



*Market research · Policy analysis
Business strategy · Implementation*

100 Fillmore Street, 5th Floor
Denver CO 80206
303-385-8515

www.keenindependent.com



CITY OF ATLANTA 2015 DISPARITY STUDY REPORT

October 2015

Prepared for:

Rosales Law Partners LLP
433 California Street, Suite 630
San Francisco CA 94104

Prepared by:

Keen Independent Research LLC
100 Fillmore Street, 5th Floor
Denver CO 80206

172 N. Washington Street
Wickenburg AZ 85390

www.keenindependent.com

303-385-8515

TABLE OF CONTENTS

SUMMARY REPORT

Organization of this Report.....	1
Conditions for Minorities and Women in the Local Marketplace.....	3
Utilization of Minority- and Women-owned Firms in City-funded Contracts.....	13
Availability and Disparity Analyses for City-funded Contracts.....	18
Summary of Study Results	30

APPENDIX A. UTILIZATION DATA COLLECTION

Construction, Professional Services and Other Services Prime Contract and Subcontract Data	A-1
Goods Payment Data	A-6
City Bid and Proposal Data	A-6
Characteristics of Utilized Firms and Bidders	A-6
City Review	A-7
Data Limitations.....	A-7

APPENDIX B. UTILIZATION ANALYSIS

Overview of the Utilization Analysis	B-1
Overall MBE/WBE and Certified M/FBE Utilization on City-funded Contracts.....	B-2
Utilization by Racial, Ethnic and Gender Group.....	B-4
MBE/WBE Utilization on Contracts with and without M/FBE Contract Goals.....	B-8
Utilization of Hispanic American-owned Firms with and without Eligibility to Meet M/FBE Contract Goals	B-14
Utilization of MBE/WBEs on City-funded Contracts with SBE Contract Goals.....	B-15

APPENDIX C. AVAILABILITY ANALYSIS

Purpose of the Availability Analysis	C-1
Definitions of MBEs, WBEs and Majority-owned Businesses	C-2
General Approach to Collecting Availability Information	C-3
Development of the Interview Instrument.....	C-7
Businesses Included in the Availability Database	C-11
MBE/WBE Availability Calculations on a Contract-by-Contract Basis.....	C-12
Dollar-weighted Availability Results	C-14
Additional Considerations Related to Measuring Availability	C-14
Atlanta Availability Interview Instrument	C-18

APPENDIX D. DISPARITY ANALYSIS METHODOLOGY

Disparity Analysis for City-funded Contracts D-1
Statistical Significance of Disparity Analysis Results..... D-2

APPENDIX E. ENTRY AND ADVANCEMENT IN THE CONSTRUCTION, PROFESSIONAL SERVICES, GOODS AND OTHER SERVICES INDUSTRIES IN THE ATLANTA METROPOLITAN AREA

Introduction E-2
Construction Industry E-3
Professional Services Industry E-15
Goods Industry..... E-18
Other Services Industry E-19
Summary E-20

APPENDIX F. BUSINESS OWNERSHIP IN THE ATLANTA METRO AREA CONSTRUCTION, PROFESSIONAL SERVICES, GOODS AND OTHER SERVICES INDUSTRIES

Business Ownership Rates F-1
Business Ownership Regression Analysis F-6
Summary of Business Ownership in the Construction, Professional Services, Goods and Other Services Industries in the Atlanta Metropolitan Area F-15

APPENDIX G. ACCESS TO CAPITAL FOR BUSINESS FORMATION AND SUCCESS

Homeownership and Mortgage Lending G-2
Summary G-15

APPENDIX H. SUCCESS OF BUSINESSES IN CONSTRUCTION, PROFESSIONAL SERVICES, GOODS AND OTHER SERVICES INDUSTRIES IN THE ATLANTA METROPOLITAN AREA

Business Closures, Expansions and Contractions H-1
Business Receipts and Earnings H-11
Relative Bid Capacity H-32
Availability Interview Results Concerning Potential Barriers..... H-36
Summary H-39

APPENDIX I. ANALYSIS OF NON-CITY CONSTRUCTION CONTRACTS WITHIN CITY LIMITS

City Building Permit Data I-1
Dodge Reports Data I-2

APPENDIX J. DESCRIPTION OF DATA SOURCES FOR MARKETPLACE ANALYSES

IPUMS Data I-1
Survey of Business Owners (SBO) I-10
Home Mortgage Disclosure Act (HMDA) Data I-11

KEEN INDEPENDENT RESEARCH LLC

2015 CITY OF ATLANTA DISPARITY STUDY SUMMARY REPORT

The City of Atlanta has an Equal Business Opportunity (EBO) Ordinance and a Small Business Opportunity (SBO) Ordinance to promote full and equitable business opportunity for those doing business with the City. The City operates contract goals programs, a joint venture program and other initiatives to accomplish the objectives of these ordinances. The City adopted the ordinances in 2009, and had other minority and female business programs in place prior to the new ordinances.

Rosales Law Partners LLP retained Keen Independent Research LLC (Keen Independent) to conduct a disparity study that examines current marketplace conditions and the effectiveness of City programs from July 2009 through December 2012 (the 2015 Keen Study). This Summary Report outlines key results. Ten appendices provide supporting documentation. BBC Research & Consulting and Customer Research International (CRI) were part of the Keen Independent study team.

In addition to its own programs for City-funded contracts, the City of Atlanta operates the Federal Disadvantaged Business Enterprise (DBE) Program and the Airport Concessions Disadvantaged Business Enterprise (ACDBE) Program for its U.S. Department of Transportation-funded contracts at Hartsfield-Jackson Atlanta International Airport. It also operates the Federal DBE Program for certain highway- and transit-related contracts funded by the Federal Highway Administration or the Federal Transit Administration. This disparity study did not examine these programs or any federally-funded contracts, nor contracts at the Airport awarded through the Atlanta Airlines Terminal Corporation, which is a private entity.

1. Organization of this Report

The disparity study was initiated in 2013. Keen Independent examined City-funded contracts awarded between July 2009 and December 2012. Because of the small number of contracts with SBE contract goals study through December 2012, the study team completed a supplemental analysis of 2013 and 2014 contracts under the SBE contract goals program. Appendix A describes contract data collection efforts. Based on July 2009 through December 2012 contract data, Keen Independent determined the study industries (construction, professional services, goods and other services) and the relevant geographic market area for City procurement (the 20-county Atlanta Metropolitan Area¹).

¹ The Atlanta Metropolitan Area refers to the 20-county area that until recently comprised the federally-defined Atlanta Metropolitan Statistical Area. This is the relevant geographic market area for City construction, professional services, goods and other services purchases (see Appendix A). The current EBO Program uses the 20-county area as its definition of the Atlanta Region.

Conditions in the Atlanta Metropolitan Area marketplace. The study team examined Atlanta Metropolitan Area marketplace conditions in five parts:

- Entry and advancement of minorities and women in local industries (Appendix E);
- Business ownership in local industries (Appendix F);
- Access to capital for business formation and success (Appendix G);
- Success of businesses in local industries (Appendix H); and
- Utilization of minority- and women-owned firms on other construction and design contracts within city limits (Appendix I).

Appendix J describes the data sources used for these marketplace analyses.

Utilization analysis. The study team’s analysis of the participation of minority-owned businesses (MBEs) and white women-owned businesses (WBEs) went beyond the City’s participation reports under the City’s EBO Ordinance. The disparity study includes certified and non-certified minority- and women-owned firms and also examines contracts not under the EBO Ordinance. Appendix B presents detailed results.

Availability analysis. Keen Independent developed benchmarks for the percentage of contract dollars that might go to MBEs and WBEs based on the relative availability of businesses for specific types and sizes of City prime contracts and subcontracts. The study team conducted telephone interviews with companies in the Atlanta Metropolitan Area to develop this availability information. Appendix C describes the approach and results of the availability analysis.

Disparity analysis. Keen Independent examined whether there were any disparities between the utilization of MBE/WBEs in City contracts (by group) and the availability benchmarks developed in the study. Appendix D presents detailed results of this disparity analysis.

Summary report organization. The balance of this Summary Report presents:

- Conditions for minorities and women, and minority- and women-owned firms, in the Atlanta Metropolitan Area marketplace;
- Utilization of minority- and women-owned firms in City-funded contracts;
- Availability and disparity analyses for City-funded contracts; and
- Summary of key results.

2. Conditions for Minorities and Women in the Local Marketplace

The study team examined new information regarding marketplace conditions for minorities and women, and minority- and women-owned firms, not examined in the 2009 Ayres Disparity Study Report (often because data became available after preparation of that report). The 2015 Disparity Study focuses on four industries:

- Construction;
- Professional services;
- Goods; and
- Other services.

These four categories describe the key areas of City contracting and align with different City procurement methods. Because more than 80 percent of City contract dollars go to firms with locations in the 20-county Atlanta Metropolitan Area, Keen Independent examined recent conditions within that area.

