



The Metropolitan Water Reclamation District of Greater Chicago DISPARITY STUDY 2015



Disparity Study for the
Metropolitan Water Reclamation District of Greater Chicago

May 27, 2015

About the Study Team

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I. EXECUTIVE SUMMARY

Colette Holt & Associates was retained by the Water Reclamation District of Greater Chicago (“MWRD” or the “District”) to perform a study of possible disparities on the basis of race and gender in access to its prime contracting and associated subcontracting opportunities. We analyzed purchase order and contract data for calendar years 2008 through 2014. We explored whether Minority-Owned Business Enterprises (“MBEs”) and Women-Owned Business Enterprises (“WBEs”) (collectively, “M/WBEs”) have equal access to District contracts, and if not, what remedies might be appropriate to redress the barriers created by race or gender discrimination.

A. Study Methodology and Data

The methodology for this study embodies the constitutional principles of *City of Richmond v. Croson*, as well as best practices for designing race- and gender-conscious contracting programs. Our approach has been specifically upheld by courts. It is also the approach developed by Ms. Holt for the National Academy of Sciences that is now the recommended standard for designing legally defensible disparity studies for state departments of transportation.

To address the requirements of strict constitutional scrutiny applicable to M/WBE programs, we examined quantitative and qualitative evidence. We determined the availability of M/WBEs in the District’s geographic and industry market area and whether there is a disparity between the availability of M/WBEs and MWRD’s utilization of these firms. We further analyzed disparities in the wider 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 gathered anecdotal data on M/WBEs through focus groups with business owners and stakeholders, and interviews with District staff. We also evaluated the M/WBE program and race- and gender-neutral policies and procedures for their effectiveness and conformance with constitutional parameters and national standards for M/WBE initiatives.

Based on the results of these extensive analyses, we make recommendations about whether a constitutional basis exists for continuing the use of race- and gender-based contracting efforts, and if so, what those efforts might be.

B. Study Findings

1. MWRD's M/WBE Program

a. Program Elements

The Affirmative Action Ordinance, Appendix D, establishes the District's M/WBE program. The program is administered by the Diversity Section, which reports directly to the Executive Director. It conducts pre-bid, pre-award; and post-award compliance reviews. The Diversity Section also provides regular reports to the Board of Commissioners and the public.

To be eligible for the program, a firm must be owned, managed and controlled by a socially and economically disadvantaged individual and the firm must be small. African-Americans, Hispanic-Americans, Asian-Americans and Native Americans are defined as socially disadvantaged, and other groups or individuals may be added at the Board's discretion. The District has adopted a personal net worth test of \$2 million, indexed annually and the U.S. Small Business Administration's size standards averaged over five years. MWRD accepts M/WBE certifications that meet these standards for inclusion on its vendor listing from various local government and private agencies. To be eligible for credit towards a contract goal, however, a firm must be further reviewed by the District.

MWRD applies various race- and gender-neutral measures, such as unbundling contracts, conducting networking events, providing information to bidders and subcontractors, etc.

The program applies to the District's construction program and construction-related professional services contracts in excess of \$100,000. The current schedule of goals is 20 percent for MBEs, 10 percent for WBEs and 10 percent for SBEs. Waivers are available to bidders that cannot meet the goal(s) despite their good faith efforts to do so. The participation of certified first tier subcontractors is counted at 100 percent of the dollars they receive. A firm must perform a "commercially useful function" to be counted for participation under standards similar to that of the U.S. Department of Transportation's Disadvantaged Business Enterprise program. If a firm is certified as both a MBE and a WBE, the bidder may count the firm's participation toward either goal, but not both. A bidder may count toward the achievement of its SBE goal the utilization of any MBE or WBE that also satisfies the definition of a SBE.

For contracts for which goals have been established, the bidder must submit a Utilization Plan that documents its goal attainment or its good faith efforts to do so. Letters of Intent from the M/W/SBE subcontractors and suppliers must also be submitted with the bid package. A prime contractor awarded a Job Order Contract must submit with each work order a Utilization Plan and subcontractors'

letter of intent. A MBE/WBE/SBE Monthly Status Report must be submitted with every payment request. A prime contractor may amend its Utilization Plan for good cause but it must then make good faith efforts to meet the goal.

Various sanctions may be imposed for compliance failures.

b. Interviews

To explore the impacts of the District's contracting policies and procedures and the implementation of the M/WBE program, we interviewed 48 individuals about their experiences and solicited their suggestions for changes. We solicited input about their experiences and suggestions for changes or improvements. Topics included:

- **Payments:** Most prime contractors reported that the District is exemplary regarding timely payment. Few subcontractors complained that they were not paid promptly by MWRD's prime contractors.
- **Access to information about MWRD's contracting policies and upcoming opportunities:** Most participants were able to access information on upcoming opportunities, although antiquated methods of communications (faxes, U.S. mail) were mentioned as burdens on small firms. Overall, outreach was felt to be comprehensive and consistent. An electronic monitoring and notification system like that used by the City of Chicago was suggested. Information on design and construction-related services contracts was reported to be more difficult to obtain than for construction contracts.
- **Program eligibility requirements:** M/WBEs in general were satisfied with the District's two step certification process.
- **Meeting M/WBE contract goals:** Most prime contractors and consultants reported that they were able to meet the goals. Some prime firms stated they use M/WBEs with which they have become familiar through contracting affirmative action programs on non-goals projects. Most general contractors do not seek waivers of goals on District contracts. There was strong consensus that the District should set goals on a contract-by-contract basis rather than generally applying the same goals regardless of the scopes of work of the project. Requiring all compliance information with the bid was seen as strangling general contractors' abilities to work with new M/WBEs or fully explore the capabilities of M/WBEs. The inability to count second tier and lower subcontracting dollars creates additional issues for general contractors. Several general contractors reported that it is very difficult to substitute a non-performing M/WBE for the original contract price.

- Supportive services, technical assistance and mentor-protégé relationships: There was broad support among M/WBEs and non-M/WBEs for providing technical assistance and other resources to increase M/WBEs' capacities. Some general contractors provide informal support to M/WBEs. Several prime consultants reported good experiences with mentor protégé programs for other agencies. Some participants expressed concern about how to determine the limits of providing assistance to M/WBEs so as not to compromise the subcontractor's independence and performance of a commercially useful function, especially in light of recent prosecutions and high dollar settlements with agencies involving the use of certified firms. A formal Mentor-Protégé program would address some of these issues.
- Small business setasides: M/WBEs and non-M/WBEs broadly supported adoption of a small business setaside program. The current approach of setting SBE contract goals but allowing M/WBEs to be double counted was seen as ineffective.
- Contract performance monitoring and enforcement: By in large, M/WBEs reported that the District monitors participation on construction projects and provides assistance to certified firms in resolving performance issues. An enhancement would be a system to notify subcontractors that were listed by a successful prime contractor.

2. MWRD's Industry and Geographic Markets

The courts require that a local agency limit its race-based remedial program to firms doing business in its geographic and industry markets. We therefore examined a sample of approximately \$1.33 billion of District spending to determine empirically the market areas.

We applied a "90/90/90" rule, whereby we analyzed North American Industry Classification System ("NAICS") codes that cover over 90 percent of the total contract dollars; over 90 percent of the prime contract dollars; and over 90 percent of the subcontract dollars. We took this approach so that we could be assured that we provide an in depth picture of the District's activities. Table A presents the distribution of the number of contracts and the amount of contract dollars across all industry sectors. Chapter IV provides tables disaggregated by dollars paid to prime contractors and dollars paid to subcontractors.

**Table A: NAICS Code Distribution of Contract Dollars,
All Sectors**

NAICS	NAICS Code Description	PCT Total Contract Dollars	Cumulative PCT Total Contract Dollars
237310	Highway, Street, and Bridge Construction	22.2%	22.2%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.3%	33.6%
238210	Electrical Contractors and Other Wiring Installation Contractors	10.7%	44.3%
236220	Commercial and Institutional Building Construction	6.5%	50.8%
238990	All Other Specialty Trade Contractors	6.2%	57.0%
238110	Poured Concrete Foundation and Structure Contractors	6.0%	62.9%
541330	Engineering Services	4.2%	67.2%
238910	Site Preparation Contractors	3.9%	71.1%
484110	General Freight Trucking, Local	3.5%	74.5%
237110	Water and Sewer Line and Related Structures Construction	3.0%	77.5%
423840	Industrial Supplies Merchant Wholesalers	2.4%	79.9%
238140	Masonry Contractors	2.3%	82.2%
238120	Structural Steel and Precast Concrete Contractors	1.4%	83.6%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	1.1%	84.7%
562910	Remediation Services	1.1%	85.8%
332911	Industrial Valve Manufacturing	1.0%	86.8%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.0%	87.8%
484220	Specialized Freight (except Used Goods) Trucking, Local	0.7%	88.5%
238130	Framing Contractors	0.7%	89.2%
238320	Painting and Wall Covering Contractors	0.6%	89.8%
561730	Landscaping Services	0.5%	90.4%
TOTAL			100.0%

Source: CHA analysis of MWRD data.

We next determined the locations of firms in these NAICS codes to establish the industries in which the District purchases. We applied the rule of thumb of identifying the firm locations that account for at least 75 percent of contract and subcontract dollar payments in the contract data file. Location was determined by ZIP code as listed in the file and aggregated into counties as the geographic unit.

Spending in Illinois accounted for 96.96% of all contract dollars paid in the product market. Of that total, the counties of Cook, DuPage, Kane, and Will accounted for 95.42 percent. Therefore, these four counties constituted the geographic market area from which we drew our availability data. While we could have limited the market area to Cook County, there were several major District contractors located in the other three counties, so we thought it best to cast a broad net. Table B presents data on how the contract dollars were spent across Illinois counties.

Table B: Distribution of Contracts in MWRD’s Product Market within Illinois, by County

County	PCT of Total Contract Dollars Paid		County	PCT of Total Contract Dollars Paid
Cook	80.81%		Grundy	0.28%
Dupage	7.49%		Champaign	0.03%
Kane	3.73%		Kankakee	0.03%
Will	3.41%		Kendall	0.02%
Stephenson	1.69%		Ogle	0.02%
LaSalle	1.09%		Henderson	0.02%
Lake	1.02%		Winnebago	0.01%
McHenry	0.35%			
			TOTAL	100.00%*

* Four additional counties received agency spending totaling less than 1% of all agency spending
Source: CHA analysis of MWRD data.

3. MWRD’s Utilization of M/WBEs in Its Market Areas

The next step was to determine the dollar value of MWRD’s utilization of M/WBEs in its market area constrained by geography and industry sector, as measured by payments to prime firms and associated subcontractors and disaggregated by race and gender. Because the District lacked full records for payments to subcontractors other than firms certified as M/WBEs, we contacted the prime vendors to request that they describe in detail their contract and associated subcontracts, including race, gender and dollar amount paid to date. We further developed a Master M/WBE Directory based upon lists solicited from dozens of agencies and organizations. We used the results of this extensive data

collection process to assign minority or woman status to the ownership of each firm in the analysis.

Table C presents the distribution of contract dollars by industry sectors by race and gender. Chapter IV provides detailed breakdowns of these results.

**Table C: Distribution of Contract Dollars by Race and Gender, All Sectors
(share of total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	1.33%	0.00%	0.00%	0.00%	1.00%	97.67%
237110	0.00%	0.23%	58.63%	0.00%	32.66%	8.47%
237310	1.52%	3.36%	2.73%	0.00%	0.40%	92.00%
237990	62.69%	0.00%	0.00%	0.00%	0.00%	37.31%
238110	48.01%	45.34%	0.08%	0.00%	4.04%	2.54%
238120	0.00%	0.58%	0.00%	0.00%	89.90%	9.52%
238130	0.00%	0.00%	0.00%	0.00%	95.74%	4.26%
238140	61.56%	13.10%	0.00%	0.00%	0.73%	24.61%
238160	0.00%	10.47%	0.00%	0.00%	0.00%	89.53%
238210	3.66%	8.44%	0.00%	0.00%	9.24%	78.66%
238220	0.23%	5.74%	0.04%	0.00%	7.07%	86.91%
238320	0.26%	32.48%	0.00%	0.00%	56.04%	11.22%
238910	1.75%	2.02%	0.00%	0.00%	1.82%	94.41%
238990	0.00%	25.64%	0.19%	0.06%	16.61%	57.49%
332312	0.00%	0.00%	0.00%	0.00%	20.91%	79.09%
332911	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
332996	0.00%	99.25%	0.00%	0.00%	0.00%	0.75%
423610	0.00%	0.00%	0.00%	0.00%	97.03%	2.97%
423840	0.00%	83.51%	0.00%	0.00%	15.20%	1.28%
424720	0.00%	3.06%	91.68%	0.00%	5.25%	0.01%
484110	10.10%	41.16%	0.00%	0.00%	44.21%	4.54%
484220	80.53%	15.32%	2.52%	0.00%	1.63%	0.00%
541330	1.15%	1.67%	18.22%	0.00%	7.80%	71.16%
561730	2.47%	6.07%	0.00%	0.00%	47.89%	43.57%
562219	12.31%	0.00%	0.00%	0.00%	0.00%	87.69%
562910	3.38%	36.05%	4.61%	0.00%	0.00%	55.97%
Total	6.74%	12.59%	4.35%	0.00%	10.85%	65.47%

Source: CHA analysis of MWRD data.

4. Availability of M/WBEs in MWRD’s Market

Using the “custom census” approach to estimating availability and the further assignment of race and gender using the Master Directory and misclassification adjustments, we determined the aggregated availability of M/WBEs, weighted by the District’s spending in its geographic and industry markets to be 22.00 percent. Table D presents the weighted availability data for various racial and gender categories.

**Table D: Aggregated Weighted Availability, All Sectors
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	M/WBE	Non-M/WBE	Total
TOTAL	5.56%	5.85%	2.24%	0.07%	8.28%	22.00%	78.00%	100.00%

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

5. Disparity Analysis of MWRD’s Utilization of M/WBEs

We next compared the utilization of M/WBEs with the availability of M/WBEs. This is known as the “disparity ratio” or “disparity index.” 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 percent. Courts have looked to disparity indices in determining whether strict scrutiny is satisfied. An index less than 100 percent 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 percent” rule that a ratio less than 80 percent presents a *prima facie* case of discrimination, referred to as “substantive” significance.¹

We determined that the disparity ratios were not substantively significant for any group except Native Americans, and were statistically significant for M/WBEs as a whole and for White women.² Table E presents the results of this disparity analysis by demographic group for MWRD’s contracts.

¹ 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.”).

² For a discussion of the meaning of statistical significance and its role in the Study’s analysis, see Appendix D.

**Table E: Disparity Ratios by Demographic Group,
All Sectors**

	Disparity Ratio
Black	120.49%
Hispanic	215.34%
Asian	192.03%
Native American	0.00%*
White Women	286.31%**
M/WBE	156.80%**
Non-M/WBE	83.98%

Source: CHA analysis of MWRD data.

*Indicates substantive significance below the 0.80 level

**Indicates statistical significance at the 0.05 level

6. Analysis of Race and Gender Disparities in the Illinois Economy

We explored the data and literature relevant to how discrimination in the District’s market and throughout the wider economy affects the ability of minorities and women to fairly and fully engage in MWRD contract opportunities. First, we analyzed the earnings of minorities and women relative to White men; the rates at which M/WBEs in Illinois form firms; and their earnings from those firms. Next, we summarized the literature on barriers to equal access to commercial credit. Finally, we summarized 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 overall marketplace discrimination without some type of affirmative interventions. Data and literature analyzed were the following:

- 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.
- Data from the Census Bureau’s American Community Survey (“ACS”) indicate that Blacks, Hispanics, Native Americans, Asian/Pacific Islanders, Others, 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 literature on barriers to access to commercial credit and the development of human capital further reports 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.

Taken together with other evidence such as anecdotal data and the judicial findings regarding the Illinois and Chicago-area construction industry, this is the type of proof that addresses whether, in the absence of the District's strong remedial intervention in its market, it would be a passive participant in the discrimination systems found throughout Illinois. These economy-wide analyses are relevant and probative to whether MWRD may continue to employ narrowly tailored race- and gender-conscious measures to ensure equal opportunities to access its contracts and associated subcontracts.

7. Qualitative Evidence of Race and Gender Disparities in MWRD's Market

In addition to quantitative data, the courts look to anecdotal evidence of firms' marketplace experiences to evaluate whether the effects of current or past discrimination continue to impede opportunities for M/WBEs. To explore this type of anecdotal evidence, we conducted four group interviews, totaling 48 participants, and one stakeholders meeting. Most reported that while progress has been made in reducing barriers on the basis of race and gender, inequities remain significant obstacles to full and fair opportunities.

- Discriminatory attitudes and negative perceptions of competency: Many minority and women owners reported they experience negative attitudes about their competency and professionalism. The assumption is that M/WBEs are less qualified and capable. Some M/WBEs believe large general contractors see them a nuisance. M/WBEs were sometimes perceived to be more costly and troublesome. Lack of access to preferred pricing and supply networks sometimes did result in higher costs of doing business for minority and women contractors.
- Obtaining work on an equal basis: There was almost universal agreement among minority and women owners that the M/WBE Program remains critical to reduce barriers to equal contracting opportunities and to open doors for MWRD work. Goals were said to remain necessary to level the playing field and equalize opportunities. M/WBEs sought the right to compete on a fair and equal basis. Prime contract opportunities were especially difficult for M/WBEs to access. Not only do M/WBEs benefit from working as prime contractors, but minority and women tradespeople do, too. While mentor-protégé programs are often posited as a way to increase M/WBEs' capacities, several firm owners reported poor

experiences with participation in a mentor-protégé arrangement. Participation in joint ventures had rarely produced better outcomes. One commonly suggested approach was setting aside some smaller contracts for bidding only by small firms on a race- and gender-neutral basis.

8. Recommendations

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

However, evidence beyond the District's achievements strong suggests these results are the effect of the program. Outside of MWRD contracts, M/WBEs face large disparities in opportunities for public sector and private sector work.

We therefore recommend that the program be continued, with the following enhancements.

a. Augment Race- and Gender-Neutral Measures

- Implement an electronic contracting data collection and monitoring system: Functionality should include full firm contact information; utilization plan capture; contract compliance, including verification of payments; contract goal setting; outreach tools; spend analysis of informal purchases and contracts; integrated email and fax notifications; access by authorized users; export/import integration with existing systems; and access by authorized MWRD staff, prime contractors and subcontractors.
- Continue to focus on reducing barriers to M/WBE prime contract awards: Review surety bonding, insurance and experience requirements.
- Revise the Small Business Enterprise program element: Replace SBE contract goals with a SBE setaside element, whereby only SBEs would be eligible bidders on certain contracts. Projects should be selected based on factors such as the dollar value of the project, the scopes of work, and M/WBE availability.
- Ensure bidder non-discrimination and fairly priced subcontractor quotations: The District should 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. MWRD

should also provide with the invitation for bid the scopes of work used to set the contract goal.

- 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. One approach that has proven to be effective for some governments is to develop an agency-sponsored bonding and financing assistance program for such firms. We suggest MWRD explore finding partners to provide this type of assistance.
- Develop a Mentor-Protégé Program: A program should include criteria for eligibility, standards for participation, how credit will be given for utilization of the protégé, reimbursable expenses, program monitoring, and measures for program success.
- Explore developing a Linked Deposit Program: The District should consider implementing a Linked Deposit program, whereby its depository banks would agree to make loans to District certified M/WBEs that have been awarded District prime contracts.
- Conduct networking events focused on design projects: MWRD participates in many outreach and networking events. However, there was a belief by several business owners in the construction-related professional sector that more outreach to their firms and more information about MWRD opportunities would be helpful.

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

- Use the study to set M/WBE contract goals: The detailed availability estimates in the study should serve as the starting point for contract goal setting. The electronic system should have a goal setting module and written procedures spelling out the steps should be drafted. We strongly urge MWRD to bid some contracts that it determines have significant opportunities for M/WBE participation without goals, 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 results of no goals contracts will illuminate whether the District’s success in creating opportunities for M/WBEs is an artifact of the program’s goals and strong enforcement, or whether in fact M/WBEs no longer need the benefits of goals to play on a level field.

- Continue to apply narrowly tailored eligibility standards: The personal net worth test and size standards for certification should be continued. We suggest that the certification period be extended to three years to reduce the burden on MWRD staff and businesses. We also urge consideration of accepting without additional review (unless some specific item warrants it) M/WBE certifications in non-construction industries, so long as the certifying agency applies a personal net worth test and size standards at least as stringent as those of the District.
- Revise program administration elements: We recommend that the District count second and lower tier M/WBE participation. Further, to facilitate M/WBE participation, especially that of firms unfamiliar to a general contractor, allow a brief post-submission time to submit some of the compliance paperwork. Finally, we suggest a thorough review of all policies, procedures and forms, including those for obtaining a reduction or waiver of a contract goal.

c. Continue to Conduct Regular Program Reviews

To meet the requirements of strict constitutional scrutiny and ensure best practices in program administration continue to be applied, the District should set a new sunset date for the revised Ordinance. Data should be reviewed approximately every five to six years, to evaluate whether race- and gender-based barriers have been reduced in both the District’s activities and throughout the wider economy, such that affirmative efforts are no longer needed, and if such measures are necessary, to ensure that they remain narrowly tailored.

d. Develop Performance Measures for Program Success

MWRD should develop quantitative performance measures for M/WBEs and overall success of the program to evaluate its effectiveness in reducing the systemic barriers identified by the study. In addition to meeting goals, possible benchmarks might be the number of good faith effort waiver requests; the number and dollar amounts of bids rejected as non-responsive for failure to make good faith efforts to meet the goal; the number, type and dollar amount of M/WBE substitutions during contract performance; growth in the number, size and scopes of work of certified firms; and increased variety in the industries in which M/WBEs are awarded prime contracts and subcontracts.

II. LEGAL STANDARDS FOR CONTRACTING AFFIRMATIVE ACTION PROGRAMS

A. Summary of Constitutional Standards

To be effective, enforceable, and legally defensible, a race-based program for public contracts must meet the judicial test of constitutional “strict scrutiny.” Strict scrutiny is the highest level of judicial review and consists of two elements:

- The government must establish its “compelling interest” in remedying 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.
- Any remedies adopted must be “narrowly tailored” to that discrimination, that is, the program must be directed at the types and depth of discrimination identified.³

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

- Statistical evidence of the underutilization of minority firms by the agency and/or throughout the agency’s geographic and industry market area compared to their availability in the market area. These are disparity indices, comparable to the type of “disparate impact” analysis used in employment discrimination cases.
- Anecdotal evidence of race-based barriers to the full and fair participation of minority firms in the market area and in seeking contracts with the agency, comparable to the “disparate treatment” analysis used in employment discrimination cases.⁴ Anecdotal data can consist of interviews, surveys, public hearings, academic literature, judicial decisions, legislative reports, etc.

The narrow tailoring requirement has been met through the satisfaction of five factors to ensure that the remedy “fits” the evidence:

- The efficacy of race-neutral remedies at overcoming identified discrimination.
- The relationship of numerical benchmarks for government spending to the availability of minority- and women-owned firms and to subcontracting goal setting procedures.

³ *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989).

⁴ *Id.* at 509.

- The congruence between the remedies adopted and the beneficiaries of those remedies.
- Any adverse impact of the relief on third parties.
- The duration of the program.⁵

In *Adarand v. Peña*,⁶ the Supreme Court extended the analysis of strict scrutiny to race-based federal enactments such as the Disadvantaged Business Enterprise (“DBE”) program for federally-assisted transportation contracts. Just as in the local government context, the national government must have a compelling interest for the use of race and the remedies adopted must be narrowly tailored to the evidence relied upon.

In general, courts have subjected preferences for Women-Owned Business Enterprises (“WBEs”) to “intermediate scrutiny.” Gender-based classifications must be supported by an “exceedingly persuasive justification” and be “substantially related” to the objective.⁷ However, appellate courts, including the Seventh Circuit Court of Appeals, have applied strict scrutiny to the gender-based presumption of social disadvantage in reviewing the constitutionality of the DBE program.⁸ Therefore, we advise that the District evaluate gender-based remedies under the strict scrutiny standard.

Classifications not based on race, ethnicity, religion, national origin or gender are subject to the lesser standard of review of “rational basis” scrutiny, because the courts have held there are no equal protection implications under the Fourteenth Amendment for groups not subject to systemic discrimination.⁹ In contrast to strict scrutiny of government action directed towards persons of “suspect classifications” such as racial and ethnic minorities, rational basis means the governmental action must only be “rationally related” to a “legitimate” government interest. Thus, preferences for persons with disabilities, veterans, etc. may be enacted with vastly less evidence than race- or gender-based measures to combat historic discrimination.

Unlike most legal challenges, the defendant has the initial burden of producing “strong evidence” in support of a race-conscious program.¹⁰ 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

⁵ *United States v. Paradise*, 480 U.S. 149, 171 (1987).

⁶ *Adarand v. Peña*, 515 U.S. 200 (1995).

⁷ *Cf. United States v. Virginia*, 518 U.S. 515 (1996).

⁸ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 720 (7th Cir. 2007) (“Northern Contracting III”).

⁹ *United States v. Carolene Products Co.*, 304 U.S. 144 (1938).

¹⁰ *Aiken v. City of Memphis*, 37 F.3d 1155, 1162 (6th Cir. 1994).

unconstitutional.¹¹ “[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.”¹² A plaintiff “cannot meet its burden of proof through conjecture and unsupported criticism of [the government’s] evidence.”¹³ 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 highway contracts. Thus, they failed to meet their ultimate burden to prove that the DBE program is unconstitutional on this ground.”¹⁴ When the statistical information is sufficient to support the inference of discrimination, the plaintiff must prove that the statistics are flawed.¹⁵ A plaintiff cannot rest upon general criticisms of studies or other evidence; it must carry the case that the government’s proof is inadequate to meet strict scrutiny, rendering the legislation or governmental program illegal.¹⁶

There is no need of formal legislative findings of discrimination,¹⁷ nor “an ultimate judicial finding of discrimination before [a local government] can take affirmative steps to eradicate discrimination.”¹⁸

To meet strict scrutiny, studies have been conducted that 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 women-owned firms and their actual utilization compared to white male-owned businesses. Quality studies also examine the elements of the agency’s programs to determine whether they are sufficiently narrowly tailored. The following is a detailed discussion of the parameters for conducting studies leading to defensible programs that can

¹¹ *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1166 (10th Cir. 2000), *cert. granted then dismissed as improvidently granted*, 532 U.S. 941 (2001) (“*Adarand VII*”); *W.H. Scott Construction Co., Inc. v. City of Jackson, Mississippi*, 199 F.3d 206, 219 (5th Cir. 1999).

¹² *Engineering Contractors Association of South Florida, Inc. v. Metropolitan Dade County*, 122 F.3d 895, 916 (11th Cir. 1997).

¹³ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 989, *cert. denied*, 540 U.S. 1027 (2003) (10th Cir. 2003) (“*Concrete Works III*”).

¹⁴ *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation*, 345 F.3d 964, 970 (8th Cir. 2003), *cert. denied*, 541 U.S. 1041 (2004).

¹⁵ *Engineering Contractors II*, 122 F.3d at 916; *Coral Construction Co. v. King County*, 941 F.2d 910 921 (9th Cir. 1991).

¹⁶ *Adarand VII*, 228 F.3d at 1166; *Engineering Contractors II*, 122 F.3d at 916; *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1522-1523 (10th Cir. 1994) (“*Concrete Works II*”); *Webster v. Fulton County, Georgia*, 51 F.Supp.2d 1354, 1364 (N.D. Ga. 1999); see also *Wygant v. Jackson Board of Education*, 476 U.S. 267, 277-278 (1986).

¹⁷ *Webster*, 51 F.Supp.2d at 1364.

¹⁸ *Concrete Works III*, 36 F.3d at 1522.

establish MWRD's compelling interest in remedying discrimination and developing narrowly tailored initiatives.

B. *City of Richmond v. J.A. Croson Co.*

The U.S. Supreme Court in the case of the *City of Richmond v. J.A. Croson Co.* established the constitutional contours of permissible race-based public contracting programs. Reversing long established law, the Court for the first time extended the highest level of judicial examination from measures designed to limit the rights and opportunities of minorities to legislation that benefits these historic victims of discrimination. Strict scrutiny requires that a government entity prove both its "compelling interest" in remedying identified discrimination based upon "strong evidence," 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."

The Court struck down the City of Richmond's Minority Business Enterprise Plan that required prime contractors awarded City construction contracts to subcontract at least 30 percent of the project to Minority-Owned Business Enterprises ("MBEs"). A business located anywhere in the country which was at least 51 percent owned and controlled by "Black, Spanish-speaking, Oriental, Indian, Eskimo, or Aleut" citizens was eligible to participate. The Plan was adopted after a public hearing at which no direct evidence was presented that the City had discriminated on the basis of race in awarding 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 percent 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) general 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 illegal conduct:

[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 it had essentially become a "passive participant" in

a system of racial exclusion...[it] could take affirmative steps to dismantle such a system.¹⁹

Strict scrutiny of race-based remedies is required to determine whether racial classifications are in fact motivated by either notions of racial inferiority or blatant racial politics. This highest level of judicial review “smokes out” illegitimate uses of race by assuring that the legislative body is pursuing a goal important enough to warrant use of a highly suspect tool.²⁰ It further ensures that the means chosen “fit” this compelling goal so closely that there is little or no possibility that the motive for the classification was illegitimate racial prejudice or stereotype. The Court made clear that strict scrutiny seeks to expose racial stigma; racial classifications are said to create racial hostility if they are based on notions of racial inferiority.²¹

Race is so suspect a basis for government action that more than “societal” discrimination is required to restrain racial stereotyping or pandering. The Court provided no definition of “societal” discrimination or any guidance about how to recognize the ongoing realities of history and culture in evaluating race-conscious programs. The Court simply asserted that:

[w]hile there is no doubt that the sorry history of both private and public discrimination in this country has contributed to a lack of opportunities for black entrepreneurs, this observation, standing alone, cannot justify a rigid racial quota in the awarding of public contracts in Richmond, Virginia.... [A]n amorphous claim that there has been past discrimination in a particular industry cannot justify the use of an unyielding racial quota. It is sheer speculation how many minority firms there would be in Richmond absent past societal discrimination.²²

Richmond’s evidence was found to be lacking in every respect. 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

¹⁹ 488 U.S. at 491-92.

²⁰ 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 decision maker for the use of race in that particular context.”).

²¹ 488 U.S. at 493.

²² *Id.* at 499.

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, Richmond 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, whereas a local government is 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 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."²³

The foregoing analysis was applied only to Blacks. The Court then emphasized that there was "absolutely no evidence" 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."²⁴

Having found that Richmond had not presented evidence in support of its compelling interest in remedying discrimination—the first prong of strict scrutiny—the Court went on to make 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 percent quota had no basis in evidence, and was applied regardless of whether the individual MBE had suffered discrimination.²⁵ Further, Justice O'Connor rejected the argument that individualized consideration of Plan eligibility is too administratively burdensome.

Apparently recognizing that the opinion might be misconstrued to categorically 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

²³ *Id.* at 510.

²⁴ *Id.*

²⁵ See *Grutter*, 529 U.S. at 336-337 (quotas are not permitted; race must be used in a flexible, non-mechanical way).

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 appropriate statistical proof, lend support to a local government's determination that broader remedial relief is justified.²⁶

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.²⁷ 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.²⁸

This contention has been rejected explicitly by some courts. For example, in denying the plaintiff's summary judgment motion to enjoin the City of New York's M/WBE construction ordinance, the court stated that:

[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 (.67%). There were no statistics presented regarding number of minority-owned contractors in the Richmond area, *Croson*, 488 U.S. at 499, and the Supreme Court was concerned

²⁶ 488 U.S. at 509 (citations omitted).

²⁷ *Id.* at 502.

²⁸ *See, e.g., Northern Contracting III*, 473 F.3d at 723.

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*.²⁹

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 subcontracting 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. 49 CFR Part 26 "provides for a flexible system of contracting goals that contrasts sharply with the rigid quotas invalidated in *Croson*."³⁰

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. Strict Scrutiny as Applied to Federal Enactments

In *Adarand v. Peña*,³¹ the Supreme Court again overruled long settled law and extended the analysis of strict scrutiny under the Due Process Clause of the Fourteenth Amendment to federal enactments. Just as in the local government context, when evaluating federal legislation and regulations:

[t]he strict scrutiny test involves two questions. The first is whether the interest cited by the government as its reason for injecting the consideration of race into the application of law is sufficiently compelling to overcome the suspicion that racial characteristics ought to be irrelevant so far as treatment by the government is concerned. The second is whether the government has narrowly tailored its use of race, so that race-based classifications are applied only to the extent absolutely required to reach the proffered interest. The strict scrutiny test is thus a recognition that while classifications based on race may be appropriate in certain limited

²⁹ *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").

