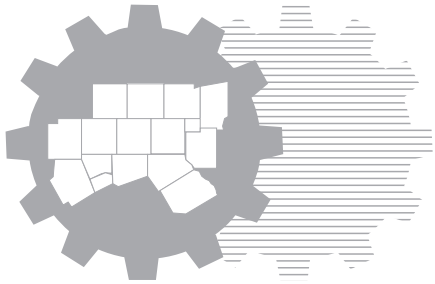

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

Joint Availability and Disparity

VOLUME 4

DALLAS/ FORT WORTH INTERNATIONAL AIRPORT BOARD

SUPPLEMENTAL STUDY

FINAL REPORT | AUGUST 2010

Submitted by: Mason Tillman Associates, Ltd.

ACKNOWLEDGMENT

In 2008, North Central Texas Council of Governments (NCTCOG) commissioned an Availability and Disparity Study (Study) on behalf of six agencies that formed a Consortium. The six Consortium Agencies that participated in the Study are the City of Arlington, the City of Fort Worth, Dallas / Fort Worth International Airport Board, Fort Worth Independent School District, Fort Worth Transportation Authority, and the North Texas Tollway Authority. Mason Tillman Associates, Ltd., of Oakland, California was selected by NCTCOG to perform the Study.

The purpose of the Availability and Disparity Study was to evaluate the procurement and contracting practices of each agency, particularly their use of minority, woman-owned, and disadvantaged businesses and how well each Consortium Agency's current program promotes equal opportunity for bidding, diversification of its vendor base, and equitable distribution of purchases. The Dallas / Fort Worth International Airport Board Availability and Disparity Study focused on five industries - construction, architecture and engineering, professional services, non-professional services, and goods. It reviewed the award of prime contracts during the study period of October 1, 2002 to September 30, 2007.

The Burrell Group, Adrian Information Systems, Consumer and Market Insights, Trovada Davis Agency, Ms. Sherry Crum Tupper, and Scott Emblidge, Esq. assisted Mason Tillman in the performance of the Study. The subcontractor team performed legal analysis, data collection activities, anecdotal interviews, design services, and outreach to the business community.

The Study could not have been conducted without the cooperation of the local chambers of commerce and business organizations, and the many Tarrant County and Dallas County business owners who demonstrated their commitment to the Study by participating in interviews and focus groups. In addition, the Dallas / Fort Worth International Airport Board staff played a critical role in assisting with the data collection by making available Dallas / Fort Worth International Airport Board personnel, contract records, and documents needed to perform the Study. The extraordinary effort of the Dallas / Fort Worth International Airport Board and the business community should be applauded.

Monte Mercer, Deputy Executive Director and Donna Steward, Procurement and Facilities Coordinator of NCTCOG provided overall leadership and guidance for the Consortium's Availability and Disparity Study. Don O'Bannon, Vice President, Business Diversity and

Development and Suzanne Cruz-Sewell, Assistant Vice-President, Business Diversity and Development of the Dallas/Fort Worth International Airport Board facilitated Mason Tillman's effort to secure the needed resources to complete the Dallas / Fort Worth International Airport Board's Availability and Disparity Study.

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SUPPLEMENTAL STUDY

I. INTRODUCTION

A. Background

The Dallas/Fort Worth International Airport Board ("DFW") commissioned this study to assess whether the level of minority and woman-owned business enterprise ("M/WBE") subcontracting on its construction and architecture and engineering contracts was a product of its M/WBE goals and M/WBE Program, or an expression of market forces. The question was answered by comparing the M/WBE subcontractor participation on DFW contracts with those of other agencies in the market area.

The Consortium, formed to study its members' contracting practices, is a partnership of six agencies under the management of the North Central Texas Council of Governments. The members include the City of Arlington, City of Fort Worth, Dallas/Fort Worth International Airport Board, Fort Worth Independent School District, Fort Worth Transportation Authority, and North Texas Tollway Authority. Only two of these agencies, City of Fort Worth and the Dallas/Fort Worth International Airport Board, had M/WBE programs.

The study examined the contracts awarded to prime contractors that 1) had bid on or received a DFW contract, and 2) had received a contract by at least one other Consortium agency ("common prime contractors"). The common prime contractors' M/WBE utilization level achieved on DFW contracts was compared to the level achieved on their contracts awarded by the Consortium agencies without M/WBE programs. The comparative analysis was limited to subcontract awards because DFW's M/WBE program sets goals on subcontracts.

The study also analyzed the capacity needed to perform subcontracts on the Consortium agencies' construction and architecture and engineering prime contracts. The size of the subcontracts the common prime contractors awarded on their DFW and Consortium agency

contracts was a measure of the needed capacity. The size of the subcontract awards was also a reflection of the marketplace.

Prime contractors' decisions regarding the utilization of M/WBE subcontractors on contracts advertised without M/WBEs goals are based on market forces. Therefore, the subcontracting levels achieved by the common prime contractors on Consortium agency contracts without an M/WBE program occurred in a context where the prime contractors' subcontracting decisions were unfettered by an M/WBE goal requirement. By limiting this analysis to contracts awarded to prime contractors common to DFW and the other Consortium agencies, there was a nexus between DFW and the market-driven decisions of its prime contractors regarding the use of M/WBEs when unfettered by goals. The case law supports the use of the disparity findings from this comparative analysis as a factual predicate for the continuation of DFW's M/WBE program.

B. Legal Standard

The legal underpinning of this study derives from the U.S. Supreme Court's 1989 decision in *City of Richmond v. Croson.* Before a state or local government can establish a race-conscious remedial program it has to identify a "compelling interest." Establishing such a "compelling interest" requires the government to identify past or present racial discrimination in its procurement.[1] The first category, active discrimination, the most overt type of discrimination, occurs when the government itself awards contracts in a racially discriminatory manner. The secondary category, passive discrimination, occurs when a prime contractor awards a subcontract on a government-funded contract in a racially discriminatory manner.

Disparities in M/WBE utilization, can be a "compelling governmental interest" in the relevant marketplace, when the private sector makes subcontracting decisions without the requirements of M/WBE goals. In *Croson* the Court stated, "a municipality has a compelling government interest in redressing not only discrimination committed by the municipality itself, but also discrimination committed by private parties within the municipality's legislative jurisdiction, so long as the municipality in some way participated in the discrimination to be remedied by the program."[2]

The Sixth Circuit discussed M/WBE participation on projects with goals compared to projects in the private sector in *Builders Association of Chicago vs. City of Chicago.*[3] A

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

2 *Croson*, 488 U.S. 46, 109 S.Ct. at 720-21, 744-45.

3 298 F. Supp. 2d 725; 2003.

number of reasons were suggested by the plaintiff as to why M/WBEs were not used on private non-goal projects, including being higher-priced or not being available because they were at capacity with goals work for a public or private entity. But the court countered that argument stating that its position on the underutilization of M/WBEs in the private sectors was based on lack of solicitation, not lack of use.

In *Concrete Works IV,* the Court of Appeals upheld the relevance of data from the private marketplace to the establishment of a factual predicate for M/WBE programs.[4] The Tenth Circuit Court ruled that it was appropriate for the City to implement MBE subcontracting goals to prevent the government agency from becoming a "passive participant" in private discrimination practiced by prime contractors and lending institutions. Previously, in Concrete Works *III,* the City of Denver presented evidence of discrimination in the Denver metropolitan area commercial lending market. The City contended that M/WBEs were denied business loans, based in part on race, and that Denver city government was a passive participant in this discrimination because the City had placed its funds into some of those institutions. The Appeals Court in the Tenth Circuit overturned the district court decision in *Concrete Works III,* ruling that barriers to business formation were relevant to establishing a factual predicate for an M/WBE program when the credit market evidence demonstrated that M/WBEs are "precluded from the outset from competing for public construction contracts."[5]

A government agency can become a "passive" participant by paying public contract dollars to prime contractors who discriminate in the award of subcontracts.[6] An affirmative action program may be justified even in the absence of evidence of discrimination by the municipality itself if there is firm evidence of discrimination in the private sector and that the city is an active or passive participant in that discrimination.[7] When a government agency possesses evidence that their own spending practices are exacerbating a pattern of prior discrimination, they must identify that discrimination, public or private, with some specificity before they may use race-conscious relief.[8] Generalized assertions of discrimination in the construction industry are not sufficient evidence to support a race-conscious program.

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4 *Concrete Works of Colorado, Inc. IV v. City and County of Denver,* 321 F.3d 950, at 69. (10th Cir. 2003).

5 *Concrete Works IV*, at 72. Along these same lines, the Circuit Court in the Tenth Circuit also found evidence—from a regression analysis of census data—of disparities in self-employment and income from self-employment as relevant to showing barriers to M/WBE formation. Id at 78.

6 *The Associated General Contractors of America v. City of Columbus,* 936 F.Supp. 1363 (S.D. Ohio 1996).

7 *Id.*

8 *Id.*

In Denver, the court recognized that neither Croson nor its progeny clearly determined whether private discrimination that is not funded with public tax dollars can provide the requisite strong basis in evidence necessary to justify a municipality's affirmative action program. However, it acknowledged that Denver could take measures to remedy its own discrimination or even to prevent itself from acting as a "passive participant" in a system of racial exclusion practiced by elements of the local construction industry. Therefore, it was appropriate for the City of Denver to establish its compelling interest by presenting evidence of its own direct participation in racial discrimination or its passive participation in private discrimination. Evidence of barriers to fair competition is also relevant because it again demonstrates that existing M/WBEs are precluded from competing for public contracts.[9]

However, in *Adarand v. Slater* the Appeals Court in the Tenth Circuit favorably cited evidence of capital market discrimination as relevant to establishing the factual predicate for the federal DBE program.[10] Additionally, the Court of Appeals decision in *Adarand* concluded that there was a compelling interest for a DBE program based primarily on evidence of private sector discrimination.[11] The Tenth Circuit in *Adarand*, identified two barriers that can demonstrate a link between "public funds for construction contracts and the channeling of those funds due to private discrimination—(1) discriminatory barriers to the formation of DBE subcontractors, and (2) barriers to fair competition between minority and non-minority subcontractors."[12] Recently, the Ninth Circuit in Western States Paving, affirmed that the federal government has a compelling interest in ensuring that its funding is not distributed in a manner that perpetuates the effects of either public or private discrimination within the transportation contracting industry.[13]

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9 *Concrete Works of Colorado, Inc. IV v. City and County of Denver,* 321 F.3d 950 (10th Cir. 2003).

10 *Adarand v. Slater*, DC No 90-K-1413 (10th Cir 2000).

11 *Adarand v. Slater*, 228 F.3d 1147 (10th Cir 2000).

12 *Adarand v. Slater*, 228 F.3d at 1169.

13 *Western States Paving*, 407 F. 3d at 991

II. METHODOLOGY

A. Identification of Consortium Agencies Without M/WBE Programs

The first step was to group the Consortium agencies into those with M/WBE programs and those without M/WBE programs. The Consortium agencies without M/WBE programs were:

- City of Arlington
- Fort Worth Independent School District (FWISD)
- North Texas Tollway Authority (NTTA)
- Fort Worth Transportation Authority (The T)

In addition to DFW, one agency had an M/WBE program. The agency with an M/WBE program was the City of Fort Worth.[14]

B. Identification of Common Prime Contractors

The next step was to identify the common construction and architecture and engineering prime contractors to be studied. The common construction and architecture and engineering prime contractors that 1) bid on or received a DFW contract, and 2) received a contract by at least one of the Consortium agencies provided the nexus between the contracting activities of DFW and the Consortium agencies without M/WBE programs. The nexus allowed DFW to predicate its M/WBE program on the findings of discrimination documented in these other Consortium agencies. The North Central Texas Council of Governments 2009 Consortium Availability and Disparity Study (Availability and Disparity Study) was the source of the dataset used to identify the common prime contractors. The market area used to identify businesses was Dallas and Tarrant Counties.