The study team examined U.S. Census data and other information about the local marketplace, and developed a database of 3,703 local businesses that provided information about their availability for City work. Data collected for these businesses include revenue, bid capacity, perceptions of barriers within the local marketplace, and race, ethnicity and gender ownership. Key results are summarized below.

a. Certain minority groups and women are underrepresented as employees in the construction, professional services, goods and other services industries. Any barriers for minorities and women in employment and advancement within the construction, professional services, goods and other services industries can affect the relative number of businesses owned by minorities and women in those industries. Appendix E presents this information.²

- There were disparities in employment in study industries for African Americans in the local construction and professional services industries, African Americans and Hispanic Americans in the goods industry and women in the construction, professional services, goods and other services industries based on U.S. Bureau of the Census data for 2008 through 2012 for the Atlanta Metropolitan Area.
- Several analyses focus on the local construction industry.
 - Examining employment in specific construction trades, opportunities for minorities and women appear to vary considerably between those trades. Employment was very low in certain construction trades (including first-line supervisors) compared with other trades.
 - Compared to non-Hispanic whites, African Americans, Hispanic Americans, and other minorities were less likely to be managers in the construction industry.

² These results are based on U.S. Bureau of the Census 2008 through 2012 American Community Survey data for the Atlanta Metropolitan Area, as discussed in Appendices E and J of this report.

Any disparities in opportunities to enter and advance within these industries can affect the number and success of minority- and women-owned businesses in these fields in the Atlanta Metropolitan Area.

b. There were disparities in business ownership in the Atlanta Metro Area for minorities and women in many of the industries examined in the study. Disparities in business ownership rates may indicate that there is not a level playing field for minorities and women to start and sustain businesses in certain industries in the Atlanta Metropolitan Area. Results may also indicate that the current availability of minority- and women-owned firms is lower than what might be expected if there were a non-discriminatory environment in which those firms were started and operated.

- There were substantial disparities in business ownership rates for minorities and women within the local construction industry.³
 - Business ownership rates for African Americans and Hispanic Americans working in construction were substantially lower than that of non-Hispanic whites in 2008 through 2012. Business ownership rates for women were substantially lower than that of men in 2008 through 2012. Business ownership rates for Asian-Pacific Americans and for Native Americans were also lower than non-Hispanic whites, but due to small sample sizes for those groups, these differences were not statistically significant.
 - Using regression analysis to statistically control for a number of race- and gender-neutral factors, fewer African Americans, Hispanic Americans and women were owners of construction businesses than similarly-situated non-Hispanic whites (or non-Hispanic white men). These were statistically significant differences.
- The study team identified disparities in business ownership in the professional services industry in the Atlanta Metropolitan Area:
 - Business ownership rates for African Americans, Asian-Pacific Americans and Subcontinent Asian Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012. Business ownership rates for women were substantially lower than that of men in 2008 through 2012.
 - The study team used regression models to investigate the presence of race-, ethnicity- and gender-based disparities in business ownership rates after accounting for race- and gender-neutral factors such as education. The results indicated substantial disparities for African Americans, Subcontinent Asian Americans, and women working in the professional services industries in the 2008 through 2012 time period.

³ These results are based on the most recent five-year American Community Survey data for the Atlanta Area that were available at the time of the study, as discussed in Appendices F and J of this report.

- In the local goods industry, the study team examined disparities in business ownership rates:
 - Business ownership rates for Hispanic Americans and African Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012. Business ownership rates for women were substantially lower than that of men in 2008 through 2012.
 - After statistically controlling for a number of race- and gender-neutral factors, substantially fewer African Americans and women owned goods businesses than similarly-situated non-Hispanic whites in 2008 through 2012.
- The study team also identified disparities in business ownership in the other services industry:
 - Business ownership rates for African Americans and Hispanic Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012.
 - After statistically controlling for a number of race- and gender-neutral factors, substantially fewer African Americans and Hispanic Americans owned other services businesses than similarly-situated non-Hispanic whites in 2008 through 2012.

In sum, for some groups and some industries, the business ownership analysis indicates some race-, ethnicity- and gender-based disparities in business ownership in the Atlanta Metropolitan Area in recent years. But for these disparities, minority- and women-owned firms might comprise a greater share of businesses available for City of Atlanta contracts. Appendix F provides detailed results.

c. There is evidence that minorities and women face certain disadvantages in accessing capital that is necessary to start, operate and expand businesses. The 2009 Ayres Disparity Study Report examined available information concerning business lending. Home equity and home mortgages are also an important source of capital to start and expand businesses. Focusing just on data that recently became available, there were disparities in the Atlanta Metropolitan Area in accessing home equity and receiving home mortgages:

- Relatively fewer African Americans, Asian Americans, Hispanic Americans and Native Americans in the Atlanta Metropolitan Area own homes compared with non-Hispanic whites (2008-2012 data).
- African Americans, Hispanic Americans and Native Americans who do own homes tend to have lower home values, which can affect the amount of capital available to start or expand a business (2008-2012 data).

- High-income African American, Asian American, Hispanic American and Native American households applying for conventional home mortgages in the Atlanta Metropolitan Area were more likely than non-Hispanic whites to have their applications denied (examined 2006, 2009 and 2012).
- African American and Hispanic American mortgage borrowers in the Atlanta Metropolitan Area were more likely than non-Hispanic whites to be issued subprime home purchase and refinance loans in 2006, 2009 and 2012. Native Americans and Native Hawaiians or other Pacific Islanders were also more likely to receive subprime loans during the study period.

These results indicate that certain minority groups do not have the same access to capital necessary for business formation and success as non-minorities in the Atlanta Metropolitan Area. Appendix G provides supporting analyses.

d. There is evidence that firms owned by minorities in Georgia are more likely to close than non-minority-owned firms. A 2010 Small Business Administration study of minority business dynamics examined business closures, expansions and contractions between 2002 and 2006 in Georgia.⁴ Results showed:

- African American-, Asian American- and Hispanic American-owned firms were more likely to close than white-owned businesses; and
- African American-owned firms were less likely to expand than white-owned firms.

Disparities in the rates of closure for African American-, Asian American- and Hispanic American-owned businesses may be further evidence that the playing field is not level for these groups within the local marketplace (see Appendix H).

e. Data show disparities in business revenue in the overall local marketplace. The study team examined several different datasets to analyze business receipts and earnings for minority- and female-owned businesses, as discussed in Appendix H.

- These data generally showed lower revenue for African American-, Asian American-, Hispanic American- and women-owned businesses across the construction, professional services and other services industries.

⁴ U.S. Bureau of Labor Statistics data for May 2015 indicate that the Atlanta Metropolitan Area comprises about 60 percent of the Georgia economy based on non-farm employment. <http://www.bls.gov/regions/southeast/georgia.htm#tab-1> Accessed October 11, 2015.

- Regression analyses using U.S. Census Bureau data for the Atlanta Metropolitan Area for business owner earnings for 2007-2012 indicated that there were statistically significant effects of race and gender on business earnings, after statistically controlling for certain gender-neutral factors:
 - Being female was associated with lower business earnings in the construction, professional services, goods, and other services industries;
 - Being African American was associated with lower business earnings in the construction industry; and
 - Being Hispanic American was associated with lower business earnings in the goods industry.

- Revenue data collected by the study team indicated that minority- and women-owned firms are disproportionately small compared with majority-owned firms in the Atlanta Metropolitan Area. Considering construction, professional services, goods and other services firms, 77 percent of minority- and women-owned firms had annual gross revenue of less than \$1 million compared with 54 percent of majority-owned firms. Only 6 percent of MBE/WBEs exceeded \$5 million in revenue compared with 19 percent of majority-owned firms. These disparities in gross revenue were evident for each of these four industries.

- Keen Independent analyzed the share of firms in the availability database that would meet the U.S. Small Business Administration size standards for small businesses for their subindustry or specialization (the benchmark that the City of Atlanta uses for SBE certification). About 99 percent of African American-owned firms available for City contracts are small businesses by this definition, a higher percentage than majority-owned firms (91%). Between 96 and 97 percent of Asian American-, Hispanic American- and Native American-owned businesses in the availability analysis appear to qualify as small businesses. About 97 percent of white women-owned firms available for City contracts are small businesses. These results show that, even after controlling for types of work performed, minority- and women-owned firms in the Atlanta Metropolitan Area are disproportionately small businesses.

In sum, analysis of revenue data shows a pattern of disparities for minority- and women-owned firms in the Atlanta Metropolitan Area.

f. There were disparities in the bid capacity of minority- and women-owned firms among firms available for City contracts. As part of the availability data collection within the Atlanta Metropolitan Area, the study team collected information about the largest public or private sector prime contract or subcontract each firm had bid on or been awarded within the most recent five years. Defining “bid capacity” in that fashion, Keen Independent determined the median bid capacity of firms within each subindustry for the construction, professional services and other services industries.⁵ A firm was deemed to have “above-median” bid capacity if the largest contract it had bid

⁵ Keen Independent did not perform bid capacity calculations for goods firms, as those companies often have considerable flexibility to fill small or large orders.

on or been awarded within the most recent five years was in a size class larger than the median for that subindustry.