³⁰ *Western States Paving Co., Inc. v. Washington Department of Transportation*, 407 F.3d 983, 994 (9th Cir. 2005), cert. denied, 546 U.S. 1170 (2006).

³¹ 515 U.S. 200 (1995) (*Adarand III*).

legislative endeavors, such enactments must be carefully justified and meticulously applied so that race is determinative of the outcome in only the very narrow circumstances to which it is truly relevant.³²

1. U.S. Department of Transportation’s Disadvantaged Business Enterprise Program

To comply with *Adarand*, Congress reviewed and revised the Disadvantaged Business Enterprise (DBE) Program statute³³ and implementing regulations³⁴ for federal-aid contracts in the transportation industry. To date, every court that has considered the issue has found the regulations to be constitutional on their face.³⁵ While binding strictly only upon the federal DBE Program, these cases provide important guidance to MWRD about the types of evidence necessary to establish its compelling interest in adopting a M/WBE program and how to narrowly tailor a program. For example, the Fourth Circuit noted with approval that North Carolina’s M/WBE program for state-funded contracts largely mirrored Part 26.³⁶ Similarly, the Illinois Tollway’s DBE program was held to be constitutional in part because it is modeled on Part 26.³⁷

All courts have held that Congress had strong evidence of widespread race discrimination in the construction industry.³⁸ Relevant evidence before Congress included:

- Disparities between the earnings of minority-owned firms and similarly situated non-minority-owned firms;
- Disparities in commercial loan denial rates between Black business owners compared to similarly situated non-minority business owners;

³² *Adarand Constructors, Inc. v. Peña*, 965 F. Supp. 1556, 1569-1570 (D. Colo. 1997), *rev’d*, 228 F.3d 1147 (2000) (“*Adarand IV*”); *see also Adarand III*, 515 U.S. at 227.

³³ Transportation Equity Act for the 21st Century (TEA-21), Pub. L. No. 105-178 (b)(1), 112 Stat. 107, 113.

³⁴ 49 C.F.R. Part 26.

³⁵ *See, e.g., Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147 (10th Cir. 2000) (“*Adarand VII*”), cert. granted then dismissed as improvidently granted, 532 U.S. 941, 534 U.S. 103 (2001); *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*”).

³⁶ *H.B. Rowe Co. v. Tippett*, 615 F.3d 233, 236 (4th Cir. 2010).

³⁷ *Midwest Fence, Corp. v. USDOT et al*, 2015 WL 1396376, at *5 N.D. Ill March 24, 2015) (The Tollway’s program “borrows from [the DBE program regulations] substantially.”).

³⁸ *See also Western States*, 407 F.3d at 993 (“In light of the substantial body of statistical and anecdotal material considered at the time of TEA-21’s enactment, Congress had a strong basis in evidence for concluding that-in at least some parts of the country-discrimination within the transportation contracting industry hinders minorities’ ability to compete for federally funded contracts.”).

- The large and rapid decline in minorities' participation in the construction industry when affirmative action programs were struck down or abandoned; and
- Various types of overt and institutional discrimination by prime contractors, trade unions, business networks, suppliers and sureties against minority contractors.³⁹

The Eighth Circuit Court of Appeals took a "hard look" at the evidence Congress considered, and concluded that the legislature had:

[S]pent 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.⁴⁰

Next, the regulations were facially narrowly tailored. Unlike the prior program,⁴¹ Part 26 provides 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.
- The goal may be adjusted to reflect the availability of DBEs but for the effects of the DBE Program and of discrimination.
- The recipient must meet the maximum feasible portion of the goal through race-neutral measures as well as estimate that portion of the goal it predicts will be met through such measures.
- The use of quotas and set-asides is limited to only those situations where there is no other remedy.
- The goals are to be adjusted during the year to remain narrowly tailored.

³⁹ 407 F.3d at 992-93.

⁴⁰ *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.").

⁴¹ 49 C.F.R. Part 23.

- Absent bad faith administration of the Program, a recipient cannot be penalized for not meeting its goal.
- The presumption of social disadvantage for racial and ethnic minorities and women is rebuttable, “wealthy minority owners and wealthy minority firms are excluded, and certification is available to persons who are not presumptively disadvantaged but can demonstrate actual social and economic disadvantage.”
- Exemptions and waivers from any or all Program requirements are available.⁴²

These elements have led the courts to conclude that the program is narrowly tailored on its face. First, the regulations place strong emphasis on the use of race-neutral means to achieve minority and women participation. Relying upon *Grutter v. Bollinger*, the Eighth Circuit held that while “[n]arrow tailoring does not require the exhaustion of every conceivable race-neutral alternative...it does require serious, good faith consideration of workable race-neutral alternatives.”⁴³

The DBE Program is also flexible. Eligibility is limited to small firms owned by persons whose net worth is under a certain amount.⁴⁴ There are built-in Program time limits, and the recipient may terminate race-conscious contract goals if it meets its annual overall goal through race-neutral means for two consecutive years. Moreover, the authorizing legislation is subject to Congressional reauthorization that will ensure periodic public debate.

The court next held that the goals are tied to the relevant labor market. “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 *Crosen*....”⁴⁵

Finally, Congress has taken significant steps to minimize the race-conscious nature of the Program. “[W]ealthy minority owners and wealthy minority-owned firms are excluded, and certification is available to persons who are not presumptively [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.”⁴⁶

⁴² *Sherbrooke*, 345 F.3d. at 973.

⁴³ *Id.* at 972.

⁴⁴ The personal net worth limit was \$750,000 when the DBE program regulations were amended to meet strict scrutiny in 1999. The limit was increased to \$1.32 million in 2012, and is now indexed by the Consumer Price Index. 49 C.F.R. § 26.67(b)(1).

⁴⁵ *Id.*

⁴⁶ *Id.* at 973.

DBE programs based upon a methodology similar to that for this study, including the availability analysis and the examination of disparities in the business formation rates and business earnings of minorities and women compared to similarly situated non-minority males, have been held to be narrowly tailored in their application of Part 26. For example, in upholding the Minnesota Department of Transportation's DBE program using the same approach, the Eighth Circuit opined that while plaintiff attacked the study's data and methods,

it failed to establish that better data was [sic] available or that Mn/DOT was otherwise unreasonable in undertaking this thorough analysis and in relying on its results. The precipitous drop in DBE participation in 1999, when no race-conscious methods were employed, supports Mn/DOT's conclusion that a substantial portion of its 2001 overall goal could not be met with race-neutral measures, and there is no evidence that Mn/DOT failed to adjust its use of race-conscious and race-neutral methods as the year progressed, as the DOT regulations require.⁴⁷

2. U.S. Department of Defense's Small Disadvantaged Business Program

In 2008, the Federal Circuit Court of Appeals struck down the Department of Defense (DOD) program for Small Disadvantaged Businesses (SDBs) in *Rothe Development Corporation v. U.S. Department of Defense*.⁴⁸ The program set an overall annual goal of five percent for DOD contracting with SDBs and authorized various race-conscious measures to meet the goal.

In *Rothe VII*,⁴⁹ the appeals court held that the DOD program violated strict scrutiny because Congress did not have a "strong basis in evidence" upon which to conclude that DOD was a passive participant in racial discrimination in relevant markets across the country. The six local disparity studies upon which the DOD primarily relied for evidence of discrimination did not meet the compelling interest requirement, and its other statistical and anecdotal evidence did not rise to meet the heavy constitutional burden.

Of particular relevance to this report, the primary focus of the court's analysis was the six disparity studies. The court reaffirmed that such studies are relevant

⁴⁷ *Id.*

⁴⁸ *Rothe Development Corporation v. U.S. Department of Defense*, 545 F.3d 1023 (Fed. Cir. 2008). We note that the jurisdiction of the Court of Appeals for the Federal Circuit is limited to the jurisdiction described in 28 U.S.C. §§ 1292 (c) and (d) and 1295. Pursuant to 28 U.S.C. § 1295(a)(2), jurisdiction in *Rothe* was based upon the plaintiff's claim under the Tucker Act, 28 U.S.C. § 1346(a)(2), which governs contract claims against the United States.

⁴⁹ This opinion was the latest iteration of an 11-year-old challenge by a firm owned by a White female to the DOD's award of a contract to an Asian American-owned business despite the fact that plaintiff was the lowest bidder.

to the compelling interest analysis.⁵⁰ It then rejected *Rothe's* argument that data more than five years old must be discarded, stating “We decline to adopt such a *per se* rule here.... [The government] should be able to rely on the most recently available data so long as that data is reasonably up-to-date.”⁵¹

In the absence of expert testimony about accepted econometric models of discrimination, the court was troubled by the failure of five of the studies to account for size differences and “qualifications” of the minority firms in the denominator of the disparity analysis, or as the court labeled it, “relative capacity.”⁵² The court was concerned about the studies’ inclusion of possibly “unqualified” minority firms and the failure to account for whether a firm can perform more than one project at a time in two of the studies.⁵³ In the court’s view, the combination of these perceived deficits rendered the studies insufficiently probative to meet Congress’ burden.

The appellate court ignored the analyses in the cases upholding the USDOT DBE Program and the City of Denver’s local affirmative action contracting program where the fallacy of “capacity” was debunked, all of which were cited extensively by the district court. It relied instead on a report from the USCCR, which adopts the views of anti-affirmative action writers, including those of *Rothe's* consultant.⁵⁴

However, the court was careful to limit the reach of its review to the facts of the case:

To be clear, we do *not* hold that the defects in the availability and capacity analyses in these six disparity studies render the studies wholly unreliable for any purpose. Where the calculated disparity ratios are low enough, we do not foreclose the possibility that an inference of discrimination might still be permissible for *some* of the minority groups in *some* of the studied industries in *some* of the jurisdictions. And we recognize that a minority owned firm’s capacity and qualifications may themselves be affected by discrimination. But we hold that the defects we have noted detract dramatically from the probative value of these six studies, and, in conjunction with their limited geographic coverage, render the studies insufficient to form the statistical core of the “strong basis in evidence” required to uphold the statute.⁵⁵

The Federal Circuit concluded its analysis of compelling interest by “stress[ing] that [its] holding is grounded in the particular terms of evidence offered by DOD

⁵⁰ *Rothe*, 545 F.3d at 1037-1038.

⁵¹ *Id.* at 1038-1039.

⁵² *Id.* at 1042.

⁵³ *Ibid.*

⁵⁴ U.S. Commission on Civil Rights, *Disparity Studies as Evidence of Discrimination in Federal Contracting* (May 2006): 79.

⁵⁵ *Rothe*, 545 F.3d at 1045.

and relied on by the district court in this case, and should not be construed as stating blanket rules, for example, about the reliability of disparity studies.”⁵⁶

Given the holding that Congress lacked a strong basis in evidence for the DOD program, the court did not rule on whether its provisions were narrowly tailored. The court did note, however, in its prior rulings that the program is flexible, limited in duration, and not unduly burdensome to third parties, and that the program has tended to narrow the reach of its remedies over time.⁵⁷

D. Establishing a “Strong Basis in Evidence” for MWRD’s Minority- And Women-Owned Business Enterprise Program

It is well established that disparities in an agency’s utilization of Minority- and Women-Owned Business Enterprises (“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 will meet strict scrutiny. Discrimination must be shown using statistics and economic 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.⁵⁸ 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.⁵⁹

Crosby’s admonition that “mere societal” discrimination is not enough to meet strict scrutiny does not apply 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.”⁶⁰

Nor must a government 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.”⁶¹ Denver further linked its award of public dollars to discriminatory conduct through the testimony of M/WBEs that identified

⁵⁶ *Id.* at 1049.

⁵⁷ *Id.* at 1049.

⁵⁸ *Adarand VII*, 228 F.3d at 1166 (“statistical and anecdotal evidence are appropriate”).

⁵⁹ *Id.*

⁶⁰ *Concrete Works IV*, 321 F.3d at 976.

⁶¹ *Id.* at 977.

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 have looked to in examining the basis for and determining the constitutional validity of race- and gender-conscious programs and the steps in performing a disparity study necessary to meet these elements.

1. Define MWRD's Market Area

The first step is to determine the market areas in which the agency 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.⁶² The agency 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.⁶³

A commonly accepted definition of geographic market area for disparity studies is the locations that account for at least 75 percent of the agency's contract and subcontract dollar payments.⁶⁴ Likewise, the accepted approach is to analyze those detailed industries that make up at least 75 percent of the prime contract and subcontract payments for the Study period.⁶⁵

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

Next, the study must estimate the availability of minorities and women to participate in the District's contracts and its history of utilizing M/WBEs as prime contractors and associated subcontractors. The primary inquiry is whether there are statistically significant disparities between the availability of M/WBEs and the utilization of such firms.

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

⁶² *Croson*, 488 U.S. at 508.

⁶³ *Concrete Works II*, 36 F.3d at 1520 (to confine data to strict geographic boundaries would ignore "economic reality").

⁶⁴ "Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program," Transportation Research Board of the National Academy of Sciences, NCHRP Report, Issue No. 644, 2010, p. 49 ("National Disparity Study Guidelines").

⁶⁵ *Id.* at pp. 50-51.

case, some form of narrowly tailored racial preference might be necessary to break down patterns of deliberate exclusion.⁶⁶

This is known as the “disparity ratio” or “disparity index.” 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.⁶⁷ An index less than 100 percent 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 percent” rule that a ratio less than 80 percent presents a *prima facie* case of discrimination.⁶⁸

The first step in the disparity analysis is to calculate the availability of minority- and women-owned firms in the District’s geographic and industry market area. 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.⁶⁹

The second step is to determine whether there are disparities between the availability estimates and MWRD’s utilization of M/WBEs. Where possible, statistical techniques are applied to examine whether any disparities are significant.

There is no requirement to control for firm size, area of specialization, and whether the firm had bid on agency projects. While it may be true that M/WBEs are smaller in general than white male firms, most construction firms are small and can expand and contract to meet their bidding opportunities. Importantly, the courts have recognized that size and experience are not race- and gender-neutral variables: “M/WBE construction firms are generally smaller and less experienced *because* of discrimination.”⁷⁰ To rebut this inference, a plaintiff must proffer its own study showing that the disparities disappear when such variables are held constant and that controlling for firm specialization explained the

⁶⁶ *Croson*, 488 U.S. at 509; see *Webster*, 51 F.Supp.2d at 1363, 1375.

⁶⁷ *Scott*, 199 F.3d at 218; see also *Concrete Works II*, 36 F.3d at 1526-1527; *O’Donnell Construction Co., Inc., v. District of Columbia*, 963 F.2d 420, 426 (D.C. Cir. 1992); *Cone Corp. v. Hillsborough County*, 908 F.2d 908, 916 (11th Cir. 1990), *cert. denied*, 498 U.S. 983 (1990).

⁶⁸ 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.

⁶⁹ *Northern Contracting II*, 2005 U.S. Dist. LEXIS 19868, at *70 (IDOT’s custom census approach was supportable because “discrimination in the credit and bonding markets may artificially reduce the number of M/WBEs”).

⁷⁰ *Concrete Works IV*, 321 F.3d at 983 (emphasis in the original).

disparities. Additionally, *Croson* does not “require disparity studies that measure whether construction firms are able to perform a *particular contract*.”⁷¹

The agency need not prove that the statistical inferences of discrimination are “correct.” In upholding Denver’s M/WBE Program, the Tenth Circuit 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.⁷²

Nor must the government 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.⁷³

The District 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.⁷⁴

Similarly, statistical evidence by its nature cannot identify the individuals responsible for the discrimination.⁷⁵

3. Evaluate the Results of Unremediated Markets

Where such evidence is available, a study should next review the results of contracts solicited without goals. Courts have held that such outcomes are an excellent indicator of whether discrimination continues to impact opportunities in public contracting. Evidence of race and gender discrimination in relevant

⁷¹ *Id.* at 987-88 (emphasis in the original).

⁷² *Id.* at 971.

⁷³ *Id.* at 973 (emphasis in the original).

⁷⁴ *Id.* at 971.

⁷⁵ *Id.* at 973.

“unremediated”⁷⁶ markets provides an important indicator of what level of actual M/WBE participation can be expected in the absence of government mandated affirmative efforts to contract with M/WBEs.⁷⁷ As the Eleventh Circuit has acknowledged, “the program at issue may itself be masking discrimination that might otherwise be occurring in the relevant market.”⁷⁸ If M/WBE utilization is below availability in unremediated markets, an inference of discrimination may be supportable. The virtual disappearance of M/WBE participation after programs have been enjoined or abandoned strongly indicates substantial barriers to minority subcontractors, “raising the specter of racial discrimination.”⁷⁹

Unremediated markets analysis addresses whether the government has been and continues to be a “passive participant” in such discrimination, in the absence of affirmative action remedies.⁸⁰ The court in the Chicago case held that the “dramatic decline in the use of M/WBEs when an affirmative action program is terminated, and the paucity of use of such firms when no affirmative action program was ever initiated,” was proof of the City’s compelling interest in employing race- and gender-conscious measures.⁸¹ Evidence of unremediated markets “sharpens the picture of local market conditions for MBEs and WBEs.”⁸²

Therefore, if M/WBEs are “overutilized” because of the entity’s program, that does not end the study’s inquiry. Where the government has been implementing affirmative action remedies, M/WBE utilization reflects those efforts; it does not signal the end of discrimination. Any M/WBE “overutilization” on projects with goals goes only to the weight of the evidence because it reflects the effects of a remedial program. For example, Denver presented evidence that goals and non-goals projects were similar in purpose and scope and that the same pool of contractors worked on both types. “Particularly persuasive” was evidence that M/WBE participation declined significantly when the program was amended in 1989; the utilization of M/WBEs on City projects had been affected by the affirmative action programs that have been in place in one form or another since 1977.

⁷⁶ “Unremediated market” means “markets that do not have race- or gender-conscious subcontracting goals in place to remedy discrimination.” *Northern Contracting II*, at *36.

⁷⁷ See, e.g., *Western States*, 407 F.3d at 992 (Congress properly considered evidence of the “significant drop in racial minorities’ participation in the construction industry” after state and local governments removed affirmative action provisions).

⁷⁸ *Engineering Contractors II*, 122 F.3d at 912.

⁷⁹ *Adarand VII*, 228 F.3d at 1174.

⁸⁰ See also *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 91 F.3d 586, 599-601 (3rd Cir. 1996) (“*Philadelphia III*”).

⁸¹ *Builders Association of Greater Chicago v. City of Chicago*, 298 F. Supp.2d 725, 737 (N.D. Ill. 2003); see also *Concrete Works IV*, 321 F.3d at 987-988.

⁸² *Concrete Works II*, 36 F.3d at 1529.

4. Examine Economy-Wide Evidence of Race- and Gender-Based Disparities

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 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 Chicago's construction program.⁸³ As 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.⁸⁴

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. "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 again demonstrates that *existing* M/WBEs are precluded from competing for public contracts."⁸⁵ Despite the contentions of plaintiffs that possibly dozens of factors might influence the ability of any individual to succeed

⁸³ *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 met compelling interest using this framework).

⁸⁴ *Adarand VII*, 228 F.3d at 1168-69 .

⁸⁵ *Id.*

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.”

For example, 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.⁸⁶ 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.⁸⁷

5. Examine Anecdotal Evidence of Race- and Gender-Based Barriers

A In addition to quantitative data, 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.”⁸⁸ Evidence about discriminatory practices engaged in by prime contractors, bonding companies, suppliers, lenders 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.⁸⁹ While anecdotal evidence is insufficient standing alone, “[p]ersonal accounts of actual discrimination or the effects of discriminatory practices may, however, vividly complement empirical

⁸⁶ *Id.*; *Western States*, 407 F.3d at 993; *Northern Contracting I*, 2004 U.S. Dist. LEXIS 3226 at *64.

⁸⁷ *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.”).

⁸⁸ *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).

⁸⁹ *Adarand VII*, 228 F.3d at 1168-1172.

evidence. Moreover, anecdotal evidence of a [government's] institutional practices that exacerbate discriminatory market conditions are [sic] often particularly probative."⁹⁰ "[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."⁹¹

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."⁹² 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."⁹³

E. Narrowly Tailoring a Minority- and Women-Owned Business Enterprise Program for MWRD

Even if the District has a strong basis in evidence to believe that race-based measures are needed to remedy identified discrimination, the program must also be narrowly tailored to that evidence. The courts have repeatedly examined the following factors in determining whether race-based remedies are narrowly tailored to achieve their purpose:

- The efficacy of race-neutral remedies at overcoming identified discrimination;
- The relationship of numerical benchmarks for government spending to the availability of minority- and women-owned firms and to subcontracting goal setting procedures;
- The flexibility of the program requirements, including the provision for good faith efforts to meet goals and contract specific goal setting procedures;
- The congruence between the remedies adopted and the beneficiaries of those remedies;

⁹⁰ *Concrete Works II*, 36 F.3d at 1520, 1530.

⁹¹ *Engineering Contractors II*, 122 F.3d at 926.

⁹² *Id.* at 249.

⁹³ *Concrete Works IV*, 321 F.3d at 989.

- Any adverse impact of the relief on third parties; and
- The duration of the program.⁹⁴

It is imperative that remedies not operate as fixed quotas.⁹⁵ Programs that lack waivers for firms that fail to meet the subcontracting goals but make good faith efforts to do so have been struck down.⁹⁶ In *Croson*, the Court refers approvingly to the contract-by-contract waivers used in the USDOT's DBE program.⁹⁷ This feature has been central to the holding that the DBE program meets the narrow tailoring requirement.⁹⁸

1. Consider Race- and Gender-Neutral Remedies

Race- and gender-neutral approaches are a necessary component of a defensible and effective DBE program⁹⁹ and the failure to seriously consider such remedies has been fatal to several programs.¹⁰⁰ 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 the District without resorting to the use of race or gender in its decision-making. Effective remedies include unbundling of contracts into smaller units, providing technical support, and developing programs to address issues of financing, bonding, and insurance important to all small and emerging businesses.¹⁰¹ Further, governments have a duty to ferret out and punish discrimination against minorities and women by their contractors, staff, lenders, bonding companies or others.¹⁰²

The requirement that an agency must meet the maximum feasible portion of the goal through race-neutral measures as well as estimate that portion of the goal it

⁹⁴ *United States v. Paradise*, 480 U.S. 149, 171 (1987); see also *Sherbrooke*, 345 F.3d at 971-972.

⁹⁵ See 49 C.F.R § 26.43 (quotas are not permitted and setaside contracts may be used only in limited and extreme circumstances "when no other method could be reasonably expected to redress egregious instances of discrimination").

⁹⁶ See, e.g., *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.").

⁹⁷ 488 U.S. at 508; see also *Adarand VII*, 228 F.3d at 1181.

⁹⁸ See, e.g., *Sherbrooke*, 345 F.3d at 972.

⁹⁹ *Croson*, 488 U.S. at 507 (Richmond considered no alternatives to race-based quota); *Philadelphia III*, 91 F.3d at 609 (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*, 37 F.3d at 1164 (failure to consider race-neutral method of promotions suggested a political rather than a remedial purpose).

¹⁰⁰ 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.

¹⁰¹ See 49 CFR § 26.51.0.

¹⁰² *Croson*, 488 U.S. at 503 n.3; *Webster*, 51 F.Supp.2d at 1380.

predicts will be met through such measures has been central to the holdings that the DBE regulations meet narrow tailoring.¹⁰³

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.¹⁰⁴ 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 subsumed in the exhaustion requirement.”¹⁰⁵

2. Set Targeted Goals

Numerical goals or benchmarks for M/WBE participation must be substantially related to their availability in the relevant market.¹⁰⁶ For example, the DBE regulations require 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.¹⁰⁷ Goal setting, however, is not an absolute science.¹⁰⁸ “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*.”¹⁰⁹

It is settled case law that goals for a particular solicitation should reflect the particulars of the contract, not reiterate annual aggregate targets. Contract specific goals must be based upon availability of D/M/WBEs to perform the anticipated scopes– including the work estimated to be performed by the prime firm– of the individual contract. Not only is contract goal setting legally mandated,¹¹⁰ 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 unrealistic contract goals. While more labor intensive than defaulting to the annual, overall goals, there is no option to eschew narrowly tailoring program implementation because to do so would be more burdensome.

¹⁰³ See, e.g., *Sherbrooke*, 345 F.3d. at 973

¹⁰⁴ *Grutter*, 529 U.S. at 339.

¹⁰⁵ *Coral Construction*, 941 F.2d at 923.

¹⁰⁶ *Webster*, 51 F.Supp.2d at 1379, 1381 (statistically insignificant disparities are insufficient to support an unexplained goal of 35 percent 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*”).

¹⁰⁷ 49 C.F.R. § 26.45.

¹⁰⁸ In upholding New Jersey Transit’s DBE program, the court held that “Plaintiffs have failed to provide evidence of another, more perfect, method” of goal setting. *GEOD Corp. v. New Jersey Transit Corp.*, 2009 U.S. Dist. LEXIS 74120, at *20 (D. N.J. 2009).

¹⁰⁹ *Sherbrooke*, 345 F.3d. at 972.

¹¹⁰ See *id*; *Coral Construction*, 941 F.2d at 924.

3. Ensure Flexibility of Goals and Requirements

It is imperative that remedies not operate as fixed quotas.¹¹¹ A 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.¹¹² Further, firms that meet the goals cannot be favored over those who made good faith efforts. In *Croson*, the Court refers approvingly to the contract-by-contract waivers used in the USDOT's DBE program.¹¹³ This feature has been central to the holding that the DBE program meets the narrow tailoring requirement.¹¹⁴

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

The over- or under-inclusiveness of those persons to be included in a program is an additional consideration, and goes to whether the remedies truly target the evil identified. The “fit” between the problem and the remedy manifests in two ways: which groups to include and how to define those groups, and which persons will be eligible to be included within those groups.

First, the groups eligible to benefit from the remedies must be based upon the evidence.¹¹⁵ 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.”¹¹⁶ In striking down Cook County's program, the Seventh Circuit Court of Appeals 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.”¹¹⁷ 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

¹¹¹ See 49 C.F.R 26.43 (quotas are not permitted and setaside contracts may be used only in limited and extreme circumstances “when no other method could be reasonably expected to redress egregious instances of discrimination”).

¹¹² See, e.g., *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.”).

¹¹³ 488 U.S. at 508; see also *VII*, 228 F.3d at 1181.

¹¹⁴ See, e.g., *Sherbrooke*, 345 F.3d. at 972.

¹¹⁵ *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 6 F.3d 990, 1007-1008 (3rd Cir. 1993) (“*Philadelphia II*”) (strict scrutiny requires data for each minority group; data was insufficient to include Hispanics, Asians or Pacific Islanders or Native Americans).

¹¹⁶ *Webster*, 51 F.Supp.2d at 1380–1381.

¹¹⁷ *Builders Association of Greater Chicago v. County of Cook*, 256 F.3d 642, 646 (7th Cir. 2001).

from discrimination.¹¹⁸ Therefore, remedies should be limited to those firms that have suffered actual harm in the market area.¹¹⁹

The policy question of the level of specificity at which to define beneficiaries must be addressed. Approaches range from a single M/WBE or DBE goal that includes all racial and ethnic minorities and nonminority women,¹²⁰ to separate goals for each minority group and women.¹²¹ It should be noted, however, that the State of Ohio's Program was specifically faulted for lumping together all "minorities," with the court questioning the legitimacy of forcing African American contractors to share relief with recent Asian immigrants.¹²²

Second, the DBE Program's limitation to persons who are socially and economical disadvantaged, as opposed to membership in a group standing alone, has been key to its constitutionality. The 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 must meet the Small Business Administration's size definitions for its industry, have been central to the courts' holdings that Part 26 is narrowly tailored.¹²³ "[W]ealthy minority owners and wealthy minority-owned firms are excluded, and certification is available to persons who are not presumptively [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."¹²⁴ Further, anyone can challenge the disadvantaged status of any firm.¹²⁵

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

¹¹⁸ *Concrete Works IV*, 321 F.3d at 971 (Denver introduced evidence of bias against each group; that is sufficient).

¹¹⁹ *Rowe*, 615 F.3d at 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.").

¹²⁰ See 49 C.F.R. § 26.45(h) (overall goal must not be subdivided into group-specific goals).

¹²¹ See *Engineering Contractors II*, 122 F.3d at 900 (separate goals for Blacks, Hispanics and women).

¹²² *Associated General Contractors of Ohio v. Drabik*, 214 F.3d 730, 737 (6th Cir. 2000) ("*Drabik II*"); see also *Western States*, 407 F.3d at 998 ("We have previously expressed similar concerns about the haphazard inclusion of minority groups in affirmative action programs ostensibly designed to remedy the effects of discrimination.").

¹²³ *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 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).

¹²⁴ *Id.* at 973.

¹²⁵ 49 C.F.R. §26.87.

a finding that the program unduly burdens non-M/WBEs.¹²⁶ The burden of compliance need not be placed only upon those firms directly responsible for the discrimination. “Innocent” parties can be made to share some of the burden of the remedy for eradicating racial discrimination.¹²⁷ The proper focus is whether the burden on third parties is “too intrusive” or “unacceptable.”

Burdens must be proven, and cannot constitute mere speculation by a plaintiff.¹²⁸ “Implementation of the race-conscious contracting goals for which TEA-21 provides will inevitably result in bids submitted by non-DBE firms being rejected in favor of higher bids from DBEs. Although this places a very real burden on non-DBE firms, this fact alone does not invalidate TEA-21. If it did, all affirmative action programs would be unconstitutional because of the burden upon non-minorities.”¹²⁹

Narrow tailoring permits certified firms acting as prime contractors to count their self-performance towards meeting contract goals. There is no requirement that a program be limited only to the subcontracting portions of contracts, and numerous decisions and studies have found that discrimination operates against D/M/WBE prime vendors. For example, the trial court in upholding the Illinois DOT’s DBE program explicitly recognized that barriers to subcontracting opportunities affect the ability of DBEs also 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

¹²⁶ See *Engineering Contractors Assoc. of South Florida, Inc. v. Metropolitan Dade County* (“*Engineering Contractors I*”), 943 F.Supp. 1546, 1581-1582 (S.D. Fla. 1996) (County chose not to change its procurement system).

¹²⁷ *Concrete Works IV*, 321 F.3d at 973; *Wygant*, 476 U.S. at 280-281; *Adarand VII*, 228 F.3d 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 it [sic] has suffered anything more than minimal revenue losses due to the program.”).

¹²⁸ See, e.g., *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).

¹²⁹ *Western States*, 407 F.3d at 995.

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.¹³⁰

The DBE program regulations recognize these facts and therefore provide remedial benefits not only to firms acting as subcontractors on a project,¹³¹ but also to DBEs seeking prime work.¹³² Moreover, utilization of D/M/WBEs as prime firms reduces the need to set contract goals, thereby meeting the test that the agency use race-neutral measures to the maximum feasible extent.

6. Regularly Review the Program

The District should continue to conduct regular reviews of the DBE program. Race-based programs must have duration limits and “not last longer than the discriminatory effects it is designed to eliminate.”¹³³

The absence of a sunset clause and lack of review were factors in the court’s holding that the City of Chicago’s M/WBE 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 2004.¹³⁴ In contrast, the USDOT DBE Program’s periodic review by Congress has been repeatedly held to provide adequate durational limits.¹³⁵ 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 5 years.”¹³⁶

The legal test is the most recent available data.¹³⁷ How old is too old is not definitively answered, but MWRD would be wise to analyze data at least once every five or six years.

¹³⁰ *Northern Contracting II*, 2005 U.S. Dist. LEXIS 19868 at 74.

¹³¹ 49 C.F.R. § 26.45(a)(1).

¹³² 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.”).

¹³³ *Adarand III*, 515 U.S. at 238.

¹³⁴ *BAGC v. Chicago*, 298 F.Supp.2d at 739. See also *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) (fourteen-year-old evidence of discrimination “too remote to support a compelling governmental interest.”).

¹³⁵ See *Western States*, 407 F.3d at 995.

¹³⁶ *Rowe*, 615 F.3d at 253.

¹³⁷ *Rothe*, 545 F.3d at 1038-1039.

F. Cases from the Seventh Circuit Court of Appeals

Three cases from the circuit governing Illinois illustrate almost all of these principles, and have provided significant guidance to other circuits and agencies across the country.