The list of businesses that had bid on or received DFW construction and architecture and engineering prime contracts was queried against the list of prime contractors for the other Consortium agencies. From the query it was determined which of the construction and architecture and engineering prime contractors had bid on or received a DFW contract and had also received a prime contract from at least one other Consortium agency. The

[14] The contracts awarded by the one Consortium agency with an M/WBE program were reviewed to identify construction and architecture and engineering contracts awarded without M/WBE goals. Even when awarded by an agency with an M/WBE program, contracts awarded without goals would provide another layer of analysis to examine the effect of goals on M/WBE participation. However, only two construction and architecture and engineering contracts were awarded by the agency without an M/WBE goal, both of which were less than $2,000.

construction and architecture and engineering contracts awarded to these common prime contractors formed the dataset for the comparative analysis.

During the study period there were 29 construction prime contractors that had bid on or received a DFW contract and had also been awarded a contract by another Consortium agency. The list of 29 common construction prime contractors, along with a distribution of how many contracts the prime contractors received from each agency beside DFW, is presented in Table 1.01 below.

Table 1.01 Common Construction Prime Contractors

	Number of Prime Contracts with Each Consortium Agency				
Prime Contractor	NTTA	The T	City of Arlington	FWISD	City of Fort Worth
American Civil Constructors, Inc.	1	0	0	0	0
Apac-Texas, Inc.	2	0	0	0	0
Archer Western Contractors Ltd.	3	0	1	0	12
Aui Contractors, L.P.	4	0	1	1	14
Austin Bridge & Road	8	1	0	0	9
C. Green Scaping	0	0	2	0	2
Cates, Courtney And Roebuck L.P.	0	1	0	0	0
Craig Olden Inc.	4	0	0	0	0
Crescent Constructors, Inc.	0	0	0	0	1
Dustrol Inc	0	0	1	0	3
Ed Parker, Inc.	0	0	1	0	0
Gibson & Associates, Inc.	9	0	0	0	8
Gilbert May, Inc.& Phillips/May Corp.	1	0	0	0	0
Granite Construction Company	1	0	0	0	0
J.D. Abrams	1	0	0	0	0
Mcmahon Contracting, L.P.	0	0	1	0	2
Mica Corp	3	0	0	0	0
New World Industries, Inc.	0	0	0	1	0
North Texas Bridge Co Inc	1	0	0	0	0
Omega Contracting, Inc.	1	0	0	0	0
Rebcon, Inc.	5	0	0	0	0
Reynolds Asphalt & Construction	0	0	5	0	1
S. J. Louis Construction Of Texas Ltd., LLP	0	0	0	0	16
Site Concrete, Inc.	0	0	0	0	4
T J Lambrecht Construction, Inc.	0	0	0	0	2
Tiseo Paving Co.	0	0	1	0	0
W. W. Webber, Inc.	5	0	0	0	0
Weldon Contractors	0	0	1	0	0
Zachry Construction Corp.	1	0	0	0	0

There were also 15 common architecture and engineering prime contractors that had bid on or received a DFW contract and had also worked on at least one contract awarded by

another Consortium agency. The list of the 15 architecture and engineering prime contractors, along with a distribution of how many contracts the common prime contractors received from each agency beside DFW, is presented in Table 1.02 below.

Table 1.02 Common Architecture and Engineering Prime Contractors

	Number of Prime Contracts with Each Consortium Agency				
Prime Contractor	NTTA	The T	City of Arlington	FWISD	City of Fort Worth
Carter & Burgess, Inc.	5	0	1	0	25
Ch2M Hill, Inc.	0	0	0	0	9
Freese And Nichols, Inc.	0	1	0	0	32
Halff Associates, Inc.	8	0	1	0	0
HDR Engineering Inc.	2	0	0	0	7
HNTB	3	0	0	0	1
Huitt-Zollars, Inc.	3	0	0	0	9
KBR (Kelloge, Brown & Root)	1	0	0	0	0
Kimley-Horn & Associates Inc.	2	0	0	0	26
Komatsu Architecture Inc.	0	0	0	0	2
Lopez Garcia Group, Inc.	0	0	1	0	16
Nathan D Maier Consulting Engineers	0	0	1	0	0
PB Farradyne	3	0	0	0	0
TCB Inc.	4	0	1	0	0
URS Greiner Woodward Clyde	0	2	0	0	2

Given the fact that a few prime contractors account for the majority of procurement activity within the Consortium agencies, the 44 common construction and architecture and engineering prime contractors provide a reliable account of the subcontracting activity of the Consortium agencies' prime contractors. In fact, the Availability and Disparity Study found that only 21 of DFW's prime contractors accounted for 60 percent of the total contract dollars awarded by DFW during the study period.

Once the list of the common prime contractors was compiled, research was undertaken to evaluate contract information that could be used to further classify the Consortium contracts by factors other than the industry. Information that was proposed to be used in the classification system included staffing, equipment, licensing, bonding, insurance and related requirements set forth in the solicitation and contract documents. The research did not yield the information needed to create a more detailed classification system. Given the results of the preliminary research, it was determined that the contracts would therefore be classified by industry, into construction and architecture and engineering.

C. Comparison of M/WBE Utilization

Using each Consortium agency's list of awards made to the common construction and architecture and engineering prime contractors, the subcontract participation for each contract was identified from the Availability and Disparity Study data. The M/WBE subcontractor utilization achieved by the common prime contractors on their DFW contracts was compared to their utilization of M/WBEs on the contracts awarded by the Consortium agencies without an M/WBE program.

D. Disparity Analysis

A disparity analysis was performed to determine if M/WBE subcontractors were underutilized by the common prime contractors on contracts awarded by the Consortium agencies without M/WBE programs. Under a fair and equitable system of awarding subcontracts, the proportion of subcontracts and subcontract dollars awarded to construction and architecture and engineering M/WBEs should be approximate to the proportion of available construction and architecture and engineering M/WBEs in the relevant market area.

If a disparity exists between these proportions, a statistical test can determine the probability that the disparity is due to chance. If there is a low probability that the disparity is due to chance, *Croson* states that an inference of discrimination can be made.[15]

E. Assessment of Capacity

A size analysis was performed to document the capacity of M/WBEs utilized by the common construction and architecture and engineering prime contractors in order to determine whether the capacity needed to perform DFW subcontracts was similar to subcontracts of other Consortium agencies.[16] The size of DFW construction and architecture and engineering subcontracts is a measure of the capacity that was available for utilization on contracts awarded by Consortium agencies without M/WBE programs. Therefore, the analysis compared the size of subcontracts awarded by the common prime contractors on DFW contracts to contracts awarded by Consortium agencies without M/WBE programs.

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15 When conducting statistical tests, a level of confidence must be established as a gauge for the level of certainty that an observed occurrence is not due to chance. It is important to note that a 100 percent confidence level or a level of absolute certainty can never be obtained in statistics. A 95 percent confidence level is considered by the courts as an acceptable level in determining whether an inference of discrimination can be made. Thus the data analyzed here was done within the 95 percent confidence level.

16 It was anticipated that additional capacity measures would be collected from the solicitation and evaluation documents of each agency. A review of the solicitation and evaluation documents found that the information contained within the reviewed documents was not descriptive of capacity measures.

F. Private Sector Analysis of Economic Factors

A regression analysis was performed to determine whether there were economic conditions in the private sector which constituted barriers to business growth and development. The factors considered in the analysis were levels of business ownership, business earning rates, and patterns of business loan denial. The private sector analysis was based on the 2000 Census Public Use Microdata Sample and data from the 2003 National Survey of Small Business Finances (NSSBF).

This regression analysis was undertaken because of the impact that private sector economic discrimination can have on both the availability of M/WBEs to perform government contracts and the subcontractor utilization on government contracts. In the presence of economic discrimination in the private sector, M/WBE availability can be depressed and, therefore, the statistical measure of disparity would not discern the disparity. Additionally, private sector economic discrimination in the presence of M/WBE goals and M/WBE programs might not be evident. But for the M/WBE goals and an M/WBE program's effect on the subcontracting decisions of the DFW's prime contractors, the levels of M/WBE utilization on DFW's construction and architecture and engineering prime contracts might have been lower.

1. Business Ownership

Research has shown that factors such as access to business capital, education, age, and marital status are associated with self-employment. A probit regression model of 2000 Census Public Use Microdata Sample (2000 PUMS) was used to determine whether observed race and gender disparities were independent of these non-discriminatory factors known to be associated with self-employment.[17]

The PUMS data were collected by the U.S. Census Bureau from a five percent sample of U.S. households. The observations were weighted to preserve the representative nature of the sample in relation to the population as a whole. The probit model used the sample weights and adjusted the sample errors used in statistical testing for the similarity of observations from the same household.

The model included 150,787 individuals from Dallas and Tarrant counties in Texas, and estimated the probability of being a business owner among workers in each industry. A

[17] The 2000 Census Public Use Microdata Sample (PUMS) files are American Standard Codes for Information Interchange (ASCII) which include a sample of individual records of the characteristics of people and housing units, including the Census' computerized versions of questionnaires collected from each household. Specifically, the data reported on household income, mortgage payments, mortgage status, ability to speak English, age, and industry. For the purposes of this analysis the dataset was limited to the Dallas and Tarrant county areas.

separate model specifically for the construction industry was developed, but the data was insufficient to conduct a separate analysis for the engineering industry.

The dependent variable was binary-coded as a "1" for individuals who are self-employed and a "0" for individuals who are not self-employed.

The independent variables included:

- Personal characteristics potentially linked to the likelihood of business ownership (age, age-squared, marital status, number of children and elderly people in the household, ability to speak English, and disability status)

- Variables to control for differences in educational attainment

- Measures and indicators related to personal financial resources and constraints (home ownership, home value, monthly mortgage payment, dividend and interest income, and additional household income from a spouse or unmarried partner)

- Variables to indicate the race, ethnicity, and gender of the individual

The specification of this model is very similar to models used in other studies previously reviewed by the courts.

2. Business Earnings

Ordinary least square regression was used to analyze the 2000 PUMS data to look for disparities in business earnings after controlling for non-discriminatory factors. The model of business owner earnings in Dallas and Tarrant counties included 125,136 observations. Business owners reporting negative business earnings were excluded. Separate analyses were conducted for the construction and engineering industries, using 6,664 and 787 observations, respectively.

The dependent variable in this model is business earnings. Using the mathematical transformation of the natural log of business earnings lessens the effect of distortion of the model by the outliers. The independent variables are those from the 2000 PUMS data considered likely to affect earnings potential including age, age-squared, marital status, ability to speak English very well, disability condition, and educational attainment.

3. Likelihood of Business Loan Denial

Data from the 2003 National Survey of Small Business Finances (NSSBF) were used to examine access to business capital in the form of loans. The national sample included 9,485

firms that had applied for a loan during the three years preceding the survey: the South West Central Region dataset included 970 such firms.

A probit regression analysis was used to examine whether non-discriminatory factors might explain the higher rates of loan denials for some minority groups. This statistical model looks at a binary outcome, for example, yes or no. The dependent variable collected by NSSBF aggregated the business loans into three categories:

1) The loans were "always approved"
2) The loans were "sometimes approved and sometimes denied"
3) The loans were "always denied"

The probit regression model used these outcomes as ordered categories where for every observed value of the independent variable, there was a corresponding value for the dependent variable. Using this data, a binary comparison was performed: category (1) vs. categories (2) + (3), category (2) vs. category (3).

The independent variables describe four groups of factors:

- The owner's credit and resources
- The firm's credit and financial health
- The environment in which the firm and lender operate
- Owner's minority group membership

A large number of variables are required to control for differences in the non-discriminatory factors listed above. Ten variables are used to estimate the owners' credit and resources, 29 are used for the firm's credit and financial health, and 15 are needed for the environment in which the firm and lender operate.

The model could not be used for the South West Central Region because it required several variables, and the dataset from that region did not contain enough data to perform the analysis. Therefore, the variables were fitted to a model using data from throughout the entire country. The focus on the South West Central Region was achieved through the use of interaction terms. These added terms would identify any significant differences in the effects of race or gender between the national credit market and the South West Central Region credit market.

