

Newark Public Schools Disparity Study 2017



CH COLETTE
HOLT
& ASSOCIATES

**Newark
Public
Schools**

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About the Study Team

Colette Holt & Associates (“CHA”) is a national law and consulting firm specializing in disparity studies, affirmative action contracting programs, expert witness services, compliance monitoring and strategic development related to inclusion, diversity and affirmative action. Founded in 1994, it is led by Colette Holt, J.D., a nationally recognized attorney and expert. In addition to Ms. Holt, the firm consists of Steven C. Pitts, Ph. D., who serves as the team’s economist and statistician, and Ilene Grossman CHA Firm Administrator. CHA is certified as a Disadvantaged Business Enterprise (“DBE”), Minority-Owned Business Enterprise (“MBE”) and a Woman-Owned Business Enterprise (“WBE”) by numerous agencies.

Armand Resource Group, Inc. (“ARG”) is a certified MBE headquartered in Teaneck, New Jersey. ARG provides consulting services in the areas of DBE, MBE and WBE compliance, monitoring and program implementation.

Acknowledgements

We wish to express special appreciation to Stacey Robinson and Charlotte Hitchcock and the staff of the District for their assistance in conducting this study.

I. EXECUTIVE SUMMARY

Colette Holt & Associates (CHA) was retained by the Newark Public Schools (“NPS” or “District”) to perform a study to determine whether Minority- and Women-Owned Business Enterprises (“M/WBEs”) in its market area enjoy equal opportunities to compete for District projects. We were also tasked to evaluate NPS’ current efforts and suggest new initiatives to level the playing field. The objective was to meet the requirements of strict constitutional scrutiny applicable to M/WBE programs and the standards for national best practices.

The methodology for this study embodies the constitutional principles of *City of Richmond v. Croson*, and best practices for designing race- and gender-conscious and small business contracting programs. The CHA 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.

We analyzed purchase order and contract data for calendar years 2007 through 2014. We determined the availability of M/WBEs in the District’s geographic and industry market area. We further analyzed disparities in the wider New Jersey 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’ experiences with the agency’s procurement and purchasing policies and procedures. We examined race- and gender-based barriers throughout the economy through focus groups with business owners and stakeholders, interviews with agency staff, and an electronic survey.

Based on the results of these extensive analyses, we make recommendations for narrowly tailoring NPS’ procurement and purchasing policies and adopting a new race- and gender-conscious M/WBE program.

A. Study Findings

1. NPS’s Procurement Policies and Procedures

a. Summary of NPS’s Procurement Policies and Procedures

NPS’ purchasing functions are governed by stringent and voluminous laws and regulations, including by New Jersey Statutes Annotated 18A and the New Jersey Administrative Code Title 6A. Contracts including federal funds usually have additional requirements.

The Purchasing Department is responsible for the acquisition of all goods and services necessary for the operation of the school district. Purchases include instructional and educational materials; professional services; technology; good and services; utilities; equipment; furniture; and construction projects.

Methods of solicitation vary based on the bid threshold dollar amount and the type of service needed. Solicitations are advertised in various venues, including on the District’s website.

The District seeks to render payment in 30 days following acceptance of the goods or services. A three-way matching process is employed to ensure accurate payments and to protect the taxpayers.

NPS recently implemented an e*Supplier PeopleSoft system. Vendors can electronically track purchase orders, invoices, and payments, and receive email notification of solicitations. e*Supplier also allows interested companies to become bidders in the system. Vendors identify the type of goods and/or services they provide. Email notifications about related solicitations are sent when advertised.

With very limited staff resources, NPS conducts outreach to M/WBEs and other small firms, through attendance at stakeholder groups’ meetings and other agencies’ vendor fairs.

NPS has set aside some smaller construction contracts for bidding solely by certified MBEs.

b. Business Owners' Experiences with NPS

To explore the impacts of NPS' procurement and contracting policies and procedures, we received information from 56 individuals about their experiences and solicited their suggestions for changes.

Access to information about NPS opportunities: Participants reported it was difficult to access information about NPS projects and awards or to know who to contact at the agency to present credentials. There was the perception that the District is a closed network of preferred vendors, especially for professional services contracts.. Business owners reported a lack of transparency in the bidding process. Several participants mentioned the need for more outreach and support for M/WBEs.

Project size and qualifications: Some business owners felt that NPS' imposed more stringent experience, insurance and bonding requirements than necessary to protect the taxpayers. They urged lower thresholds for M/WBEs and small local firms. There was also a push for a full review of how qualifications are determined.

Procurement policies and procedures: Firms that had received District work generally reported that the actual performance of the project went well. There were, however, complaints about bureaucratic processes. Payment delays were frequently mentioned. NPS is seen as paying very slowly, which discourages businesses that could do work from submitting bids.

Technical and procurement assistance: The state of New Jersey requires all contractors seeking work above a certain level on local government construction contracts to be prequalified. Business owners urged NPS to partner with other agencies to provide training to assist M/WBEs to obtain these qualifications and navigate the state's process, as well as other aspects of doing business with the agency.

Small business setasides: There was general enthusiasm for setting contracts aside for bidding only by small, local firms. Small business setasides were welcomed as a tool to build capacity and relationships with the agency. NPS use of MBE setasides has permitted a few M/WBEs and small firms to perform as prime vendors.

2. NPS' Industry and Geographic Markets

Strict constitutional scrutiny requires that a local government limit its race-based remedial program to firms doing business in its geographic and industry markets. CHA therefore analyzed all directly awarded District-funded contracts during the Study period. The Final Contract Data File for analysis contained a total award amount of \$456,052,939, representing 677 contracts. The Final Contract Data File was used to determine the geographic and product markets for the Study, to estimate the utilization of M/WBEs on those contracts, and to calculate M/WBE availability in NPS' marketplace.

To determine the relevant geographic market area, we applied the standard of identifying the firm locations that account for approximately 75 percent of contract and subcontract dollar payments in the contract data file. Location was determined by ZIP code and aggregated into counties as the geographic unit. Spending in New Jersey and New York accounted for 80.6%% of all contract dollars paid in the District's unconstrained product market. Within the spending in these two states, 10 counties (Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset in New Jersey; Kings, New York in New York) captured 89.1% of all NPS spending. Therefore, these 10 counties constituted the geographic market area from which we drew our availability data.

Table A presents the NAICS codes, the label for each NAICS code, and the industry dollar and percentage distribution of spending across NAICS codes, for all industry sectors combined.

Table A: Industry Percentage Distribution of All Contracts by Dollars Paid

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
236220	Commercial and Institutional Building Construction	\$8,542,579.00	2.6%
237310	Highway, Street, and Bridge Construction	\$4,134,684.00	1.3%
238160	Roofing Contractors	\$3,093,851.00	0.9%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$5,013,175.00	1.5%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$9,450,156.00	2.9%
238290	Other Building Equipment Contractors	\$2,905,000.00	0.9%
238910	Site Preparation Contractors	\$2,380,233.00	0.7%
311811	Retail Bakeries	\$3,111,915.00	0.9%
311812	Commercial Bakeries	\$5,025,944.00	1.5%
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	\$3,405,950.00	1.0%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	\$4,406,628.00	1.3%
334413	Semiconductor and Related Device Manufacturing	\$2,100,000.00	0.6%
423210	Furniture Merchant Wholesalers	\$2,600,000.00	0.8%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	\$3,024,538.00	0.9%
423440	Other Commercial Equipment Merchant Wholesalers	\$7,492,641.00	2.3%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$4,508,577.00	1.4%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	\$4,927,541.00	1.5%
423840	Industrial Supplies Merchant Wholesalers	\$1,679,014.00	0.5%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	\$2,948,399.00	0.9%
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	\$3,451,041.00	1.1%
424110	Printing and Writing Paper Merchant Wholesalers	\$2,120,624.00	0.6%
424130	Industrial and Personal Service Paper Merchant Wholesalers	\$761,050.00	0.2%
424410	General Line Grocery Merchant Wholesalers	\$15,100,000.00	4.6%
424420	Packaged Frozen Food Merchant Wholesalers	\$277,360.00	0.1%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	\$3,672,221.00	1.1%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
424490	Other Grocery and Related Products Merchant Wholesalers	\$758,251.90	0.2%
442110	Furniture Stores	\$21,100,000.00	6.4%
451110	Sporting Goods Stores	\$3,240,290.00	1.0%
452111	Department Stores (except Discount Department Stores)	\$8,292,280.00	2.5%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	\$2,637,222.00	0.8%
511130	Book Publishers	\$1,390,717.00	0.4%
511210	Software Publishers	\$4,041,650.00	1.2%
512120	Motion Picture and Video Distribution	\$2,100,000.00	0.6%
541110	Offices of Lawyers	\$1,450,000.00	0.4%
541310	Architectural Services	\$15,000,000.00	4.6%
541330	Engineering Services	\$1,722,800.00	0.5%
541511	Custom Computer Programming Services	\$7,219,000.00	2.2%
541512	Computer Systems Design Services	\$10,100,000.00	3.1%
541611	Administrative Management and General Management Consulting Services	\$755,000.00	0.2%
541690	Other Scientific and Technical Consulting Services	\$7,000,000.00	2.1%
562111	Solid Waste Collection	\$2,850,000.00	0.9%
562211	Hazardous Waste Treatment and Disposal	\$1,858,464.00	0.6%
562910	Remediation Services	\$2,618,033.00	0.8%
611110	Elementary and Secondary Schools	\$6,451,500.00	2.0%
611691	Exam Preparation and Tutoring	\$2,800,000.00	0.9%
611699	All Other Miscellaneous Schools and Instruction	\$9,800,000.00	3.0%
611710	Educational Support Services	\$8,095,970.00	2.5%
624310	Vocational Rehabilitation Services	\$2,100,000.00	0.6%
624410	Child Day Care Services	\$1,600,000.00	0.5%
722310	Food Service Contractors	\$55,900,000.00	17.1%
722320	Caterers	\$32,800,000.00	10.0%
722330	Mobile Food Services	\$7,150,732.00	2.2%
811219	Other Electronic and Precision Equipment Repair and Maintenance	\$720,000.00	0.2%
TOTAL		\$327,725,198	100.0%

Source: CHA analysis of NPS data.

3. NPS' Utilization of M/WBEs in Its Market Area

The next step was to determine the dollar value of the District's utilization of M/WBEs in its market area, as measured by gross payments to prime firms disaggregated by race and gender. We further developed a Master D/M/WBE Directory based upon lists solicited from government agencies and private organizations. We used the results of this extensive data collection process to assign minority group or woman status to the ownership of each firm in the data set.

**Table B: Distribution of Contract Dollars by M/WBE Status, All Sectors
(share of total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	5.9%	0.0%	9.2%	0.0%	15.0%	29.3%	44.3%	55.7%	100.0%
237310	0.0%	58.9%	0.0%	0.0%	58.9%	41.1%	100.0%	0.0%	100.0%
238160	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
238210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
238220	0.0%	0.0%	0.0%	0.0%	0.0%	48.1%	48.1%	51.9%	100.0%
238290	0.0%	0.0%	0.0%	0.0%	0.0%	44.4%	44.4%	55.6%	100.0%
238910	35.0%	0.0%	0.0%	0.0%	35.0%	24.0%	59.0%	41.0%	100.0%
311811	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
311812	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
326113	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
334118	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
334413	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423210	0.0%	0.0%	0.0%	0.0%	0.0%	42.3%	42.3%	57.7%	100.0%
423310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423440	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423610	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423690	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	4.4%	95.6%	100.0%
423840	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423850	0.0%	0.0%	0.0%	0.0%	0.0%	42.3%	42.3%	57.7%	100.0%
423920	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424110	2.4%	0.0%	0.0%	0.0%	2.4%	0.0%	2.4%	97.6%	100.0%
424130	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
424410	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424420	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
424430	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424490	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
442110	0.0%	0.0%	1.2%	0.0%	1.2%	0.0%	1.2%	98.8%	100.0%
451110	93.5%	0.0%	0.0%	0.0%	93.5%	0.0%	93.5%	6.5%	100.0%
452111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
453998	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
511130	0.0%	0.0%	0.0%	0.0%	0.0%	56.9%	56.9%	43.1%	100.0%
511210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
512120	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
541110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541310	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%	50.0%	100.0%
541330	0.0%	0.0%	24.8%	0.0%	24.8%	0.0%	24.8%	75.2%	100.0%
541511	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541512	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541611	0.0%	0.0%	0.0%	0.0%	0.0%	92.7%	92.7%	7.3%	100.0%
541690	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562211	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562910	0.0%	0.0%	34.4%	0.0%	34.4%	7.6%	42.0%	58.0%	100.0%
611110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
611691	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
611699	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
611710	0.0%	0.0%	0.0%	0.0%	0.0%	79.5%	79.5%	20.5%	100.0%
624310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
624410	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	12.5%	87.5%	100.0%
722310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
722320	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
722330	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
811219	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
TOTAL	2.0%	0.7%	0.9%	0.0%	3.7%	9.2%	12.8%	87.2%	100.0%

Source: CHA analysis of NPS data.

4. Availability of M/WBEs in NPS' Market Areas

Using the “custom census” approach to estimating availability and the further assignment of race and gender using the Master Directory and other sources, we determined the aggregated availability of M/WBEs, weighted by the District’s spending in its geographic and industry markets, to be 14.8%. Table C presents the weighted availability data for each racial and gender category.

Table C: Aggregated Weighted Availability, All Sectors

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
Total	1.9%	1.6%	3.1%	0.1%	6.8%	8.0%	14.8%	85.2%	100.0%

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

5. Analysis of Race and Gender Disparities in NPS' 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.

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.¹ 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.

Table D presents the results of this disparity analysis by demographic group for the District's 53 NAICS codes in its constrained product market.² These results suggest that minority and women firms are not achieving parity with White male-owned businesses. Without the implementation of race- and gender-conscious measures, however, it may be that disparities would worsen, suggesting that the District would then function as a passive participant in marketplace discrimination.

Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE
102.0%‡	45.6%	30.3%	0.0%	54.2%	114.4%	86.8%	102.3%

6. Analysis of Race and Gender Disparities in NPS' Market

We explored the data and literature relevant to how discrimination in the Newark area market and throughout the wider New Jersey economy affects the ability of minorities and women to fairly and fully engage in the agency's contract opportunities. First, we analyzed whether there are disparities in the utilization of M/WBEs in the New Jersey market. Next, we examined the earnings of minorities and women relative to White men, the rates at which M/WBEs in Newark's market area form firms and their earnings from those firms. Third, 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.

In particular, we made the following findings:

- Data from the Census Bureau's Survey of Business Owners indicate very large disparities between New Jersey 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 in NPS' market area 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.

¹ 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.")

² A Chi-square test was performed on the disparity ratios to see if the results were statistically significant. None of the disparity ratios for All Sectors was statistically significant.

- 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 anecdotal data, this is the type of proof that addresses whether, in the absence of M/WBE contract goals, the District will be a passive participant in the discriminatory systems found throughout its market area. These economy-wide analyses are relevant and probative to whether the agency may 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 Barriers in NPS' Market Areas

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 such that race-conscious measures are supportable. To gather this type of anecdotal data, we obtained information from 56 individuals. Most reported that, while progress has been made in reducing barriers on the basis of race and gender, significant inequities remain obstacles to full and fair opportunities. M/WBE contract goals remain necessary to level the playing field.

- *Discriminatory attitudes and negative perceptions of competence:* Many minority and female owners reported that agencies and other firms display negative attitudes about the competency and professionalism of minorities and women. The assumption is that minority firms are less qualified. Women faced continuing sexist remarks and conduct.
- *Obtaining work on an equal basis:* There was 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, M/WBEs believed they would be shut out of the District's and the overall Newark area market. Interviewees were clear that contract goals remain necessary to ensure equal opportunities on City projects.

8. Recommendations for a New M/WBE Program for NPS

The Study results fully support the District's compelling interest in implementing a race- and gender-conscious M/WBE program. The statistical data and the anecdotal testimony provide a sufficient basis for the use of narrowly tailored remedial race- and gender-based measures to ensure full and fair access by all firms to NPS prime contracting and associated subcontracting opportunities. Based on these findings, we therefore make the following recommendations.

- *Implement an electronic contracting data collection, monitoring and notifications system:* Implementing a full data collection system should be the first priority for the District. Without data that is accurate complete and timely, it will be very difficult to monitor any new efforts and evaluate their effectiveness. The system should have at least the following functionality: full contact information for all firms; contract/project-specific goal setting, using the data from this study; utilization plan capture; contract compliance for certified and non-certified prime contract and subcontract payments; spend analysis of informal expenditures; program report generation; import/export integration with existing systems.
- *Provide resources to implement the program:* The next order of business for the District should be to create a M/WBE office. Staff should be responsible for the contract award process (outreach, goal setting, bid and proposal review for compliance, etc.) and the contract performance process (goal attainment, substitution reviews, prompt payment tracking, etc.), as they relate to M/WBE concerns. The director or head of this office should report directly to the Superintendent to ensure the independence of the department and demonstrate the importance of this function and the Board's commitment to inclusion.
- *Focus on reducing barriers to M/WBEs prime contract awards:* Once a M/WBE office has been set up, this new department should work with Procurement, Law and user departments to develop contract

specifications with an eye towards unbundling projects into less complex scopes and lower dollar values. Review experience requirements with the goal of reducing them to the lowest level necessary to ensure the bidder has adequate experience. Review surety bonding and insurance requirements so they are no greater than necessary to protect NPS' interests.

- *Increase vendor communication and outreach to M/WBEs and small firms:* Conduct vendor outreach events specifically for District contracts. Facilitate “match making” sessions between prime contractors and subcontractors. Publish an annual contracting forecast of larger contracts to permit vendors to plan their work and form teams. Conduct targeted outreach to firms in those sectors where M/WBEs have received few contracts.
- *Provide training for all District staff with contracting responsibilities or vendor interface:* Train of all NPS personnel with responsibility for contract development and award and vendor management about the new program. Reaffirm the District's commitment to supplier diversity, and encourage all departments to buy into the values and objectives of the program.
- *Appoint an M/WBE Advisory Council:* A M/WBE advisory group can help the District to implement and publicize the program. Such a committee would consist of District staff (procurement, construction, legal, etc.) and representatives of stakeholder groups (minority/women and general contractor organizations, community groups, etc.). Its charge would be to support the program and identify improvements. While strictly advisory, this type of group can help to build support for the program and provide crucial feedback to the District about implementation.
- *Adopt a Small Business Enterprise Target Market:* Set aside some smaller contracts for bidding only by small, local firms as prime contractors. Provide additional assistance for SBE and M/WBE vendors, such as quick pay (e.g., invoicing every two weeks); reduced experience requirements; no holding of retainage, etc.
- *Consider partnering with other agencies to provide bonding, financing and technical assistance programs:* Bonding and financing programs assist small firms by providing loans and issuing surety bonds to certified contractors, with low interest rates. The programs may also provide general banking services on favorable terms to applicant firms. In addition, technical assistance with critical business skills such as estimating, accounting, safety, marketing, legal compliance, etc., could be made available. NPS should work with other organizations to provide this critical support.
- *Use the study to set the overall annual M/WBE goal:* The availability estimates in Chapter IV should be the basis for consideration of overall, annual spending targets for City funds. We found the availability of M/WBEs to be 14.8 percent.
- *Use the study to set narrowly tailored M/WBE contract goals:* The detailed availability estimates in the study should serve as the starting point for contract goal setting. NPS should weigh the estimated scopes of the contract by the availability of M/WBEs in those scopes as estimated in the study, and then adjust the result based on current market conditions. The electronic system should have a contract goal setting module. Further, NPS should bid some contracts that it determines have significant opportunities for M/WBE participation without goals. These “control contracts” can illuminate whether certified firms are used or even solicited in the absence of goals. The development of some unremediated markets data will be probative of whether contract goals remain needed to level the playing field for minorities and women.
- *Narrowly tailor M/WBE program eligibility standards:* All racial and ethnic groups and White women should be eligible for participation in the program on a presumptive basis. Program eligibility should be limited to firms that have a business presence in the District's market area. Continue to accept M/WBE certifications from the state of New Jersey, with the addition of the collection of data on the race and gender of the firm's ownership. Consider accepting other highly reliable certifications.
- *Adopt compliance and monitoring policies and procedures:* Model the DBE program regulations at 49 C.F.R. Part 26. Include clearly delineated policies and forms by which a bidder or proposer can establish that it has either met the contract goal(s) or made good faith efforts to do so. Develop rules for how participation by certified firms will be counted towards the goal(s). Define a “commercially useful function.” Provide standards for M/WBE substitutions during contract performance. Develop contract closeout procedures and standards for sanctions for firms that fail to meet their contractual requirements under the program. Provide a process to appeal adverse determinations.

