%

Source: CHA analysis of MWRD data

Table 4-26: Comparison of White Woman and non-M/WBE Firm Concentration NAICS Code 238220: Plumbing, Heating, and Air-Conditioning Contractors

	White Woman	Non-M/WBE
Number of Contracts	13	20
Number of Firms	8	10
Share of #1	32.8%	56.4%
Share of #2	27.4%	32.8%
Share of #3	16.2%	5.1%
Share of Top 3	76.4%	94.3%

Source: CHA analysis of MWRD data

Table 4-27: Comparison of White Woman and non-M/WBE Firm Concentration NAICS Code 484220: Specialized Freight (except Used Goods) Trucking, Local

	White Woman	Non-M/WBE
Number of Contracts	16	4
Number of Firms	6	2
Share of #1	54.9%	50.2%
Share of #2	33.1%	49.8%
Share of #3	4.9%	0.0%
Share of Top 3	93.0%	100.0%

Source: CHA analysis of MWRD data

The data presented in Tables 4-12 through 4-27 support the inference that regardless of any statistical disparities between contract utilization and weighted availability, the contract dollars received by M/WBEs and the NAICS codes where M/WBEs received most of their MWRD dollars are more concentrated among a few firms for most of the race and gender groups compared to non-M/WBEs in those codes. These results suggest that while a few M/WBEs in a few industries have been able to enjoy equal opportunities, access to MWRD contracts and subcontracts is still not available to all firms.

C. Disparity Analysis of M/WBEs for MWRD's Contracts

As required by strict scrutiny, we next calculated disparity ratios for each demographic group, comparing the group's total utilization compared to its total weighted availability.

A *disparity ratio* is the relationship between the utilization and weighted availability (as determined in the section above). Mathematically, this is represented by:

$$DR = U/WA$$

Where DR is the disparity ratio; U is utilization rate; and WA is the weighted availability.

The courts have held that disparity results must be analyzed to determine whether the results are "significant". There are two distinct methods to measure a result's significance. First, a "large" or "substantively significant" disparity is commonly defined by courts as utilization that is equal to or less than 80% of the availability measure. A substantively significant disparity supports the inference that the result may be caused by the disparate impacts of discrimination.[188] Second, statistically significant disparity means that an outcome is unlikely to have occurred as the result of random chance alone. The greater the statistical significance, the

188. *See* U.S. Equal Employment Opportunity Commission regulation, 29 C.F.R. §1607.4(D) ("A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact.").

smaller the probability that it resulted from random chance alone.[189] A more in-depth discussion of statistical significance is provided in Appendix C.

Substantive and Statistical Significance

‡ Connotes these values are substantively significant. Courts have ruled the disparity ratio less or equal to 80 percent represent disparities that are substantively significant. (See Footnote 188 for more information.)

* Connotes these values are statistically significant at the 0.05 level. (See Appendix C for more information.)

** Connotes these values are statistically significant at the 0.01 level. (See Appendix C for more information.)

*** Connotes these values are statistically significant at the 0.001 level. (See Appendix C for more information.)

Table 4-28 presents the disparity ratios for each demographic group. The disparity ratios for Native Americans are substantively significant. The disparity ratios for M/WBEs, and non-M/WBEs are statistically significant at the 0.001 level. The disparity ratio for MBEs is statistically significant at the 0.01 level.

Table 4-28: Disparity Ratios by Demographic Group

	Black	Hispanic	Asian	Native American	MBE	White Woman	M/WBE	Non-M/WBE
Disparity Ratio	168.0%	147.7%	114.5%	0.0%‡	145.7%**	141.1%	143.9%***	86.6%***

Source: CHA analysis of MWRD data
**** Indicates statistical significance at the 0.001 level*
*** Indicates statistical significance at the 0.01 level*
‡ Indicates substantive significance

It is the standard CHA practice to explore any M/WBE disparity ratio that exceeds 100%. This is to ensure that an abnormal pattern of M/WBE concentration does not account for disparity ratios greater than 100%, thereby leading to the unwarranted conclusion that race-conscious remedies are no longer needed to redress discrimination against a particular socially disadvantaged group. It is possible that a group's disparity ratio that is larger than 100% might be the result of the success of a few firms and not indicative of the experiences of the broad set of firms in that group. This exploration entails further examination of any NAICS codes where:

- The NAICS codes share of overall spending is relatively high.

189. A chi-square test – examining if the utilization rate was different from the weighted availability - was used to determine the statistical significance of the disparity ratio.

- The particular M/WBE utilization in that code is relatively high.

Given these criteria, we examined more closely the utilization of M/WBE firms in selected codes. Tables 4-29 through 4-43 present the results of that investigation.

Table 4-29 presents the three NAICS codes selected to further explore the Black disparity ratio of 168.0%. NAICS codes 238220, 238210, and 237310 ranked 3rd, 4th, and 7th respectively in terms of the overall amount of MWRD spending in each code. Of the top eight NAICS codes, these three were the only codes where Black utilization exceeded 10%.

Table 4-29: Targeted NAICS Codes for Further Exploration

NAICS	NAICS Code Description	Weight	Overall Weight Rank	Black Utilization
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	3	15.9%
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%	4	10.7%
237310	Highway, Street, and Bridge Construction	6.3%	7	49.7%

Source: CHA analysis of MWRD data

In Tables 4-30 through 4-32, we explore the levels of firm concentration by examining several factors:

- The NAICS code's share of all MWRD spending with Black firms compared to the NAICS code's share of MWRD spending received by non-M/WBEs. This examines how important spending in the NAICS code was to the overall revenue received by Black firms compared to that same metric for non-M/WBEs. In a world where race and gender did not affect outcomes, the share would be similar.
- The number of Black firms that received contracts compared to the number of non-M/WBEs that received contracts.
- The share of Black contract dollars in each NAICS code received by the first, second, and third largest Black firms compared to the corresponding non-M/WBEs.
- The aggregate share of Black contract dollars received by the top three Black firms and the corresponding figure for non-M/WBEs.
- The aggregate share of Black contract dollars received by Black firms outside of the top three firms along with the corresponding figure for the non-M/WBEs outside of the top three.

These five metrics evaluate whether fewer Black firms received contracts compared to non-M/WBEs and whether the Black contract dollars were more concentrated compared to the level of concentration among non-M/WBEs. If either was the case, then the high level of utilization by Black firms (and hence, the high disparity ratio) resulted from the success of a few Black firms and was not from a distribution across the entire spectrum of Black firms. This would be in contrast to a wider spectrum of success among non-M/WBE firms.

Table 4-30 presents these data for Black firms and non-M/WBEs in NAICS Code 238220. This code contained 23.6% of all Black contract dollars but only 9.5% of all non-M/WBE contract dollars. Fewer Black firms received contracts in this code compared to the number of non-M/WBEs. Also, the level of concentration of contract dollars was less for Black firms than for non-M/WBE firms: the largest Black firm received 24.3% of all Black contract dollars in this code compared to the 56.4% of all non-M/WBE contract dollars received by the largest non-M/WBE firm; and the top three Black firms received 65.7% of all Black contract dollars compared to the three non-M/WBE firms which received 94.3% of all non-M/WBE contract dollars.

Table 4-30: Comparing Black and non-M/WBE Outcomes
NAICS Code 238220: Plumbing, Heating, and Air-Conditioning Contractors
(NAICS Code Weight of All MWRD Spending: 11.0%)

	Black	Non-M/WBE
NAICS code share of all spending	23.6%	9.5%
Number of firms	7	10
Share of group spending in NAICS code by the largest firm	24.3%	56.4%
Share of group spending in NAICS code by the second largest firm	21.8%	32.8%
Share of group spending in NAICS code by the third largest firm	19.6%	5.1%
Share of group spending in NAICS code by the three largest firms	65.7%	94.3%
Share of group spending in NAICS code by the remaining firms	34.3%	5.7%

Source: CHA analysis of MWRD data

Table 4-31 presents these data for Black firms and non-M/WBE firms in NAICS Code 238210. This code contained 11.3% of all Black contract dollars but only 7.2% of all non-M/WBE contract dollars. Fewer Black firms received contracts in this code compared to the number of non-M/WBEs. The level of concentration of contract dollars was greater for Black firms than for non-M/WBEs: the largest Black firm received 75.1% of all Black contract dollars in this code compared to the 30.1% of all non-M/WBE contract dollars received by the largest non-M/WBEs.

Table 4-31: Comparing Black and non-M/WBE Outcomes
NAICS Code 238210: Electrical Contractors and Other Wiring Installation Contractors
(NAICS Code Weight of All MWRD Spending: 7.8%)

	Black	Non-M/WBE
NAICS code share of all spending	11.3%	7.2%
Number of firms	7	15
Share of group spending in NAICS code by the largest firm	75.1%	30.1%
Share of group spending in NAICS code by the second largest firm	8.5%	27.1%
Share of group spending in NAICS code by the third largest firm	6.0%	23.7%
Share of group spending in NAICS code by the three largest firms	89.5%	80.8%
Share of group spending in NAICS code by the remaining firms	10.5%	19.2%

Source: CHA analysis of MWRD data

Table 4-32 presents these data for Black firms and non-M/WBEs in NAICS Code 237310. This code contained 42.4% of all Black contract dollars but only three percent of all non-M/WBE contract dollars. Fewer Black firms received contracts in this code compared to the number of non-M/WBEs. The level of concentration of contract dollars was identical for Black firms and for non-M/WBE firms: the largest Black firm received 96.4% of all Black contract dollars in this code compared to the 96.7% of all non-M/WBE contract dollars received by the largest non-M/WBE firm.

Table 4-32: Comparing Black and non-M/WBE Outcomes
NAICS Code 237310: Highway, Street, and Bridge Construction
(NAICS Code Weight of All MWRD Spending: 6.3%)

	Black	Non-M/WBE
NAICS code share of all spending	42.4%	3.0%
Number of firms	2	5
Share of group spending in NAICS code by the largest firm	96.4%	96.7%
Share of group spending in NAICS code by the second largest firm	3.6%	1.6%
Share of group spending in NAICS code by the third largest firm	0.0%	1.1%
Share of group spending in NAICS code by the three largest firms	100.0%	99.4%
Share of group spending in NAICS code by the remaining firms	0.0%	0.6%

Source: CHA analysis of MWRD data

In summary, for all three codes, the codes' share of Black contract dollars exceeded the codes' share of non-M/WBE contract dollars. In each code, the number of Black firms receiving contracts was less than the number of non-M/WBE firms receiving contracts. The degree of concentration among Black firms compared to the degree of concentration among non-M/WBE firms varied. These results suggest the small number of Black firms receiving any contracts in these key NAICS codes (compared to the number of non-M/WBE firms) combined with the high share of Black contract dollars contained in these three codes (compared to corresponding share of non-M/WBE contract dollars) explains the high disparity ratio for Black firms.

The approach used to examine the Black disparity ratio was used for the disparity ratios for Hispanic, Asian, and White woman firms.

Table 4-33 presents the three NAICS codes selected to further explore the Hispanic disparity ratio of 147.7%. NAICS codes 238210, 238910, and 484220 ranked 4th, 5th and 6th respectively in terms of the overall amount of MWRD spending in each code. Of the top eight NAICS codes, these three were the only codes where Hispanic utilization exceeded 10%.

Table 4-33: Targeted NAICS Codes for Further Exploration

NAICS	NAICS Code Description	Weight	Overall Weight Rank	Hispanic Utilization
238210	Electrical Contractors and Other Wiring Installation Contractors	7.8%	4	19.9%
238910	Site Preparation Contractors	7.7%	5	10.2%
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%	6	76.7%

Source: CHA analysis of MWRD data

Table 4-34 presents these data for Hispanic firms and non-M/WBE firms in NAICS Code 238210. This code contains 15.5% of all Hispanic contract dollars but only 7.2% of all non-M/WBE contract dollars. Fewer Hispanic firms received contracts in this code compared to the number of non-M/WBE firms. The level of concentration of contract dollars was greater for Hispanic firms than for non-M/WBE firms: the largest Hispanic firm received 58.1% of all Hispanic contract dollars in this code compared to the 30.1% of all non-M/WBE contract dollars received by the largest non-M/WBE firm.

Table 4-34: Comparing Hispanic and non-M/WBE Outcomes
NAICS Code 238210: Electrical Contractors and Other Wiring Installation Contractors
(NAICS Code Weight of All MWRD Spending: 7.8%)

	Hispanic	Non-M/WBE
NAICS code share of all spending	15.5%	7.2%
Number of firms	3	15
Share of group spending in NAICS code by the largest firm	58.1%	30.1%
Share of group spending in NAICS code by the second largest firm	41.8%	27.1%
Share of group spending in NAICS code by the third largest firm	0.1%	23.7%
Share of group spending in NAICS code by the three largest firms	100.0%	80.8%
Share of group spending in NAICS code by the remaining firms	0.0%	19.2%

Source: CHA analysis of MWRD data

Table 4-35 presents these data for Hispanic firms and non-M/WBE firms in NAICS Code 238910. This code contains 7.8% of all Hispanic contract dollars but only 5.8% of all non-M/WBE contract dollars. Fewer Hispanic firms received contracts in this code compared to the number of non-M/WBE firms. The level of concentration of contract dollars was greater for Hispanic firms than for non-M/WBE firms: the largest Hispanic firm received 98.9% of all Hispanic contract dollars in this code compared to the 50.3% of all non-M/WBE contract dollars received by the largest non-M/WBE firm.

Table 4-35: Comparing Hispanic and non-M/WBE Outcomes
NAICS Code 238910: Site Preparation Contractors
(NAICS Code Weight of All MWRD Spending: 7.7%)

	Hispanic	Non-M/WBE
NAICS code share of all spending	7.8%	5.8%
Number of firms	2	11
Share of group spending in NAICS code by the largest firm	98.9%	50.3%
Share of group spending in NAICS code by the second largest firm	1.1%	26.5%
Share of group spending in NAICS code by the third largest firm	0.0%	9.5%
Share of group spending in NAICS code by the three largest firms	100.0%	86.4%
Share of group spending in NAICS code by the remaining firms	0.0%	13.6%

Source: CHA analysis of MWRD data

Table 4-36 presents these data for Hispanic firms and non-M/WBEs in NAICS Code 484220. This code contains 51.4% of all Hispanic contract dollars but only 0.1% of all non-M/WBE contract dollars. More Hispanic firms received contracts in this code compared to the number of non-M/WBEs. The level of concentration of contract dollars was greater for Hispanic firms than for non-M/WBEs: the largest Hispanic firm received 75.8% of all Hispanic contract dollars in this code compared to the 50.2% of all non-M/WBE contract dollars received by the largest non-M/WBE.

Table 4-36: Comparing Hispanic and non-M/WBE Outcomes
NAICS Code 484220: Specialized Freight (except Used Goods) Trucking, Local
(NAICS Code Weight of All MWRD Spending: 6.7%)

	Hispanic	Non-M/WBE
NAICS code share of all spending	51.4%	0.1%
Number of firms	9	2
Share of group spending in NAICS code by the largest firm	75.8%	50.2%
Share of group spending in NAICS code by the second largest firm	13.3%	49.8%
Share of group spending in NAICS code by the third largest firm	3.0%	0.0%
Share of group spending in NAICS code by the three largest firms	92.1%	100.0%
Share of group spending in NAICS code by the remaining firms	7.9%	0.0%

Source: CHA analysis of MWRD data

In summary, for all three codes, the codes' share of Hispanic contract dollars exceeded the codes' share of non-M/WBE contract dollars. In each code, the number of Hispanic firms receiving contracts was less than the number of non-M/WBEs receiving contracts. The degree of concentration among Hispanic firms was greater than to the degree of concentration among non-M/WBE firms. This difference was magnified by the results in NAICS code 484220. These results strongly suggest the concentration of MWRD spending in these codes to Hispanic firms explains the high disparity ratio for Hispanic firms.

Table 4-37 presents the two NAICS codes selected to further explore the Asian disparity ratio of 114.5%. NAICS codes 237310 and 541330 ranked 7th and 8th respectively in terms of the overall amount of MWRD spending in each code. Of the top eight NAICS codes, these two were the only codes where Asian utilization exceeded 10%.

Table 4-37: Targeted NAICS Codes for Further Exploration

NAICS	NAICS Code Description	Weight	Overall Weight Rank	Asian Utilization
237310	Highway, Street, and Bridge Construction	6.3%	7	12.8%
541330	Engineering Services	4.3%	8	30.7%

Source: CHA analysis of MWRD data

Table 4-38 presents these data for Asian firms and non-M/WBEs in NAICS Code 237310. This code contains 21.7% of all Asian contract dollars but only 3.0% of all non-M/WBE contract dollars. Fewer Asian firms received contracts in this code compared to the number of non-M/WBEs. Also, the level of concentration of contract dollars was less for Asian firms than for non-M/WBEs: the largest Asian firm received 58.3% of all Asian contract dollars in this code compared to the 96.7% of all non-M/WBE contract dollars received by the largest non-M/WBE firm.

Table 4-38: Comparing Asian and non-M/WBE Outcomes
NAICS Code 237310: Highway, Street, and Bridge Construction
(NAICS Code Weight of All MWRD Spending: 6.3%)

	Asian	Non-M/WBE
NAICS code share of all spending	21.7%	3.0%
Number of firms	3	5
Share of group spending in NAICS code by the largest firm	58.3%	96.7%
Share of group spending in NAICS code by the second largest firm	41.3%	1.6%
Share of group spending in NAICS code by the third largest firm	0.4%	1.1%
Share of group spending in NAICS code by the three largest firms	100.0%	99.4%
Share of group spending in NAICS code by the remaining firms	0.0%	0.6%

Source: CHA analysis of MWRD data

Table 4-39 presents these data for Asian firms and non-M/WBEs in NAICS Code 541330. This code contains 34.9% of all Asian contract dollars but only 3.9% of all non-M/WBE contract dollars. Fewer Asian firms received contracts in this code compared to the number of non-M/WBEs. The level of concentration of contract dollars was greater for Asian firms than for non-M/WBE firms: the largest Asian firm received 95.0% of all Asian contract dollars in this code compared to the 49.7% of all non-M/WBE contract dollars received by the largest non-M/WBE firm.

Table 4-39: Comparing Asian and non-M/WBE Outcomes NAICS Code 541330: Engineering Services (NAICS Code Weight of All MWRD Spending: 4.3%)

	Asian	Non-M/WBE
NAICS code share of all spending	34.9%	3.9%
Number of firms	4	13
Share of group spending in NAICS code by the largest firm	95.0%	49.7%
Share of group spending in NAICS code by the second largest firm	3.4%	17.9%
Share of group spending in NAICS code by the third largest firm	1.3%	12.9%
Share of group spending in NAICS code by the three largest firms	99.6%	80.6%
Share of group spending in NAICS code by the remaining firms	0.4%	19.4%

Source: CHA analysis of MWRD data

Examining the data presented for these two codes, except for the large share of overall Asian contract dollars compared to the share of non-M/WBE contract dollars, a strong pattern does not emerge.