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

The City of Chicago 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 Black-, Hispanic- and women-owned construction firms.¹³⁸ However, the program as implemented in 2003, which had not been reviewed since its inception in 1990, was not sufficiently narrowly tailored to meet strict constitutional scrutiny. The court stayed the final order against operation of the Program for construction contracts for six months, to permit the City to review the ruling and adopt a new program.¹³⁹

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 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 percent of City contracts be awarded to minority-owned businesses and 5 percent to women-owned businesses.

In response to *Croson*, Chicago commissioned a Blue Ribbon Panel to recommend an effective program that would survive 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 in 1990 that retained the 25 percent MBE and 5 percent WBE goals; added a Target Market, wherein contracts were limited to bidding only by M/WBEs; 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-

¹³⁸ *Builders Association of Greater Chicago v. City of Chicago*, 298 F. Supp.2d 725 (N.D. Ill. 2003).

¹³⁹ 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.

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 overutilization 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 in other jurisdictions of the effects of the discontinuance or absence of race-conscious programs throughout the country. 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.”¹⁴⁰

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.

After finding that Chicago met the compelling interest prong, the court held that the City’s program was not narrowly tailored to address these market distortions and barriers because:

- 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 have graduated;
- There was no personal net worth limit;

¹⁴⁰ *BAGC v. Chicago*, 298 F. Supp.2d at 738.

- 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.

Chicago is the only city ever to have received a stay to permit revision of its program to meet narrow tailoring. It amended its ordinance to meet the court's 2004 deadline and continues to implement M/WBE subcontracting goals without interruption.

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.¹⁴¹ 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 women construction firms in the Illinois area. IDOT had commissioned an Availability Study to meet Part 26's requirements. The IDOT Study included a custom census of the availability of DBEs in IDOT's market area, weighted by the location of IDOT's contractors and the types of goods and services IDOT procures. The Study estimated that DBEs comprised 22.77 percent of IDOT's available firms.¹⁴² It next examined 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. If disparities are large and statistically significant, then the inference of discrimination can be made. 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

¹⁴¹ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007) (7th Cir. 2007) ("*Northern Contracting III*"). Ms. Holt authored IDOT's DBE goal submission and testified as IDOT's expert witnesses at the trial.

¹⁴² This baseline figure of DBE availability is the "step 1" estimate U.S. DOT grant recipients must make pursuant to 49 CFR §26.45.

availability of DBEs would be approximately 20.8 percent higher, for an estimate of DBE availability “but for” discrimination of 27.51 percent.

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 M/WBE Procurement 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;¹⁴³ and
- IDOT’s “zero goal” experiment, where DBEs received approximately 1.5 percent of the total value of the contracts. This was designed to test the results of “race-neutral” contracting policies, that is, the utilization of DBEs on contracts without goals.

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 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.

¹⁴³ *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 percent, this goal is completely voluntary -- the average DBE usage rate in 2002 and 2003 was 1.6 percent. On the basis of all of this data, IDOT adopted 22.77 percent as its Fiscal Year 2005 DBE goal.”).

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.¹⁴⁴

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

Most recently, the challenge to the DBE regulations, IDOT's implementation of those regulations and its DBE program for state-funded contracts, and to the Illinois Tollway's¹⁴⁵ separate DBE program was rejected.¹⁴⁶

Plaintiff Midwest Fence is a fencing and guardrail contractor owned and controlled by White males. From 2006-2010, Midwest generated average gross sales of approximately \$18 million per year. It alleged that these programs fail to meet the requirement that they be based on strong evidence of discrimination, and that the remedies are neither narrowly tailored on their face or as applied. In sum, plaintiff's argument was that the agencies lacked proof of discrimination, and it bears an undue burden under the programs as a specialty trade firm that directly competes with DBEs for prime and subcontractors.

The district court granted summary judgment in favor of all defendants on all claims. First, like every prior decision and for the same reasons, the judge held that Part 26 is facially constitutional. Second, IDOT's implementation of the federal regulations was narrowly tailored because it was in conformance with the regulations and its state program, modeled on Part 26, was based upon ample evidence of discrimination as proved through several disparity studies over many years. Third, the Tollway's DBE program "substantially mirrors that of Part 26" and was based on studies similar to those relied upon by IDOT.

Midwest's main objection to the defendants' evidence was that it failed to account for "capacity" when measuring DBE availability and underutilization. However, as is well established, "Midwest would have to come forward with "credible, particularized evidence" of its own, such as a neutral explanation for the disparity,

¹⁴⁴ *Northern Contracting II*, at *82 (internal citations omitted); see *Croson*, 488 U.S. at 492.

¹⁴⁵ The Tollway is authorized to construct, operate, regulate, and maintain Illinois' system of toll highways. The Tollway does not receive any federal funding to accomplish its goals.

¹⁴⁶ *Midwest Fence, Corp. v. USDOT et al.*, 2015 WL 1396376 (N. D. Ill. March 24, 2015).

or contrasting statistical data. [citation omitted] Midwest fails to make this showing here.”¹⁴⁷ Midwest offered only conjecture about the defendants’ studies supposed failure to account for capacity may or may not have impacted the studies’ results. Plaintiff “fail[ed] to provide any independent statistical analysis or other evidence demonstrating actual bias.”¹⁴⁸

Turning to the Tollway’s program, the court found 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-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, demonstrate ‘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.¹⁴⁹

¹⁴⁷ *Id.* at *17.

¹⁴⁸ *Id.* at *18.

¹⁴⁹ *Id.* at *22-23.

III. MWRD’S MINORITY- AND WOMEN-OWNED CONTRACTING POLICIES AND PROCEDURES

This Chapter describes the District’s Affirmative Action Program for Minority- and Women-Owned Business Enterprises (“M/WBE program”) and related procurement policies and procedures. This type of review focuses on the implementation of the race- and gender-conscious program and race- and gender-neutral policies that impact the ability of firms to access the agency’s contracts and associated subcontracts on a fair and equitable basis. As discussed in Chapter II, a narrowly tailored program should use race- and gender-neutral measures to the maximum feasible extent, and race- and gender-conscious remedies must be targeted, flexible, realistic and time limited. To meet this standard, we reviewed the District’s current efforts and interviewed business owners and MWRD staff about the program.

A. MWRD’s M/WBE Program

1. History of the Program

The District’s Affirmative Action Program was first enacted in 1977, and was the first of its kind in the Chicago metropolitan area. It required that Minority-Owned Business Enterprise (“MBE”) goals be set on each construction contract where there were at least three available subcontractors. In 1984, Women-Owned Business Enterprises (“WBEs”) were added to comply with requirements of the U.S. Environmental Protection Agency, from which the District receives grant funds.

In the wake of the *Croson* decision, the District commissioned a study in 1989, held a public hearing and received sworn testimony from minority and women construction business owners. Based on this fact-finding, the Board of Commissioners determined that M/WBEs continued to experience discriminatory treatment and diminished opportunities in the local construction industry and in competing for District construction contracts. The District adopted a revised Program Ordinance in 1990, entitled “Appendix D.” Appendix D is appended to the District construction specifications, and has been updated several times in the ensuing years, most recently in 2013.

In 2006, the District procured a new report from the law firm of Neal & Leroy, LLC. The 2006 Report reviewed the history of the Program, the governing case law, and a study prepared for the City of Chicago in 2004 by Dr. Timothy Bates of Wayne State University as part of its update of the M/WBE construction ordinance in response to the decision in *Builders Association of Greater Chicago v. City of Chicago*, discussed in Chapter II. The District’s 2006 Report concluded that the Program met the requirements of strict constitutional scrutiny that it be flexible and that Dr. Bates’ study provided strong evidence of the existence of

discrimination against M/WBEs in the Chicago area construction industry. Based upon these results, the District revised Appendix D again.

In 2012, MWRD engaged our firm to develop a Report and provide a revised Appendix D. We found that there was sufficient evidence of the continuing effects of race and sex discrimination in the Chicago construction and construction-related services industries to justify the continued use of M/WBE goals on an interim basis, and that MWRD's program was narrowly tailored. We made recommendations for a revised Ordinance, based on our findings.

An Affirmative Action Ordinance, Interim Appendix D, was adopted in 2012. The discussion below presents the elements of the current program.

2. Program Elements and Implementation

Appendix D embodies the Board of Commissioners' policy to "ensure competitive business opportunities for small, minority- and women-owned business enterprises in the award and performance of District contracts, to prohibit discrimination on the basis of race, ethnicity or sex in the award of or participation in District contracts, and to abolish barriers to full participation in District contracts by all persons, regardless of race, ethnicity or sex." It establishes the definitions for the program and its overall elements to implement that policy.

a. Program Administration

The Program is contained within the District's General Administration Department and reports directly to the Executive Director. The mission of the Diversity Section is to ensure that minority, women, and small businesses are given equal opportunity to participate in the performance of the District's construction program and professional services contracts in excess of \$100,000, in accordance with case law and the District's policies.

The Diversity Administrator is responsible for Program implementation, and the staff consists of two Senior Diversity Officers, six Compliance Officers, and three Support Staff. Compliance Officers obtain relevant compliance and monitoring information by reviewing data that has been submitted by prime contractors and M/WE subcontractors; conducting pre-bid compliance; performing pre-award Program compliance; and conducting post award compliance reviews. The Diversity Section also provides regular reports to the Board of Commissioners and the public on the achievements and operations of the program.

MWRD has several forms to support program administration, including certification applications, documentation of good faith efforts and appeals of good faith efforts determinations by the District, monthly status reports, utilization plans, on-site compliance reviews, warehouse inspections, subcontractors worksheets, and commercially useful function reviews.

Several District staff have received training from the American Contract Compliance Association, the national organization that certifies contracting affirmative action professionals, and have achieved Certificates of Contract Compliance and Masters of Contract Compliance certificates.

b. Program Eligibility

To participate in the program and be credited towards meeting goals, a firm must be owned, managed and controlled day-to-day by a minority individual or a woman. "Minority Individual" means a "Socially Disadvantaged" natural person who is a citizen of the United States or permanent resident of the United States and one of the following:

- African-American - A person having origins in any of the Black racial groups of Africa and is regarded as such by the African American community of which the person claims to be a part.
- Hispanic-American - A person having origins from Mexico, Puerto Rico, Cuba and South or Central America and is regarded as such by the Hispanic community of which the person claims to be a part, regardless of race.
- Asian-American – A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands or the Northern Marianas, and is regarded as such by the Asian American community of which the person claims to be a part.
- Native-American – A person having origins in any of the original peoples of North America and who is recognized through tribal certification as a Native American by either a tribe or a tribal organization recognized by the Government of the United States of America.

The individual relied upon for program eligibility must also be "economically disadvantaged," defined as a personal net worth less than \$2,000,000.00, excluding the owner's equity in the business seeking certification and in his or her principal residence, 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.

In addition, a firm must be a "Small Business," defined as annual gross receipts averaged over the preceding five years, that meet the size standards promulgated by the U.S Small Business Administration, 13 C.F.R. Part 121.

A firm must also be a "Local Business," which means 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 which has the majority of its regular full-

time work force located in this region and/or a business which has been placed on the District's vendor list and/or has bid on or sought District construction work.

In addition to these requirements, MWRD applies provisions very similar to those of 49 C.F.R. Part 26 to determine the legitimacy of applicants, such as standards for the ownership, management and control of the firm by the socially and economically disadvantaged owner, and the independence of the firm seeking certification, etc.

The District will place a firm certified as a MBE or a WBE by an agency recognized by the District on its vendor listing and identify the firm as a MBE or WBE. However, to receive credit on a District contract towards meeting a MBE or WBE goal, the firm must seek and receive certification independently by the District. A District certification is valid for two years. If the firm proposed in the utilization plan is found to be ineligible, the prime contractor has the opportunity to substitute another certified firm. A firm denied District certification may appeal to the Affirmative Action Administrator.

While recognizing other entities' certifications for informational purposes, the District has long concluded that it must conduct its own rigorous investigation to ensure that only legitimate firms are accorded the benefits of the Program.

c. Race- and Gender-Neutral Measures

Appendix D lists several race- and gender-neutral approaches to ensuring equal opportunities for all firms to achieve District work. These include:

- Unbundling contracts to facilitate the participation of M/WBEs as prime contractors.
- Arranging solicitation times to facilitate participation.
- Providing timely information on contracting procedures, bid preparation and specific contracting opportunities, including through an electronic system and social media.
- Assisting M/WBEs with training seminars on the technical aspects of preparing a bid for a District contract.
- Providing assistance to businesses in overcoming barriers such as difficulty in obtaining bonding and financing, and support for business development such as accounting, bid estimation, safety requirements, and quality control.
- Prohibiting prime contractors from requiring bonding for subcontractors, where appropriate.

- Holding pre-bid conferences, where appropriate, to explain the contract and to encourage bidders to use all available firms as subcontractors.
- Adopting prompt payment procedures.
- 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 all prime contractors on District construction contracts detailing the bids received from all subcontractors for District construction contracts and the expenditures to subcontractors on District contracts.
- Limiting the self-performance of prime contractors, where appropriate.
- To the extent practicable, developing future policies to award contracts to SBEs.
- Maintaining information on firms bidding on District prime contracts and subcontracts.
- At the discretion of the Board of Commissioners, awarding a representative sample of District construction contracts without goals, to determine MBE, WBE and SBE utilization in the absence of goals.
- Referring complaints of discrimination against MBEs, WBEs or SBEs to the appropriate authority for investigation and resolution.

In addition, interested persons can access information about upcoming bid opportunities and contracts currently being advertised on the District's website.

The Diversity Section, in conjunction with user departments, conducts extensive outreach activities. These include regular attendance at M/WBE organization meetings, trade fairs and networking events; MWRD vendor fairs; events conducted in collaboration with other government agencies such as the City of Chicago, etc.

d. Goal Setting

Appendix D applies to non-emergency construction contracts where the estimated total expenditure is in excess of \$100,000.00. The Diversity Administrator is to recommend a schedule of goals or MBE, WBE and SBE participation on an annual basis.

Waivers are available to bidders that cannot meet the goal(s) despite their good faith efforts to do so. Appendix D spells out in detail how good faith efforts are established and provides a process for submission and consideration by the Administrator and the Director of Procurement and Materials Management.

e. Counting M/W/SBE Utilization Towards Meeting Goals

The participation of certified subcontractors is counted at 100 percent of the dollars they spend. Only first tier subcontracting dollars can be counted towards a goal. A firm must perform a “commercially useful function” to be counted for participation under standards similar to that of the federal DBE program.

Purchases from suppliers receive only 25 percent credit; this ceiling can be waived, however, in the discretion of the Administrator. M/W/SBE subcontractors must perform at least 85 percent of the work of the contract with their own forces and equipment. Joint ventures between non-certified firms and M/W/SBEs are eligible for goal credit, but only to the extent of the certified partner’s contribution of capital, equipment, personnel, efforts and knowledge and share in the capital contribution, control, management, risks, and profits. A Mentor-Protégé Development Plan, may be used to meet the goal

If a firm is certified as both a MBE and a WBE, the Bidder may count the firm’s participation either toward the achievement of its MBE or WBE goal, but not both. A bidder may count toward the achievement of its SBE goal the utilization of any MBE or WBE that also satisfies the definition of a SBE.

For contracts for which goals have been established, the bidder must submit a Utilization Plan that documents its goal attainment or its good faith efforts to do so. Letters of Intent from the M/W/SBE subcontractors and suppliers must also be submitted with the bid package. A prime contractor awarded a Job Order Contract must submit with each work order a Utilization Plan and subcontractors’ letter of intent.

If requested by the Administrator, the prime contractor must submit a MBE, WBE and SBE Work Plan projecting the work tasks associated with certified firms’ commitments prior to the award of the contract.

If the bidder fails to meet the goal, it may request a waiver that details its good faith efforts. Good faith efforts include actions such as attendance at District pre-bid conferences to acquaint contractors with M/W/SBEs; timely solicitation of M/W/SBEs; providing M/W/SBEs with convenient and timely opportunities to review and obtain relevant plans, specifications; dividing total contract requirements into small tasks or quantities and adjusting performance bond and insurance requirements to facilitate M/W/SBE participation; negotiating in good faith with M/WBEs; and using the services of the District to identify suitable M/W/SBEs.

Where a partial or total waiver has been granted, the contractor must continue to make documented good faith efforts during the performance of the contract to meet the goal(s), and the Administrator shall provide technical assistance with respect to such efforts.

A bidder that fails to meet these requirements will have its bid declared non-responsive and ineligible for award.

f. Program Compliance Policies and Procedures

The Administrator reviews the contractor's compliance with its Utilization Plan and the Ordinance throughout the performance of the contract. The contractor cannot make any changes to the approved Utilization Plan or substitutions of the M/W/SBEs listed in the Utilization Plan throughout the life of the contract without the prior, written approval of the Administrator. This includes, but is not limited to, instances in which the contractor seeks to perform work originally designated for a M/W/SBE with its own forces or those of an affiliate, a non-certified firm or another M/W/SBE. Failure to obtain the prior, written approval of the Administrator in the format specified by the District shall constitute a breach of the contract, and subject the contractor to any and all available sanctions. The participation of certified firms that did not receive prior, written approval by the Administrator will not be counted towards the goal(s).

A MBE/WBE/SBE Monthly Status Report providing the information and in the format as specified by the District must be submitted with every payment request.

A prime contractor may amend its Utilization Plan for good cause to the satisfaction of the Administrator and the Director of Purchasing and Materials. It must then make good faith efforts to meet the goal.

Where contract change orders are made individually or in the aggregate that increase the total value of the contract by more than ten percent of the original contract value, the contractor must increase the utilization of M/W/SBEs, where feasible, so that the total value of the percentage of work they perform as to increased contract value bears the same relationship to the total value of the contract (as modified by change orders) as the percentage of M/W/SBE utilization committed to in the original Utilization Plan.

g. Sanctions

Where the Administrator believes that a contractor or subcontractor has committed fraud or misrepresentation or has failed to comply with the terms of its Utilization Plan or the Ordinance or its contract, the Administrator will notify the firm and may withhold up to 100 percent of its current or final progress payment. If the matter cannot be resolved, the District may direct the firm to show cause why further sanctions should not be imposed. The firm has 15 days to file a response in writing with the Administrator. A hearing before a duly appointed Hearing Officer will then be convened to provide the contractor and/or PCE

subcontractor an opportunity to be heard with respect to the non-compliance. The Hearing Officer will issue to the Executive Director written findings of fact, conclusions of law as to compliance and recommendations with respect to any appropriate sanctions. The Executive Director will transmit the Hearing Officer's findings, conclusions and recommendations to the Board of Commissioners, which may impose sanctions for noncompliance.

Sanctions may include but are not limited to withholding payments; debarment from bidding on future District contracts; decertification of a PCE; forfeiture and deduction of the shortfall in goal attainment; and other appropriate actions. Referrals as appropriate will be made to the proper law enforcement authorities.

h. Sunset Date

Appendix D is to be reviewed no less than two years from its adoption, and is set to expire on June 4, 2015, unless the District finds that its remedial purposes have not been fully achieved and that there is a compelling interest in continuing to implement narrowly tailored remedies to redress discrimination against MBEs and WBEs so that the District will not function as a passive participant in a discriminatory marketplace in the Metropolitan Chicago construction industry.

B. Experiences with MWRD's Contracting Policies and Procedures

To explore the impacts of race- and gender-neutral contracting policies and procedures and the implementation of the District's M/WBE program, we interviewed 48 individuals about their experiences and solicited their suggestions for changes. We also received written comments. The following are summaries of the topics discussed. Quotations are indented, and have been edited for readability. They are representative of the views expressed during four sessions by participants and one public meeting.

1. Payments

Most prime contractors reported that the District is exemplary regarding timely payment. There were few complaints that subcontractors were not paid promptly by prime contractors.

The District pays.

Like clockwork.

MWRD side of the payments are probably the fastest payment we get [as a prime contractor].

They get bids because they pay their bills.

2. Access to Information

Most participants were able to access information on upcoming opportunities, although rather antiquated methods of communications (faxes, U.S. mail) were mentioned as burdens on small firms. Overall, outreach was felt to be comprehensive and consistent.

They do do a good amount of outreach [to M/WBEs].

An electronic system like that used by the City of Chicago to monitor participation and notify subcontractors of payments to the prime contractor was suggested as one way to increase M/WBEs' abilities to manage their work and their cash flow.

The report [from the City] comes to the subconsultant: have you received your money because we paid your prime.

Information on design and construction-related services contracts was reported to be more difficult to obtain than for construction contracts.

I for the life of me cannot figure out who to talk to at MWRD.

Some prime non-M/WBE consultants suggested that MWRD do more to invite M/WBEs into the procurement process.

If you want change and you want improvement and you want people to feel comfortable, then you need to invite them in.

3. Meeting Program Eligibility Requirements

M/WBEs in general were satisfied with the District's two step certification process.

They do a really good with certification. It's not like one of those certifications that you get for five years and then you have to send it in to the city and you got to wait for another year before they renew it.

I don't think it's easy necessarily. I think it's thorough.

They appreciated the efforts to weed out fraud because they have been hurt by the proliferation of front firms.

There have been so many cheaters, liars and deceivers, all across the board, all subs, all everybody, so many people have been caught in the last ten years it has put so much undue pressure on all of us to even be able to work with these governmental agencies where we felt safe. This was the place where we felt like we were given an opportunity because there were a lot of people working for government that looked at and spoke like us. They were Blacks and

women and Hispanics. Because government gave people that chance. So, we always felt like we were dealing with them. But then, everybody got their mother and their sister and their cousins all certified.

4. Meeting M/WBE Contract Goals

Most prime contractors and consultants reported that they were able to meet the goals.

There are some very small firms that are very, very good at what they do and strong DBE firms that are very good at what they do and I think there's a place for them in the business.

Do you as a firm feel that you have the social responsibility to do the right thing?

There's good minority subs and there's bad minority subs. You got to do your homework.... We've gotten burned by minority contractors before. But, we've gotten burned by white contractors.

Some prime firms stated they use M/WBEs with which they have become familiar through contracting affirmative action programs on non-goals projects.

We certainly use some of the DBE firms on projects that do not require DBEs because it's kind of like the mentor-protégé thing. We started a good relationship.

The benefits of good relationships can flow both ways.

We even had one DBE that put us as a sub on a project that they didn't have to and just that's kind of the way the relationship has developed.

Repeat working relationships between prime firms and M/WBEs were said to promote long term growth of certified firms.

You want to give [new firms] an opportunity but also you've made an investment...you have trust in certain DBEs or MBEs that you've used.

Most general contractors do not seek waivers of goals on District contracts.

The waiver process is meaningless. Because no one ever will request a waiver. It's a kiss of death.

You meet the goal.... If you don't meet the goal, don't bid the job.

There was strong consensus that the District should set goals on a contract-by-contract basis rather than generally applying the same goals regardless of the scopes of work of the project.

Look on a job-by-job specific basis of the goals. You get a hundred million dollar project, 30 percent of a hundred, two hundred million dollars is a lot of DBE participation...in a very specialized area.

Requiring all compliance information with the bid was seen as strangling general contractors' abilities to work with new M/WBEs or fully explore the capabilities of M/WBEs.

[Some M/WBEs] don't have complete scopes in their packages.

[This approach] makes our life a living nightmare in terms of late quotes. Trying to sit here and with a minority sub, trying to give them a chance, trying to sit here and say let me understand what you know about the job. Now, we hit the go button and they're either in or out.

A somewhat longer period to submit M/WBE compliance paperwork was urged to increase opportunities for M/WBEs and allow primes to propose firms with which they are less familiar.

Two days would be great.

There's a ferreting out process... Does the concrete flatwork person have the fine grader? Do they back up the curb? Or, oh we didn't have mesh or rebar in[the quote]. All of these things take a little bit of time to work out and I think two days would be an enormous improvement over zero.... If the expectation of the general contractors is they're going to shop the job, in two days you can't get somebody that hasn't looked at the job to take a set of plans.

The District's often highly complex projects present special challenges in meeting goals.

The biggest problem with our DBE subs is they don't have the experience.... The District goes through and identifies and certifies these DBEs but they don't really evaluate their level of talent.

Capacity does not meet the goal.... [So, we] rely on the same ones.

At one point, the District was doing a lot of work so the capacity issue was one thing.

We make every effort to comply with the program and have good relationships with as many of the DBE vendors as we can find. However, the vendors continually have very many work offers and their own set of business priorities.... The problem arises in the lack of sufficient equipment owned by the subcontractors to fulfill all of the contracts that they have. This leaves us short of our affirmative action goals with the District and feeling distressed. We try extremely hard to obtain our goals, even securing an extra credit

line so that we can pay them prior to receiving our payment from the District. We host educational days, relational events and have lengthy discussions with the vendors and feel that our relationships are mostly on strong, solid footing with them. The fact is that they just do not have enough equipment to handle all of the work requests that they receive.... This entire situation can be summed up in the fact that there truly seems to be an insufficient pool of resources to subcontract to.

Goals were not always met on consulting projects.

When we put the job together the intent to meet the goals is always there.... I think we do as good of a job as we possibly can to meet the goals. It is a challenge. Sometimes on a larger project, multidiscipline, it might be easier. But on some of the more niche projects, it's difficult. And we've fallen short at the end but typically we've shown good faith in trying to get there and I think that that's been accepted.

The low goals for WBEs sometimes made it difficult to meet the goal on smaller projects.

WBEs in particular suffer.... We use them on a lot of other projects so that when we need to have them essentially sign up for something that's pretty not appealing [because of the small dollar value] that they're willing to do it with us because the percentages are so low.

The inability to count second tier and lower subcontracting dollars creates additional issues for general contractors.

In the world of MWRD, they only count participation in the M and WBEs at the prime contractor, subcontractor level. Lower tiers are not eligible for participation. And that creates a very messy contractual relationship between me who has no expertise and my [first tier] contractor or suppliers. And in order to take credit for that [lower tier] participation, I am literally forced to contract with somebody in an area I don't have technical expertise.... It's archaic.

I have no logical explanation for why an agency wouldn't allow second tiers. They offer an area of expertise that's foreign to many general contractors.

Contract terms that prime contractors experience as onerous were reported to discourage M/WBEs subcontractors from participating because they also would be subject to these clauses. Once the contract is signed, M/WBEs were seen as having the upper hand.

That's a significant barrier. When those of us in here take quotes the day of, day before a bid and we see [the M/WBE subcontractor says] we exclude this, we exclude that, and a lot of those deal with those onerous contract provisions.... Or they cross it out in your contract three months into the job.... They have that leverage.... If I get a non-MBE roofer that quoted a job and he bleeds all over our subcontract agreement, excluding all kinds of stuff...I can go to roofer B.... One roofer to another roofer, no one cares.... But, should a minority subcontractor do that, we've got live with them because we wrote them in [the bid].

Incentives to meet goals were urged by some non-M/WBE prime consultants.

[There should] be a way that over time certain firms would get preferential treatment for being an A player when it comes to M and W [participation].

Some non-M/WBE prime consultants questioned the District's commitment to the program for design work.

I don't know that I've heard a tremendous groundswell of support coming out of the District that this is important to us.... I've never heard the statement, we believe that the service, that the community we serve should be reflective of those that work here.... I don't get that sense at all.... Where you will get it from the Illinois Tollway, you will get it from Chicago Transit Authority, you will get it from the City of Chicago, Metra. I don't see that sense here.

I don't remember really being called out on the carpet whether we made it or not.

At the end [of a project], I don't recall anyone comparing what we said we would do to how it ended up.

With the Illinois Tollway or Chicago Transit Authority or City of Chicago, Cook County, Metra, whether you have that feeling of social responsibility or not doesn't matter because you're not going to win work because you won't be looked upon as somebody that cares about doing the right thing with good qualified people. And I don't have that same feeling here.

If you're holding a diversity meeting [for consultants] every couple years, that's pretty much in my mind the answer.

[The District's approach to construction compared to consulting is] two different worlds.

Several general contractors reported that it is very difficult to substitute a non-performing M/WBE for the original contract price.

A lot of times you take a hit. They can't do it for that price and you take a little bit of a hit.

If a DBE goes out of business midway through and you have to replace that goal it's very hard to get another DBE to bid it for that dollar amount that's remaining. I can go out to the general public of subcontractors and get five or six bids and one of them hopefully is going to hit the remain dollars I have.... The field [of MN/WBEs] is just narrower.

We always try and get a little bit more [participation than the goal to create a cushion].

One prime contractor advised communicating with MWRD early and often about problems with M/WBE performance. Meeting the goal is still mandatory.

If you let that compliance person or you let that agency know what's going on with your contract, towards the end they'll say, okay we understand that Company A went out of business but you're forgiven because you used other DBEs that were not a part of your plan here [and met the goal].

5. Supportive Services, Technical Assistance and Mentor-Protégé Relationships

There was broad support among M/WBEs and non-M/WBEs for providing technical assistance and other resources to increase M/WBEs' capacities

IDOT offers all these supportive services to grow businesses whether it's their back office and estimating and something like that. If there was something, some money that maybe Water Rec could put into growing some of these specialty trades [it would be helpful].

Try to help an ongoing DBE firm with how to finance better or how to get financing or how to run their safety program better or how to have meetings with your surety or your insurance broker.

We would like to see a program outlined that assists more DBEs in starting up new businesses or providing capital for expansion or allowing creative solutions, such as letting the DBE lease equipment from the prime, if in fact it is specialty equipment that cannot be readily attained. We would love to be a part of a long term solution.

Some general contractors provide informal supportive services to M/WBE subcontractors.

We'll try to pay you weekly to cover your labor.... Our safety guy can meet with your safety guy and go over some of the programs

we run on our safety side. We do that. We're out there mentoring but we're also worried are we then crossing something where we shouldn't be sharing this experience with them?

Several prime consultants reported good experiences with mentor protégé programs for other agencies.

We do a mentor-protégé [relationship]. We've embraced this as many firms have. Now this is on the Tollway and IDOT and Chicago Transit Authority. We have several firms, but two firms that we're really embraced in this opportunity. They've grown significantly. You know, one firm's gone from 30 to 80 people, another firm's gone from maybe 20 to 60 people. One firm has 15 percent of 70 million dollars. Another firm has 15 percent of 30, let's call it million dollars.... The value that we saw was these firms have now grown.... The engineering community at the Tollway has embraced this very well.

The whole joint venture [idea] ... it's misused and doesn't really advance the effort that everybody's trying to do. To me, the mentor-protégé [approach] is much more meaningful.

I demand that my mentor-protégé mentor a new firm.... What better person to mentor somebody that's in a disadvantaged business enterprise than one that has graduated and succeeded?

Some participants expressed concern about the limits of providing assistance to M/WBEs, especially in light of recent prosecutions and high dollar settlements with agencies about the use of certified firms.

[M/WBEs] rely on us to assist them and we're limited on what we can assist them with.... When we're the prime contractor, we're going to hold everybody's hand through the process. No matter who it is. We're going to help them with the scope of work, we're going to help them with the whole contract process.... You may get in trouble helping an MBE or WBE firm because are they not now doing a commercially useful function? Have you overstepped some line in the sand?

We're on a jobsite. We've got four or five subs out there. We have our crane there, we need it for what we're doing. [A non-M/WBE subcontractor is] out there, he needs a pick for a day. We can give him a crane for that day or he needs it for an hour. We can give him that crane for an hour. But my DBE sub over here, if he needs a pick for an hour I can't do it because the way the thing is written he has to get his own equipment.... We can help everybody on the site except for our DBE sub.

The [general] contractors are scared and paranoid to let the MBE, WBE do something that looks like we're helping them and now they're not performing their useful function. There's a paranoia right now.

I'm taking those subs that may or may not be capable and now I have to incorporate them into the work that we do but I'm not allowed to train them, I'm not allowed to give them any experience or expertise that I have to help them.

As a specialty contractor, we have specific issues with the helping or the mentoring process or whatever of subs that do the same work that we do.... There's more problems with that process than a general contractor to a DBE sub.

A formal Mentor-Protégé program would address some of these concerns.

If you gave me the contract and said, okay this is what we're going to do and this is going to meet your goal, and we're going to sign off on this and then as long as we do it we've met the goal. As opposed to after I do it come back and say, you know what, we really don't like the way you did that.

6. Small Business Setasides

Several M/WBEs recognized that the District has made recent efforts to unbundle contracts into fewer or even single scope of work contracts to support opportunities for smaller firms.

Recently they've been doing those other smaller projects.

With the expansion of their work in the storm water and especially with the expansion into individual communities and sewers, you're getting a lot more traditional civil engineering projects. But they've made an effort to reach out to a whole bunch of smaller firms to do that.