- *Conduct regular M/WBE program reviews:* The District should conduct a full and thorough review of the evidentiary basis for the Program approximately every five to seven years. A sunset date is also required by the courts.
- *Develop Performance Measures for Program Success:* NPS should develop quantitative performance measures for overall success of its programs. These could include progress towards meeting the overall, annual MBE and WBE goals; tracking good faith efforts waivers; increased bids/proposals from certified firms; increased variety of types of contracts awarded to M/WBE prime vendors and subcontractors; graduation from the programs, etc.

II. LEGAL STANDARDS FOR MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISE 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.
- 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 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.⁷ 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

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

⁴ *Id.* at 509.

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

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

⁷ While the limitation of the DBE program’s benefits to firms owned by “socially and economically disadvantaged” persons is facially race-neutral, the Eighth Circuit and other courts have held that “the program is subject to strict judicial scrutiny, no doubt because the statute employs a race-based rebuttable presumption to define this class of beneficiaries and authorizes the use of race-conscious remedial measures.” *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation*, 345 F.3d. 964, 969 (8th Cir. 2003), *cert. denied*, 541 U.S. 1041 (2004).

justification” and be “substantially related” to the objective.⁸ However, appellate courts have applied strict scrutiny to the gender-based presumption of social disadvantage in reviewing the constitutionality of the DBE program.⁹ 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.¹⁰ 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.¹¹ The plaintiff must then proffer evidence to rebut the government’s case, and bears the ultimate burden of production and persuasion that the affirmative action program is unconstitutional.¹² “[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.”¹³ A plaintiff “cannot meet its burden of proof through conjecture and unsupported criticism of [the government’s] evidence.”¹⁴ For example, in the challenge to the Minnesota and Nebraska DBE programs, the Eighth Circuit held that “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.”¹⁵ When the statistical information is sufficient to support the inference of discrimination, the plaintiff must prove that the statistics are flawed.¹⁶ 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.¹⁷

There is no need of formal legislative findings of discrimination,¹⁸ nor “an ultimate judicial finding of discrimination before [a local government] can take affirmative steps to eradicate discrimination.”¹⁹

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

⁸ Cf. *United States v. Virginia*, 518 U.S. 515 (1996).

⁹ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 720 (7th Cir. 2007) (“Northern Contracting III”).

¹⁰ *United States v. Carolene Products Co.*, 304 U.S. 144 (1938).

¹¹ *Aiken v. City of Memphis*, 37 F.3d 1155, 1162 (6th Cir. 1994).

¹² *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).

¹³ *Engineering Contractors Association of South Florida, Inc. v. Metropolitan Dade County*, 122 F.3d 895, 916 (11th Cir. 1997).

¹⁴ *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).

¹⁵ *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.”)..

¹⁶ *Engineering Contractors II*, 122 F.3d at 916; *Coral Construction Co. v. King County*, 941 F.2d 910 921 (9th Cir. 1991).

¹⁷ *Adarand VII*, 228 F.3d at 1166; *Engineering Contractors II*, 122 F.3d at 916; *Concrete Works II*, 36 F.3d at 1522-1523; *Webster*, 51 F. Supp. 2d at 1364; *see also Wygant v. Jackson Board of Education*, 476 U.S. 267, 277-278 (1986).

¹⁸ *Webster v. Fulton County, Georgia*, 51 F.Supp.2d 1354, 1364 (N.D. Ga. 1999).

¹⁹ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1522 (10th Cir. 2003).

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 establish the District’s compelling interest in remedying discrimination and developing narrowly tailored initiatives.

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

City of Richmond v. J.A. Croson Co. established the constitutional contours of permissible race-based public contracting programs. Reversing long established law, the Supreme 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 the

se 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.²⁰

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.²¹ 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

²⁰ 488 U.S. at 491-92.

²¹ 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.”).

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.²²

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.²³

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 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.”²⁴

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.”²⁵

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

²² 488 U.S. at 493.

²³ *Id.* at 499.

²⁴ *Id.* at 510.

²⁵ *Id.*

applied regardless of whether the individual MBE had suffered discrimination.²⁶ 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 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.²⁷

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.²⁸ 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.²⁹

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 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*.³⁰

²⁶ See *Grutter*, 529 U.S. at 336-337 (quotas are not permitted; race must be used in a flexible, non-mechanical way).

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

²⁸ *Id.* at 502.

²⁹ See, e.g., *Northern Contracting III*, 473 F.3d at 723.

³⁰ *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

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 DBE Program avoids these pitfalls. Part 26 "provides for a flexible system of contracting goals that contrasts sharply with the rigid quotas invalidated in *Croson*."³¹

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

C. Establishing a "Strong Basis in Evidence" for NPS'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.³² 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.³³

Croson'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."³⁴

Nor must NPS 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."³⁵ Denver further linked its award of public dollars to discriminatory conduct through the testimony of M/WBEs that identified general contractors who used them on City projects with M/WBE goals but refused to use them on private projects without goals.

The following are the evidentiary elements courts 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.

1528 (City may rely on "data reflecting the number of MBEs and WBEs in the marketplace to defeat the challenger's summary judgment motion").

³¹ *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).

³² *Adarand VII*, 228 F.3d at 1166 ("statistical and anecdotal evidence are appropriate").

³³ *Id.*

³⁴ *Concrete Works IV*, 321 F.3d at 976.

³⁵ *Id.* at 977.

1. Define NPS's Market Areas

The first step is to determine the market areas in which the District 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.³⁶ NPS 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.³⁷

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.³⁸ 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.³⁹

2. Examine Disparities between M/WBE Availability and NPS'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 on NPS projects.

Where there is a significant statistical disparity between the number of qualified minority contractors willing and able to perform a particular service and the number of such contractors actually engaged by the locality or the locality's prime contractors, an inference of discriminatory exclusion could arise... In the extreme case, some form of narrowly tailored racial preference might be necessary to break down patterns of deliberate exclusion.⁴⁰

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.⁴¹ 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.⁴²

The first step is to calculate the availability of minority- and women-owned firms in the government's geographic and industry market area. In addition to creating the disparity ratio, correct measures of availability

³⁶ *Croson*, 488 U.S. at 508.

³⁷ *Concrete Works II*, 36 F.3d at 1520 (to confine data to strict geographic boundaries would ignore "economic reality").

³⁸ "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").

³⁹ *Id.* at pp. 50-51.

⁴⁰ *Croson*, 488 U.S. at 509; see *Webster*, 51 F.Supp.2d at 1363, 1375.

⁴¹ *Scott*, 199 F.3d at 218; see also *Concrete Works II*, 36 F.3d at 1526-1527; *O'Donnell Construction Co., Inc. v. State of Columbia*, 963 F.2d 420, 426 (D.C. Cir. 1992); *Cone Corp. v. Hillsborough County*, 908 F.2d 908, 916 (11th Cir. 1990), cert. denied, 498 U.S. 983 (1990).

⁴² 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 F.3d at 914.

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.⁴³

There is no requirement to control for firm size, area of specialization, and whether the firm has 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, size and experience are not race- and gender-neutral variables: “M/WBE construction firms are generally smaller and less experienced *because* of discrimination.”⁴⁴ 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 disparities. Additionally, *Croson* does not “require disparity studies that measure whether construction firms are able to perform a *particular contract*.”⁴⁵

NPS 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 evidence that such proof does not support those inferences.⁴⁶

Nor must the District 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.⁴⁷

Next, NPS need not prove that private firms directly engaged in any discrimination in which the government passively participates intentionally discriminate, 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.⁴⁸

Similarly, statistical evidence by its nature cannot identify the individuals responsible for the discrimination.⁴⁹

3. Examine the Results in NPS’s Unremediated Markets

The results of contracts solicited without goals are an excellent indicator of whether discrimination continues to impact opportunities in public contracting. Evidence of race and gender discrimination in relevant “unremediated”⁵⁰ markets provides an important indicator of what level of actual M/WBE participation can be

⁴³ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868, at *70 (Sept. 8, 2005) (IDOT’s custom census approach was supportable because “discrimination in the credit and bonding markets may artificially reduce the number of M/WBEs”).

⁴⁴ *Concrete Works IV*, 321 F.3d at 983 (emphasis in the original).

⁴⁵ *Id.* at 987-88 (emphasis in the original).

⁴⁶ *Id.* at 971.

⁴⁷ *Id.* at 973 (emphasis in the original).

⁴⁸ *Id.* at 971.

⁴⁹ *Id.* at 973.

⁵⁰ “Unremediated market” means “markets that do not have race- or gender-conscious subcontracting goals in place to remedy discrimination.” *Northern Contracting II*, at *36.

expected in the absence of District mandated affirmative efforts to contract with M/WBEs.⁵¹ As the Eleventh Circuit has acknowledged, “the program at issue may itself be masking discrimination that might otherwise be occurring in the relevant market.”⁵² If M/WBE utilization is below availability in unremediated markets, an inference of discrimination may be supportable. The courts have held that 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.”⁵³ 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.⁵⁴ The court in the challenge to the City of Chicago’s M/WBE program for construction contracts 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.⁵⁵ Evidence of unremediated markets “sharpens the picture of local market conditions for MBEs and WBEs.”⁵⁶

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.

4. Analyze 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.⁵⁷ 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

⁵¹ 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).

⁵² *Engineering Contractors II*, 122 F.3d at 912.

⁵³ *Adarand VII*, 228 F.3d at 1174.

⁵⁴ See also *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 91 F.3d 586, 599-601 (3rd Cir. 1996) (“*Philadelphia III*”).

⁵⁵ *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.

⁵⁶ *Concrete Works II*, 36 F.3d at 1529.

⁵⁷ *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).

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.⁵⁸

Business discrimination studies and lending formation studies are relevant and probative because they show a strong link between the disbursement of public funds and the channeling of those funds due to private discrimination. “Evidence that private discrimination results in barriers to business formation is relevant because it demonstrates that M/WBEs are precluded *at the outset* from competing for public construction contracts. Evidence of barriers to fair competition is also relevant because it again demonstrates that *existing* M/WBEs are precluded from competing for public contracts.”⁵⁹ 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 DBE Program for federal-aid transportation contracts, the courts agree that disparities between the earnings of minority-owned firms and similarly situated non-minority-owned firms and the disparities in commercial loan denial rates between Black business owners compared to similarly situated non-minority business owners are strong evidence of the continuing effects of discrimination.⁶⁰ 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.⁶¹

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

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.”⁶² Testimony about discrimination practiced by prime contractors, bonding companies, suppliers, and lenders has been found relevant regarding barriers both to minority firms’ business formation and to their success on governmental projects.⁶³ 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.”⁶⁴ “[W]e do not set out a categorical rule that every case must

⁵⁸ *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1168-69 (10th Cir. 2000) (“*Adarand VII*”), cert. granted then dismissed as improvidently granted, 532 U.S. 941, 534 U.S. 103 (2001).

⁵⁹ *Id.*

⁶⁰ *Adarand VII*, 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); *Western States*, 407 F.3d at 993; *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2004 U.S. Dist. LEXIS 3226 at *64 (N.D. Ill., Mar. 3, 2004) (“*Northern Contracting I*”);

⁶¹ *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.”).

⁶² *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).

⁶³ *Adarand VII*, 228 F.3d at 1168-1172.

⁶⁴ *Concrete Works II*, 36 F.3d at 1520, 1530.

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.”⁶⁵

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.”⁶⁶ 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.”⁶⁷

D. Narrowly Tailoring a Minority-Owned and Women-Owned Business Enterprise Procurement Program for NPS

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 still be narrowly tailored to that evidence. We note that programs that closely mirror those of the U.S. Department of Transportation’s Disadvantaged Business Enterprise program⁶⁸ have been upheld using that framework.⁶⁹ 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;
- Any adverse impact of the relief on third parties; and
- The duration of the program.⁷⁰

1. Consider Race- and Gender-Neutral Remedies

Race- and gender-neutral approaches are a necessary component of a defensible and effective M/WBE program⁷¹ and the failure to seriously consider such remedies has been fatal to several programs.⁷² 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 NPS without resorting to the use of race or gender in its decision-making. Effective remedies include unbundling of

⁶⁵ *Engineering Contractors II*, 122 F.3d at 926.

⁶⁶ *Id.* at 249.

⁶⁷ *Concrete Works IV*, 321 F.3d at 989.

⁶⁸ 49 C.F.R. Part 26.

⁶⁹ See, e.g., *Midwest Fence Corp. v. Illinois Department of Transportation, Illinois State Toll Highway Authority et al*, 840 F.3d 942 (7th Cir. 2016) (upholding the Illinois Tollway’s program for state funded contracts modeled after Part 26 and based on CHA’s expert testimony).

⁷⁰ *United States v. Paradise*, 480 U.S. 149, 171 (1987); see also *Sherbrooke*, 345 F.3d at 971-972.

⁷¹ *Croson*, 488 U.S. at 507 (Richmond considered no alternatives to race-based quota); *Drabik II*, 214 F.3d at 738; *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).

⁷² 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.

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.⁷³ Further, governments have a duty to ferret out and punish discrimination against minorities and women by their contractors, staff, lenders, bonding companies or others.⁷⁴

The requirement that the agency must meet the maximum feasible portion of the goal through race-neutral measures, as well as estimate that portion of the goal it predicts will be met through such measures, has been central to the holdings that the DBE program regulations meet narrow tailoring.⁷⁵

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.⁷⁶ 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.”⁷⁷

2. Set Targeted MBE and WBE Goals

Numerical goals or benchmarks for M/WBE participation must be substantially related to their availability in the relevant market.⁷⁸ For example, the DBE program 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.⁷⁹ “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*.”⁸⁰

Goals can be set at various levels of particularity and participation. The District may set an overall, aspirational goal for its annual, aggregate spending. Annual goals can be further disaggregated by race and gender. Approaches range from a single M/WBE or DBE goal that includes all racial and ethnic minorities and nonminority women,⁸¹ to separate goals for each minority group and women.⁸² We note, however, that 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.⁸³

The Eighth Circuit has recognized that goal setting is not an absolute science. In holding the DBE regulations to be narrowly tailored, the court noted that “[t]hrough 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.”⁸⁴ However, sheer speculation cannot form the basis for an enforceable measure.⁸⁵

⁷³ See 49 CFR § 26.51.0.

⁷⁴ *Croson*, 488 U.S. at 503 n.3; *Webster*, 51 F.Supp.2d at 1380.

⁷⁵ See, e.g., *Sherbrooke*, 345 F.3d. at 973

⁷⁶ *Grutter*, 529 U.S. at 339.

⁷⁷ *Coral Construction*, 941 F.2d at 923.

⁷⁸ *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*”).

⁷⁹ 49 C.F.R. § 26.45.

⁸⁰ *Id.*

⁸¹ See 49 C.F.R. §26.45(h) (overall goal must not be subdivided into group-specific goals).

⁸² See *Engineering Contractors II*, 122 F.3d at 900 (separate goals for Blacks, Hispanics and women).

⁸³ *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.”).

⁸⁴ *Sherbrooke*, 345 F.3d. at 972.

It is settled case law that goals for a particular solicitation should reflect the particulars of the contract, not reiterate annual aggregate targets; goals must be contract specific. “Standard” goals are not defensible. Contract goals must be based upon availability of M/WBEs to perform the anticipated scopes of the contract, location, progress towards meeting annual goals, and other factors. Not only is this legally mandated,⁸⁶ but this approach also reduces the need to conduct good faith efforts reviews as well as the temptation to create “front” companies and sham participation to meet unreasonable contract goals. While this is more labor intensive than defaulting to the annual, overall goals, there is no option to avoid meeting narrow tailoring because to do so would be more burdensome.

3. Ensure Flexibility of Goals and Requirements

It is imperative that remedies not operate as fixed quotas.⁸⁷ 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.⁸⁸ 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.⁸⁹ This feature has been central to the holding that the DBE program meets the narrow tailoring requirement.⁹⁰

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

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

The groups to include must be based upon the evidence.⁹¹ 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.”⁹² In striking down Cook County, Illinois’ construction program, the Seventh Circuit remarked that a “state or local government that has discriminated just against blacks may not by way of remedy discriminate in favor of blacks and Asian-Americans and women.”⁹³ However, at least one court has held some quantum of evidence of discrimination for each group is sufficient; *Croson* does not require that each group included in the ordinance suffer equally from discrimination.⁹⁴ Therefore, remedies should be limited to those firms that have suffered actual harm in the market area.⁹⁵

Next, the firm’s owner(s) must be disadvantaged. The DBE Program’s rebuttable presumptions of social and economic disadvantage, including the requirement that the disadvantaged owner’s personal net worth not exceed a certain ceiling and that the firm must meet the Small Business Administration’s size definitions for its

⁸⁵ *BAGC v. Chicago*, 298 F.Supp.2d at 740 (City’s MBE and WBE goals were “formulistic” percentages not related to the availability of firms).

⁸⁶ See *Sherbrooke*, 345 F.3d at 972; *Coral Construction*, 941 F.2d at 924.

⁸⁷ 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”).

⁸⁸ 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.”).

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

⁹⁰ See, e.g., *Sherbrooke*, 345 F.3d. at 972.

⁹¹ *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).

⁹² *Webster*, 51 F.Supp.2d at 1380–1381.

⁹³ *Builders Association of Greater Chicago v. County of Cook*, 256 F.3d 642, 646 (7th Cir. 2001).

⁹⁴ *Concrete Work IV*, 321 F.3d at 971 (Denver introduced evidence of bias against each group; that is sufficient).

⁹⁵ *H. B. Rowe Co. v. Tippett*, 615 F.3d 233, 254 (4th Cir. 2010) (“[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.”).

industry, have been central to the courts' holdings that it is narrowly tailored.⁹⁶ "[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."⁹⁷ Further, anyone must be able challenge the disadvantaged status of any firm.⁹⁸

5. Evaluate the Burden on Third Parties

Failure to make "neutral" changes to contracting and procurement policies and procedures that disadvantage M/WBEs and other small businesses may result in a finding that the program unduly burdens non-M/WBEs.⁹⁹ However, "innocent" parties can be made to share some of the burden of the remedy for eradicating racial discrimination.¹⁰⁰ The burden of compliance need not be placed only upon those firms directly responsible for the discrimination. 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.¹⁰¹ "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."¹⁰²

Narrow tailoring does permit certified firms acting as prime contractors to count their self-performance towards meeting contract goals, if the study finds discriminatory barriers to prime contract opportunities and there is no requirement that a program be limited only to the subcontracting portions of contracts. The DBE program regulations provide this remedy for discrimination against DBEs seeking prime work,¹⁰³ and the regulations do not limit the application of the program to only subcontracts.¹⁰⁴ 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

⁹⁶ *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).

⁹⁷ *Id.* at 973.

⁹⁸ 49 C.F.R. §26.87.

⁹⁹ 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).

¹⁰⁰ *Concrete Works IV*, 321 F.3d at 973; *Wygant*, 476 U.S. at 280-281; *Adarand VII*, 228 F.3 at 1183 ("While there appears to be no serious burden on prime contractors, who are obviously compensated for any additional burden occasioned by the employment of DBE subcontractors, at the margin, some non-DBE subcontractors such as *Adarand* will be deprived of business opportunities"); cf. *Northern Contracting II*, at *5 ("Plaintiff has presented little evidence that is [sic] has suffered anything more than minimal revenue losses due to the program.").