Table 4-40 presents the three NAICS codes selected to further explore the White woman disparity ratio of 141.1%. NAICS codes 238220, 238910, and 484220 ranked 3rd, 5th, and 6th respectively in terms of the overall amount of MWRD spending in each code. Of the top eight NAICS codes, these three were the only codes where White woman utilization exceeded 10%.

Table 4-40: Targeted NAICS Codes for Further Exploration

NAICS	NAICS Code Description	Weight	Overall Weight Rank	White Woman Utilization
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.0%	3	15.2%
238910	Site Preparation Contractors	7.7%	5	39.6%
484220	Specialized Freight (except Used Goods) Trucking, Local	6.7%	6	18.8%

Source: CHA analysis of MWRD data

Table 4-41 presents these data for White woman firms and non-M/WBEs in NAICS Code 238220. This code accounts for 13.5% of all White woman contract dollars but only 9.5% of all non-M/WBE contract dollars. Fewer White woman firms received contracts in this code compared to the number of non-M/WBEs. Also, the level of concentration of contract dollars was less for White woman firms than for non-M/WBEs: the largest White woman firm received 32.8% of all White woman contract dollars in this code compared to the 56.4% of all non-M/WBE contract dollars received by the largest non-M/WBE; and the top three White woman firms received 76.4% of all White woman contract dollars compared to the three non-M/WBEs which received 94.3% of all non-M/WBE contract dollars.

Table 4-41: Comparing White Woman and non-M/WBE Outcomes
NAICS Code 238220: Plumbing, Heating, and Air-Conditioning Contractors
(NAICS Code Weight of All MWRD Spending: 11.0%)

	White Woman	Non-M/WBE
NAICS code share of all spending	13.5%	9.5%
Number of firms	8	10
Share of group spending in NAICS code by the largest firm	32.8%	56.4%
Share of group spending in NAICS code by the second largest firm	27.4%	32.8%
Share of group spending in NAICS code by the third largest firm	16.2%	5.1%
Share of group spending in NAICS code by the three largest firms	76.4%	94.3%
Share of group spending in NAICS code by the remaining firms	23.6%	5.7%

Source: CHA analysis of MWRD data

Table 4-42 presents these data for White woman firms and non-M/WBEs in NAICS Code 238910. This code contained 24.5% of all White woman contract dollars but only 5.8% of all non-M/WBE contract dollars. The level of concentration of contract dollars was greater for White woman firms than for non-M/WBEs: the largest White woman firm received 82.2% of all White woman contract dollars in this code compared to the 50.3% of all non-M/WBE contract dollars received by the largest non-M/WBE firm.

Table 4-42: Comparing White Woman and non-M/WBE Outcomes
NAICS Code 238910: Site Preparation Contractors
(NAICS Code Weight of All MWRD Spending: 7.7%)

	White Woman	Non-M/WBE
NAICS code share of all spending	24.5%	5.8%
Number of firms	10	11
Share of group spending in NAICS code by the largest firm	82.2%	50.3%
Share of group spending in NAICS code by the second largest firm	5.3%	26.5%

	White Woman	Non-M/WBE
Share of group spending in NAICS code by the third largest firm	5.3%	9.5%
Share of group spending in NAICS code by the three largest firms	92.8%	86.4%
Share of group spending in NAICS code by the remaining firms	7.2%	13.6%

Source: CHA analysis of MWRD data

Table 4-43 presents these data for White woman firms and non-M/WBEs in NAICS Code 484220. This code contains 10.2% of all White woman contract dollars but only 0.1% of all non-M/WBE contract dollars. A greater number of White woman firms received contracts in this code compared to the number of non-M/WBEs. The level of concentration of contract dollars was very similar for White woman firms and for non-M/WBE firms: the largest White woman firm received 54.9% of all White woman contract dollars in this code compared to the 50.2% of all non-M/WBE contract dollars received by the largest non-M/WBE.

Table 4-43: Comparing White Woman and non-M/WBE Outcomes
NAICS Code 484220: Specialized Freight (except Used Goods) Trucking, Local
(NAICS Code Weight of All MWRD Spending: 6.7%)

	White Woman	Non-M/WBE
NAICS code share of all spending	10.2%	0.1%
Number of firms	6	2
Share of group spending in NAICS code by the largest firm	54.9%	50.2%
Share of group spending in NAICS code by the second largest firm	33.1%	49.8%
Share of group spending in NAICS code by the third largest firm	4.9%	0.0%
Share of group spending in NAICS code by the three largest firms	93.0%	100.0%
Share of group spending in NAICS code by the remaining firms	7.0%	0.0%

Source: CHA analysis of MWRD data

Examining the data presented for these three codes, except for the large share of overall White woman contract dollars compared to the share of non-M/WBE contract dollars, a strong pattern does not emerge.

D. Conclusion

This chapter presented the results of the CHA analysis of MWRD contract data and customized availability database compiled from a variety of sources. We analyzed this data to understand patterns in firm concentration and disparity ratios. Overall, we found that, compared to non- M/WBEs, minority- and woman-owned firms were concentrated in a different subset of industries. Further, in some industries, only a few M/WBEs received contracts in contrast to non-M/WBEs. This suggests that although MWRD's program has been quite successful in creating opportunities for minority and woman firms, these benefits have not been spread evenly across all groups or subindustries. We find the data as a whole support the conclusion that M/WBE firms have not reached parity in all aspects of the District's contracting activities compared to non-M/WBE firms.

V. Analysis of Disparities in MWRD's Marketplace

A. Introduction

The late Nobel Prize Laureate Kenneth Arrow, in his seminal paper on the economic analysis of discrimination, observed:

> Racial discrimination pervades every aspect of a society in which it is found. It is found above all in attitudes of both races, but also in social relations, in intermarriage, in residential location, and frequently in legal barriers. It is also found in levels of economic accomplishment; this is income, wages, prices paid, and credit extended.[190]

This Chapter explores the data and literature relevant to how discrimination in the Illinois and Chicago area economies affects the ability of minorities and women to fairly and fully engage in District construction and construction-related services contract opportunities. First, we analyze the rates at which Minority- and Woman-Owned Business Enterprises ("M/WBEs") in the Illinois and Chicago area economy form firms and their earnings from those firms. Next, we summarize the literature on barriers to equal access to commercial credit. Finally, we summarize the literature on barriers to equal access to human capital. All three types of evidence have been found by the courts to be relevant and probative of whether a government will be a passive participant in discrimination without some type of affirmative intervention. This is important because to the extent discrimination exists in the marketplace where the public sector in general and the District in particular are not dominant actors, it can be strongly surmised that significant contracting opportunities for M/WBEs result from an agency's M/WBE program will be reversed upon the termination of the program.

A key element to determine the need for MWRD to intervene in its market through contract goals is an analysis of the extent of disparities independent of the agency's intervention through its contracting affirmative action program.

The courts have repeatedly held that analysis of disparities in the rate of M/WBE formation in the government's markets as compared to similar non-M/WBEs, disparities in M/WBE earnings, and barriers to access to capital markets are highly relevant to a determination of whether market outcomes are affected by race or

190. Arrow, Kenneth J., "What Has Economics to say about racial discrimination?" *Journal of Economic Perspectives*, 12, 2, (1998), 91-100.

gender ownership status.[191] Similar analyses supported the successful legal defense of the Illinois Tollway's Disadvantaged Business Enterprise ("DBE") Program from constitutional challenge.[192]

Similarly, the Tenth Circuit Court of Appeals also upheld the U.S. Department of Transportation's DBE program, and in doing so, stated that this type of evidence

> demonstrates the existence of two kinds of discriminatory barriers to minority subcontracting enterprises, both of which show a strong link between racial disparities in the federal government's disbursements of public funds for construction contracts and the channeling of those funds due to private discrimination. The first discriminatory barriers are to the formation of qualified minority subcontracting enterprises due to private discrimination, precluding from the outset competition for public construction contracts by minority enterprises. The second discriminatory barriers are to fair competition between minority and non-minority subcontracting enterprises, again due to private discrimination, precluding existing minority firms from effectively competing for public construction contracts. The government also presents further evidence in the form of local disparity studies of minority subcontracting and studies of local subcontracting markets after the removal of affirmative action programs… The government's evidence is particularly striking in the area of the race-based denial of access to capital, without which the formation of minority subcontracting enterprises is stymied.[193]

Business discrimination studies and lending studies are relevant and probative because they show a strong link between the disbursement of public funds and the channeling of those funds due to private discrimination. In unanimously upholding the USDOT DBE Program, the courts agree that disparities between the earnings of minority-owned firms and similarly situated non-minority-owned firms and the disparities in commercial loan denial rates between Black business owners compared to similarly situated non-minority business owners are strong evidence of the continuing effects of discrimination.[194] "Evidence that private discrimina-

191. See the discussion in Chapter II of the legal standards applicable to contracting affirmative action programs.

192. *Midwest Fence Corp. v. Illinois Department of Transportation, Illinois State Toll Highway Authority et al*, 840 F.3d 942 (7th Cir. 2016) (upholding the Illinois Tollway's program for state funded contracts modeled after Part 26 and based on CHA's expert testimony, including about disparities in the overall Illinois construction industry); *Midwest Fence Corp. v. Illinois Department of Transportation, Illinois State Toll Highway Authority et al*, 2015 WL 1396376 at * 21 (N.D. Ill.) ("Colette Holt [& Associates'] updated census analysis controlled for variables such as education, age, and occupation and still found lower earnings and rates of business formation among women and minorities as compared to white men."); *Builders Association of Greater Chicago v. City of Chicago*, 298 F.Supp.2d 725 (N.D. Ill. 2003) (holding that City of Chicago's M/WBE program for local construction contracts satisfied "compelling interest" standards using this framework).

193. *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1168-1169 (10th Cir. 2000), *cert. granted then dismissed as improvidently granted*, 532 U.S. 941 (2001).

tion results in barriers to business formation is relevant because it demonstrates that M/WBEs are precluded *at the outset* from competing for public construction contracts. Evidence of barriers to fair competition is also relevant because it again demonstrates that *existing* M/WBEs are precluded from competing for public contracts."[195]

This type of court-approved analysis is especially important for an agency such as MWRD, which has been implementing a program for many years. The agency's remedial market interventions through the use of race- and gender-based contract goals may ameliorate the disparate impacts of marketplace discrimination in the agency's own contracting activities. Put another way, the program's success in moving towards parity for minority and woman firms may be "masking" the effects of discrimination that, but for the contract goals, would mirror the disparities in M/WBE utilization in the overall economy.

To explore the question of whether construction and construction-related services firms[196] owned by non-Whites and White women face disparate treatment in the MWRD marketplace outside of MWRD contracts, we examined two U.S. Bureau of the Census data sets: the *American Community Survey* ("ACS") and the *American Business Survey* ("ABS"). We used the Chicago metropolitan area as the geographic unit of analysis. Overall, we found disparities in wages, business earnings, and business formation rates for minorities and women in the construction and construction-related services industries in MWRD's marketplace.[197]

B. Disparate Treatment in the District's Marketplace: Evidence from the Census Bureau's 2015 - 2019 American Community Survey

This Chapter addresses the key question of whether firms owned by non-Whites and White women face disparate treatment in the District's construction and construction-related services marketplace without the intervention of MWRD's M/WBE Program. In this section, we use the Census Bureau's ACS data to explore this question. One element asks if demographic differences exist in the wage and salary income received by private sector workers. Beyond the issue of bias in the

194. *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868, at *64 (Sept. 8, 2005).
195. Id.
196. The District's M/WBE Program includes only these industries.
197. Possible disparities in wages is important to explore because of the relationship between wages and business formation. Research by Alicia Robb and others indicate non-White firms rely on their own financing to start businesses compared to White firms who rely more heavily on financing provided by financial institutions. To the extent non-Whites face discrimination in the labor market, they would have reduced capacity to self-finance their entrepreneurial efforts and, hence, impact business formation. See, for example, Robb's "Access to Capital among Young Firms, Minority-owned Firms, Women-owned Firms, and High-tech Firms" (2013).

incomes generated in the private sector, this exploration is important for the issue of possible variations in the rate of business formation by different demographic groups. One of the determinants of business formation is the pool of financial capital at the disposal of the prospective entrepreneur. The size of this pool is related to the income level of the individual either because the income level impacts the amount of personal savings that can be used for start-up capital, or the income level affects one's ability to borrow funds. Consequently, if particular demographic groups receive lower wages and salaries then they would have access to a smaller pool of financial capital, and thus reduce the likelihood of business formation.

The *American Community Survey Public Use Microdata Sample* ("PUMS") is useful in addressing these issues. The ACS is an annual survey of one percent of the population and the PUMS provides detailed information at the individual level. In order to obtain robust results from our analysis, we used the file that combines the most recent data available for years 2015 through 2019.[198] With this rich data set, our analysis can establish with greater certainty any causal links between race, gender, and economic outcomes.

The Census Bureau classifies Whites, Blacks, Native Americans, and Asians as racial groupings. CHA developed a fifth grouping, "Other", to capture individuals who are not a member of the above four racial categories. In addition, Hispanics are an ethnic category whose members could be of any race, *e.g.*, Hispanics could be White or Black. In order to avoid double counting – *i.e.*, an individual could be counted once as Hispanic and once as White – CHA developed non-Hispanic subset racial categories: non-Hispanic Whites; non-Hispanic Blacks; non-Hispanic Native Americans; non-Hispanic Asians; and non-Hispanic Others. When those five groups are added to the Hispanic group, the entire population is counted and there is no double-counting. (When Whites are disaggregated into White men and White women, those groupings are non-Hispanic White men and non-Hispanic White women). For ease of exposition, the groups in this report are referred to as Black, Native American, Asian, Other, White women, and White men, while the actual content is the non-Hispanic subset of these racial groups.

Often, the general public sees clear associations between race, gender, and economic outcomes and assumes this association reflects a tight causal connection. However, economic outcomes are determined by a broad set of factors including, and extending beyond, race and gender. To provide a simple example, two people who differ by race or gender may receive different wages. This difference may simply reflect that the individuals work in different industries. If this underlying difference is not known, one might assert the wage differential is the result of race or gender difference. To better understand the impact of race or gender on wages, it

198. Initially, the Census Bureau contacted approximately 3.5M households. For the analysis reported in this Chapter, we examined over 47,000 observations. For more information about the ACS PUMS, see https://www.census.gov/programs-surveys/acs/.

is important to compare individuals of different races or genders who work in the same industry. Of course, wages are determined by a broad set of factors beyond race, gender, and industry. With the ACS PUMS, we have the ability to include a wide range of additional variables such as age, education, occupation, and state of residence in the analysis.

We employ a multiple regression statistical technique to process this data. This methodology allows us to perform two analyses: an estimation of how variations in certain characteristics (called independent variables) will impact the level of some particular outcome (called a dependent variable), and a determination of how confident we are that the estimated variation is statistically different from zero. We have provided a more detailed explanation of this technique in Appendix A.

With respect to the first result of regression analysis, we examine how variations in the race, gender, and industry of individuals impact the wages and other economic outcomes received by individuals. The technique allows us to determine the effect of changes in one variable, assuming that the other determining variables are the same. That is, we compare individuals of different races, but of the same gender and in the same industry; or we compare individuals of different genders, but of the same race and the same industry; or we compare individuals in different industries, but of the same race and gender. We determine the impact of changes in one variable (*e.g.*, race, gender, or industry) on another variable (wages), "controlling for" the movement of any other independent variables.

With respect to the second result of regression analysis, we determine the statistical significance of the relationship between the dependent variable and independent variable. For example, the relationship between gender and wages might exist (*e.g.*, holding all other factors constant, women earn less than men), but we find that it is not statistically different from zero. In this case, we are not confident that there is not any relationship between the two variables. If the relationship is not statistically different from zero, then a variation in the independent variable has no impact on the dependent variable. The regression analysis allows us to say with varying degrees of statistical confidence that a relationship is different from zero. If the estimated relationship is statistically significant at the 0.05 level, that indicates that we are 95% confident that the relationship is different from zero; if the estimated relationship is statistically significant at the 0.01 level, that indicates that we are 99% confident that the relationship is different from zero; if the estimated relationship is statistically significant at the 0.001 level, that indicates that we are 99.9% confident that the relationship is different from zero.[199]

199. Most social scientists do not endorse utilizing a confidence level of less than 95%. Appendix C explains more about statistical significance.

In the following presentation of results, each sub-section first reports data on the share of a demographic group that forms a business (business formation rates); the probabilities that a demographic group will form a business relative to White men (business formation probabilities); the differences in wages received by a demographic group relative to White men (wage differentials); and the differences in business earnings received by a demographic group relative to White men (business earnings differentials). Because the ACS contained limited observations for certain groups in particular industries, we were unable to provide reliable estimates for business outcomes for these groups. However, there were always sufficient observations in the sample of wage earners in each group in each industry to permit us to develop reliable estimates.

1. The Construction Industry in the Chicago Metropolitan Area[200,201]

One measure of economic outcomes is the rate at which different demographic groups form businesses. We developed these business formation rates using data from the U.S. Bureau of the Census' *ACS*. Table 5-1 presents these results. The Table indicates that White men have higher business formation rates compared to non-Whites and White women except for Asians.

Table 5-1: Business Formation Rates, Construction, 2015 - 2019[202,203]

Demographic Group	Business Formation Rates
Black	9.6%
Hispanic	5.7%
Native American	-----
Asian	19.6%
Other	-----
White Women	12.4%
Non-White Male	7.7%
White Male	18.1%

Source: CHA calculations from the American Community Survey

200. The following counties were defined as the Chicago Metropolitan Area: Cook; DuPage; Kane; Lake (IL); McHenry; and Will.
201. Business formation rates represents the share of the population that are self-employed.
202. Statistical significance tests were not conducted on basic business formation rates.
203. We did not analyze business outcomes in Construction for Native Americans and Others because of the limited sample size. There was only one observation for Native Americans and one observation for Others.

The above business formation rates only look at the proportion of individuals in construction who form businesses. However, this propensity to be self-employed is influenced by a number of factors and thus, racial differences in business formation rates might actually be a function of other factors such as age and education. To control for these other factors, this analysis employs a probit regression analysis to examine the probability of forming a business after controlling for important factors beyond race and gender. Appendix B provides more information on the probit regression procedure.