- Examining firms within the construction, professional services and other services industries, MBE/WBE firms were far less likely to have above-median bid capacity for their subindustry than majority-owned firms in those same subindustries.
- Regression analysis encompassing construction, professional services and other services indicated disparities in bid capacity for African American- and white women-owned firms after controlling for subindustry and length of time in business.
- Focusing just on the construction industry, regression analysis indicated a statistically significant disparity in bid capacity for African American-owned construction firms after controlling for specialization and length of time in business.

Appendix H further explains these analyses.

It appears that African American- and white women-owned firms do not have the same bid capacity as similarly-situated majority-owned firms. This may be further evidence of race- and gender-based differences in opportunities for businesses within the Atlanta Metropolitan Area.

These results are especially important because the study team's availability analysis for City contracts and for other public sector construction contracts controlled for bid capacity when developing availability benchmarks. Those availability benchmarks for African American-owned and white women-owned firms are lower than they would have been if there were no disparities in bid capacity for those groups.

g. There were disparities in the utilization of minority- and women-owned firms in non-City construction and design contracts within Atlanta city limits. The study team examined individual construction and design contracts within city limits from the following data sources:

- City building permits for commercial and public projects within Atlanta city limits for November 2009 through December 2012 (excluding projects for the City);
- Dodge Reports data for public sector construction projects within city limits with a start date of January 2009 through December 2012 (excluding projects for the City); and
- Design firm utilization for non-City public sector projects within city limits from Dodge Reports data (also excluding projects for the City).

For Dodge Reports data, Keen Independent examined the estimated value of the project and determined the utilization component of the disparity analysis based on these dollars. However, there were no reliable data on value of the contract for building permits. Dodge Reports data are for prime contractors and design consultants only, while building permit data are for the prime contractors and electrical, HVAC and plumbing contractors obtaining those types of permits. Appendix I explains data sources and detailed results for both the building permit and the Dodge Reports data.

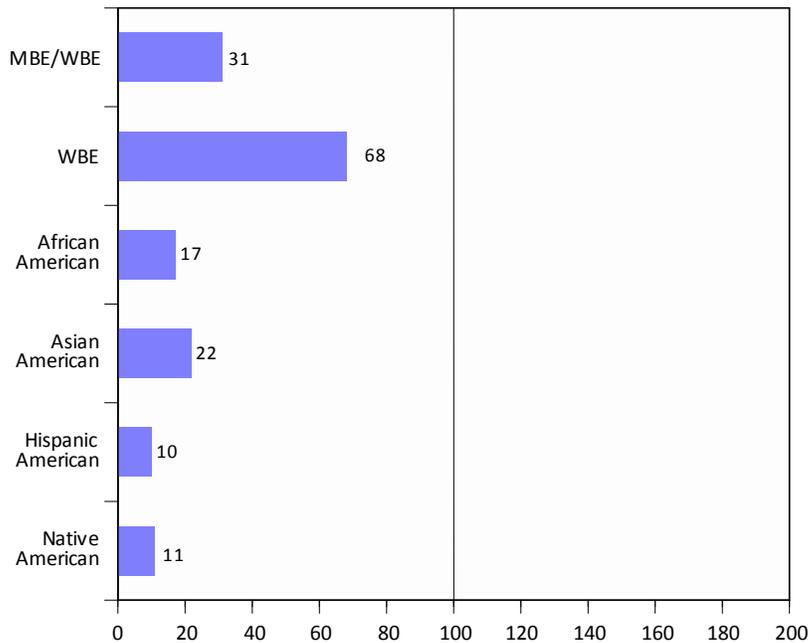
City building permit data. Keen Independent examined whether there were disparities between the percentage of commercial and public building permits in Atlanta going to each group and what might be expected based on the availability of minority- and women-owned firms to perform that work.

- Of the 21,981 building permits with usable data, contractors identified as minority-owned accounted for 1,041 permits, or 4.7 percent of the total permits.
- Contractors identified as white women-owned accounted for 1,598 permits (7.3%).
- Combined, MBE/WBE contractors received 12.0 percent of the commercial and public building permits examined.
- The availability analysis indicates that minority- and women-owned firms might be expected to be the contractors for 38.7 percent of these building permits.

Keen Independent compared percentage utilization with availability benchmarks by calculating a disparity index. The disparity index for MBE/WBEs for building permits was 31 (calculated by dividing 12.0% by 38.7% and then multiplying that value by 100). A value of “100” indicates parity between utilization and availability. Courts have ruled that a value less than 80 shows a substantial disparity between utilization and availability that is consistent with race or gender discrimination against that group.

Figure 1 shows that there were substantial disparities for each minority group and for white women-owned firms (WBEs) among the types of commercial and public sector construction work requiring City of Atlanta building permits (general contracting and electrical, plumbing and HVAC work).

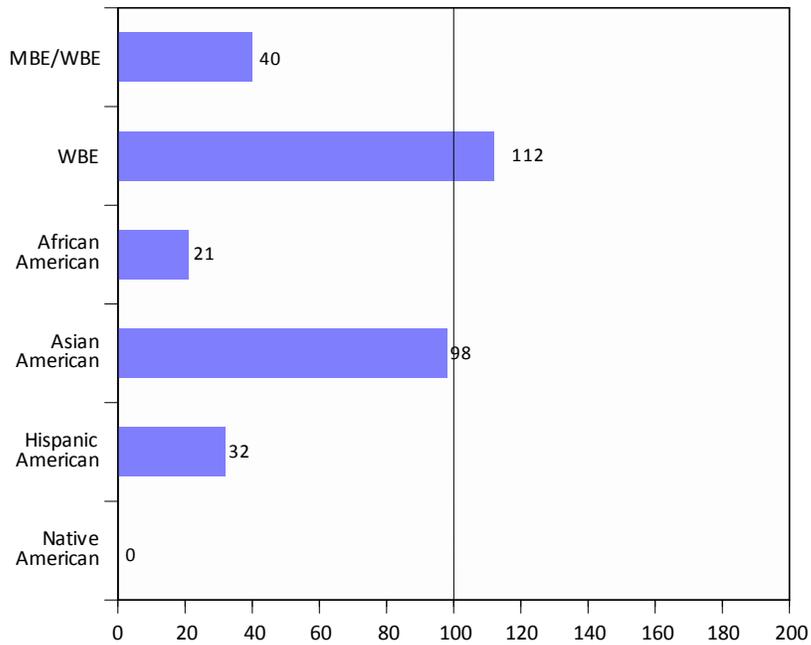
Figure 1.
Disparity analysis for non-City commercial and public construction contracts within Atlanta city limits, Nov. 2009-Dec. 2012



Note: WBE disparity index is 87 if limited to all firms where ownership status confirmed.
 Source: Analysis of City of Atlanta building permits for commercial and public projects.

Dodge Reports data for prime contractors on public sector construction projects. Dodge Reports data for other public sector construction contracts within Atlanta city limits show a substantial overall disparity for MBE/WBEs as prime contractors as well as for African American-, Hispanic American- and Native American-owned firms.

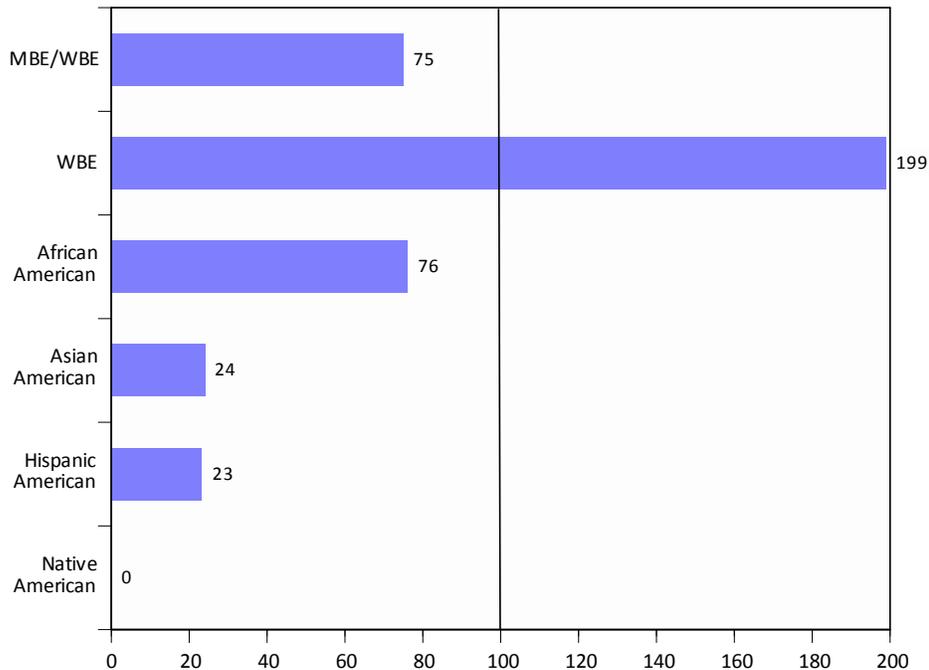
Figure 2.
Disparity analysis for other public sector construction contracts,
Jan. 2009–Dec. 2012



Source: Analysis of McGraw Hill Construction Dodge Reports data for non-City public projects within the City of Atlanta.