¹⁰¹ *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).

¹⁰² *Western States*, 407 F.3d at 995.

¹⁰³ 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.").

¹⁰⁴ 49 C.F.R. § 26.45(a)(1).

of prime contracts, the indirect effects of discrimination may linger. The ability of DBEs to compete successfully for prime contracts may be indirectly affected by discrimination in the subcontracting market, or in the bonding and financing markets. Such discrimination is particularly burdensome in the construction industry, a highly competitive industry with tight profit margins, considerable hazards, and strict bonding and insurance requirements.¹⁰⁵

6. Examine the Duration and Review of the Program

Race-based programs must have duration limits. A race-based remedy must “not last longer than the discriminatory effects it is designed to eliminate.”¹⁰⁶ The unlimited duration and lack of review were factors in the court’s holding that the City of Chicago’s M/WBE construction program was no longer narrowly tailored; Chicago’s program was based on 14-year-old information, which while it supported the program adopted in 1990, no longer was sufficient standing alone to justify the City’s efforts in 2004.¹⁰⁷ How old is too old is not definitively answered,¹⁰⁸ but governments would be wise to analyze data at least once every five or six years.

In contrast, the USDOT DBE program’s periodic review by Congress has been repeatedly held to provide adequate durational limits.¹⁰⁹ 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.”¹¹⁰

¹⁰⁵ *Northern Contracting II*, 2005 U.S. Dist. LEXIS 19868 at 74.

¹⁰⁶ *Adarand III*, 515 U.S. at 238.

¹⁰⁷ *BAGC v. Chicago*, 298 F.Supp.2d at 739.

¹⁰⁸ See, e.g., *Associated General Contractors of Ohio, Inc. v. Drabik*, 50 F.Supp.2d 741, 747, 750 (S.D. Ohio 1999) (“*Drabik I*”) (“A program of race-based benefits cannot be supported by evidence of discrimination which is now over twenty years old.... The state conceded that it had no additional evidence of discrimination against minority contractors, and admitted that during the nearly two decades the Act has been in effect, it has made no effort to determine whether there is a continuing need for a race-based remedy.”); *Brunet v. City of Columbus*, 1 F.3d 390, 409 (6th Cir. 1993) (fourteen-year-old evidence of discrimination “too remote to support a compelling governmental interest.”).

¹⁰⁹ See *Western States*, 407 F.3d at 995.

¹¹⁰ *Rowe*, 615 F.3d at 253.

III. NEWARK PUBLIC SCHOOLS PROCUREMENT POLICIES AND PROCEDURES

This Chapter describes Newark Public Schools' procurement process as it relates to its efforts to create equitable contracting opportunities for all firms. We first describe the agency's purchasing policies and procedures, and then provide comments from business owners regarding their experiences doing business with the District.

A. Summary of NPS's Procurement Policies and Procedures

NPS has 66 schools, 50 administrative offices, and approximately 5600 employees and 35,000 students. This complex organization's purchasing functions are governed by stringent and voluminous laws and regulations, including by New Jersey Statutes Annotated 18A and the New Jersey Administrative Code Title 6A. Contracts including federal funds usually have additional requirements.

The Purchasing Department is responsible for the acquisition of all goods and services necessary for the operation of the District. Purchases include instructional and educational materials; professional services; technology; goods and services; utilities; equipment; furniture; and construction projects.

Methods of solicitation vary based on the bid threshold amount and the type of service needed.

- For awards between \$1.00 and \$5,999.00, one written quote using the Request for Quotation (RFQ) solicitation method is required. RFQs are distributed by invitation and the response time is 3-10 days. Awards are usually determined by price; other factors may also be considered. The RFQ will indicate the exact factors in determining the award.
- For contracts between \$6,000.00 and \$39,000.00, NPS must solicit two written quotations. For contracts \$40,00.00 and above, the Department must use a formal bid process that requires NPS Board action. Three solicitation methods are permitted.
 - An Invitation to Bid (ITB) is the most common form of solicitation. It is used to obtain pricing on specific goods or services. All bids are advertised in the local newspaper and on the District's website. All responses are publicly opened on the scheduled date and time shown in the solicitation. Awards are typically made to the lowest responsive and responsible bidder.
 - A Request for Proposal (RFP) is based on a scope of work defined by the user department. It is publicly advertised and the response time is 20 days or more. Responses are evaluated by a committee and based on the pre-determined evaluation criteria outlined in the solicitation. Awards are given to the vendor that offers the "best value" to the District.
 - A Prequalification Solicitation (PQS) is used to develop a pool of approved vendors to provide specific services. Responses are reviewed in the same manner as a RFP. Awards are made to multiple vendors. Vendors are given contracts for a maximum dollar value but must secure authorized Purchase Orders before commencing service or delivering goods. PQS awards do not guarantee payments; it allows more efficient processing of purchase orders for services.

All ITBs, RFPs and PQSs and awards are advertised in the following venues:

- Newark Star Ledger
- Newark Public Schools website (Purchasing tab)
- E*Supplier email notification
- Info-Bid website

The District seeks to render payment in 30 days following acceptance of the goods or services. A three-way matching process is employed to ensure accurate payments and to protect the taxpayers. Vendors must submit an invoice and signed voucher, certifying delivery. Concurrently, the requesting NPS location

must submit an electronic receipt. Once all documents are received and determined to be accurate, payment may be issued.

NPS recently implemented the e*Supplier PeopleSoft system. Vendors can electronically track purchase orders, invoices, and payments, and receive email notification of solicitations. e*Supplier also allows interested companies to become bidders in the system. Vendors identify the type of goods and/or services they provide. Email notifications about related solicitations are sent when advertised.

With very limited staff resources, NPS conducts various types of outreach to M/WBEs and other small firms, such as attendance at stakeholder groups' meetings and other agencies' vendor fairs.

B. Experiences Doing Business with NPS

To explore the impacts of NPS's race- and gender-neutral contracting policies and procedures, we received information from 56 individuals about their experiences and solicited their suggestions for changes through interviews and an electronic survey.

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 the group interviews.

1. Access to information about NPS opportunities

Participants reported it was difficult to access information about NPS projects and awards or to know whom to contact at the agency to present credentials. There was the perception that the District is a closed network of preferred vendors, especially for professional services contracts. We note that the interviews were conducted before the new e*Supplier program was operational.

Five years ago, I had submitted my paperwork for MBE/DBE for the Newark Public Schools, but I've not seen any correspondence subsequently to say that there is an event happening, or this procurement is coming up.

[The problem is] a lack of knowledge about what is and what's available for them.

A lot of this information is not forthcoming and those vendors don't know how to apply,

I haven't found anything from Newark [Public Schools]. In fact, it is interesting, because the state has gotten much better at sending out the email. I have got things from the school's development authority, and other vendors of the state, but not from Newark.

NPS should email relevant firms w/solicitation information.

Business owners reported a lack of transparency in the bidding process.

There is little outreach or follow up. Bids are submitted but we never learn the outcome.

There's no shortage of stuff printed and out there. The shortage is in the validity, the transparency and the actual follow-through.

If somebody doesn't broker an opportunity for you, you will spend a lot of time going around in circles.

There needs to be more transparency about the award and approval process. Who is the decision maker for awards? There needs to be a clear process to submit and evaluate and track individual solicitations and contract awards.

[The District has had] a parade of consultants that the position or the work is never posted that anybody can ever see. The scope of deliverables is never known.

NPS should post who was short-listed and the firm that received the final award in an easy to search format.

The Delaware River Authority is a good model of transparency. The list of respondents, then the short list, then the ultimate awardee are listed on the website

Several participants mentioned the need for more outreach and support for M/WBEs.

There should be a dedicated individual for M/WBEs to contact.

I would like to have networking events organized for professionals. I'd definitely like to participate 100%.

NPS should send staff regularly to organization events, like the minority chambers of commerce.

[The District should] conduct matchmaking and outreach events for staff and prime vendors with MBEs.

2. Project size and qualifications

Some business owners felt that NPS imposed more stringent experience, insurance and bonding requirements than necessary to protect the taxpayers. They urged lower thresholds for M/WBEs and small local firms. There was also a push for a full review of how qualifications are determined.

There should be categories of size of projects.

We are selling as subs, and the reason why we are not able to get prime, two reasons. The projects are too large ... Second one is, for whatever reason, there are sometimes high insurance requirements, and bonding requirements.

Some agencies do encourage lower number of requirements, liability insurance, the insurance as well as the bonding, to encourage small company to, especially M/DBEs, to participate.

3. Procurement policies and procedures

Firms that had received District work generally reported that the actual performance of the project went well.

I like working for them.

It's great to work for them. You do get paid

There were, however, complaints about bureaucratic processes.

A lot of it is just doing the same thing the same old way as opposed to ever thinking about it and improving it.

The problem with the Newark Board of Education is that it takes so long for them to actually do the paperwork to award the project. This job that I'm doing now, I was low bidder, I think in September [and it's now June]. They finally turned it around.

Payment delays were frequently mentioned. NPS is seen as paying very slowly, which discourages those firms that could do work from submitting bids.

Prompt payment is an issue. The net payment term is 30 days but that's often not met.

There was a missed piece of paperwork, or this wasn't filed correctly. So there's a lot of bureaucracy in place. It's not necessarily because they didn't want to pay it. It's just that there are processes.

The one area where I think they could really improve upon, and particularly if you're coming from a small, minority or woman owned firm, is on payment. It's really on processing payment. Because what typically happens, and Newark, because of its bureaucracy, does it at the worst end of the public sector, is the time lag between doing the work and getting paid.... We actually literally have to act as a bank in terms of paying our employees, paying our consultants. ... Yes, I've got a project with Newark. It's like, oh my god, I got a project with Newark.... Forms have to be sent multiple times. The plans are lost. You didn't put it on a yellow color sheet. Things like that. That's part of the delay is really just the bureaucracy or that we're just not getting to the right person or you don't get timely information back if you keep making most of the phone calls.... It especially hurts minority and smaller firms.

One participant reported that improvements were in process.

I think there's a law now with the Newark Board of Education that once you submit your bill, they have thirty days to pay you. It's not bad. The good part about public bidding is you're guaranteed your money. As long as the workmanship is good you will get paid.

4. Technical and procurement assistance

The state of New Jersey requires all contractors seeking work above a certain level on local government construction contracts to be prequalified. Business owners urged NPS to partner with other agencies to provide training to assist M/WBEs to obtain these qualifications and navigate the state's process, as well as other aspects of doing business with the District.

The District should partner with other agencies such as Essex County to provide technical assistance, such as how to bid, invoicing, certified payrolls, marketing, accounting, things like that.

[We] need seminars on how to do business with the District.

The website should be clear about how to do business with NPS. The District needs to hold seminars for interested firms.

5. Small business setasides

There was general enthusiasm for setting contracts aside for bidding only by small, local firms. Small business setasides were welcomed as a tool to build capacity and relationships with the agency. NPS in the past has used this approach for some small contracts for MBEs.

The Board of Education of Newark, once in a while, does come out with these very small, informal setasides for MBEs and WBEs. I do bid on it. Once in a while, they give me a little work on a small scale.

I just wish they would have more setaside jobs. It would be wonderful.

[NPS] should set up a rotation list of qualified small firms.

More set aside programs [are needed].

NPS' MBE setaside contracts have permitted M/WBEs and small firms to perform as prime vendors.

If we demonstrate as a prime the qualifications, now we can use those references for our future jobs. One of the biggest drawbacks when you are working as a subcontractor, as an MBE or somebody... [is] you are not interacting directly with the owner.

[The large firm] doesn't want to give their share of work to somebody else. What are they trying to give? They are trying to give the work that is really not professional in nature. For example, if it is an environmental project, they try to give lab testing.

C. Conclusion

The program review and the business owner and stakeholder interviews suggest several areas for improvement. These include greater access to information about District opportunities and the procurement process; structured and regular networking, outreach and matchmaking efforts; reducing contract size and complexity, where appropriate; ensuring prompt payment; technical assistance; and setting aside contracts for small firms.

IV. UTILIZATION AND AVAILABILITY ANALYSIS FOR NEWARK PUBLIC SCHOOLS

A. Contract Data Sources and Sampling Method

We analyzed contract data for calendar years 2007 through 2014 for the Newark Public Schools (“NPS” or “District”). The Final Contract Data File for analysis contained a total award amount of \$456,052,939.45, representing 677 contracts. The Final Contract Data File was used to determine the geographic and product markets for the analysis, to estimate the utilization of M/WBEs on those contracts, and to calculate M/WBE availability in NPS’ marketplace.

We note that the District did not maintain records of payments to subcontractors. To attempt to reconstruct these data, we contacted all the primes in the contract file. Very few were willing to speak with our data collection team, let alone provide actual contract information. In over 20 years of conducting studies, we have never encountered a response this hostile. Dissatisfaction with the District was so extreme and widespread that not even the efforts of NPS staff to obtain cooperation yielded any results.

For strict scrutiny analysis, markets have two dimensions. The first is by geography: where firms are located. The second is by industry: what products are produced and purchased. The District must limit its race- and gender-conscious efforts to its markets on both dimensions.

B. NPS’ Geographic Market

The courts require that a local government limit the reach of its race- and gender-conscious contracting program to its geographic market area.¹¹¹ While an agency’s jurisdictional or service boundaries might comprise its market area, this element of the analysis must be empirically established.¹¹²

To determine the relevant geographic market area for NPS contracts, we applied the standard of identifying the firm locations that account for approximately 75 percent of contract and subcontract dollar payments in the Final Contract Data File.¹¹³ Location was determined by ZIP code and aggregated into counties as the geographic unit.

As presented in Table 4.1, spending in New Jersey and New York accounted for 80.6% of all contract dollars paid. Within the spending in these two states, 10 counties (Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset in New Jersey; Kings and New York in New York) captured 89.1% of all NPS spending. Therefore, these 10 counties constituted the geographic market area from which we drew our availability data. Table 4.2 presents data on how the contract dollars were spent across the two states’ counties.

Table 4.1 State Percentage Distribution of Contracts by Dollars Paid, All Contracts

State	Pct Total Contract Dollars	Cumulative Pct Total Contract Dollars
New Jersey	59.8%	59.8%
New York	20.8%	80.6%

¹¹¹ *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).

¹¹² *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”).

¹¹³ National Disparity Study Guidelines, p. 49.

State	Pct Total Contract Dollars	Cumulative Pct Total Contract Dollars
Pennsylvania	4.6%	85.3%
Michigan	2.0%	87.3%
Illinois	1.7%	89.0%
New Hampshire	1.6%	90.5%
California	1.4%	91.9%
Massachusetts	1.2%	93.1%
Texas	1.1%	94.1%
North Carolina	0.9%	95.1%
Georgia	0.9%	96.0%
Colorado	0.8%	96.8%
Connecticut	0.8%	97.5%
Virginia	0.5%	98.0%
Utah	0.4%	98.4%
Arizona	0.3%	98.7%
Delaware	0.2%	99.0%
Maryland	0.2%	99.2%
Minnesota	0.2%	99.4%
Hawaii	0.2%	99.5%
Washington, DC	0.2%	99.7%
Tennessee	0.2%	99.9%
Ohio	0.1%	99.9%
Wisconsin	0.1%	100.0%

Source: CHA analysis of NPS data.

Table 4.2 County Percentage Distribution of Contracts in New Jersey and New York by Dollars Paid, All Contracts

County	State	Pct Total Contract Dollars	Cumulative Pct Total Contract Dollars
Monmouth	New Jersey	18.2%	18.2%
Hudson	New Jersey	15.1%	33.3%
New York	New York	12.9%	46.2%
Kings	New York	7.8%	54.0%
Morris	New Jersey	7.1%	61.1%
Bergen	New Jersey	6.5%	67.6%
Middlesex	New Jersey	6.1%	73.7%
Essex	New Jersey	5.2%	78.9%

County	State	Pct Total Contract Dollars	Cumulative Pct Total Contract Dollars
Somerset	New Jersey	5.2%	84.0%
Passaic	New Jersey	5.1%	89.1%
Saratoga	New Jersey	1.8%	90.9%
Suffolk	New Jersey	1.6%	92.5%
Union	New Jersey	1.6%	94.1%
Nassau	New York	1.3%	95.4%
Burlington	New Jersey	1.1%	96.6%
Mercer	New Jersey	0.9%	97.4%
Warren	New Jersey	0.8%	98.2%
Atlantic	New Jersey	0.4%	98.6%
Sussex	New York	0.4%	99.1%
Rockland	New Jersey	0.4%	99.5%
Ocean	New Jersey	0.4%	99.8%
Camden	New Jersey	0.1%	99.9%
Gloucester	New Jersey	0.1%	100.0%
Westchester	New York	0.0%	100.0%

Source: CHA analysis of NPS data.

C. NPS' Industry Market

Having established the geographic market, Table 4.3 presents how the contract dollars were distributed across industries in that market, as defined by North American Industry Classification System ("NAICS") codes. These 53 NAICS codes represent the District's constrained product market, that is, its geographic market "constrained" by the goods and services it actually purchased.

Table 4.3 Industry Percentage Distribution of Contracts in the Ten County Geographic Market by Dollars Paid,

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
236220	Commercial and Institutional Building Construction	\$8,542,579.00	2.6%
237310	Highway, Street, and Bridge Construction	\$4,134,684.00	1.3%
238160	Roofing Contractors	\$3,093,851.00	0.9%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$5,013,175.00	1.5%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$9,450,156.00	2.9%
238290	Other Building Equipment Contractors	\$2,905,000.00	0.9%
238910	Site Preparation Contractors	\$2,380,233.00	0.7%
311811	Retail Bakeries	\$3,111,915.00	0.9%
311812	Commercial Bakeries	\$5,025,944.00	1.5%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	\$3,405,950.00	1.0%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	\$4,406,628.00	1.3%
334413	Semiconductor and Related Device Manufacturing	\$2,100,000.00	0.6%
423210	Furniture Merchant Wholesalers	\$2,600,000.00	0.8%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	\$3,024,538.00	0.9%
423440	Other Commercial Equipment Merchant Wholesalers	\$7,492,641.00	2.3%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$4,508,577.00	1.4%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	\$4,927,541.00	1.5%
423840	Industrial Supplies Merchant Wholesalers	\$1,679,014.00	0.5%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	\$2,948,399.00	0.9%
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	\$3,451,041.00	1.1%
424110	Printing and Writing Paper Merchant Wholesalers	\$2,120,624.00	0.6%
424130	Industrial and Personal Service Paper Merchant Wholesalers	\$761,050.00	0.2%
424410	General Line Grocery Merchant Wholesalers	\$15,100,000.00	4.6%
424420	Packaged Frozen Food Merchant Wholesalers	\$277,360.00	0.1%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	\$3,672,221.00	1.1%
424490	Other Grocery and Related Products Merchant Wholesalers	\$758,251.90	0.2%
442110	Furniture Stores	\$21,100,000.00	6.4%
451110	Sporting Goods Stores	\$3,240,290.00	1.0%
452111	Department Stores (except Discount Department Stores)	\$8,292,280.00	2.5%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	\$2,637,222.00	0.8%
511130	Book Publishers	\$1,390,717.00	0.4%
511210	Software Publishers	\$4,041,650.00	1.2%
512120	Motion Picture and Video Distribution	\$2,100,000.00	0.6%
541110	Offices of Lawyers	\$1,450,000.00	0.4%
541310	Architectural Services	\$15,000,000.00	4.6%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
541330	Engineering Services	\$1,722,800.00	0.5%
541511	Custom Computer Programming Services	\$7,219,000.00	2.2%
541512	Computer Systems Design Services	\$10,100,000.00	3.1%
541611	Administrative Management and General Management Consulting Services	\$755,000.00	0.2%
541690	Other Scientific and Technical Consulting Services	\$7,000,000.00	2.1%
562111	Solid Waste Collection	\$2,850,000.00	0.9%
562211	Hazardous Waste Treatment and Disposal	\$1,858,464.00	0.6%
562910	Remediation Services	\$2,618,033.00	0.8%
611110	Elementary and Secondary Schools	\$6,451,500.00	2.0%
611691	Exam Preparation and Tutoring	\$2,800,000.00	0.9%
611699	All Other Miscellaneous Schools and Instruction	\$9,800,000.00	3.0%
611710	Educational Support Services	\$8,095,970.00	2.5%
624310	Vocational Rehabilitation Services	\$2,100,000.00	0.6%
624410	Child Day Care Services	\$1,600,000.00	0.5%
722310	Food Service Contractors	\$55,900,000.00	17.1%
722320	Caterers	\$32,800,000.00	10.0%
722330	Mobile Food Services	\$7,150,732.00	2.2%
811219	Other Electronic and Precision Equipment Repair and Maintenance	\$720,000.00	0.2%
TOTAL		\$327,725,198	100.0%

Source: CHA analysis of NPS data.