Table 5-2 presents the results of this analysis. This table indicates that Black, Hispanics, and White women are less likely to form businesses compared to similarly situated White men. In particular, Blacks are 8.4% less likely to form a business compared to White men after other key explanatory variables are controlled. For Hispanics and White women, the differentials are 11.1% and 6.6%, respectively. These three coefficients are statistically significant at the 0.001 level. The coefficient for Asians is positive (2.4%) but it is not statistically significant. These differences support the inference that M/WBEs suffer major barriers to equal access to entrepreneurial opportunities in the overall Chicago metropolitan area economy.

Table 5-2: Business Formation Probability Differentials for Selected Groups Relative to White Men, Construction, 2015 - 2019

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-8.4%***
Hispanic	-11.1%***
Native American	-----
Asian/Pacific Islander	2.4%
Other	-----
White Women	-6.6%***

Source: CHA calculations from the American Community Survey
**** Indicates statistical significance at the 0.001 level*

While the focus of this analysis is discrimination in business opportunities, it is important to understand the impact of race and gender on wage and salary incomes. This is because wage and salary income can be a determinant of business formation either via a person's creditworthiness or the ability to self-finance. Multiple regression statistical techniques allowed us to examine the impact of race and gender on wage and salary income while controlling for other factors, such as education, age, and occupation.[204]

Using these techniques and data from the Census Bureau's American Community Survey, we found that Blacks, Hispanics, Asians, and White women received lower wages than White men. Table 5-3 presents this data. The difference ranges from 24.2% for Hispanics to 46.1% for Blacks. For all four groups, the results were statistically significant at the 0.001 level.

Table 5-3: Wage Differentials for Selected Groups Relative to White Men Construction, 2015 - 2019

Demographic Group	Wages Relative to White Men (% Change)
Black	-46.1%***
Hispanic	-24.2%***
Native American	-----
Asian/Pacific Islander	-39.9%***
Other	-----
White Women	-43.4%***

Source: CHA calculations from the American Community Survey
**** Indicates statistical significance at the 0.001 level*
*** Indicates statistical significance at the 0.01 level*

The same approach was used to investigate if there were differences in business earnings received by non-Whites and White woman construction entrepreneurs and White male entrepreneurs. Using the PUMS, we limited the sample to the self-employed and examined how their business income varied in response to factors such as race, gender, age, education, and industry. Table 5-4 presents these findings. Blacks and White women earned less than White men and the results were significant at the 0.01 level. The results for Hispanics and Asians were not statistically significant.

Table 5-4: Business Earnings Differentials for Selected Groups Relative to White Men Construction, 2015 - 2019

Demographic Group	Earnings Relative to White Men (% Change)
Black	-109.0%**a
Hispanic	-30.3%
Native American	-----

204. See Appendix A for a detailed explanation of multiple regression statistical analysis.

Demographic Group	Earnings Relative to White Men (% Change)
Asian/Pacific Islander	55.9%
Other	-----
White Women	-184.0%**

a. The proper way to interpret a coefficient that is less than negative 100% (e.g., the value of the coefficient for Black and White Women in Table 5-4), is the percentage amount non-M/WBEs earn that is more than the group in question. In this case, non-M/W/DBEs earn 109% more than Blacks and 184% more than White women.

Source: CHA calculations from the American Community Survey

2. The Construction-Related Services Industry in the Chicago Metropolitan Area

The *ACS* sample of firms in the construction-related services industry contained too few numbers of Black, Hispanics, Asians/Pacific Islander, Native American, and Other firms to produce reliable estimates for these groups.[205] Therefore, our analysis is limited to White women.

Table 5-5 indicates that White males had a higher business formation rate for the groups where we could produce reliable estimates.

Table 5-5: Business Formation Rates
Construction-Related Services, 2015 - 2019

Demographic Group	Business Formation Rates
Black	-----
Hispanic	-----
Native American	-----
Asian/Pacific Islander	-----
Other	------
White Women	4.2%
Non-White Male	3.8%
White Male	8.8%

Source: CHA calculations from the American Community Survey

205. The number of observations were: Blacks (3); Hispanics (5); Native Americans (0); Asians (10); and Others (0).

Table 5-6 presents the results of the probit analysis to explore business formation probabilities by race and gender once other explanatory factors are controlled. We find that White women have a lower likelihood to form businesses compared to White men. None of these findings are statistically significant.

Table 5-6: Business Formation Probability Differentials for Selected Groups Relative to White Men, Construction-related Services, 2015 - 2019

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-----
Hispanic	-----
Native American	-----
Asian/Pacific Islander	-----
Other	-----
White Women	-1.5%

Source: CHA calculations from the American Community Survey

Since wages are a determinant of business formation, Table 5-7 presents the results of a multiple regression analysis of wage differences. Blacks, Hispanics, Asians, Others, and White women earn less than White men[206]. The results for Blacks and White women are statistically significant at the 0.001 level; the results for Hispanics and Asians are statistically significant at the 0.05 level.

Table 5-7: Wage Differentials for Selected Groups Relative to White Men Construction-Related Services, 2015 - 2019

Demographic Group	Wages Relative to White Men (% Change)
Black	-35.8%***
Hispanic	-13.1%*
Native American	66.9%

206. This analysis of wage differentials contains data on Blacks, Hispanics, Asian, Native Americans, and Others because the unit of observations is wage earners and there were sufficient data on these groups to draw statistical inferences. This was different for the analyzes of business outcomes, where the unit of observations was business owners and, stated earlier, there were too few observations to draw statistical inferences.

Demographic Group	Wages Relative to White Men (% Change)
Asian/Pacific Islander	-11.5%*
Other	-11.3%
White Women	-27.7%***

Source: CHA calculations from the American Community Survey
**** Indicates statistical significance at the 0.001 level*
** Indicates statistical significance at the 0.05 level*

Table 5-8 presents the results of a multiple regression analysis of business earnings differentials. White women earn less than White men. The results for White women are statistically significant at the 0.05 level.

Table 5-8: Business Earnings Differentials for Selected Groups Relative to White Men Construction-related Services, 2015 - 2019

Demographic Group	Earnings Relative to White Men (% Change)
Black	-----
Hispanic	-----
Native American	-----
Asian/Pacific Islander	-----
Other	-----
White Women	-108.0%*

Source: CHA calculations from the American Community Survey
** Indicates statistical significance at the 0.05 level*

3. Conclusion

Overall, the ACS data presented in the above tables indicate that compared to similar White men, non-Whites, and White women form businesses less than White men and their wage and business earnings are less than those of White men. These analyses support the conclusion that barriers to business success do affect non-Whites and White women.

C. Disparate Treatment in the District's Marketplace: Evidence from the Census Bureau's 2017 Annual Business Survey

We further examined whether non-Whites and White women have disparate outcomes when they are active in the MWRD area marketplace. This question is operationalized by exploring if the share of business receipts, number of firms, and payroll for firms owned by non-Whites and White women is greater than, less than, or equal to the share of all firms owned by non-Whites and White women.

To answer this question, we examined the U.S. Bureau's ABS. The ABS supersedes the more well-known Survey of Business Owners ("SBO"). The SBO was last conducted in 2012 and historically has been reported every five years. In contrast, the ABS was first conducted in 2017 and it is the Census Bureau's goal to release results annually. As of the writing of this report, the most recent complete ABS contains 2017 data. The ABS surveyed about 850,000 employer firms and collected data on a variety of variables documenting ownership characteristics including race, ethnicity, and gender. It also collected data on the firms' business activity with variables marking the firms' number of employees, payroll size, sales, and industry.[207]

With these data, we grouped the firms into the following ownership categories:[208,209]

- Hispanics
- Non-Hispanic Blacks
- Non-Hispanic Native Americans
- Non-Hispanic Asians
- Non-Hispanic White women
- Non-Hispanic White men
- Firms equally owned by non-Whites and Whites
- Firms equally owned by men and women
- Firms that were either publicly-owned or where the ownership could not be classified

207. For more information on the Annual Business Survey see https://www.census.gov/programs-surveys/abs/about.html.
208. Race and gender labels reflect the categories used by the Census Bureau.
209. For expository purposes, the adjective "non-Hispanic" will not be used in this Chapter; the reader should assume that any racial group referenced does not include members of that group who identify ethnically as Hispanic.

Since our interest is the treatment of non-White-owned firms and White woman-owned firms, the last four groups were aggregated to form one category. To ensure this aggregated group is described accurately, we label this group "not non-White/non-White women". While this label is cumbersome, it is important to be clear this group includes firms whose ownership extends beyond White men, such as firms that are not classifiable or that are publicly traded and thus have no racial ownership.

We analyzed the ABS data on the following sectors:

- Construction
- Professional, Scientific, and Technical Services

The ABS data – a sample of all businesses, not the entire universe of all businesses – required some adjustments. In particular, we had to define the sectors at the two-digit North American Industry Classification System ("NAICS") code level, and therefore our sector definitions do not exactly correspond to the definitions used to analyze the MWRD contract data in Chapter IV, where we are able to determine sectors at the six-digit NAICS code level. At a more detailed level, the number of firms sampled in particular demographic and sector cells may be so small that the Census Bureau does not report the information, either to avoid disclosing data on businesses that can be identified or because the small sample size generates unreliable estimates of the universe. We therefore report two-digit data.

Table 5-9 presents information on which NAICS codes were used to define each sector.

Table 5-9: 2-Digit NAICS Code Definition of Sector

ABS Sector Label	2-Digit NAICS Codes
Construction	23
Professional, Scientific, and Technical Services[a]	54

a. This sector includes (but is broader than just) construction-related services. It is impossible to narrow this category to construction-related services without losing the capacity to conduct race and gender specific analyses.

The balance of this Chapter reports the findings of the ABS analysis. We examined all industries in the State of Illinois. The state was the geographic unit of analysis because the ABS does not present data at the sub-state level.

1. Construction

Table 5-10 presents data on the percentage share that each group has of the total of each of the following four business outcomes:

- The number of firms with employees (employer firms)
- The sales and receipts of all employer firms
- The number of paid employees
- The annual payroll of employer firms

Panel A of Table 5-10 presents data for the four basic non-White racial groups, plus a non-White group which is the aggregation of the four non-White racial groups:

- Black
- Hispanic
- Asian
- Native American
- Non-White

Panel B of Table 5-10 presents data for the following types of firm ownership:

- Non-White
- White women
- Not non-White/non-White women[210]

Categories in the second panel are mutually exclusive. Hence, the summation of the three groups equals all firms in the database. Since the central issue is the possible disparate treatment of non-White firms and White woman firms, we calculate three disparity ratios each for Black, Hispanic, Asian, Native American, non-White, White Woman, and not non-White/Not White Women firms (a total of 21 ratios), presented in Table 5-11:

- Ratio of sales and receipts share for all employer firms over the share of total number of all employer firms.
- Ratio of sales and receipts share for employer firms over the share of total number of employer firms.

210. Again, while a cumbersome nomenclature, it is important to remain clear that this category includes firms other than those identified as owned by White men.

- Ratio of annual payroll share over the share of total number of employer firms.

For example, the disparity ratio of sales and receipts share for employer firms over the share of total number of employer firms for Black firms is 69.5% (as shown in Table 5-11). This is derived by taking the Black share of sales and receipts for employer firms (0.7%) and dividing it by the Black share of total number of employer firms (0.9%) that are presented in Table 5-10.[211] If Black-owned firms earned a share of sales equal to their share of total firms, the disparity index would have been 100%. An index less than 100% indicates that a given group is being utilized less than would be expected based on its availability, and courts have adopted the Equal Employment Opportunity Commission's "80% Rule" that a ratio less than 80% presents a *prima facie* case of discrimination.[212]

Since there were not enough Native American firms to present this analysis for Native Americans, there are 15 disparity ratios to examine for the "80% Rule": the three ratios times the five targeted categories (Black; Hispanic; Asian; non-White; White Women). Of the 15 disparity ratios for non-White firms and White woman firms, 11 are below this threshold (see Table 5-11).[213]

Table 5-10: Demographic Distribution of Sales and Payroll Data Construction, 2017

	Share of Number of Employer Firms	Share of Sales & Receipts - Employer Firms	Share of Number of Paid Employees	Share of Annual payroll
Panel A: Distribution of Non-White Firms				
Black	0.9%	0.7%	0.8%	0.9%
Hispanic	6.6%	2.4%	3.6%	2.9%
Asian	1.2%	0.5%	0.7%	0.6%
Native American	-----	-----	-----	-----
Total Non-White	8.8%	3.6%	5.2%	4.5%

211. The impact of presenting rounded figures in tables causes a distinction between the actual number and a number calculated using presented rounded figures. With the example in the paragraph, 0.7 divided by 0.9 is not 69.7%. But 0.7 and 0.9 are the rounded presentation of the actual numbers: 0.65250835449502 and 0.939158840342997. Dividing these two numbers results in 69.7%.

212. 29 C.F.R. §1607.4(D) ("A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or 80%) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact.").

213. Because the data in the subsequent tables are presented for descriptive purposes, significance tests on these results are not conducted.

	Share of Number of Employer Firms	Share of Sales & Receipts - Employer Firms	Share of Number of Paid Employees	Share of Annual payroll
Panel B: Distribution of All Firms				
Non-White	8.8%	3.6%	5.2%	4.5%
White Women	10.1%	7.1%	10.7%	9.9%
Not Non-White/Not White Women	81.1%	89.3%	84.1%	85.7%
Total	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from American Business Survey

Table 5-11: Disparity Ratios of Firm Utilization Measures

Construction, 2017

	Ratio of Sales Share to Number of Employer Firms Share	Ratio of Employees Share to Number of Employer Firms Share	Ratio of Payroll Share to Number of Employer Firms Share
Panel A: Distribution of Non-White Firms			
Black	69.5%	85.0%	94.3%
Hispanic	36.4%	54.8%	43.5%
Asian	44.1%	60.5%	51.3%
Native American	-----	-----	-----
Total Non-White	41.4%	59.4%	50.7%
Panel B: Disparity Ratios for All Firms			
Non-White	41.4%	59.4%	50.7%
White Women	70.7%	106.6%	98.2%
Not Non-White/Not White Women	110.0%	103.6%	105.6%
Total	100.0%	100.0%	100.0%

Source: CHA calculations from American Business Survey

This same approach was used to examine the Professional, Scientific and Technical Services industry (our proxy for Construction-related Services), below.

2. Construction-Related Services

We performed a similar analysis for the construction-related services industry. Table 5-12 presents the basic data indicating the share each group has of the key metrics. Table 5-13 presents the disparity ratios. Of the 18 disparity ratios for non-White firms and White woman firms, all 18 fall under the 80% threshold.

Table 5-12: Demographic Distribution of Sales and Payroll Data
Professional, Scientific, and Technical Services, 2017

	Number of Firms with Paid Employees (Employer Firms)	Sales & Receipts - All Firms with Paid Employees (Employer Firms) ($1,000)	Number of Paid Employees	Annual payroll ($1,000)
Panel A: Distribution of Non-White Firms				
Black	1.6%	0.5%	0.9%	0.6%
Hispanic	2.4%	0.8%	1.3%	0.8%
Asian	8.7%	3.9%	4.4%	3.8%
Native American	0.3%	0.0%	0.1%	0.0%
Total Non-White	13.0%	5.2%	6.7%	5.2%
Panel B: Distribution of All Firms				
Non-White	13.0%	5.2%	6.7%	5.2%
White Women	18.8%	5.2%	6.9%	4.5%
Not Non-White/Not White Women	68.1%	89.6%	86.4%	90.2%
Total	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from American Business Survey

Table 5-13: Disparity Ratios – Aggregated Groups
Professional, Scientific, and Technical Services, 2017

	Ratio of Sales to Number of Employer Firms	Ratio of Employees to Number of Employer Firms	Ratio of Payroll to Number of Employer Firms
Panel A: Distribution of Non-White Firms			
Black	30.8%	55.2%	35.6%
Hispanic	31.7%	52.7%	33.3%

	Ratio of Sales to Number of Employer Firms	Ratio of Employees to Number of Employer Firms	Ratio of Payroll to Number of Employer Firms
Asian	44.6%	51.1%	43.7%
Native American	16.1%	33.5%	13.8%
Total Non-White	39.9%	51.5%	40.1%
Panel B: Disparity Ratios for All Firms			
Non-White	39.9%	51.5%	40.1%
White Women	27.4%	36.8%	24.1%
Not Non-White/Not White Women	131.5%	126.7%	132.4%
Total	100.0%	100.0%	100.0%

Source: CHA calculations from American Business Survey

3. Conclusion

Overall, the analysis of the ABS data presented indicates that the non-Whites and White women share of all employer firms is greater than their share of sales, payrolls, and employees. In the construction and construction-related services industries, the share of sales, employees, and payroll held by non-Whites and White women was less than their share of firms. This disparity supports the conclusion (and reinforces the conclusion of the ACS analysis) that barriers to business success disproportionately affect non-Whites and White women.

D. Evidence of Disparities in Access to Business Capital

Capital is the lifeblood of any business. Participants in the anecdotal data collection universally agreed to this fundamental fact. The interviews with business owners conducted as part of this study confirmed that small firms, especially minority- and woman-owned firms, had difficulties obtaining needed working capital to perform on the MWRD contracts and subcontracts, as well as to expand the capacities of their firms. As demonstrated by the analyses of Census Bureau data above, discrimination may even prevent firms from forming in the first place.

There are extensive federal agency reports and much scholarly work on the relationship between personal wealth and successful entrepreneurship. There is a general consensus that disparities in personal wealth translate into disparities in business creation and ownership.[214] The most recent research highlights the magnitude of the COVID-19 pandemic's disproportionate impact on minority-owned firms.

1. Federal Reserve Board Small Business Credit Surveys[215]

The Development Office of the 12 Reserve Banks of the Federal Reserve System have conducted Small Business Credit Surveys ("SBCS") to develop data on small business performance and financing needs, decisions, and outcomes.

a. 2021 Small Business Credit Survey

The 2021 SBCS[216] reached more than 15,000 small businesses, gathering insights about the COVID-19 pandemic's impact on small businesses, as well as business performance and credit conditions. The Survey yielded 9,693 responses from a nationwide convenience sample of small employer firms with between one and 499 full- or part-time employees across all 50 states and the District of Columbia. The survey was fielded in September and October 2020, approximately six months after the onset of the pandemic. The timing of the survey is important to the interpretation of the results. At the time of the survey, the Paycheck Protection Program ("PPP") authorized by the Coronavirus Relief, and Economic Security Act had recently closed, and prospects for additional stimulus funding were uncertain. Additionally, many government-mandated business closures had been lifted as the number of new COVID-19 cases plateaued in advance of a significant increase in cases by the year's end.