M/WBEs and non-M/WBEs broadly supported adoption of a small business setaside program. The current approach of setting small business enterprise goals on contracts but allowing M/WBEs to be double counted was seen as ineffective.

[A small business setaside] a reasonable good option.... The issue with the District [is] because of the type of work that they do. Usually it's some sort of high end modeling or process oriented. It's not a structural job, it's not a survey job. It doesn't fall into what a lot of the smaller businesses are their focus so they have a hard time taking the lead. So that would be the issue. I think the concept is

good but I don't know, I'm hard pressed to think of contracts where it would make sense that they have the major part of the expertise to take the lead.... The work for the District is very detailed, very complex and it has to be spot on.

7. Contract Performance Monitoring and Enforcement

By in large, M/WBEs reported that the District monitors participation on construction projects and provides assistance to certified firms in resolving performance issues.

One of the diversity officers on a job that we had three, four years ago from hell and they actually were very active in trying to help me get my money and they followed it and they paid attention to it.... She was very, very helpful.

[She] helped me years ago, also.

It is apparent the MRWD is well aware of Prime contractors "squeezing" subcontractors. It is very much appreciated by subcontractors, the requirement for prime contractors to submit the list of subcontractors and subcontractor contract amounts and justification if that information changes.

An enhancement would be a system to notify subcontractors that were listed by a successful prime contractor would help to enforce goals and facilitate their ability to plan their work

You don't know after the bid has gone in whether you're in there or not.

C. Conclusion

The program review and the business owner and stakeholder interviews suggest that the District is administering its M/WBE program in conformance with the requirements of strict scrutiny. However, several enhancements will make it more effective. These include implementing an electronic data collection, monitoring and notification system; increased outreach to M/WBE consulting firms; providing access to information about contracts, especially for consultants; ensuring that the waiver process is well disseminated and understood; setting goals on a contract-by contract basis; permitting a very short window to submit all compliance forms such as letters of intent from M/WBEs; counting second tier and lower subcontracting dollars; working with other agencies to provide technical assistance, bonding and supportive services to M/WBEs; adopting a mentor-protégé initiative; and implementing a small business setaside.

IV. UTILIZATION, AVAILABILITY AND DISPARITY ANALYSIS FOR MWRD

A. Contract Data Sources and Sampling Method

We analyzed purchase order and contract data for calendar years 2008 through 2014. The Final File for analysis contained 167 contracts, with a total award amount of \$1,133,783,956. This represents 73% of all dollars in the data. The file of contracts was developed through the following steps:

- From the initial pool of 388 contracts, we eliminated 40 duplicate listings of contracts, contracts that we determined did not fit the scope of the study, etc.
- For the remaining 348 contracts, with a total award amount of \$1,559,527,608, we contacted the prime firms in an effort to obtain complete contract records for the prime and subcontracting levels. We successfully collected data for 73% of the contract award dollars, worth \$1,133,783,956.

This File was used to determine the geographic market area for the Study; to estimate the utilization of M/WBEs on those contracts; and to calculate M/WBE availability in MWRD's marketplace.

B. MWRD's Product and Geographic Markets

1. MWRD's Product Market

A defensible disparity study must determine empirically the industries that comprise the agency's product or industry market. The accepted approach is to analyze those detailed industries, as defined by 6-digit North American Industry Classification System ("NAICS") codes,¹⁵⁰ that make up at least 75 percent of the prime contract and subcontract payments for the Study period.¹⁵¹ However, for this Study, we went further, and applied a "90/90/90" rule, whereby we analyzed NAICS codes that cover over 90 percent of the total contract dollars; over 90 percent of the prime contract dollars; and over 90 percent of the subcontract dollars. We took this approach so that we could be assured that we provide an in depth picture of the District's activities.

Tables 1 through 3 present the NAICS codes used to define the product market when examining contracts disaggregated by level of contract (*i.e.*, was the firm

¹⁵⁰ www.census.gov/eos/www/naics.

¹⁵¹ "Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program," Transportation Research Board of the National Academy of Sciences, NCHRP Report, Issue No. 644, 2010, pp. 50-51 ("National Disparity Study Guidelines").

receiving the contract a prime vendor or a subcontractor); the label for each NAICS code; and the industry percentage distribution of the number of contracts and spending across NAICS codes and funding source. The results in Tables 1 through 3 present MWRD's *unconstrained* product market, which will be later constrained by the geographic market area, discussed below.

Table 1: Industry Percentage Distribution of All Contracts by Dollars Paid, All Sectors

NAICS	NAICS Code Description	PCT Total Contract Dollars	Cumulative PCT Total Contract Dollars
237310	Highway, Street, and Bridge Construction	22.2%	22.2%
238220	Plumbing, Heating, and Air-Conditioning Contractors	11.3%	33.6%
238210	Electrical Contractors and Other Wiring Installation Contractors	10.7%	44.3%
236220	Commercial and Institutional Building Construction	6.5%	50.8%
238990	All Other Specialty Trade Contractors	6.2%	57.0%
238110	Poured Concrete Foundation and Structure Contractors	6.0%	62.9%
541330	Engineering Services	4.2%	67.2%
238910	Site Preparation Contractors	3.9%	71.1%
484110	General Freight Trucking, Local	3.5%	74.5%
237110	Water and Sewer Line and Related Structures Construction	3.0%	77.5%
423840	Industrial Supplies Merchant Wholesalers	2.4%	79.9%
238140	Masonry Contractors	2.3%	82.2%
238120	Structural Steel and Precast Concrete Contractors	1.4%	83.6%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	1.1%	84.7%
562910	Remediation Services	1.1%	85.8%
332911	Industrial Valve Manufacturing	1.0%	86.8%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.0%	87.8%
484220	Specialized Freight (except Used Goods) Trucking, Local	0.7%	88.5%
238130	Framing Contractors	0.7%	89.2%
238320	Painting and Wall Covering Contractors	0.6%	89.8%
561730	Landscaping Services	0.5%	90.4%
TOTAL			100.0%

Source: CHA analysis of MWRD data.

Table 2: Industry Percentage Distribution of Prime Contracts by Dollars Paid, All Sectors

NAICS	NAICS Code Description	PCT Total Contract Dollars	Cumulative PCT Total Contract Dollars
237310	Highway, Street, and Bridge Construction	49.9%	49.9%
236220	Commercial and Institutional Building Construction	15.1%	64.9%
238210	Electrical Contractors and Other Wiring Installation Contractors	9.1%	74.1%
238220	Plumbing, Heating, and Air-Conditioning Contractors	7.5%	81.6%
541330	Engineering Services	4.5%	86.1%
238910	Site Preparation Contractors	3.6%	89.7%
484110	General Freight Trucking, Local	2.9%	92.6%
TOTAL			100.0%

Source: CHA analysis of MWRD data

Table 3: Industry Percentage Distribution of Subcontracts by Dollars Paid, All Sectors

NAICS	NAICS Code Description	PCT Total Contract Dollars	Cumulative PCT Total Contract Dollars
238220	Plumbing, Heating, and Air-Conditioning Contractors	14.0%	14.0%
238210	Electrical Contractors and Other Wiring Installation Contractors	11.8%	25.7%
238990	All Other Specialty Trade Contractors	10.5%	36.2%
238110	Poured Concrete Foundation and Structure Contractors	10.1%	46.3%
237110	Water and Sewer Line and Related Structures Construction	4.7%	51.0%
238910	Site Preparation Contractors	4.1%	55.1%
541330	Engineering Services	4.0%	59.1%
423840	Industrial Supplies Merchant Wholesalers	4.0%	63.1%
484110	General Freight Trucking, Local	3.9%	67.0%
238140	Masonry Contractors	3.6%	70.6%
237310	Highway, Street, and Bridge Construction	3.2%	73.8%
238120	Structural Steel and Precast Concrete Contractors	2.4%	76.2%
562910	Remediation Services	1.8%	78.0%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	1.8%	79.8%

NAICS	NAICS Code Description	PCT Total Contract Dollars	Cumulative PCT Total Contract Dollars
332911	Industrial Valve Manufacturing	1.7%	81.5%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.6%	83.2%
484220	Specialized Freight (except Used Goods) Trucking, Local	1.2%	84.4%
238130	Framing Contractors	1.2%	85.6%
562219	Other Nonhazardous Waste Treatment and Disposal	0.9%	86.4%
238160	Roofing Contractors	0.9%	87.3%
332312	Fabricated Structural Metal Manufacturing	0.8%	88.1%
238320	Painting and Wall Covering Contractors	0.8%	89.0%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	0.8%	89.7%
237990	Other Heavy and Civil Engineering Construction	0.7%	90.4%
TOTAL			100.0%

Source: CHA analysis of MWRD data.

2. MWRD's Geographic Market

The courts require that a local government limit the reach of its race- and gender-conscious contracting program for contracts it funds to its market area.¹⁵² While it may be that the District's jurisdictional boundaries comprise its market area, this element of the analysis must be empirically established.¹⁵³

To determine the relevant geographic market area, we applied the rule of thumb of identifying the firm locations that account for at least 75 percent of contract and subcontract dollar payments in the contract data file.¹⁵⁴ Location was determined by ZIP code as listed in the file and aggregated into counties as the geographic unit.

As presented in Table 4, spending in Illinois accounted for almost 97 percent of all contract dollars paid in MWRD's unconstrained product market. Of that total, the counties of Cook, DuPage, Kane, and Will accounted for 95.42 percent. Therefore, these four counties constituted the geographic market area from which we drew our availability data. While we could limited the market area to

¹⁵² *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).

¹⁵³ *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").

¹⁵⁴ National Disparity Study Guidelines, p. 49.

Cook County, there were several contractors located in the other three counties, so we thought it best to cast a broad net. Table 5 presents data on how the contract dollars were spent across Illinois counties.

Table 4: Distribution of Contracts in MWRD’s Product Market, by State

State	PCT of Total Contract Dollars Paid		State	PCT of Total Contract Dollars Paid
IL	96.96%		MI	0.20%
PA	1.31%		WI	0.13%
IN	0.75%		CA	0.06%
NY	0.37%		NJ	0.01%
MD	0.23%			
			TOTAL	100.00%*

* One additional state received agency spending totaling less than 1% of all agency spending
Source: CHA analysis of MWRD data.

Table 5: Distribution of Contracts in MWRD’s Product Market within Illinois, by County

County	PCT of Total Contract Dollars Paid		County	PCT of Total Contract Dollars Paid
Cook	80.81%		Grundy	0.28%
Dupage	7.49%		Champaign	0.03%
Kane	3.73%		Kankakee	0.03%
Will	3.41%		Kendall	0.02%
Stephenson	1.69%		Ogle	0.02%
LaSalle	1.09%		Henderson	0.02%
Lake	1.02%		Winnebago	0.01%
McHenry	0.35%			
			TOTAL	100.00%*

* Four additional counties received agency spending totaling less than 1% of all agency spending
Source: CHA analysis of MWRD data.

C. MWRD’s Utilization of M/WBEs in Its Market Areas¹⁵⁵

The next essential step was to determine the dollar value of the District’s utilization of M/WBEs in its geographic and constrained product market areas, as measured by payments to prime firms and subcontractors and disaggregated by race and gender. Because the agency was unable to provide us with full records for payments to prime contractors and subcontractors other than firms certified as M/WBEs, we contacted the prime vendors to request that they describe in detail their contract and subcontracts, including race, gender and dollar amount paid to

¹⁵⁵ While Sections C and D present data on utilization and availability for contracts aggregated to the level of all sectors, Appendix F presents this data disaggregated into key sub-sectors: Construction, Construction-related Services, Goods, and Other Services.

date. We used the results of this extensive contract data collection process to assign minority or female status to the ownership of each firm in the contract data file.

Table 6 presents data on the total contract dollars paid by MWRD for each NAICS code and the share the contract dollars comprise of all industries.

Table 6: NAICS Code Distribution of Contract Dollars, All Sectors

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
237310	Highway, Street, and Bridge Construction	\$238,513,254	24.60%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$122,286,689	12.60%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$115,172,013	11.90%
236220	Commercial and Institutional Building Construction	\$70,355,861	7.30%
238990	All Other Specialty Trade Contractors	\$66,668,705	6.90%
238110	Poured Concrete Foundation and Structure Contractors	\$60,730,715	6.30%
238910	Site Preparation Contractors	\$41,624,000	4.30%
541330	Engineering Services	\$32,120,279	3.30%
484110	General Freight Trucking, Local	\$31,323,121	3.20%
237110	Water and Sewer Line and Related Structures Construction	\$31,255,222	3.20%
423840	Industrial Supplies Merchant Wholesalers	\$25,648,789	2.60%
238140	Masonry Contractors	\$24,015,366	2.50%
238120	Structural Steel and Precast Concrete Contractors	\$15,421,294	1.60%
562910	Remediation Services	\$11,511,131	1.20%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	\$11,443,066	1.20%
332911	Industrial Valve Manufacturing	\$11,066,861	1.10%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$10,287,975	1.10%
484220	Specialized Freight (except Used Goods) Trucking, Local	\$7,933,798	0.80%
238130	Framing Contractors	\$7,556,927	0.80%
238320	Painting and Wall Covering Contractors	\$6,460,408	0.70%
561730	Landscaping Services	\$5,742,715	0.60%
562219	Other Nonhazardous Waste Treatment and Disposal	\$5,665,015	0.60%
238160	Roofing Contractors	\$5,537,369	0.60%
332312	Fabricated Structural Metal Manufacturing	\$5,289,732	0.50%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
332996	Fabricated Pipe and Pipe Fitting Manufacturing	\$4,924,200	0.50%
237990	Other Heavy and Civil Engineering Construction	\$733,849	0.10%
TOTAL		\$969,288,356.00	100.00%

Source: CHA analysis of MWRD data.

Tables 7a through 7d present the paid contract dollars (total dollars and share of total dollars) by NAICS codes for all industries, this time disaggregated by race and gender.

Table 7a: Distribution of Contract Dollars by Race and Gender, All Sectors (total dollars)

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	\$933,747	\$0	\$0	\$0	\$703,552	\$68,718,563
237110	\$0	\$72,720	\$18,326,385	\$0	\$10,207,569	\$2,648,548.00
237310	\$3,614,728	\$8,002,400	\$6,499,770	\$0	\$965,781	\$219,430,574.00
237990	\$460,080	\$0	\$0	\$0	\$0	\$273,770.00
238110	\$29,154,461	\$27,533,050	\$47,617	\$0	\$2,454,079	\$1,541,508.00
238120	\$0	\$89,660	\$0	\$0	\$13,863,139	\$1,468,495.00
238130	\$0	\$0	\$0	\$0	\$7,235,338	\$321,588.00
238140	\$14,784,499	\$3,146,131	\$0	\$0	\$175,746	\$5,908,989.00
238160	\$0	\$580,000	\$0	\$0	\$0	\$4,957,369.00
238210	\$4,214,000	\$9,722,134	\$0	\$0	\$10,642,378	\$90,593,502.00
238220	\$286,360	\$7,018,700	\$54,475	\$0	\$8,641,956	\$106,285,198.00
238320	\$16,832	\$2,098,381	\$0	\$0	\$3,620,113	\$725,082.00
238910	\$728,354	\$842,706	\$	\$0	\$756,990	\$39,295,949.00
238990	\$0	\$17,095,413	\$129,048	\$37,781	\$11,076,730	\$38,329,733.00
332312	\$0	\$0	\$0	\$0	\$1,105,979	\$4,183,752.00
332911	\$0	\$0	\$0	\$0	\$0	\$11,066,861.00
332996	\$0	\$4,887,201	\$0	\$0	\$0	\$36,999.00
423610	\$0	\$0	\$0	\$0	\$9,982,842	\$305,133.00
423840	\$0	\$21,419,635	\$0	\$0	\$3,899,839	\$329,314.00
424720	\$0	\$349,725	\$10,490,856	\$0	\$601,333	\$1,151.00
484110	\$3,162,336	\$12,891,650	\$0	\$0	\$13,848,086	\$1,421,049.00
484220	\$6,388,908	\$1,215,683	\$199,770	\$0	\$129,437	\$0
541330	\$368,495	\$536,651	\$5,852,495	\$0	\$2,506,758	\$22,855,880.00
561730	\$141,758	\$348,729	\$0	\$0	\$2,750,391	\$2,501,837.00
562219	\$697,108	\$0	\$0	\$0	\$0	\$4,967,907.00
562910	\$388,893	\$4,149,256	\$530,545	\$0	\$0	\$6,442,437.00
Total	\$65,340,559.00	\$121,999,827.00	\$42,130,961.00	\$37,781.00	\$105,168,038.00	\$634,611,189.00

Source: CHA analysis of MWRD data.

**Table 7b: Distribution of Contract Dollars by Race and Gender, All Sectors
(share of total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	1.33%	0.00%	0.00%	0.00%	1.00%	97.67%
237110	0.00%	0.23%	58.63%	0.00%	32.66%	8.47%
237310	1.52%	3.36%	2.73%	0.00%	0.40%	92.00%
237990	62.69%	0.00%	0.00%	0.00%	0.00%	37.31%
238110	48.01%	45.34%	0.08%	0.00%	4.04%	2.54%
238120	0.00%	0.58%	0.00%	0.00%	89.90%	9.52%
238130	0.00%	0.00%	0.00%	0.00%	95.74%	4.26%
238140	61.56%	13.10%	0.00%	0.00%	0.73%	24.61%
238160	0.00%	10.47%	0.00%	0.00%	0.00%	89.53%
238210	3.66%	8.44%	0.00%	0.00%	9.24%	78.66%
238220	0.23%	5.74%	0.04%	0.00%	7.07%	86.91%
238320	0.26%	32.48%	0.00%	0.00%	56.04%	11.22%
238910	1.75%	2.02%	0.00%	0.00%	1.82%	94.41%
238990	0.00%	25.64%	0.19%	0.06%	16.61%	57.49%
332312	0.00%	0.00%	0.00%	0.00%	20.91%	79.09%
332911	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
332996	0.00%	99.25%	0.00%	0.00%	0.00%	0.75%
423610	0.00%	0.00%	0.00%	0.00%	97.03%	2.97%
423840	0.00%	83.51%	0.00%	0.00%	15.20%	1.28%
424720	0.00%	3.06%	91.68%	0.00%	5.25%	0.01%
484110	10.10%	41.16%	0.00%	0.00%	44.21%	4.54%
484220	80.53%	15.32%	2.52%	0.00%	1.63%	0.00%
541330	1.15%	1.67%	18.22%	0.00%	7.80%	71.16%
561730	2.47%	6.07%	0.00%	0.00%	47.89%	43.57%
562219	12.31%	0.00%	0.00%	0.00%	0.00%	87.69%
562910	3.38%	36.05%	4.61%	0.00%	0.00%	55.97%
TOTAL	6.74%	12.59%	4.35%	0.00%	10.85%	65.47%

Source: CHA analysis of MWRD data.

**Table 7c: Distribution of Contract Dollars by Race and Gender, All Sectors
(M/WBE, Non-M/WBE, Total)
(total dollars)**

NAICS	MBE	M/WBE	Non-M/WBE	Total
236220	\$933,747.00	\$1,637,299.00	\$68,718,563.00	\$70,355,861.00
237110	\$18,399,105.00	\$28,606,674.00	\$2,648,548.00	\$31,255,222.00
237310	\$18,116,899.00	\$19,082,680.00	\$219,430,574.00	\$238,513,254.00
237990	\$460,080.00	\$460,080.00	\$273,770.00	\$733,849.00
238110	\$56,735,128.00	\$59,189,207.00	\$1,541,508.00	\$60,730,715.00
238120	\$89,660.00	\$13,952,799.00	\$1,468,495.00	\$15,421,294.00
238130	\$0.00	\$7,235,338.00	\$321,588.00	\$7,556,927.00
238140	\$17,930,630.00	\$18,106,377.00	\$5,908,989.00	\$24,015,366.00
238160	\$580,000.00	\$580,000.00	\$4,957,369.00	\$5,537,369.00

NAICS	MBE	M/WBE	Non-M/WBE	Total
238210	\$13,936,134.00	\$24,578,512.00	\$90,593,502.00	\$115,172,013.00
238220	\$7,359,534.00	\$16,001,490.00	\$106,285,198.00	\$122,286,689.00
238320	\$2,115,213.00	\$5,735,327.00	\$725,082.00	\$6,460,408.00
238910	\$1,571,061.00	\$2,328,051.00	\$39,295,949.00	\$41,624,000.00
238990	\$17,262,243.00	\$28,338,972.00	\$38,329,733.00	\$66,668,705.00
332312	\$0.00	\$1,105,979.00	\$4,183,752.00	\$5,289,732.00
332911	\$0.00	\$0.00	\$11,066,861.00	\$11,066,861.00
332996	\$4,887,201.00	\$4,887,201.00	\$36,999.00	\$4,924,200.00
423610	\$0.00	\$9,982,842.00	\$305,133.00	\$10,287,975.00
423840	\$21,419,635.00	\$25,319,475.00	\$329,314.00	\$25,648,789.00
424720	\$10,840,581.00	\$11,441,914.00	\$1,151.00	\$11,443,066.00
484110	\$16,053,986.00	\$29,902,072.00	\$1,421,049.00	\$31,323,121.00
484220	\$7,804,361.00	\$7,933,798.00	\$0.00	\$7,933,798.00
541330	\$6,757,641.00	\$9,264,399.00	\$22,855,880.00	\$32,120,279.00
561730	\$490,487.00	\$3,240,878.00	\$2,501,837.00	\$5,742,715.00
562219	\$697,108.00	\$697,108.00	\$4,967,907.00	\$5,665,015.00
562910	\$5,068,694.00	\$5,068,694.00	\$6,442,437.00	\$11,511,131.00
TOTAL	\$229,509,128.00	\$334,677,166.00	\$634,611,189.00	\$969,288,356.00

Source: CHA analysis of MWRD data.

**Table 7d: Distribution of Contract Dollars by Race and Gender, All Sectors
(M/WDBE, Non-M/WBE, Total)
(share of total dollars)**

NAICS	MBE	M/WBE	Non-M/WBE	Total
236220	1.33%	2.33%	97.67%	100.00%
237110	58.87%	91.53%	8.47%	100.00%
237310	7.60%	8.00%	92.00%	100.00%
237990	62.69%	62.69%	37.31%	100.00%
238110	93.42%	97.46%	2.54%	100.00%
238120	0.58%	90.48%	9.52%	100.00%
238130	0.00%	95.74%	4.26%	100.00%
238140	74.66%	75.39%	24.61%	100.00%
238160	10.47%	10.47%	89.53%	100.00%
238210	12.10%	21.34%	78.66%	100.00%
238220	6.02%	13.09%	86.91%	100.00%
238320	32.74%	88.78%	11.22%	100.00%
238910	3.77%	5.59%	94.41%	100.00%
238990	25.89%	42.51%	57.49%	100.00%
332312	0.00%	20.91%	79.09%	100.00%
332911	0.00%	0.00%	100.00%	100.00%
332996	99.25%	99.25%	0.75%	100.00%
423610	0.00%	97.03%	2.97%	100.00%
423840	83.51%	98.72%	1.28%	100.00%
424720	94.73%	99.99%	0.01%	100.00%
484110	51.25%	95.46%	4.54%	100.00%

NAICS	MBE	M/WBE	Non-M/WBE	Total
484220	98.37%	100.00%	0.00%	100.00%
541330	21.04%	28.84%	71.16%	100.00%
561730	8.54%	56.43%	43.57%	100.00%
562219	12.31%	12.31%	87.69%	100.00%
562910	44.03%	44.03%	55.97%	100.00%
TOTAL	23.68%	34.53%	65.47%	100.00%

Source: CHA analysis of MWRD data.

D. The Availability of Minority- and Women-Owned Business Enterprises in MWRD’s Markets

1. Methodological Framework

Estimates of the availability of minority- and female-owned firms in the District’s market area are a critical component of the analysis of possible barriers to equal opportunities to participate in the agency’s contracting activities. These availability estimates are compared to the utilization percentage of dollars received by M/WBEs to examine whether these firms receive parity.¹⁵⁶ Availability estimates are also required to set narrowly tailored contract goals.

We applied the “custom census” approach to estimating availability. As recognized by Illinois courts and the National Model Disparity Study Guidelines,¹⁵⁷ this methodology 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) and the denominator (*e.g.*, registered vendors).
- Next, by examining a comprehensive group of firms, it “casts a broader net” beyond those known to the agency. As recognized by the Seventh Circuit, this comports with the remedial nature of contracting affirmative action programs by seeking to bring in businesses that have historically been excluded. A custom census is less likely to be tainted by the effects

¹⁵⁶ For our analysis, the term “DBE” includes firms that are certified by the Illinois Unified Certification Program and 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 that supports the remedial nature of the programs. See *Northern Contracting, Inc. v. 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.”).

¹⁵⁷ National Disparity Study Guidelines, pp.57-58.

of past and present discrimination than other methods, such as bidders lists, because it seeks out firms in the agency's markets 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. Most 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 women firms may be smaller, newer, and otherwise less competitive than non-DBEs 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.¹⁵⁸
- Fourth, it has been upheld by every court that has reviewed it, including in the successful defenses of the Illinois Tollway's DBE program,¹⁵⁹ the Illinois Department of Transportation's DBE program,¹⁶⁰ and the M/WBE construction program for the City of Chicago.¹⁶¹

2. Estimation of M/WBE Availability

To conduct the custom census for this study, we took the following steps:

1. Created a database of representative, recent, and completed stated contracts;
2. Identified MWRD's relevant geographic market by counties;
3. Identified MWRD's relevant product market by 6-digit NAICS codes;
4. Counted all businesses in the relevant markets using Dun & Bradstreet/Hoovers databases;

¹⁵⁸ For a detailed discussion of the role of capacity in disparity studies, see the National Disparity Study Guidelines, Appendix B, “Understanding Capacity.”

¹⁵⁹ *Midwest Fence, Corp. v. U.S. Department of Transportation et al*, 1:10-cv-05627 (N. Dist. Ill., March 24, 2015).

¹⁶⁰ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007).

¹⁶¹ *Builders Association of Greater Chicago v. City of Chicago*, 298 F. Supp.2d 725 (N.D. Ill. 2003).

5. Identified listed minority-owned and female-owned businesses in the relevant markets; and
6. Assigned ownership status to all other firms in the relevant markets.

As described in sections B and C of this Chapter, we first determined MWRD's market area and its utilization of firms by 6-digit NAICS codes, aggregated industries and total dollars spent. Based on these results, the share of total dollars spent in each NAICS code for firms in the market area was used to create the overall M/WBE availability estimate for each NAICS code, the availability estimates for each aggregated industry and the availability estimates for all industries.

We purchased the firm information from Hoovers for the firms in the NAICS codes located in the District's market area. Hoovers, a Dun & Bradstreet company, 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.

In past years, the data from Hoovers (then Dun & Bradstreet) contained detailed information on the racial identity of the owner(s) of firm. However, recently Hoovers changed its practice and currently, the data simply identify a firm as being minority-owned.¹⁶² This change required us to revise our approach to determining the racial identity of firms' ownership so as to provide narrowly tailored and accurate analyses concerning possible disparity in an agency's contracting practices.

To provide race detail and improve the accuracy of the race and sex assignments, we created a Master D/M/WBE Directory that combined the results of an exhaustive search for directories and other lists containing information about minority and women-owned businesses. This included the Illinois Unified Certification Program; City of Chicago; Cook County; Illinois Department of Central Management Services; and many others. In total, we contacted 119 organizations for this Study. The resulting list of minority businesses is comprehensive and, provides data to supplement the Hoovers data base by disaggregating the broad category of "minority-owned" into specific racial groupings. The list of these groups is provided in Appendix A.

We used information from the Master Directory to estimate the specific racial identity of firms in the Hoovers database that are listed as minority-owned. The process involved the following steps:

¹⁶² The variable is labeled: "Is Minority Owned" and values for the variable can be either "yes" or "no".

1. Sort Hoovers by the 6-digit NAICS codes that comprise MWRD's product market area;
2. Identify the number of minority-owned firms in these NAICS codes;
3. Sort the Master Directory by each 6-digit NAICS code in MWRD's product market area;
4. Determine the number of firms in each NAICS code that are minority owned (some firms in the Master Directory are woman-owned firms);
5. Determine the percentage of the minority-owned firms that are owned by:
 - a. Blacks
 - b. Hispanics
 - c. Asians
 - d. Native Americans; and
6. Apply these percentages to the number of minority-owned firms in Hoovers.

Below is an example of how this process works after Hoovers and the Master Directory have been sorted and the number of minority-owned firms in each NAICS code has been identified in Hoovers:

1. Hoovers data base (basic counts in original)

NAICS	Is Minority Owned	Total Firms (Overall)
99999	200	2000

2. Master Directory (basic count in original)

NAICS	Black	Hispanic	Asian	Native American	Total
99999	40	20	4	16	80

3. Master Directory (percentages)

NAICS	Black	Hispanic	Asian	Native American	Total
99999	50%	25%	5%	20%	100%

4. Hoovers data base (with Master Directory percentages applied)

NAICS	Black	Hispanic	Asian	Native American	Is Minority-Owned	Total Firms (Overall)
99999	100	50	10	40	200	2000

An important element to determining availability is to properly assign a race and gender label to each firm owner. As discussed above, we took the answers that Hoovers provides to two broad questions (“Is the firm minority-owned” and “Is the firm female-owned”) and disaggregated the responses to the “minority owned” question into specific racial categories. However, another concern is that firm ownership has been racially misclassified. There can be three sources of the misclassification: 1. A firm that has been classified as non-M/WBE owned is actually M/WBE owned. 2. A firm that has been classified as M/WBE owned is actually non-M/WBE owned. 3. A firm that has been classified as a particular type of M/WBE firm (e.g., Black) is actually another type of M/WBE firm (e.g., Hispanic).

Based upon the results of these classifications and further assignments, we estimated the availability of M/WBEs as a percentage of total firms. M/WBE unweighted availability is defined as the number of M/WBEs divided by the total number of firms in the District’s market area.

Table 10 presents data on the unweighted availability by race and gender and by NAICS codes for all industries in the product market.

Table 10: Unweighted Availability, All Sectors

NAICS	Black	Hispanic	Asian	Native American	White Women	M/WBE	Non-M/WBE	Total
236220	8.90%	7.19%	3.91%	0.17%	9.41%	29.58%	70.42%	100.00%
237110	4.58%	6.03%	3.24%	0.04%	13.89%	27.78%	72.22%	100.00%
237310	7.50%	10.31%	3.20%	0.05%	8.50%	29.56%	70.44%	100.00%
237990	4.23%	1.88%	2.57%	0.02%	10.87%	19.57%	80.43%	100.00%
238110	6.47%	5.82%	1.43%	0.05%	7.21%	20.98%	79.02%	100.00%
238120	11.12%	9.22%	1.39%	0.06%	17.95%	39.74%	60.26%	100.00%
238130	2.83%	2.56%	0.74%	0.15%	3.79%	10.07%	89.93%	100.00%
238140	4.59%	3.51%	1.07%	0.04%	7.50%	16.70%	83.30%	100.00%
238160	2.58%	1.86%	0.93%	0.17%	3.79%	9.33%	90.67%	100.00%
238210	4.80%	2.85%	1.56%	0.04%	10.63%	19.87%	80.13%	100.00%
238220	2.52%	1.73%	0.72%	0.03%	5.05%	10.04%	89.96%	100.00%
238320	2.88%	1.99%	0.67%	0.02%	5.68%	11.23%	88.77%	100.00%
238910	6.82%	7.20%	2.27%	0.06%	10.58%	26.92%	73.08%	100.00%
238990	2.22%	2.27%	0.92%	0.21%	6.16%	11.78%	88.22%	100.00%
332312	3.97%	5.24%	1.36%	0.06%	10.00%	20.63%	79.38%	100.00%
332911	0.00%	0.00%	4.17%	0.00%	16.67%	20.83%	79.17%	100.00%

NAICS	Black	Hispanic	Asian	Native American	White Women	M/WBE	Non-M/WBE	Total
332996	0.00%	4.17%	0.00%	0.00%	8.33%	12.50%	87.50%	100.00%
423610	3.40%	2.40%	1.50%	0.04%	9.98%	17.31%	82.69%	100.00%
423840	2.74%	2.35%	1.25%	0.22%	7.98%	14.54%	85.46%	100.00%
424720	4.02%	3.66%	1.82%	0.04%	5.03%	14.57%	85.43%	100.00%
484110	2.45%	1.90%	0.72%	0.03%	4.25%	9.35%	90.65%	100.00%
484220	16.28%	33.27%	2.15%	0.06%	11.40%	63.16%	36.84%	100.00%
541330	6.36%	4.67%	6.80%	0.13%	6.88%	24.84%	75.16%	100.00%
561730	3.33%	3.00%	0.81%	0.03%	5.86%	13.03%	86.97%	100.00%
562219	1.29%	1.06%	0.52%	0.02%	4.35%	7.25%	92.75%	100.00%
562910	17.25%	20.07%	6.17%	0.10%	6.41%	50.00%	50.00%	100.00%
Total	4.09%	3.55%	1.71%	0.07%	6.70%	16.12%	83.88%	100.00%

Source: CHA analysis of MWRD data.