D. NPS' Utilization of M/WBEs

Having determined the District's product and geographic market areas, the next essential step was to determine the dollar value of NPS' utilization of M/WBEs as measured by payments and disaggregated by race and gender.

Table 4.4 presents data on the total contract dollars paid by the District for each NAICS code in the constrained product market and the share the contract dollars comprise of all industries. It is important to note the contract dollar shares are equivalent to the weight of each NAICS code spending. These weights were used to transform data from unweighted availability to weighted availability.

Table 4.4 NAICS Code Distribution of Contract Dollars

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
722310	Food Service Contractors	\$55,912,247	17.1%
722320	Caterers	\$32,795,842	10.0%
442110	Furniture Stores	\$21,078,224	6.4%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
424410	General Line Grocery Merchant Wholesalers	\$15,137,581	4.6%
541310	Architectural Services	\$15,000,000	4.6%
541512	Computer Systems Design Services	\$10,116,277	3.1%
611699	All Other Miscellaneous Schools and Instruction	\$9,800,000	3.0%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$9,450,156	2.9%
236220	Commercial and Institutional Building Construction	\$8,542,579	2.6%
452111	Department Stores (except Discount Department Stores)	\$8,292,280	2.5%
611710	Educational Support Services	\$8,095,969	2.5%
423440	Other Commercial Equipment Merchant Wholesalers	\$7,492,641	2.3%
541511	Custom Computer Programming Services	\$7,219,000	2.2%
722330	Mobile Food Services	\$7,150,732	2.2%
541690	Other Scientific and Technical Consulting Services	\$7,000,000	2.1%
611110	Elementary and Secondary Schools	\$6,451,500	2.0%
311812	Commercial Bakeries	\$5,025,944	1.5%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$5,013,175	1.5%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	\$4,927,540	1.5%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$4,508,577	1.4%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	\$4,406,628	1.3%
237310	Highway, Street, and Bridge Construction	\$4,134,684	1.3%
511210	Software Publishers	\$4,041,650	1.2%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	\$3,672,221	1.1%
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	\$3,451,041	1.1%
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	\$3,405,950	1.0%
451110	Sporting Goods Stores	\$3,240,290	1.0%
311811	Retail Bakeries	\$3,111,914	0.9%
238160	Roofing Contractors	\$3,093,851	0.9%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	\$3,024,538	0.9%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	\$2,948,398	0.9%
238290	Other Building Equipment Contractors	\$2,905,000	0.9%
562111	Solid Waste Collection	\$2,850,000	0.9%
611691	Exam Preparation and Tutoring	\$2,800,000	0.9%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	\$2,637,222	0.8%
562910	Remediation Services	\$2,618,033	0.8%
423210	Furniture Merchant Wholesalers	\$2,600,000	0.8%
238910	Site Preparation Contractors	\$2,380,233	0.7%
424110	Printing and Writing Paper Merchant Wholesalers	\$2,120,624	0.6%
334413	Semiconductor and Related Device Manufacturing	\$2,100,000	0.6%
512120	Motion Picture and Video Distribution	\$2,100,000	0.6%
624310	Vocational Rehabilitation Services	\$2,100,000	0.6%
562211	Hazardous Waste Treatment and Disposal	\$1,858,464	0.6%
541330	Engineering Services	\$1,722,800	0.5%
423840	Industrial Supplies Merchant Wholesalers	\$1,679,014	0.5%
624410	Child Day Care Services	\$1,600,000	0.5%
541110	Offices of Lawyers	\$1,450,000	0.4%
511130	Book Publishers	\$1,390,717	0.4%
424130	Industrial and Personal Service Paper Merchant Wholesalers	\$761,050	0.2%
424490	Other Grocery and Related Products Merchant Wholesalers	\$758,252	0.2%
541611	Administrative Management and General Management Consulting Services	\$755,000	0.2%
811219	Other Electronic and Precision Equipment Repair and Maintenance	\$720,000	0.2%
424420	Packaged Frozen Food Merchant Wholesalers	\$277,360	0.1%
TOTAL		\$327,725,198	100.0%

Source: CHA analysis of NPS data.

Tables 4.5a and 4.5b also 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 4.5a Distribution of Contract Dollars by Race and Gender (total dollars)

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	\$500,000	\$0	\$783,615	\$0	\$1,283,615	\$2,504,099	\$3,787,714	\$4,754,865	\$8,542,579

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
237310	\$0	\$2,435,884	\$0	\$0	\$2,435,884	\$1,698,800	\$4,134,684	\$0	\$4,134,684
238160	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,093,851	\$3,093,851
238210	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,013,175	\$5,013,175
238220	\$0	\$0	\$0	\$0	\$0	\$4,550,001	\$4,550,001	\$4,900,155	\$9,450,156
238290	\$0	\$0	\$0	\$0	\$0	\$1,290,000	\$1,290,000	\$1,615,000	\$2,905,000
238910	\$833,333	\$0	\$0	\$0	\$833,333	\$570,500	\$1,403,833	\$976,400	\$2,380,233
311811	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,111,914	\$3,111,914
311812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,025,944	\$5,025,944
326113	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,405,950	\$3,405,950
334118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,406,628	\$4,406,628
334413	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,100,000	\$2,100,000
423210	\$0	\$0	\$0	\$0	\$0	\$1,100,000	\$1,100,000	\$1,500,000	\$2,600,000
423310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,024,538	\$3,024,538
423440	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,492,641	\$7,492,641
423610	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,508,577	\$4,508,577
423690	\$0	\$0	\$0	\$0	\$0	\$218,715	\$218,715	\$4,708,826	\$4,927,540
423840	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,679,014	\$1,679,014
423850	\$0	\$0	\$0	\$0	\$0	\$1,248,132	\$1,248,132	\$1,700,266	\$2,948,398
423920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,451,041	\$3,451,041
424110	\$50,000	\$0	\$0	\$0	\$50,000	\$0	\$50,000	\$2,070,624	\$2,120,624
424130	\$0	\$0	\$0	\$0	\$0	\$761,050	\$761,050	\$0	\$761,050
424410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,137,581	\$15,137,581
424420	\$0	\$0	\$0	\$0	\$0	\$277,360	\$277,360	\$0	\$277,360
424430	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,672,221	\$3,672,221
424490	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$758,252	\$758,252
442110	\$0	\$0	\$260,123	\$0	\$260,123	\$0	\$260,123	\$20,818,101	\$21,078,224
451110	\$3,028,286	\$0	\$0	\$0	\$3,028,286	\$0	\$3,028,286	\$212,004	\$3,240,290
452111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,292,280	\$8,292,280
453998	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,637,222	\$2,637,222
511130	\$0	\$0	\$0	\$0	\$0	\$790,717	\$790,717	\$600,000	\$1,390,717
511210	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,041,650	\$4,041,650
512120	\$2,100,000	\$0	\$0	\$0	\$2,100,000	\$0	\$2,100,000	\$0	\$2,100,000
541110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,450,000	\$1,450,000
541310	\$0	\$0	\$0	\$0	\$0	\$7,500,000	\$7,500,000	\$7,500,000	\$15,000,000
541330	\$0	\$0	\$427,450	\$0	\$427,450	\$0	\$427,450	\$1,295,350	\$1,722,800
541511	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,219,000	\$7,219,000
541512	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,116,277	\$10,116,277
541611	\$0	\$0	\$0	\$0	\$0	\$700,000	\$700,000	\$55,000	\$755,000
541690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,000,000	\$7,000,000
562111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,850,000	\$2,850,000
562211	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,858,464	\$1,858,464

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
562910	\$0	\$0	\$900,000	\$0	\$900,000	\$200,000	\$1,100,000	\$1,518,033	\$2,618,033
611110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,451,500	\$6,451,500
611691	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,800,000	\$2,800,000
611699	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,800,000	\$9,800,000
611710	\$0	\$0	\$0	\$0	\$0	\$6,440,000	\$6,440,000	\$1,655,969	\$8,095,969
624310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,100,000	\$2,100,000
624410	\$0	\$0	\$0	\$0	\$0	\$200,000	\$200,000	\$1,400,000	\$1,600,000
722310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$55,912,247	\$55,912,247
722320	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,795,842	\$32,795,842
722330	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,150,732	\$7,150,732
811219	\$0	\$0	\$720,000	\$0	\$720,000	\$0	\$720,000	\$0	\$720,000
TOTAL	\$6,511,619	\$2,435,884	\$3,091,188	\$0	\$12,038,691	\$30,049,374	\$42,088,065	\$285,637,134	\$327,725,198

Source: CHA analysis of NPS data.

**Table 4.5b Distribution of Contract Dollars by Race and Gender, All Sectors
(share of total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	5.9%	0.0%	9.2%	0.0%	15.0%	29.3%	44.3%	55.7%	100.0%
237310	0.0%	58.9%	0.0%	0.0%	58.9%	41.1%	100.0%	0.0%	100.0%
238160	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
238210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
238220	0.0%	0.0%	0.0%	0.0%	0.0%	48.1%	48.1%	51.9%	100.0%
238290	0.0%	0.0%	0.0%	0.0%	0.0%	44.4%	44.4%	55.6%	100.0%
238910	35.0%	0.0%	0.0%	0.0%	35.0%	24.0%	59.0%	41.0%	100.0%
311811	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
311812	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
326113	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
334118	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
334413	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423210	0.0%	0.0%	0.0%	0.0%	0.0%	42.3%	42.3%	57.7%	100.0%
423310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423440	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423610	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423690	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	4.4%	95.6%	100.0%
423840	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
423850	0.0%	0.0%	0.0%	0.0%	0.0%	42.3%	42.3%	57.7%	100.0%
423920	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424110	2.4%	0.0%	0.0%	0.0%	2.4%	0.0%	2.4%	97.6%	100.0%

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
424130	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
424410	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424420	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	100.0%
424430	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
424490	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
442110	0.0%	0.0%	1.2%	0.0%	1.2%	0.0%	1.2%	98.8%	100.0%
451110	93.5%	0.0%	0.0%	0.0%	93.5%	0.0%	93.5%	6.5%	100.0%
452111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
453998	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
511130	0.0%	0.0%	0.0%	0.0%	0.0%	56.9%	56.9%	43.1%	100.0%
511210	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
512120	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
541110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541310	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%	50.0%	100.0%
541330	0.0%	0.0%	24.8%	0.0%	24.8%	0.0%	24.8%	75.2%	100.0%
541511	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541512	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
541611	0.0%	0.0%	0.0%	0.0%	0.0%	92.7%	92.7%	7.3%	100.0%
541690	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562111	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562211	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
562910	0.0%	0.0%	34.4%	0.0%	34.4%	7.6%	42.0%	58.0%	100.0%
611110	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
611691	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
611699	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
611710	0.0%	0.0%	0.0%	0.0%	0.0%	79.5%	79.5%	20.5%	100.0%
624310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
624410	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	12.5%	87.5%	100.0%
722310	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
722320	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
722330	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
811219	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%
TOTAL	2.0%	0.7%	0.9%	0.0%	3.7%	9.2%	12.8%	87.2%	100.0%

Source: CHA analysis of NPS data.

Tables 4.6 – 4.13b replicate the preceding three tables for each of the following four industry sub-sectors: Construction, Construction-Related Services, Goods, and Services.

**Table 4.6 NAICS Code Distribution of Contract Dollars
Construction**

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
236220	Commercial and Institutional Building Construction	\$8,542,579	19.90%
237310	Highway, Street, and Bridge Construction	\$4,134,684	9.60%
238160	Roofing Contractors	\$3,093,851	7.20%
238210	Electrical Contractors and Other Wiring Installation Contractors	\$5,013,175	11.70%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$9,450,156	22.00%
238290	Other Building Equipment Contractors	\$2,905,000	6.80%
238910	Site Preparation Contractors	\$2,380,233	5.60%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	\$4,508,577	10.50%
562111	Solid Waste Collection	\$2,850,000	6.60%
TOTAL		\$42,878,255	100.00%

Source: CHA analysis of NPS data.

**Table 4.7a Distribution of Contract Dollars by Race and Gender
Construction
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	\$500,000	\$0	\$783,615	\$0	\$1,283,615	\$2,504,099	\$3,787,714	\$4,754,865	\$8,542,579
237310	\$0	\$2,435,884	\$0	\$0	\$2,435,884	\$1,698,800	\$4,134,684	\$0	\$4,134,684
238160	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,093,851	\$3,093,851
238210	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,013,175	\$5,013,175
238220	\$0	\$0	\$0	\$0	\$0	\$4,550,001	\$4,550,001	\$4,900,155	\$9,450,156
238290	\$0	\$0	\$0	\$0	\$0	\$1,290,000	\$1,290,000	\$1,615,000	\$2,905,000
238910	\$833,333	\$0	\$0	\$0	\$833,333	\$570,500	\$1,403,833	\$976,400	\$2,380,233
423610	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,508,577	\$4,508,577
562111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,850,000	\$2,850,000
TOTAL	\$1,333,333	\$2,435,884	\$783,615	\$0	\$4,552,832	\$10,613,400	\$15,166,232	\$27,712,023	\$42,878,255

Source: CHA analysis of NPS data.

**Table 4.7b Distribution of Contract Dollars by Race and Gender
Construction
(share of total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	5.90%	0.00%	9.20%	0.00%	15.00%	29.30%	44.30%	55.70%	100.00%

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
237310	0.00%	58.90%	0.00%	0.00%	58.90%	41.10%	100.00%	0.00%	100.00%
238160	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
238210	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
238220	0.00%	0.00%	0.00%	0.00%	0.00%	48.10%	48.10%	51.90%	100.00%
238290	0.00%	0.00%	0.00%	0.00%	0.00%	44.40%	44.40%	55.60%	100.00%
238910	35.00%	0.00%	0.00%	0.00%	35.00%	24.00%	59.00%	41.00%	100.00%
423610	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
562111	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
TOTAL	3.10%	5.70%	1.80%	0.00%	10.60%	24.80%	35.40%	64.60%	100.00%

Source: CHA analysis of NPS data.

**Table 4.8 NAICS Code Distribution of Contract Dollars
Construction-Related Services**

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
541310	Architectural Services	\$15,000,000	89.70%
541330	Engineering Services	\$1,722,800	10.30%
TOTAL		\$16,722,800	100.00%

Source: CHA analysis of NPS data.

**Table 4.9a Distribution of Contract Dollars by Race and Gender
Construction-Related Services
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
541310	\$0	\$0	\$0	\$0	\$0	\$7,500,000	\$7,500,000	\$7,500,000	\$15,000,000
541330	\$0	\$0	\$427,450	\$0	\$427,450	\$0	\$427,450	\$1,295,350	\$1,722,800
TOTAL	\$0	\$0	\$427,450	\$0	\$427,450	\$7,500,000	\$7,927,450	\$8,795,350	\$16,722,800

Source: CHA analysis of NPS data.

**Table 4.9b Distribution of Contract Dollars by Race and Gender
Construction-Related Services
(share of total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
541310	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	50.00%	50.00%	100.00%
541330	0.00%	0.00%	24.80%	0.00%	24.80%	0.00%	24.80%	75.20%	100.00%
TOTAL	0.00%	0.00%	2.60%	0.00%	2.60%	44.80%	47.40%	52.60%	100.00%

Source: CHA analysis of NPS data.

**Table 4.10 NAICS Code Distribution of Contract Dollars
Goods**

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
442110	Furniture Stores	\$21,078,224	19.20%
424410	General Line Grocery Merchant Wholesalers	\$15,137,581	13.80%
452111	Department Stores (except Discount Department Stores)	\$8,292,280	7.60%
423440	Other Commercial Equipment Merchant Wholesalers	\$7,492,641	6.80%
311812	Commercial Bakeries	\$5,025,944	4.60%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	\$4,927,540	4.50%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	\$4,406,628	4.00%
511210	Software Publishers	\$4,041,650	3.70%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	\$3,672,221	3.30%
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	\$3,405,950	3.10%
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	\$3,451,041	3.10%
451110	Sporting Goods Stores	\$3,240,290	3.00%
311811	Retail Bakeries	\$3,111,914	2.80%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	\$3,024,538	2.80%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	\$2,948,398	2.70%
423210	Furniture Merchant Wholesalers	\$2,600,000	2.40%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	\$2,637,222	2.40%
334413	Semiconductor and Related Device Manufacturing	\$2,100,000	1.90%
424110	Printing and Writing Paper Merchant Wholesalers	\$2,120,624	1.90%
512120	Motion Picture and Video Distribution	\$2,100,000	1.90%
423840	Industrial Supplies Merchant Wholesalers	\$1,679,014	1.50%
511130	Book Publishers	\$1,390,717	1.30%
424130	Industrial and Personal Service Paper Merchant Wholesalers	\$761,050	0.70%
424490	Other Grocery and Related Products Merchant Wholesalers	\$758,252	0.70%
424420	Packaged Frozen Food Merchant Wholesalers	\$277,360	0.30%
TOTAL		\$109,681,079	100.00%

Source: CHA analysis of NPS data.

**Table 4.11a Distribution of Contract Dollars by Race and Gender Goods
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
311811	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,111,914	\$3,111,914
311812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,025,944	\$5,025,944
326113	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,405,950	\$3,405,950
334118	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,406,628	\$4,406,628
334413	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,100,000	\$2,100,000
423210	\$0	\$0	\$0	\$0	\$0	\$1,100,000	\$1,100,000	\$1,500,000	\$2,600,000
423310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,024,538	\$3,024,538
423440	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,492,641	\$7,492,641
423690	\$0	\$0	\$0	\$0	\$0	\$218,715	\$218,715	\$4,708,826	\$4,927,540
423840	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,679,014	\$1,679,014
423850	\$0	\$0	\$0	\$0	\$0	\$1,248,132	\$1,248,132	\$1,700,266	\$2,948,398
423920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,451,041	\$3,451,041
424110	\$50,000	\$0	\$0	\$0	\$50,000	\$0	\$50,000	\$2,070,624	\$2,120,624
424130	\$0	\$0	\$0	\$0	\$0	\$761,050	\$761,050	\$0	\$761,050
424410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,137,581	\$15,137,581
424420	\$0	\$0	\$0	\$0	\$0	\$277,360	\$277,360	\$0	\$277,360
424430	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,672,221	\$3,672,221
424490	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$758,252	\$758,252
442110	\$0	\$0	\$260,123	\$0	\$260,123	\$0	\$260,123	\$20,818,101	\$21,078,224
451110	\$3,028,286	\$0	\$0	\$0	\$3,028,286	\$0	\$3,028,286	\$212,004	\$3,240,290
452111	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,292,280	\$8,292,280
453998	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,637,222	\$2,637,222
511130	\$0	\$0	\$0	\$0	\$0	\$790,717	\$790,717	\$600,000	\$1,390,717
511210	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,041,650	\$4,041,650
512120	\$2,100,000	\$0	\$0	\$0	\$2,100,000	\$0	\$2,100,000	\$0	\$2,100,000
TOTAL	\$5,178,286	\$0	\$260,123	\$0	\$5,438,409	\$4,395,974	\$9,834,383	\$99,846,697	\$109,681,079

Source: CHA analysis of NPS data.