The 2020 survey findings highlight the magnitude of the pandemic's impact on small businesses and the challenges they anticipate as they navigate changes in the business environment. Few firms avoided the negative impacts of the pandemic. Furthermore, the findings reveal disparities in experiences and outcomes across firm and owner demographics, including race and ethnicity, industry, and firm size.

214. *See*, *e.g.*, Evans, David S. and Jovanovic, Boyan, "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints," *Journal of Political Economy*, Vol. 97, No. 4, 1989, pp. 808-827; David S. Evans and Linda S. Leighton, "Some empirical aspects of entrepreneurship," *The American Economic Review*, Vol. 79, No. 3, 1989, pp. 519-535.

215. This survey offers baseline data on the financing and credit positions of small firms before the onset of the pandemic. *See fedsmallbusiness.org.*

216. https://www.fedsmallbusiness.org/medialibrary/FedSmallBusiness/files/2021/2021-sbcs-employer-firms-report.

Overall, firms' financial conditions declined sharply and those owned by people of color reported greater challenges. The most important anticipated financial challenge differed by race and ethnicity of the owners. Among the findings for employer firms relevant to discriminatory barriers were the following:

- For Black-owned firms, credit availability was the top expected challenge, while Asian-owned firms disproportionately cited weak demand.
- The share of firms in fair or poor financial conditions varied by race: 79% of Asian-owned firms, 77% of Black-owned firms, 66% of Hispanic-owned firms and 54% of White-owned firms reported this result.
- The share of firms that received all the financing sought to address the impacts of the pandemic varied by race: 40% of White-owned firms received all the funding sought, but only 31% of Asian-owned firms, 20% of Hispanic-owned firms and 13% of Black-owned firms achieved this outcome.

b. 2018 Small Business Credit Survey

The 2018 SBCS[217] focused on minority-owned firms. The analysis was divided into two types: employer firms and non-employer firms.

i. Employer firms

Queries were submitted to businesses with fewer than 500 employees in the third and fourth quarters of 2018. Of the 7,656 firms in the unweighted sample, 5% were Asian, 10% were Black, 6% were Hispanic, and 79% were White. Data were then weighted by number of employees, age, industry, geographic location (census division and urban or rural location), and minority status to ensure that the data is representative of the nation's small employer firm demographics.[218]

Among the findings for employer firms relevant to discriminatory barriers were the following:

- Not controlling for other firm characteristics, fewer minority-owned firms were profitable compared to non-minority-owned firms during the past two years.[219] On average, minority-owned

217. Small Business Credit Survey, https://www.fedsmallbusiness.org/survey/2017/report-on-minority-owned-firms.
218. *Id* at 22. Samples for SBCS are not selected randomly. To control for potential biases, the sample data are weighted so that the weighted distribution of firms in the SBCS matches the distribution of the small firm population in the United States by number of employees, age industry, geographic location, gender of owner, and race or ethnicity of owners.
219. *Id*. at 3.

firms and non-minority-owned firms were about as likely to be growing in terms of number of employees and revenues.[220]

- Black-owned firms reported more credit availability challenges or difficulties obtaining funds for expansion—even among firms with revenues of more than $1M. For example, 62% of Black-owned firms reported that obtaining funds for expansion was a challenge, compared to 31% of White-owned firms.[221]
- Black-owned firms were more likely to report relying on personal funds of owner(s) when they experienced financial challenges to fund their business. At the same time, White- and Asian-owned firms reported higher debt levels than Black- and Hispanic-owned firms.[222]
- Black-owned firms reported more attempts to access credit than White-owned firms but sought lower amounts of financing. Forty percent of Black-owned firms did not apply because they were discouraged, compared to 14% of White-owned firms.[223]
- Low credit score and lack of collateral were the top reported reasons for denial of applications by Black- and Hispanic-owned firms.[224]

ii. Non-employer firms[225]

Queries were submitted to non-employer firms in the third and fourth quarters of 2018. Of the 4,365 firms in the unweighted sample, 5% were Asian, 24% were Black, 7% were Hispanic, and 64% were White. Data were then weighted by age, industry, geographic location (census division and urban or rural location), and minority status.[226]

Among the findings for non-employer firms relevant to discriminatory barriers were the following:

- Black-owned firms were more likely to operate at a loss than other firms.[227]

220. *Id*. at 4.
221. *Id*. at 5.
222. *Id*. at 6.
223. *Id*. at 9.
224. *Id*. at 15.
225. *Id*. at 18.
226. *Id*. at 18.
227. *Id*.

- Black-owned firms reported greater financial challenges, such as obtaining funds for expansion, accessing credit, and paying operating expenses than other businesses.[228]
- Black- and Hispanic-owned firms submitted more credit applications than White-owned firms.[229]

c. 2016 Small Business Credit Surveys

The 2016 Small Business Credit Survey[230] obtained 7,916 responses from employer firms with race/ethnicity information and 4,365 non-employer firms in the 50 states and the District of Columbia. Results were reported with four race/ethnicity categories: White, Black or African American, Hispanic, and Asian or Pacific Islander.[231] It also reported results from woman-owned small employer firms, defined as firms where 51% or more of the business is owned by women, and compared their experiences with male-owned small employer firms.

i. The 2016 Report on Minority-Owned Businesses[232]

The Report on Minority-Owned Businesses provided results for White-, Black- or African American-, Hispanic-, and Asian or Pacific Islander-owned firms.

Demographics[233]

The SBCS found that Black-, Asian-, and Hispanic-owned firms tended to be younger and smaller in terms of revenue size, and they were concentrated in different industries. Black-owned firms were concentrated in the healthcare and education industry sectors (24%). Asian-owned firms were concentrated in professional services and real estate (28%). Hispanic-owned firms were concentrated in non-manufacturing goods production and associated services industry, including building trades and construction (27%). White-owned firms were more evenly distributed across several industries but operated most commonly in the professional services industry and real estate industries (19%), and non-manufacturing goods production and associated services industry (18%).[234]

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228. *Id.* at 19.
229. *Id.* at 20.
230. https://www.fedsmallbusiness.org/survey/2017/report-on-minority-owned-firms.
231. When the respondent sample size by race for a survey proved to be too small, results were communicated in terms of minority vis-à-vis non-minority firms.
232. https://www.fedsmallbusiness.org/survey/2017/report-on-minority-owned-firms.
233. 2016 SBCS, at 2.

Profitability Performance Index[235]

After controlling for other firm characteristics, the SBCS found that fewer minority-owned firms were profitable compared to non-minority-owned firms during the prior two years. This gap proved most pronounced between White- (57%) and Black-owned firms (42%). On average, however, minority-owned firms and non-minority-owned firms were nearly as likely to be growing in terms of number of employees and revenues.

Financial and Debt Challenges/Demands[236]

The number one reason for financing was to expand the business or pursue a new opportunity. Eighty-five percent of applicants sought a loan or line of credit. Black-owned firms reported more attempts to access credit than White-owned firms but sought lower amounts of financing.

Black-, Hispanic-, and Asian-owned firms applied to large banks for financing more than they applied to any other sources of funds. Having an existing relationship with a lender was deemed more important to White-owned firms when choosing where to apply compared to Black-, Hispanic- and Asian-owned firms.

The SBCS also found that small Black-owned firms reported more credit availability challenges or difficulties for expansion than White-owned firms, even among firms with revenues in excess of $1M. Black-owned firm application rates for new funding were ten percentage points higher than White-owned firms; however, their approval rates were 19 percentage points lower. A similar but less pronounced gap existed between Hispanic- and Asian-owned firms compared with White-owned firms. Of those approved for financing, only 40% of minority-owned firms received the entire amount sought compared to 68% of non-minority-owned firms, even among firms with comparably good credit scores.

Relative to financing approval, the SBCS found stark differences in loan approvals between minority-owned and White-owned firms. When controlling for other firm characteristics, approval rates from 2015 to 2016 increased for minority-owned firms and stayed roughly the same

234. *Id.* Forty-two percent of Black-owned firms, 21% of Asian-owned firms, and 24% of Hispanic-owned firms were smaller than $100K in revenue size compared with 17% of White-owned firms.
235. *Id*. at 3-4.
236. *Id.* at 8-9; 11-12; 13; 15.

for non-minority-owned firms. Hispanic- and Black-owned firms reported the highest approval rates at online lenders.[237]

Low credit score and lack of collateral were the top reported reasons for denial of Black- and Hispanic-owned firms' applications. Satisfaction levels were lowest at online lenders for both minority- and non-minority-owned firms. A lack of transparency was cited as one of the top reasons for dissatisfaction for minority applicants and borrowers.

Forty percent of non-applicant Black-owned firms reported not applying for financing because they were discouraged (expected not to be approved), compared with 14% of White-owned firms. The use of personal funds was the most common action taken in response to financial challenges, with 86% of Black-owned firms, 77% of Asian-owned firms, 76% of White-owned firms, and 74% of Hispanic-owned firms using this as its source.

A greater share of Black-owned firms (36%) and of Hispanic-owned firms (33%) reported existing debt in the past 12 months of less than $100,000, compared with 21% of White-owned firms and 14% of Asian-owned firms. Black-owned firms applied for credit at a higher rate and tended to submit more applications, compared with 31% of White-owned firms. Black-, Hispanic-, and Asian-owned firms applied for higher-cost products and were more likely to apply to online lenders compared to White-owned firms.

Business Location Impact[238]

Controlling for other firm characteristics, minority-owned firms located in low-income minority zip codes reported better credit outcomes at large banks, compared with minority-owned firms in other zip codes. By contrast, at small banks, minority-owned firms located in low- and moderate-income minority zip codes experiences lower approval rates than minority-owned firms located in other zip codes.

Non-employer Firms [239]

Non-employer firms reported seeking financing at lower rates and experienced lower approval rates than employer firms, with Black-owned non-employer firms and Hispanic-owned non-employer firms experiencing the most difficulty. White-owned non-employer firms experienced the highest approval rates for new financing, while Black-

237. The share of minority-owned firms receiving at least some financing was lower across all financing products, compared with non-minority firms.
238. *Id.*at 17.
239. *Id.* at 21.

owned non-employer firms experienced the lowest approval rates for new financing.

ii. The 2016 Report on Women-Owned Businesses [240]

The Report on Women-Owned Businesses provides results from woman-owned small employer firms where 51% or more of the business is owned by women. These data compared the experience of these firms compared with male-owned small employer firms.

Firm Characteristics: Woman-Owned Firms Start Small and Remain Small and Concentrate in Less Capital-Intensive Industries [241]

The SBCS found that 20% of small employer firms were woman-owned, compared to 65% male-owned and 15% equally owned. Woman-owned firms generally had smaller revenues and fewer employees than male-owned small employer firms. These firms tended to be younger than male-owned firms.

Woman-owned firms were concentrated in less capital-intensive industries. Two out of five woman-owned firms operated in the healthcare and education or professional services and real estate industries. Male-owned firms were concentrated in professional services, real estate, and non-manufacturing goods production and associated services.[242]

Profitability Challenges and Credit Risk Disparities[243]

Woman-owned firms were less likely to be profitable than male-owned firms. These firms were more likely to report being medium or high credit risk compared to male-owned firms. Notably, gender differences by credit risk were driven by woman-owned startups. Among firms older than five years, credit risk was indistinguishable by the owner's gender.

Financial Challenges During the Prior Twelve Months[244]

Woman-owned firms were more likely to report experiencing financial challenges in the prior twelve months: 64% compared to 58% of male-owned firms. They most frequently used personal funds to fill gaps and make up deficiencies. Similar to male-owned firms, woman-owned

240. https://www.newyorkfed.org/medialibrary/media/smallbusiness/2016/SBCS-Report-WomenOwnedFirms-2016.pdf.
241. 2016 SBCS, at 1-5.
242. Non-manufacturing goods production and associated services refers to firms engaged in Agriculture, Forestry, Fishing, and Hunting; Mining, Quarrying, and Oil and Gas Extraction; Utilities; Construction; Wholesale Trade; Transportation and Warehousing (NAICS codes: 11, 21, 22, 23, 42, 48-49).
243. *Id*. at 6-7.
244. *Id*. at 8.

firms frequently funded operations through retained earnings. Ninety percent of woman-owned firms relied upon the owner's personal credit score to obtain financing.

Debt Differences[245]

Sixty-eight percent of woman-owned firms had outstanding debt, similar to that of male-owned firms. However, woman-owned firms tended to have smaller amounts of debt, even when controlled for the revenue size of the firm.

Demands for Financing[246]

Forty-three percent of woman-owned firms applied for financing. Woman-owned applicants tended to seek smaller amounts of financing even when their revenue size was comparable to male-owned firms.

Overall, woman-owned firms were less likely to receive all financing applied for compared to male-owned firms. Woman-owned firms received a higher approval rate for U.S. Small Business Administration loans compared to male-owned firms. Low-credit, woman-owned firms were less likely to be approved for business loans than their male counterparts with similar credit (68% compared to 78%).

Firms That Did Not Apply for Financing[247]

Woman-owned firms reported being discouraged from applying for financing for fear of being turned down at a greater rate: 22% compared to 15% for male-owned firms. Woman-owned firms cited low credits scores more frequently than male-owned firms as their chief obstacle in securing credit. By contrast, male-owned businesses were more likely to cite performance issues.

Lender Satisfaction[248]

Woman-owned firms were most consistently dissatisfied by lenders' lack of transparency and by long waits for credit decisions. However, they were notably more satisfied with their borrowing experiences at small banks rather than large ones.

245. *Id*. at 10.
246. *Id*. at 16.
247. *Id*. at 14.
248. *Id*. at 26.

2. 2021 Report on Firms Owned by People of Color

a. Overview

The *2021 Report on Firms Owned by People of Color* [249] compiles results from the 2020 SBCS. The SBCS provides data on small business performance, financing needs, and decisions and borrowing outcomes.[250,251] The Report provides results by four race/ethnicity categories: White, Black or African American, Hispanic or Latino, and Asian or Pacific Islander. For select key statistics, it also includes results for 4,531 non-employer firms, which are firms with no employees on payroll other than the owner(s) of the business.

Patterns of geographic concentration emerged among small business ownership by race and ethnicity. This was important given the progressive geographic spread of the novel coronavirus throughout 2020 and variations in state government responses to limit its spread. The Report found that 40% of Asian-owned small employer firms are in the Pacific census division, and another 28% are in the Middle Atlantic. Early and aggressive efforts by the impacted states may have affected the revenue performance of Asian-owned firms in the aggregate given their geographic concentration. Black- and Hispanic-owned small employer firms are more concentrated in the South Atlantic region, which includes states with a mix of pandemic responses. For example, while Florida lifted COVID-19 restrictions relatively quickly, the South Atlantic includes states such as Maryland and North Carolina that maintained more strict guidelines.

The Report found that firms owned by people of color continue to face structural barriers in acquiring the capital, business acumen, and market access needed for growth. At the time of the 2020 SBCS – six months after the onset of the global pandemic – the U.S. economy had undergone a significant contraction of economic activity. As a result, firms owned by people of color reported more significant negative effects on business revenue, employment, and operations. These firms anticipated revenue, employment, and operational challenges to persist into 2021 and beyond. Specific findings are, as follows:

249. https://www.fedsmallbusiness.org/medialibrary/FedSmallBusiness/files/2021/sbcs-report-on-firms-owned-by-people-of-color.
250. The SBCS is an annual survey of firms with fewer than 500 employees.
251. The 2020 SBCS was fielded in September and October 2020 and yielded 9,693 responses from small employer firms in all 50 states and the District of Columbia.

b. Performance and Challenges

Overall, firms owned by people of color were more likely than White-owned firms to report that they reduced their operations in response to the pandemic. Asian-owned firms were more likely than others to have temporarily closed and to have experienced declines in revenues and employment in the 12 months prior to the survey. In terms of sales and the supply chain, 93% of Asian-owned firms and 86% of Black-owned firms reported sales declines as a result of the pandemic. Relative to financial challenges for the prior 12 months, firms owned by people of color were more likely than White-owned firms to report financial challenges, including paying operating expenses, paying rent, making payments on debt, and credit availability. Black-owned business owners were most likely to have used personal funds in response to their firms' financial challenges. Nearly half of Black-owned firms reported concerns about personal credit scores or the loss of personal assets. By contrast, one in five White-owned firms reported no impact on the owners' personal finances. Asian-owned firms were approximately twice as likely as White-owned firms to report that their firms were in poor financial condition.

c. Emergency Funding

The *Report* finds that PPP loans were the most common form of emergency assistance funding that firms sought during the period. Black- and Hispanic-owned firms were less likely to apply for a PPP loan. Only six in ten Black-owned firms actually applied. Firms owned by people of color were more likely than White-owned firms to report that they missed the deadline or were unaware of the program. Firms owned by people of color were less likely than White-owned firms to use a bank as a financial services provider. Regardless of the sources at which they applied for PPP loans, firms that used banks were more likely to apply for PPP loans than firms that did not have a relationship with a bank. While firms across race and ethnicity were similarly likely to apply for PPP loans at large banks, White- and Asian-owned firms more often applied at small banks than did Black- and Hispanic-owned firms. Black-owned firms were nearly half as likely as White-owned firms to receive all of the PPP funding they sought and were approximately five times as likely to receive none of the funding they sought.

d. Debt and Financing

Black-owned firms have smaller amounts of debt than other firms. About one in ten firms owned by people of color do not use financial services.

On average, Black-owned firms completed more financing applications than other applicant firms. Firms owned by people of color turned more often to large banks for financing. By contrast, White-owned firms turned more often to small banks. Black-owned applicant firms were half as likely as White-owned applicant firms to be fully approved for loans, lines of credit, and cash advances.

Firms owned by people of color were less satisfied than White-owned firms with the support from their primary financial services provider during the pandemic. Regardless of the owner's race or ethnicity, firms were less satisfied with online lenders than with banks and credit unions.

In the aggregate, 63% of all employer firms were non-applicants – they did not apply for non-emergency financing in the prior 12 months. Black-owned firms were more likely than other firms to apply for non-emergency funding in the 12 months prior to the survey. One-quarter of Black- and Hispanic-owned firms that applied for financing sought $25,000 or less. In 2020, firms owned by people of color were more likely than White-owned firms to apply for financing to meet operating expenses. The majority of non-applicant firms owned by people of color needed funds but chose not to apply, compared to 44% of White-owned firms. Financing shortfalls were most common among Black-owned firms and least common among White-owned firms.