III. FINDINGS

This section presents the findings from the comparison of M/WBE subcontractor participation on DFW contracts to those awarded by the Consortium agencies without M/WBE programs. The analysis documents the level of subcontracting that would likely occur but for DFW's M/WBE program. Findings from the disparity analysis, as well as the regression analysis of other areas of the marketplace affecting M/WBE participation are also presented in this section.

A. M/WBE Subcontractor Utilization by Common Prime Contractors

1. Construction Subcontracts

Table 1.03 compares the common construction prime contractors' utilization of M/WBE subcontractors on contracts awarded by DFW and those awarded by the Consortium agencies without M/WBE programs.

The M/WBE utilization achieved by the common construction prime contractors on DFW contracts was 29.52 percent of the total contract dollars awarded to the common prime contractors. The M/WBE subcontractor utilization on construction contracts awarded by Consortium agencies without M/WBE programs was only 14.13 percent of total contract dollars awarded to the common prime contractors.

A separate review of Minority Business Enterprise (MBE) utilization indicates that the share of MBE subcontractor participation on construction contracts awarded by agencies without programs was lower than DFW contracts. On DFW contracts, MBE subcontractor participation was 11.89 percent while it was only 8.46 percent for agencies without M/WBE programs.

The utilization of Women Business Enterprise (WBE) subcontractors by the common construction prime contractors was more than three times higher on DFW contracts compared to contracts awarded by Consortium agencies without M/WBE programs. On DFW contracts, WBE subcontractor participation was 17.63 percent while it was only 5.67 percent for agencies without M/WBE programs.

Table 1.03 Comparison of M/WBE Utilization on Construction Contracts

Ethnicity	Percent of Dollars	
	Dallas Fort Worth International Airport Board	Consortium Agencies Without Programs
African Americans	2.98%	0.07%
Asian Americans	1.34%	4.01%
Hispanic Americans	7.53%	4.18%
Native Americans	0.03%	0.19%
Caucasian Females	17.63%	5.67%
Caucasian Males	21.17%	22.62%
TOTAL SUBCONTRACT AMOUNT	50.69%	36.75%
Ethnicity and Gender		
African American Females	0.38%	0.00%
African American Males	2.60%	0.07%
Asian American Females	0.00%	0.09%
Asian American Males	1.34%	3.92%
Hispanic American Females	0.73%	2.07%
Hispanic American Males	6.81%	2.12%
Native American Females	0.00%	0.18%
Native American Males	0.03%	0.01%
Caucasian Females	17.63%	5.67%
Caucasian Males	21.17%	22.62%
TOTAL SUBCONTRACT AMOUNT	50.69%	36.75%
Minority and Women		
Minority Business Enterprises	11.89%	8.46%
Women Business Enterprises	17.63%	5.67%
Minority and Women Business Enterprises	**29.52%**	**14.13%**
Caucasian Male Business Enterprises	21.17%	22.62%
TOTAL SUBCONTRACT AMOUNT	50.69%	36.75%

2. Architecture and Engineering Subcontracts

Table 1.04 compares the common architecture and engineering prime contractors' utilization of M/WBE subcontractors on contracts awarded by DFW and those awarded by the Consortium agencies without M/WBE programs.

The M/WBE utilization achieved by the common architecture and engineering prime contractors on DFW contracts was 41.98 percent of the total contract dollars awarded to the common prime contractors. The common prime contractors' M/WBE subcontractor utilization on architecture and engineering contracts awarded by Consortium agencies without M/WBE programs was only 17.29 percent of total contract dollars awarded to the common prime contractors.

A separate review of Minority Business Enterprise (MBE) utilization indicates that the share of MBE subcontractor participation on architecture and engineering contracts awarded by agencies without programs was less than half of DFW contracts. On DFW contracts, MBE subcontractor participation was 33.80 percent while it was only 14.08 percent for agencies without M/WBE programs.

The utilization of Women Business Enterprise (WBE) subcontractors by the common architecture and engineering prime contractors was nearly three times more on DFW contracts compared to contracts awarded by Consortium agencies without M/WBE programs. On DFW contracts, WBE subcontractor participation was 8.18 percent while it was only 3.22 percent for agencies without M/WBE programs.

Table 1.04 Comparison of M/WBE Utilization on Architecture and Engineering Contracts

Ethnicity	Percent of Dollars	
	Dallas Fort Worth International Airport Board	Consortium Agencies Without Programs
African Americans	6.18%	2.55%
Asian Americans	10.69%	5.94%
Hispanic Americans	16.93%	4.18%
Native Americans	0.00%	1.40%
Caucasian Females	8.18%	3.22%
Caucasian Males	16.08%	16.19%
TOTAL SUBCONTRACT AMOUNT	58.06%	33.48%
Ethnicity and Gender		
African American Females	1.69%	0.28%
African American Males	4.48%	2.27%
Asian American Females	0.02%	3.54%
Asian American Males	10.68%	2.41%
Hispanic American Females	10.60%	1.85%
Hispanic American Males	6.34%	2.33%
Native American Females	0.00%	0.00%
Native American Males	0.00%	1.40%
Caucasian Females	8.18%	3.22%
Caucasian Males	16.08%	16.19%
TOTAL SUBCONTRACT AMOUNT	58.06%	33.48%
Minority and Women		
Minority Business Enterprises	33.80%	14.08%
Women Business Enterprises	8.18%	3.22%
Minority and Women Business Enterprises	**41.98%**	**17.29%**
Caucasian Male Business Enterprises	16.08%	16.19%
TOTAL SUBCONTRACT AMOUNT	58.06%	33.48%

B. Disparity Analysis

The disparity analysis compared the availability of construction and architecture and engineering M/WBE subcontractors in DFW's market area to their utilization by the common prime contractors identified in the M/WBE utilization analysis. This section presents the findings of the analysis for construction and architecture and engineering industries combined, as well as separately for each of the two industries. Although the findings of the combined analysis are not "narrowly tailored," as required by *Croson*, it is included for purposes of review.[18]

1. DFW Construction Subcontracts

The disparity analysis of DFW construction subcontract dollars is depicted in Table 1.05 and Chart 1.01.

African American Businesses represent 18.19 percent of the available construction firms and received 6.16 percent of DFW's construction subcontract dollars. This underutilization is statistically significant.

Asian American Businesses represent 3.05 percent of the available construction firms and received 2.77 percent of DFW's construction subcontract dollars. This underutilization is not statistically significant.

Hispanic American Businesses represent 17.23 percent of the available construction firms and received 10.88 percent of DFW's construction subcontract dollars. This underutilization is not statistically significant.

Native American Businesses represent 2.08 percent of the available construction firms and received 0.06 percent of DFW's construction subcontract dollars. This underutilization is not statistically significant.

Minority Business Enterprises represent 40.55 percent of the available construction firms and received 19.87 percent of DFW's construction subcontract dollars. This underutilization is statistically significant.

Women Business Enterprises represent 18.13 percent of the available construction firms and received 36.42 percent of DFW's construction subcontract dollars. This study does not test statistically the overutilization of women business groups.

[18] City of Richmond v. J.A. Croson Co., 488 U.S. 469 (1989)

Minority and Women Business Enterprises represent 58.68 percent of the available construction firms and received 56.29 percent of DFW's construction subcontract dollars. This underutilization is not statistically significant.

Caucasian Male Business Enterprises represent 41.32 percent of the available construction firms and received 43.71 percent of DFW's construction subcontract dollars. This overutilization is not statistically significant.

Table 1.05 Disparity Analysis: DFW Construction Subcontracts

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Ethnicity^	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African Americans	$3,602,386	6.16%	18.19%	$10,635,191	-$7,032,805	0.34	< .05 *
Asian Americans	$1,619,411	2.77%	3.05%	$1,782,368	-$162,957	0.91	not significant
Hispanic Americans	$6,357,263	10.88%	17.23%	$10,068,610	-$3,711,347	0.63	not significant
Native Americans	$34,052	0.06%	2.08%	$1,215,788	-$1,181,735	0.03	not significant
Caucasian Females	$21,288,353	36.42%	18.13%	$10,599,779	$10,688,573	2.01	**
Caucasian Males	$25,550,771	43.71%	41.32%	$24,150,499	$1,400,271	1.06	not significant
TOTAL	$58,452,235	100.00%	100.00%	$58,452,235			
Ethnicity and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African American Females	$462,991	0.79%	3.88%	$2,266,323	-$1,803,332	0.20	not significant
African American Males	$3,139,395	5.37%	14.32%	$8,368,868	-$5,229,473	0.38	< .05 *
Asian American Females	$0	0.00%	0.75%	$436,739	-$436,739	0.00	----
Asian American Males	$1,619,411	2.77%	2.30%	$1,345,629	$273,782	1.20	**
Hispanic American Females	$847,255	1.45%	3.39%	$1,983,032	-$1,135,777	0.43	not significant
Hispanic American Males	$5,510,007	9.43%	13.83%	$8,085,578	-$2,575,570	0.68	not significant
Native American Females	$0	0.00%	0.67%	$389,524	-$389,524	0.00	----
Native American Males	$34,052	0.06%	1.41%	$826,263	-$792,211	0.04	not significant
Caucasian Females	$21,288,353	36.42%	18.13%	$10,599,779	$10,688,573	2.01	**
Caucasian Males	$25,550,771	43.71%	41.32%	$24,150,499	$1,400,271	1.06	not significant
TOTAL	$58,452,235	100.00%	100.00%	$58,452,235			
Minority and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Females	$1,310,246	2.24%	8.68%	$5,075,618	-$3,765,372	0.26	not significant
Minority Males	$10,302,866	17.63%	31.87%	$18,626,338	-$8,323,473	0.55	< .05 *
Caucasian Females	$21,288,353	36.42%	18.13%	$10,599,779	$10,688,573	2.01	**
Caucasian Males	$25,550,771	43.71%	41.32%	$24,150,499	$1,400,271	1.06	not significant
TOTAL	$58,452,235	100.00%	100.00%	$58,452,235			
Minority and Females	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Business Enterprises	$11,613,112	19.87%	40.55%	$23,701,956	-$12,088,845	0.49	< .05 *
Women Business Enterprises	$21,288,353	36.42%	18.13%	$10,599,779	$10,688,573	2.01	**
Minority and Women Business Enterprises	**$32,901,465**	**56.29%**	**58.68%**	**$34,301,736**	**-$1,400,271**	**0.96**	**not significant**
Caucasian Male Business Enterprises	$25,550,771	43.71%	41.32%	$24,150,499	$1,400,271	1.06	not significant

(*) denotes a statistically significant underutilization.