**Table 4.11b Distribution of Contract Dollars by Race and Gender Goods
(share of total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
311811	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
311812	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
326113	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
334118	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
334413	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
423210	0.00%	0.00%	0.00%	0.00%	0.00%	42.30%	42.30%	57.70%	100.00%
423310	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
423440	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
423690	0.00%	0.00%	0.00%	0.00%	0.00%	4.40%	4.40%	95.60%	100.00%
423840	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
423850	0.00%	0.00%	0.00%	0.00%	0.00%	42.30%	42.30%	57.70%	100.00%
423920	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
424110	2.40%	0.00%	0.00%	0.00%	2.40%	0.00%	2.40%	97.60%	100.00%
424130	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	100.00%
424410	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
424420	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	100.00%
424430	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
424490	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
442110	0.00%	0.00%	1.20%	0.00%	1.20%	0.00%	1.20%	98.80%	100.00%
451110	93.50%	0.00%	0.00%	0.00%	93.50%	0.00%	93.50%	6.50%	100.00%
452111	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
453998	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
511130	0.00%	0.00%	0.00%	0.00%	0.00%	56.90%	56.90%	43.10%	100.00%
511210	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
512120	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	100.00%
TOTAL	4.70%	0.00%	0.20%	0.00%	5.00%	4.00%	9.00%	91.00%	100.00%

Source: CHA analysis of NPS data.

Table 4.12 NAICS Code Distribution of Contract Dollars Services

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
722310	Food Service Contractors	\$55,912,247	35.30%
722320	Caterers	\$32,795,842	20.70%
541512	Computer Systems Design Services	\$10,116,277	6.40%
611699	All Other Miscellaneous Schools and Instruction	\$9,800,000	6.20%
611710	Educational Support Services	\$8,095,969	5.10%
541511	Custom Computer Programming Services	\$7,219,000	4.60%
722330	Mobile Food Services	\$7,150,732	4.50%
541690	Other Scientific and Technical Consulting Services	\$7,000,000	4.40%

NAICS	NAICS Code Description	Total Contract Dollars	Pct Total Contract Dollars
611110	Elementary and Secondary Schools	\$6,451,500	4.10%
611691	Exam Preparation and Tutoring	\$2,800,000	1.80%
562910	Remediation Services	\$2,618,033	1.70%
624310	Vocational Rehabilitation Services	\$2,100,000	1.30%
562211	Hazardous Waste Treatment and Disposal	\$1,858,464	1.20%
624410	Child Day Care Services	\$1,600,000	1.00%
541110	Offices of Lawyers	\$1,450,000	0.90%
541611	Administrative Management and General Management Consulting Services	\$755,000	0.50%
811219	Other Electronic and Precision Equipment Repair and Maintenance	\$720,000	0.50%
TOTAL		\$158,443,064	100.00%

Source: CHA analysis of NPS data.

Table 4.13a Distribution of Contract Dollars by Race and Gender Services (total dollars)

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
541110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,450,000	\$1,450,000
541511	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,219,000	\$7,219,000
541512	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,116,277	\$10,116,277
541611	\$0	\$0	\$0	\$0	\$0	\$700,000	\$700,000	\$55,000	\$755,000
541690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,000,000	\$7,000,000
562211	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,858,464	\$1,858,464
562910	\$0	\$0	\$900,000	\$0	\$900,000	\$200,000	\$1,100,000	\$1,518,033	\$2,618,033
611110	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,451,500	\$6,451,500
611691	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,800,000	\$2,800,000
611699	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,800,000	\$9,800,000
611710	\$0	\$0	\$0	\$0	\$0	\$6,440,000	\$6,440,000	\$1,655,969	\$8,095,969
624310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,100,000	\$2,100,000
624410	\$0	\$0	\$0	\$0	\$0	\$200,000	\$200,000	\$1,400,000	\$1,600,000
722310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$55,912,247	\$55,912,247
722320	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,795,842	\$32,795,842
722330	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,150,732	\$7,150,732
811219	\$0	\$0	\$720,000	\$0	\$720,000	\$0	\$720,000	\$0	\$720,000
TOTAL	\$0	\$0	\$1,620,000	\$0	\$1,620,000	\$7,540,000	\$9,160,000	\$149,283,064	\$158,443,064

Source: CHA analysis of NPS data.

**Table 4.13b Distribution of Contract Dollars by Race and Gender Services
(share of total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
541110	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
541511	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
541512	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
541611	0.00%	0.00%	0.00%	0.00%	0.00%	92.70%	92.70%	7.30%	100.00%
541690	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
562211	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
562910	0.00%	0.00%	34.40%	0.00%	34.40%	7.60%	42.00%	58.00%	100.00%
611110	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
611691	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
611699	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
611710	0.00%	0.00%	0.00%	0.00%	0.00%	79.50%	79.50%	20.50%	100.00%
624310	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
624410	0.00%	0.00%	0.00%	0.00%	0.00%	12.50%	12.50%	87.50%	100.00%
722310	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
722320	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
722330	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
811219	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%	100.00%
TOTAL	0.00%	0.00%	1.00%	0.00%	1.00%	4.80%	5.80%	94.20%	100.00%

Source: CHA analysis of NPS data.

E. Availability of M/WBEs in NPS' Market Area

a. 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 minority- and women-owned firms receive parity.¹¹⁴ Availability estimates are also crucial for NPS to set narrowly tailored annual and contract goals.

We applied the "custom census" approach to estimating availability. As recognized by the courts and the National Model Disparity Study Guidelines,¹¹⁵ this methodology is superior to the other methods for at least four reasons.

¹¹⁴ For our analysis, the term "M/WBE" includes firms that are certified by government agencies and minority- and women-owned firms that are not certified. As discussed in Chapter II, the inclusion of all minority- and female-owned businesses in the pool casts the broad net approved by the courts that supports the remedial nature of the programs. See *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 723 (7th Cir. 2007) (The "remedial nature of the federal scheme militates in favor of a method of DBE availability calculation that casts a broader net.").

¹¹⁵ National Disparity Study Guidelines, pp.57-58.

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 or the Census Bureaus’ County Business Patterns data).

Next, by examining a comprehensive group of firms, it “casts a broader net” beyond those known to the agency. As recognized by the courts, 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 of past and present discrimination than other methods, such as bidders lists, because it seeks out firms in the agency’s market areas that have not been able to access its opportunities.

Third, this approach is less impacted by variables affected by discrimination. Factors such as firm age, size, qualifications, and experience are all elements of business success where discrimination would be manifested. 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-M/WBEs because of the very discrimination sought to be remedied by race-conscious contracting programs. Racial and gender differences in these “capacity” factors are the *outcomes* of discrimination and it is therefore inappropriate as a matter of economics and statistics to use them as “control” variables in a disparity study.¹¹⁶

Fourth, it has been upheld by every court that has reviewed it, including most recently in the successful defenses of the Illinois State Toll Highway’s DBE program,¹¹⁷ and the Illinois Department of Transportation’s DBE program.¹¹⁸

b. Estimation of M/WBE Availability

To conduct the Custom Census for this study, CHA utilized three different databases:

- The NPS Final Contract Data File (described in Section A of this Chapter).
- A Master M/W/DBE Directory compiled by CHA.
- Dun & Bradstreet/Hoovers Database downloaded from the companies’ website.

The Master M/WDBE Directory combined the results of an exhaustive search for directories and other lists containing information about minority and women-owned businesses. Unfortunately, the State of New Jersey refused to release to NPS the underlying data for race and gender assignments for the firms it has certified, rendering that list unusable for our purposes. We were able to collect lists from other certifying agencies to assist with the analysis.

We took the following steps to develop the Dun & Bradstreet/Hoovers Database. After compiling the Master M/W/DBE Directory, we limited the firms we used in this Custom Census analysis to those firms operating within NPS’ constrained product market. We purchased the firm information from Hoovers for the firms in the NAICS codes located in the District’s market area in order to form the Dun & Bradstreet/Hoovers Database. 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 the initial download, the data from Hoovers simply identify a firm as being minority-owned.¹¹⁹ However, the

¹¹⁶ For a detailed discussion of the role of capacity in disparity studies, see the National Disparity Study Guidelines, Appendix B, “Understanding Capacity.”

¹¹⁷ *Midwest Fence, Corp. v. U.S. Department of Transportation et al*, 840 F.3d 942 (7th Cir. 2016) (upholding the Illinois Tollway’s program for state funded contracts modeled after Part 26 and based on CHA’s expert testimony).

¹¹⁸ *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007).

¹¹⁹ The variable is labeled: “Is Minority Owned” and values for the variable can be either “yes” or “no”.

company does keep detailed information on ethnicity (*i.e.*, is the minority firm owner Black, Hispanic, Asian, or Native American). We obtained this additional information from Hoovers.¹²⁰

We merged these three databases to form an accurate estimate of firm availability to the agency. Table 4.14 present data on the unweighted availability by race and gender and by NAICS codes for all industries in NPS' constrained product market.

**Table 4.14 Unweighted Availability
(share of firms)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	4.7%	3.7%	7.2%	0.2%	15.7%	6.7%	22.4%	77.6%	100.0%
237310	4.0%	4.1%	6.8%	0.1%	14.9%	7.2%	22.1%	77.9%	100.0%
238160	1.9%	1.7%	3.8%	0.1%	7.5%	4.7%	12.2%	87.8%	100.0%
238210	2.6%	2.0%	2.7%	0.1%	7.5%	3.9%	11.4%	88.6%	100.0%
238220	1.2%	1.0%	1.7%	0.1%	4.0%	2.7%	6.7%	93.3%	100.0%
238290	5.7%	3.1%	5.8%	0.1%	14.6%	9.0%	23.6%	76.4%	100.0%
238910	4.5%	1.4%	2.6%	0.2%	8.7%	7.3%	16.0%	84.0%	100.0%
311811	1.3%	1.2%	2.1%	0.1%	4.6%	7.8%	12.5%	87.5%	100.0%
311812	1.6%	1.4%	2.5%	0.1%	5.6%	11.2%	16.7%	83.3%	100.0%
326113	3.1%	2.7%	4.8%	0.2%	10.8%	8.1%	18.9%	81.1%	100.0%
334118	2.4%	2.0%	3.6%	0.1%	8.1%	4.1%	12.2%	87.8%	100.0%
334413	3.4%	2.0%	3.7%	0.1%	9.3%	12.4%	21.6%	78.4%	100.0%
423210	1.3%	1.2%	1.9%	0.1%	4.5%	7.1%	11.6%	88.4%	100.0%
423310	1.2%	0.8%	1.7%	0.0%	3.7%	6.0%	9.7%	90.3%	100.0%
423440	1.1%	1.0%	1.7%	0.1%	3.9%	5.5%	9.4%	90.6%	100.0%
423610	3.0%	2.2%	3.5%	0.1%	8.8%	8.5%	17.3%	82.7%	100.0%
423690	2.0%	1.7%	3.2%	0.1%	7.0%	6.2%	13.2%	86.8%	100.0%
423840	1.4%	1.2%	2.0%	0.1%	4.6%	10.4%	15.0%	85.0%	100.0%
423850	1.7%	1.9%	2.6%	0.1%	6.3%	13.6%	19.9%	80.1%	100.0%
423920	1.8%	1.5%	2.7%	0.1%	6.1%	5.7%	11.8%	88.2%	100.0%
424110	4.7%	2.2%	3.9%	0.1%	11.0%	2.2%	13.2%	86.8%	100.0%
424130	1.4%	1.2%	2.1%	0.1%	4.8%	8.2%	13.0%	87.0%	100.0%
424410	1.7%	1.5%	2.7%	0.1%	6.0%	6.5%	12.5%	87.5%	100.0%
424420	1.4%	1.2%	2.1%	0.1%	4.7%	14.1%	18.8%	81.2%	100.0%
424430	1.2%	1.0%	1.8%	0.1%	4.0%	6.0%	10.0%	90.0%	100.0%
424490	1.5%	1.3%	2.3%	0.1%	5.2%	7.4%	12.6%	87.4%	100.0%
442110	0.8%	0.7%	1.3%	0.0%	2.9%	5.1%	8.0%	92.0%	100.0%

¹²⁰ Hoovers was able to provide the detailed information for 75% of the firms. We used the available information to estimate the detailed information for the firms where the data was not provided.

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
451110	2.2%	0.8%	1.4%	0.0%	4.3%	4.9%	9.2%	90.8%	100.0%
452111	0.3%	0.2%	0.4%	0.0%	0.9%	2.2%	3.1%	96.9%	100.0%
453998	0.6%	0.5%	0.8%	0.0%	1.9%	5.2%	7.1%	92.9%	100.0%
511130	0.7%	0.5%	0.8%	0.0%	2.1%	10.2%	12.3%	87.7%	100.0%
511210	2.3%	1.9%	3.7%	0.1%	8.1%	4.3%	12.4%	87.6%	100.0%
512120	0.5%	0.2%	0.4%	0.0%	1.2%	2.6%	3.8%	96.2%	100.0%
541110	0.6%	0.5%	0.9%	0.0%	2.0%	5.4%	7.4%	92.6%	100.0%
541310	3.1%	2.7%	4.7%	0.1%	10.6%	7.5%	18.1%	81.9%	100.0%
541330	4.0%	3.4%	8.3%	0.2%	15.9%	4.4%	20.4%	79.6%	100.0%
541511	2.7%	2.2%	4.3%	0.1%	9.4%	5.2%	14.6%	85.4%	100.0%
541512	4.6%	3.9%	7.2%	0.2%	16.0%	6.8%	22.8%	77.2%	100.0%
541611	2.4%	1.7%	3.2%	0.1%	7.4%	8.0%	15.4%	84.6%	100.0%
541690	2.9%	2.4%	3.6%	0.1%	9.0%	8.9%	17.9%	82.1%	100.0%
562111	2.7%	5.1%	0.5%	0.0%	8.3%	8.3%	16.7%	83.3%	100.0%
562211	1.5%	3.8%	3.5%	0.1%	8.9%	3.8%	12.7%	87.3%	100.0%
562910	7.9%	6.6%	9.3%	0.1%	23.9%	17.7%	41.6%	58.4%	100.0%
611110	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	99.9%	100.0%
611691	2.3%	2.0%	3.6%	0.1%	8.0%	11.1%	19.1%	80.9%	100.0%
611699	1.3%	1.1%	2.1%	0.1%	4.6%	9.2%	13.9%	86.1%	100.0%
611710	3.4%	2.9%	5.2%	0.2%	11.7%	20.7%	32.3%	67.7%	100.0%
624310	0.1%	0.1%	0.1%	0.0%	0.3%	0.6%	0.9%	99.1%	100.0%
624410	1.7%	1.4%	2.6%	0.1%	5.8%	11.3%	17.1%	82.9%	100.0%
722310	1.5%	1.3%	4.0%	0.1%	6.9%	12.1%	19.0%	81.0%	100.0%
722320	0.9%	0.7%	1.3%	0.0%	3.0%	10.5%	13.5%	86.5%	100.0%
722330	1.7%	1.4%	2.6%	0.1%	5.8%	2.5%	8.3%	91.7%	100.0%
811219	1.3%	1.1%	3.2%	0.1%	5.8%	3.7%	9.5%	90.5%	100.0%
Total	1.8%	1.5%	2.7%	0.1%	6.0%	5.9%	12.0%	88.0%	100.0%

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

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 the District's spending in each code. Tables 4.15 present these weights for all contracts.¹²¹ Tables 4.16 presents the final estimates of the weighted averages of the individual 6-digit level availability estimates in NPS' market area.

¹²¹ These weights are equivalent to the share of contract dollars presented in Table 4.4 above

Table 4.15 Share of NPS' Spending by NAICS Code

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
236220	Commercial and Institutional Building Construction	2.6%
237310	Highway, Street, and Bridge Construction	1.3%
238160	Roofing Contractors	0.9%
238210	Electrical Contractors and Other Wiring Installation Contractors	1.5%
238220	Plumbing, Heating, and Air-Conditioning Contractors	2.9%
238290	Other Building Equipment Contractors	0.9%
238910	Site Preparation Contractors	0.7%
311811	Retail Bakeries	0.9%
311812	Commercial Bakeries	1.5%
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	1.0%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	1.3%
334413	Semiconductor and Related Device Manufacturing	0.6%
423210	Furniture Merchant Wholesalers	0.8%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	0.9%
423440	Other Commercial Equipment Merchant Wholesalers	2.3%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	1.4%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	1.5%
423840	Industrial Supplies Merchant Wholesalers	0.5%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	0.9%
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	1.1%
424110	Printing and Writing Paper Merchant Wholesalers	0.6%
424130	Industrial and Personal Service Paper Merchant Wholesalers	0.2%
424410	General Line Grocery Merchant Wholesalers	4.6%
424420	Packaged Frozen Food Merchant Wholesalers	0.1%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	1.1%
424490	Other Grocery and Related Products Merchant Wholesalers	0.2%
442110	Furniture Stores	6.4%

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
451110	Sporting Goods Stores	1.0%
452111	Department Stores (except Discount Department Stores)	2.5%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	0.8%
511130	Book Publishers	0.4%
511210	Software Publishers	1.2%
512120	Motion Picture and Video Distribution	0.6%
541110	Offices of Lawyers	0.4%
541310	Architectural Services	4.6%
541330	Engineering Services	0.5%
541511	Custom Computer Programming Services	2.2%
541512	Computer Systems Design Services	3.1%
541611	Administrative Management and General Management Consulting Services	0.2%
541690	Other Scientific and Technical Consulting Services	2.1%
562111	Solid Waste Collection	0.9%
562211	Hazardous Waste Treatment and Disposal	0.6%
562910	Remediation Services	0.8%
611110	Elementary and Secondary Schools	2.0%
611691	Exam Preparation and Tutoring	0.9%
611699	All Other Miscellaneous Schools and Instruction	3.0%
611710	Educational Support Services	2.5%
624310	Vocational Rehabilitation Services	0.6%
624410	Child Day Care Services	0.5%
722310	Food Service Contractors	17.1%
722320	Caterers	10.0%
722330	Mobile Food Services	2.2%
811219	Other Electronic and Precision Equipment Repair and Maintenance	0.2%
TOTAL		100.0%

Source: CHA analysis of NPS data.

**Table 4.16 Aggregated Weighted Availability
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
Total	1.9%	1.6%	3.1%	0.1%	6.8%	8.0%	14.8%	85.2%	100.0%

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

These weighted availability estimates can be used by the District to set its M/WBE goals.

Tables 4.17 – 4.28 replicate the preceding three tables for the Construction, Construction-Related Services, Goods, and Services industry sub-sectors

**Table 4.17 Unweighted Availability
Construction
(share of firms)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
236220	4.7%	3.7%	7.2%	0.2%	15.7%	6.7%	22.4%	77.6%	100.0%
237310	4.0%	4.1%	6.8%	0.1%	14.9%	7.2%	22.1%	77.9%	100.0%
238160	1.9%	1.7%	3.8%	0.1%	7.5%	4.7%	12.2%	87.8%	100.0%
238210	2.6%	2.0%	2.7%	0.1%	7.5%	3.9%	11.4%	88.6%	100.0%
238220	1.2%	1.0%	1.7%	0.1%	4.0%	2.7%	6.7%	93.3%	100.0%
238290	5.7%	3.1%	5.8%	0.1%	14.6%	9.0%	23.6%	76.4%	100.0%
238910	4.5%	1.4%	2.6%	0.2%	8.7%	7.3%	16.0%	84.0%	100.0%
423610	3.0%	2.2%	3.5%	0.1%	8.8%	8.5%	17.3%	82.7%	100.0%
562111	2.7%	5.1%	0.5%	0.0%	8.3%	8.3%	16.7%	83.3%	100.0%
TOTAL	2.6%	2.0%	3.3%	0.1%	8.1%	4.6%	12.6%	87.4%	100.0%

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

**Table 4.18 Share of NPS' Spending by NAICS Code
Construction**

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
236220	Commercial and Institutional Building Construction	19.90%
237310	Highway, Street, and Bridge Construction	9.60%
238160	Roofing Contractors	7.20%
238210	Electrical Contractors and Other Wiring Installation Contractors	11.70%
238220	Plumbing, Heating, and Air-Conditioning Contractors	22.00%
238290	Other Building Equipment Contractors	6.80%
238910	Site Preparation Contractors	5.60%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	10.50%

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
562111	Solid Waste Collection	6.60%
TOTAL		100.00%

Source: CHA analysis of NPS data.