Firms of color were more likely than White-owned firms to have unmet funding needs. Just 13% of Black-owned firms received all of the non-emergency financing they sought in the 12 months prior to the survey, compared to 40% of White-owned firms. Black-owned firms with high credit scores were half as likely as their White counterparts to receive all of the non-emergency funding they sought.

e. Findings for Non-employer Firms

Non-employer firms, those that have no paid employees other than the owner, represent the overwhelming majority of small businesses across the nation. In all, 96% of Black- and 91% of Hispanic-owned firms are non-employer firms, compared to 78% of White-owned and 75% of Asian-owned firms.[252]

Compared to other non-employer firms, Asian-owned firms reported the most significant impact on sales as a result of the pandemic. They were most likely to report that their firm was in poor financial condition at the time of the survey.

Compared to other non-employer firms that applied for financing, Black-owned firms were less likely to receive all of the financing they sought.

252. The Report notes that a future report will describe findings from the 2020 SBCS for non-employers in greater detail.

> Black-owned non-employer firms that applied for PPP loans were less likely than other firms to apply at banks and more often turned to online lenders. Among PPP applicants, White-owned non-employer firms were twice as likely as Black-owned firms to receive all of the PPP funding they sought.

3. 2020 Small Business Administration Loans to African American Businesses

As detailed in a 2021 article published in the *San Francisco Business Times*,[253] the number of loans to Black businesses through the SBA's 7(a) program[254] decreased 35% in 2020.[255] This was the largest drop in lending to any race or ethnic group tracked by the SBA. The 7(a) program is the SBA's primary program for financial assistance to small businesses. Terms and conditions, like the guaranty percentage and loan amount, vary by the type of loan. Lenders and borrowers can negotiate the interest rate, but it may not exceed the SBA maximum.[256]

Bankers, lobbyists, and other financial professionals attributed the 2020 decline to the impact of the PPP pandemic relief effort.[257] The PPP loan program provided the source of relief to underserved borrowers through a direct incentive for small businesses to keep their workers on payroll.[258] Approximately 5.2M PPP loans were made in 2020, as compared with roughly 43,000 loans made through the 7(a) program.

In a published statement to the *Portland Business Journal*, the American Bankers Association, an industry trade group, noted that the 2020 decline in SBA 7(a) loans to Black-owned businesses is not a one-year anomaly; it has been declining for years at a much faster rate than 7(a) loans to other borrowers. The 2020 data[259] reveal that the number of SBA loans made annually to Black businesses has declined 90% since a 2007 peak, more than any other group

253. SBA Loans to African American Businesses Decrease 35%, San Francisco Business Times (August 11, 2021) at: https://www.bizjournals.com/sanfrancisco/news/2021/08/11/sba-loans-to-african-american-businesses-decrease.html. Data were obtained through a Freedom of Information Act request.
254. Section 7(a) of the Small Business Act of 1953 (P.L. 83-163, as amended).
255. The total number of 7(a) loans declined 24%.
256. The SBA caps the maximum spread lenders can charge based on the size and maturity of the loan. Rates range from prime plus 4.5% to prime plus 6.5%, depending on how much is borrowed.
257. The Coronavirus Act, Relief, and Economic Security Act ("CARES Act"), required the SBA to issue guidance to PPP lenders to prioritize loans to small businesses owned by socially and economically disadvantaged individuals including Black-owned businesses. *See* 116-136, §1, March 27, 2020, 134 Stat. 281.
258. PPP loans were used to help fund payroll costs, including benefits, and to pay for mortgage interest, rent, utilities, workers protection costs related to COVID-19, uninsured property damage costs caused by looting or vandalism during 2020 as well as certain supplier costs and operational expenses.
259. The SBA denied the original request for information; however, the publication prevailed on appeal.

tracked by the SBA. In that interval, the overall number of loans decreased by 65%.

The nation's four largest banks (JP Morgan Chase, Bank of America, Citigroup, and Wells Fargo), which hold roughly 35% of national deposits, made 41% fewer SBA 7(a) loans to Blacks in 2020.[260]

PPP loans served as a lifeline during the pandemic for millions of businesses. However, industry experts maintained that PPP loans detracted from more conventional SBA lending efforts that year. Wells Fargo provided more than 282,000 PPP loans to small businesses nationwide in 2020, with an average loan size of $50,000. Wells Fargo, the most active lender for Black-owned businesses nationwide in 2020, saw its SBA loans to Blacks drop from 263 in 2019 to 162 in 2020. Bank of America, Chase, and Citigroup also reported fewer SBA loans to African American businesses in 2020.

While PPP loans have been heralded for providing needed monies to distressed small and mid-size businesses, data reveals disparities in how loans were distributed.[261] An analysis in 2020 by the *Portland Business Journal*, found that of all 5.2M PPP loans, businesses in neighborhoods of color received fewer loans and delayed access to the program during the early critical days of the pandemic.[262] More recent analysis released by the Associated Press indicates that access for borrowers of color improved exponentially during the later rounds of PPP funding, following steps designed to make the program more accessible to underserved borrowers.

4. 2010 Minority Business Development Agency Report[263]

The 2010 Minority Business Development Agency Report, "Disparities in Capital Access Between Minority and non-Minority Owned Businesses: The Troubling Reality of Capital Limitations Faced by MBEs", summarizes results from the Kauffman Firm Survey, data from the U.S. Small Business Administration's Certified Development Company/504 Guaranteed Loan Program, and additional extensive research on the effects of discrimination on opportunities for minority-owned firms. The report found that

260. Data obtained by the *Business Journal* does not include information from lenders who made less than ten loans in 2020.
261. While PPP loans are administered by the SBA, they are disbursed primarily through banks.
262. Many industry experts have observed that businesses that already had strong relationships with lenders were the most successful in accessing PPP loans. The nation's long history of systemic racism in banking fostered disparities in PPP loan distribution. *See* Alicia Plerhoples, *Correcting Past Mistakes: PPP Loans and Black-Owned Small Businesses*, at https://www.acslaw.org/expertforum/correcting-past-mistakes-ppp-loans-and-black-owned-small-businesses/.
263. Robert W. Fairlie and Alicia Robb, Disparities in Capital Access Between Minority and non-Minority Businesses: The Troubling Reality of Capital Limitations Faced by MBEs, Minority Business Development Agency, U.S. Department of Commerce, 2010 ("MBDA Report" (https://archive.mbda.gov/sites/mbda.gov/files/migrated/files-attachments/DisparitiesinCapitalAccessReport.pdf)).

> low levels of wealth and liquidity constraints create a substantial barrier to entry for minority entrepreneurs because the owner's wealth can be invested directly in the business, used as collateral to obtain business loans or used to acquire other businesses.[264]

It also found, "the largest single factor explaining racial disparities in business creation rates are differences in asset levels."[265]

Some additional key findings of the Report include:

- *Denial of Loan Applications.* Forty-two percent of loan applications from minority firms were denied compared to 16% of loan applications from non-minority-owned firms.[266]
- *Receiving Loans.* Forty-one percent of all minority-owned firms received loans compared to 52% of all non-minority-owned firms. MBEs are less likely to receive loans than non-minority-owned firms regardless of firm size.[267]
- *Size of Loans.* The size of the loans received by minority-owned firms averaged $149,000. For non-minority-owned firms, loan size averaged $310,000.
- *Cost of Loans.* Interest rates for loans received by minority-owned firms averaged 7.8%. On average, non-minority-owned firms paid 6.4% in interest.[268]
- *Equity Investment*. The equity investments received by minority-owned firms were 43% of the equity investments received by non-minority-owned firms even when controlling for detailed business and owner characteristics. The differences are large and statistically significant. The average amount of new equity investments in minority-owned firms receiving equity is 43% of the average of new equity investments in non-minority-owned firms. The differences were even larger for loans received by high sales firms.[269]

264. *Id.* at 17.
265. *Id.* at. 22.
266. *Id*. at 5.
267. *Id*.
268. *Id*.
269. *Id*.

5. Federal Reserve Board Surveys of Small Business Finances

The Federal Reserve Board and the U.S. Small Business Administration have conducted surveys of discrimination in the small business credit market for years 1993, 1998 and 2003.[270] These Surveys of Small Business Finances are based on a large representative sample of firms with fewer than 500 employees. The main finding from these Surveys is that MBEs experience higher loan denial probabilities and pay higher interest rates than White-owned businesses, even after controlling for differences in credit worthiness and other factors. Blacks, Hispanics, and Asians were more likely to be denied credit than Whites, even after controlling for firm characteristics like credit history, credit score, and wealth. Blacks and Hispanics were also more likely to pay higher interest rates on the loans they did receive.[271]

6. Other Reports

- Dr. Timothy Bates found venture capital funds focusing on investing in minority firms provide returns that are comparable to mainstream venture capital firms.[272]
- According to the analysis of the data from the Kauffman Firm Survey, minority-owned firms' investments into their own firms were about 18% lower in the first year of operations compared to those of non-minority-owned firms. This disparity grew in the subsequent three years of operations, where minorities' investments into their own firms were about 36% lower compared to those of non-minority-owned firms.[273]
- Another study by Fairlie and Robb found minority entrepreneurs face challenges (including lower family wealth and difficulty penetrating financial markets and networks) directly related to race that limit their ability to secure financing for their businesses.[274]

270. https://www.federalreserve.gov/pubs/oss/oss3/nssbftoc.htm. These surveys have been discontinued. They are referenced to provide some historical context.
271. *See* Blanchflower, D. G., Levine. P. and Zimmerman, D., "Discrimination In The Small Business Credit Market," *Review of Economics and Statistics*, (2003); Cavalluzzo, K. S. and Cavalluzzo, L. C. ("Market structure and discrimination, the case of small businesses," *Journal of Money, Credit, and Banking*, (1998).
272. *See* Bates, T., "Venture Capital Investment in Minority Business," *Journal of Money Credit and Banking* 40, 2-3 (2008).
273. Fairlie, R.W. and Robb, A, Race and Entrepreneurial Success: Black-, Asian- and White-Owned Businesses in the United States, (Cambridge: MIT Press, 2008.
274. Fairlie, R.W. and Robb, A., Race and Entrepreneurial Success: Black-, Asian- and White-Owned Businesses in the United States, (Cambridge: MIT Press, 2008).

E. Evidence of Disparities in Access to Human Capital

There is a strong intergenerational correlation with business ownership. The probability of self-employment is significantly higher among the children of the self-employed. This generational lack of self-employment capital disadvantages minorities, whose earlier generations were denied business ownership through either *de jure* segregation or *de facto* exclusion.

There is evidence that current racial patterns of self-employment are in part determined by racial patterns of self-employment in the previous generation.[275] Black men have been found to face a "triple disadvantage" in that they are less likely than White men to: 1. Have self-employed fathers; 2. Become self-employed if their fathers were not self-employed; and 3. To follow their fathers into self-employment.[276]

Intergenerational links are also critical to the success of the businesses that do form.[277] Working in a family business leads to more successful firms by new owners. One study found that only 12.6% of Black business owners had prior work experiences in a family business as compared to 23.3% of White business owners.[278] This creates a cycle of low rates of minority ownership and worse outcomes being passed from one generation to the next, with the corresponding perpetuation of advantages to White-owned firms.

Similarly, unequal access to business networks reinforces exclusionary patterns. The composition and size of business networks are associated with self-employment rates.[279] The U.S. Department of Commerce has reported that the ability to form strategic alliances with other firms is important for success.[280] Minorities and women in our interviews reported that they felt excluded from the networks that help to create success in their industries.

F. Conclusion

The economy-wide data, taken as a whole, paint a picture of systemic and endemic inequalities in the ability of firms owned by minorities and women to

275. Fairlie, R W., "The Absence of the African-American Owned Business, An Analysis of the Dynamics of Self-Employment," *Journal of Labor Economics*, Vol. 17, 1999, pp 80-108.
276. Hout, M. and Rosen, H. S., "Self-employment, Family Background, and Race," *Journal of Human Resources,* Vol. 35, No. 4, 2000, pp. 670-692.
277. Fairlie, R.W. and Robb, A., "Why Are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances, and Business Human Capital," *Journal of Labor Economics*, Vol. 24, No. 2, 2007, pp. 289-323.
278. *Id*.
279. Allen, W. D., "Social Networks and Self-Employment," *Journal of Behavioral and Experimental Economics (formerly The Journal of Socio-Economics)*, Vol. 29, No. 5, 2000, pp. 487-501.
280. "Increasing MBE Competitiveness through Strategic Alliances" (Minority Business Development Agency, 2008).

have full and fair access to MWRD's contracts and associated subcontracts. This evidence supports the conclusion that absent the use of narrowly tailored contract goals, these inequities create disparate impacts on M/WBEs.

VI. QUALITATIVE EVIDENCE OF RACE AND GENDER BARRIERS IN MWRD'S MARKET

In addition to quantitative data, a disparity study should further explore anecdotal evidence of experiences with discrimination in contracting opportunities. This evidence is relevant to this study and the question of whether despite the operations of the District's Program, M/WBEs continue to face discriminatory barriers to their full and fair participation in District opportunities. Anecdotal evidence also sheds light on the likely efficacy of using only race- and gender-neutral remedies designed to benefit all small contractors to combat discrimination and achieve the objectives of the M/WBE program. As discussed in Chapter II, this type of anecdotal data has been held by the courts to be relevant and probative of whether the District may use narrowly tailored M/WBE contract goals to remedy the effects of past and current discrimination and create a level playing field for contract opportunities for all firms.

The Supreme Court has held that anecdotal evidence can be persuasive because it "brought the cold [statistics] convincingly to life."[281] Evidence about discriminatory practices engaged in by prime contractors, agency personnel, and other actors relevant to business opportunities has been found relevant regarding barriers both to minority firms' business formation and to their success on governmental projects.[282] While anecdotal evidence is insufficient standing alone, "[p]ersonal accounts of actual discrimination or the effects of discriminatory practices may, however, vividly complement empirical evidence. Moreover, anecdotal evidence of a [government's] institutional practices that exacerbate discriminatory market conditions are [sic] often particularly probative."[283] "[W]e do not set out a categorical rule that every case must rise or fall entirely on the sufficiency of the numbers. To the contrary, anecdotal evidence might make the pivotal difference in some cases; indeed, in an exceptional case, we do not rule out the possibility that evidence not reinforced by statistical evidence, as such, will be enough."[284]

281. *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).

282. *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1168-1172 (10th Cir. 2000), *cert. granted*, 532 U.S. 941, *then dismissed as improvidently granted*, 534 U.S. 103 (2001).

283. *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1120, 1530 (10th Cir. 1994).

284. *Engineering Contractors Association of South Florida, Inc. v. Metropolitan Dade County*, 122 F.3d 895, 926 (11th Cir. 1997).

There is no requirement that anecdotal testimony be “verified” or corroborated, as befits the role of evidence in legislative decision-making, as opposed to judicial proceedings. “Plaintiff offers no rationale as to why a fact finder could not rely on the State’s ‘unverified’ anecdotal data. Indeed, a fact finder could very well conclude that anecdotal evidence need not—indeed cannot—be verified because it is nothing more than a witness’ narrative of an incident told from the witness’ perspective and including the witness’ perception.”[285] Likewise, the Tenth Circuit held that “Denver was not required to present corroborating evidence and [plaintiff] was free to present its own witnesses to either refute the incidents described by Denver’s witnesses or to relate their own perceptions on discrimination in the Denver construction industry.”[286]

To explore this type of anecdotal evidence of possible discrimination against minorities and women in the District’s geographic and industry markets and the effectiveness of its current race-conscious and race-neutral measures, we conducted five small group business owner and stakeholder interviews, totaling 74 participants. We also received written comments. We met with a broad cross section of business owners from the District’s construction and construction-related geographic and industry markets. Firms ranged from large long-established prime contracting and consulting firms to new market entrants and established family-owned firms. We sought to explore their experiences in seeking and performing public and private sector prime contracts and subcontracts with the District, other government agencies in the Chicago area, and in the private sector. We also elicited recommendations for improvements to the M/WBE Program.

Many minority and woman owners reported that while progress has been made in integrating their firms into public and private sector contracting activities through race- and gender-conscious contracting programs in the Chicago area in general and the District’s program in particular, significant barriers on the basis of race and/or gender remain. There was near universal agreement that race- and gender-based contract goals remain necessary to ensure equal opportunities to compete for the District’s construction and construction-related services work.

The following are summaries of the issues discussed. Quotations are indented and may have been shortened for readability. The statements are representative of the views expressed over the many sessions by numerous participants.

We have also appended a summary of the anecdotal results of the numerous disparity studies we have conducted in Illinois.[287] These studies are directly relevant and probative of the barriers to success that minority and women entrepreneurs continue to

285. *H.B. Rowe Co., Inc. v. Tippett*, 615 F.3d 233, 249 (4th Circ. 2010).
286. *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 989 (10th Cir. 2003), *cert. denied*, 540 U.S. 1027 (2003).
287. Appendix E: Qualitative Evidence from Illinois Disparity Studies.

face in the construction and the construction-related services industries in the Chicago area.

A. Business Owner Marketplace Experiences

Many minority and woman owners reported that they continue to experience negative assumptions and perceptions about their competency and capabilities. There is often a stigma to being an M/WBE.

> There is a stigma [to being an MBE]. Quite frankly, when we go after projects, I have to remind the client, we have more people in Chicago than [large engineering firm], and yet you're looking at them as though they're name], and we are bigger than [name] in Chicago. But that's not what you're seeing. There's a ton of firms that are significantly smaller than us, who they expect us to be a sub to. And we have more experience, more people. And to be honest with you, I often say, "I don't have a black engineering degree." They didn't offer that when I was school. I don't have a black PE license. There was no minority engineering or business degree, there wasn't any of that, right? I got the same one as everybody else. And yet somehow my experience is different. Somehow my engineering experience is less there even though I have all the same qualifications, I've worked on all the same projects. My team has worked on all the same stuff, quite frankly, our staff work for the vast majority of these larger engineering firms that we're competing against now. And they were the smartest people in the world when they worked for [name], and now all of a sudden they worked for [name] firm, and they clearly are stupid.
>
> Just this past year, a colleague of mine had a GC say "do we want quality, or do we want diversification". The reality is, this is what is thought out there.
>
> I have not been an MBE because I didn't want the stigma associated with some of the MBEs.… I do send some of my Caucasian project managers to some units. I will say And even though my company is 75% minority and women out of my 40 to 50 employees, I have to do that because there is a stigma associated.… You have to perform at a 50% higher rate, even though we don't get the good jobs, because they go to the large companies. Whether their construction or consulting, or services and goods. It's hard to compete in that environment.
>
> [Large prime contractors] try 1-2 M's or W's, that may not be all that great, and they lump us all together as "2nd rate". When they may try

> 7-8 substandard white guy companies, and they don’t think anything of it. They just keep looking for someone else.

Some women continue to encounter sexist behaviors and attitudes.