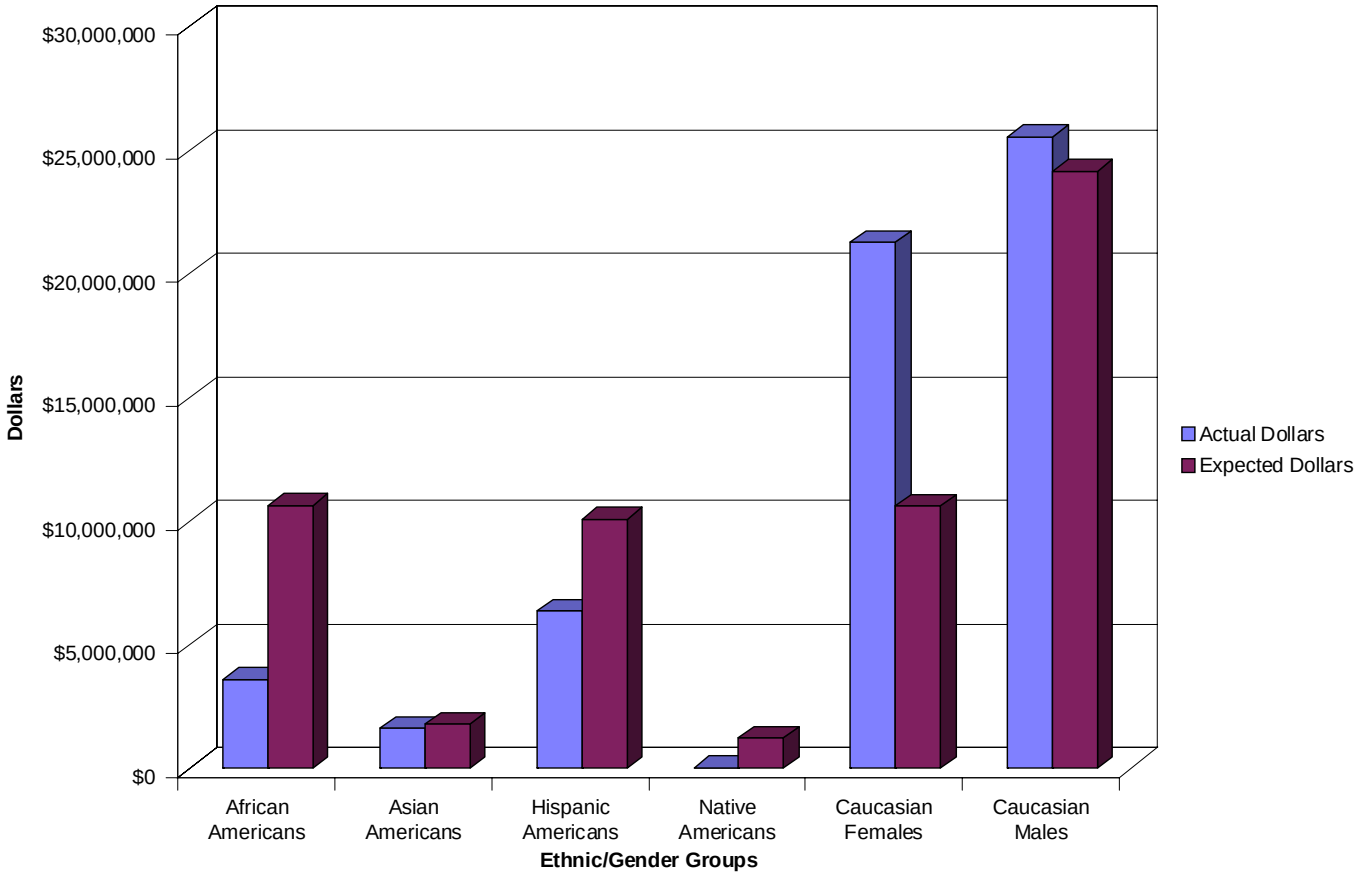
(†) denotes a statistically significant overutilization.

(**) denotes that this study does not test statistically the overutilization of M/WBEs or the underutilization of Caucasian males.

(----) denotes an underutilized group with too few available firms to test statistical significance.

^ See *Chapter 2: Prime Contractor Utilization Analysis, Table 2.01* for a definition of each ethnic and gender group

Chart 1.01 Disparity Analysis: DFW Construction Subcontracts



2. Consortium Agencies Without M/WBE Programs Construction Subcontracts

The disparity analysis of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs is depicted in Table 1.06 and Chart 1.02.

African American Businesses represent 18.19 percent of the available construction firms and received 0.2 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Asian American Businesses represent 3.05 percent of the available construction firms and received 10.92 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This study does not test statistically the overutilization of minority groups.

Hispanic American Businesses represent 17.23 percent of the available construction firms and received 11.39 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Native American Businesses represent 2.08 percent of the available construction firms and received 0.52 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Minority Business Enterprises represent 40.55 percent of the available construction firms and received 23.02 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Women Business Enterprises represent 18.13 percent of the available construction firms and received 15.43 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is not statistically significant.

Minority and Women Business Enterprises represent 58.68 percent of the available construction firms and received 38.45 percent of construction subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Caucasian Male Business Enterprises represent 41.32 percent of the available construction firms and received 61.55 percent of construction subcontract dollars on contracts awarded

by Consortium agencies without M/WBE programs. This overutilization is statistically significant.

Table 1.06 Disparity Analysis: Consortium Agencies Without M/WBE Programs Construction Subcontracts

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Ethnicity^	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African Americans	$542,221	0.20%	18.19%	$50,221,252	-$49,679,032	0.01	< .05 *
Asian Americans	$30,144,073	10.92%	3.05%	$8,416,658	$21,727,414	3.58	**
Hispanic Americans	$31,431,375	11.39%	17.23%	$47,545,758	-$16,114,383	0.66	< .05 *
Native Americans	$1,436,351	0.52%	2.08%	$5,741,164	-$4,304,814	0.25	< .05 *
Caucasian Females	$42,578,116	15.43%	18.13%	$50,054,034	-$7,475,918	0.85	not significant
Caucasian Males	$169,889,665	61.55%	41.32%	$114,042,933	$55,846,732	1.49	< .05 †
TOTAL	$276,021,800	100.00%	100.00%	$276,021,800			
Ethnicity and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African American Females	$19,689	0.01%	3.88%	$10,701,976	-$10,682,287	0.00	< .05 *
African American Males	$522,532	0.19%	14.32%	$39,519,276	-$38,996,744	0.01	< .05 *
Asian American Females	$694,457	0.25%	0.75%	$2,062,360	-$1,367,903	0.34	----
Asian American Males	$29,449,616	10.67%	2.30%	$6,354,298	$23,095,318	4.63	**
Hispanic American Females	$15,538,474	5.63%	3.39%	$9,364,229	$6,174,245	1.66	**
Hispanic American Males	$15,892,901	5.76%	13.83%	$38,181,529	-$22,288,628	0.42	< .05 *
Native American Females	$1,354,765	0.49%	0.67%	$1,839,402	-$484,637	0.74	----
Native American Males	$81,586	0.03%	1.41%	$3,901,762	-$3,820,177	0.02	< .05 *
Caucasian Females	$42,578,116	15.43%	18.13%	$50,054,034	-$7,475,918	0.85	not significant
Caucasian Males	$169,889,665	61.55%	41.32%	$114,042,933	$55,846,732	1.49	< .05 †
TOTAL	$276,021,800	100.00%	100.00%	$276,021,800			
Minority and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Females	$17,607,385	6.38%	8.68%	$23,967,967	-$6,360,583	0.73	< .05 *
Minority Males	$45,946,635	16.65%	31.87%	$87,956,866	-$42,010,232	0.52	< .05 *
Caucasian Females	$42,578,116	15.43%	18.13%	$50,054,034	-$7,475,918	0.85	not significant
Caucasian Males	$169,889,665	61.55%	41.32%	$114,042,933	$55,846,732	1.49	< .05 †
TOTAL	$276,021,800	100.00%	100.00%	$276,021,800			
Minority and Females	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Business Enterprises	$63,554,019	23.02%	40.55%	$111,924,833	-$48,370,814	0.57	< .05 *
Women Business Enterprises	$42,578,116	15.43%	18.13%	$50,054,034	-$7,475,918	0.85	not significant
Minority and Women Business Enterprises	**$106,132,135**	**38.45%**	**58.68%**	**$161,978,868**	**-$55,846,732**	**0.66**	**< .05 ***
Caucasian Male Business Enterprises	$169,889,665	61.55%	41.32%	$114,042,933	$55,846,732	1.49	< .05 †

(*) denotes a statistically significant underutilization.

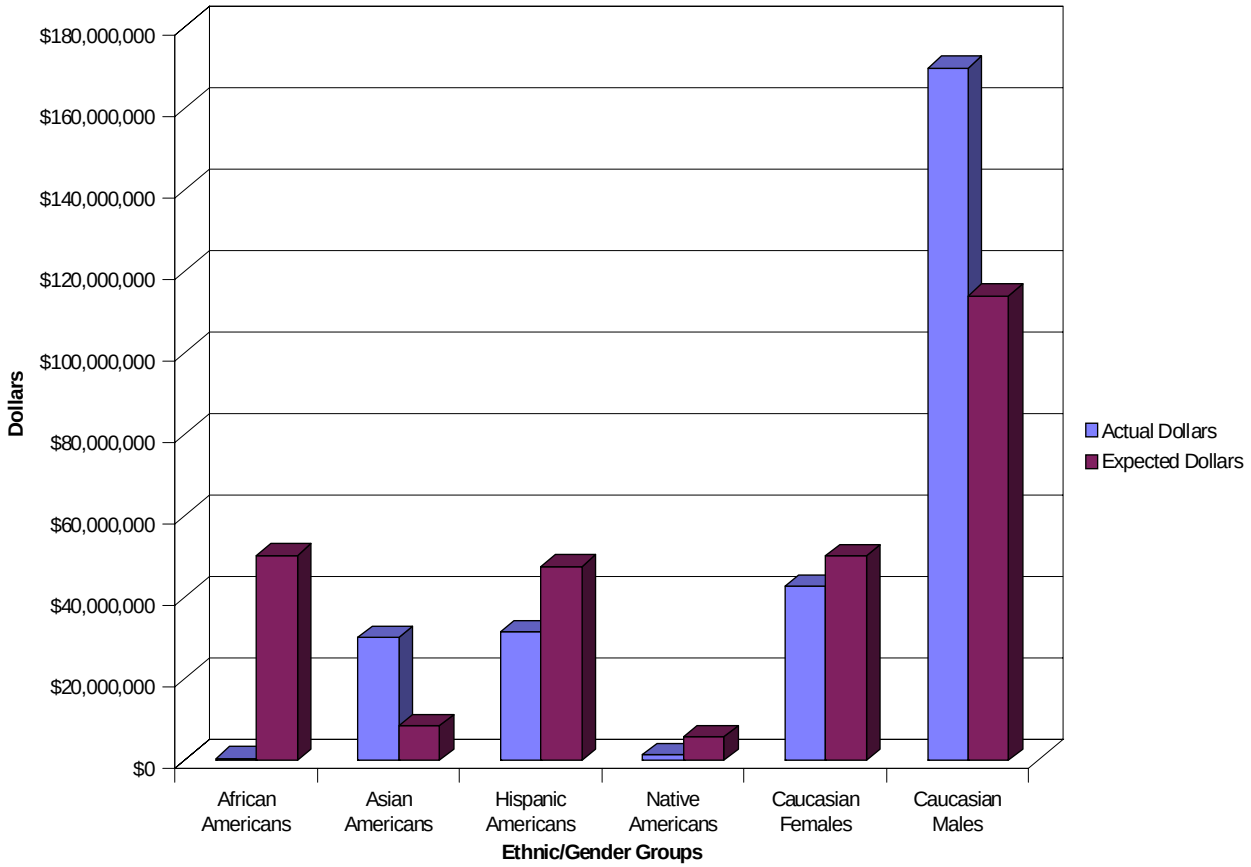
(†) denotes a statistically significant overutilization.

(**) denotes that this study does not test statistically the overutilization of M/WBEs or the underutilization of Caucasian males.

(----) denotes an underutilized group with too few available firms to test statistical significance.

^ See *Chapter 2: Prime Contractor Utilization Analysis, Table 2.01* for a definition of each ethnic and gender group

Chart 1.02 Disparity Analysis: Consortium Agencies Without M/WBE Programs Construction Subcontracts



3. DFW Architecture and Engineering Subcontracts

The disparity analysis of DFW architecture and engineering subcontract dollars is depicted in Table 1.07 and Chart 1.03.

African American Businesses represent 13.43 percent of the available architecture and engineering firms and received 15.9 percent of DFW's architecture and engineering subcontract dollars. This study does not test statistically the overutilization of minority groups**.**

Asian American Businesses represent 7.38 percent of the available architecture and engineering firms and received 3.03 percent of DFW's architecture and engineering subcontract dollars. This underutilization is not statistically significant.

Hispanic American Businesses represent 11.41 percent of the available architecture and engineering firms and received 40.18 percent of DFW's architecture and engineering subcontract dollars. This study does not test statistically the overutilization of minority groups**.**

Native American Businesses represent 1.61 percent of the available architecture and engineering firms and received none of DFW's architecture and engineering subcontract dollars. This underutilization is not statistically significant.