**Table 4.19 Aggregated Weighted Availability
Construction
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
Total	3.3%	2.6%	4.0%	0.1%	9.9%	5.9%	15.8%	84.2%	100.0%

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

**Table 4.20 Unweighted Availability
Construction-Related Services
(share of firms)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
541310	3.1%	2.7%	4.7%	0.1%	10.6%	7.5%	18.1%	81.9%	100.0%
541330	4.0%	3.4%	8.3%	0.2%	15.9%	4.4%	20.4%	79.6%	100.0%
Total	3.5%	3.0%	6.4%	0.2%	13.2%	6.0%	19.2%	80.8%	100.0%

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

**Table 4.21 Share of NPS' Spending by NAICS Code
Construction-Related Services**

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
541310	Architectural Services	89.70%
541330	Engineering Services	10.30%
TOTAL		100.00%

Source: CHA analysis of NPS data.

**Table 4.22 Aggregated Weighted Availability
Construction-Related Services
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
Total	3.2%	2.8%	5.1%	0.1%	11.1%	7.2%	18.3%	81.7%	100.0%

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

**Table 4.23 Unweighted Availability
Goods
(share of firms)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
311811	1.3%	1.2%	2.1%	0.1%	4.6%	7.8%	12.5%	87.5%	100.0%
311812	1.6%	1.4%	2.5%	0.1%	5.6%	11.2%	16.7%	83.3%	100.0%
326113	3.1%	2.7%	4.8%	0.2%	10.8%	8.1%	18.9%	81.1%	100.0%
334118	2.4%	2.0%	3.6%	0.1%	8.1%	4.1%	12.2%	87.8%	100.0%
334413	3.4%	2.0%	3.7%	0.1%	9.3%	12.4%	21.6%	78.4%	100.0%
423210	1.3%	1.2%	1.9%	0.1%	4.5%	7.1%	11.6%	88.4%	100.0%
423310	1.2%	0.8%	1.7%	0.0%	3.7%	6.0%	9.7%	90.3%	100.0%
423440	1.1%	1.0%	1.7%	0.1%	3.9%	5.5%	9.4%	90.6%	100.0%
423690	2.0%	1.7%	3.2%	0.1%	7.0%	6.2%	13.2%	86.8%	100.0%
423840	1.4%	1.2%	2.0%	0.1%	4.6%	10.4%	15.0%	85.0%	100.0%
423850	1.7%	1.9%	2.6%	0.1%	6.3%	13.6%	19.9%	80.1%	100.0%
423920	1.8%	1.5%	2.7%	0.1%	6.1%	5.7%	11.8%	88.2%	100.0%
424110	4.7%	2.2%	3.9%	0.1%	11.0%	2.2%	13.2%	86.8%	100.0%
424130	1.4%	1.2%	2.1%	0.1%	4.8%	8.2%	13.0%	87.0%	100.0%
424410	1.7%	1.5%	2.7%	0.1%	6.0%	6.5%	12.5%	87.5%	100.0%
424420	1.4%	1.2%	2.1%	0.1%	4.7%	14.1%	18.8%	81.2%	100.0%
424430	1.2%	1.0%	1.8%	0.1%	4.0%	6.0%	10.0%	90.0%	100.0%
424490	1.5%	1.3%	2.3%	0.1%	5.2%	7.4%	12.6%	87.4%	100.0%
442110	0.8%	0.7%	1.3%	0.0%	2.9%	5.1%	8.0%	92.0%	100.0%
451110	2.2%	0.8%	1.4%	0.0%	4.3%	4.9%	9.2%	90.8%	100.0%
452111	0.3%	0.2%	0.4%	0.0%	0.9%	2.2%	3.1%	96.9%	100.0%
453998	0.6%	0.5%	0.8%	0.0%	1.9%	5.2%	7.1%	92.9%	100.0%
511130	0.7%	0.5%	0.8%	0.0%	2.1%	10.2%	12.3%	87.7%	100.0%
511210	2.3%	1.9%	3.7%	0.1%	8.1%	4.3%	12.4%	87.6%	100.0%
512120	0.5%	0.2%	0.4%	0.0%	1.2%	2.6%	3.8%	96.2%	100.0%
TOTAL	1.3%	1.0%	1.8%	0.1%	4.1%	6.2%	10.3%	89.7%	100.0%

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

**Table 4.24 Share of NPS' Spending by NAICS Code
Goods**

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
311811	Retail Bakeries	2.80%
311812	Commercial Bakeries	4.60%

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	3.10%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	4.00%
334413	Semiconductor and Related Device Manufacturing	1.90%
423210	Furniture Merchant Wholesalers	2.40%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	2.80%
423440	Other Commercial Equipment Merchant Wholesalers	6.80%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	4.50%
423840	Industrial Supplies Merchant Wholesalers	1.50%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	2.70%
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	3.10%
424110	Printing and Writing Paper Merchant Wholesalers	1.90%
424130	Industrial and Personal Service Paper Merchant Wholesalers	0.70%
424410	General Line Grocery Merchant Wholesalers	13.80%
424420	Packaged Frozen Food Merchant Wholesalers	0.30%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	3.30%
424490	Other Grocery and Related Products Merchant Wholesalers	0.70%
442110	Furniture Stores	19.20%
451110	Sporting Goods Stores	3.00%
452111	Department Stores (except Discount Department Stores)	7.60%
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	2.40%
511130	Book Publishers	1.30%
511210	Software Publishers	3.70%
512120	Motion Picture and Video Distribution	1.90%
TOTAL		100.00%

Source: CHA analysis of NPS data.

**Table 4.25 Aggregated Weighted Availability
Goods
(total dollars)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
TOTAL	1.5%	1.2%	2.1%	0.1%	4.8%	6.1%	11.0%	89.0%	100.0%

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

**Table 4.26 Unweighted Availability
Services
(share of firms)**

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
541110	0.6%	0.5%	0.9%	0.0%	2.0%	5.4%	7.4%	92.6%	100.0%
541511	2.7%	2.2%	4.3%	0.1%	9.4%	5.2%	14.6%	85.4%	100.0%
541512	4.6%	3.9%	7.2%	0.2%	16.0%	6.8%	22.8%	77.2%	100.0%
541611	2.4%	1.7%	3.2%	0.1%	7.4%	8.0%	15.4%	84.6%	100.0%
541690	2.9%	2.4%	3.6%	0.1%	9.0%	8.9%	17.9%	82.1%	100.0%
562211	1.5%	3.8%	3.5%	0.1%	8.9%	3.8%	12.7%	87.3%	100.0%
562910	7.9%	6.6%	9.3%	0.1%	23.9%	17.7%	41.6%	58.4%	100.0%
611110	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	99.9%	100.0%
611691	2.3%	2.0%	3.6%	0.1%	8.0%	11.1%	19.1%	80.9%	100.0%
611699	1.3%	1.1%	2.1%	0.1%	4.6%	9.2%	13.9%	86.1%	100.0%
611710	3.4%	2.9%	5.2%	0.2%	11.7%	20.7%	32.3%	67.7%	100.0%
624310	0.1%	0.1%	0.1%	0.0%	0.3%	0.6%	0.9%	99.1%	100.0%
624410	1.7%	1.4%	2.6%	0.1%	5.8%	11.3%	17.1%	82.9%	100.0%
722310	1.5%	1.3%	4.0%	0.1%	6.9%	12.1%	19.0%	81.0%	100.0%
722320	0.9%	0.7%	1.3%	0.0%	3.0%	10.5%	13.5%	86.5%	100.0%
722330	1.7%	1.4%	2.6%	0.1%	5.8%	2.5%	8.3%	91.7%	100.0%
811219	1.3%	1.1%	3.2%	0.1%	5.8%	3.7%	9.5%	90.5%	100.0%
Total	1.6%	1.3%	2.4%	0.1%	5.5%	6.1%	11.6%	88.4%	100.0%

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

**Table 4.27 Share of NPS' Spending by NAICS Code
Services**

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
541110	Offices of Lawyers	0.90%
541511	Custom Computer Programming Services	4.60%
541512	Computer Systems Design Services	6.40%

NAICS	NAICS Code Description	WEIGHT (Pct Share of Total Sector Dollars)
541611	Administrative Management and General Management Consulting Services	0.50%
541690	Other Scientific and Technical Consulting Services	4.40%
562211	Hazardous Waste Treatment and Disposal	1.20%
562910	Remediation Services	1.70%
611110	Elementary and Secondary Schools	4.10%
611691	Exam Preparation and Tutoring	1.80%
611699	All Other Miscellaneous Schools and Instruction	6.20%
611710	Educational Support Services	5.10%
624310	Vocational Rehabilitation Services	1.30%
624410	Child Day Care Services	1.00%
722310	Food Service Contractors	35.30%
722320	Caterers	20.70%
722330	Mobile Food Services	4.50%
811219	Other Electronic and Precision Equipment Repair and Maintenance	0.50%
TOTAL		100.00%

Source: CHA analysis of NPS data.

Table 4.28 Aggregated Weighted Availability Services (total dollars)

NAICS	Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE	Total
Total	1.8%	1.6%	3.2%	0.1%	6.7%	10.0%	16.7%	83.3%	100.0%

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

F. Analysis of Race and Gender Disparities in NPS' Utilization of Minority- and Women-Owned Business Enterprises

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.

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.¹²² A statistically significant disparity

¹²² 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.").

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. A more in-depth discussion of statistical significance is provided in Appendix C.

Table 4.29 presents the results of this disparity analysis by demographic group for the District’s 53 NAICS codes in its constrained product market.¹²³ These results suggest that minority and women firms are not achieving total parity with White male-owned businesses. Without the implementation of race- and gender-conscious measures, however, it may be that disparities would worsen, suggesting that the District would then function as a passive participant in marketplace discrimination.

Table 4.29: Disparity Ratios by Demographic Group

Black	Hispanic	Native American	Asian	MBE	White Women	M/WBE	Non-M/WBE
102.0%‡	45.6%	30.3%	0.0%	54.2%	114.4%‡	86.8%‡	102.3%‡

Source: CHA analysis of KCPS data.

‡ Indicates substantive significance

¹²³ A Chi-square test was performed on the disparity ratios to see if the results were statistically significant. None of the disparity ratios for All sectors was statistically significant.

V. ANALYSIS OF DISPARITIES IN NEWARK PUBLIC SCHOOL'S ECONOMY

A. Introduction

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

Racial discrimination pervades every aspect of a society in which it is found. It is found above all in attitudes of both races, but also in social relations, in intermarriage, in residential location, and frequently in legal barriers. It is also found in levels of economic accomplishment; this is income, wages, prices paid and credit extended.¹²⁴

This Chapter explores the data and literature relevant to how discrimination in the Newark Public Schools (NPS" or "District") market and throughout the wider economy affects the ability of minorities and women to fairly and fully engage in District contract opportunities. First, we analyzed the rates at which M/WBEs in New Jersey 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 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.¹²⁵ These analyses contributed most recently to the successful defense of the Illinois Tollway's Disadvantaged Business Enterprise ("DBE") Program.¹²⁶ As explained by the Tenth Circuit in upholding the U.S. District of Transportation's DBE program, 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

¹²⁴ Arrow, Kenneth J., "What Has Economics to say about racial discrimination?" *Journal of Economic Perspectives*, (1998), 12(2), pp. 91-100.

¹²⁵ See the discussion in Chapter II of the legal standards applicable to contracting affirmative action programs.

¹²⁶ *Midwest Fence Corp. v. Illinois District of Transportation, Illinois State Toll Highway Authority et al*, 840 F.3d 942 (7th Cir. 2016) (upholding the Illinois Tollway's program for state funded contracts modeled after Part 26 and based on CHA's expert testimony, including about disparities in the overall Illinois construction industry); see also *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).

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.¹²⁷

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.”¹²⁸ 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 business owners are strong evidence of the continuing effects of discrimination.¹²⁹ 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.¹³⁰

Likewise, in holding that the DBE program regulations meet strict scrutiny, the court in the *Western States* opinion relied on the “substantial body of statistical and anecdotal materials” considered by Congress, including studies based on Census data that provide “ample” evidence of barriers to the formation of minority-owned firms in the transportation contracting industry.¹³¹

To explore the question whether firms owned by non-Whites and White women face disparate treatment in the District’s marketplace outside of NPS contracts, we examined two U.S. Bureau of the Census datasets. Each of these datasets 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.¹³²
- The Census Bureau’s *American Community Survey* allows us to examine disparities using individual entrepreneurs as the basic unit of analysis.¹³³

¹²⁷ *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1168-1169 (10th Cir. 2000), cert. granted then dismissed as improvidently granted, 532 U.S. 941 (2001) (“*Adarand VII*”).

¹²⁸ *Id.*

¹²⁹ *Northern Contracting, Inc. v. Illinois District of Transportation*, 2005 U.S. Dist. LEXIS 19868, at *64 (Sept. 8, 2005).

¹³⁰ *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.”).

¹³¹ *Western States Paving Co., Inc. v. Washington District of Transportation*, 407 F.3d 983, 993 (9th Cir. 2005), cert. denied, 546 U.S. 1170 (2006).

¹³² The Survey of Business Owners is administered every five years on years 2 and 7 of each decade. This study utilizes the most recent survey available: 2012.

¹³³ Data from 2011 - 2015 American Community Survey are the most recent for a five-year period.

The Survey of Business Owners does not present data below a state-level of geography; hence, this analysis examines data from the state of New Jersey. The American Community Survey (ACS) presents data at a much smaller level of geography. Consequently, this study examines ACS data at the county level to correspond with the geographic market used in Chapter IV. Table 5.1 lists the counties defining the geographic market:

Table 5.1. Ten New Jersey/New York Counties Shaping the Studies' Geographic Market

County	State
Bergen	New Jersey
Essex	New Jersey
Hudson	New Jersey
Middlesex	New Jersey
Monmouth	New Jersey
Morris	New Jersey
Passaic	New Jersey
Somerset	New Jersey
Kings	New York
New York	New York

Using both data sets, we found disparities in sales and payrolls for M/WBEs, and disparities in wages, business earnings and business formation rates for minorities and women across the construction and construction-related services industry sectors in NPS's marketplace.

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 5.2 presents data from the Census Bureau's 2012 Survey of Business Owners that indicate very large disparities for 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 metrics.^{134,135}

¹³⁴ The Survey of Business Owners data available via American Fact Finder do not permit the use of regression analysis on these results.

¹³⁵ Once again, all data from the Survey of Business Owners comes from New Jersey.

**Table 5.2 Disparity Ratios of Firm Utilization Measures
All Industries, 2012**

	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	16.8%	21.0%	66.3%
White Women	15.0%	20.1%	66.1%
Not Non-White/Not White Women	180.9%	141.1%	105.2%

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.¹³⁶ 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 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 5.3. Parity would exist if the figures in Table 5.3 were 0.0%; in other words, non-Whites and White women would be utilized identical to White men. When Table 5.3 indicates that the wage differential between Blacks and White men is -32.3%, for example, this means that wages received by Blacks are 32.3% 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 5.3 Economic Outcome Differentials of Minorities and White Women
Relative to White Males
All Industries, 2011 - 2015**

Demographic Group	Wages Differentials Relative to White Men (% Change)	Business Earnings Relative to White Men (% Change)
Black	-32.3%***	-55.3%*
Latino	-27.3%***	-49.5%
Native American	-51.2%***	—
Asian/Pacific Islander	-35.4%***	-15.9%
Other	-28.3%***	12.6%
White Women	-28.1%***	-46.2%***

Source: CHA calculations from the American Community Survey

*** Indicates statistical significance at the 0.001 level

* Indicates statistical significance at the 0.05 level

¹³⁶ See Appendix A for more information on multiple regression statistical analysis.

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 5.4a presents these results. The Table indicates that White men have higher business formation rates compared to non-Whites and White women.¹³⁷ Table 5.4b 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 4.4% less likely to form a business compared to White men after other key explanatory variables are controlled. These Tables reinforce the conclusion 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 ten-county geographic market.

**Table 5.4a Business Formation Rates
All Industries, 2011 - 2015**

Demographic Group	Business Formation Rates
Black	1.73%
Latino	2.25%
Native American	2.21%
Asian/Pacific Islander	5.23%
Other	4.20%
Non-White	2.85%
White Women	3.76%
Non-White Male	3.14%
White Male	8.09%

Source: CHA calculations from the American Community Survey

**Table 5.4b Business Formation Probabilities Relative to White Males
All Industries, 2011 - 2015**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-5.07%***
Latino	-3.95%***
Native American	-3.83%
Asian/Pacific Islander	-1.52%**

¹³⁷ Many times, there were not sufficient observations in the data to conduct a reliable statistical analysis. In these instances, the tables will contain the symbol "----".

Demographic Group	Probability of Forming a Business Relative to White Men
Other	-1.55%
White Women	-3.05%***

Source: CHA calculations from the American Community Survey

*** Indicates statistical significance at the 0.001 level

** Indicates statistical significance at the 0.01 level

Overall, the results of our analyses of the ten-county geographic market 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 marketplace, NPS will function as a passive participant in these potentially discriminatory outcomes.¹³⁸

C. Disparate Treatment in the Marketplace: Evidence from the Census Bureau’s 2012 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.¹³⁹ The 2012 SBO is the most current data available. The SBO collects demographic data on business owners disaggregated into the following groups:^{140,141}

- 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.

¹³⁸ Various appendices to this Report 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.”

¹³⁹ See <http://www.census.gov/econ/sbo/about.html> for more information on the Survey.

¹⁴⁰ Race and gender labels reflect the categories used by the Census Bureau.

¹⁴¹ 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.

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

- Construction
- Professional, Scientific and Technical Services
- Goods
- Other 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 NPS’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.¹⁴² We therefore report 2-digit data.

Table 5.5 presents information on which NAICS codes were used to define each sector.

Table 5.5 2-Digit NAICS Code Definition of Sector

SBO Sector Label	2-Digit NAICS Codes
Construction	23
Professional, Scientific, and Technical Services ¹⁴³	54
Goods	31,42, 44
Other 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 Industries

For a baseline analysis, we examined all industries in the state of New Jersey. Table 5.5 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
- 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 5.6 presents data for the four basic non-White racial groups:

¹⁴² Even with these broad sector definitions, Many times, Bureau of Census policies concerning confidentiality precluded any analysis for certain demographic groups. When this occurred, values were represented by “----”.

¹⁴³ 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.