Dodge Reports data for design prime consultants on public sector projects. Dodge minority for design consultants on other public sector projects indicated substantial disparities for each minority group (see Figure 3).

Figure 3.
Disparity analysis for other public sector design contracts, Jan. 2009–Dec. 2012



Source: Analysis of McGraw Hill Construction Dodge Reports data for non-City public projects within the City of Atlanta.

h. Recent disparity studies for Clayton County and for the Georgia Department of Transportation identified disparities for minority- and women-owned firms in those public sector contracts. Clayton County and the Georgia Department of Transportation (“GDOT”) completed disparity studies in 2011 and in 2012, respectively.⁶ Each is relevant to the City of Atlanta based on types of contracts and because Clayton County is located within the same Atlanta Metropolitan Area marketplace and GDOT contracting includes the Atlanta Metropolitan Area.

Clayton County Disparity Study. Examining prime contracts under \$500,000 awarded in fiscal years 2004 to 2009, the Clayton County study indicated substantial disparities for:

- African American-, Hispanic American- and women-owned firms in County construction contracts;
- African American-, Asian American- and Hispanic American-owned firms in County professional services contracts; and

⁶ Mason Tillman Associates, Ltd. *Clayton County Disparity Study*. October 5, 2011.
BBC Research & Consulting. *2012 Georgia Department of Transportation Disparity Study*. July 15, 2012.

- African American-, Asian American- and women-owned firms in County goods and other services contracts.

There were disparities in the use of subcontractors on Clayton County contracts from FY 2004 to FY 2009 for:

- African American-, Asian American- and Hispanic American-owned firms on construction contracts; and
- African American-owned firms in professional services contracts.

Community meetings and in-depth interviews with local companies identified practices reported to negatively affect new and small companies as well as firms that were owned by minorities and women. The qualitative evidence from the Clayton County study included existence of a “good ol’ boy” network within the local marketplace that negatively affected minority- and women-owned firms. Some interviewees reported difficulty obtaining financing and bonding.

Georgia Department of Transportation Disparity Study. The 2012 GDOT Disparity Study identified substantial disparities for each minority group and for women-owned businesses when DBE contract goals did not apply.

- When examining GDOT state-funded contracts (no DBE contract goals applied), MBE/WBE utilization was 5.5 percent of contract dollars. There was about 22 cents of actual participation for every dollar that might be expected to go to minority- and women-owned firms from the availability analysis. There were substantial disparities in the utilization of each racial, ethnic and gender group included in the Federal DBE Program (firms owned by African Americans, Asian-Pacific Americans, Subcontinent Asian Americans, Hispanic Americans, Native Americans and white women).
- On contracts where DBE contract goals applied, there were still substantial disparities in the utilization of African American-, Asian-Pacific American- and Subcontinent Asian American-owned firms on GDOT contracts.
- There were disparities overall for construction contracts and for engineering contracts.
- GDOT utilization of MBE/WBEs was lower in the Atlanta Metropolitan Area (8.2%) than the state as a whole (12.4%), even though overall MBE/WBE availability was similar. The overall disparity for MBE/WBEs for GDOT contracts was more severe in the Atlanta Metropolitan Area (disparity index of 37) than for the state (disparity index of 56). African American-owned businesses, for example, obtained just 2.6 percent of contract dollars on Atlanta Metropolitan Area projects, even with DBE contract goals in place for some of these contracts.

GDOT also collected public comments as part of the disparity study, including at a public meeting held in Atlanta. Some comments indicated that DBEs were not given opportunities to perform the work. Others suggested that there were barriers that businesses faced in entering the market were based on pre-existing networks, or a culture of “good old boys.” Certain comments pertained to

bonding, and how bonding worked as a barrier to MBEs and WBEs to do business with GDOT and certain prime contractors. One group indicated that DBE capacity may be affected by barriers that minority-owned firms face when starting a business bank lending, bonding and packaging of contracts. Some comments directly pertained to GDOT, including allegations that GDOT has discriminated against small firms.

i. Quantitative analysis of perceived barriers in the local marketplace for minority-, women- and majority-owned firms. The study team’s telephone survey of companies in the Atlanta Metropolitan Area marketplace asked respondents whether or not they experienced certain difficulties in operating their businesses. Results indicated substantial differences between the relative number of MBEs, WBEs and majority-owned firms reporting certain difficulties.

- Minority-owned firms and white women-owned firms were substantially more likely than majority-owned firms to experience difficulties learning about bid opportunities, licensing or prequalification for work, obtaining lines of credit or loans, obtaining bonds, meeting insurance requirements and bidding on large projects.
- Minority-owned goods firms were more likely than majority-owned firms to experience difficulties related to brand name specifications, obtaining supply or distributorship relationships and obtaining favorable pricing from suppliers.

Appendix H further explains these results.

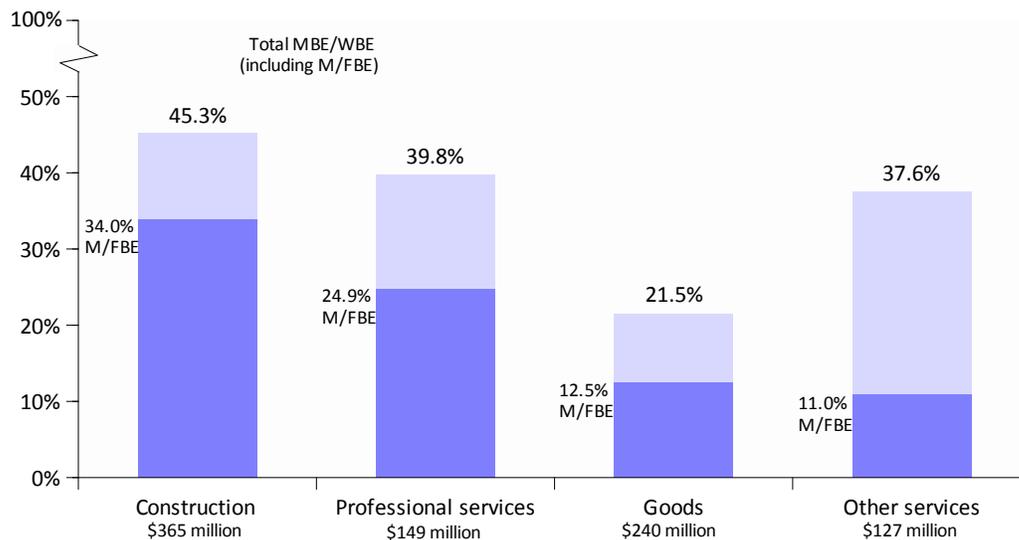
3. Utilization of Minority- and Women-owned Firms in City-funded Contracts

Keen Independent collected information about the percentage of City-funded contract dollars going to minority-, women- and majority-owned firms for contracts during the July 2009 through December 2012 study period. The study team also examined the utilization of firms certified as MBEs or FBEs (female business enterprises) based on contracts awarded within the study period. (Because of differences in the scope of the contracts examined, reporting periods and other factors, study results somewhat differ from City of Atlanta Office of Contract Compliance utilization reports). Appendix A discusses data collection and analysis methods. Appendix B provides additional information about utilization results.

a. Utilization of minority- and women-owned firms in City-funded contracts. Keen Independent identified 2,742 City-funded prime contracts and subcontracts during the study period totaling \$880 million. These contracts encompassed construction, professional services, goods and other services procurements. Of those prime contracts and subcontracts, 1,045 went to minority- and women-owned firms (624 to M/FBE-certified firms and 421 to non-certified minority- and women-owned firms).

Figure 4 presents overall MBE/WBE utilization (as a percentage of total dollars) on City contracts awarded during the study period. Results are for 2,742 prime contracts and subcontracts. The darker portion of the bar presents the utilization of MBE/WBEs that were M/FBE-certified.

Figure 4.
MBE/WBE and M/FBE share of City-funded contracts, July 2009-Dec. 2012



Note: Bottom portion of each bar reflects utilization of firms with certification as M/FBEs during the year of the contract award.

Includes prime contract dollars (retained amounts) and subcontracts.

Numbers rounded to nearest tenth of 1 percent.

Number of contracts/subcontracts analyzed is 767 for construction, 648 for professional services, 926 for goods and 401 for other services.

Source: Keen Independent from data on City contracts and payments July 2009-Dec. 2012.

Figure 5 presents detailed information for minority- and women-owned firms (top portion of the table) and certified M/FBEs (bottom portion of the table) for City-funded contracts during the study period. For each of these two sets of contracts, Figure 5 shows:

- Total number of prime contracts and subcontracts awarded to the group (e.g. 318 prime contracts and subcontracts to white women-owned firms);
- Combined dollars of prime contracts and subcontracts going to the group (e.g., \$73,750,000 to white women-owned firms); and
- The percentage of combined contract dollars for the group (e.g., white women-owned firms received 8.4 percent of total contract dollars).