Minority Business Enterprises represent 33.38 percent of the available architecture and engineering firms and received 59.11 percent of DFW's architecture and engineering subcontract dollars. This study does not test statistically the overutilization of minority groups.

Women Business Enterprises represent 20.23 percent of the available architecture and engineering firms and received 21.07 percent of DFW's architecture and engineering subcontract dollars. This study does not test statistically the overutilization of women business groups.

Minority and Women Business Enterprises represent 54.06 percent of the available architecture and engineering firms and received 80.18 percent of DFW's architecture and engineering subcontract dollars. This study does not test statistically the overutilization of minority and women business groups.

Caucasian Male Business Enterprises represent 45.94 percent of the available architecture and engineering firms and received 19.82 percent of DFW's architecture and engineering subcontract dollars. This study does not test statistically the underutilization of Caucasian Male Business Enterprises.

Table 1.07 Disparity Analysis: DFW Architecture and Engineering Subcontracts

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Ethnicity^	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African Americans	$1,768,180	15.90%	13.43%	$1,493,673	$274,506	1.18	**
Asian Americans	$337,455	3.03%	7.38%	$820,559	-$483,104	0.41	not significant
Hispanic Americans	$4,468,466	40.18%	11.41%	$1,269,302	$3,199,164	3.52	**
Native Americans	$0	0.00%	1.61%	$179,497	-$179,497	0.00	not significant
Caucasian Females	$2,343,527	21.07%	20.23%	$2,250,126	$93,401	1.04	**
Caucasian Males	$2,204,791	19.82%	45.94%	$5,109,261	-$2,904,470	0.43	**
TOTAL	$11,122,419	100.00%	100.00%	$11,122,419			
Ethnicity and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African American Females	$484,949	4.36%	2.65%	$294,888	$190,061	1.64	**
African American Males	$1,283,231	11.54%	10.78%	$1,198,785	$84,446	1.07	**
Asian American Females	$4,541	0.04%	1.67%	$185,908	-$181,367	0.02	not significant
Asian American Males	$332,914	2.99%	5.71%	$634,651	-$301,737	0.52	not significant
Hispanic American Females	$2,654,209	23.86%	2.25%	$250,014	$2,404,195	10.62	**
Hispanic American Males	$1,814,256	16.31%	9.16%	$1,019,288	$794,968	1.78	**
Native American Females	$0	0.00%	0.58%	$64,106	-$64,106	0.00	----
Native American Males	$0	0.00%	1.04%	$115,391	-$115,391	0.00	not significant
Caucasian Females	$2,343,527	21.07%	20.23%	$2,250,126	$93,401	1.04	**
Caucasian Males	$2,204,791	19.82%	45.94%	$5,109,261	-$2,904,470	0.43	**
TOTAL	$11,122,419	100.00%	100.00%	$11,122,419			
Minority and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Females	$3,143,699	28.26%	7.15%	$794,916	$2,348,783	3.95	**
Minority Males	$3,430,401	30.84%	26.69%	$2,968,115	$462,286	1.16	**
Caucasian Females	$2,343,527	21.07%	20.23%	$2,250,126	$93,401	1.04	**
Caucasian Males	$2,204,791	19.82%	45.94%	$5,109,261	-$2,904,470	0.43	**
TOTAL	$11,122,419	100.00%	100.00%	$11,122,419			
Minority and Females	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Business Enterprises	$6,574,100	59.11%	33.83%	$3,763,032	$2,811,069	1.75	**
Women Business Enterprises	$2,343,527	21.07%	20.23%	$2,250,126	$93,401	1.04	**
Minority and Women Business Enterprises	**$8,917,628**	**80.18%**	**54.06%**	**$6,013,158**	**$2,904,470**	**1.48**	**
Caucasian Male Business Enterprises	$2,204,791	19.82%	45.94%	$5,109,261	-$2,904,470	0.43	**

(*) denotes a statistically significant underutilization.

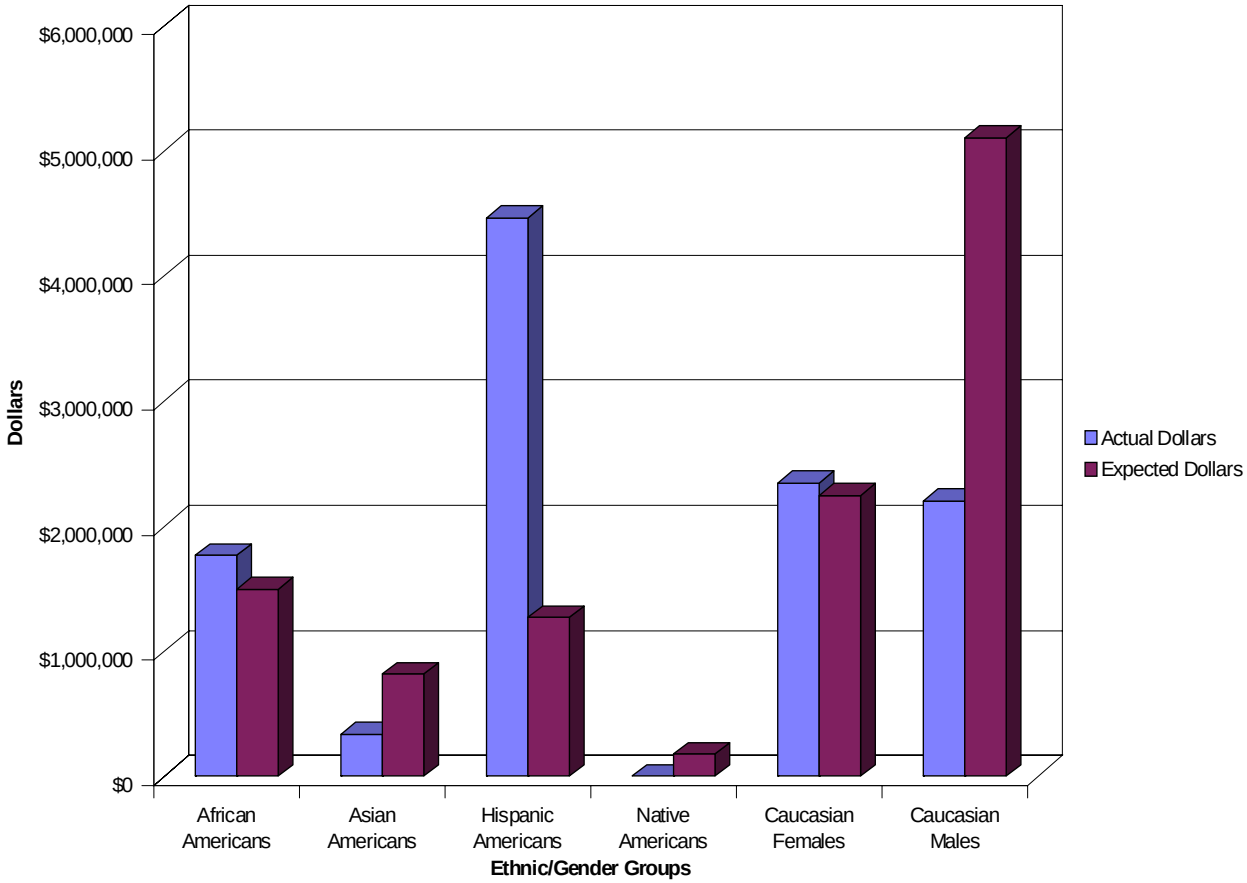
(†) denotes a statistically significant overutilization.

(**) denotes that this study does not test statistically the overutilization of M/WBEs or the underutilization of Caucasian males.

(----) denotes an underutilized group with too few available firms to test statistical significance.

^ See *Chapter 2: Prime Contractor Utilization Analysis, Table 2.01* for a definition of each ethnic and gender group

Chart 1.03 Disparity Analysis: DFW Architecture and Engineering Subcontract



4. Consortium Agencies Without M/WBE Programs Architecture and Engineering Subcontracts

The disparity analysis of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs is depicted in Table 1.08 and Chart 1.04.

African American Businesses represent 13.43 percent of the available architecture and engineering firms and received 7.63 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Asian American Businesses represent 7.38 percent of the available architecture and engineering firms and received 17.76 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This study does not test statistically the overutilization of minority groups.

Hispanic American Businesses represent 11.41 percent of the available architecture and engineering firms and received 12.48 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This study does not test statistically the overutilization of minority groups.

Native American Businesses represent 1.61 percent of the available architecture and engineering firms and received 4.18 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This study does not test statistically the overutilization of minority groups.

Minority Business Enterprises represent 33.83 percent of the available architecture and engineering firms and received 42.05 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This study does not test statistically the overutilization of minority groups.

Women Business Enterprises represent 20.23 percent of the available architecture and engineering firms and received 9.61 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is statistically significant.

Minority and Women Business Enterprises represent 54.06 percent of the available architecture and engineering firms and received 51.65 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This underutilization is not statistically significant.

Caucasian Male Business Enterprises represent 45.94 percent of the available architecture and engineering firms and received 48.35 percent of architecture and engineering subcontract dollars on contracts awarded by Consortium agencies without M/WBE programs. This overutilization is not statistically significant.

Table 1.08 Disparity Analysis: Consortium Agencies Without M/WBE Programs Architecture and Engineering Subcontracts

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Ethnicity^	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African Americans	$4,362,610	7.63%	13.43%	$7,682,610	-$3,320,000	0.57	< .05 *
Asian Americans	$10,158,583	17.76%	7.38%	$4,220,489	$5,938,094	2.41	**
Hispanic Americans	$7,140,450	12.48%	11.41%	$6,528,570	$611,880	1.09	**
Native Americans	$2,391,285	4.18%	1.61%	$923,232	$1,468,053	2.59	**
Caucasian Females	$5,496,358	9.61%	20.23%	$11,573,374	-$6,077,015	0.47	< .05 *
Caucasian Males	$27,658,130	48.35%	45.94%	$26,279,142	$1,378,989	1.05	not significant
TOTAL	$57,207,416	100.00%	100.00%	$57,207,416			
Ethnicity and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
African American Females	$481,033	0.84%	2.65%	$1,516,738	-$1,035,705	0.32	not significant
African American Males	$3,881,577	6.79%	10.78%	$6,165,871	-$2,284,295	0.63	< .05 *
Asian American Females	$6,048,452	10.57%	1.67%	$956,205	$5,092,247	6.33	**
Asian American Males	$4,110,131	7.18%	5.71%	$3,264,285	$845,847	1.26	**
Hispanic American Females	$3,153,069	5.51%	2.25%	$1,285,930	$1,867,138	2.45	**
Hispanic American Males	$3,987,381	6.97%	9.16%	$5,242,639	-$1,255,258	0.76	not significant
Native American Females	$0	0.00%	0.58%	$329,726	-$329,726	0.00	----
Native American Males	$2,391,285	4.18%	1.04%	$593,506	$1,797,779	4.03	**
Caucasian Females	$5,496,358	9.61%	20.23%	$11,573,374	-$6,077,015	0.47	< .05 *
Caucasian Males	$27,658,130	48.35%	45.94%	$26,279,142	$1,378,989	1.05	not significant
TOTAL	$57,207,416	100.00%	100.00%	$57,207,416			
Minority and Gender	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Females	$9,682,553	16.93%	7.15%	$4,088,599	$5,593,954	2.37	**
Minority Males	$14,370,374	25.12%	26.69%	$15,266,302	-$895,928	0.94	not significant
Caucasian Females	$5,496,358	9.61%	20.23%	$11,573,374	-$6,077,015	0.47	< .05 *
Caucasian Males	$27,658,130	48.35%	45.94%	$26,279,142	$1,378,989	1.05	not significant
TOTAL	$57,207,416	100.00%	100.00%	$57,207,416			
Minority and Females	**Actual Dollars**	**Utilization**	**Availability**	**Expected Dollars**	**Dollars Lost**	**Disp. Ratio**	**P-Value**
Minority Business Enterprises	$24,052,928	42.05%	33.83%	$19,354,901	$4,698,027	1.24	**
Women Business Enterprises	$5,496,358	9.61%	20.23%	$11,573,374	-$6,077,015	0.47	< .05 *
Minority and Women Business Enterprises	**$29,549,286**	**51.65%**	**54.06%**	**$30,928,275**	**-$1,378,989**	**0.96**	**not significant**
Caucasian Male Business Enterprises	$27,658,130	48.35%	45.94%	$26,279,142	$1,378,989	1.05	not significant

(*) denotes a statistically significant underutilization.