To further meet the constitutional requirement that the availability estimates that will be used to set goals are narrowly tailored, we then weighted the availability estimate for each of the aggregated industries in the NAICS codes by the share of MWRD's spending in each code. Table 11 presents these weights.

Table 11: Share of MWRD Spending by NAICS Code, All Sectors

NAICS	NAICS Code Description	WEIGHT (PCT SHARE of TOTAL SECTOR DOLLARS)
237310	Highway, Street, and Bridge Construction	24.60%
238220	Plumbing, Heating, and Air-Conditioning Contractors	12.60%
238210	Electrical Contractors and Other Wiring Installation Contractors	11.90%
236220	Commercial and Institutional Building Construction	7.30%
238990	All Other Specialty Trade Contractors	6.90%
238110	Poured Concrete Foundation and Structure Contractors	6.30%
238910	Site Preparation Contractors	4.30%
541330	Engineering Services	3.30%
484110	General Freight Trucking, Local	3.20%
237110	Water and Sewer Line and Related Structures Construction	3.20%
423840	Industrial Supplies Merchant Wholesalers	2.60%
238140	Masonry Contractors	2.50%
238120	Structural Steel and Precast Concrete Contractors	1.60%

NAICS	NAICS Code Description	WEIGHT (PCT SHARE of TOTAL SECTOR DOLLARS)
562910	Remediation Services	1.20%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	1.20%
332911	Industrial Valve Manufacturing	1.10%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.10%
484220	Specialized Freight (except Used Goods) Trucking, Local	0.80%
238130	Framing Contractors	0.80%
238320	Painting and Wall Covering Contractors	0.70%
561730	Landscaping Services	0.60%
562219	Other Nonhazardous Waste Treatment and Disposal	0.60%
238160	Roofing Contractors	0.60%
332312	Fabricated Structural Metal Manufacturing	0.50%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	0.50%
237990	Other Heavy and Civil Engineering Construction	0.10%
TOTAL		100.00%

Source: CHA analysis of MWRD data.

Table 12 presents the final estimates of the weighted averages of all the individual 6-digit level availability estimates in the District's market area. These weighted availability estimates can be used to set an overall MBE and a WBE goal for District procurement.

**Table 12: Aggregated Weighted Availability, All Sectors
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	M/WBE	Non-M/WBE	Total
TOTAL	5.56%	5.85%	2.24%	0.07%	8.28%	22.00%	78.00%	100.00%

Source: CHA analysis of MWRD data.

E. Analysis of Race and Gender Disparities in MWRD’s Utilization of M/WBEs

To meet the strict scrutiny requirement that the District consider evidence of disparities to establish its compelling interest in remedying discrimination in its market area, we next calculated disparity ratios for total M/WBE utilization compared to the total weighted availability of M/WBEs, measured in dollars paid. Tables 13 through provides the results of our analysis.

A “large” or “substantively significant” disparity is commonly defined by courts as utilization that is equal to or less than 80 percent of the availability measure. A substantively significant disparity supports the inference that the result may be caused by the disparate impacts of discrimination.¹⁶³ A 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. One asterisk indicates substantive significance. Two asterisks indicates statistical significance. A more in depth discussion of statistical significance is provided in Appendix D.

Table 13: Disparity Ratios by Demographic Group, All Sectors

	Disparity Ratio
Black	120.49%
Hispanic	215.34%
Asian	192.03%
Native American	0.00%*
White Women	286.31%**
M/WBE	156.80%**
Non-M/WBE	83.98%

Source: CHA analysis of MWRD data.

Table 14: Disparity Ratios by Demographic Group, Construction

	Disparity Ratio
Black	131.93%
Hispanic	176.58%
Asian	142.54%

¹⁶³ See U.S. Equal Opportunity Employment 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.”).

Native American	6.41%*
White Women	251.04%**
M/WBE	145.96%**
Non-M/WBE	87.02%

Source: CHA analysis of MWRD data.

Table 15: Disparity Ratios by Demographic Group, Construction-related Services

	Disparity Ratio
Black	18.80%*
Hispanic	122.94%
Asian	220.63%
Native American	0.00%*
White Women	401.30%**
M/WBE	104.37%
Non-M/WBE	97.99%

Source: CHA analysis of MWRD data.

Table 16: Disparity Ratios by Demographic Group, Goods

	Disparity Ratio
Black	0.00%*
Hispanic	1772.85%**
Asian	986.67%
Native American	0.00%*
White Women	687.24%**
M/WBE	454.41%**
Non-M/WBE	31.90%*

Source: CHA analysis of MWRD data.

Table 17: Disparity Ratios by Demographic Group, Goods

	Disparity Ratio
Black	953.07%
Hispanic	0.00%*
Asian	0.00%*
Native American	0.00%*
White Women	0.00%*
M/WBE	169.82%
Non-M/WBE	94.55%

Source: CHA analysis of MWRD data.

Source: CHA analysis of MWRD data.

V. ANALYSIS OF DISPARITIES IN THE ILLINOIS ECONOMY

A. Introduction

Nobel 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.¹⁶⁴

This Chapter explores the data and literature relevant to how discrimination in the District's market and throughout the wider economy affects the ability of minorities and women to fairly and fully engage in MWRD contract opportunities. First, we analyzed the rates at which M/WBEs in Illinois 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 interventions.

A key element to determine the need for government intervention through contract goals in the sectors of the economy where the District procures goods and services is an analysis of the extent of disparities in those sectors independent of the agency's intervention through its contracting affirmative action programs. The courts have repeatedly held that analysis of disparities in the rates at which minority- and women-owned business enterprises ("M/WBEs") in the government's markets form businesses compared to similar non-M/WBEs, and their earnings from such businesses, are highly relevant to the determination whether the market functions properly for all firms regardless of the race or gender of their ownership.¹⁶⁵

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 whether the market functions properly for all firms regardless of the race or gender of their ownership. These

¹⁶⁴ Arrow, Kenneth J., "What Has Economics to say about racial discrimination?", *Journal of Economic Perspectives*, (1998), 12(2), pp. 91-100.

¹⁶⁵ See the discussion in Chapter X of the legal standards applicable to contracting affirmative action programs.

analyses contributed to the successful defense of Chicago's construction program.¹⁶⁶ As 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.¹⁶⁷

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. "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 again demonstrates that *existing* M/WBEs are precluded from competing for public contracts."¹⁶⁸ 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."

For example, 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

¹⁶⁶ *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 met compelling interest using this framework).

¹⁶⁷ *Adarand VII*, 228 F.3d at 1168-69 .

¹⁶⁸ *Id.*

business owners are strong evidence of the continuing effects of discrimination.¹⁶⁹ 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.¹⁷⁰

To conduct this type of court-approved economy-wide analysis, we utilized U.S. Bureau of the Census datasets to address the central question whether firms owned by non-Whites and White women face disparate treatment in MWRD’s marketplace.¹⁷¹

We explored the existence of any disparities by analyzing two datasets, each of which permits examination of the issue from a unique vantage point.

- The Census Bureau’s *Survey of Business Owners* allows us to examine disparities using individual firms as the basic unit of analysis.
- The Census Bureau’s *American Community Survey* allows us to examine disparities using individual entrepreneurs as the basic unit of analysis.¹⁷²

Using both data sets, we found disparities for minorities and women across most industry sectors in the District’s marketplace.

¹⁶⁹ *Id.*; *Western States*, 407 F.3d at 993; *Northern Contracting I*, 2004 U.S. Dist. LEXIS 3226 at *64.

¹⁷⁰ *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.”).

¹⁷¹ While this is often described as a “private sector analysis,” a more accurate description is an “economy-wide” analysis because expenditures by the public sector are included in the Census databases.

¹⁷² Data from 2007-2011 American Community Survey are the most recent for a five year period.

B. Summary of Findings

1. Disparities in Firm Sales and Payroll

One way to measure equity is to examine the share of total sales and/or payroll a group has relative to its share of total firms. Parity would be represented by the ratio of sales or payroll share over the share of total firms equaling 100% (*i.e.*, a group has 10% of total sales and comprises 10% of all firms.) A ratio that is less than 100% indicates an underutilization of a demographic group, and a ratio of more than 100% indicates an overutilization of a demographic group. Table 1 presents data from the Census Bureau’s Survey of Business Owners that indicate very large disparities between non-White and White women-owned 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. In contrast, the firms that were not non-White and not White women-owned were overutilized using the identical metric.¹⁷³

**Table 1. Disparity Ratios of Firm Utilization Measures
All Industries,
Survey of Business Owners, 2007**

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Non-whites	11.2%	20.3%	28.0%
White Women	14.6%	20.5%	28.1%
Not Non-White/Not White Women	161.0%	124.3%	122.0%

Source: CHA Calculations from Survey of Business Owners

2. Disparities in Wages and Business Earnings

Another way to measure equity is to examine how the economic utilization of particular demographic groups compares to White men. Multiple regression statistical techniques allowed us to examine the impact of race and gender on economic outcome while controlling for other factors, such as education, that might impact outcomes.¹⁷⁴ Using these techniques and data from the Census Bureau’s American Community Survey, we found that Blacks, Latinos, Native Americans, Asian/Pacific Islanders, Others, and White women were underutilized

¹⁷³ The Survey of Business Owners data available via American Fact Finder do not permit the use of regression analysis on these results.

¹⁷⁴ See Appendix A for more information on multiple regression statistical analysis.

relative to White men: controlling for other factors relevant to business success, wages and business earnings were lower for these groups compared to White men. We report wages and business earnings because disparities in wages and business earnings can lead to disparities in business outcomes. These findings are presented in Table 2. Parity would exist if the figures in Table 2 were 0.0%; in other words, non-Whites and White women would be utilized identical to White men. When the Table indicates that the wage differential between Blacks and White men is -34.3%, for example, this means that wages received by Blacks are 34.3% less than wages received by similar White men. Because of these disparities, the rates at which these groups formed businesses were lower than the business formation rate of similarly-situated White men.

**Table 2. Economic Outcome Differentials of Minorities and White Women Relative to White Males
All Industries,
American Community Survey, 2007-2011**

Demographic Group	Wages Differentials Relative to White Men (% Change)	Business Earnings Relative to White Men (% Change)
Black	-34.3%	-44.4%
Latino	-12.1%	-25.5%
Native American	-32.6%	-49.3%
Asian/Pacific Islander	-30.5%	-24.2%
Other	-23.4%	-12.3%
White Women	-33.9%	-53.2%

Source: CHA calculations from the American Community Survey

3. Disparities in Business Formation

A third method of exploring differences in economic outcomes is to examine 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' American Community Survey. Table 3a presents these results. The Table indicates that White men have higher business formation rates compared to non-Whites and White women. Table 3b explores the same question but utilizes multiple regression analysis to control for important factors beyond race and

gender. This Table indicates that non-Whites and White women are less likely to form businesses compared to similarly situated White men. For instance, Blacks are 4.9% less likely to form a business compared to White men after other key explanatory variables are controlled. These Tables reinforce the notion that there are significant differences in the rate of non-Whites and White women to form business compared to the rate of White men. These differences support the inference that minority- and women-owned business enterprises (“M/WBEs”) suffer major barriers to equal access to entrepreneurial opportunities in the overall Illinois economy.

**Table 3a. Business Formation Rates
All Industries,
American Community Survey, 2007-2011**

Demographic Group	Business Formation Rates
Black	4.5%
Latino	4.7%
Native American	8.6%
Asian/Pacific Islander	8.4%
Other	5.9%
Non-White	5.2%
White Women	6.9%
Non-White Male	6.0%
White Male	11.2%

Source: CHA calculations from the American Community Survey

**Table 3b. Business Formation Probabilities Relative to White Males
All Industries,
American Community Survey, 2007-2011**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-4.9%
Latino	-3.2%
Native American	-3.0%
Asian/Pacific Islander	-1.4%
Other	-0.9%
White Women	-2.6%

Source: CHA calculations from the American Community Survey

Overall, the results of our analyses of the Illinois economy demonstrate that minorities and White women continue to face race- and gender-based barriers to equal opportunities as firm owners, and to equal opportunities to earn wages and salaries that impact their ability to form firms and to earn income from those firms. While not dispositive, this suggests that absent some affirmative intervention in the current operations of the Illinois marketplace, the District will function as a passive participant in these potentially discriminatory outcomes.¹⁷⁵

C. Disparate Treatment in the Marketplace: Evidence from the Census Bureau’s 2007 Survey of Business Owners

Every five years, the Census Bureau administers the *Survey of Business Owners* (“SBO”) to collect data on particular characteristics of businesses that report to the Internal Revenue Service receipts of \$1,000 or more.¹⁷⁶ The 2007 SBO was released on August 16, 2012, so our analysis reflects the most current data available. The SBO collects demographic data on business owners disaggregated into the following groups:^{177, 178}

¹⁷⁵ Various appendices to this Chapter contain additional data and methodological explanations. Appendix A provides a “Further Explanation of the Multiple Regression Analysis.” Appendix B provides a “Further Explanation of Probit Regression Analysis.” Appendix C discusses the meaning and role of “Significance Levels.” Appendix D provides detailed “Additional Data from the Analysis of the Survey of Business Owners.” Appendix E provides “Additional Data from the Analysis of American Community Survey.”

¹⁷⁶ See <http://www.census.gov/econ/sbo/about.html> for more information on the Survey.

¹⁷⁷ Race and gender labels reflect the categories used by the Census Bureau.

¹⁷⁸ 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 Latino.

- Non-Hispanic Blacks
- Latinos
- 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 where the ownership could not be classified
- Publicly-Owned Firms

For purposes of this analysis, the first four groups were aggregated to form a Non-White category. Since our interest is the treatment of non-White-owned firms and White women-owned firms, the last five 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.

In addition to the ownership demographic data, the Survey also gathers information on the sales, number of paid employees, and payroll for each reporting firm.

To examine those sectors in which MWRD purchases, we analyzed economy-wide SBO data on the following sectors:

- Construction
- Professional, Scientific and Technical Services
- Information technology
- Goods
- Services

However, the nature of the SBO 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 2-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 District’s contract data in Chapter IV, where we are able to determine sectors at the 6-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.¹⁷⁹ We therefore report 2-digit data.

Table 4 presents information on which NAICS codes were used to define each sector.

Table 4. 2-Digit NAICS Code Definition of Sector

SBO Sector Label	2-Digit NAICS Codes
Construction	23
Professional, Scientific, and Technical Services¹⁸⁰	54
Information	51
Goods	31, 42, 44
Services	48, 52, 53, 56, 61, 62, 71, 72, 81

The balance of this Chapter section reports the findings of the SBO analysis. For each sector, we present data describing the sector and report disparities within the sector.

1. All SBO Industries

For a baseline analysis, we examined all industries in the state of Illinois. Data are not available beyond the state level. Table 5 presents data on the percentage share that each group has of the total of each of the following six business outcomes:

- The number of all firms
- The sales and receipts of all firms

¹⁷⁹ Even with these broad sector definitions, there was an insufficient number of Native American owned firms to perform our analysis on this demographic group. This limitation also arose for Latinos and Asians in the Services sector.

¹⁸⁰ 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 number of firms with employees (employer firms)
- The sales and receipts of all employer firms
- The number of paid employees
- The annual payroll of employers firms

Panel A of Table 5 presents data for the four basic non-White racial groups:

- Black
- Latino
- Native American
- Asian

Panel B of Table 5 presents data for six types of firm ownership:

- Non-white
- White Women
- White Men
- Equally non-Whites and Whites
- Equally women and men
- Firms that are publicly owned or not classifiable

Categories in the second panel are mutually exclusive. Hence, firms that are non-White and equally owned by men and women are classified as non-White and firms that are equally owned by non-Whites and Whites and equally owned by men and women are classified as equally owned by non-Whites and Whites.¹⁸¹

¹⁸¹ Some of the figures in Panel B may not correspond to the related figures in Panel A because of discrepancies in how the SBO reports the data

**Table 5. Percentage Demographic Distribution of Sales and Payroll Data
All Industries, 2007**

	Total Number of Firms (All Firms)	Sales & Receipts - All Firms (\$1,000)	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	9.3%	0.5%	1.5%	0.3%	0.8%	0.6%
Latino	5.0%	0.7%	3.0%	0.6%	1.5%	0.9%
Native American	0.3%	0.0%	0.2%	0.0%	0.1%	0.0%
Asian	5.2%	1.2%	6.3%	1.1%	1.9%	1.4%
Panel B: Distribution of All Firms						
Non-White	19.8%	2.2%	9.6%	2.0%	3.9%	2.7%
White Women	21.3%	3.1%	13.8%	2.8%	5.4%	3.9%
White Men	42.3%	25.4%	50.5%	24.7%	32.2%	29.4%
Equally Non-White & White	1.0%	0.1%	0.4%	0.1%	0.2%	0.2%
Equally Women & Men	12.1%	3.1%	14.8%	2.8%	5.4%	3.5%
Firms Not Classifiable	3.5%	66.0%	10.9%	67.6%	52.9%	60.3%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

Since the central issue is the possible disparate treatment of non-White and White women firms, Table 6 re-aggregates the last four groups– White men; equally non-White and White; equally women and men; and firms not classifiable– into one group: Not Non-White/Not White Women.¹⁸² We then present the shares each group has of the six indicators of firm utilization. These data were then used to calculate three disparity ratios, presented in Table 7:

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

¹⁸² 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 all firms over the share of total number of all firms for Black firms is 13.9% (as shown in Table 7). This is derived by taking the Black share of sales and receipts for all firms (1.3%) and dividing it by the Black share of total number of all firms (9.6%) that are presented in Table 6. If Black-owned firms earned a share of sales equal to their share of total firms, the disparity would have been 100%. An index less than 100 percent 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 percent” rule that a ratio less than 80 percent presents a *prima facie* case of discrimination.¹⁸³ Except for the Black ratio of payroll to the number of employer firms, all disparity ratios for non-White firms and White women firms are below this threshold.¹⁸⁴

**Table 6. Demographic Distribution of Sales and Payroll Data
All Industries, 2007**

	Total Number of Firms (All Firms)	Sales & Receipts - All Firms (\$1,000)	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	9.6%	1.3%	1.7%	1.1%	1.8%	1.5%
Latino	5.2%	2.1%	3.4%	1.9%	3.1%	2.3%
Native American	0.3%	0.1%	0.2%	0.1%	0.2%	0.1%
Asian	5.3%	3.6%	7.0%	3.5%	4.0%	3.4%
Panel B: Distribution of All Firms						
Non-Whites	20.6%	6.5%	10.8%	6.0%	8.2%	6.8%
White Women	22.1%	9.2%	15.4%	8.7%	11.4%	9.7%
White Men	57.3%	84.3%	73.8%	85.3%	80.4%	83.5%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

¹⁸³ 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.”).

¹⁸⁴ Because the data in Tables 6 and 7 are presented for descriptive purposes, significance tests on these results are not conducted.

**Table 7. Disparity Ratios of Firm Utilization Measures
All Industries, 2007**

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Panel A: Disparity Ratios for Non-White Firms			
Black	13.9%	62.7%	84.7%
Latino	39.6%	55.6%	66.4%
Native American	39.6%	59.9%	60.6%
Asian	68.2%	50.0%	48.5%
Panel B: Disparity Ratios for All Firms			
Non-Whites	11.2%	20.3%	28.0%
White Women	14.6%	20.5%	28.1%
Not Non-White/Not White Women	161.0%	124.3%	122.0%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

This same approach was used to examine the key sectors in which the District purchases. The underlying data on the various industries of construction; professional, scientific and technical services; information technology; and services are presented in Appendix D to this Chapter. The following are summaries of the results of the disparity analyses.

2. Construction

Of the 18 disparity ratios for non-White firms and White women firms presented in Table 8, 14 fall under the 80% threshold.

**Table 8. Disparity Ratios – Aggregated Groups
Construction, 2007**

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Panel A: Disparity Ratios for Non-White Firms			
Black	25.8%	100.1%	108.4%
Latino	29.7%	50.3%	66.6%
Native American	35.0%	63.2%	76.4%
Asian	56.0%	64.4%	79.0%
Panel B: Disparity Ratios for All Firms			
Non-White	29.3%	62.9%	78.4%
White Women	86.7%	70.4%	96.4%
Not Non-White/Not White Women	110.6%	105.1%	101.5%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

3. Professional, Scientific and Technical Services

Table 9 presents disparity ratios in this sector. Because of the dearth of Native American firms in this sector, no analysis is provided for this demographic group. All of the available disparity ratios for non-White firms and White women firms presented in Table 9 are under the 80% threshold.¹⁸⁵

**Table 9. Disparity Ratios – Aggregated Groups
Professional, Scientific, and Technical Services, 2007**

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Panel A: Disparity Ratios for Non-White Firms			
Black	17.2%	49.6%	53.1%
Latino	27.8%	44.6%	36.9%
Native American	S	S	S
Asian	47.8%	46.2%	46.4%
Panel B: Disparity Ratios for All Firms			
Non-White	30.1%	48.1%	47.2%
White Women	26.8%	30.9%	29.1%
Not Non-White/Not White Women	142.6%	120.3%	120.8%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

¹⁸⁵ The values of “S” in Tables 9 – 12 reflect that the SBO did not publish data in these instances because it was “withheld because estimate did not meet publication standards”. See the Disclosure section under Methodology at <http://www.census.gov/econ/sbo/methodology.html>.

4. Information

Once again, the small number of Native American firms in this sector meant that no analysis is provided for this demographic group. In addition, the SBO was unable to provide reliable estimates for the firms in this sector that are equally owned by non-Whites and Whites. Thirteen of the available 15 disparity ratios for non-White firms and White women firms presented in Table 10 fall below the 80% threshold.

Table 10. Disparity Ratios – Aggregated Groups Information, 2007

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Panel A: Disparity Ratios for Non-White Firms			
Black	21.3%	145.9%	262.0%
Latino	5.4%	16.3%	17.4%
Native American	S	S	S
Asian	18.3%	21.3%	25.9%
Panel B: Disparity Ratios for All Firms			
Non-White	16.4%	48.5%	79.0%
White Women	6.0%	7.8%	10.2%
Not Non-White/Not White Women	150.4%	119.4%	117.1%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

5. Services

The SBO was unable to provide reliable estimates for the firms that are equally owned by non-Whites and Whites and Native American firms in this sector; consequently, no analysis is provided for these demographic groups. In addition, estimates could not be made for Asian-owned firms in four of the six categories and Latino-owned firms in two of the four categories. Of the available 12 disparity ratios for non-White firms and White women firms presented in Table 11, all fall below the 80% threshold.

Table 11. Disparity Ratios – Aggregated Groups

All Services, 2007

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Panel A: Disparity Ratios for Non-White Firms			
Black	5.5%	19.9%	28.1%
Latino	18.2%	10.2%	S
Native American	S	S	S
Asian	28.2%	S	S
Panel B: Disparity Ratios for All Firms			
Non-White	12.7%	21.2%	27.6%
White Women	14.6%	18.6%	26.3%
Not Non-White/Not White Women	179.1%	128.9%	126.3%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

6. Goods

The SBO was unable to provide reliable estimates for the firms that are equally owned by non-Whites and Whites and Native American firms in this sector; consequently, no analysis is provided for these demographic groups. All of the disparity ratios for non-White firms and White women firms presented in Table 12 fall below the 80% threshold.

**Table 12. Disparity Ratios – Aggregated Groups
Goods, 2007**

	Ratio of Sales to Number of Firms (All Firms)	Ratio of Sales to Number of Firms (Employer Firms)	Ratio of Payroll to Number of Employer Firms
Panel A: Disparity Ratios for Non-White Firms			
Black	5.3%	23.0%	30.4%
Latino	11.6%	20.0%	26.9%
Native American	S	S	S
Asian	18.5%	14.2%	14.7%
Panel B: Disparity Ratios for All Firms			
Non-White	11.9%	17.1%	19.5%
White Women	10.6%	20.5%	29.8%
Not Non-White/Not White Women	157.0%	122.9%	121.1%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

D. Disparate Treatment in the Marketplace: Evidence from the Census Bureau's 2007-2011 American Community Survey

As discussed in the beginning of this Chapter, the key question is whether firms owned by non-Whites and White women face disparate treatment in the marketplace without the intervention of the District's M/WBE program.

In the previous section, we explored this question using SBO data. In this section, we use the Census Bureau's *American Community Survey* data to address other aspects of this question. One element asks if there exist demographic differences in the wage and salary income received by private sector workers. Beyond the issue of bias in the 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. 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* ("ACS") *Public Use Microdata Sample* ("PUMS") is useful in addressing these issues. The ACS is an annual survey of 1% of the population and the PUMS provides detailed information at the individual level. In order to obtain robust results from our analysis, we use the file that combines data for 2007 through 2011, the most recent available.¹⁸⁶ With this rich data set, our analysis can establish with greater certainty any causal links between race, gender and economic outcomes.

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, but 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 the race or gender difference. To better understand the impact of race or gender on wages, it 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.

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 more detail on this technique in Appendix A.

With respect to the first result of regression analysis, we will 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

¹⁸⁶ For more information about the ACS PUMS, please see <http://www.census.gov/acs/>.

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 are determining 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, this technique also allows us to determine the statistical significance of the relationship between the dependent variable and independent variable. For example, the relationship between gender and wages might exist 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 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 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 we are 99.9% confident that the relationship is different from zero.¹⁸⁷

In the balance of this section, we report data on the following sectors:

- All Industries
- Construction
- Construction-related Services
- Information Technology
- Services
- Goods

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).

¹⁸⁷ Most social scientists do not endorse utilizing a confidence level of less than 95%. Appendix C explains more about statistical significance.

1. All Industries in Illinois

a. Business Formation Rates

Table 13 presents business formation rates in the Illinois economy by demographic groups.

Table 13. Business Formation Rates, Illinois
All Industries, 2007-2011

Demographic Group	Business Formation Rates
Black	4.5%
Latino	4.7%
Native American	8.6%
Asian/Pacific Islander	8.4%
Other	5.9%
Non-White	5.2%
White Women	6.9%
Non-White Male	6.0%
White Male	11.2%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than Non-White males. However, as with the issue of income and earnings differences, the higher rates could be attributed to factors aside from race and/or gender. To explore this question further, a probit regression statistical technique was employed.¹⁸⁸ The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

¹⁸⁸ Probit is a special type of regression technique where the dependent variable only has two possible values: 0 or 1. For instance, the unit of observation is an individual and he/she forms a business or does not form a business. In the former case, the value of the dependent variable would be 1 while in the latter case, the value of the dependent variable would be 0. This is in contrast to the multiple regression technique discussed earlier where the dependent variable such as wages might have any non-negative value. For a more extensive discussion of probit regression analysis, see Appendix B.

Table 14 presents the results of the probit analysis for the Illinois economy.

**Table 14. Business Formation Probability Differentials for Selected Groups Relative to White Men
All Industries, 2007-2011**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-4.9% ^{***}
Latino	-3.2% ^{***}
Native American	-3.0% ^{***}
Asian/Pacific Islander	-1.4% ^{***}
Other	-0.9% ^{***}
White Women	-2.6% ^{***}

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

The analysis indicates that non-Whites and White women in Illinois are less likely than White men to form businesses even after controlling for key factors. The reduction in probability ranges from 0.9% to 4.9%. Once again, these estimates are statistically significant at the 99.1 level.

b. Differences in Wage and Salary Incomes

Table 15 presents the findings from the wage and salary income regression analysis examining the Illinois economy. This indicates the wage differential for selected demographic groups in Illinois relative to White men.

Table 15. Wage Differentials for Selected Groups Relative to White Men

All Industries, 2007-2011

Demographic Group	Wages Relative to White Men (% Change)
Black	-34.3% ^{***}
Latino	-12.1% ^{***}
Native American	-32.6% ^{***}
Asian/Pacific Islander	-30.5% ^{**}
Other	-23.4% ^{***}
White Women	-33.9% ^{**}

Source: CHA calculations from the American Community Survey

*** Indicates statistical significance at the 0.001 level

** Indicates statistical significance at the 0.01 level

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, White women, Asian/Pacific Islanders and Others in Illinois earn less than White men in the overall economy. Estimates of the coefficients for Black, Latino, Native American, and Other are statistically significant at the 0.001 level. Estimates of the coefficients for Asian/Pacific Islander and White Women are statistically significant at the 0.01 level. For example, we are 99.9% confident that wages for Blacks in Illinois (after controlling for numerous other factors) are 34.3% less than those received by White men.

c. Differences in Business Earnings

The same approach was used to investigate if there were differences in business earnings received by Non-Whites and White women 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 16 presents these findings.

Table 16. Business Earnings Differentials for Selected Groups Relative to White Men

All Industries, 2007-2011

Demographic Group	Earnings Relative to White Men (% Change)
Black	-44.4% ^{***}
Latino	-25.5% ^{***}
Native American	-49.3% ^{***}
Asian/Pacific Islander	-24.2% ^{***}
Other	-12.3% ^{**}
White Women	-53.2% ^{***}

Source: CHA calculations from the American Community Survey

^{***} indicates statistical significance at the 0.001 level

^{**} indicates statistical significance at the 0.01 level

Once again, the estimates of the coefficients for these variables were found to be statistically significant at the 0.001 and 0.01 levels. The differentials in business earnings received by Non-Whites and White women compared to White males ranged from -12% to -53%.

d. Conclusion

Using descriptive analysis, Table 13 shows that differentials exist between the business formation rates by Non-Whites and White women and White males across industry sectors. Table 14 presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the differential still exists. Tables 15 and 16 present data indicating differentials in wages and 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.

2. The Construction Industry in Illinois

a. Business Formation Rates

Table 17 presents business formation rates in the Illinois construction industry for selected demographic groups.

Table 17. Business Formation Rates, Illinois
Construction, 2007-2011

Demographic Group	Business Formation Rates
Black	19.0%
Latino	11.1%
Native American	22.3%
Asian/Pacific Islander	18.2%
Other	1.5%
Non-White	13.2%
White Women	6.9%
Non-White Male	13.7%
White Male	22.6%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than Non-White males. However, as with the issue of income and earnings differences, the higher rates could be attributed to factors aside from race and/or gender. To explore this question further, a probit regression statistical technique was employed. The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

Table 18 presents the results of the probit analysis for the construction industry in Illinois.

Table 18. Business Formation Probability Differentials for Selected Groups Relative to White Men

Construction, 2007-2011

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-8.0%
Latino	-7.7%
Native American	-8.5%
Asian/Pacific Islander	-0.8%
Other	-3.0%
White Women	-2.3%

Source: CHA calculations from the American Community Survey

The analysis indicates that Non-Whites and White women in Illinois are less likely to form construction businesses compared to White men even after controlling for key factors. The reduction in probability ranges from 0.8% to 8.5%. Once again, these estimates are statistically significant at the 99.1 level.

b. Differences in Wage and Salary Incomes

Table 19 presents the findings from the wage and salary income regression analysis examining the construction industry in Illinois. This indicates the wage differential for selected demographic groups in Illinois relative to White men.

**Table 19. Wage Differentials for Selected Groups
Relative to White Men**

Construction, 2007-2011

Demographic Group	Wages Relative to White Men (% Change)
Black	-51.0%***
Latino	-13.3%***
Native American	-36.0%***
Asian/Pacific Islander	-51.5%***
Other	-13.3%***
White Women	-45.0%**

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

** indicates statistical significance at the 0.01 level

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, White women, Asian/Pacific Islanders and Others in Illinois earn less than White men in the construction industry. The differential ranges between 13% less and 52% less. Estimates of the coefficients for Black, Latino, Native American, Asian/Pacific Islander, and Other are statistically significant at the 0.001 level. Estimates of the coefficients for White Women are statistically significant at the 0.01 level.

c. Differences in Business Earnings

The same approach was used to investigate if there were differences in business earnings received by Non-White male 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 20 presents these findings.