As indicated in the top portion of Figure 5, African American-owned firms received the largest number of prime contracts and subcontracts (595), the most dollars (\$204,164,000) and the highest share of dollars (23.2%) out of all MBE/WBE groups. The second largest group was white women-owned firms (described in the bullets above) and the third largest group was Hispanic American-owned firms (\$37,680,000 or 4.3% of total dollars).

The bottom portion of Figure 5 indicates that certified M/FBEs owned by African Americans, white women and Hispanic Americans accounted for nearly all of the certified M/FBE participation on City-funded contracts. In total, certified M/FBEs received 624 prime contracts and subcontracts and \$205 million of City-funded contracts examined for the study period. This accounted for 23 percent of City-funded contract dollars.

Figure 5.
MBE/WBE and certified M/FBE share of City-funded contracts, by group, July 2009-Dec. 2012

	All industries		
	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs			
African American-owned	595	\$204,164	23.2 %
Asian American-owned	52	5,910	0.7
Hispanic American-owned	64	37,680	4.3
Native American-owned	16	2,327	0.3
WBE (white women-owned)	<u>318</u>	<u>73,750</u>	<u>8.4</u>
Total MBE/WBE	1,045	\$323,832	36.8 %
Majority-owned	<u>1,697</u>	<u>556,486</u>	<u>63.2</u>
Total	2,742	\$880,318	100.0 %
M/FBE-certified			
African American-owned	386	\$127,402	11.3 %
Asian American-owned	21	3,085	0.3
Hispanic American-owned	38	30,345	2.6
Native American-owned	2	604	0.1
WBE (white women-owned)	<u>177</u>	<u>43,350</u>	<u>4.9</u>
Total M/FBE certified	624	\$204,786	23.3 %
Non-M/FBE	<u>2,118</u>	<u>675,532</u>	<u>82.0</u>
Total	2,742	\$880,318	100.0 %

Note: *Number of prime contracts and subcontracts.

Dollars include prime contracts (retained amount) and subcontracts.

Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.

Source: Keen Independent from data on City contracts and payments.

b. MBE/WBE utilization on contracts with M/FBE contract goals and without goals. Based on information provided by the City of Atlanta Office of Contract Compliance, Keen Independent separated procurements into those for which the City applied M/FBE contract goals and those without goals. (There were only a few contracts with SBE contract goals, which were examined separately.)

There were 180 contracts with M/FBE goals examined in the study totaling \$460 million. Figure 6 shows that minority- and women-owned firms were awarded one-half of those contract dollars. A large portion of that utilization (34 percentage points) was firms that had certification as M/FBEs in the year of those contracts. Much of this participation was as subcontractors, with 90 percent of the total subcontract dollars going to minority- and women-owned firms.

Keen Independent identified about 1,800 City-funded procurements for \$403 million that did not have M/FBE goals applied. In general, the types, sizes or procurement methods used for these contracts made them ineligible for application of EBO or SBO programs. They included:

- 926 goods procurements totaling \$240 million;
- 91 emergency contracts for \$36 million;
- 26 sole source procurements amounting to \$27 million;
- 595 construction, professional services and other services contracts less than \$100,000 (totaling \$26 million);
- 59 cooperative purchasing agreements from other agencies totaling \$18 million;
- 27 special procurements (\$14 million);
- 14 contracts related to artwork (\$4 million); and
- 45 other purchases not identified as EBO or SBO Program contracts for which the purchasing method could not be identified (\$38 million).

Minority- and women-owned firms received 21.5 percent of these dollars. Certified M/FBEs accounted for 11 percentage points of this utilization.

Figure 6.
MBE/WBE and certified M/FBE share
of City-funded contract dollars,
with and without M/FBE goals,
July 2009-Dec. 2012

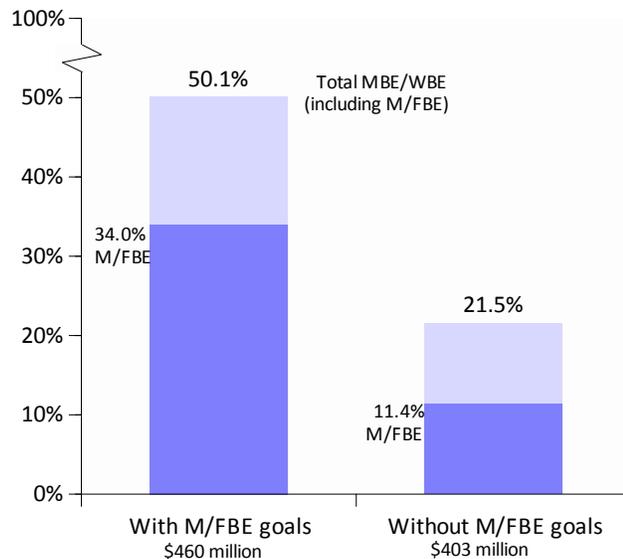
Note:

Dark portion of bar is certified M/FBE utilization.

Number of contracts/subcontracts analyzed is 876 for contracts with M/FBE goals and 1,811 for contracts without goals.

Source:

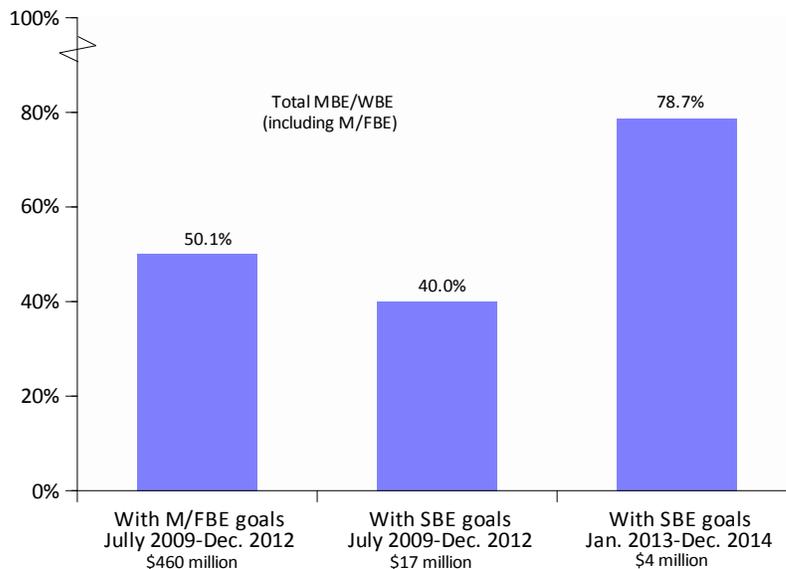
Keen Independent from data on City contracts and payments.



Keen Independent identified 13 contracts from July 2009 through December 2012 that had SBE goals applied (\$17 million). Because of the relatively small number of SBE goals contracts during the study period, Keen Independent requested City information for SBE goals contracts awarded in 2013 and 2014.

As illustrated in Figure 7, about 40 percent of SBE goals contract dollars for July 2009 through December 2012 went to minority- and women-owned firms. Based on data for \$4 million of SBE goals contracts for 2013 and 2014, 79 percent of those dollars went to minority- and women-owned firms. (There were some other SBE goals contracts during 2013-2014 for which utilization data were not available.)

Figure 7.
 MBE/WBE and M/FBE share of City-funded contracts with
 M/FBE goals and SBE goals, July 2009-Dec. 2012, 2013-2014



Source: Keen Independent from data on City contracts and payments.

c. Utilization of minority- and women-owned firms, by group, by industry. Figure 8 examines the percentage of contract dollars by industry going to African American-, Asian American-, Hispanic American-, Native American- and white women-owned firms, including both certified and non-certified firms. African American-owned firms received the largest portion of City-funded contract dollars for construction, professional services and other services contracts (areas in which the EBO Program generally applied), but only 4.9 percent of contract dollars for goods purchases, where the EBO Program does not apply.

Figure 8.
 MBE/WBE share of City-funded contract dollars, by industry, July 2009-Dec. 2012

Race/ethnicity and gender	Construction	Professional services	Goods	Other services
African American-owned	30.0 %	31.7 %	4.9 %	28.1 %
Asian American-owned	0.7	1.4	0.3	0.4
Hispanic American-owned	6.4	0.5	5.4	0.4
Native American-owned	0.0	0.4	0.7	0.0
WBE (white women-owned)	<u>8.1</u>	<u>5.7</u>	<u>10.3</u>	<u>8.7</u>
Total MBE/WBE	45.3 %	39.8 %	21.5 %	37.6 %

Source: Keen Independent from data on City contracts and payments.

d. Number of MBE/WBEs receiving work. About 500 different minority- and women-owned firms obtained work on City-funded contracts during the July 2009 through December 2012 study period.