- Black
- Latino
- Native American
- Asian

Panel B of Table 5.6 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.¹⁴⁴

**Table 5.6 Percentage Demographic Distribution of Sales and Payroll Data
All Industries, 2012**

	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	7.27%	0.30%	1.54%	0.21%	0.65%	0.33%
Latino	11.78%	0.99%	5.35%	0.78%	1.78%	0.95%
Native American	0.29%	----	0.17%	----	----	----
Asian	10.24%	3.56%	13.94%	3.36%	4.73%	3.50%
Panel B: Distribution of All Firms						
Non-White	29.95%	5.04%	21.47%	4.52%	7.36%	4.88%
White Women	19.14%	2.87%	12.65%	2.54%	5.90%	3.90%
White Men	42.89%	24.35%	52.53%	23.49%	34.05%	27.96%
Equally Non-White & White	0.75%	0.21%	0.89%	0.19%	0.35%	0.23%
Equally Women & Men	5.36%	2.07%	6.59%	1.91%	3.39%	2.23%
Firms Not Classifiable	1.90%	65.47%	5.87%	67.36%	48.95%	60.81%
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: CHA calculations from Survey of Business Owners

¹⁴⁴ 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

Since the central issue is the possible disparate treatment of non-White and White women firms, Table 5.7 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.¹⁴⁵ 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 5.8:

- 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.
- 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 4.2% (as shown in Table 5.8). This is derived by taking the Black share of sales and receipts for all firms (0.30%) and dividing it by the Black share of total number of all firms (7.3%) that are presented in Table 5.7. 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.¹⁴⁶ All disparity ratios for non-White firms and White women firms are below this threshold.¹⁴⁷

**Table 5.7 Demographic Distribution of Sales and Payroll Data – Aggregated Groups
All Industries, 2012**

	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	7.3%	0.3%	1.5%	0.2%	0.6%	0.3%
Latino	11.8%	1.0%	5.4%	0.8%	1.8%	0.9%
Native American	0.3%	----	0.2%	----	----	----
Asian	10.2%	3.6%	13.9%	3.4%	4.7%	3.5%
Panel B: Distribution of All Firms						
Non-White	30.0%	5.0%	21.5%	4.5%	7.4%	4.9%
White Women	19.1%	2.9%	12.6%	2.5%	5.9%	3.9%
Not Non-White/Not White Women	50.9%	92.1%	65.9%	92.9%	86.7%	91.2%

¹⁴⁵ 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.

¹⁴⁶ 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.”).

¹⁴⁷ Because the data in Tables 5.6 and 5.7 are presented for descriptive purposes, significance tests on these results are not conducted.

	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)
All Firms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

**Table 5.8 Disparity Ratios of Firm Utilization Measures
All Industries, 2012**

	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	4.2%	13.4%	51.3%
Latino	8.4%	14.6%	53.3%
Native American	----	----	----
Asian	34.8%	24.1%	74.0%
Panel B: Disparity Ratios for All Firms			
Non-Whites	16.8%	21.0%	66.3%
White Women	15.0%	20.1%	66.1%
Not Non-White/Not White Women	180.9%	141.1%	105.2%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

This same approach was used to examine the construction, professional, scientific and technical services, goods, and other services sectors. The following are summaries of the results of the disparity analyses.

2. Construction

Of the 15 disparity ratios for non-White firms and White women firms presented in Table 5.9, 12 fall under the 80% threshold.

**Table 5.9 Disparity Ratios – Aggregated Groups
Construction, 2012**

	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	17.5%	47.8%	73.4%
Latino	16.9%	31.3%	66.6%
Native American	----	----	----
Asian	56.9%	78.8%	94.2%

	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 B: Disparity Ratios for All Firms			
Non-White	21.7%	41.7%	75.0%
White Women	103.7%	68.9%	106.7%
Not Non-White/Not White Women	123.5%	109.9%	100.9%
All Firms	100.00%	100.00%	100.00%

Source: CHA calculations from Survey of Business Owners

3. Construction-Related Services

Of the 18 disparity ratios for non-White firms and White women firms presented in Table 5.10, 16 fall under the 80% threshold.

**Table 5.10 Disparity Ratios – Aggregated Groups
Professional, Scientific, and Technical Services, 2012**

	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	14.0%	36.3%	69.6%
Latino	21.8%	45.7%	69.2%
Native American	17.9%	23.1%	67.1%
Asian	69.3%	49.5%	93.1%
Panel B: Disparity Ratios for All Firms			
Non-White	46.3%	48.9%	89.2%
White Women	23.7%	33.9%	57.8%
Not Non-White/Not White Women	154.4%	127.3%	105.2%
All Firms	100.0%	100.0%	100.0%

Source: CHA calculations from Survey of Business Owners

4. Goods

Of the 13 disparity ratios for non-White firms and White women firms presented in Table 5.11, 12 fall under the 80% threshold.

**Table 5.11 Disparity Ratios – Aggregated Groups
Goods, 2012**

	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	----	----	----
Latino	8.81%	13.80%	67.35%
Native American	5.18%	----	----
Asian	30.30%	22.88%	73.51%
Panel B: Disparity Ratios for All Firms			
Non-White	17.57%	19.73%	69.55%
White Women	12.55%	22.34%	82.32%
Not Non-White/Not White Women	177.26%	142.97%	103.08%
All Firms	100.00%	100.00%	100.00%

Source: CHA calculations from Survey of Business Owners

5. Services

Of the 13 disparity ratios for non-White firms and White women firms presented in Table 5.12, all 13 fall under the 80% threshold.

**Table 5.12 Disparity Ratios – Aggregated Groups
Services, 2012**

	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	6.1%	----	----
Latino	8.6%	12.3%	49.7%
Native American	----	----	----
Asian	24.9%	14.5%	57.7%
Panel B: Disparity Ratios for All Firms			
Non-White	12.8%	14.0%	54.5%
White Women	16.8%	19.0%	67.5%
Not Non-White/Not White Women	199.7%	149.7%	106.9%
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 2011 - 2015 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 a M/WBE program for NPS.

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 percent 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 2011 through 2015, the most recent available.¹⁴⁸ 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 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.

¹⁴⁸ For more information about the ACS PUMS, see <http://www.census.gov/acs/>.

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 of wages and gender. 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.¹⁴⁹

In the balance of this section, we report data for all sectors combined; for the Construction sector; for the Construction-Related Services sector; for the Goods sector; and for the Other Services sector.

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).

1. All Industries in the Ten-county Geographic Market

a. Business Formation Rates

Table 5.13 presents business formation rates in the ten-county geographic market by demographic groups.

**Table 5.13 Business Formation Rates,
All Industries, 2011 - 2015**

Demographic Group	Business Formation Rates
Black	1.73%
Latino	2.25%
Native American	2.21%
Asian/Pacific Islander	5.23%
Other	4.20%
Non-White	2.85%
White Women	3.76%
Non-White Male	3.14%
White Male	8.09%

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.

¹⁴⁹ Most social scientists do not endorse utilizing a confidence level of less than 95%. Appendix C explains more about statistical significance.

To explore this question further, a probit regression statistical technique was employed.¹⁵⁰ The basic question is: how does the probability of forming a business vary as factors such as race, gender, etc. vary?

Table 5.14 presents the results of the probit analysis for the ten-county geographic market.

**Table 5.14 Business Formation Probability Differentials
for Selected Groups Relative to White Men
All Industries, 2011 - 2015**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-5.07%***
Latino	-3.95%***
Native American	-3.83%
Asian/Pacific Islander	-1.52%**
Other	-1.55%
White Women	-3.05%***

Source: CHA calculations from the American Community Survey

*** Indicates statistical significance at the 0.001 level

** Indicates statistical significance at the 0.01 level

The analysis indicates that (with the exception of Other) non-Whites and White women are less likely than White men to form businesses even after controlling for key factors. The reduction in probability ranges from 1.52% to 5.07%. The results for Black, Latino, and White Women are statistically significant at the 99.9 level. The results for Asian/Pacific Islander are statistically significant at the 99.0 level.

b. Differences in Wage and Salary Incomes

Table 5.15 presents the findings from the wage and salary income regression analysis examining the Washington economy. This indicates the wage differential for selected demographic groups relative to White men.

**Table 5.15 Wage Differentials
for Selected Groups Relative to White Men
All Industries, 2011 - 2015**

Demographic Group	Wages Relative to White Men (% Change)
Black	-32.3%***
Latino	-27.3%***
Native American	-51.2%***
Asian/Pacific Islander	-35.4%***
Other	-28.3%***

¹⁵⁰ 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.

Demographic Group	Wages Relative to White Men (% Change)
White Women	-28.1%***

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

Holding constant factors such as education, age, occupation, and industry, Blacks, Latinos, White women, Asian/Pacific Islanders and Others earn less than White men in the overall economy. Estimates of the coefficients for Black, Latino, Native American, Asian/Pacific Islander and White Women are statistically significant at the 0.001 level. For example, we are 99.9% confident that wages for Blacks (after controlling for numerous other factors) are 32.3% 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 5.16 presents these findings.

Table 5.16 Business Earnings Differentials for Selected Groups Relative to White Men All Industries, 2011 - 2015

Demographic Group	Earnings Relative to White Men (% Change)
Black	-55.3%*
Latino	-49.5%
Native American	—
Asian/Pacific Islander	-15.9%
Other	12.6%
White Women	-46.2%***

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

The estimated coefficient the White Women variable was found to be statistically significant at the 0.001 level. The estimated coefficient the Black variable was found to be statistically significant at the 0.05 level. The other coefficients were not statistically significant different from zero.

d. Conclusion

Using descriptive analysis, Table 5.13 shows that differentials exist between the business formation rates by non-Whites and White women and White males across industry sectors. Table 5.14 presents the results of a further statistical analysis, which indicates that even after taking into account potential mitigating factors, the differential still exists. Tables 5.15 and 5.16 present data indicating statistically significant 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 the Ten-county Geographic Market

a. Business Formation Rates

Table 5.17 presents business formation rates in the construction industry for selected demographic groups.

**Table 5.17 Business Formation Rates,
Construction, 2011 - 2015**

Demographic Group	Business Formation Rates
Black	5.02%
Latino	4.47%
Native American	0.00%
Asian/Pacific Islander	11.64%
Other	6.72%
Non-White	5.39%
White Women	9.91%
Non-White Male	5.86%
White Male	14.24%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than non-White males where there were sufficient observations to make a statistical inference. 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 5.18 presents the results of the probit analysis for the construction industry.

**Table 5.18 Business Formation Probability Differentials
for Selected Groups Relative to White Men
Construction, 2011 – 2015**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-7.93%*
Latino	-5.61%*
Native American	0.00%
Asian/Pacific Islander	0.09%
Other	0.45%
White Women	-5.22%

Source: CHA calculations from the American Community Survey

* Indicates statistical significance at the 0.05 level

The analysis indicates that coefficients for Black and Latino were statistically significant at the 95% level.

b. Differences in Wage and Salary Incomes

Table 5.19 presents the findings from the wage and salary income regression analysis examining the construction industry. This indicates the wage differential for selected demographic groups relative to White men.

**Table 5.19 Wage Differentials
for Selected Groups Relative to White Men
Construction, 2011 - 2015**

Demographic Group	Wages Relative to White Men (% Change)
Black	-30.20%***
Latino	-32.4%***
Native American	-37.3%
Asian/Pacific Islander	-51.9%***
Other	-25.8%*
White Women	-23.4%***

Source: CHA calculations from the American Community Survey

*** Indicates statistical significance at the 0.001 level

* Indicates statistical significance at the 0.05 level

Estimated coefficients for Black Latino, Asian/Pacific Islander and White Women were statistically significant at the 0.001 level. The coefficient for Other was 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 5.20 presents these findings.

**Table 5.20 Business Earnings Differentials
for Selected Groups Relative to White Men
Construction, 2011 - 2015**

Demographic Group	Earnings Relative to White Men (% Change)
Black	-259.0%**
Latino	-76.0%
Native American	_____
Asian/Pacific Islander	-108.0%
Other	-114.0%
White Women	-89.8%

Source: CHA calculations from the American Community Survey

** Indicates statistical significance at the 0.01 level

Only the coefficient for Black was statistically significant; its significance was at the 99% level.

d. Conclusion

Using descriptive analysis, Table 5.17 shows that differentials exist between the business formation rates by non-White males and White males. Table 5.18 presents the results of a further statistical analysis, which indicates that even after taking into account potential mitigating factors, the statistically significant differentials

still exists for Blacks and Latino. Table 5.19 presents data indicating statistically significant wage differentials for most groups and Table 5.20 indicates statistically significant differences in business earnings for Blacks.

3. The Construction-Related Services Industry in the Ten-county Geographic Market

a. Business Formation Rates

Table 5.21 presents business formation rates in the construction-related services industry in the ten-county geographic market for selected demographic groups.

**Table 5.21 Business Formation Rates,
Construction-Related Services, 2011 - 2015**

Demographic Group	Business Formation Rates
Black	5.57%
Latino	6.96%
Native American	-----
Asian/Pacific Islander	4.01%
Other	8.93%
Non-White	5.10%
White Women	2.11%
Non-White Male	4.05%
White Male	11.87%

Source: CHA calculations from the American Community Survey

A limited number of observations hampered the studies' ability to conduct a detailed analysis in this sector. There were no Native Americans in this sector and the small number of Black, Latino, Asians, and Others meant that reliable estimates for specific groups could not be made. White males have a higher rate of business formation than White females. 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 5.22 presents the results of the probit analysis for the construction-related services industry.

**Table 5.22 Business Formation Probability Differentials
for Selected Groups Relative to White Men
Construction-related Services, 2011 - 2015**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-4.30%
Latino	-2.52%
Native American	-----
Asian/Pacific Islander	-7.24%
Other	5.71%

Demographic Group	Probability of Forming a Business Relative to White Men
White Women	-9.38%*

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

The estimated coefficient for the White Women variable was statistically significant at the 95% level.

b. Differences in Wage and Salary Incomes

Table 5.23 presents the findings from the wage and salary income regression analysis examining the construction-related services industry. This indicates the wage differential for selected demographic groups relative to White men.

Table 5.23 Wage Differentials for Selected Groups Relative to White Men Construction-Related Services, 2011 - 2015

Demographic Group	Wages Relative to White Men (% Change)
Black	-0.15%
Latino	-23.10%***
Native American	-146.00%
Asian/Pacific Islander	-12.60%**
Other	7.50%
White Women	-21.90%***

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

The coefficients for Latino and White Women were statistically significant at the 99.1% level. The coefficient for Asian/Pacific Islander was statistically significant at the 99% 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 5.24 presents these findings.

Table 5.24 Business Earnings Differentials for Selected Groups Relative to White Men Construction-related Services, 2011 - 2015

Demographic Group	Earnings Relative to White Men (% Change)
Black	---
Latino	---
Native American	---

Demographic Group	Earnings Relative to White Men (% Change)
Asian/Pacific Islander	-65.50%
Other	---
White Women	-148%*

Source: CHA calculations from the American Community Survey
 * Indicates statistical significance at the 0.005 level

Because of sample size concerns, the only valid analysis that could be performed examined business earnings differentials for Asian/Pacific Islanders and White Women; only the estimated coefficient for White Women was statistically significant and its level of significance was at the 95% level.

d. Conclusion

The small number of observations in this sector and subsequent sample size concerns limited the scope of this analysis. White women were found to have a statistically significant lower probability of business formation relative to White men. Statistically significant wage differentials were found for some demographic groups.

4. The Goods Industry in the Ten-county Geographic Market

a. Business Formation Rates

Table 5.25 presents business formation rates in the ten-county geographic market goods industry for selected demographic groups.

**Table 5.25 Business Formation Rates,
Goods, 2011 - 2015**

Demographic Group	Business Formation Rates
Black	0.61%
Latino	1.98%
Native American	0.00%
Asian/Pacific Islander	9.89%
Other	0.74%
Non-White	3.74%
White Women	3.86%
Non-White Male	3.77%
White Male	9.22%

Source: CHA calculations from the American Community Survey

White males have a higher rate of business formation than non-White males where there were sufficient observations to make a statistical inference. 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 5.26 presents the results of the probit analysis for the goods industry.

**Table 5.26 Business Formation Probability Differentials
for Selected Groups Relative to White Men
Goods, 2011 – 2015**

Demographic Group	Probability of Forming a Business Relative to White Men
Black	8.25%*
Latino	5.52%
Native American	----
Asian/Pacific Islander	10.59%*
Other	2.15%
White Women	----

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

The estimated probability of business formation was statistically significant for Black and Asian/Pacific Islander and the coefficient indicates that both groups have a greater likelihood of forming a business relative to White men. These estimates are statistically significant at the 95% level.

b. Differences in Wage and Salary Incomes

Table 5.27 presents the findings from the wage and salary income regression analysis examining the goods industry. This indicates the wage differential for selected demographic groups relative to White men.

**Table 5.27 Wage Differentials
for Selected Groups Relative to White Men
Goods, 2011 - 2015**

Demographic Group	Wages Relative to White Men (% Change)
Black	-36.2%***
Latino	-24.0%***
Native American	-28.0%
Asian/Pacific Islander	-45.8%***
Other	-19.9%
White Women	-41.4%***

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

The estimated coefficients for Blacks, Latinos, White women, and Asian/Pacific Islanders 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 5.28 presents these findings.

**Table 5.28 Business Earnings Differentials
for Selected Groups Relative to White Men
Goods, 2011 – 2015**

Demographic Group	Earnings Relative to White Men (% Change)
Black	-274.0%
Latino	123.0%
Native American	----
Asian/Pacific Islander	-73.8%
Other	----
White Women	43.1%

Source: CHA calculations from the American Community Survey

None of the coefficients are significantly statistically different from zero.

d. Conclusion

Using descriptive analysis, Table 5.25 shows that differentials exist between the business formation rates by non-White males and White males (with the exception of Asian/Pacific Islanders). The small number of observations in this sector and subsequent sample size concerns limited the scope of the analysis here. Table 5.26 indicates that even after taking into account potential mitigating factors, Blacks and Asian/Pacific Islanders have a reduced probability of forming a business. Table 5.27 presents data indicating statistically significant wage differentials exists for many demographic groups.

5. The Other Services Industry in the Ten-county Geographic Market

a. Business Formation Rates

Table 5.29 presents business formation rates in the other services industry in the ten-county geographic market for selected demographic groups.

**Table 5.29 Business Formation Rates,
Other Services, 2011 - 2015**

Demographic Group	Business Formation Rates
Black	2.07%
Latino	2.33%
Native American	1.28%
Asian/Pacific Islander	4.62%
Other	6.04%
Non-White	2.92%
White Women	4.83%
Non-White Male	3.52%
White Male	9.29%

Source: CHA calculations from the American Community Survey

A limited number of observations hampered the studies' ability to conduct a detailed analysis in this sector. There were no Native Americans in this sector and the small number of Black, Latino, Asians, and Others meant that reliable estimates for specific groups could not be made. White males have a higher rate of business formation than White females. 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 5.30 presents the results of the probit analysis for the other services industry.

Table 5.30 Business Formation Probability Differentials for Selected Groups Relative to White Men Other Services, 2011 - 2015

Demographic Group	Probability of Forming a Business Relative to White Men
Black	-4.72%***
Latino	-4.04%***
Native American	-5.81%
Asian/Pacific Islander	-2.58%***
Other	-1.05%
White Women	-3.02%***

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

The estimated coefficients for Blacks, Latinos, White women, and Asian/Pacific Islanders are statistically significant at the 0.001 level.

b. Differences in Wage and Salary Incomes

Table 5.31 presents the findings from the wage and salary income regression analysis examining the other services industry. This indicates the wage differential for selected demographic groups relative to White men.

Table 5.31 Wage Differentials for Selected Groups Relative to White Men Other Services, 2011 - 2015

Demographic Group	Wages Relative to White Men (% Change)
Black	-31.8%***
Latino	-26.3%***
Native American	-61.2%***
Asian/Pacific Islander	-32.5%***
Other	-35.9%***
White Women	-28.5%***

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

All estimated coefficients were statistically significant at the 99.1 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 5.32 presents these findings.