Table 20. Business Earnings Differentials for Selected Groups Relative to White Men

Construction, 2007-2011

Demographic Group	Earnings Relative to White Men (% Change)
Black	-26.3% [*]
Latino	-6.1% ^{***}
Native American	-25.8% ^{***}
Asian/Pacific Islander	-10.0% ^{**}
Other	0.0%
White Women	-19.4% ^{**}

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

** indicates statistical significance at the 0.01 level

* indicates statistical significance at the 0.005 level

With the exception of the estimated coefficient for Other, the estimates of the coefficients for these variables were found to be statistically significant at the 0.001, 0.01, or 0.005 levels. The differentials in business earnings received by Non-Whites and White women compared to White males ranged from 6% less to 26% less. For the estimated coefficient for Other, the results were not found to be significantly statistically different from zero.

d. Conclusion

Using descriptive analysis, Table 17 shows that differentials exist between the business formation rates by Non-White males and White males. Table 18 presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the differential still exists.

Tables 19 and 20 present data indicating differentials in wage and 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.

3. The Construction-Related Services Industry in Illinois

a. Business Formation Rates

Table 21 presents business formation rates in the construction-related services industry in Illinois for selected demographic groups.

Table 21. Business Formation Rates, Illinois

Construction-Related Services, 2007-2011

Demographic Group	Business Formation Rates
Black	4.6%
Latino	4.2%
Native American	0.0%
Asian/Pacific Islander	3.9%
Other	0.0%
Non-White	4.1%
White Women	8.3%
Non-White Male	6.3%
White Male	10.9%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than Non-White males. (There were zero reported Native American or Other entrepreneurs in the construction-related services industry.) However, as with the issue of income and earnings differences, the higher rates could be attributed to factors aside from race and/or gender. To explore this question further, a probit regression statistical technique was employed. The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

Table 22 presents the results of the probit analysis for the construction industry in Illinois.

**Table 22. Business Formation Probability
Differentials for Selected Groups Relative to
White Men
Construction-related Services, 2007-2011**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-6.2% ^{***}
Latino	-1.3% ^{***}
Native American	---
Asian/Pacific Islander	-5.5% ^{***}
Other	---
White Women	-0.2% ^{***}

Source: CHA calculations from the American Community Survey

The analysis indicates that compared to White men, Non-Whites and White women in Illinois are less likely to form construction-related services businesses even after controlling for key factors. The reduction in probability ranges from 0.2% less to 6.2% less. Once again, these estimates are statistically significant at the 99.1 level.

b. Differences in Wage and Salary Incomes

Table 23 presents the findings from the wage and salary income regression analysis examining the construction-related services industry in Illinois. This indicates the wage differential for selected demographic groups in Illinois relative to White men.

**Table 23. Wage Differentials for Selected Groups
Relative to White Men**

Construction-related Services, 2007-2011

Demographic Group	Wages Relative to White Men (% Change)
Black	-49.2%**
Latino	-20.2%***
Native American	-28.1%***
Asian/Pacific Islander	-19.0%***
Other	-13.0%*
White Women	-33.8%***

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

** indicates statistical significance at the 0.01 level

* indicates statistical significance at the 0.05 level

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, White women, Asian/Pacific Islanders and Others in Illinois earn less than White men in the construction-related services industry. The differential ranges between 13% less and 49% less. Estimates of the coefficients for, Latino, Native American, Asian/Pacific Islander, and White Women are statistically significant at the 0.001 level. Estimates of the coefficients for Black are statistically significant at the 0.01 level. The estimated coefficient for Other is statistically significant at the 0.05 level.

c. Differences in Business Earnings

The same approach was used to investigate if there were differences in business earnings received by Non-White male 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 24 presents these findings.

Table 24. Business Earnings Differentials for Selected Groups Relative to White Men

Construction-related Services, 2007-2011

Demographic Group	Earnings Relative to White Men (% Change)
Black	-57.7% ^{***}
Latino	0.0%
Native American	0.0%
Asian/Pacific Islander	-222.6% [*]
Other	0.0%
White Women	-60.8% ^{***}

Source: CHA calculations from the American Community Survey

^{***} indicates statistical significance at the 0.001 level

^{*} indicates statistical significance at the 0.005 level

The estimates of the coefficients for Black and White Women were found to be statistically significant at the 0.001 level. The estimated coefficient for Asian/Pacific Islander was statistically significant at the 0.05 level. The differentials in business earnings received by these three demographic groups were less than White males ranging from 57% to 222%. (The proper interpretation of the estimated coefficient for Asian/Pacific Islanders is that White men earn 222.6% greater than similarly situated Asian/Pacific Islanders.) The estimated coefficients for Latino, Native American, and Other were not found to be significantly statistically different from zero.

d. Conclusion

Using descriptive analysis, Table 21 shows that differentials exist between the business formation rates by Non-White males and White males. Table 22

presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the differential still exists. Tables 23 and 24 present data indicating differentials in wage and 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.

4. The Information Technology Industry in Illinois

a. Business Formation Rates

Table 25 presents business formation rates in the information technology industry in Illinois for selected demographic groups.

Table 25. Business Formation Rates, Illinois

Information Technology, 2007-2011

Demographic Group	Business Formation Rates
Black	2.2%
Latino	4.3%
Native American	0.0%
Asian/Pacific Islander	6.2%
Other	5.4%
Non-White	4.4%
White Women	6.7%
Non-White Male	5.3%
White Male	11.4%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than Non-Whites and White women. However, as with the issue of income and earnings differences, the higher rates could be attributed to factors aside from race and/or gender. To explore this question further, a probit regression statistical technique was employed. The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

Table 26 presents the results of the probit analysis for the information technology industry in Illinois.

Table 26. Business Formation Probability Differentials for Selected Groups Relative to White Men

Information Technology, 2007-2011

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-4.9% ^{***}
Latino	-2.1% ^{***}
Native American Asian/Pacific Islander	-1.5% ^{***}
Other	-4.7% ^{***}
White Women	-0.9% ^{***}
	-2.0% ^{***}

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

The analysis indicates that Non-Whites and White women in Illinois are less likely to form information technology businesses compared to White men even after controlling for key factors. The reduction in probability ranges from 0.9% less to 4.9% less. Once again, these estimates are statistically significant at the 99.1 level.

b. Differences in Wage and Salary Incomes

Table 27 presents the findings from the wage and salary income regression analysis examining the information technology industry in Illinois. This indicates the wage differential for selected demographic groups in Illinois relative to White men.

**Table 27. Wage Differentials for Selected Groups
Relative to White Men**

Information Technology, 2007-2011

Demographic Group	Wages Relative to White Men (% Change)
Black	-15.5% ^{***}
Latino	-8.1% ^{***}
Native American	-158.2% ^{***}
Asian/Pacific Islander	-18.4% ^{***}
Other	-25.5% ^{***}
White Women	-24.6% ^{***}

Source: CHA calculations from the American Community Survey

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, Native American, Asian/Pacific Islanders, Others, and White women in Illinois earn less than White men in the information technology industry. The differential ranges between 8% less and 158% less. (The proper interpretation of the estimated coefficient for Native Americans is that White men earn 158.2% greater than similarly situated Native Americans.) The estimates of all coefficients are statistically significant at the 0.001 level.

c. Differences in Business Earnings

The same approach was used to investigate if there were differences in business earnings received by Non-White male 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 28 presents these findings.

Table 28. Business Earnings Differentials for Selected Groups Relative to White Men

Information Technology, 2007-2011

Demographic Group	Earnings Relative to White Men (% Change)
Black	-42.0%***
Latino	-377.9%***
Native American	-
Asian/Pacific Islander	-17.6%*
Other	0.0%
White Women	-67.4%***

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

* indicates statistical significance at the 0.005 level

The estimated coefficients for Black Latino, and White Women were statistically significant at the 0.001 level. The estimated coefficient for Asian/Pacific Islander was statistically significant at the 0.005 level. The differentials in business earnings received by these three demographic groups were less than White males from between 17.6% to 377.9%. (The proper interpretation of the estimated coefficient for Latinos is that White men earn 377.9% greater than similarly situated Latinos.) For the estimated coefficient for Other, the results were not found to be significantly statistically different from zero. For Native Americans the sample size was too small to calculate an estimated coefficient.

d. Conclusion

Using descriptive analysis, Table 25 shows that differentials exist between the business formation rates and by Non-White males and White males. Table 26

presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the differential still exists. Tables 27 and 28 present data indicating differentials in wage and 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.

5. The Services Industry in Illinois

a. Business Formation Rates

Table 29 presents business formation rates in the services industry in Illinois for selected demographic groups.

Table 29. Business Formation Rates, Illinois

Services, 2007-2011

Demographic Group	Business Formation Rates
Black	4.0%
Latino	5.2%
Native American	16.1%
Asian/Pacific Islander	8.5%
Other	5.3%
Non-White	5.3%
White Women	7.7%
Non-White Male	6.6%
White Male	17.6%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than Non-White males. However, as with the issue of income and earnings differences, the higher rates could be attributed to factors aside from race and/or gender. To explore this question further, a probit regression statistical technique was employed. The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

Table 30 presents the results of the probit analysis for the services industry in Illinois.

Table 30. Business Formation Probability Differentials for Selected Groups Relative to White Men

Services, 2007-2011

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-7.2% ^{***}
Latino	-4.7% ^{***}
Native American	-5.7% ^{***}
Asian/Pacific Islander	-5.0% ^{***}
Other	-2.5% ^{***}
White Women	-4.2% ^{***}

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

The analysis indicates that compared to White men, Non-Whites and White women in Illinois are less likely to form services businesses even after controlling for key factors. The reduction in probability ranges from 2.5% less to 7.2% less. Once again, these estimates are statistically significant at the 99.1 level.

b. Differences in Wage and Salary Incomes

Table 31 presents the findings from the wage and salary income regression analysis examining the services industry in Illinois. This indicates the wage differential for selected demographic groups in Illinois relative to White men.

**Table 31. Wage Differentials for Selected Groups
Relative to White Men**

Services, 2007-2011

Demographic Group	Wages Relative to White Men (% Change)
Black	-44.5%***
Latino	-25.2%***
Native American	-71.3%*
Asian/Pacific Islander	-28.3%***
Other	-25.9%***
White Women	-40.0%***

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

* indicates statistical significance at the 0.05 level

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, White women, Asian/Pacific Islanders and Others in Illinois earn less than White men in the services industry. The differential ranges between 25% less and 71% less. Estimates of the coefficients for Black, Latino, Asian/Pacific Islander, Other, and White Women are statistically significant at the 0.001 level. Estimates of the coefficients for Native American are statistically significant at the 0.05 level.

c. Differences in Business Earnings

The same approach was used to investigate if there were differences in business earnings received by Non-White male 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 32 presents these findings.

Table 32. Business Earnings Differentials for Selected Groups Relative to White Men

Services, 2007-2011

Demographic Group	Earnings Relative to White Men (% Change)
Black	-53.1% ^{***}
Latino	-37.3% ^{***}
Native American	-77.1% ^{***}
Asian/Pacific Islander	-33.8% ^{***}
Other	-27.0% ^{**}
White Women	-72.6% [*]

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

** indicates statistical significance at the 0.01 level

* indicates statistical significance at the 0.005 level

The estimates of the coefficients for these variables were found to be statistically significant at the 0.001, 0.01, or 0.005 levels. The differentials in business earnings received by Non-Whites and White women compared to White males ranged from 27% less to 77% less.

d. Conclusion

Using descriptive analysis, Table 29 shows that differentials exist between the business formation rates by Non-White males and White males. Table 30 presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the differential still exists. Tables 31 and 32 present data indicating differentials in wage and 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.

6. The Goods Industry in Illinois

a. Business Formation Rates

Table 33 presents business formation rates in the goods industry in Illinois for selected demographic groups.

Table 33. Business Formation Rates, Illinois

Goods, 2007-2011

Demographic Group	Business Formation Rates
Black	2.1%
Latino	4.6%
Native American	4.0% [‡]
Asian/Pacific Islander	11.3%
Other	11.1% [‡]
Non-White	5.0%
White Women	5.5%
Non-White Male	5.2%
White Male	7.9%

Source: CHA calculations from the American Community Survey
[‡] The observations in this demographic group was too small for a reliable statistical analysis

White males have a higher rate of business formation than Non-Whites and White women. Note: the observed number of Native American and Other was too small for any reliable statistical analysis. However, as with the issue of income and earnings differences, the higher rates could be attributed to factors aside from race and/or gender. To explore this question further, a probit regression statistical technique was employed. The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

Table 34 presents the results of the probit analysis for the construction industry in Illinois.

**Table 34. Business Formation Probability
Differentials for Selected Groups Relative
to White Men**

Goods, 2007-2011

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-4.0% ^{***}
Latino	-1.7% ^{***}
Native American	---
Asian/Pacific Islander	2.6% ^{***}
Other	---
White Women	-1.4% ^{***}

Source: CHA calculations from the American Community Survey

The analysis indicates that Blacks, Latinos, and White women in Illinois are less likely to form goods businesses compared to White men even after controlling for key factors. (Once again, this analysis does not include Native Americans and Others.) The reduction in probability ranges from 1.4% less to 4.0% less. However, Asian/Pacific Islanders were more likely to form businesses in this industry relative to White men by 2.6%. These estimates are statistically significant at the 99.1 level.

b. Differences in Wage and Salary Incomes

Table 35 presents the findings from the wage and salary income regression analysis examining the goods industry in Illinois. This indicates the wage differential for selected demographic groups in Illinois relative to White men.

Table 35. Wage Differentials for Selected Groups Relative to White Men

Goods, 2007-2011

Demographic Group	Wages Relative to White Men (% Change)
Black	-41.5% **
Latino	-11.6% ***
Native American	-32.4% ***
Asian/Pacific Islander	-32.0% ***
Other	-97.8% ***
White Women	-38.7% ***

Source: CHA calculations from the American Community Survey

*** indicates statistical significance at the 0.001 level

** indicates statistical significance at the 0.01 level

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, White women, Asian/Pacific Islanders and Others in Illinois earn less than White men in the goods industry. The differential ranges between 11% less and 97% less. Estimates of the coefficients for, Latino, Native American, Asian/Pacific Islander, Other, and White Women are statistically significant at the 0.001 level. The estimates of the coefficient for Black are statistically significant at the 0.01 level.

c. Differences in Business Earnings

The same approach was used to investigate if there were differences in business earnings received by Non-White male 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 36 presents these findings.

Table 36. Business Earnings Differentials for Selected Groups Relative to White Men

Goods, 2007-2011

Demographic Group	Earnings Relative to White Men (% Change)
Black	-55.4% ^{***}
Latino	-28.8% ^{***}
Native American	0.0%
Asian/Pacific Islander	-26.1% ^{***}
Other	0.0%
White Women	-68.3% ^{***}

Source: CHA calculations from the American Community Survey

^{***} indicates statistical significance at the 0.001 level

With the exception of the estimated coefficient for Other and Native American, the estimates of the coefficients for these variables were found to be statistically significant at the 0.001 level. The differentials in business earnings received by Non-Whites and White women compared to White males ranged from 26% less to 68% less. For the estimated coefficient for Other and Native American, the results were not found to be significantly statistically different from zero.

d. Conclusion

Using descriptive analysis, Table 33 shows that differentials exist between the business formation rates by Non-Whites and White women and White males. Table 34 presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the differential still exists. Tables 35 and 36 present data indicating differentials in wage and 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.

VI. QUALITATIVE EVIDENCE OF RACE AND GENDER DISPARITIES IN MWRD'S MARKET

In addition to quantitative data, a disparity study should further explore anecdotal evidence of experiences with discrimination in contracting opportunities because it is relevant to the question of whether observed quantitative 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.”¹⁸⁹ Evidence about discriminatory practices engaged in by prime contractors, bonding companies, suppliers, lenders 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.¹⁹⁰ 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.”¹⁹¹ “[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.”¹⁹²

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.”¹⁹³ 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.”¹⁹⁴

To explore this type of anecdotal evidence of possible discrimination against minorities and women in District’s geographic and industry markets, we conducted four group interviews, totaling 48 participants, and one stakeholders meeting. We met with business owners from a broad cross section of the

¹⁸⁹ *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).

¹⁹⁰ *Adarand VII*, 228 F.3d at 1168-1172.

¹⁹¹ *Concrete Works II*, 36 F.3d at 1520, 1530.

¹⁹² *Engineering Contractors II*, 122 F.3d at 926.

¹⁹³ *Id.* at 249.

¹⁹⁴ *Concrete Works IV*, 321 F.3d at 989.

industries from which the District purchases. Firms ranged in size from large national businesses to decades-old family-owned firms to new start-ups. Owners' backgrounds included individuals with decades of experience in their fields and entrepreneurs beginning their careers. We sought to explore their experiences in seeking and performing public and private sector prime contracts and subcontracts, both with state agencies and in the private sector. We also elicited recommendations for improvements to the M/WBE Program, as discussed in Chapter III.

Many M/WBE participants 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.

As discussed in Chapter II, this type of anecdotal data has been held by the courts to be relevant and probative of whether MWRD continues to have a need to 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 following are summaries of the issues discussed. Quotations are indented, and have been edited for readability. They are representative of the views expressed by participants over the many sessions.

A. Discriminatory Attitudes and Negative Perceptions of Competence

Many minority and women owners reported they experience negative attitudes about their competency and professionalism. The assumption is that M/WBEs are less qualified and capable.

[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 didn't believe at all that I knew what I was doing.

I talked to a contractor two weeks ago, and I've known this estimator for 30 years. He used to be with another company, now he is with one of the prominent concrete contractors in the City of Chicago.... He said, I sent you the bid for blah, blah, blah, and I said, yea I know, I got it. He said, now you understand that you have to be really...low on this project. We can't give you this project just because you're a WBE. You have to have the low number. I said, damn I didn't realize that. I'm so shocked. I've been doing this for 30 years.

There are male white contractors that have been in and out of business three and four times.... [But] we're not presumed to be qualified just because we're minorities or women.

The first two years, three years I was in existence I wasn't even MBE and I would not put that on my website and I didn't make it known because where I worked for years, I knew it came with the scarlet letter. If you were an MBE firm you were automatically, they had lower expectations and higher rate of criticism about your work and everything else and so I approached work without a picture, a bio, nothing on my website. My website looked just technical and I was able to churn work just like that.

Some M/WBEs believe large general contractors see them a nuisance.

[General contractors] nickel and dime you so much and they've run several companies out of business.... [While large firms nickel and dime non-M/WBE subcontractors, too,] a lot of times they have relationships with other firms. And they're not going to screw their buddies. But if they look at you as a disposable item, hey we'll get him in here and get a low number, get as much work out as we can. Make him go [bankrupt] and reap the profits.

A non-M/WBE consultant also observed stereotypical and biased attitudes. Government agencies sometimes questioned his firm about why they would use a DBE or any smaller firm for a major role.

No one bats an eye if I, a major global firm, team with two other major global firms and then we do our 10 or 15 percent DBE. No one says anything. But on some projects, even if I bring in not just a minority firm but a smaller firm on a major role...people have issue with that.... I find that troubling when people make those comments.

M/WBEs were sometimes perceived to be more costly and troublesome.

[The general contractor] actually turned to the ownership and said, and because I got to use all these minorities, I'm going to need more money.

We've all heard that.

Lack of access to preferred pricing and supply networks sometimes did result in higher costs of doing business for minority and women contractors.

It does in a lot of situations cost more money because of [higher prices charged by suppliers to M/WBEs].

B. Obtaining Public Sector Work on an Equal Basis

These types of barriers lead minorities and women to unanimous agreement that goals remain necessary to level the playing field and equalize opportunities. M/WBEs sought the right to compete on a fair and equal basis. Without goals, they believed they would be shut out of District contracts.

The program they have works.

The only thing really that the M/WBE program does, is allow you a second look. If they have minority or female requirements on a job, that will allow or encourages a general contractor to call you and say, your price is a little bit high, can you take another look. That in itself is a really important thing... Low bidders aren't born, they're made.... That's how they get all their buddies to work for them. So it does sometimes give us that entree.

Unless they're telling a prime to use you, those primes have no incentive to use you. So breaking in is always going to be hard because they have a limited number of primes that are going to get the work.

With all the qualifications, we would not have work without having this requirement or without having some kind of guidelines or something.

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 that 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.

[When agencies have eliminated contract goals,] we were basically told don't even bother.

We would not get that opportunity at all if it wasn't for the set aside.

It always goes back to relationships.... We're all in the trust business.... I for the life of me cannot figure out who to talk to at MWRD.

It's all about relationships. And you know what, somewhere behind there is lurking race too. Because we have not had that kind of exposure. So it's a part of this. Is it because of race? Is it because somebody's racist? I'm not saying that. I don't believe that's true. But what I'm saying is that it is about relationships and that in fact what the MWRD and these other agencies are doing is that they're forcing those relationships, at least the introduction of those

relationships. If you don't do a good business you're not going to stay. And that's really the bottom line.

[Being M/WBE certified] gives us an opportunity to find out who those relationships are.

I really don't think that it has anything to do with race. It is because we're small and we don't have those resources. And how are they going to trust us? How do they know that we are able to provide quality services for them? So we have to build that trust factor up to them.... The program gives us a foot in the door.

It always goes back to relationships.... We're all in the trust business.

Prime contract opportunities were especially difficult for M/WBEs to access.

There's no newcomers.... It's the same cast of characters....[The large general contractors] all have shops set up [on MWRD properties].

More or less you can only work as a sub.... Not many firms work with them. Even for the major firms.

A WBE reported she has received prime contracts from the District.

[District Affirmative Action staff] did everything in their power to make sure this was successful, believe me, because we were the first contract that they [issued to a M/WBE prime firm].... We were like the poster child.

Not only do M/WBEs benefit from working as prime contractors, but minority and women tradespeople do, too.

I employ probably more minorities than any other [trade contractor] because I am a minority.

[It's our] culture.

We do it because we have an internal motivation. It's us, so we approach it from a different perspective.... We developed a community involvement plan which was something that we felt we should do and we included as many local workers, as many minority and women contractors as we could because that's an added benefit you get with using minority contractors. Now on the flipside, you may have to pay a little bit more because it costs us more for insurance and financing and materials. But this is what you get. A lot of owners don't want to acknowledge that. Well, [a non-M/WBE bidder] number's here, your number's here. Can you get

down here? Well, no we can't. So then they go over here. And then these guys are mandated to meet these quotas and they do whatever they can with the papers and shuffle them around and make it look like they're doing it. But they don't have a vested interest in making it a true success.

While mentor-protégé programs are often posited as a way to increase M/WBEs' capacities, several firm owners reported poor experiences with participation in a mentor-protégé arrangement.

If I did a Mentor-Protégé Program with [my major competitor], where do you think I would be at the end of that mentor-protégé? I'd be out of business. That man does not want to create another competitor.

I was just grateful to get out without being sued.... Everything got delayed and it just was a disaster. And I could already tell they were just using me and I did not want that reputation.

Participation in joint ventures had rarely produced better outcomes.

They're the same cast of characters that are [using joint venture agreements]. You see the names on all these JVs. They're just a guy that can swing a hammer, that has some carpenters. They're good guys but they've never grown their businesses but they've been the partner to [large general contractors] and a lot of these big companies.

One commonly suggested approach is setting aside some smaller contracts for bidding only by small firms on a race- and gender-neutral basis.

That would make sense.

If the District wants more participation from us, they have to create a pathway.

The District could benefit from...a set aside program for small business.

C. Conclusion

Consistent with other evidence reported in this Study, anecdotal interview information strongly suggests that minorities and women continue to suffer discriminatory barriers to full and fair access to MWRD and private sector contracts and subcontracts. While not definitive proof that the District may apply race- and gender-conscious measures to these impediments, the results of the personal interviews are the types of evidence that, especially when considered alongside the numerous pieces of statistical evidence assembled, the courts

have found to be highly probative of whether MWRD may use narrowly tailored M/WBE contract goals to address that discrimination.

VII. RECOMMENDATIONS FOR MWRD'S MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM

The quantitative and qualitative data in this study provide a thorough examination of the evidence regarding the experiences of minority- and women-owned firms in the District's geographic and industry markets. As required by strict scrutiny, we analyzed evidence of such firms' utilization by the District 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 Minority- and Women-Owned Business Enterprise ("M/WBE") program. Based upon the results, we make the following recommendations.

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

However, evidence beyond the District's achievements strong suggests these results are the effect of the program. Outside of MWRD contracts, M/WBEs face large disparities in opportunities for public sector and private sector work.

- The records and findings in the unsuccessful challenges to the programs of the City of Chicago, IDOT 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.
- M/WBEs continue to suffer barriers throughout the Illinois economy.
- Business owners reported instances of bias and discrimination, and that they receive little work without the use of contract goals.

We therefore recommend that the program be continued, with the enhancements.

A. Augment Race- and Gender-Neutral Initiatives

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. Implement an 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. While the District purchased a system in 2012, it was not able to generate data for the study period. The lack of a system also makes it more difficult to monitor, enforce and review the program. It further means outreach is not as automated and convenient as these efforts could be.

We recommend the District implement an electronic data collection system for the M/WBE program with at least the following functionality:

- Full contact information for all firms, including email addresses, NAICS codes, race and gender ownership, and small business 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.
- Spend analysis of informal expenditures, such as those made with agency credit cards or on purchase orders, to determine the utilization of certified firms.
- Program report generation that provides data on utilization by industries, race, gender, dollar amount, procurement method, etc.
- An integrated email and fax 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 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.

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

Our 2012 Report recommended that MWRD increase efforts to make prime contract awards to M/WBEs, and progress has been made. The District has developed contract specifications with an eye towards unbundling projects into less complex scopes and lower dollar values. It has also increased the use of Job Order Contracts, which have lower bonding, financing and experience standards. Further, MWRD now only requires a bid deposit in lieu of a performance bond. Experience requirements have been reduced to three years from five in many instances. These efforts should continue.

We further suggested reviewing surety bonding, insurance and experience requirements so they are no greater than necessary to protect its 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. We reiterate this recommendation.

If contract goals are extended to non-construction related contracts, a focus on prime contracts will be important, not only for the usual benefits of increased access and increased competition but also because these industries often do not follow the construction model of prime contractors hiring subcontractors to perform direct work. Services and commodities contracts may lack meaningful subcontracting elements, so facilitating M/WBEs' participation as prime vendors will be key to reducing any barriers to District work.

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. Our earlier report 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."¹⁹⁵

Another suggestion was to provide with the invitation for bid the scopes of work used by the District to set the contract goal. This would provide guidance to prime firms on

¹⁹⁵ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868, at * 87 (Sept. 8, 2005).

specialties on which to concentrate for making good faith efforts, as well as increase transparency about how the program operates. It will be necessary to stress that firms may meet the goal using firms outside these industries and that only soliciting firms in these identified industries does not *per se* constitute making good faith efforts to meet the goal.

4. Conduct Networking Events Focused on Design Projects

MWRD participates in many outreach and networking events. However, there was a belief business owners in the construction-related professional sector that more outreach to their firms and more information about MWRD opportunities would be helpful.

5. Revise the Small Business Enterprise Program Element

The District currently sets a standard goal of 10 percent for participation by SBEs on construction contracts, and M/WBEs can be double counted towards the SBE goal. Participants in the interviews suggested this was not useful, and added unneeded complexity and burdens to crafting utilization plans, by requiring additional efforts to meet three goals, to the extent not included in the M/WBEs. Further, there is no basis for the goal and it increases work for prime bidders.

An effective approach would be to set aside some smaller contract for bidding only by SBEs as prime contractors. If implemented on a fully race- and gender-neutral basis, this is a constitutionally acceptable method to increase opportunities for all small firms. SBE setasides are especially useful for those industries that do not 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 small 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 \$500,000) 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 a successfully procured using this method. It will be critical to keep complete race and gender information on bidders to evaluate whether this is an effective race- and gender-neutral measure to reduce barriers.

6. 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. One approach that has proven to be effective for some governments is to develop an agency-sponsored bonding and financing assistance program for such firms. This goes beyond the provision of providing information about

outside bonding resources to providing actual assistance to firms through a program consultant. 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 surety to provide a bond for firms that have successfully completed the training and mentoring program. The Illinois Tollway has recently undertaken efforts long these lines, and we suggest MWRD explore finding partners to provide this type of assistance to M/WBEs.

7. Explore Developing a Linked Deposit Program

In 2012, we recommended the District consider implementing a Linked Deposit program, whereby its depository banks would agree to make loans to District certified M/WBEs that have been awarded District prime contracts. For example, the Treasurer for the State of Illinois has a somewhat similar program, called the Business Invest Program, where the Treasurer's Office deposits state funds at below market rates to support loans to eligible Illinois businesses.¹⁹⁶ This below-market cost of funds enables the financial institution to offer a reduced interest rate on the business's loan. The reduced interest rate is available for up to the first 5 years of the loan. The borrower's savings on the loan can be applied to hiring new employees and funding operating costs and other expenses. We reiterate our suggestion that a comparable program could be instituted for District contracts.

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 would receive credit towards meeting M/W/SBE contract goals and protégés would receive support to increase their experience and capacities. We suggested in 2012 that a program be fully developed, including standards for participation, how credit will be given for utilization of the protégé, reimbursable expenses, program monitoring, and measures for program success. Elements should include:

- 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.

¹⁹⁶ <http://www.treasurer.il.gov/programs/business-invest/business-invest.aspx>

- Extra credit for the mentor’s use of the protégé to meet a contract goal (*e.g.*, 1.25 percent for each dollar spent).
- A fee schedule to cover the direct and indirect cost 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.

We reiterate this recommendation. While there was skepticism by several interview participants about mentor-protégé program 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 Missouri Department of Transportation suggest to us that if carefully crafted and monitored, a mentor-protégé approach can be helpful in promoting M/WBEs’ capacities.

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

1. Use the Study to Set M/WBE Contract 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, except for the goods sector.

As discussed in Chapter II of the study, the District’s constitutional responsibility is to ensure that its program is narrowly tailored to its geographic and procurement marketplace. The highly detailed availability estimates in the Study can serve as the starting point for contract goal setting. This methodology involves four steps.

1. The District weighs the estimated dollar value of the scopes of the contract as determined during the process of creating the solicitation.
2. It then determines the availability of M/WBEs in those scopes as estimated in the Study.
3. A weighted goal is calculated based upon the scopes and the availability of firms.
4. The District adjusts the resulting percentage based on current market conditions and progress towards the annual goals.

The electronic system should have a goal setting module and written procedures spelling out the steps should be drafted. 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 a crosswalk is available to convert NIGP codes into NAICS codes so that the availability data in the study and can form the basis for the step in setting contract-specific goals.

We further recommend that the use of contract goals be extended to all industries to ensure that not only construction but also other types of projects are fully inclusive.

In a recent development, the District is entering into intergovernmental agreements (“IGAs”) with other agencies, and those agencies will in turn procure contracts with these IGA cost sharing funds. This seems similar to the role played by the U.S. Department of Transportation with its direct recipients with subrecipients. We recommend that, where appropriate, the District apply its program to work performed with District funds, including all eligibility, goal setting and reporting requirements. It should also consider reserving the right to set and approve goals and to conduct on site and paper monitoring.

Where appropriate, we urge MWRD to bid some contracts that it determines have significant opportunities for M/WBE participation without goals, 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, as suggested by the study data. The development of some unremediated markets data will be probative of whether the programs remain needed to level the playing field for minorities and women and was important to our successful defense of IDOT’s DBE program.

2. Continue to Apply Narrowly Tailored Eligibility Standards

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

We suggest that the certification period be extended to three years to reduce the burden on MWRD staff and businesses. We also urge consideration of accepting without additional review (unless some specific item warrants it) M/WBE certifications in non-construction industries, so long as the certifying agency applies a personal net worth test and size standards at least as stringent as those of the District. The issues with fraudulent applications have surfaced almost entirely in the construction area, and it will be a burden on the Diversity Section to conduct this additional layer of review for other industries, should the goals be extended outside the current scope.

3. Revise Program Administration Elements

We recommend that the District count second and lower tier M/WBE participation. Several general contractors noted that this highly unusual stance makes it more difficult for them to meet goals and may deprive some M/WBEs of the chance to work on District

projects in smaller scopes not bid directly to the prime contractor. A comprehensive data collection system should permit such utilization to be tracked appropriately.

Another revision that will facilitate M/WBE participation, especially that of firms unfamiliar to a general contractor, is to allow a brief post-submission time to submit some of the compliance paperwork. The prime bidder would still have to submit its utilization plan, and would not be permitted to augment participation after bid opening, but this would allow forms like a signed letter of intent to be submitted after bid opening. This is not to be confused with a “cure period,” whereby a prime firm is permitted to change its plan or “cure” its failure to make good faith efforts to meet the goal. This flexibility should help prime contractors to use a broader array of subcontractors, while maintaining program integrity and the policy that M/WBE compliance is a material element of responsiveness.