- **Construction.** There were 252 MBE/WBEs that received work on City-funded construction contracts (as prime contractors or subcontractors) during the study period.
- **Professional services.** Examining professional services contracts, there were 108 MBE/WBEs that obtained prime contracts or subcontracts during the study period.
- **Goods.** There were 74 MBE/WBEs receiving City-funded goods purchases during the study period.
- **Other services.** Over the study period, 67 MBE/WBE businesses received other services contract dollars (including as subcontractors).

Keen Independent examined the extent to which the MBE/WBEs receiving work were also small businesses. Focusing just on the MBE/WBEs obtaining the most City-funded contract dollars, about three-quarters of them appear to qualify as SBEs under the City's SBO Program. If all firms receiving work were examined, the share of those MBE/WBEs that qualify as SBEs would be higher.

4. Availability and Disparity Analyses for City-funded Contracts

The following discussion summarizes availability and disparity analyses for City-funded contracts. Appendix C further reviews the data sources and methods for analyzing availability. Appendix D explains how disparity analyses were performed.

a. Availability of minority-, women- and majority-owned firms for City-funded contracts.

The Keen Independent study team reached out to each company in the Atlanta Metropolitan Area identified by Dun & Bradstreet (D&B) that had a primary type of work that matched the types of construction, professional services, goods and other services involved in City-funded contracts. The D&B business database is the most comprehensive listing of business establishments commercially available for this research. Through telephone calls with firms on the D&B list and other means, the study team successfully contacted 12,893 business establishments from this list. Among the firms successfully contacted, 3,703 firms indicated qualifications and interest in City prime contracts or subcontracts and provided the information about their companies necessary for the availability analysis.

As shown in Figure 9, 43 percent of those firms were minority- or women-owned. (Figure 9 results are labeled as "headcount" as they simply portray an overall count of firms in the availability database indicating qualifications and interest in City work.)

Figure 9.
Total MBE/WBE availability – “headcount”

Race/ethnicity and gender	Number of firms	Percent of firms
African American-owned	837	22.6 %
Asian American-owned	185	5.0
Hispanic American-owned	117	3.2
Native American-owned	28	0.8
Total MBE	1,167	31.5 %
WBE (white women-owned)	426	11.5
Total MBE/WBE	1,593	43.0 %
Total majority-owned firms	2,110	57.0
Total firms	3,703	100.0 %

Source: Keen Independent from 2014-2015 Atlanta Availability Survey.

Figure 10 below shows the counts of firms available for construction, professional services, goods and other services contracts. (The totals in Figure 10 add to more than 3,703 companies because some firms are available for work in more than one industry.)

In terms of number of firms, minority- and women-owned firms account for the largest portion of firms available for other services contracts (about 54% of total available firms). MBE/WBEs represented the smallest percentage of available firms in the goods industry (28%).

Figure 10.
MBE/WBE availability by industry – “headcount”

Race/ethnicity and gender	Construction		Professional services		Goods		Other services	
	Number of firms	Percent of firms	Number of firms	Percent of firms	Number of firms	Percent of firms	Number of firms	Percent of firms
African American-owned	281	23.9 %	395	24.8 %	55	7.4 %	182	38.3 %
Hispanic American-owned	46	3.9	53	3.3	25	3.4	14	2.9
Asian American-owned	36	3.1	130	8.2	26	3.5	10	2.1
Native American-owned	13	1.1	6	0.4	6	0.8	2	0.4
Total MBE	376	32.0 %	584	36.6 %	112	15.0 %	208	43.8 %
WBE (white women-owned)	144	12.2	184	11.5	94	12.6	47	9.9
Total MBE/WBE	520	44.2 %	768	48.1 %	206	27.6 %	255	53.7 %
Total majority-owned firms	656	55.8	827	51.8	539	72.3	220	46.3
Total firms	1,176	100.0 %	1,595	100.0 %	745	100.0 %	475	100.0 %

Source: Keen Independent from 2014-2015 Atlanta Availability Survey.

The above counts of available firms only describe the number of firms available for City construction, professional services, goods and other services contracts from the availability research. To determine overall dollar-weighted availability, Keen Independent conducted a sophisticated contract-by-contract availability analysis and then calculated overall results by weighting contract-

specific availability by the size of the individual prime contract or subcontract. The dollar-weighted calculations described below are used in the disparity analysis for City-funded contracts.

The study team calculated benchmarks for the percentage of City-funded contract dollars one might expect to go to MBE/WBEs given the current availability of firms to perform specific types and sizes of City prime contracts and subcontracts. The availability analysis considered bid capacity of firms, only counting a company as available for sizes of contracts it had been awarded or had bid on in the local marketplace in the previous five years.

After conducting this contract-by-contract analysis, Keen Independent developed the “dollar-weighted” availability results presented in Figure 11. As shown, minority- and women-owned firms might be expected to obtain 38.7 percent of City-funded construction contract dollars during the study period after considering the specific types and sizes of prime contracts and subcontracts involved. Dollar-weighted availability is similar for professional services contracts (35.7%). Dollar-weighted availability is lower for goods contracts (27.5%) and for other services contracts (29.2%). The dollar-weighted availability figures in Figure 11 provide benchmarks for use in the disparity analysis.

Figure 11.
MBE/WBE availability for City-funded contracts – dollar-weighted (with bid capacity)

Race/ethnicity and gender	Construction	Professional services	Goods	Other services
African American-owned	17.0 %	15.2 %	8.0 %	18.1 %
Asian American-owned	3.7	8.4	2.7	2.9
Hispanic American-owned	6.0	2.9	2.7	0.6
Native American-owned	0.9	0.9	0.7	0.2
WBE (white women-owned)	<u>11.1</u>	<u>8.2</u>	<u>13.3</u>	<u>7.4</u>
Total MBE/WBE	38.7 %	35.7 %	27.5 %	29.2 %

Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

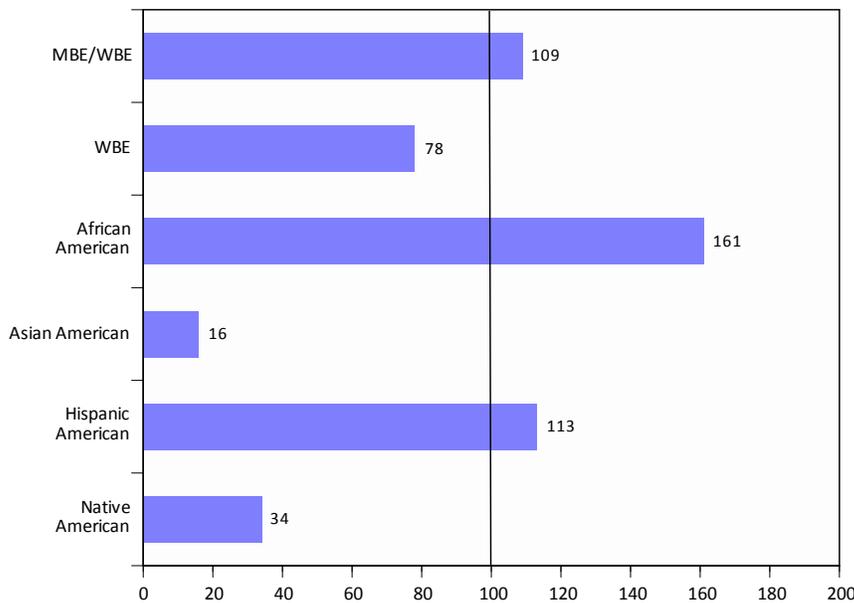
b. Disparity analysis for City-funded contracts overall. Keen Independent’s disparity analysis compares the dollars of City-funded contracts going to an MBE/WBE group with what might be expected from the availability analysis. Keen Independent presents results in terms of “disparity indices” where “100” equals “parity.”

Including contracts under the EBO Ordinance and those outside the program, the 36.8 percent of contract dollars going to minority- and women-owned firms from July 2009 through December 2012 was similar to the 33.8 percent benchmark for overall MBE/WBE participation in City-funded contracts. The disparity index was 109 (36.8%/33.7% times 100). This indicates that the City’s EBO and SBO Ordinances have been effective in encouraging overall utilization of minority- and women-owned firms in City-funded contracts to a level that eliminates any overall disparity in MBE/WBE participation. Figure 12 shows these results in the row for overall MBE/WBEs (top bar in Figure 12).

Keen Independent also calculated disparity indices for each racial and ethnic group of MBEs and for white women-owned firms. Figure 12 identifies substantial disparities for white women-owned firms (disparity index of 78), Asian American-firms (disparity index of 16) and Native American-owned firms (disparity index of 34). Although Native American-owned firms were not eligible for race- and gender-conscious programs under the 2009 EBO Ordinance, white women-owned firms and Asian American-owned firms were eligible within certain industries.

Utilization exceeded availability for African American-owned firms (disparity index of 161) and Hispanic American-owned firms (disparity index of 113). These two groups were eligible to meet M/FBE contract goals in certain industries during the study period.