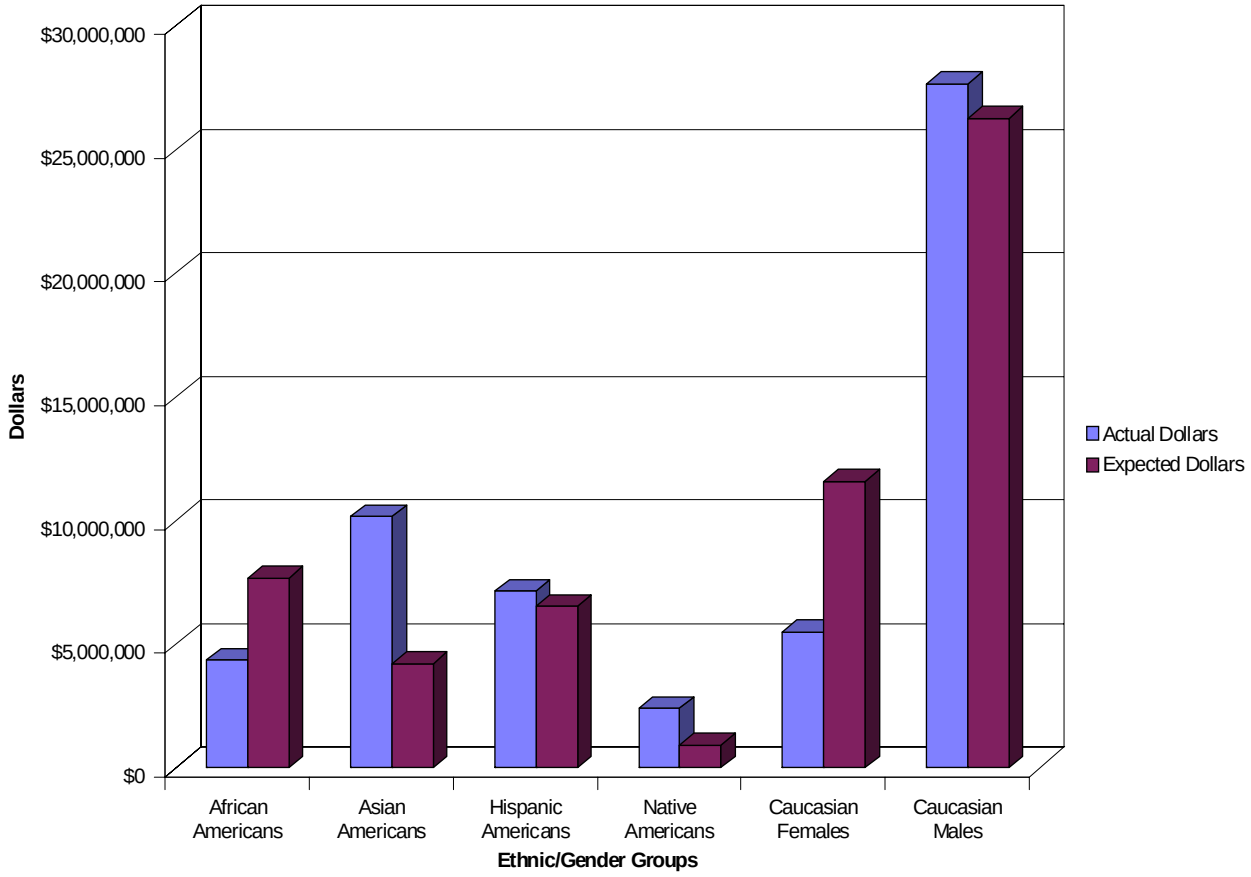
(†) denotes a statistically significant overutilization.

(**) denotes that this study does not test statistically the overutilization of M/WBEs or the underutilization of Caucasian males.

(----) denotes an underutilized group with too few available firms to test statistical significance.

^ See *Chapter 2: Prime Contractor Utilization Analysis, Table 2.01* for a definition of each ethnic and gender group

Chart 1.04 Disparity Analysis: Consortium Agencies Without M/WBE Programs Architecture and Engineering Subcontracts



5. Disparity Analysis Summary

a. Construction Subcontracts

As indicated in Table 1.09, M/WBE subcontractors were determined to be underutilized at a statistically significant level on construction contracts awarded by Consortium agencies without M/WBE programs, in contrast to DFW, where most groups were at parity or over utilized.

Table 1.09 Disparity Summary: Construction Subcontracts Awarded by DFW and Consortium Agencies Without M/WBE Programs

Ethnicity/Gender	Dallas / Fort Worth International Airport Board	Consortium Agencies Without M/WBE Programs
African Americans	Yes	Yes
Asian Americans	No	**
Hispanic Americans	No	Yes
Native Americans	No	Yes
Minority Business Enterprises	Yes	Yes
Women Business Enterprises	**	No
Minority and Caucasian Female Business Enterprises	No	Yes

Yes = Statistically significant disparity was found
No = Statistically significant disparity was not found
--- = There were insufficient records to determine statistical disparity
** = The study did not test statistically the overutilization of M/WBEs

b. Architecture and Engineering Subcontracts

As indicated in Table 1.10, Woman Business Enterprises and African American subcontractors were determined to be underutilized at a statistically significant level on construction contracts awarded by Consortium agencies without M/WBE programs, in contrast to DFW, where most groups were at parity or over utilized.

Table 1.10 Disparity Summary: Architecture and Engineering Subcontracts Awarded by DFW and Consortium Agencies Without M/WBE Programs

Ethnicity/Gender	Dallas / Fort Worth International Airport Board	Consortium Agencies Without M/WBE Programs
African Americans	**	Yes
Asian Americans	No	**
Hispanic Americans	**	**
Native Americans	No	**
Minority Business Enterprises	**	**
Women Business Enterprises	**	Yes
Minority and Caucasian Female Business Enterprises	**	No

Yes = Statistically significant disparity was found
No = Statistically significant disparity was not found
--- = There were insufficient records to determine statistical disparity
** = The study did not test statistically the overutilization of M/WBEs

C. Capacity Analysis of Subcontracts

Construction and architecture and engineering prime contractors awarded M/WBE subcontracts of roughly the same size on their DFW prime contracts compared to their contracts with Consortium agencies without an M/WBE program. The finding suggests there is capacity in the market area to support more subcontracting than the common prime contractors utilized when their contracts did not have an M/WBE subcontracting requirement. Tables 1.15 through 1.18 present the size distribution of subcontracts awarded by the common construction and architecture and engineering prime contractors for DFW and Consortium agencies without M/WBE programs. For this subcontract size analysis, subcontracts were grouped into eight dollar ranges[19]. Each award was analyzed to determine the number and percentage of contracts that fell within each of the eight size categories.

1. Construction Subcontracts by Size

Table 1.11 depicts the subcontracts that the common construction prime contractors awarded on their DFW contracts. Subcontracts valued at more than $50,000 were 52.33 percent; those more than $100,000 were 37.82 percent; and those more than $500,000 were 14.51 percent.

Table 1.12 depicts the subcontracts that the common construction prime contractors awarded on their contracts with Consortium agencies without M/WBE programs. Subcontracts valued at more than $50,000 were 67.96 percent; those more than $100,000 were 55.34 percent; and those more than $500,000 were 22.33 percent.

2. Architecture and Engineering Subcontracts by Size

Table 1.13 depicts subcontracts that the common architecture and engineering prime contractors awarded on their DFW contracts. Subcontracts valued at more than $50,000 were 40 percent; those more than $100,000 were 31.3 percent; and those more than $500,000 were 5.22 percent.

Table 1.14 depicts subcontracts that the common architecture and engineering prime contractors awarded on their contracts with Consortium agencies without M/WBE programs. Subcontracts valued at more than $50,000 were 51.01 percent; those more than $100,000 were 37.58 percent; and those more than $500,000 were 5.37 percent.

[19] The eight dollar ranges are $1 to $24,999, $25,000 to $49,999, $50,000 to $99,999, $100,000 to $249,999, $250,000 to $499,999, $500,000 to $999,999, $1,000,000 to $2,999,999, and $3,000,000 and greater.

The pattern of subcontract awards on both construction and architecture and engineering contracts indicates the comparable capacity available to the prime contractors on contracts awarded by Consortium agencies without goals.

Additionally, the needed capacity was limited. Clearly, most subcontract awards of both DFW and the Consortium agencies without M/WBE programs were small. There is no indication that capacity was a challenge on the contracts awarded on Consortium agencies without goals.

Table 1.11 Construction M/WBE Subcontract Awards By Size: DFW

Contract Size	Caucasian				Minority				Total	
	Females		Males		Females		Males			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
$1 - $24,999	23	39.66%	25	32.47%	6	40.00%	14	32.56%	68	35.23%
$25,000 - $49,999	4	6.90%	12	15.58%	3	20.00%	5	11.63%	24	12.44%
$50,000 - $99,999	9	15.52%	9	11.69%	3	20.00%	7	16.28%	28	14.51%
$100,000 - $249,999	9	15.52%	7	9.09%	1	6.67%	6	13.95%	23	11.92%
$250,000 - $499,999	4	6.90%	12	15.58%	2	13.33%	4	9.30%	22	11.40%
$500,000 - $999,999	3	5.17%	3	3.90%	0	0.00%	2	4.65%	8	4.15%
$1,000,000 - $2,999,999	3	5.17%	7	9.09%	0	0.00%	5	11.63%	15	7.77%
$3,000,000 and greater	3	5.17%	2	2.60%	0	0.00%	0	0.00%	5	2.59%
Total	58	100.00%	77	100.00%	15	100.00%	43	100.00%	193	100.00%

P-Value > 0.05

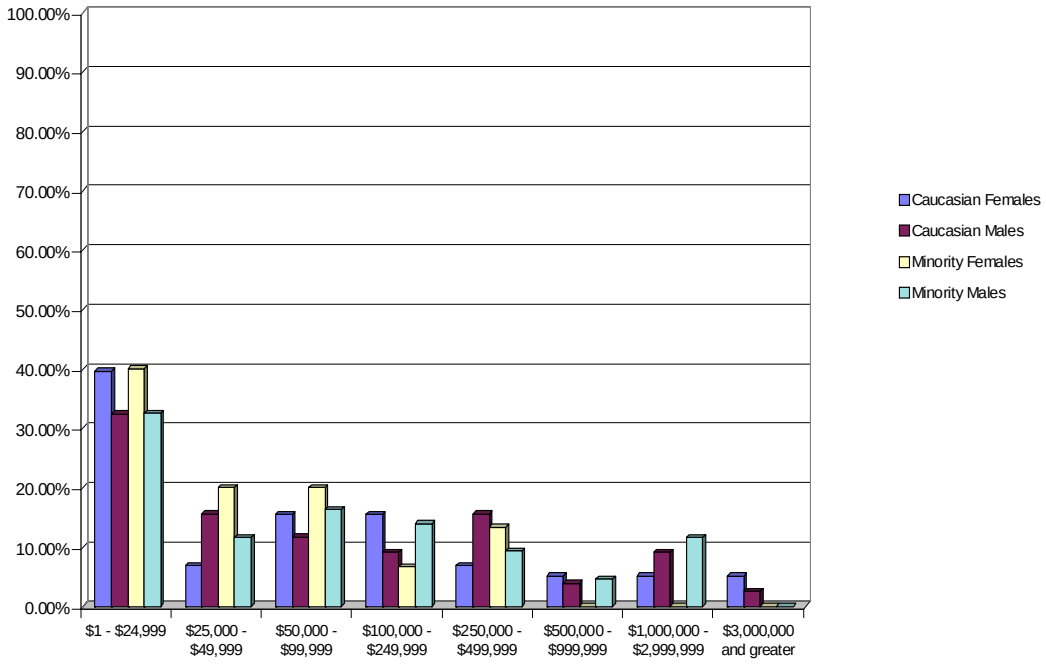


Table 1.12 Construction M/WBE Subcontract Awards By Size: Consortium Agencies Without Programs