> I have heard comments from other women around me, where that has happened to them. And I've also heard comments with regards to the mentorship part of it, that the mentor is also a big part of that scenario. Meaning if I'm the junior PM or a project manager, and I've got an executive who is a male, how he presents himself and how he presents the woman next to him and kind of allows the participation to occur, I think is also very important. So, it really does depend on the dynamic of your team around you, but I have heard that that does still occur. And so, whenever I get an opportunity to work with women, younger women, or in a mentorship environment, I definitely tell them not to allow that to happen. And maybe you don't do it in the office or at that particular meeting, you have to walk out and have that conversation, which is never easy. But yeah, I think that answers your question. I do believe that that still occurs.

> At least yearly, one of the first questions asked to me is “What does your husband do?”. Although benign, it implies that I certainly cannot be running a construction company. So right off the bat, they think I am unqualified. That is the assumption they are going in with.

> I used to get that a lot when I first started in the industry and I'm not going to say how many years ago that was, but I would get the "honey, let me talk to your boss." I'm not going to talk to you, like get your boss on the phone. But since then, I think things have changed. And us at [M 01:15:36] Squared, I'm more conscientious about firms that are respectful of my employees and us. So, we're more strategic and selective about who we work with and those that we work with, we have that relationship where it's not going to happen. And if it ever does, I think it's something that gets brought up the pole at those farms. So yeah, I just surround myself with people that don't do that.

One White WBE stated that she does not experience gender discrimination because of her attitude and her competency.

> It'll still happen if you allow it to. But, I mean, certainly if you stand up and show that you know what you're talking about and take control of the conversation, it doesn't happen. I'm not going to allow myself to get passed by or run over.

A preference for longstanding incumbents hurts M/WBEs and new firms.

> I've been in this business, in this industry for 25 years. I've made my name on being 50% better than most everybody else out there. And yet, when I run up against bureaucratic agencies that have project managers that have been there for 30 years, 40 years, that's the old guard. And they hire companies, that hire retired agency personnel.

Prime contracts were especially difficult to obtain.

> There's certainly a lot of stuff that they do that we could do as a prime, but we don't get invited.

Moving from the subcontractor or subconsultant role to take on prime work has perils for M/WBEs.

> Don't ever start to compete against your primes, it's a different ball game. And it's interesting because [name] and [name] will fight tooth and nail on a project in the morning, and then partner with each other on the afternoon on a different project like nothing ever happened. But you got a minority firm competing against you in the morning, they will be shunned for years and will never want to do any work with you again. I've learned that personally. I have one client come to one of my teammates, I mean, one of my employees and say, "Oh, I heard you're going after this big project as a prime and we're going on the other side." He expected them to say, good luck. He said, "You just remember you work for me over here." So, I told him, "You tell that client, he remembers that he works for me over here. And he works for me over here. And he works for me over here," since we're going to play that game. But that's what's literally been told. So, once you decide that you're going to come out on your own and actually be a big boy, the prejudice, it gets significantly worse because as long as you're a small minority firm that we can keep in a box, and we can keep you where we want you to be, and you do what we say do, and you don't ask us to see the client, and we'll just give you the work, and you just be happy taking this 20%, you're fine. When you start to compete, they bring out the big guns. He'll fight the client, because the client still thinks you're little and the clients think they too big, so you literally in this limbo area of how do I reposition the firm to get work?

> There's this expectation that minority firms are never supposed to grow beyond a certain level that you're put in that box, you stay there comfortably and everything is good. The minute you start to spread your wings, there are issues and biases you have to be confronted with. I mean, too often, when we decided to go after a much bigger project then say, one of our goals this year, is that we want to go after a $10 million feed project. And as we've started to assemble teams, everybody's whispering, oh, what does he think he's doing? Where

> does he think he's going to go with this? But the expectation is that you're not supposed to strive to do anything bigger than what has been offered to you in an MBE or DBE program. So yeah, the stigma is still very prevalent.
>
> How dare you want to grow your firm big? What are you doing?

Access to surety bonding and working capital were especially problematic for M/WBEs.

> It's access to capital, pardon me, and bonding capacity. And I see that over and over and over again.
>
> If you asked me what the detriment is to minorities is we've only been doing this for some people have been doing it for two years, five years, 10 years. Just the knowledge itself takes five to 10 years to get. Capital, the access to capital takes another five or 10 years. So, that's why these companies are multi-generational. It is a situation that we want to boost up our DBE firms. We've got to start giving them projects for them, that they can get experience on, that they can start showing the bonding companies, that they have the ability to do a project.

Most M/WBEs agreed that contract goals remain necessary to level the playing field on the basis of race or gender.

> It's up to the owner to give the subconsultants or the small firms, in this case the MBEs or DBEs, to give them the opportunity to have the experience that this client will not let them have.
>
> The construction community is a bunch of good old boys, that are multi-generational.
>
> It's been a very difficult task tapping into the Chicago market. Almost makes you want to just shut your business down and leave. I understand why a lot of businesses do at this point.

B. Conclusion

Consistent with other evidence reported in this Study, the interviews suggest that minorities and women continue to suffer discriminatory barriers to full and fair access to construction and construction-related contracts and associated subcontracts in the District's market area. Many minority and woman business owners reported having to contend with racial and gender stigmas or behaviors and negative perceptions about their competency. These biases negatively affected their attempts to obtain prime and subcontracts and to be treated equally in performing contract work. They reported reduced business opportunities, less access to formal and informal networks, and greater difficulties in securing financial support relative to non-M/WBEs.

Anecdotal evidence may “vividly complement” statistical evidence of discrimination. Though not sufficient in and of itself, anecdotal evidence can serve as an essential tool for a governmental entity to successfully defend a M/WBE program. While not definitive proof that the District needs to continue to implement race- and gender-conscious remedies for these impediments, the results of the qualitative data are the types of evidence that, especially when considered in conjunction with statistical evidence, are relevant and probative of the District’s evidentiary basis to consider the use of race- and gender-conscious measures to ensure a level playing field for its contracts.

VII. Recommendations for MWRD's Affirmative Action Program

The quantitative and qualitative data in this study provide a thorough examination of the evidence regarding the experiences of Minority- and Woman-owned Business Enterprises ("M/WBEs") in the District's geographic and industry markets for construction and construction-related services contracts. As required by strict constitutional scrutiny, we analyzed evidence of the District's utilization of M/WBEs as a percentage of all firms as measured by dollars spent, as well as M/WBEs' experiences in obtaining contracts in the public and private sectors. We gathered statistical and anecdotal data to provide the agency with the evidence necessary to determine whether there is a strong basis in evidence for the continued use of race- and gender-conscious goals, and if so, how to narrowly tailor its Affirmative Action Program for M/WBEs.

MWRD has implemented an aggressive and successful program for many years. Utilization of M/WBEs has exceeded availability for most groups. This is the outcome of imposing goals, conducting outreach, and enforcing requirements. The results have been exemplary.

However, evidence beyond the District's achievements strongly suggests these results reflect the effect of the Program. Outside of MWRD contracts, M/WBEs face large disparities in opportunities for public sector and private sector work in the construction and related services industries. The records and findings in the unsuccessful challenges to the programs of the City of Chicago, the Illinois Department of Transportation, and the Illinois Tollway support the conclusion that the current effects of past discrimination and ongoing bias would be barriers to District work in the absence of affirmative action remedies. As also documented in our studies for other Chicago and Illinois agencies, business owners reported instances of bias and discrimination, and that they receive little work without the use of contract goals.

Based upon these results, we make the following recommendations.

A. Augment Race- and Gender-Neutral Measures

The courts require that governments use race- and gender-neutral approaches to the maximum feasible extent to address identified discrimination. This is a critical element of narrowly tailoring the Program, so that the burden on non-M/WBEs is no more than necessary to achieve the District's remedial purposes. Increased participation by M/WBEs through race-neutral measures will also reduce the need to set M/WBE contract goals. We therefore suggest the following enhancements of MWRD's current efforts, based on the business owner interviews, the input of agency staff, and national best practices for M/WBE programs.

1. Utilize Technology to Increase Outreach and Access to Information

Many M/WBEs stated that they found it challenging to obtain information about District opportunities and contract awards, as well as to network with District decision makers. The effects of the coronavirus pandemic have led the vast majority of agencies and vendors to learn to operate in a virtual environment. A common suggestion was for the District to harness technology to conduct business through virtual platforms. This included holding online pre-bid and pre-proposal conferences to assist small firms in identifying potential partners; conducting virtual outreach events; posting information about pending solicitations and contract awards online; and in general, implementing a fully virtual procurement and contracting system.

2. Implement a Complete Electronic Contracting Data Collection, Monitoring and Notification System

A critical element of this Study and a major challenge was data collection of full and complete prime contract and associated subcontractor records. As is very common, the District did not have all the information needed for the inclusion of subcontractor payments in the analysis, especially for non-certified subcontractors. While the District purchased a system in 2012, as was the case for our 2016 Report, it was not able to generate all of the data for the study period. District staff worked diligently to collect the basic information so that we could begin our analysis, which required us to contact prime contractors and consultants to gather and verify contract information.

The lack of a system also makes it more difficult to monitor, enforce and review the Program. It further means outreach could be more automated and convenient, and many interview participants noted that antiquated methods such as faxes burdened their ability to access information in a timely and efficient manner.

We recommend the District implement an electronic data collection system for the M/WBE Program with the following functionality:

- Full contact information for all firms, including email addresses, NAICS codes, race and gender ownership, and MBE, WBE, and SBE certification status.
- Contract/project-specific goal setting, using the data from this study.
- Utilization plan capture for prime contractor's submission of subcontractor utilization plans, including real-time verification of M/WBE certification status and NAICS codes, and proposed utilization/goal validation.
- Contract compliance for certified and non-certified prime contract and subcontract payments for all formally procured contracts for all tiers of all subcontractors; verification of prompt payments to subcontractors; and information sharing between the District, prime vendors, and subcontractors about the status of pay applications.
- Program report generation that provides data on utilization by six-digit NAICS code, race, gender, dollar amount, procurement method, etc.
- An integrated email notification and reminder engine to notify users of required actions, including reporting mandates and dates.
- Outreach tools for eBlasts and related communications and event management for tracking registration and meeting attendance.
- Import/export integration with existing systems to exchange contract, payment, and vendor data.
- Access by authorized MWRD staff, prime contractors, and subcontractors to perform all necessary activities.

3. Ensure Bidder Non-Discrimination and Fairly Priced Subcontractor Quotations

Appendix D requires contractors to adopt explicit non-discrimination contractual provisions and commit to equal opportunity measures for their subcontractors and employees. To further ensure non-discrimination, our earlier Reports recommended the District require bidders to maintain all subcontractor quotes received on larger projects. At the District's discretion, the prices and scopes can then be compared to ensure that bidders are in fact soliciting and contracting with subcontractors on a non-discriminatory basis and that M/WBEs are not inflating quotes. This approach was part of the Illinois Department of Transportation's DBE plan that was specifically approved by the court: "IDOT requires contractors seeking prequalification to maintain and produce solicitation records on all projects.... Such evidence will assist IDOT in investigating and evaluating discrimination complaints."[288] We reiterate this recommendation.

4. Focus on Enhancing Opportunities on Design Projects

M/WBEs reported that, in their experience, the process for awarding design contracts was not sufficiently transparent or inclusive. There was a common perception that District design work is by "invitation only" and that the prequalification process locks out new firms and M/WBEs. While a prequalification requirement reduces the burden on agency staff, it imposes a barrier to full participation by M/WBEs.

We suggest the District revise the current prequalification process. Concrete steps could include:

- Opening up the prequalification schedule more often.
- Conducting targeted outreach events for future projects.
- Reaching out to ensure new firms understand how to navigate the process.
- Providing technical assistance on how to become prequalified.
- Dispensing with prequalification for some projects so that any firm can submit a proposal.

5. Continue to Focus on Reducing Barriers to M/WBE Prime Contract Awards

Our 2012 and 2016 Reports recommended that MWRD increase efforts to make prime contract awards to M/WBEs, and progress continues to be made. The District has developed contract specifications with an eye towards "unbundling projects" into less complex scopes and lower dollar values (for example, issuing separate contracts for plant locations). It has also increased the use of Job Order Contracts, which have lower bonding, financing, and experience standards on some contracts. These efforts should continue.

We again suggest reviewing surety bonding, insurance, and experience requirements in general to ensure they are no greater than necessary to protect MWRD's interests. These are possible barriers to contracting by small firms that have been mentioned by the courts as areas to be considered. Steps might include reducing or eliminating insurance requirements on smaller con-

288. *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868, at * 87 (Sept. 8, 2005).

tracts and removing the cost of the surety bonds from the calculation of lowest apparent bidder on appropriate solicitations.

6. Revise the Small Business Enterprise Program Element

The District currently sets goals of up to 10% for participation by SBEs on construction contracts, and M/WBEs can be double counted towards the SBE goal. While this has been a race-neutral component of the Program for many years, whatever its original purpose, there is no basis for the goal and we posit that it is a major reason for the high utilization of M/WBEs since bidders almost always count the M/WBEs that they are using to meet those goals. It increases work for District staff and prime bidders while adding confusion since MWRD is the only local agency that uses this approach.

We reiterate our recommendation from the 2016 Report that the District adopt a more useful race- and gender-neutral element of its Program. An effective approach would be to set aside some smaller contracts for bidding only by SBEs as prime contractors and consultants. If implemented on a fully race- and gender-neutral basis, this is a constitutionally acceptable method to increase opportunities for all small firms. SBE set asides are especially useful for those industries that do not primarily operate on a prime vendor-subcontractor model, such as consulting services. It will reduce the need to set contract goals to ensure equal opportunities, and is an approach specifically approved by the courts. Many firms, both M/WBEs and non-M/WBEs, endorsed this initiative. The District would have to determine the size limits for contracts (such as contracts under $1M) and the types of contracts to be included (such as only single scope jobs or lower dollar value multiple scope projects). For example, maintenance contracts might be successfully procured using this method. It will be critical to keep complete race and gender information on bidders to evaluate the efficacy of this race- and gender-neutral measure.

7. Consider Partnering with Other Agencies to Implement a Small Contractor Bonding and Financing Program

Access to bonding and working capital are major barriers to the development and success of M/WBEs and small firms. Traditional underwriting standards have often excluded these businesses. We therefore again recommend that the District explore working with other local agencies on a bonding and financing program. This approach has proven to be effective in increasing M/WBEs' ability to obtain not only subcontracts but also prime contracts. This approach goes beyond providing information about outside bonding resources by offering actual assistance to firms through a team of program consultants. It would not, however, function as a bonding guarantee program that places the District's credit at risk or provides direct subsidies to participants. Rather, this concept brings the commitment of a lender and a surety to finance and bond firms that have successfully completed the training and mentoring program. The Illinois Tollway has undertaken successful efforts along these lines[289], and we suggest MWRD explore working with the Tollway and other partners to provide similar assistance to M/WBEs.

8. Develop a Mentor-Protégé Program

The District has had a Mentor-Protégé program element as part of its Ordinance for many years, whereby mentors may receive credit towards meeting M/W/SBE contract goals and protégés would receive support to increase their experience and capacities. However, there are no criteria for approval or required elements. We suggested in 2012 and 2016 that a District program be developed, including standards for participation, how credit will be given for utilization of the protégé, reimbursable expenses, program monitoring, and measures for program success. We again suggest the following elements:

- Formal program guidelines.
- A District-approved written development plan, which clearly sets forth the objectives of the parties and their respective roles, the duration of the arrangement, a schedule for meetings and development of plans, and the services and resources to be provided by the mentor to the protégé. The development targets should be quantifiable and verifiable and reflect objectives to increase the protégé's capacities and expand its business areas and expertise. Targets for improvement must be specified, such as increased bonding capacity, increased sales, increased areas of work specialty, etc.
- A long term and specific commitment between the parties, *e.g.*, 12 to 36 months.
- Extra credit for the mentor's use of the protégé to meet a contract goal (*e.g.*, 1.25% for each dollar spent).
- A fee schedule to cover the direct and indirect costs for services provided by the mentor for specific training and assistance to the protégé.
- Regular review by the District of compliance with the plan and progress towards meeting its objectives.
- Failure to adhere to the terms of the plan would be grounds for termination from the Program.

289. https://www.illinoistollway.com/doing-business/diversity-development/programs-12#SBI.

While there was skepticism by several interview participants about mentor-protégé programs in general, and some had experienced less than optimal outcomes on specific programs, reports of successful relationships under initiatives such as that implemented by the Illinois Tollway[290] suggest to us that if carefully crafted and monitored, a mentor-protégé approach can be helpful in promoting M/WBEs' capacities.

9. Elevate the Affirmative Action Program to the Department Level

The Program currently reports to the Executive Director. While it is clear the District is fully committed to the objectives of the Program, the Diversity Administrator should be elevated to the position of department head to underline and support the message that this is a core value for the agency. Further, there are times when the Program's goals of diversity, equity, and inclusion may be different from those of other departments. Giving the Program the full stature and authority of a department will make it clear that equal contracting opportunity is as important as all other critical functions.

B. Continue to Implement Narrowly Tailored Race- and Gender-Conscious Measures

1. Use the Study to Set the Overall, Annual Aspirational MBE and WBE Goals

The District's Program has been very successful in opening up opportunities for M/WBEs on its contracts. As reported in Chapter IV, utilization has been significantly higher than availability. When we examined whether firms were concentrated within an industry or between industries on the basis of race or gender, however, a picture emerged of unequal outcomes for M/WBEs compared to non-M/WBEs.

Further, as documented in Chapter V, when examining outcomes in the wider economy, it is clear that M/WBEs do not yet enjoy full and fair access to opportunities to compete for construction and construction-related services contracts. Data from the Census Bureau's *Survey of Business Owners* indicate very large disparities between M/WBE firms and non-M/WBE firms when examining the sales of all firms, the sales of employer firms (firms that employ at least one worker), or the payroll of employer firms. Similarly, data from the Census Bureau's *American Community Survey* ("ACS") indicate that Blacks, Hispanics,

290. https://www.illinoistollway.com/documents/20184/741095/201902+P4G+Brochure/989897ae-9e51-45a5-9899-5e681e95e4ff.

and White women were underutilized relative to White men. Controlling for other factors relevant to business outcomes, wages and business earnings were lower for these groups compared to White men. Data from the ACS further indicate that non-Whites and White women are less likely to form businesses compared to similarly situated White men. The results of numerous small business credit surveys reveal that M/WBEs, especially Black-owned firms, suffer significant barriers to business financing. There are also race-based barriers to the development of the human capital necessary for entrepreneurial success.