Next, we suggest adopting the approach of the USDOT DBE program and the city of Chicago that supplier participation be credited at 60 percent, not the current 25 percent ceiling. This is the lowest level of which we are aware across the country, and it seems so low as to effectively reduce any incentive to utilize M/WBEs suppliers. While perhaps not as much of a restriction in construction, should the program be extended to industries such as goods, the ability of use, for example, minority-owned information technology resellers, will be severely hampered.

Both District staff and prime contractors suggested that the waiver policy be more specific 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 waivers are not possible, it may reduce the number of bids or proposals submitted, thereby reducing competition for District work.

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

Revisions could be conducted in conjunction with the process of implementing an electronic system.

C. Develop Performance Measures for Program Success

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

- The number of bids or proposals and the dollar amount of the awards and the goal shortfall where the bidder submitted good faith efforts to meet the contract goal;

- The number and dollar amount of bids or proposals rejected as non-responsive for failure to make good faith efforts to meet the goal;
- The number, type and dollar amount of M/WBE substitutions during contract performance;
- Increased bidding by certified firms;
- Increased prime contract awards to certified firms;
- Increased “capacity” of certified firms as measured by bonding limits, size of jobs, profitability, etc.; and
- 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 Interim 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: MASTER D/M/W/BE DIRECTORY

To supplement race and sex information in Dun & Bradstreet/Hoovers used to estimate M/W/DBE availability in the District's market area, we identified 119 organizations that might have lists of minority, women and disadvantaged firms. We included national entities and organizations from neighboring states because of the possibility that firms on these lists might be doing business with the District. These lists were used to supplement data on the race and sex of firms' ownership to improve the accuracy and coverage of race and sex assignments to estimate M/WBE availability.

In addition to MWRD's list, we obtained lists from the following entities:

- Business Research Services
- Chicago Chinatown Chamber of Commerce
- Chicago Minority Suppliers Development Council
- Chicago Rockford International Airport
- Chicago United
- Chicago Urban League
- City of Chicago
- City of Rockford
- Cook County
- Diversity Information Resources
- DuPage County
- Illinois Department of Central Management Services
- Illinois State Black Chamber of Commerce
- Illinois UCP
- National Organization of Minority Architects
- Small Business Administration/Central Contractor Registry
- Suburban Minority Contractors Association
- Black Contractors United
- Federation of Women Contractors
- Hispanic American Construction Industry
- Women Construction Owners & Executives

The following entities had relevant lists of MWDBEs that were duplicates of the lists we obtained:

Abraham Lincoln Capital Airport
Central Illinois Regional Airport
Chicago Midway International Airport
Chicago O'Hare International Airport
Chicago Public Schools
Chicago Transit Authority
Greater Peoria Regional Airport
Illinois Department of Transportation
Illinois Tollway
METRA (Chicago Railway)
Metropolitan Pier and Exposition Authority
University of Illinois
University of Illinois Willard Airport

The following entities either did not have a list of MWDBEs or the list did not include race and gender information:

American Indian Development Association
Champaign County
Chicago Black Pages
Village of Arlington Heights
City of Cicero
City of Elgin
City of Evanston
City of Joliet
City of Naperville
Village of Schaumburg
City of Waukegan
Decatur Airport
Hispanic Lawyers Association of Illinois
Illinois Hispanic Chamber of Commerce
Joliet Region Chamber of Commerce
Kane County
Kankakee County
Kendall County
Lake County
Marshall County
McHenry County
McLean County
Menard County

National Center of American Indian Enterprise Development
Rock Island County
Society of Taiwanese Americans
Tazewell County
The John Marshall Law School
Vermillion County
Williamson County Regional Airport
Rogers Park Business Alliance
Association of Asian Construction Enterprises
Taiwanese American Professionals Chicago

We were unable to obtain lists from the following entities:

Alliance of Business Leaders & Entrepreneurs
Arab American Bar Association of Illinois
Arquitectos - The Society of Hispanic Professional Architects
Asian American Alliance
Asian American Bar Association of the Greater Chicago Area
Asian American Institute
Asian American Small Business Association
Black Chamber of Commerce of Lake County
Chatham Business Association, Small Business Development
Chicago State University
Chicago Women in Architecture
Aurora Regional Chamber of Commerce
City of Aurora
City of Springfield
Coalition of African American Leaders
Cosmopolitan Chamber of Commerce
Enterpriz Cook County
Hispanic SMB
Illinois Department of Commerce and Economic Opportunity
Indian American Bar Association
MidAmerica St. Louis Airport
National Association of Women Business Owners
National Society of Hispanic MBAs - Chicago Chapter
Puerto Rican Bar Association of Illinois
Puerto Rican Chamber of Commerce
Quad City International Airport
Rainbow Push Coalition International Trade Bureau
Rockford Black Pages
St. Clair County

Tribal Procurement Institute PTAC
Will County
Women's Bar Association
Business Partners - The Chamber for Uptown
Philippine American Chamber of Commerce of Greater Chicago
Korea Business Association
Korean American Association of Chicago
Chicago Korean American Chamber of Commerce
Taiwanese American Chamber of Commerce of Greater Chicago
Taiwanese Chambers of Commerce of North America
Vietnamese American National Chamber of Commerce
West Ridge Chamber of Commerce
Arab American Association for Engineers & Architects
Chicago Minority Business Association
Association of Subcontractors & Affiliates

The following entities declined to provide either their list or the race and gender information in their list:

Aurora Hispanic Chamber of Commerce
Austin Chamber of Commerce
Black Women Lawyers of Greater Chicago, Inc.
Latin American Chamber of Commerce
Women's Business Development Center
African American Contractors Association

APPENDIX B: FURTHER EXPLANATION OF THE MULTIPLE REGRESSION ANALYSIS

As explained in the Report, the 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; β_1 , β_2 and β_3 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, education and the state of residence 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. An additional factor was included: because of our interest in the impact of race and gender on wages and earnings, we made the assumption that the impact of those variables might vary from state to state (*i.e.*, the impact of being Black on wages is different in Illinois than it is in Alabama). We therefore developed new variables that would show the interaction between race and gender and one particular state. Since this Report examined Illinois, that was the state employed. The coefficient for the new variable showed the impact of being a member of that race or gender in Illinois. Consequently, the impact of race or gender on wages or earnings had two components: the national coefficient and the state-specific impact.

APPENDIX C: FURTHER EXPLANATION OF THE PROBIT REGRESSION ANALYSIS

Probit regression is a special type of regression analysis. While there are many differences between the underlying estimation techniques used in the probit regression and the standard regression analysis, the main differences from the lay person's point of view lie in the nature of dependent variable and the interpretation of the coefficients associated with the independent variables.

The basic model looks the same:

$$DV = f(D, I, O),$$

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; β_1 , β_2 , and β_3 are coefficients, and μ is the random error term.

In the standard regression model, the dependent variable is continuous and can take on many values, in the probit model, the dependent variable is dichotomous and can take on only two values: zero or one. For instance, in the standard regression analysis, we may be exploring the impact of a change in some independent variable on wages. In this case, the value of one's wage might be any non-negative number. In contrast, in the probit regression analysis, the exploration might be the impact of a change in some independent variable on the probability that some event occurs. For instance, the question might be how an individual's gender impacts the probability of that person forming a business. In this case, the dependent variable has two values: zero, if a business is not formed; one, if a business is formed.

The second significant difference—the interpretation of the independent variables' coefficients—is fairly straight-forward in the standard regression model: the unit change in the independent variable impacts the dependent variable by the amount of the coefficient.¹⁹⁷ However, in the probit model, the initial coefficients cannot be interpreted this way. One additional step --- which can be computed easily by most statistical packages --- must be undertaken in order to yield a

¹⁹⁷ The exact interpretation depends upon the functional form of the model.

result that indicates how the change in the independent variable affects the probability of an event (*e.g.* business formation) occurs. For instance, using our previous example of the impact on 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 final transformation of the coefficient of WOMAN was -0.12, we would interpret this to mean that women have a 12% lower probability of forming a business compared to men.

APPENDIX D: SIGNIFICANCE LEVELS

Many tables in this report contain asterisks indicating a number has statistical significance at 0.001 or 0.01 levels 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 whether 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 District as it explores the necessity of intervening in the marketplace through contract goals to ensure it is not a passive participant in the continuation of historic and contemporary bias is do non-Whites and White women receive lower wages than White men? As discussed in Appendix B, 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 this analysis determines that non-Whites receive wages that are 35% 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 is that estimation, that is, what is the probability 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% less than White men). This sometimes called the null hypothesis. We then calculate a confidence interval to find explore the probability that the observed relationship (*e.g.*, - 35%) is between 0 and minus that confidence interval.¹⁹⁸ The confidence interval will vary depending upon the level

¹⁹⁸ Because 0 can only be greater than -35%, 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

of confidence (statistical significance) we wish to have in our conclusion. Hence, a statistical significance of 99% would have a broader confidence interval than statistical significance of 95%. Once a confidence interval is established, if -35% lies outside of that interval, we can assert the observed relationship (*e.g.*, 35%) is accurate at the appropriate level of statistical significance.

or below the hypothesized value, then we would say “plus or minus the confidence level” and this would be a two-tailed test.

APPENDIX E: ADDITIONAL DATA FROM THE ANALYSIS OF THE SURVEY OF BUSINESS OWNERS¹⁹⁹

Table E1. Demographic Distribution of Sales and Payroll Data
Construction, 2007

	Total Number of Firms (All Firms)	Sales & Receipts (All Firms) (\$1,000)	Number of Firms with Paid Employees (Employer Firms)	Sales & Receipts Firms with Paid Employees (Employer Firms) (\$1,000)	Number of Paid Employees	Annual payroll (\$1,000)
Panel A: Distribution of Non-White Firms						
Black	3.5%	0.9%	0.8%	0.8%	1.0%	0.9%
Latino	6.0%	1.8%	3.2%	1.6%	2.6%	2.1%
Native American	0.4%	0.1%	0.2%	0.1%	0.1%	0.1%
Asian	1.0%	0.5%	0.8%	0.5%	0.6%	0.6%
Panel B: Distribution of All Firms						
Non-White	10.9%	3.2%	4.6%	2.9%	4.0%	3.6%
White Women	7.5%	6.5%	9.2%	6.5%	9.3%	8.8%
White Men	66.0%	65.5%	62.8%	65.5%	63.5%	64.6%
Equally Non-white & White	S	S	S	S	S	S
Equally Women & Men	13.0%	7.9%	17.5%	7.0%	9.9%	7.8%
Firms Not Classifiable	2.1%	16.8%	5.8%	18.0%	13.1%	15.0%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

¹⁹⁹ See Footnote 158 for an explanation of the reported value of "S".

Table E2. Demographic Distribution of Sales and Payroll Data – Aggregated Groups
Professional, Scientific, and Technical Services, 2007

	Total Number of Firms (All Firms)	Sales & Receipts (All Firms) (\$1,000)	Number of Firms with Paid Employees (Employer Firms)	Sales & Receipts Firms with Paid Employees (Employer Firms) (\$1,000)	Number of Paid Employees	Annual payroll (\$1,000)
Panel A: Distribution of Non-White Firms						
Black	4.9%	0.8%	1.3%	0.7%	0.9%	0.7%
Latino	3.2%	0.9%	1.7%	0.8%	1.0%	0.6%
Native American	S	S	S	S	S	S
Asian	5.5%	2.6%	5.1%	2.4%	2.4%	2.4%
Panel B: Distribution of All Firms						
Non-White	14.2%	4.3%	7.8%	3.7%	4.2%	3.7%
White Women	23.0%	6.2%	16.4%	5.1%	6.6%	4.8%
White Men	48.3%	37.3%	57.5%	36.0%	37.8%	36.2%
Equally Non-white & White	1.3%	0.2%	0.4%	0.2%	0.2%	0.1%
Equally Women & Men	10.7%	3.8%	9.7%	3.1%	3.8%	2.4%
Firms Not Classifiable	2.5%	48.3%	8.2%	51.9%	47.4%	52.8%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

Table E3. Demographic Distribution of Sales and Payroll Data – Aggregated Groups
Information, 2007

	Total Number of Firms (All Firms)	Sales & Receipts (All Firms) (\$1,000)	Number of Firms with Paid Employees (Employer Firms)	Sales & Receipts Firms with Paid Employees (Employer Firms) (\$1,000)	Number of Paid Employees	Annual payroll (\$1,000)
Panel A: Distribution of Non-White Firms						
Black	8.0%	1.7%	1.2%	1.7%	0.9%	3.0%
Latino	3.0%	0.2%	0.8%	0.1%	0.2%	0.1%
Native American	S	S	S	S	S	S
Asian	3.8%	0.7%	3.0%	0.6%	0.7%	0.8%
Panel B: Distribution of All Firms						
Non-White	15.1%	2.5%	4.9%	2.4%	1.7%	3.9%
White Women	20.9%	1.2%	14.2%	1.1%	2.5%	1.5%
White Men	46.1%	13.9%	46.0%	13.5%	18.4%	17.4%
Equally Non-white & White	S	S	S	S	S	S
Equally Women & Men	10.5%	0.8%	11.2%	0.7%	1.8%	0.9%
Firms Not Classifiable	6.1%	81.4%	23.1%	82.2%	75.5%	76.2%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

Table E4. Demographic Distribution of Sales and Payroll Data – Aggregated Groups
Services, 2007

	Total Number of Firms (All Firms)	Sales & Receipts (All Firms) (\$1,000)	Number of Firms with Paid Employees (Employer Firms)	Sales & Receipts Firms with Paid Employees (Employer Firms) (\$1,000)	Number of Paid Employees	Annual payroll (\$1,000)
Panel A: Distribution of Non-White Firms						
Black	12.9%	0.7%	2.1%	0.4%	1.2%	0.6%
Latino	5.6%	1.0%	8.4%	0.8%	S	S
Native American	S	S	S	S	S	S
Asian	5.9%	1.7%	S	S	S	S
Panel B: Distribution of All Firms						
Non-White	24.7%	3.1%	11.8%	2.5%	5.1%	3.3%
White Women	23.1%	3.4%	14.7%	2.7%	6.0%	3.9%
White Men	36.4%	20.9%	44.9%	19.4%	28.9%	24.7%
Equally Non-white & White	S	S	S	S	S	S
Equally Women & Men	10.9%	3.3%	14.6%	2.7%	5.9%	3.8%
Firms Not Classifiable	3.8%	69.0%	13.5%	72.5%	53.8%	64.1%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

Table E5. Demographic Distribution of Sales and Payroll Data – Aggregated Groups
Goods, 2007

	Total Number of Firms (All Firms)	Sales & Receipts (All Firms) (\$1,000)	Number of Firms with Paid Employees (Employer Firms)	Sales & Receipts Firms with Paid Employees (Employer Firms) (\$1,000)	Number of Paid Employees	Annual payroll (\$1,000)
Panel A: Distribution of Non-White Firms						
Black	4.1%	0.2%	0.9%	0.2%	0.3%	0.3%
Latino	4.2%	0.5%	2.4%	0.5%	0.8%	0.6%
Native American	S	S	S	S	S	S
Asian	5.8%	1.1%	7.3%	1.0%	1.5%	1.1%
Panel B: Distribution of All Firms						
Non-White	14.3%	1.7%	9.7%	1.7%	2.5%	1.9%
White Women	24.7%	2.6%	12.4%	2.5%	4.2%	3.7%
White Men	38.5%	24.4%	50.1%	24.3%	34.9%	34.2%
Equally Non-white & White	S	S	S	S	S	S
Equally Women & Men	16.6%	2.8%	16.6%	2.6%	5.3%	3.9%
Firms Not Classifiable	4.8%	68.6%	11.4%	68.9%	53.0%	56.3%
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

APPENDIX F: ADDITIONAL DATA FROM THE ANALYSIS OF AMERICAN COMMUNITY SURVEY

Table F1. Partial Results from Log-linear Regression Analysis

All Industries, 2007-2011

Dependent Variable: Logarithm of Wages	
Independent Variable	Coefficient
Black	-.296***
Latino	-.186***
Native American	-.326***
Asian/Pacific Islander	-.277***
Other	-.234***
White Women	-.324***
IL_Black	-.0473***
IL_Latino	.0648***
IL_Native American	-0.072
IL_Asian/Pacific Islander	-.0275**
IL_Other	-0.048
IL_White Women	-.0145**
Adjusted R-Squared	0.486

legend: * p<0.05; ** p<0.01; ***p<0.001

Source: CHA calculations from the American Community Survey

Table F2. Partial Results from Log-linear Regression Analysis

All Industries, 2007-2011

Dependent Variable: Logarithm of Business Earnings	
Independent Variable	Coefficient
Black	-.444***
Latino	-.255***
Native American	-.493***
Asian/Pacific Islander	-.242***
Other	-.123**
White Women	-.532***
IL_Black	0.034
IL_Latino	0.026
IL_Native American	-0.248
IL_Asian/Pacific Islander	0.034
IL_Other	0.118
IL_White Women	-0.035
Adjusted R-Squared	0.197
legend: * p<0.05; ** p<0.01; ***p<0.001 Source: CHA calculations from the American Community Survey	

Table F3. Partial Results from Probit Regression Analysis

All Industries, 2007-2011

Dependent Variable: Probability of Forming a Business	
Independent Variable	Coefficient
Black	-0.383
Latino	-0.256
Native American	-0.235
Asian/Pacific Islander	-0.109
Other	-0.067
White Women	-0.202
IL_Black	0.037
IL_Latino	-0.066
IL_Native American	0.168
IL_Asian/Pacific Islander	0.059
IL_Other	-0.122
IL_White Women	0.015
Pseudo R-Square	0.242

Source: CHA calculations from the American Community Survey

Table F4. Partial Results from Log-linear Regression Analysis

Construction, 2007-2011

Dependent Variable: Logarithm of Wages	
Independent Variable	Coefficient
Black	-.387***
Latino	-.133***
Native American	-.36***
Asian/Pacific Islander	-.25***
Other	-.133***
White Women	-.38***
IL_Black	-.123***
IL_Latino	0.0214
IL_Native American	0.18
IL_Asian/Pacific Islander	-.265***
IL_Other	0.127
IL_White Women	-.0696**
Adjusted R-Squared	0.302
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

Table F5. Partial Results from Log-linear Regression Analysis

Construction, 2007-2011

Dependent Variable: Logarithm of Business Earnings	
Independent Variable	Coefficient
Black	-.492***
Latino	-.0612***
Native American	-.258***
Asian/Pacific Islander	-.1**
Other	0.0441
White Women	-.515***
IL_Black	.229*
IL_Latino	0.138
IL_Native American	0.0293
IL_Asian/Pacific Islander	-0.00983
IL_Other	0.976
IL_White Women	.321**
Adjusted R-Squared	0.158

legend: * p<0.05; ** p<0.01; ***p<0.001

Source: CHA calculations from the American Community Survey

**Table F6. Partial Results from Probit
Regression Analysis**

Construction, 2007-2011

Dependent Variable: Probability of Forming a Business	
Independent Variable	Coefficient
Black	-0.299
Latino	-0.287
Native American	-0.316
Asian/Pacific Islander	-0.032
Other	-0.113
White Women	-0.085
IL_Black	0.172
IL_Latino	-0.122
IL_Native American	0.213
IL_Asian/Pacific Islander	0.000
IL_Other	-1.128
IL_White Women	0.010
Pseudo R-Square	0.11

Source: CHA calculations from the American Community Survey

Table F7. Partial Results from Log-linear Regression Analysis

Services, 2007-2011

Dependent Variable: Logarithm of Wages	
Independent Variable	Coefficient
Black	-.367***
Latino	-.252***
Native American	-.412***
Asian/Pacific Islander	-.283***
Other	-.259***
White Women	-.342***
IL_Black	-.0777***
IL_Latino	0.00162
IL_Native American	-.301*
IL_Asian/Pacific Islander	-0.03
IL_Other	-0.2
IL_White Women	-.0578***
Adjusted R-Squared	0.395
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

Table F8. Partial Results from Log-linear Regression Analysis

Services, 2007-2011

Dependent Variable: Logarithm of Business Earnings	
Independent Variable	Coefficient
Black	-.531***
Latino	-.373***
Native American	-.771***
Asian/Pacific Islander	-.338***
Other	-.27**
White Women	-.616***
IL_Black	-0.101
IL_Latino	-0.0557
IL_Native American	-0.218
IL_Asian/Pacific Islander	0.0659
IL_Other	-1.62
IL_White Women	-.11*
Adjusted R-Squared	.179
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

**Table F9. Partial Results from Probit
Regression Analysis**

Services, 2007-2011

Dependent Variable: Probability of Forming a Business	
Independent Variable	Coefficient
Black	-0.477
Latino	-0.310
Native American	-0.377
Asian/Pacific Islander	-0.334
Other	-0.167
White Women	-0.283
IL_Black	-0.018
IL_Latino	-0.022
IL_Native American	0.442
IL_Asian/Pacific Islander	0.092
IL_Other	-0.391
IL_White Women	0.010
Pseudo R-Square	0.193

Source: CHA calculations from the American Community Survey

Table F10. Partial Results from Log-linear Regression Analysis

Goods, 2007-2011

Dependent Variable: Logarithm of Wages	
Independent Variable	Coefficient
Black	-.317***
Latino	-.235***
Native American	-.324***
Asian/Pacific Islander	-.32***
Other	-.24***
White Women	-.387***
IL_Black	-.0977**
IL_Latino	.119***
IL_Native American	0.0578
IL_Asian/Pacific Islander	-0.00309
IL_Other	-.738***
IL_White Women	0.00589
Adjusted R-Squared	0.391

legend: * p<0.05; ** p<0.01; ***p<0.001

Source: CHA calculations from the American Community Survey

Table F11. Partial Results from Log-linear Regression Analysis

Goods, 2007-2011

Dependent Variable: Logarithm of Business Earnings	
Independent Variable	Coefficient
Black	-.554***
Latino	-.288***
Native American	-0.213
Asian/Pacific Islander	-.261***
Other	0.326
White Women	-.683***
IL_Black	-0.0222
IL_Latino	0.341
IL_Native American	(omitted)
IL_Asian/Pacific Islander	-0.00143
IL_Other	-1.05
IL_White Women	-0.185
Adjusted R-Squared	0.094
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

**Table F12. Partial Results from Probit
Regression Analysis**

Goods, 2007-2011

Dependent Variable: Probability of Forming a Business	
Independent Variable	Coefficient
Black	-0.300
Latino	-0.127
Native American	-0.031
Asian/Pacific Islander	0.196
Other	-0.001
White Women	-0.105
IL_Black	-0.163
IL_Latino	0.182
IL_Native American	-0.217
IL_Asian/Pacific Islander	0.083
IL_Other	0.368
IL_White Women	-0.015
Pseudo R-Square	0.120

Source: CHA calculations from the American Community Survey

Table F13. Partial Results from Log-linear Regression Analysis

Information Technology, 2007-2011

Dependent Variable: Logarithm of Wages	
Independent Variable	Coefficient
Black	-.267***
Latino	-.197***
Native American	-.292***
Asian/Pacific Islander	-.184***
Other	-.255***
White Women	-.246***
IL_Black	.112***
IL_Latino	.116**
IL_Native American	-1.29***
IL_Asian/Pacific Islander	0.0357
IL_Other	0.208
IL_White Women	-0.0277
Adjusted R-Squared	0.386
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

Table F14. Partial Results from Log-linear Regression Analysis

Information Technology, 2007-2011

Dependent Variable: Logarithm of Business Earnings	
Independent Variable	Coefficient
Black	-.42***
Latino	-.339***
Native American	-0.572
Asian/Pacific Islander	-.176*
Other	0.0975
White Women	-.674***
IL_Black	-0.106
IL_Latino	-3.44***
IL_Native American	(omitted)
IL_Asian/Pacific Islander	-0.366
IL_Other	-0.123
IL_White Women	0.147
Adjusted R-Squared	.112
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

Table F15. Partial Results from Probit Regression Analysis

Information Technology, 2007-2011

Dependent Variable: Probability of Forming a Business	
Independent Variable	Coefficient
Black	-0.371
Latino	-0.162
Native American	-0.111
Asian/Pacific Islander	-0.353
Other	-0.070
White Women	-0.148
IL_Black	-0.318
IL_Latino	-0.166
IL_Native American	(omitted)
IL_Asian/Pacific Islander	-0.005
IL_Other	-0.195
IL_White Women	-0.034
Pseudo R-Square	0.087

Table F16. Partial Results from Log-linear Regression Analysis

Construction-related Services , 2007-2011

Dependent Variable: Logarithm of Wages	
Independent Variable	Coefficient
Black	-.248***
Latino	-.202***
Native American	-.281***
Asian/Pacific Islander	-.19***
Other	-.13*
White Women	-.338***
IL_Black	-.244**
IL_Latino	-0.0366
IL_Native American	-0.504
IL_Asian/Pacific Islander	0.0984
IL_Other	0.212
IL_White Women	-0.0293
Adjusted R-Squared	0.424
legend: * p<0.05; ** p<0.01; ***p<0.001	

Source: CHA calculations from the American Community Survey

Table F17. Partial Results from Log-linear Regression Analysis

Construction-related Services , 2007-2011

Dependent Variable: Logarithm of Business Earnings	
Independent Variable	Coefficient
Black	-.577***
Latino	-0.0634
Native American	-0.386
Asian/Pacific Islander	-.206*
Other	-1.03
White Women	-.608***
IL_Black	0.558
IL_Latino	0.529
IL_Native American	(omitted)
IL_Asian/Pacific Islander	-2.02**
IL_Other	(omitted)
IL_White Women	-0.612
Adjusted R-Squared	0.094

legend: * p<0.05; ** p<0.01; ***p<0.001

Source: CHA calculations from the American Community Survey

Table F18. Partial Results from Probit Regression Analysis

Construction-related Services , 2007-2011

Dependent Variable: Probability of Forming a Business	
Independent Variable	Coefficient
Black	-0.375
Latino	-0.079
Native American	-0.048
Asian/Pacific Islander	-0.334
Other	-0.342
White Women	-0.009
IL_Black	-0.003
IL_Latino	-0.133
IL_Native American	(omitted)
IL_Asian/Pacific Islander	-0.124
IL_Other	(omitted)
IL_White Women	0.129
Pseudo R-Square	0.131

Source: CHA calculations from the American Community Survey

APPENDIX G: UTILIZATION AND AVAILABILITY DATA BY INDUSTRY SECTOR

Table G1: NAICS Code Distribution of Contract Dollars – All Sectors

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
237310	Highway, Street, and Bridge Construction	\$238,513,254	24.60%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$122,286,689	12.60%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$115,172,013	11.90%
236220	Commercial and Institutional Building Construction	\$70,355,861	7.30%
238990	All Other Specialty Trade Contractors	\$66,668,705	6.90%
238110	Poured Concrete Foundation and Structure Contractors	\$60,730,715	6.30%
238910	Site Preparation Contractors	\$41,624,000	4.30%
541330	Engineering Services	\$32,120,279	3.30%
237110	Water and Sewer Line and Related Structures Construction	\$31,255,222	3.20%
484110	General Freight Trucking, Local	\$31,323,121	3.20%
423840	Industrial Supplies Merchant Wholesalers	\$25,648,789	2.60%
238140	Masonry Contractors	\$24,015,366	2.50%
238120	Structural Steel and Precast Concrete Contractors	\$15,421,294	1.60%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	\$11,443,066	1.20%
562910	Remediation Services	\$11,511,131	1.20%
332911	Industrial Valve Manufacturing	\$11,066,861	1.10%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$10,287,975	1.10%
238130	Framing Contractors	\$7,556,927	0.80%
484220	Specialized Freight (except Used Goods) Trucking, Local	\$7,933,798	0.80%
238320	Painting and Wall Covering Contractors	\$6,460,408	0.70%
238160	Roofing Contractors	\$5,537,369	0.60%
561730	Landscaping Services	\$5,742,715	0.60%
562219	Other Nonhazardous Waste Treatment and Disposal	\$5,665,015	0.60%
332312	Fabricated Structural Metal Manufacturing	\$5,289,732	0.50%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	\$4,924,200	0.50%
237990	Other Heavy and Civil Engineering Construction	\$733,849	0.10%
Total		\$969,288,354	100.00%

Source: CHA analysis of MWRD data.

Table G2: NAICS Code Distribution of Contract Dollars – Construction

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
237310	Highway, Street, and Bridge Construction	\$238,513,254	27.68%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$122,286,689	14.19%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$115,172,013	13.37%
236220	Commercial and Institutional Building Construction	\$70,355,861	8.17%
238990	All Other Specialty Trade Contractors	\$66,668,705	7.74%
238110	Poured Concrete Foundation and Structure Contractors	\$60,730,715	7.05%
238910	Site Preparation Contractors	\$41,624,000	4.83%
237110	Water and Sewer Line and Related Structures Construction	\$31,255,222	3.63%
484110	General Freight Trucking, Local	\$31,323,121	3.64%
238140	Masonry Contractors	\$24,015,366	2.79%
238120	Structural Steel and Precast Concrete Contractors	\$15,421,294	1.79%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$10,287,975	1.19%
238130	Framing Contractors	\$7,556,927	0.88%
484220	Specialized Freight (except Used Goods) Trucking, Local	\$7,933,798	0.92%
238320	Painting and Wall Covering Contractors	\$6,460,408	0.75%
238160	Roofing Contractors	\$5,537,369	0.64%
561730	Landscaping Services	\$5,742,715	0.67%
237990	Other Heavy and Civil Engineering Construction	\$733,849	0.09%
Total		\$861,619,281	100.00%

Source: CHA analysis of MWRD data.

Table G3: NAICS Code Distribution of Contract Dollars – Construction Related Services

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
541330	Engineering Services	\$32,120,279	73.62%
562910	Remediation Services	\$11,511,131	26.38%
Total		\$43,631,410	100.00%

Source: CHA analysis of MWRD data.

Table G4: NAICS Code Distribution of Contract Dollars – Goods

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
423840	Industrial Supplies Merchant Wholesalers	\$25,648,789	43.94%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	\$11,443,066	19.60%
332911	Industrial Valve Manufacturing	\$11,066,861	18.96%
332312	Fabricated Structural Metal Manufacturing	\$5,289,732	9.06%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	\$4,924,200	8.44%
Total		\$58,372,648	100.00%

Source: CHA analysis of MWRD data.

Table G5: NAICS Code Distribution of Contract Dollars – Other Services

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
562219	Other Nonhazardous Waste Treatment and Disposal	\$5,665,015	100.00%
Total		\$5,665,015	100.00%

Source: CHA analysis of MWRD data.

**Table G6: Distribution of Contract Dollars by Race and Gender – All Sectors
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	\$933,747	\$0	\$0	\$0	\$703,552	\$68,718,563
237110	\$0	\$72,720	\$18,326,385	\$0	\$10,207,569	\$2,648,548
237310	\$3,614,728	\$8,002,400	\$6,499,770	\$0	\$965,781	\$219,430,574
237990	\$460,080	\$0.00	\$0	\$0	\$0	\$273,770
238110	\$29,154,461	\$27,533,050	\$47,617	\$0	\$2,454,079	\$1,541,508
238120	\$0	\$89,660	\$0	\$0	\$13,863,139	\$1,468,495
238130	\$0	\$0	\$0	\$0	\$7,235,338	\$321,588
238140	\$14,784,499	\$3,146,131	\$0	\$0	\$175,746	\$5,908,989
238160	\$0	\$580,000	\$0	\$0	\$0	\$4,957,369
238210	\$4,214,000	\$9,722,134	\$0	\$0	\$10,642,378	\$90,593,502
238220	\$286,360	\$7,018,700	\$54,475	\$0	\$8,641,956	\$106,285,198
238320	\$16,832	\$2,098,381	\$0	\$0	\$3,620,113	\$725,082
238910	\$728,354	\$842,706	\$0	\$0	\$756,990	\$39,295,949
238990	\$0	\$17,095,413	\$129,048	\$37,781	\$11,076,730	\$38,329,733
332312	\$0	\$0	\$0	\$0	\$1,105,979	\$4,183,752
332911	\$0	\$0	\$0	\$0	\$0	\$11,066,861
332996	\$0	\$4,887,201.00	\$0	\$0	\$0	\$36,999
423610	\$0	\$0.00	\$0	\$0	\$9,982,842	\$305,133
423840	\$0	\$21,419,635.00	\$0	\$0	\$3,899,839	\$329,314
424720	\$0	\$349,725.00	\$10,490,856	\$0	\$601,333	\$1,151
484110	\$3,162,336	\$12,891,650.00	\$0	\$0	\$13,848,086	\$1,421,049
484220	\$6,388,908	\$1,215,683.00	\$199,770	\$0	\$129,437	\$0
541330	\$368,495	\$536,651.00	\$5,852,495	\$0	\$2,506,758	\$22,855,880
561730	\$141,758	\$348,729.00	\$0	\$0	\$2,750,391	\$2,501,837
562219	\$697,108	\$0	\$0	\$0	\$0	\$4,967,907
562910	\$388,893	\$4,149,256	\$530,545	\$0	\$0	\$6,442,437
Total	\$65,340,559	\$121,999,827	\$42,130,961	\$37,781	\$105,168,038	\$634,611,189.00

Source: CHA analysis of MWRD data.