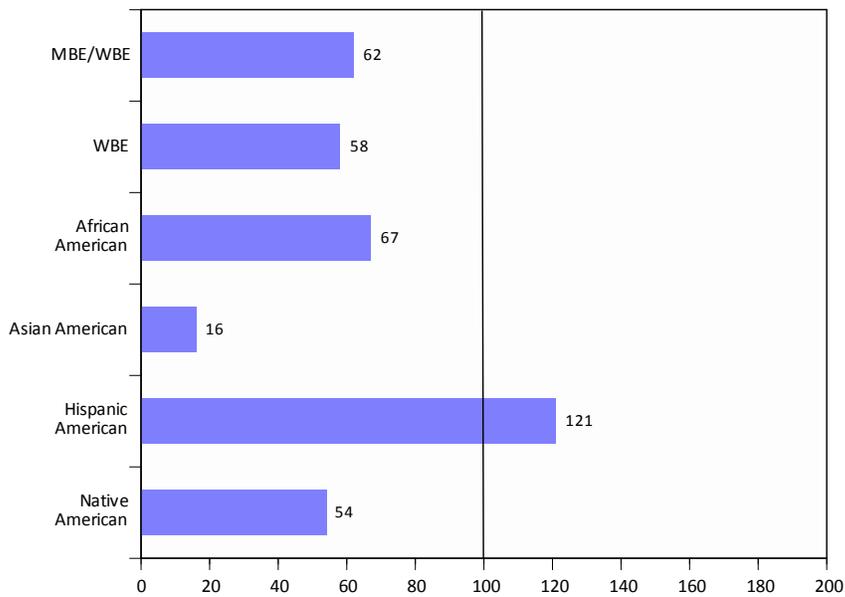
Figure 12.
Disparity indices for City-funded contracts, all industries,
July 2009-Dec. 2012 (100 = parity)



Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

Keen Independent also performed disparity analyses for City-funded contracts when M/FBE or SBE goals did not apply. This required developing dollar-weighted availability benchmarks specific to those contracts. Overall, the 21.5 percent participation of MBE/WBEs in non-goals contracts was substantially below the availability benchmark for these contracts (34.8%). The disparity index of 62 indicates a substantial disparity. Figure 13 shows substantial disparities for WBEs and African American-, Asian American- and Native American-owned firms when goals were not applied. Utilization of Hispanic American-owned firms exceeded availability (disparity index of 121), primarily because of dollars going to one large Hispanic American-owned goods vendor.

Figure 13.
Disparity indices for City-funded contracts, all industries, without goals,
July 2009-Dec. 2012 (100 = parity)



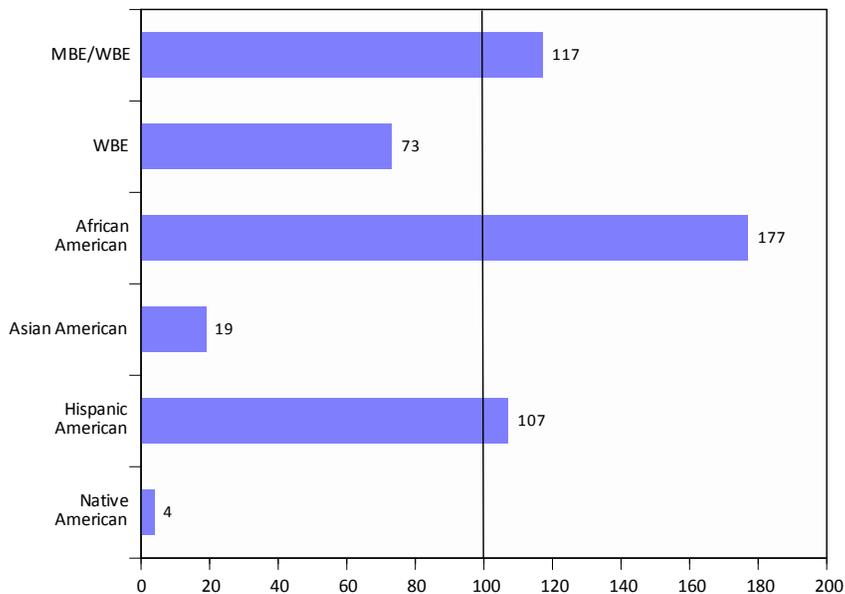
Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

Keen Independent examined whether the results for MBEs and WBEs could be replicated by chance in contract awards (i.e., one measure of whether these results are “statistically significant”). Monte Carlo simulation analysis allowed the study team to reject chance in the procurement process as an explanation of the disparities for MBEs and WBEs. None of the 20,000 simulation runs could replicate the disparities identified for MBEs simply through random chance in contract awards. The results for WBEs could be replicated by chance in less than one-half of 1 percent of the simulations, allowing the study team to also reject chance as an explanation for disparities observed for white women-owned firms.

c. Disparity analysis for City-funded construction contracts. MBE/WBEs received 45.3 percent of City-funded construction contract dollars during the study period. This somewhat exceeded the availability benchmark for those construction contracts (38.7%), indicating success of the contract goals program the City applied for many of these contracts. The resulting disparity index was 117.

Figure 14 presents disparity indices for City-funded construction contracts by racial, ethnic and gender group. Although there was no overall disparity for these contracts, utilization of WBEs, Asian American-owned firms and Native American-owned firms was less than what might be expected from the availability analysis. Each of these disparities was substantial (disparity index less than 80).

Figure 14.
Disparity indices for City-funded construction contracts,
July 2009-Dec. 2012 (100 = parity)



Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

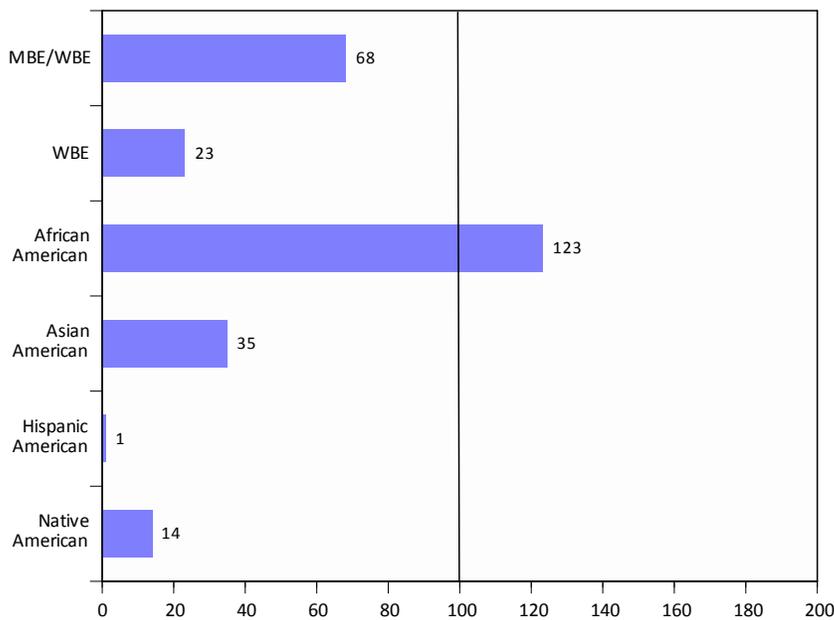
Keen Independent identified 244 city-funded construction contracts for \$50 million during the study period for which no goals applied. City records only contained prime contract information for these contracts, but as the average contract size was relatively small (about \$200,000), there might have been minimal subcontracting for these projects.

Overall utilization of minority- and women-owned firms (26.8%) was substantially less than what might be expected from the availability analysis for those contracts (39.4%). The disparity index of 68 indicates that, without contract goals, participation of minority- and women-owned firms in City-funded construction contracts might reach only two-thirds the level indicated from the availability analysis. Figure 15 provides disparity indices for MBE/WBEs overall and by group.

There were substantial disparities for WBEs and Asian American-, Hispanic American- and Native American-owned firms for City-funded construction contracts without contract goals. Utilization of African American-owned firms exceeded availability for non-goals construction contracts.

The relative success of African American-owned firms as prime contractors for non-goals construction contracts might be due to the City's past and current race-conscious programs, including the joint venture program. The joint venture program encourages racial and gender diversity in the prime contractors working on certain sizes and types of City-funded contracts and many of the past participants have been African American-owned firms. Further, some of the African American-owned construction firms receiving non-goals prime contracts participated in the M/FBE subcontracting goals program during the study period.