Our interviews with 77 individuals about their experiences in the District's market area further buttress the conclusion that race and sex discrimination remain persistent barriers to equal contracting opportunities. Many M/WBEs reported that they still encounter barriers based on their race and/or gender and that without affirmative intervention to increase opportunities through contract goals, they will continue to be denied full and fair chances to compete.

In our judgment, the District's utilization of M/WBEs is the result of the operations of its Program, not the cessation of discrimination outside of contracting affirmative action programs. Without the use of goals, the agency may become a "passive participant" in the market failure of discrimination.

We therefore recommend that the District continue to use narrowly tailored measures. These should include using the weighted availability estimates in Table 4-9 to set its overall, annual aspirational MBE and WBE goals.

2. Use the Study to Set M/WBE Contract Goals

In addition to setting an overall, annual target, the District should use the study's detailed unweighted availability estimates as the starting point for contract specific goals. As discussed in Chapter II of this Report, MWRD's constitutional responsibility is to ensure that goals are narrowly tailored to the specifics of the project. This methodology involves four steps:

- Weight the estimated dollar value of the scopes of the contract by six-digit NAICS codes, as determined during the process of creating the solicitation.
- Determine the unweighted availability of M/WBEs in those scopes as estimated in the study.
- Calculate a weighted goal based upon the scopes and the availability of at least three available firms in each scope.

- Adjust the resulting percentage based on current market conditions and progress towards the annual goals.

Written procedures spelling out the steps should be drafted.

This constitutionally mandated approach may result in goals that are higher or lower than the annual goals, including no goals where there are insufficient subcontracting opportunities (as is often the case with supply contracts) or an insufficient number of availability firms.

We urge MWRD to bid some contracts without goals that it determines have significant opportunities for M/WBE participation, especially in light of the high participation of M/WBEs during the study period. These "control contracts" can illuminate whether certified firms are used or even solicited in the absence of goals. The development of some "unremediated markets" data, as held by the courts, will be probative of whether the M/WBE program remains needed to level the playing field for minorities and women and was important to our successful defense of IDOT's DBE program.

The District's procurement function uses National Institute of Government Purchasing ("NIGP") codes instead of the NAICS codes employed for this study. NIGP codes are too granular to permit solid statistical analysis, but if the District is wedded to continuing to use NIGP codes, a crosswalk is available to convert NIGP codes into NAICS codes so that the availability data in the study can form the basis for setting contract-specific goals.

The District should further consider providing the list of codes used to set the contract goal with the solicitation. This would provide guidance to prime firms on possible subcontracting scopes for making good faith efforts, as well as increase transparency about how the program operates. Good faith efforts could be defined as, among several other elements, an adequate solicitation of firms certified in these codes. It will be necessary to stress that firms may meet the goal using firms outside of these industries and that only soliciting firms in these identified industries does not *per se* constitute making good faith efforts to meet the goal.

The District also enters into intergovernmental agreements with other agencies to partially fund specific projects. These agencies then procure contracts with these cost sharing funds. We recommend that, where appropriate, the District negotiate with these agencies to apply its program to the portion of the work performed with District funds. This could include eligibility, goal setting, monitoring, and reporting requirements. We note that smaller agencies may lack the administrative resources to execute this complex program and so the District may need to consider taking over the implementation function. Further, we recognize that this Report does not provide a basis for applying race- and gender-conscious measures to the funds of other agencies and therefore express no opinion about the legal basis for another entity's application of the District's Program.

3. Continue to Apply Narrowly Tailored Eligibility Standards

The Affirmative Action Ordinance adopted a personal net worth test and size standards for certification. These requirements should be continued.

Many business owners, both M/WBEs and non-M/WBEs, urged the District to revise its approach to certification. The requirement for a second verification process and review for firms already certified by other government agencies was reported to be burdensome, unnecessary, and sometimes a barrier to certified, legitimate firms performing on MWRD contracts. It also has led to delays in starting work on projects while already certified firms go through this additional review. While this has been a unique feature of the District's Program since its early days, current certification processes for Chicago area governments have obviated concerns about whether firms certified by those agencies are legitimate M/WBEs. Staff and business owner resources can be better deployed elsewhere.

We therefore recommend that the District accept, without additional verification, the following governmental certifications because they apply the narrowly tailored eligibility standards that the federal courts require:

- City of Chicago Minority- or Woman-Owned Business Enterprise.
- Cook County Minority- or Woman-Owned Business Enterprise.
- Illinois Unified Certification Program for the U.S. Department of Transportation Disadvantaged Business Enterprise program.[291]
- U.S. Small Business Administration 8(a) program.

We recognize that firms certified by other entities will now have to seek certification from an approved agency. This is no more burdensome to businesses, however, than the current system, which requires all firms to seek District verification and it will free Diversity Section staff to concentrate on other Program elements.

291. The members of the Illinois Unified Certification Program are the Illinois Department of Transportation; the City of Chicago; the Chicago Transit Authority; Metra; and Pace Bus.

4. Revise the Rules for Counting M/WBE Participation Towards Contract Goals

We recommend that the District count second and lower tier M/WBE participation. Several general contractors noted that this highly unusual limitation of counting for goal credit only first tier subcontractors and suppliers makes it more difficult for them to meet goals. It may also deprive some M/WBEs of the chance to work on District projects in smaller scopes that are not bid directly to the prime contractor. A comprehensive data collection system will permit such utilization to be tracked appropriately.

Next, we suggest adopting the approach of the USDOT DBE program and the City of Chicago that supplier participation be credited at 60%, not the current 25% ceiling. This is the lowest level, of which we are aware anywhere in the country and may be so low as to effectively reduce any incentive to utilize M/WBE suppliers.

Further, we urge the District to allow M/WBEs to subcontract work, so long as such subcontracting is within standard industry practices. Limiting the performance of minorities and women on a contract reduces their opportunities for growth and development, imposes a requirement not placed on non-M/WBEs, and forces them to behave in a fashion that is outside of the way the rest of the world does business. The national best practice is to count all dollars spent with M/WBEs and "back out" dollars they subcontract to non-M/WBEs. Again, a comprehensive data collection system will be able to capture actual M/WBE spend.

Finally, all dollars paid to M/WBEs should be credited towards contract goals, regardless of when the certified firm was added to the project. Again, it is highly unusual to limit credit to only firms on the original compliance plan. Counting all dollars will incentivize prime contractors to use additional M/WBEs beyond those listed at bid or proposal submission time.

5. Review and Revise Program Administration Documents

Both District staff and prime contractors suggested that the waiver policy be more specific in the solicitations and more widely disseminated. This type of flexibility is critical to a determination that the Program remains narrowly tailored. Moreover, to the extent prime vendors believe good faith efforts documentation will not be accepted, it may reduce the number of bids or proposals submitted, thereby reducing competition for District work. It is important to make it clear that a bidder's legitimate good faith efforts documentation will be approved.

In tandem with revising the forms and providing specific training on good faith efforts documentation, it would be useful to drop the term "waiver" since goals will be set on a contract-by-contract basis. "Waiver" implies a standard approach to which "exceptions" are made, which may not meet strict scrutiny; goal "reduction", including to zero, would be more accurate.

Finally, we suggest a thorough review of current documents and forms. Several items have not been revised in many years and are in need of clarification; some still require notarization. Fillable PDFs and online submissions will assist everyone to comply with the Program. Requiring the use of NAICS codes on utilization plans will assist with tracking, goal setting, and future disparity studies.

C. Develop Performance Measures for Program Success

MWRD should develop quantitative performance measures for M/WBEs and the overall success of the Program to evaluate its effectiveness in reducing the systemic barriers identified in this Report. In addition to meeting the overall, annual goals, possible benchmarks might be:

- The number of bids or proposals, the industry and the dollar amount of the awards and the goal shortfall, where the bidder was unable to meet the goals and submitted good faith efforts to do so.
- The number, dollar amount, and the industry code of bids or proposals rejected as non-responsive for failure to make good faith efforts to meet the goal.
- The number, industry, and dollar amount of M/WBE substitutions during contract performance.
- Increased bidding by certified firms as prime vendors.
- Increased prime contract awards to certified firms.
- Increased "capacity" of certified firms, as measured by bonding limits, size of jobs, profitability, complexity of work, etc.
- Increased variety in the industries in which M/WBEs are awarded prime contracts and subcontracts.

D. Continue to Conduct Regular Program Reviews

MWRD adopted a sunset date for the current Ordinance, and we suggest this approach be continued. Data should be reviewed approximately every five to six years, to evaluate whether race- and gender-based barriers have been reduced such that affirmative efforts are no longer needed, and if such measures are necessary, to ensure that they remain narrowly tailored.

APPENDIX A: FURTHER EXPLANATION OF THE MULTIPLE REGRESSION ANALYSIS

As explained in the report, multiple regression statistical techniques seek to explore the relationship between a set of independent variables and a dependent variable. The following equation is a way to visualize this relationship:

$$DV = f(D, I, O)$$

where DV is the dependent variable; D is a set of demographic variables; I is a set of industry & occupation variables; and O is a set of other independent variables.

The estimation process takes this equation and transforms it into:

$$DV = C + (\beta 1 * D) + (\beta 2 * I) + (\beta 3 * O) + \mu$$

where C is the constant term; β1, β2 and β3 are coefficients, and μ is the random error term.

The statistical technique seeks to estimate the values of the constant term and the coefficients.

In order to complete the estimation, the set of independent variables must be operationalized. For demographic variables, the estimation used race, gender and age. For industry and occupation variables, the relevant industry and occupation were utilized. For the other variables, age and education were used.

A coefficient was estimated for each independent variable. The broad idea is that a person's wage or earnings is dependent upon the person's race, gender, age, industry, occupation, and education. Since this report examined the Metropolitan Water Reclamation District of Greater Chicago, the analysis was limited to data from the counties of Cook, DuPage, Kane, Kendall, Lake and Will. The coefficient for the new variable showed the impact of being a member of that race or gender in the metropolitan area.

Appendix B: Further Explanation of the Probit Regression Analysis

Probit regression is a special type of regression analysis. Probit regression analysis is used to explore the determinants of business formation because the question of business formation is a "yes' or "no" question: the individual does or does not form a business. Hence, the dependent variable (business formation) is a dichotomous one with a value of "one" or "zero". This differs from the question of the impact of race and gender of wages, for instance, because wage is a continuous variable and can have any non- negative value. Since business formation is a "yes/no" issue, the fundamental issue is: how do the dependent variables (race, gender, etc.) impact the probability that a particular group forms a business? Does the race or gender of a person raise or lower the probability he or she will form a business and by what degree does this probability change? The standard regression model does not examine probabilities; it examines if the level of a variable (*e.g.*, the wage) rises or fall because of race or gender and the magnitude of this change.

The basic probit regression model looks identical to the basic standard regression model:

$$DV = f(D, I, O)$$

where DV is the dependent variable; D is a set of demographic variables; I is a set of industry and occupation variables; and O is a set of other independent variables.

The estimation process takes this equation and transforms it into:

$$DV = C + (\beta 1 * D) + (\beta 2 * I) + (\beta 3 * O) + \mu$$

where C is the constant term; β1, β2, and β3 are coefficients, and μ is the random error term.

As discussed above, the dependent variable in the standard regression model is continuous and can take on many values while in the probit model, the dependent variable is dichotomous and can take on only two values: zero or one. The two models also differ in the interpretation of the independent variables' coefficients, in the standard model, the interpretation is fairly straightforward: the unit change in the independent variable impacts the dependent variable by the amount of the coefficient.[292] However, in the probit model, because the model is examining changes in probabilities, the initial coefficients cannot be interpreted this way. One additional computation step of the initial coefficient must be undertaken in order to yield a result that indicates how the change in the independent variable affects the probability of an event (*e.g.*, business formation) occurring. For instance, with the question of the impact of gender on business formation, if the independent variable was WOMAN (with a value of 0 if the individual was male and 1 if the individual was female) and the additional computation chance of the coefficient of WOMAN yielded a value of -0.12, we would interpret this to mean that women have a 12 percent lower probability of forming a business compared to men.

292. The exact interpretation depends upon the functional form of the model.

Appendix C: Significance Levels

Many tables in this Report contain asterisks indicating that a number has statistical significance at 0.001, 0.01, or 0.05 levels (sometimes, this is presented as 99.9 percent; 99 percent and 95 percent, respectively) and the body of the report repeats these descriptions. While the use of the term seems important, it is not self-evident what the term means. This Appendix provides a general explanation of significance levels.

This Report seeks to address the question of whether or not non-Whites and White women received disparate treatment in the economy relative to White males. From a statistical viewpoint, this primary question has two sub-questions:

- What is the relationship between the independent variable and the dependent variable?
- What is the probability that the relationship between the independent variable and the dependent variable is equal to zero?

For example, an important question facing the Metropolitan Water Reclamation District as it explores whether each racial and ethnic group and White women continue to experience discrimination in its markets is do non-Whites and White women receive lower wages than White men? As discussed in Appendix A, one way to uncover the relationship between the dependent variable (*e.g.*, wages) and the independent variable (*e.g.*, non-Whites) is through multiple regression analysis. An example helps to explain this concept.

Let us say, for example, that this analysis determines that non-Whites receive wages that are 35 percent less than White men after controlling for other factors, such as education and industry, which might account for the differences in wages. However, this finding is only an estimate of the relationship between the independent variable (*e.g.*, non-Whites) and the dependent variable (*e.g.*, wages) – the first sub-question. It is still important to determine how accurate the estimation is. In other words, what is the probability that the estimated relationship is equal to zero – the second sub-question.

To resolve the second sub-question, statistical hypothesis tests are utilized. Hypothesis testing assumes that there is no relationship between belonging to a particular demographic group and the level of economic utilization relative to White men (*e.g.*, non-Whites earn identical wages compared to White men or non-Whites earn 0 percent less than White men). This sometimes is called the null hypothesis. We then calculate a confidence interval to find the probability that the observed relationship (*e.g.*, -35 percent) is between 0 and minus that confidence interval.[293] The confidence interval will vary depending upon the level of confidence (statistical significance) we wish to have in our conclusion. When a number is statistically significant at the 0.001 level, this indicates that we can be 99.9 percent certain that the number in question (in this example, -35 percent) lies outside of the confidence interval. When a number is statistically significant at the 0.01 level, this indicates that we can be 99.0 percent certain that the number in question lies outside of the confidence interval. When a number is statistically significant at the 0.05 level, this indicates that we can be 95.0 percent certain that the number in question lies outside of the confidence interval.

293. Because 0 can only be greater than -35 percent, we only speak of “minus the confidence level”. This is a one-tailed hypothesis test. If, in another example, the observed relationship could be above or below the hypothesized value, then we would say “plus or minus the confidence level” and this would be a two-tailed test.

APPENDIX D: UNWEIGHTED AND WEIGHTED AVAILABILITY

Central to the analysis, under strict constitutional scrutiny, of an agency's contracting activity is understanding what firms could have received contracts. Availability has two components: unweighted availability and weighted availability. Below we define these two terms; why we make the distinction; and how to convert unweighted availability into weighted availability.

Defining Unweighted and Weighted Availability

Unweighted availability measures a group's share of all firms that could receive a contract or subcontract. If 100 firms could receive a contract and 15 of these firms are minority-owned, then MBE unweighted availability is 15 percent (15/100). *Weighted availability* converts the unweighted availability through the use of a weighting factor: the share of total agency spending in a particular NAICS code. If total agency spending is $1,000,000 and NAICS Code AAAAAA captures $100,000 of the total spending, then the weighting factor for NAICS code AAAAAA is 10 percent ($100,000/$1,000,000).

Why *Weight* the Unweighted Availability

It is important to understand *why* weighted availability should be calculated. A disparity study examines the overall contracting activity of an agency by looking at the firms that *received* contracts and the firms that *could have received* contracts. A proper analysis does not allow activity in a NAICS code that is not important an agency's overall spending behavior to have a disproportionate impact on the analysis. In other words, the availability of a certain group in a specific NAICS code in which the agency spends few of its dollars should have less importance to the analysis than the availability of a certain group in another NAICS code where the agency spends a large share of its dollars.

To account for these differences, the availability in each NAICS code is weighted by the agency's spending in the code. The calculation of the weighted availability compares the firms that received contracts (utilization) and the firms that could receive contracts (availability). Utilization is a group's share of total spending by an agency; this metric is measure in dollars, *i.e.*, MBEs received 8 percent of all dollars spent by the agency. Since utilization is measured in dollars, availability must be measured in dollars to permit an "apples-to-apples" comparison.

How to Calculate the Weighted Availability

Three steps are involved in converting unweighted availability into weighted availability:

- Determine the unweighted availability.
- Determine the weights for each NAICS code.
- Apply the weights to the unweighted availability to calculate weighted availability.

The following is a hypothetical calculation.

Table A contains data on unweighted availability measured by the number of firms:

TABLE A

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/ W/DBE	Total
AAAAAA	10	20	20	5	15	400	470
BBBBBB	20	15	15	4	16	410	480
CCCCCC	10	10	18	3	17	420	478
TOTAL	**40**	**45**	**53**	**12**	**48**	**1230**	**1428**

Unweighted availability measured as the share of firms requires us to divide the number of firms in each group by the total number of firms (the last column in Table A). For example, the Black share of total firms in NAICS code AAAAAA is 2.1 percent (10/470). Table B presents the unweighted availability measure as a group's share of all firms.

TABLE B

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/ W/DBE	Total
AAAAAA	2.1%	4.3%	4.3%	1.1%	3.2%	85.1%	100.0%

BBBBBB	4.2%	3.1%	3.1%	0.8%	3.3%	85.4%	100.0%
CCCCCC	2.1%	2.1%	3.8%	0.6%	3.6%	87.9%	100.0%
TOTAL	**2.8%**	**3.2%**	**3.7%**	**0.8%**	**3.4%**	**86.1%**	**100.0%**

Table C presents data on the agency's spending in each NAICS code:

TABLE C

NAICS	Total Dollars	Share
AAAAAA	$1,000.00	22.2%
BBBBBB	$1,500.00	33.3%
CCCCCC	$2,000.00	44.4%
TOTAL	**$4,500.00**	**100.0%**

Each NAICS code's share of total agency spending (the last column in Table C) is the weight from each NAICS code that will be used in calculating the weighted availability. To calculate the overall weighted availability for each group, we first derive every NAICS code component of a group's overall weighted availability. This is done by multiplying the NAICS code weight by the particular group's unweighted availability in that NAICS code. For instance, to determine NAICS code AAAAAA's component of the overall Black weighted availability, we would multiply 22.2 percent (the NAICS code weight) by 2.1 percent (the Black unweighted availability in NAICS code AAAAAA). The resulting number is 0.005 and this number is found in Table D under the cell which presents NAICS code AAAAAA's share of the Black weighted availability. The procedure is repeated for each group in each NAICS code. The calculation is completed by adding up each NAICS component for a particular group to calculate that group's overall weighted availability. Table D presents this information:

TABLE D

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/ W/DBE
AAAAAA	0.005	0.009	0.009	0.002	0.007	0.189
BBBBBB	0.014	0.010	0.010	0.003	0.011	0.285
CCCCCC	0.009	0.009	0.017	0.003	0.016	0.391
TOTAL	**0.028**	**0.029**	**0.037**	**0.008**	**0.034**	**0.864**

To determine the overall *weighted availability*, the last row of Table D is converted into a percentage (*e.g.*, for the Black weighted availability: 0.028 * 100 = 2.8 percent). Table E presents these results.