**Table G7: Distribution of Contract Dollars by Race and Gender – All Sectors
(share of total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	1.30%	0.00%	0.00%	0.00%	1.00%	97.70%
237110	0.00%	0.20%	58.60%	0.00%	32.70%	8.50%
237310	1.50%	3.40%	2.70%	0.00%	0.40%	92.00%
237990	62.70%	0.00%	0.00%	0.00%	0.00%	37.30%
238110	48.00%	45.30%	0.10%	0.00%	4.00%	2.50%
238120	0.00%	0.60%	0.00%	0.00%	89.90%	9.50%
238130	0.00%	0.00%	0.00%	0.00%	95.70%	4.30%
238140	61.60%	13.10%	0.00%	0.00%	0.70%	24.60%
238160	0.00%	10.50%	0.00%	0.00%	0.00%	89.50%
238210	3.70%	8.40%	0.00%	0.00%	9.20%	78.70%
238220	0.20%	5.70%	0.00%	0.00%	7.10%	86.90%
238320	0.30%	32.50%	0.00%	0.00%	56.00%	11.20%
238910	1.70%	2.00%	0.00%	0.00%	1.80%	94.40%
238990	0.00%	25.60%	0.20%	0.10%	16.60%	57.50%
332312	0.00%	0.00%	0.00%	0.00%	20.90%	79.10%
332911	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
332996	0.00%	99.20%	0.00%	0.00%	0.00%	0.80%
423610	0.00%	0.00%	0.00%	0.00%	97.00%	3.00%
423840	0.00%	83.50%	0.00%	0.00%	15.20%	1.30%
424720	0.00%	3.10%	91.70%	0.00%	5.30%	0.00%
484110	10.10%	41.20%	0.00%	0.00%	44.20%	4.50%
484220	80.50%	15.30%	2.50%	0.00%	1.60%	0.00%
541330	1.10%	1.70%	18.20%	0.00%	7.80%	71.20%
561730	2.50%	6.10%	0.00%	0.00%	47.90%	43.60%
562219	12.30%	0.00%	0.00%	0.00%	0.00%	87.70%
562910	3.40%	36.00%	4.60%	0.00%	0.00%	56.00%
Total	6.70%	12.60%	4.30%	0.00%	10.90%	65.50%

Source: CHA analysis of MWRD data.

**Table G8: Distribution of Contract Dollars by Race and Gender – All Sectors
(MBE, White Women, Non-M/WBE)
(total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	\$933,747	\$703,552	\$1,637,299	\$68,718,563	\$70,355,861
237110	\$18,399,105	\$10,207,569	\$28,606,674	\$2,648,548	\$31,255,222
237310	\$18,116,899	\$965,781	\$19,082,680	\$219,430,574	\$238,513,254
237990	\$460,080	\$0	\$460,080	\$273,770	\$733,849
238110	\$56,735,128	\$2,454,079	\$59,189,207	\$1,541,508	\$60,730,715
238120	\$89,660	\$13,863,139	\$13,952,799	\$1,468,495	\$15,421,294
238130	\$0	\$7,235,338	\$7,235,338	\$321,588	\$7,556,927
238140	\$17,930,630	\$175,746	\$18,106,377	\$5,908,989	\$24,015,366
238160	\$580,000	\$0	\$580,000	\$4,957,369	\$5,537,369
238210	\$13,936,134	\$10,642,378	\$24,578,512	\$90,593,502	\$115,172,013
238220	\$7,359,534	\$8,641,956	\$16,001,490	\$106,285,198	\$122,286,689
238320	\$2,115,213	\$3,620,113	\$5,735,327	\$725,082	\$6,460,408
238910	\$1,571,061	\$756,990	\$2,328,051	\$39,295,949	\$41,624,000
238990	\$17,262,243	\$11,076,730	\$28,338,972	\$38,329,733	\$66,668,705
332312	\$0	\$1,105,979	\$1,105,979	\$4,183,752	\$5,289,732
332911	\$0	\$0	\$0	\$11,066,861	\$11,066,861
332996	\$4,887,201	\$0	\$4,887,201	\$36,999	\$4,924,200
423610	\$0	\$9,982,842	\$9,982,842	\$305,133	\$10,287,975
423840	\$21,419,635	\$3,899,839	\$25,319,475	\$329,314	\$25,648,789
424720	\$10,840,581	\$601,333	\$11,441,914	\$1,151	\$11,443,066
484110	\$16,053,986	\$13,848,086	\$29,902,072	\$1,421,049	\$31,323,121
484220	\$7,804,361	\$129,437	\$7,933,798	\$0	\$7,933,798
541330	\$6,757,641	\$2,506,758	\$9,264,399	\$22,855,880	\$32,120,279
561730	\$490,487	\$2,750,391	\$3,240,878	\$2,501,837	\$5,742,715
562219	\$697,108	\$0	\$697,108	\$4,967,907	\$5,665,015
562910	\$5,068,694	\$0	\$5,068,694	\$6,442,437	\$11,511,131
Total	\$229,509,128	\$105,168,038	\$334,677,166	\$634,611,189	\$969,288,356

Source: CHA analysis of MWRD data.

**Table G9: Distribution of Contract Dollars by Race and Gender –All Sectors
(MBE, White Women, Non-M/WBE)
(share of total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	1.30%	1.00%	2.30%	97.70%	100.00%
237110	58.90%	32.70%	91.50%	8.50%	100.00%
237310	7.60%	0.40%	8.00%	92.00%	100.00%
237990	62.70%	0.00%	62.70%	37.30%	100.00%
238110	93.40%	4.00%	97.50%	2.50%	100.00%
238120	0.60%	89.90%	90.50%	9.50%	100.00%
238130	0.00%	95.70%	95.70%	4.30%	100.00%
238140	74.70%	0.70%	75.40%	24.60%	100.00%
238160	10.50%	0.00%	10.50%	89.50%	100.00%
238210	12.10%	9.20%	21.30%	78.70%	100.00%
238220	6.00%	7.10%	13.10%	86.90%	100.00%
238320	32.70%	56.00%	88.80%	11.20%	100.00%
238910	3.80%	1.80%	5.60%	94.40%	100.00%
238990	25.90%	16.60%	42.50%	57.50%	100.00%
332312	0.00%	20.90%	20.90%	79.10%	100.00%
332911	0.00%	0.00%	0.00%	100.00%	100.00%
332996	99.20%	0.00%	99.20%	0.80%	100.00%
423610	0.00%	97.00%	97.00%	3.00%	100.00%
423840	83.50%	15.20%	98.70%	1.30%	100.00%
424720	94.70%	5.30%	100.00%	0.00%	100.00%
484110	51.30%	44.20%	95.50%	4.50%	100.00%
484220	98.40%	1.60%	100.00%	0.00%	100.00%
541330	21.00%	7.80%	28.80%	71.20%	100.00%
561730	8.50%	47.90%	56.40%	43.60%	100.00%
562219	12.30%	0.00%	12.30%	87.70%	100.00%
562910	44.00%	0.00%	44.00%	56.00%	100.00%
Total	23.70%	10.90%	34.50%	65.50%	100.00%

Source: CHA analysis of MWRD data.

**G10: Distribution of Contract Dollars by Race and Gender- Construction
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	\$933,747	\$0	\$0	\$0	\$703,552	\$68,718,563
237110	\$0	\$72,720.00	\$18,326,385	\$0	\$10,207,569	\$2,648,548
237310	\$3,614,728	\$8,002,400	\$6,499,770	\$0	\$965,781	\$219,430,574
237990	\$460,080	\$0	\$0	\$0	\$0	\$273,770
238110	\$29,154,461	\$27,533,050	\$47,617	\$0	\$2,454,079	\$1,541,508
238120	\$0	\$89,660	\$0	\$0	\$13,863,139	\$1,468,495
238130	\$0	\$0	\$0	\$0	\$7,235,338	\$321,588
238140	\$14,784,499	\$3,146,131	\$0	\$0	\$175,746	\$5,908,989
238160	\$0	\$580,000	\$0	\$0	\$0	\$4,957,369
238210	\$4,214,000	\$9,722,134	\$0	\$0	\$10,642,378	\$90,593,502
238220	\$286,360	\$7,018,700	\$54,475	\$0	\$8,641,956	\$106,285,198
238320	\$16,832	\$2,098,381	\$0	\$0	\$3,620,113	\$725,082
238910	\$728,354	\$842,706	\$0	\$0	\$756,990	\$39,295,949
238990	\$0	\$17,095,413	\$129,048	\$37,781	\$11,076,730	\$38,329,733
423610	\$0	\$0	\$0	\$0	\$9,982,842	\$305,133
484110	\$3,162,336	\$12,891,650	\$0	\$0	\$13,848,086	\$1,421,049
484220	\$6,388,908	\$1,215,683	\$199,770	\$0	\$129,437	\$0
561730	\$141,758	\$348,729	\$0	\$0	\$2,750,391	\$2,501,837
Total	\$63,886,063	\$90,657,357	\$25,257,065	\$37,781	\$97,054,127	\$584,726,887

Source: CHA analysis of MWRD data.

**Table G11: Distribution of Contract Dollars by Race and Gender - Construction
(share of total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
236220	1.30%	0.00%	0.00%	0.00%	1.00%	97.70%
237110	0.00%	0.20%	58.60%	0.00%	32.70%	8.50%
237310	1.50%	3.40%	2.70%	0.00%	0.40%	92.00%
237990	62.70%	0.00%	0.00%	0.00%	0.00%	37.30%
238110	48.00%	45.30%	0.10%	0.00%	4.00%	2.50%
238120	0.00%	0.60%	0.00%	0.00%	89.90%	9.50%
238130	0.00%	0.00%	0.00%	0.00%	95.70%	4.30%
238140	61.60%	13.10%	0.00%	0.00%	0.70%	24.60%
238160	0.00%	10.50%	0.00%	0.00%	0.00%	89.50%
238210	3.70%	8.40%	0.00%	0.00%	9.20%	78.70%
238220	0.20%	5.70%	0.00%	0.00%	7.10%	86.90%
238320	0.30%	32.50%	0.00%	0.00%	56.00%	11.20%
238910	1.70%	2.00%	0.00%	0.00%	1.80%	94.40%
238990	0.00%	25.60%	0.20%	0.10%	16.60%	57.50%

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
423610	0.00%	0.00%	0.00%	0.00%	97.00%	3.00%
484110	10.10%	41.20%	0.00%	0.00%	44.20%	4.50%
484220	80.50%	15.30%	2.50%	0.00%	1.60%	0.00%
561730	2.50%	6.10%	0.00%	0.00%	47.90%	43.60%
Total	7.41%	10.52%	2.93%	0.00%	11.26%	67.86%

**Table G12: Distribution of Contract Dollars by Race and Gender – Construction
(MBE, White Women, Non-M/WBE)
(total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	\$933,747	\$703,552	\$1,637,299	\$68,718,563	\$70,355,861
237110	\$18,399,105	\$10,207,569	\$28,606,674	\$2,648,548	\$31,255,222
237310	\$18,116,899	\$965,781	\$19,082,680	\$219,430,574	\$238,513,254
237990	\$460,080	\$0	\$460,080	\$273,770	\$733,849
238110	\$56,735,128	\$2,454,079	\$59,189,207	\$1,541,508	\$60,730,715
238120	\$89,660	\$13,863,139	\$13,952,799	\$1,468,495	\$15,421,294
238130	\$0	\$7,235,338	\$7,235,338	\$321,588	\$7,556,927
238140	\$17,930,630	\$175,746	\$18,106,377	\$5,908,989	\$24,015,366
238160	\$580,000	\$0	\$580,000	\$4,957,369	\$5,537,369
238210	\$13,936,134	\$10,642,378	\$24,578,512	\$90,593,502	\$115,172,013
238220	\$7,359,534	\$8,641,956	\$16,001,490	\$106,285,198	\$122,286,689
238320	\$2,115,213	\$3,620,113	\$5,735,327	\$725,082	\$6,460,408
238910	\$1,571,061	\$756,990	\$2,328,051	\$39,295,949	\$41,624,000
238990	\$17,262,243	\$11,076,730	\$28,338,972	\$38,329,733	\$66,668,705
423610	\$0	\$9,982,842	\$9,982,842	\$305,133	\$10,287,975
484110	\$16,053,986	\$13,848,086	\$29,902,072	\$1,421,049	\$31,323,121
484220	\$7,804,361	\$129,437	\$7,933,798	\$0	\$7,933,798
561730	\$490,487	\$2,750,391	\$3,240,878	\$2,501,837	\$5,742,715
Total	\$179,838,268	\$97,054,127	\$276,892,396	\$584,726,887	\$861,619,281

Source: CHA analysis of MWRD data.

**Table G13: Distribution of Contract Dollars by Race and Gender – Construction
(MBE, White Women, Non-M/WBE)
(share of total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	1.30%	1.00%	2.30%	97.70%	100.00%
237110	58.90%	32.70%	91.50%	8.50%	100.00%
237310	7.60%	0.40%	8.00%	92.00%	100.00%
237990	62.70%	0.00%	62.70%	37.30%	100.00%
238110	93.40%	4.00%	97.50%	2.50%	100.00%
238120	0.60%	89.90%	90.50%	9.50%	100.00%
238130	0.00%	95.70%	95.70%	4.30%	100.00%
238140	74.70%	0.70%	75.40%	24.60%	100.00%
238160	10.50%	0.00%	10.50%	89.50%	100.00%
238210	12.10%	9.20%	21.30%	78.70%	100.00%

238220	6.00%	7.10%	13.10%	86.90%	100.00%
238320	32.70%	56.00%	88.80%	11.20%	100.00%
238910	3.80%	1.80%	5.60%	94.40%	100.00%
238990	25.90%	16.60%	42.50%	57.50%	100.00%
423610	0.00%	97.00%	97.00%	3.00%	100.00%
484110	51.30%	44.20%	95.50%	4.50%	100.00%
484220	98.40%	1.60%	100.00%	0.00%	100.00%
561730	8.50%	47.90%	56.40%	43.60%	100.00%
Total	20.87%	11.26%	32.14%	67.86%	100.00%

Table G14: Distribution of Contract Dollars by Race and Gender – Construction Related Services (total dollars)

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
541330	\$368,495	\$536,651	\$5,852,495	\$0	\$2,506,758	\$22,855,880
562910	\$388,893	\$4,149,256	\$530,545	\$0	\$0	\$6,442,437
Total	\$757,388	\$4,685,907	\$6,383,040	\$0	\$2,506,758	\$29,298,317

Source: CHA analysis of MWRD data.

Table G15: Distribution of Contract Dollars by Race and Gender- Construction Related Services (share of total dollars)

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
541330	1.10%	1.70%	18.20%	0.00%	7.80%	71.20%
562910	3.40%	36.00%	4.60%	0.00%	0.00%	56.00%
Total	1.74%	10.74%	14.63%	0.00%	5.75%	67.15%

Source: CHA analysis of MWRD data.

Table G16: Distribution of Contract Dollars by Race and Gender – Construction Related Services (MBE, WBE, M/WBE, Non-M/WBE) (total dollars)

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
541330	\$6,757,641	\$2,506,758	\$9,264,399	\$22,855,880	\$32,120,279
562910	\$5,068,694	\$0	\$5,068,694	\$6,442,437	\$11,511,131
Total	\$11,826,335	\$2,506,758	\$14,333,093	\$29,298,317	\$43,631,410

Source: CHA analysis of MWRD data.

Table G17: Distribution of Contract Dollars by Race and Gender – Construction Related Services (MBE, White Women, Non-M/WBE) (share of total dollars)

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
541330	21.00%	7.80%	28.80%	71.20%	100.00%
562910	44.00%	0.00%	44.00%	56.00%	100.00%

Total	27.11%	5.75%	32.85%	67.15%	100.00%

Source: CHA analysis of MWRD data.

**Table G18: Distribution of Contract Dollars by Race and Gender – Goods
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
332312	\$0	\$0	\$0	\$0	\$1,105,979	\$4,183,752
332911	\$0	\$0	\$0	\$0	\$0	\$11,066,861
332996	\$0	\$4,887,201	\$0	\$0	\$0	\$36,999
423840	\$0	\$21,419,635	\$0	\$0	\$3,899,839	\$329,314
424720	\$0	\$349,725	\$10,490,856	\$0	\$601,333	\$1,151
				\$0		
Total	\$0	\$26,656,561	\$10,490,856	\$0	\$5,607,151	\$15,618,077

Source: CHA analysis of MWRD data.

**Table G19: Distribution of Contract Dollars by Race and Gender – Goods
(share of total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
332312	0.00%	0.00%	0.00%	0.00%	20.90%	79.10%
332911	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
332996	0.00%	99.20%	0.00%	0.00%	0.00%	0.80%
423840	0.00%	83.50%	0.00%	0.00%	15.20%	1.30%
424720	0.00%	3.10%	91.70%	0.00%	5.30%	0.00%
Total	0.00%	45.67%	17.97%	0.00%	9.61%	26.76%

Source: CHA analysis of MWRD data.

**Table G20: Distribution of Contract Dollars by Race and Gender – Goods
(MBE, White Women, Non-DBE)
(total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
332312	\$0	\$1,105,979	\$1,105,979	\$4,183,752	\$5,289,732
332911	\$0	\$0	\$0	\$11,066,861	\$11,066,861
332996	\$4,887,201	\$0	\$4,887,201	\$36,999	\$4,924,200
423840	\$21,419,635	\$3,899,839	\$25,319,475	\$329,314	\$25,648,789
424720	\$10,840,581	\$601,333	\$11,441,914	\$1,151	\$11,443,066
Total	\$37,147,417	\$5,607,151	\$42,754,569	\$15,618,077	\$58,372,648

Source: CHA analysis of MWRD data.

**Table G21: Distribution of Contract Dollars by Race and Gender - Goods
(MBE, White Women, Non-M/WBE)
(share of total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
332312	0.00%	20.90%	20.90%	79.10%	100.00%
332911	0.00%	0.00%	0.00%	100.00%	100.00%
332996	99.20%	0.00%	99.20%	0.80%	100.00%
423840	83.50%	15.20%	98.70%	1.30%	100.00%
424720	94.70%	5.30%	100.00%	0.00%	100.00%
Total	63.64%	9.61%	73.24%	26.76%	100.00%

Source: CHA analysis of MWRD data.

**Table G22: Distribution of Contract Dollars by Race and Gender – Other Services
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
562219	\$697,108	\$0	\$0	\$0	\$0	\$4,967,907
Total	\$697,108	\$0	\$0	\$0	\$0	\$4,967,907

Source: CHA analysis of MWRD data.

**Table G23: Distribution of Contract Dollars by Race and Gender – Other Services
(share of total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	Non-M/WBE
562219	12.30%	0.00%	0.00%	0.00%	0.00%	87.70%
Total	12.30%	0.00%	0.00%	0.00%	0.00%	87.70%

Source: CHA analysis of MWRD data.

**Table G24: Distribution of Contract Dollars by Race and Gender – Other Services
(MBE, White Women, Non-DBE)
(total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
562219	\$0	\$0	\$697,108	\$4,967,907	\$5,665,015
Total	\$697,108	\$0	\$697,108	\$4,967,907	\$5,665,015

Source: CHA analysis of MWRD data.

**Table G25: Distribution of Contract Dollars by Race and Gender – Other Services
(MBE, White Women, Non-DBE)
(share of total dollars)**

NAICS	MBE	White Women	M/WBE	Non-M/WBE	Total
562219	12.30%	0.00%	12.30%	87.70%	100.00%
Total	12.30%	0.00%	12.30%	87.70%	100.00%

Source: CHA analysis of MWRD data.

**Table G26: Unweighted Availability – All Sectors
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
236220	8.90%	7.19%	3.91%	0.17%	9.41%	20.17%	29.58%	70.42%	100.00%
237110	4.58%	6.03%	3.24%	0.04%	13.89%	13.89%	27.78%	72.22%	100.00%
237310	7.50%	10.31%	3.20%	0.05%	8.50%	21.06%	29.56%	70.44%	100.00%
237990	4.23%	1.88%	2.57%	0.02%	10.87%	8.70%	19.57%	80.43%	100.00%
238110	6.47%	5.82%	1.43%	0.05%	7.21%	13.77%	20.98%	79.02%	100.00%
238120	11.12%	9.22%	1.39%	0.06%	17.95%	21.79%	39.74%	60.26%	100.00%
238130	2.83%	2.56%	0.74%	0.15%	3.79%	6.28%	10.07%	89.93%	100.00%
238140	4.59%	3.51%	1.07%	0.04%	7.50%	9.20%	16.70%	83.30%	100.00%
238160	2.58%	1.86%	0.93%	0.17%	3.79%	5.54%	9.33%	90.67%	100.00%
238210	4.80%	2.85%	1.56%	0.04%	10.63%	9.24%	19.87%	80.13%	100.00%
238220	2.52%	1.73%	0.72%	0.03%	5.05%	4.99%	10.04%	89.96%	100.00%
238320	2.88%	1.99%	0.67%	0.02%	5.68%	5.56%	11.23%	88.77%	100.00%
238910	6.82%	7.20%	2.27%	0.06%	10.58%	16.35%	26.92%	73.08%	100.00%
238990	2.22%	2.27%	0.92%	0.21%	6.16%	5.62%	11.78%	88.22%	100.00%
332312	3.97%	5.24%	1.36%	0.06%	10.00%	10.63%	20.63%	79.38%	100.00%
332911	0.00%	0.00%	4.17%	0.00%	16.67%	4.17%	20.83%	79.17%	100.00%
332996	0.00%	4.17%	0.00%	0.00%	8.33%	4.17%	12.50%	87.50%	100.00%
423610	3.40%	2.40%	1.50%	0.04%	9.98%	7.33%	17.31%	82.69%	100.00%
423840	2.74%	2.35%	1.25%	0.22%	7.98%	6.56%	14.54%	85.46%	100.00%
424720	4.02%	3.66%	1.82%	0.04%	5.03%	9.55%	14.57%	85.43%	100.00%
484110	2.45%	1.90%	0.72%	0.03%	4.25%	5.10%	9.35%	90.65%	100.00%
484220	16.28%	33.27%	2.15%	0.06%	11.40%	51.75%	63.16%	36.84%	100.00%
541330	6.36%	4.67%	6.80%	0.13%	6.88%	17.96%	24.84%	75.16%	100.00%
561730	3.33%	3.00%	0.81%	0.03%	5.86%	7.17%	13.03%	86.97%	100.00%
562219	1.29%	1.06%	0.52%	0.02%	4.35%	2.90%	7.25%	92.75%	100.00%
562910	17.25%	20.07%	6.17%	0.10%	6.41%	43.59%	50.00%	50.00%	100.00%

Total	4.09%	3.55%	1.71%	0.07%	6.70%	9.42%	16.12%	83.88%	100.00%
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Source: CHA analysis of MWRD and Hoovers data.

**Table G27: Unweighted Availability – Construction
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
236220	8.9%	7.2%	3.9%	0.2%	9.4%	20.2%	29.6%	70.4%	100.0%
237110	4.6%	6.0%	3.2%	0.0%	13.9%	13.9%	27.8%	72.2%	100.0%
237310	7.5%	10.3%	3.2%	0.1%	8.5%	21.1%	29.6%	70.4%	100.0%
237990	4.2%	1.9%	2.6%	0.0%	10.9%	8.7%	19.6%	80.4%	100.0%
238110	6.5%	5.8%	1.4%	0.0%	7.2%	13.8%	21.0%	79.0%	100.0%
238120	11.1%	9.2%	1.4%	0.1%	17.9%	21.8%	39.7%	60.3%	100.0%
238130	2.8%	2.6%	0.7%	0.1%	3.8%	6.3%	10.1%	89.9%	100.0%
238140	4.6%	3.5%	1.1%	0.0%	7.5%	9.2%	16.7%	83.3%	100.0%
238160	2.6%	1.9%	0.9%	0.2%	3.8%	5.5%	9.3%	90.7%	100.0%
238210	4.8%	2.8%	1.6%	0.0%	10.6%	9.2%	19.9%	80.1%	100.0%
238220	2.5%	1.7%	0.7%	0.0%	5.0%	5.0%	10.0%	90.0%	100.0%
238320	2.9%	2.0%	0.7%	0.0%	5.7%	5.6%	11.2%	88.8%	100.0%
238910	6.8%	7.2%	2.3%	0.1%	10.6%	16.3%	26.9%	73.1%	100.0%
238990	2.2%	2.3%	0.9%	0.2%	6.2%	5.6%	11.8%	88.2%	100.0%
423610	3.4%	2.4%	1.5%	0.0%	10.0%	7.3%	17.3%	82.7%	100.0%
484110	2.5%	1.9%	0.7%	0.0%	4.3%	5.1%	9.4%	90.6%	100.0%
484220	16.3%	33.3%	2.1%	0.1%	11.4%	51.8%	63.2%	36.8%	100.0%
561730	3.3%	3.0%	0.8%	0.0%	5.9%	7.2%	13.0%	87.0%	100.0%
Total	3.9%	3.4%	1.2%	0.1%	6.6%	8.6%	15.2%	84.8%	100.0%

Source: CHA analysis of MWRD and Hoovers data.

**Table G28: Unweighted Availability - Construction Related Services
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
541330	6.4%	4.7%	6.8%	0.1%	6.9%	18.0%	24.8%	75.2%	100.0%
562910	17.2%	20.1%	6.2%	0.1%	6.4%	43.6%	50.0%	50.0%	100.0%
Total	6.8%	5.3%	6.8%	0.1%	6.9%	19.0%	25.9%	74.1%	100.0%

Source: CHA analysis of MWRD and Hoovers data.

**Table G29: Unweighted Availability – Goods
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
332312	4.0%	5.2%	1.4%	0.1%	10.0%	10.6%	20.6%	79.4%	100.0%
332911	0.0%	0.0%	4.2%	0.0%	16.7%	4.2%	20.8%	79.2%	100.0%
332996	0.0%	4.2%	0.0%	0.0%	8.3%	4.2%	12.5%	87.5%	100.0%
123840	2.7%	2.3%	1.3%	0.2%	8.0%	6.6%	14.5%	85.5%	100.0%
124720	4.0%	3.7%	1.8%	0.0%	5.0%	9.5%	14.6%	85.4%	100.0%
Total	3.1%	3.1%	1.4%	0.1%	7.9%	7.7%	15.7%	84.3%	100.0%

Source: CHA analysis of MWRD and Hoovers data.

**Table G30: Unweighted Availability - Other Services
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
562219	1.3%	1.1%	0.5%	0.0%	4.3%	2.9%	7.2%	92.8%	100.0%
Total	1.3%	1.1%	0.5%	0.0%	4.3%	2.9%	7.2%	92.8%	100.0%

Source: CHA analysis of MWRD and Hoovers data.

Table G31: Share of MWRD Spending by NAICS Code – All Sectors

NAICS	NAICS Code Description	Weight (PCT Share of Total Sector Dollars)
237310	Highway, Street, and Bridge Construction	24.60%
238220	Plumbing, Heating, and Air-Conditioning Contractors	12.60%
238210	Electrical Contractors and Other Wiring Installation Contractors	11.90%
236220	Commercial and Institutional Building Construction	7.30%
238990	All Other Specialty Trade Contractors	6.90%
238110	Poured Concrete Foundation and Structure Contractors	6.30%
238910	Site Preparation Contractors	4.30%
541330	Engineering Services	3.30%
237110	Water and Sewer Line and Related Structures Construction	3.20%
484110	General Freight Trucking, Local	3.20%
423840	Industrial Supplies Merchant Wholesalers	2.60%
238140	Masonry Contractors	2.50%
238120	Structural Steel and Precast Concrete Contractors	1.60%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	1.20%
562910	Remediation Services	1.20%
332911	Industrial Valve Manufacturing	1.10%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.10%
238130	Framing Contractors	0.80%
484220	Specialized Freight (except Used Goods) Trucking, Local	0.80%
238320	Painting and Wall Covering Contractors	0.70%
238160	Roofing Contractors	0.60%
561730	Landscaping Services	0.60%
562219	Other Nonhazardous Waste Treatment and Disposal	0.60%
332312	Fabricated Structural Metal Manufacturing	0.50%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	0.50%
237990	Other Heavy and Civil Engineering Construction	0.10%
Total		100.00%

Source: CHA analysis of MWRD data.

Table G32: Share of MWRD Spending by NAICS Code – Construction

NAICS	NAICS Code Description	(PCT Share of Total Sector Dollars)
237310	Highway, Street, and Bridge Construction	27.68%
238220	Plumbing, Heating, and Air-Conditioning Contractors	14.19%
238210	Electrical Contractors and Other Wiring Installation Contractors	13.37%
236220	Commercial and Institutional Building Construction	8.17%
238990	All Other Specialty Trade Contractors	7.74%
238110	Poured Concrete Foundation and Structure Contractors	7.05%
238910	Site Preparation Contractors	4.83%
237110	Water and Sewer Line and Related Structures Construction	3.63%
484110	General Freight Trucking, Local	3.64%
238140	Masonry Contractors	2.79%
238120	Structural Steel and Precast Concrete Contractors	1.79%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.19%
238130	Framing Contractors	0.88%
484220	Specialized Freight (except Used Goods) Trucking, Local	0.92%
238320	Painting and Wall Covering Contractors	0.75%
238160	Roofing Contractors	0.64%
561730	Landscaping Services	0.67%
237990	Other Heavy and Civil Engineering Construction	0.09%
Total		100.00%

Source: CHA analysis of MWRD data.

Table G33: Share of MWRD Spending by NAICS Code – Construction Related Services

NAICS	NAICS Code Description	(PCT Share of Total Sector Dollars)
541330	Engineering Services	73.62%
562910	Remediation Services	26.38%
Total		100.00%

Source: CHA analysis of MWRD data.

Table G34: Share of MWRD Spending by NAICS Code – Goods

NAICS	NAICS Code Description	(PCT Share of Total Sector Dollars)
423840	Industrial Supplies Merchant Wholesalers	43.94%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	19.60%
332911	Industrial Valve Manufacturing	18.96%
332312	Fabricated Structural Metal Manufacturing	9.06%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	8.44%
Total		100.00%

Source: CHA analysis of MWRD data.

Table G35: Share of MWRD Spending by NAICS Code – Other Services

NAICS	NAICS Code Description	(PCT Share of Total Sector Dollars)
562219	Other Nonhazardous Waste Treatment and Disposal	100.00%
Total		100.00%

Source: CHA analysis of MWRD data.

**Table G36: Aggregated Weighted Availability – All Sectors
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
Total	1.3%	1.1%	0.5%	0.0%	4.3%	2.9%	7.2%	92.8%	100.0%

Source: CHA analysis of MWRD and Hoovers data.

**Table G37: Aggregated Weighted Availability - Construction
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
Total	5.62%	6.0%	2.1%	0.1%	8.3%	13.7%	22.0%	78.0%	100.0%

Source: CHA analysis of MWRD and Hoovers data.

**Table G38: Aggregated Weighted Availability – Construction Related Services
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
Total	9.23%	8.74%	6.63%	0.12%	6.75%	24.72%	31.48%	68.52%	100.00%

Source: CHA analysis of MWRD and Hoovers data.

**Table G39: Aggregated Weighted Availability – Goods
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
Total	2.35%	2.58%	1.82%	0.11%	9.26%	6.86%	16.12%	83.88%	100.00%

Source: CHA analysis of MWRD and Hoovers data.

**Table G40: Aggregated Weighted Availability – Other Services
(total dollars)**

NAICS	Black	Hispanic	Asian	Native American	White Women	MBE	M/WBE	Non-M/WBE	Total
Total	1.29%	1.06%	0.52%	0.02%	4.35%	2.90%	7.25%	92.75%	100.00%

Source: CHA analysis of MWRD and Hoovers data.