Table 5.32 Business Earnings Differentials for Selected Groups Relative to White Men Other Services, 2011 - 2015

Demographic Group	Earnings Relative to White Men (% Change)
Black	-73.3%*
Latino	-83.8%***
Native American	----
Asian/Pacific Islander	-8.7%
Other	21.4%
White Women	-47.9%***

Source: CHA calculations from the American Community Survey

*** Indicates statistical significance at the 0.001 level

* Indicates statistical significance at the 0.05 level

Estimates for Latino and White Women were statistically significant at the 99.1% level. The coefficient for Black was statistically significant at the 95% level.

d. Conclusion

Table 5.29 shows that differentials exist between the business formation rates by non-White males and White males. Table 5.30 presents the results of a further statistical analysis, which indicated that even after taking into account potential mitigating factors, the statistically significant differentials still exists for Blacks and Latino, Asian/Pacific Islanders, and White women. Table 5.31 presents data indicating statistically significant wage differentials for all groups and Table 5.32 indicates selected statistically significant differences in business earnings.

VI. QUALITATIVE EVIDENCE OF RACE AND GENDER DISCRIMINATION IN NEWARK PUBLIC SCHOOLS' MARKET

In addition to quantitative data, a disparity study should further explore anecdotal evidence of experiences with discrimination in contracting opportunities. Such data are relevant to the determination of whether race- and gender-neutral measures will fully remediate discrimination and create a level playing field for District contracts. As observed by the Supreme Court, anecdotal evidence can be persuasive because it “brought the cold [statistics] convincingly to life.”¹⁵¹ Evidence about discriminatory practices engaged in by prime contractors and consultants, lenders and other actors relevant to business opportunities on agency projects is probative of barriers both to minority firms' business formation and to their success on governmental projects.¹⁵² 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.”¹⁵³ “[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.”¹⁵⁴

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.”¹⁵⁵ 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.”¹⁵⁶

To explore anecdotal evidence of possible discrimination against minorities and women in NPS' geographic and industry markets and the need for race-and gender-conscious remedies, we obtained information from 56 individuals located in the District's market area. We sought to explore their experiences in seeking and performing public and private sector prime contracts and subcontracts with NPS, other Newark area agencies and in the private sector. We also conducted an electronic survey.

As with other jurisdictions, most minority and women owners reported that while some progress has been made in integrating their firms into public and private sector contracting activities through race- and gender-conscious contracting programs, significant barriers remain.

A. Business Owner Interviews

The following are summaries of the issues discussed and interviewees' experiences and comments. Quotations are indented, and have been edited for readability.

¹⁵¹ *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 399 (1977).

¹⁵² *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1168-1172 (10th Cir. 2000), cert. granted, 532 U.S. 941, then dismissed as improvidently granted, 534 U.S. 103 (2001).

¹⁵³ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1520, 1530 (10th Cir. 1994).

¹⁵⁴ *Engineering Contractors Association of South Florida, Inc. v. Metropolitan Dade County*, 122 F.3d 895, 926 (11th Cir. 1997).

¹⁵⁵ *H.B. Rowe Co., Inc. v. Tippett*, 615 F.3d 233, 249 (4th Cir. 2010).

¹⁵⁶ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 989 (10th Cir. 2003), cert. denied, 540 U.S. 1027 (2003).

1. Discriminatory Attitudes and Negative Perceptions of Competence

Many minority and female owners reported that agencies and other firms display negative attitudes about the competency and professionalism of minorities and women. The assumption is that minority firms are less qualified.

When we present [to potential agency clients] they think, "This guy don't even speak the way I speak. They don't look the way we look, so they come and talk, they may not be telling the truth, they may not be capable of." They don't even give us a chance,

Look[ing] outside the box includes considering a minority's capability to be successful.

The government contracting arena was still mostly closed to M/WBEs.

It's an old boys club.

It is a closed, old boy network.

The old boy network is alive

You don't get in if you don't know somebody to help get the door open to get you in.

Generally, the sentiment is that, that's a formality that they've already decided who they want to come in.

Women faced continuing sexist remarks and conduct.

A lot of people think [the firm's owner is] my husband. My husband is not in the business at all. First of all, I got married late. I was married to this business. ... I work really hard, really hard, and it's all on me. It's all on my shoulders.

[Women architects] definitely had much more prejudicial attitudes and a much rougher time.

2. Obtaining Work on an Equal Basis

These types of barriers led minorities and women to unanimous agreement that M/WBE goals remain necessary to level the playing field and equalize opportunities. M/WBEs sought the right to compete on a fair and equal basis. Affirmative action goals are necessary to ensure equal opportunities because they receive little to no work on non-goals jobs.

No goals leads to no work.

Most of our work we were getting because of we being MBEs, and the primes wanted [to use] me to [meet] setaside goals, so they were using us. The moment Asians were removed from [the City of New York's M/WBE program], they were no longer including us. Even though we worked with them on some projects on the same contract, the previous term, doing excellent job. ... Because [the City] removed that goal, the owners and said, "Oh, we cannot include them, because they're not longer in the setaside goal program."

3. Access to Business Capital and Surety Bonds

The inability to obtain working capital and surety bonds for construction contracts were major barriers to working on District contracts.

It is difficult for MBEs to obtain surety bonding.

Minority vendors or contractors did not have the appropriate bonding capabilities in order to do what's necessary.

Financial capacity, I think, is the biggest concern. And on the capital side, whether or not they have the bonding capabilities in order to make things work.

B. Anecdotal Survey

To supplement the in person interviews, we also conducted an electronic survey of firms on our availability list. Forty-eight firms participated. Thirty-five firms had done business with the District as either a prime vendor or a subcontractor or both. These respondents reported the following experiences:

- 57.5% answered “yes” to the question “Do you experience barriers to contracting opportunities based on race and/or gender?”
- 16.0% reported they have unequal access to insurance; 12.0 % reported they have unequal access to surety bonding services; and 28.0% reported they have unequal access to financing and business capital.
- 36.8% reported they are solicited for private projects and projects without affirmative action goals.
- 42.1% stated that NPS and/or prime contracts pay them promptly.
- 5.2% reported they experience job-related sexual or racial harassment.
- 21.2% stated they experience discrimination from suppliers or subcontractors because of their race and/or gender.
- 64.5% had accessed some type of supportive services or other program to assist M/WBEs and small firms (firms were permitted to choose more than one answer):
 - 15.5% had participated in financing or loan programs;
 - 2.2% had accessed bonding support programs;
 - 22.2% had participated in a mentor-protégé program or relationship;
 - 17.7% had received support services such as assistance with marketing, estimating, information technology, etc.; and
 - 17.7% had joint ventured with another firm.

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 NPS and private sector contracts and subcontracts. While not definitive proof that the District should apply race- and gender-conscious measures to these impediments, the results of the personal interviews and the survey 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 NPS may use narrowly tailored M/WBE contract goals to address that discrimination.

VII. RECOMMENDATIONS FOR A NEW MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM FOR NEWARK PUBLIC SCHOOLS

The quantitative and qualitative data presented in this Study provide a thorough examination of whether minority- and women-owned business enterprises (“M/WBEs”) operating in NPS’ geographic and procurement markets have full and fair opportunities to compete for its prime contracts and associated subcontracts. As required by strict scrutiny, we analyzed evidence of such firms’ utilization by the District as compared to their availability in the market area, as well as business owners’ experiences in obtaining District work. We further analyzed M/WBEs’ opportunities in the private sector. These statistical and anecdotal data provide the evidence necessary to determine whether there is a strong basis in evidence that M/WBEs continue to suffer discrimination in access to NPS contracts on the basis of race or gender, and if so, what narrowly tailored remedies are appropriate.

The Study results fully support the District’s compelling interest in implementing a new race- and gender-conscious M/WBE program. The statistical data and the anecdotal testimony provide a sufficient basis for the use of narrowly tailored remedial race- and gender-based measures to ensure equal opportunities for all firms to do business with NPS.

The District has initiated some efforts to level the playing field. These include adopting an electronic supplier portal to facilitate vendor registration and inform firms of upcoming opportunities; participating in vendor outreach fairs; and providing materials on how to conduct business with the District. However, much more could be done.

While NPS has employed MBE set-asides on a few small contracts, it has not adopted a comprehensive M/WBE program. In our judgment, the results of this report provide the constitutionally required information to sustain a new and broad approach to contracting equity and inclusion.

The Study’s data support the determination that the District has a strong basis in evidence to implement a new race- and gender-conscious program. The record— both quantitative and qualitative— establishes that M/WBEs in the District’s market area continue to experience significant disparities in their access to District contracts and private sector opportunities and to those factors necessary for business success. These findings support the inference that discrimination remains a barrier to full and fair opportunities for all firms, and in the absence of contract goals, M/WBEs suffered significant disparities on District-funded jobs. Without the use of contract goals to level the playing field, the District would likely function as a “passive participant” in the “market failure” of discrimination. We therefore recommend the implementation of a new program that contains the necessary elements for greater success in reducing barriers and that employs national best practices to increase inclusion in government contracting.

As a general matter, NPS should model its program on the elements of the Disadvantaged Business Enterprise (“DBE”) Program for federally-assisted transportation contracts.¹⁵⁷ Courts have pointed to the agency’s reliance on Part 26 as a guide as evidence that the local agency’s program is constitutional.

Based on this case law and national best practices for M/WBE program, we recommend the following elements of a narrowly tailored M/WBE program. The first priorities should be to obtain a data collection system and set up a function to administer the new M/WBE program. At that point, a timetable for other recommendations can be developed based on available resources and District administrative and political needs.

¹⁵⁷ 49 C.F.R. Part 26.

A. Implement Race- and Gender-Neutral Measures

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

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 the information needed for the inclusion of subcontractor payments in the analysis. These problems led to major delays in conducting the study. In addition to research needs, the lack of a system will also make it more difficult to monitor, enforce and review the new program requirements.

The District's first priority should be to immediately procure and 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 M/WBE/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 notification and reminder engine to inform 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 District staff, prime contractors and subcontractors to perform all necessary activities.

2. Provide Resources to Implement the Program

To administer the program, the District's next step should be to create an M/WBE office. Staff should be responsible for the contract award process (outreach, goal setting, bid and proposal review for compliance, etc.) and the contract performance process (goal attainment, substitution reviews, prompt payment tracking, etc.), as they relate to M/WBE concerns. The director or head of this office should report directly to the Superintendent to ensure the independence of the department and demonstrate the importance of this function and the Board's commitment to inclusion.

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

Interviewees reported that their firms would like to perform as prime vendors on NPS contracts. While a few firms have received prime awards under the current MBE setaside approach, this has not resulted in parity

across all groups and industry sectors. Once a M/WBE office has been set up, this new department should work with Procurement, Law and user departments to take several steps in the immediate short term:

- Develop contract specifications with an eye towards unbundling projects into less complex scopes and lower dollar values.
- Review experience requirements with the goal of reducing them to the lowest level necessary to ensure the bidder has adequate experience, perhaps by recognizing similar though not identical types of work, including work performed for private sector clients.
- Review surety bonding and insurance requirements so they are no greater than necessary to protect NPS' interests. These possible barriers to contracting by small firms 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 the lowest apparent bidder on appropriate solicitations.

4. Increase Vendor Communication and Outreach to M/WBEs and Small Firms

Increased communication with the contracting community is critical. In addition to continuing to notify minority and women-focused organizations, the District should conduct its own vendor outreach events to provide information and address questions regarding upcoming opportunities, as well as facilitate “match making” sessions between prime contractors and subcontractors.

Another improvement would be an annual contracting forecast of larger contracts to permit vendors to plan their work and form teams.

Further, as is the case with many governments, the study revealed that M/WBEs are receiving few opportunities in several industry codes. We suggest that special outreach for larger projects be conducted to firms in those sectors so that they are aware of opportunities and can make connections with other vendors as subcontractors or joint venture partners. Activities could include targeted emails about future contracts, matchmaking events focusing on those industries, and identification of firms that are not currently certified, but might be eligible for inclusion, to encourage applications.

5. Provide Training for all District Staff with Contracting Responsibilities or Vendor Interface

These significant changes will require District-wide roll out of the new program as well as training of all NPS personnel with responsibility for the program and vendor management. In addition to providing technical information on compliance, it is also an opportunity to reaffirm the District's commitment to supplier diversity and the program, and encourage all departments to buy into the values and objectives of the program.

6. Appoint a M/WBE Advisory Council

A M/WBE advisory group can help the district to implement and publicize the program. Such a committee would consist of District staff (procurement, construction, legal, etc.) and representatives of stakeholder groups (minority/women and general contractor organizations, community groups, etc.). Its charge would be to support the program and identify improvements. While strictly advisory, it can help to build support for the program and provide crucial feedback to the District about how it is being implemented.

Such a group is especially needed for NPS because of the very high levels of distrust of the business community in the District. In over 20 years of conducting studies, we have never encountered such hostility from business owners. People refused to cooperate with our requests for information or to participate in the interviews. We were often told in less than gentle language that the firm wanted nothing to do with NPS. This climate will make it challenging to administer the new program, and a committee with outside representation may help to reduce distrust and build consensus that the District in fact is seeking to make real changes.

7. Adopt a Small Business Enterprise Target Market

An effective approach would be to set aside some smaller contracts for bidding only by small, local firms 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. Small Business Enterprise (“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. This would be a much more comprehensive target market than the current setaside of small contracts only for MBEs. Many small firms endorsed this initiative.

The District would have to determine the size limits for contracts (such as contracts under \$100,000) 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 successfully procured using this method. Perhaps the Prequalification Solicitation (PQS) procurement approach could be utilized, whereby multiple SBE vendors would be approved to provide specific services. 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.

A SBE element could also include additional assistance for SBE and M/WBE vendors, such as quick pay (e.g., invoicing every two weeks); reduced experience requirements; no holding of retainage, etc.

8. Consider Partnering with Other Agencies to Provide Bonding, Financing and Technical Assistance Programs

Both M/WBEs and majority-male owners supported services to assist M/WBEs to increase their skills and capabilities. Bonding and financing programs assist small firms by providing loans and issuing surety bonds to certified contractors, with low interest rates. The programs may also provide general banking services on favorable terms to applicant firms. In addition, technical assistance with critical business skills such as estimating, accounting, safety, marketing, legal compliance, etc., could be made available in conjunction with existing efforts of Newark area organizations such as the Procurement Technical Assistance Centers, community colleges, etc. To address these critical needs, the District should partner with other Newark area agencies, such as the City of Newark, Essex County and other local organizations.

B. Implement Race- and Gender-Conscious Measures

1. Goal Setting

The District should set an annual, overall target for M/WBE utilization in NPS’ combined prime contracts and subcontracts: The availability estimates in Chapter IV should be the basis for consideration of overall, annual spending targets for District funds. We found the availability of M/WBEs to be 14.8 percent. This target can be NPS’ goal for its overall spending with certified firms across all industry categories.

In addition to setting an overall, annual target, NPS should use the study’s detailed unweighted availability estimates as the starting point for contract specific goals: As discussed in Chapter II of the Study, the District’s constitutional responsibility is to ensure that goals are narrowly tailored to the specifics of the project. The detailed availability estimates in the Study can serve as the starting point for contract goal setting. There should be a goal setting module in the electronic system. This methodology involves four steps:

- Weight the estimated dollar value of the scopes of the contract by industry codes, as determined during the process of creating the solicitation. To increase understanding and compliance, these industry codes could be listed in the solicitation as a guide to how the goal was determined and where NPS expects bidders to seek MBE and WBE participation. Good faith efforts could be defined as, among several other elements, an adequate solicitation of firms certified in these codes.
- Determine the availability of MBEs and WBEs in those scopes as estimated in the Study.
- Calculate a weighted goal based upon the scopes and the availability of firms.
- Adjust the resulting percentage based on current market conditions.

We urge the District to bid some contracts without goals that it determines have significant opportunities for M/WBE participation. These “control contracts” can illuminate whether certified firms are used or even solicited in the absence of goals. The development of some unremediated markets data, as held by the courts, will be probative of whether the M/WBE program remains needed to level the playing field for minorities and women.

2. Program Eligibility

The study found that, as a group, M/WBEs continue to suffer disparities in their access to NPS contracts. We therefore recommend that all racial and ethnic groups and White women be eligible for participation in the program on a presumptive basis.

Program eligibility should be limited to firms that have a business presence in the District’s market area, as established by this study. This consists of the New Jersey counties of Bergen, Essex Hudson, Middlesex Monmouth, Morris, Passaic and Somerset, and the New York counties of Kings and New York.

The District’s new program should continue to accept M/WBE certifications from the state of New Jersey, with the addition of the collection of data on the race and gender of the firm’s ownership (the state refused to provide this detailed information to NPS for this study). This information is necessary to fully monitor the program as required by the courts, so the District will have to gather these data from the firms directly. If permitted under state law, it should also accept the Disadvantaged Business Enterprise certification from the New Jersey Unified Certification Program approved by the U.S. Department of Transportation and the 8(a) certification conferred by the U.S. Small Business Administration.

3. Compliance and Monitoring Policies and Procedures

In addition to ensuring that the new M/WBE program sets narrowly tailored goals and eligibility requirements, it is essential that the District adopt contract award and performance standards for program compliance and monitoring that are likewise narrowly tailored and embody best practices. In general, compliance and monitoring should include the following elements.

- Clearly delineated policies and forms by which a bidder or proposer can establish that it has either met the contract goal(s) or made good faith efforts to do so.
- Rules for how participation by certified firms will be counted towards the goal(s). A firm must perform a “commercially useful function” in order to be counted for goal attainment. How various types of goods or services will be creditable must be spelled out (for example, whether full credit will be given for purchases from certified regular dealers or suppliers).
- Criteria and processes for how non-performing certified firms can be substituted during performance.
- Contract closeout procedures and standards for sanctions for firms that fail to meet their contractual requirements under the program.
- A process to appeal adverse determinations under the program that meets due process standards.

C. Performance Standards and Review

To meet the requirements of strict constitutional scrutiny and ensure best practices in program administration continue to be applied, the District should conduct a full and thorough review of the evidentiary basis for the Program approximately every five to seven years.

NPS should adopt a sunset date for the M/WBE program, when it will end unless reauthorized, is a constitutional requirement to meet the narrow tailoring test that race-and gender-conscious measures be used only when necessary. A new disparity study or other applicable research should be commissioned in time to meet the sunset date.

The District should develop quantitative performance measures for overall success of its program to evaluate its effectiveness in reducing the systemic barriers identified by the Study. In addition to meeting goals, possible benchmarks might be:

- Progress towards meeting the overall, annual MBE and WBE goals.
- The number of bids or proposals, industry and the dollar amount of the awards and the goal shortfall, where the bidder was unable to meet the goals and submitted good faith efforts to do so.
- The number and dollar amount of bids or proposals and industry rejected as non-responsive for failure to make good faith efforts to meet the goal.
- The number, industry and dollar amount of M/WBE substitutions during contract performance.
- Increased bidding by certified firms as prime vendors, including through any SBE target market.
- Increased prime contract awards to certified firms.
- Increased “capacity” of certified firms, as measured by bonding limits, size of jobs, profitability, complexity of work, etc.
- Increased variety in the industries in which M/WBEs are awarded prime contracts and subcontracts.

APPENDIX A: 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 New Jersey than it is in California). We therefore developed new variables that would show the interaction between race and gender and one particular state. Since this Report examined Washington, that was the state employed. The coefficient for the new variable showed the impact of being a member of that race or gender in New Jersey. Consequently, the impact of race or gender on wages or earnings had two components: the national coefficient and the state-specific impact.

APPENDIX B: 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 layperson's point of view lie in the nature of the 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.¹⁵⁸ 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 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.

¹⁵⁸ The exact interpretation depends upon the functional form of the model.

APPENDIX C: 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 WSDOT as it explores whether each racial and ethnic group and White women continues to experience discrimination in its markets is do non-Whites and White women receive lower wages than White men? As discussed in Appendix A, one way to uncover the relationship between the dependent variable (*e.g.*, wages) and the independent variable (*e.g.* non-Whites) is through multiple regression analysis. An example helps to explain this concept.

Let us say 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 is 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.¹⁵⁹ The confidence interval will vary depending upon the level 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.

¹⁵⁹ 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 or below the hypothesized value, then we would say “plus or minus the confidence level” and this would be a two-tailed test.