Contract Size	Caucasian				Minority				Total	
	Females		Males		Females		Males			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
$1 - $24,999	7	22.58%	11	19.64%	3	42.86%	0	0.00%	21	20.39%
$25,000 - $49,999	5	16.13%	7	12.50%	0	0.00%	0	0.00%	12	11.65%
$50,000 - $99,999	5	16.13%	5	8.93%	1	14.29%	2	22.22%	13	12.62%
$100,000 - $249,999	8	25.81%	11	19.64%	0	0.00%	1	11.11%	20	19.42%
$250,000 - $499,999	2	6.45%	8	14.29%	1	14.29%	3	33.33%	14	13.59%
$500,000 - $999,999	1	3.23%	7	12.50%	1	14.29%	1	11.11%	10	9.71%
$1,000,000 - $2,999,999	3	9.68%	5	8.93%	1	14.29%	2	22.22%	11	10.68%
$3,000,000 and greater	0	0.00%	2	3.57%	0	0.00%	0	0.00%	2	1.94%
Total	31	100.00%	56	100.00%	7	100.00%	9	100.00%	103	100.00%

P-Value > 0.05

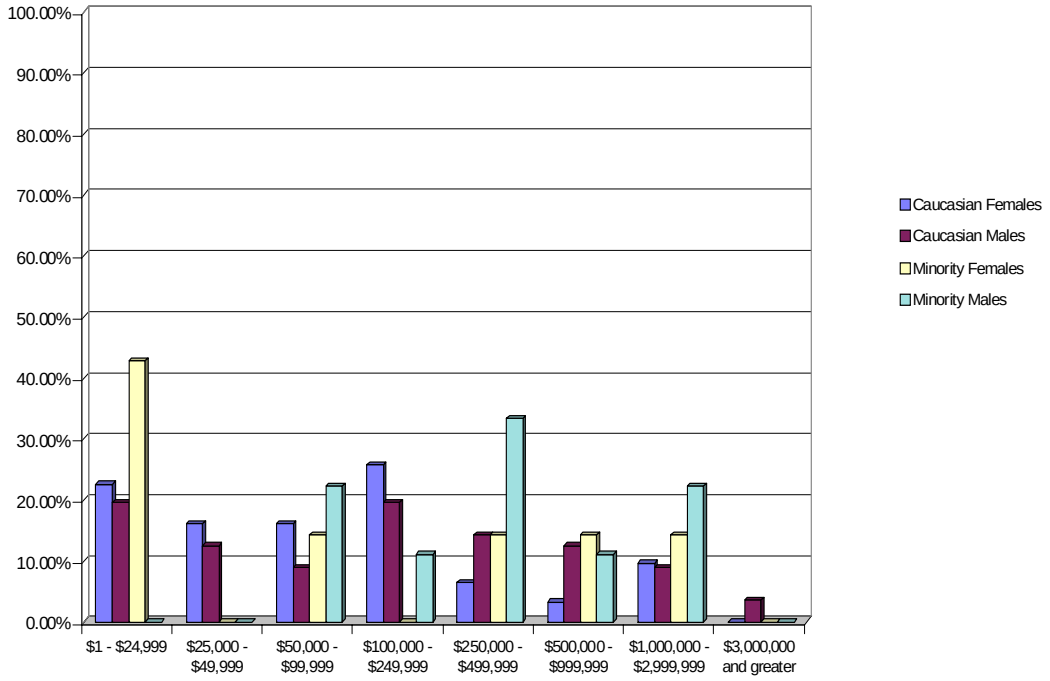


Table 1.13 Architecture and Engineering M/WBE Subcontract Awards By Size: DFW

Contract Size	Caucasian				Minority				Total	
	Females		Males		Females		Males			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
$1 - $24,999	14	46.67%	12	36.36%	5	38.46%	15	38.46%	46	40.00%
$25,000 - $49,999	9	30.00%	5	15.15%	1	7.69%	8	20.51%	23	20.00%
$50,000 - $99,999	1	3.33%	4	12.12%	2	15.38%	3	7.69%	10	8.70%
$100,000 - $249,999	3	10.00%	6	18.18%	3	23.08%	9	23.08%	21	18.26%
$250,000 - $499,999	2	6.67%	5	15.15%	1	7.69%	1	2.56%	9	7.83%
$500,000 - $999,999	1	3.33%	0	0.00%	0	0.00%	2	5.13%	3	2.61%
$1,000,000 - $2,999,999	0	0.00%	1	3.03%	1	7.69%	1	2.56%	3	2.61%
$3,000,000 and greater	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total	30	100.00%	33	100.00%	13	100.00%	39	100.00%	115	100.00%

P-Value > 0.05

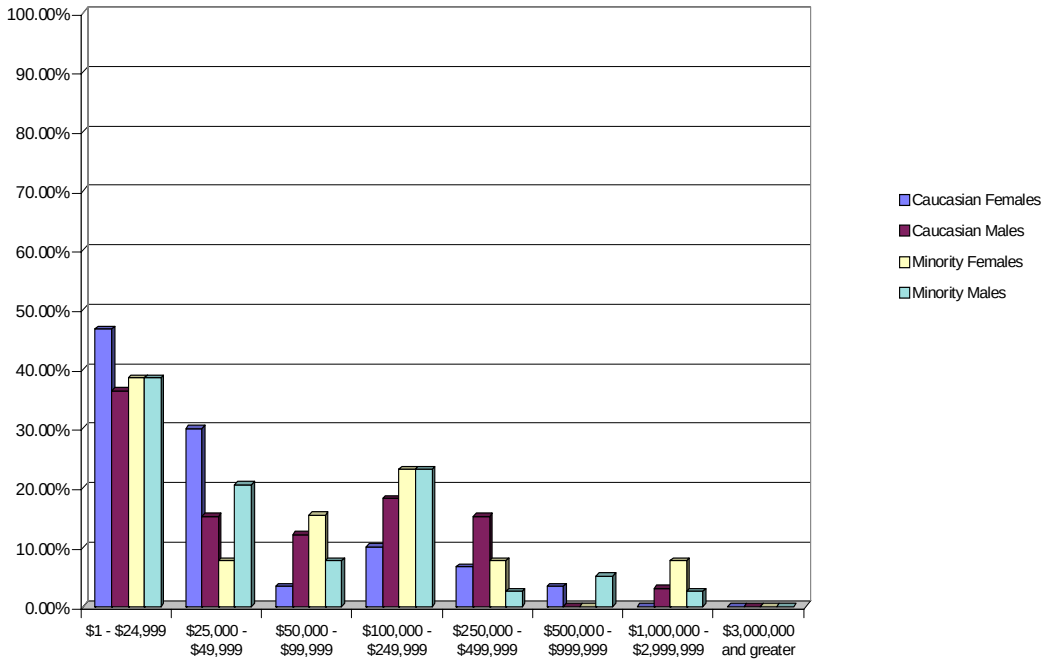
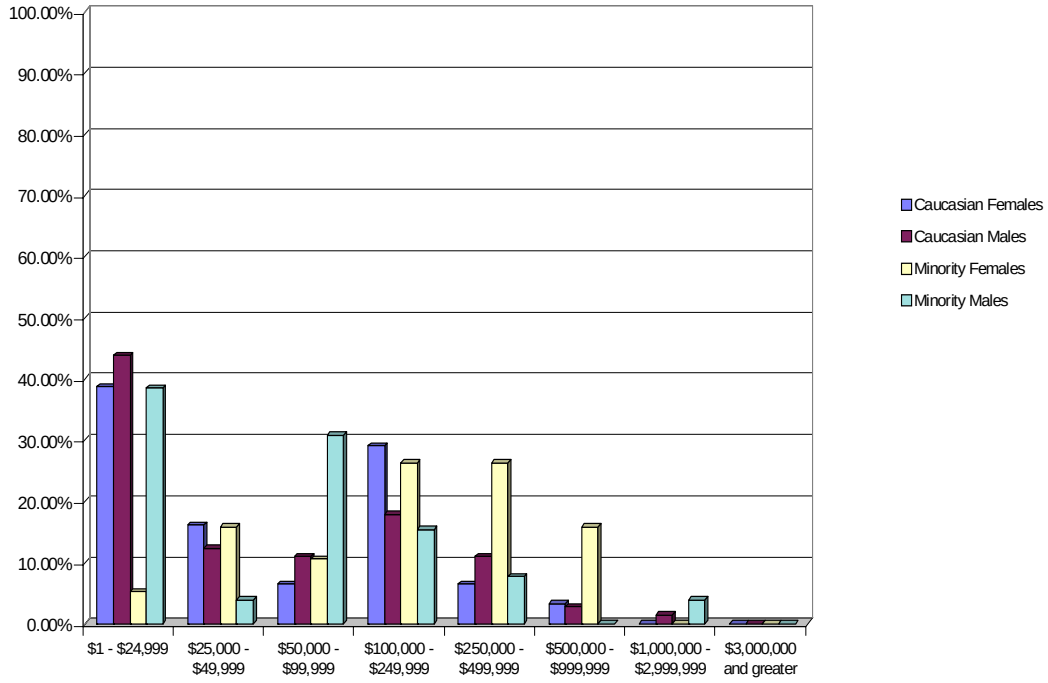


Table 1.14 Architecture and Engineering Subcontract Awards By Size: Consortium Agencies Without Programs

Contract Size	Caucasian				Minority				Total	
	Females		Males		Females		Males			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
$1 - $24,999	12	38.71%	32	43.84%	1	5.26%	10	38.46%	55	36.91%
$25,000 - $49,999	5	16.13%	9	12.33%	3	15.79%	1	3.85%	18	12.08%
$50,000 - $99,999	2	6.45%	8	10.96%	2	10.53%	8	30.77%	20	13.42%
$100,000 - $249,999	9	29.03%	13	17.81%	5	26.32%	4	15.38%	31	20.81%
$250,000 - $499,999	2	6.45%	8	10.96%	5	26.32%	2	7.69%	17	11.41%
$500,000 - $999,999	1	3.23%	2	2.74%	3	15.79%	0	0.00%	6	4.03%
$1,000,000 - $2,999,999	0	0.00%	1	1.37%	0	0.00%	1	3.85%	2	1.34%
$3,000,000 and greater	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total	31	100.00%	73	100.00%	19	100.00%	26	100.00%	149	100.00%

P-Value > 0.05



D. Regression Analysis

The regression analysis shows that women and minority business owners face harsher business conditions than Caucasian male business owners. Minorities and women are less likely to be self-employed and have lower business earnings, and African American business owners are more likely to be denied business loans even after accounting for factors such as type of business, age, and experience of the owner. These analyses suggest that there are discriminatory factors in the marketplace that adversely affect women and minority business owners' access to the resources needed to form and grow businesses. Given these private sector findings, there is a continued need for the government to monitor business conditions for signs of discrimination.

1. Business Formation

The results of the regression analysis of business ownership are presented in Figure 1.1 below. The model shows the results for Dallas and Tarrant Counties:

- Older individuals are more likely to be business owners, but this marginal effect declines for the oldest individuals
- Being married is positively correlated with being a business owner
- Being disabled is negatively correlated with being a business owner
- Having pre-school age children is positively correlated with being a business owner
- Having some college education, up to and including a four-year college degree, decreases the likelihood of being a business owner
- Having an advanced degree increases the likelihood of being a business owner
- Home ownership decreases the likelihood of being a business owner until the value of the home rises above approximately $60,000, at which point increasing home values also increase the likelihood of being a business owner

The model also shows that statistically significant disparities in rates of business ownership remain for African Americans, Subcontinent Asian Americans, Hispanic Americans, other non-white Americans, and women, even after controlling for non-discriminatory factors.