TABLE E

Black	Hispanic	Asian	Native American	White Women	Non-MWBE	Total
2.8%	2.9%	3.7%	0.8%	3.4%	86.4%	100.0%

APPENDIX E: QUALITATIVE EVIDENCE FROM ILLINOIS DISPARITY STUDIES

In addition to the anecdotal data collected for this study and provided in Chapter VI of this report, Colette Holt & Associates has conducted several studies in Illinois over the last several years that shed light on the experiences of minority- and woman-owned firms in the Chicago area marketplace. As for this study, we interviewed minority and woman owners and non-M/WBE representatives about barriers to the full and fair participation of all firms in the agency's market area. The total number of participants for these interviews was 745 individuals.

This summary of anecdotal reports provides an overview of the following disparity studies[294]: Illinois State Toll Highway Authority ("Tollway"); State of Illinois Department of Central Management ("CMS"); Regional Transportation Authority ("RTA"); Chicago Transit Authority ("CTA"); Cook County ("Cook"); Northeast Illinois Regional Commuter Railroad Corporation doing business as Metra ("Metra"); Metropolitan Water Reclamation District of Greater Chicago ("MWRD"); the City of Chicago Construction Contracts ("City"); and Pace Suburban Bus ("Pace"). These studies were conducted between 2015 and 2021.

1. Discriminatory Attitudes and Negative Perceptions of Competency and Professionalism

Many minority and woman owners reported being stigmatized by their race and/or gender. Subtle and overt stereotyping and race and gender discrimina-

294. Copies of these studies can be accessed at the following links:
Tollway http://www.mwbelaw.com/wp-content/uploads/2021/04/2015-Illinois-State-Toll-Highway-Authority-Disparity-Study.pdf;
CMS http://www.mwbelaw.com/wp-content/uploads/2021/04/2015-State-of-Illinois-Department-of-Central-Management-Services-Disparity-Study.pdf;
RTA http://www.mwbelaw.com/wp-content/uploads/2019/10/2016-RTA-Availability-Study.pdf;
CTA http://www.mwbelaw.com/wp-content/uploads/2019/12/Chicago-Transit-Authority-Disparity-Study-2019.pdf;
Cook http://www.mwbelaw.com/wp-content/uploads/2019/10/2015-Cook-County-Illinois-Disparity-Study.pdf;
Metra http://www.mwbelaw.com/wp-content/uploads/2019/10/2016-Metra-Availability-Study.pdf;
MWRD http://www.mwbelaw.com/wp-content/uploads/2019/10/2015-The-Metropolitan-Water-District-of-Greater-Chicago-Disparity-Study.pdf;
City http://www.mwbelaw.com/wp-content/uploads/2021/11/City-of-Chicago-Disparity-Study-for-Construction-Contracts-2021.pdf; and
Pace http://www.mwbelaw.com/wp-content/uploads/2021/04/2015-Pace-Chicago-Suburban-Bus-Disparity-Study.pdf.

tion were commonplace. Respondents reported that White men often evince negative attitudes concerning their competency, skill, and professionalism.

Biases about the capabilities of minority and women business owners impact all aspects of their attempts to obtain contracts and to ensure they are treated equally in performing contract work. The often-prevailing viewpoint is that M/WBEs and small firms in general are less qualified and less capable.

> They try to put a stigma on us…. It's like a stigma that they have to use us because there's participation requirements and they make us sound like we're not good at what we do. And there are some really good MBE, WBEs out there. (Cook, page 129)

> There's still the perception that if you're a minority or a woman, you can't perform…. That there's something wrong with you, you know, there's something lacking…. They stick with the good old boys. (Tollway, page 111)

> I contacted a man in the beginning one time and asked him about doing kind of a joint deal…. And he informed me he would rather not bid a job than have to work with DBE[s]. (CMS, page 125)

> [What] we learned a long time ago was the MBE or the WBE or the DBE [certifications], they can help you or hurt you. We changed our marketing materials years ago and put that in the back end because what are we first and foremost? We are an engineering solution provider for the clients, and if this project happens to have goals, we can help you fulfill that as well, it's a win-win…. There is always this preconceived notion that [because] you are an M[BE] you can't be that competent. (RTA, page 119)

> They just give me all of these types of titles, but a lot of times, I don't really pay attention until you actually say something to me because I'm pretty much a straightforward woman. I have learned they're going to assume a lot of things about you, but you can't really get caught up with that. Because sometimes, it's a mindset. (City, page 107)

> Small, minority, women, disadvantaged businesses are perceived to not always have all the qualifications, regardless of how long they've been in business. Sometimes, even in just the way primes deal with you, they assume a certain amount of incompetence, even though they've been working with you for a while. (CMS, page 123)

> The other message that I got [at an outreach meeting for Illinois Tollway projects] was that this was a sacrifice on the part of the primes, that they needed to be thanked for coming on board in that way. I found it very offensive. (RTA, page 121)
>
> [General contractors] do not rely on our expertise. They think we're just fronts or that we don't know our businesses and they don't trust us or that we know what we're doing. In the beginning, I know people don't believe at all that I knew what I was doing. (MWRD, page 132)
>
> They think that because you're a minority or a woman business that you don't have your act together. (Pace, page 118)
>
> [State personnel] look down on us as some kind of beggars for percentages. (CMS, page 124)
>
> When we are 60, 70 people still people ask, what capacity [do you have]? We could do as good as any bigger firm in the city, but they will still ask the same question. Even the state departments will ask the same question. (CMS, page 125)
>
> My other big burr in my saddle is always about capacity. We're just like they are. I mean if we get a big job, we can hire people just like they can. Because you want to know why? The engineers all want to go to whoever's got the big fancy job. They're technical people. They want the juicy projects…. It's not difficult to build capacity. If you can continue to win big recognizable projects. (Tollway, page 112)

Many women reported unfair treatment or sexual harassment in the business world.

> Let's just be honest. I'm a woman who's in construction so that just equals bullseye…. Other contractors who come in behind you and they call you [trade] chicks. Or they tell you, what has the world come to because you're [trade] chicks…. Men come out and they complain that a woman is running the crew…. Even the men I hire, I'm giving you a paycheck, struggle with taking orders from a woman…. Someone comes to the job and they go to one of the guys [I employ] and they say, are you the lead here? (CMS, page 125)
>
> I have on several occasions been offered jobs in exchange for sex. I've had guys order several drinks my way to try to get me drunk at a networking event. They pull me to the side because we've talked on other occasions about a specific job, and they'll

say this job is coming up and they'll name one of my competitors. He's doing this and he's doing that and blah, blah, blah. A few drinks in, they want, okay, "what are you going to do" sort of thing. It's happened quite a bit. (CTA, page 59)

I was propositioned at a hotel room by my boss, the owner of the company. He was like, "Hey you're coming in, right?" When I said no, he was like, "Really? What exactly are you trying to say here?" And then he showed up half naked at my hotel room and was banging down my door to get in and come and have sex. (City, page 110)

There's an issue with disrespect…. I've had truck drivers call me sweetie. And I said, "I appreciate that you feel that way about me, but it's not very professional. And I would appreciate you don't do it again." And so, I've learned the confidence over the years to just not put up with it and to also train my staff not to put up with it. (City, page 107)

They call you sweetheart. Sweetheart, honey, just inappropriate comments. (Pace, page 119)

There is an old boys' network that is misogynistic. Let's just be honest with it…. You're a woman, you can't possibly do that. That's a ridiculous notion anymore, at least in my perspective. But I can tell you of all of the W[BE]s that I know, they have that problem working in a male-dominated situation where unless, and I hate to say it in these terms, unless you're related or have some inside track, you're not going to get selected unless they absolutely have to use you for something…. There's a lot more women entering the [engineering] field. But that's going to take a while and overcoming that prejudice [won't be easy]. (Cook, page 131)

I've gone to a lot of women's networking events. I was a member of the [Federation of Women Contractors], a couple other networking things that are women-driven, and that's the only place that I filled that gap, because women might have the same feelings as me, but I've always felt like I don't fit in…. I've always worked well with men, but I find that the project management staff, all men, would be sitting there talking about sports stats. Their water cooler talk was not super interesting to me, so I didn't fit in there. (City, page 112)

In negotiations, people think that women aren't savvy businesspeople and that I'll just do this for nothing. (CMS, page 125)

You're mansplained away. You're just invisible. They say they want to work with you, but like you said, I think [name], that there's hostility. There's lack of trust. (City, page 109)

It's a common occurrence for people [both general contractors and agency personnel] to assume that I'm an administrative person rather than the president…. They'll even go to the point of quizzing me about rudimentary questions about [trade]. (Pace, page 119)

My biggest problem is I can't walk in a room, or any women, I'm somebody's wife. I mean my husband has never worked for me in my whole life. He's a carpenter…. I've sat on executive boards and I've never been addressed as an [specialty trade] contractor on an executive board without oh, she's so-and-so's wife or other [specialty trade] contractor's wives, where they've sat back and said, do you know my wife? They don't want nothing to do with me. (Tollway, page 111)

Half of the buildings that I've worked for, they think that the pumper truck driver is my husband because they can't wrap their heads around that a woman owns the company or knows the technical aspects of the job and would hold the license. The other half thinks that I'm married to my field manager because those are the guys, they see the most often, it's the pumper truck driver and the field manager, so they automatically assume that they're the real owner and they're propping me up. I'm not related to any of them. (City, page 108)

This is very cultural and definitely our line of work is hostile towards us from one way or another. I haven't had any sexual harassment so far, but I can tell you from my clients, and even my painters, I get that look. You know, that you're a lady, what are you doing in the painting business? It has been hard. But I think, like I said, it's cultural because it's not only this work that we do, but in general. Whenever we go, we get some sort of mistreatment. They don't trust us completely. They don't think that we know what we're doing. (City, page 109)

I always feel that I have to do more than everyone else, maybe because I'm a woman. We have that thing that we always have

> to walk the extra mile, that 100 mile smarter than everyone else. (CTA, page 57)

2. Access to Business and Professional Networks

Minority and woman respondents reported difficulty in accessing networks and fostering relationships necessary for professional success. These barriers extended to agency staff. Respondents were unable to gain access to and communicate with key agency decisionmakers.

> The support system that small White businesses have in the United States is far greater than the support system that a Puerto Rican business has, or an African-American business has…. And not just networks as in who you know. Networks to money, the ease of cash flow…. The networks and gaining access to those is really the fundamental difference that I see [between M/WBEs and small White male-owned firms] (Cook, page 132)

> [Construction] is still a relationship business. It's establishing relationship with your client and with who you're going to do business with. What I struggle with is that I can't have the same relationship with my client, who are primarily men, as men can have with them…. They're going to give projects to people that they like, people that they know, people that they have a solid relationship with. And that's a struggle that I have as a woman is that I can't establish the same relationship. It's not a good scene for me to be out in a bar until two in the morning with my male clients. (Tollway, page 110)

> [The CTA should hire DBEs to] do staff augmentation that allows us to get to know some of the people without having to work through a prime that doesn't really want you to get to know who they know. (CTA, page 64)

> It's eliminating you from a meeting. It's not inviting you to outings, when you could be making relationships with people. It's leaving you out of things. I cannot tell you how many times I've been told, "[name], it wasn't intentional." That's the exact point. It needs to be intentional. … It might be a strip club, or it might be a casino. It's generally not going to get your nails done. We're all clear on that. But the whole point is, we just don't get invited to these things because number one, they decide that we wouldn't want to go. I golf. I golfed in college. I golfed in high school. Nobody, despite working 22 years in my

> industry knows that I golf, despite how many times I've told them that I golf. When I go and golf, they're blown away because they're like, "Holy shit, that's right down the middle of fairway." The whole point is people make assumptions about us women. You wouldn't want to go. You wouldn't feel comfortable. Or they make assumptions about the people that are on these outings. They wouldn't feel comfortable with you there. Because the reality is in a lot of these outings, these men are doing things that they shouldn't be doing. (City, page 111)

> It always goes back to relationships…. We're all in the trust business. (MWRD, page 134)

> If I was going to counsel anyone on starting a business, the first thing I would tell them is to join their trade association for their particular ethnicity or female, male, whatever. I mean, you really need to have that behind you. (City, page 112)

3. Obtaining Work on an Equal Basis

Respondents reported that institutional and discriminatory barriers continue to exist in the Chicago area marketplace. They were in almost unanimous agreement that M/W/DBE contract goals remain necessary to level the playing field and equalize opportunities. Race- and gender-neutral approaches alone are viewed as inadequate and unlikely to ensure equal opportunity.

> I remember when the Tollway had no goals, and it was absolutely abysmal. There was never a minority or a female that worked on a Tollway job, ever. And we would tell them, DOT has goals. They find women and minorities to do work. It's the same type of work that the Tollway and the DOT does. And it wasn't until the Tollway started to have some goals that we started, we all started to get work on Tollway projects. (Tollway, page 113)

> There's been jobs where as soon as the goal's met, then they just call up whoever they normally call… we do get more work when there is a goal involved. (Tollway, page 114)

> The program has been critical for our growth [as an MBE]. I think, without the program, there's not a doubt in my head that we would be who we are today. I think the program gets you in the door. The program gives you opportunities earlier on in your career. The program opens doors for you. (City, page 114)

The minute there's not a goal, those primes walk away, and they go back to the old boys' network. (Pace, page 121)

As a WBE, the only time that we have negotiating power before the subcontract is awarded, when our general is sending us a subcontract, is when they know that they have to use us because they wrote our name in their letter of intent paperwork that they submitted to their group. And so that gives us, if we know that, which we always try to find out, were we the one that they named, then that gives you a little bit of negotiating room with them, even on items that are outside of their own subcontract where they're trying to get you to do something that the client requires of them. (City, pages 114-115)

It may not be intentional, but there is still a prevalent feeling I feel in the industry, particularly engineering, that we've got to use them because we got to, if we don't use them, we're not going to get the job. (CMS, page 123)

I don't think that [a totally race- and gender-neutral program would] be good enough…. Everybody's got somebody that knows somebody that has a cousin that owns a small business that will do work. So, if you don't force it, it won't happen. (RTA, page 120)

Most of the [G]eneral C[ontractor]s out there that are non-minorities would rather this program go away. (City, page 115)

If there isn't a program somewhere, there is no incentive for anybody to use me. And the fact that there are minority- and women- and veteran-owned options, that is the only reason I'm even going to get the experience to be able to become the prime…. In the engineering world, the larger firms are just getting larger, so it's very hard to just even have entry. (MWRD, page 134)

If there's no goal and unless you have a very specific specialty, nobody's going to call you. I mean, this is consistent for me in many states. (CTA, page 62)

In the past two years, Metra has eliminated the DBE goals on [certain entire categories of] purchases. So, we used to be subcontractor on those contracts and once they eliminated those goals there was no prime that wanted to partner with us…. The [DBE contract] goal was reduced to zero. And so, we were really disappointed and inquired why that happened and were never able to get a response. (Metra, page 124)

Where there have been goals and I've been on teams and they took away goals for whatever reason, I was denied the opportunity. Flat out. Taken off the team. (Cook, page 133)

I lost my certification, and I was not able to do any business. I got no opportunities. (CTA, page 62)

Prime contracts were especially difficult to obtain on an equal basis.

Perception is a huge issue. There's a constant perception that if you have the certification, how could you be prime? Why should you be prime? Why are you prime, you're disadvantaged? (CTA, page 59)

If you have an MBE, WBE status it somehow implies non-prime. (Cook, page 131)

The assumption [was] that all of these White male guys in gray suits were the primes, and the DBEs weren't at the event and were some kind of outsiders. (RTA, page 121).

The general contractors are the only ones that get to the size of graduation and they generally go out of business once they graduate. Our subcontractors don't ever get to that size because of the fact that they don't have private work to grow off of. They only have this MBE, WBE work. (Cook, page 133)

The [DBE program] forces the primes to throw a broad net and bring in capable partners to participate. And that's how ultimately you get the exposure and with the exposure you get the credibility so that as a minority or small business you can prime yourself. (Metra, page 124)

We have graduated from the DBE program before and we reentered it. And the year that we graduated, the following year our revenues dropped by about 30 to 40%…. As a DBE firm or MBE firm, it is our responsibility to look down the road and to prepare ourselves for graduation… If we had more prime relationships with the clients, we probably would have been more sustainable. (Tollway, page 114)

Because you don't have that one person who has 15 years or some sort of CTA experience, they move on to somebody else, which some of the work that we do doesn't necessarily require…. We do it for all the other agencies in the city and the

> state or whatever, but then we're kind of bounced out of there because we don't have that CTA experience…. When they come out with smaller RFQs that seemingly would be a perfect entre for smaller businesses, there may be 500, half million-dollar contracts, million-dollar contracts, which many of the companies in here are more than capable of doing, it still goes to the largest large firm in the area. It's almost like, "We want you to come after these contracts," but then at the end of the day, do they really? (CTA, page 64)

Many respondents indicated that M/WBEs who could access public contracts and subcontracts through M/WBE programs found it difficult to obtain private sector opportunities.

> We do not get [private sector opportunities] and we've been in business quite some time. We have really good relationships with all these contractors, but we've actually even sat down with a few of them and talked about doing private work. They were in shock like, "I didn't realize you'd want to do private work." Why wouldn't I want to? (CTA, page 62)

> We've got to talk about that private sector project goals and make certain that these contractors adhere to the guidelines. Otherwise, we're going to see $65, $80B fly through this community and we're still on food stamps. (City, page 116)

> The program is still much needed. As we all know it takes a long time to bid these jobs. Man hours which converged to dollars. And I've had two contractors while I've walked in, I've made phone calls prior to COVID try to stop by and talk about the upcoming bid. And to my surprise, both were exactly the same. They said, ''[Name], we're all set on the MBE for this job.'' and I say, "well, I'm still a contractor. I still put a lot of time and money into this bid. I have some serious questions and I need to bid this job and I want it to be successful." "But we're all set. We're good." (City, page 114)