Figure 1.1 Dallas/Tarrant Counties Probit Model

Variable	Coefficient	t-statistic
Constant	-6.8976	-66.53*
Age	0.1858	40.74*
Age-squared	-0.0017	-33.59*
Married	0.1329	3.98*
Disabled	-0.0863	-2.54*
Own children younger than 6	0.4010	7.01*
Number of people over 65 in Household	0.0205	0.62
Own home	-0.5677	-8.36*
Home value (24 level categorical variable)	0.0708	13.33*
Monthly mortgage payment	0.0000	-1.43
Interest and dividend income ($000s)	0.0038	5.09*
Income of spouse or partner ($000s)	-0.0011	-4.30*
Speaks English very well	0.0702	1.46
Less than high school education	-0.0422	-0.94
Some college	-0.0582	-1.59*
Four year degree	-0.1575	-3.72*
Advanced degree	0.2545	5.58*
African American	-0.5788	-12.30*
Asian Pacific American	0.1235	1.56
Subcontinent Asian American	-0.4609	-2.60*
Hispanic American	-0.2972	-5.18*
Native American	0.1769	1.56
Other minority group	0.1634	2.57*
Female	-0.6772	-24.82*

* Significant at 95% confidence level.

Source: 2000 Census Public Use Microdata Sample.

A separate probit model for the construction industry was developed using 8,206 observations from that industry. The results are shown in Figure 1.2 below. The model shows the results specific for the construction industry:

- Having elderly occupants in the same household is positively correlated with being a business owner
- Increasing home values increase the likelihood of being a business owner
- Greater spouse or partner incomes decrease the likelihood of being a business owner
- Speaking English very well increases the likelihood of being a business owner

The model also shows that statistically significant disparities in rates of business ownership remain for African Americans, Hispanic Americans, and women in the construction industry, even after controlling for non-discriminatory factors.

Figure 1.2 Dallas/Tarrant Counties Construction Probit Model

Variable	Coefficient	t-statistic
Constant	-3.5164	-11.53
Age	0.0727	5.09
Age-squared	-0.0005	-3.37
Married	0.2283	2.81
Disabled	0.0856	1.03
Own children younger than 6	0.6255	2.07
Number of people over 65 in HH	0.2004	2.08*
Own home	-0.1028	-0.68
Home value (24 level categorical variable)	0.0623	4.55
Monthly mortgage payment	0.0000	-0.18
Interest and dividend income ($000s)	0.0062	1.66
Income of spouse or partner ($000s)	-0.0028	-3.26*
Speaks English very well	0.3490	2.81*
Less than high school education	-0.1387	-1.41
Some college	0.0095	0.10
Four year degree	-0.1434	-1.01
Advanced degree	0.0219	0.09
African American	-0.3517	-2.37*
Asian Pacific American	-0.1124	-0.35
Subcontinent Asian American	-0.9169	-0.93
Hispanic American	-0.7573	-5.64*
Native American	0.0174	0.07
Other minority group	0.0792	0.60
Female	-0.6949	-5.25*

* Significant at 95% confidence level.
Source: 2000 Census Public Use Microdata Sample.

2. Business Earnings

The results of the ordinary least squares regression model of business earnings in Dallas and Tarrant counties, Texas, are shown in Figure 1.3 below. The model shows the results for Dallas and Tarrant Counties:

- Older business owners have higher earnings, but this marginal effect declines for the oldest individuals
- Owners who are married tend to have higher business earnings
- Owners who are disabled tend to have lower business earnings
- Business owners with less than a high school diploma or some college are equally likely to have higher business earnings than those with just a high school diploma, while a bachelor's degree and an advanced degree each tend to increase business earnings

After adjusting for these non-discriminatory factors, African Americans, Subcontinent Asian Americans, Hispanic Americans, and women business owners continue to have significantly lower business earnings than their male counterparts.

Figure 1.3 Dallas/Tarrant Counties Business Owner Earnings Model

Variable	Coefficient	t-statistic
Constant	-0.2093	-11.86*
Age	0.0238	29.97*
Age-squared	-0.0002	-27.85*
Married	0.0191	3.25*
Speak English Very Well	0.0163	1.78
Disabled	-0.0530	-7.89*
Less than HS	0.0183	2.30*
Some College	0.0181	2.37*
Four Year Degree	0.0583	6.48*
Advanced Degree	0.1432	11.92*
African American	-0.1094	-13.76*
Asian Pacific American	-0.0297	-1.84
Subcontinent Asian American	-0.1210	-3.65*
Hispanic American	-0.1014	-10.14*
Native American	0.0125	0.50
Other Minority Group	0.0201	1.77
Female	-0.1368	-26.66*

* Significant at 95% confidence level.
Source: Mason Tillman Research & Consulting, 2009 based on analysis of 2000 Census Public Use Microdata Sample

The results of a separate linear regression model for the construction industry are illustrated in Figure 1.4 below. The model shows the results specific for the construction industry:

- Older business owners have higher earnings, but this marginal effect declines for the oldest individuals
- Owners who are married tend to have higher business earnings
- Owners who speak English very well tend to have higher business earnings

After adjusting for these non-discriminatory factors, African Americans, Hispanic Americans, and women business owners in the construction industry continue to have significantly lower business earnings than their male counterparts.

Figure 1.4 Dallas/Tarrant Counties Construction Business Owner Earnings Model

Variable	Coefficient	t-statistic
Constant	0.0821	0.68
Age	0.0261	4.41*
Age-squared	-0.0002	-2.67*
Married	0.1116	3.45*
Speak English Very Well	0.1537	3.04*
Disabled	-0.0232	-0.64
Less than HS	-0.0186	-0.45
Some College	0.0206	0.42
Four Year Degree	-0.0033	-0.04
Advanced Degree	0.0943	0.69
African American	-0.1554	-2.27*
Asian Pacific American	-0.2194	-1.43
Subcontinent Asian American	-0.0614	-0.13
Hispanic American	-0.4364	-8.69*
Native American	0.0857	0.58
Other Minority Group	0.0217	0.46
Female	-0.3909	-7.48*

* Significant at 95% confidence level.
Source: Mason Tillman Research & Consulting, 2009 based on analysis of 2000 Census Public Use Microdata Sample.

Results specific for the engineering industry: A separate linear regression model for the engineering industry, illustrated in Figure 1.5 below, shows that owners who have a bachelor's degree tend to have higher business earnings. After adjusting for the non-discriminatory factors, the model did not detect any significant disparities by race or gender.

Figure 1.5 Dallas/Tarrant Counties Business Owner Earnings Model

Variable	Coefficient	t-statistic
Constant	0.0821	0.68
Age	0.0261	4.41*
Age-squared	-0.0002	-2.67*
Married	0.1116	3.45*
Speak English Very Well	0.1537	3.04*
Disabled	-0.0232	-0.64
Less than HS	-0.0186	-0.45
Some College	0.0206	0.42
Four Year Degree	-0.0033	-0.04
Advanced Degree	0.0943	0.69
African American	-0.1554	-2.27*
Asian Pacific American	-0.2194	-1.43
Subcontinent Asian American	-0.0614	-0.13
Hispanic American	-0.4364	-8.69*
Native American	0.0857	0.58
Other Minority Group	0.0217	0.46
Female	-0.3909	-7.48*

* Significant at 95% confidence level.
Source: Mason Tillman Research & Consulting, 2009 based on analysis of 2000 Census Public Use Microdata Sample.

3. Likelihood of Business Loan Denial

The loan denial model indicates that a number of factors are significantly associated with the probability of loan denial. These factors include:

- Factors specific to the business owner, including whether or not the owner had a four-year college degree or had been personally bankrupt within the past seven years.

- Factors related to the firm's credit and financial health, including the firm's credit rating, the share of the firm held by the principal owner, the method of acquisition of the business, or the existence of loans and lines of credit for the firm. Firms with delinquencies in business transactions were more likely to be denied.

- Firm, lender, and loan environment characteristics. Firms in the construction industry are more likely to have their loan applications denied than firms in other industries. Firms in highly concentrated industry segments (as measured by the Herfindahl Index, a commonly accepted measure calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers) are more likely to be denied. The type of loan was also associated with approval or denial; mortgage loans were more likely to be approved, while loans for vehicles, equipment, or other business needs were more likely to be denied.

Nationwide, firms owned by African Americans remain significantly more likely to have their loans denied than other firms, even after accounting for the factors described above. However, the trends in loan approvals in the South West Central region are significantly different from those in the rest of the country; African American-owned firms in the region are more likely to be approved than African American-owned firms nationally, as are women-owned firms in the region, while Asian American-owned firms in the region are more likely to be denied than Asian American-owned firms nationally.

The same probit regression model was used to calculate predicted rates of loan approvals among African American firms nationally and in the South West Central region, and compared these rates to the actual, observed mean probability of loan approval for the same groups in the NSSBF dataset. The results of the comparison are shown in Figure 1.6 below.

Figure 1.6 Comparison of Actual Loan Approval Rates to Simulated Loan Approval Rates Under Non-Hispanic, Caucasian Male Business Environment for African Americans

Group	Loan Approval Rates		Disparity Index (100 = parity)
	Actual	Benchmark	
African Americans Nationally	47.6%	64.8%	74
African Americans in South West Central	35.5%	90.9%	39

Source: Mason Tillman Research & Consulting analysis of 2003 NSSBF data.

These results indicated that African American firms that applied for loans were denied at a national rate of 52 percent. The predicted rate from the model was nearly 35 percent. If African-Americans were denied at the same rate as similarly situated firms owned by non-Hispanic, Caucasian males, the denial rate would have been no more than 35 percent. In the South West Central region, the actual denial rate for African American-owned firms was almost 65 percent. The predicted rate from the model was less than ten percent. If they were denied at the same rate as similarly situated firms owned by non-Hispanic, Caucasian

males the denial rate would have been no more than ten percent. The probit analysis shows that the underlying relationships between loan approvals and race are, in fact, the opposite of what you might expect from interpreting the raw, unadjusted rates.

IV. CONCLUSION

Construction and architecture prime contractors utilized significantly fewer M/WBEs on the contracts awarded to them by Consortium agencies without an M/WBE program than on their DFW contracts. The data strongly suggests that, but for DFW's M/WBE program, the prime contractors would award considerably fewer M/WBE subcontracts on DFW's prime contracts. The M/WBE subcontractor utilization on DFW's construction contracts was 17 percent higher than the utilization the same contractors achieved when their contracts had been awarded by a Consortium agency without an M/WBE program. There was a similar subcontracting pattern with DFW's architecture and engineering primes. On DFW contracts, M/WBE subcontractors received 42 percent of subcontract dollars but only 20 percent for Consortium agencies without an M/WBE program.

But for DFW's M/WBE program requirements, there is reason to expect that the utilization of M/WBE subcontractors by DFW construction and architecture and engineering prime contractors would be 50 to 60 percent lower. It appears that DFW's M/WBE utilization has been driven by the M/WBE goal requirements and that the market forces are not presently supporting the participation achieved on DFW's construction and architecture and engineering contracts.

There is additional evidence from the economic market analysis performed that there are economic factors which impede the growth of minority and woman-owned businesses in DFW's market area. The economic analysis found that there are discriminatory factors in the marketplace that adversely affect the level of business ownership, business earnings, and access to credit among women and minority business owners. Taken together, the market-driven contracting decisions of DFW's prime contractors and the economic factors existing in the market justify DFW continuing a race-based remedy.

These market driven forces, if allowed to operate unfettered by DFW's M/WBE Program, might significantly lower the current M/WBE utilization on DFW construction and architecture and engineering contracts. The fact that these findings were derived from an analysis of the contracting practices of DFW's prime contractors is sufficient evidence for DFW to make program decisions regarding a race-based remedy. Clearly there is a nexus between DFW and the market-driven contracting decisions of its prime contractors to use these disparity findings as a predicate for a race-based remedy.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