Figure 15
Disparity indices for City-funded construction contracts without goals,
July 2009-Dec. 2012 (100 = parity)

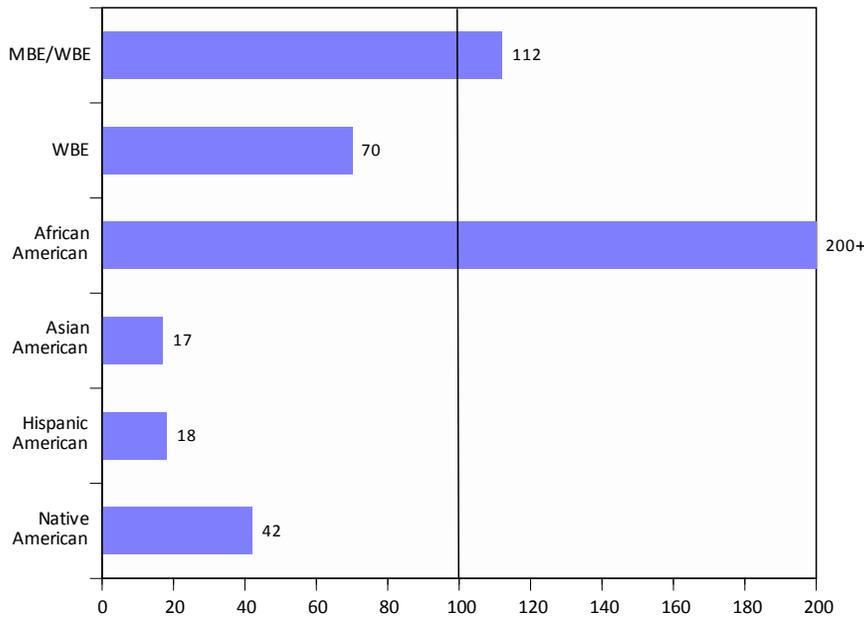


Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

d. Disparity analysis for City-funded professional services contracts. MBE/WBEs received 39.8 percent of City-funded professional services contract dollars from July 2009 through December 2012. As with construction, MBE/WBE utilization in professional services contracts was close to the availability benchmark for those contracts (35.7%). The resulting disparity index was 112, indicating success of the EBO and SBO Ordinances in encouraging overall MBE/WBE participation.

As shown in Figure 16, there were disparities, however, in the utilization of WBEs and Asian American-, Hispanic American- and Native American-owned firms on professional services contracts, even with the EBO and SBO Ordinances in place. Utilization of African American-owned firms on these contracts (31.7%) exceeded what might be expected from the availability analysis (15.2%).

Figure 16.
Disparity indices for City-funded professional services contracts, July 2009-Dec. 2012 (100 = parity)

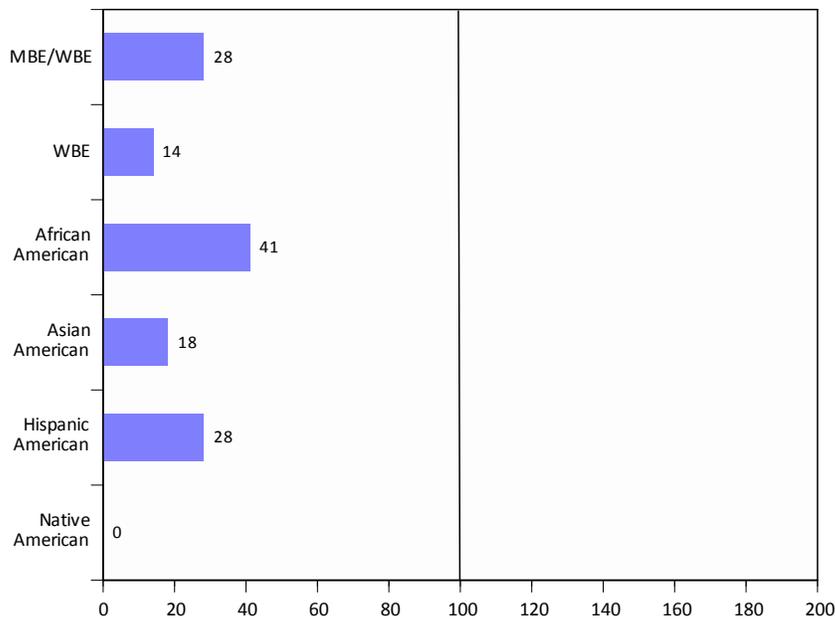


Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

Among all professional services contracts examined, there were 284 contracts for which no goals appeared to be applied. As with construction contracts, the City only records prime consultant information for these contracts, but because the average contract size was relatively small (about \$200,000), there might have been minimal subcontracting.

MBE/WBE utilization as prime consultants on non-goals professional services contracts was 12.6 percent, substantially less than what might be expected from the availability analysis for those contracts (44.1%). The disparity index was 28, indicating a substantial disparity in the utilization of minority- and women-owned firms when the EBO and SBO Ordinances did not apply. Figure 17 shows substantial disparities for WBEs and each MBE group.

Figure 17.
Disparity indices for City-funded professional services contracts without goals, July 2009-Dec. 2012 (100 = parity)



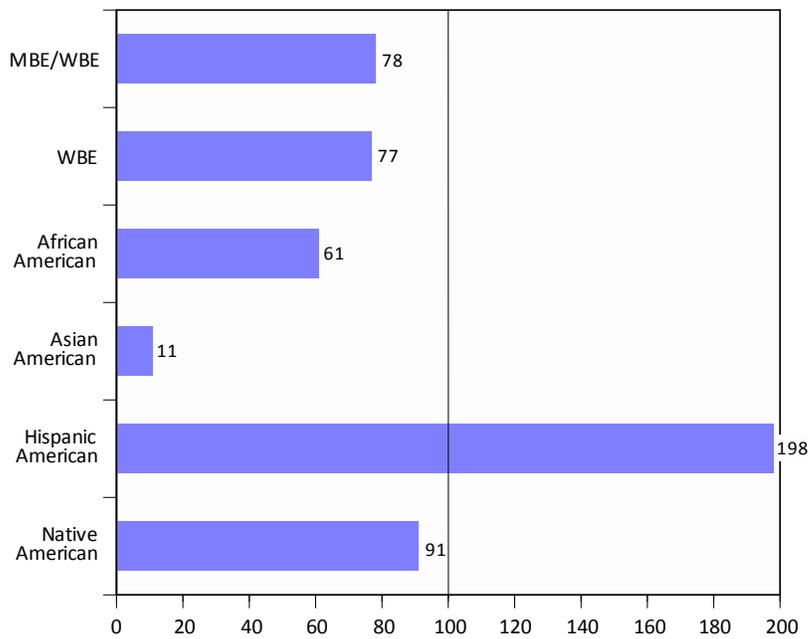
Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

e. Disparity analysis for City-funded goods contracts. The City’s EBO Program did not apply to goods contracts during the study period. MBE/WBEs received 21.5 percent of City-funded contract dollars, less than the 27.5 percent MBE/WBE availability identified for these procurements.

In addition to the substantial disparity for MBE/WBEs overall (disparity index of 78), there were substantial disparities for WBEs and African American- and Asian American-owned firms. Utilization of Hispanic American-owned firms exceeded availability, primarily because of one vehicle vendor.

Figure 18 provides disparity indices for each group for City-funded goods contracts.

Figure 18.
Disparity indices for City-funded goods contracts,
July 2009-Dec. 2012 (100 = parity)

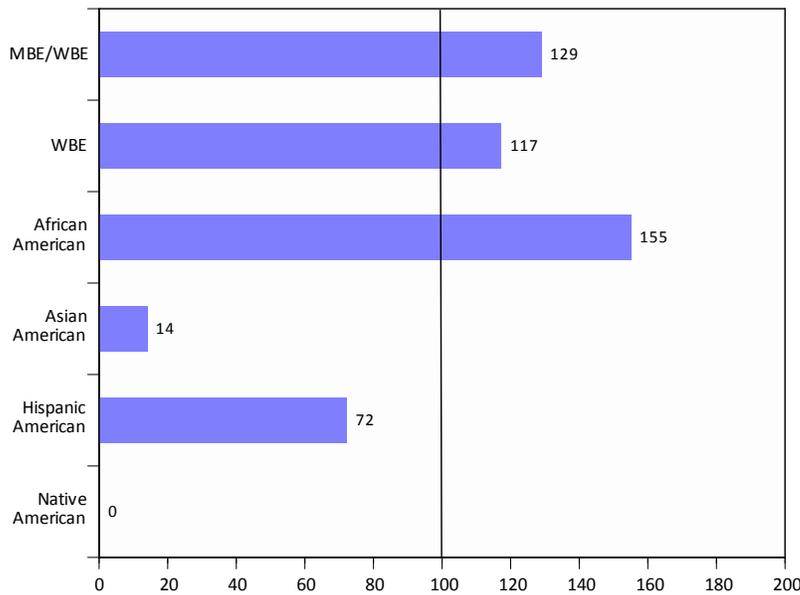


Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

f. Disparity analysis for City-funded other services contracts. Minority- and women-owned firms obtained 37.6 percent of City-funded other services contract dollars during the study period. These contracts include environmental clean-up and specialized waste removal, building cleaning and maintenance, local transportation services, parking lot and parking-related services, repair services and security services. The City applied contract goals on some of these procurements.

As dollar-weighted MBE/WBE availability was 29.2 percent, overall utilization of minority- and women-owned firms on other services contracts exceeded availability (disparity index of 129). It appears that the contract goals program was successful in encouraging overall MBE/WBE participation. However, there were substantial disparities for Asian American-, Hispanic American- and Native American-owned firms in other services contracts. Figure 19 presents these results.

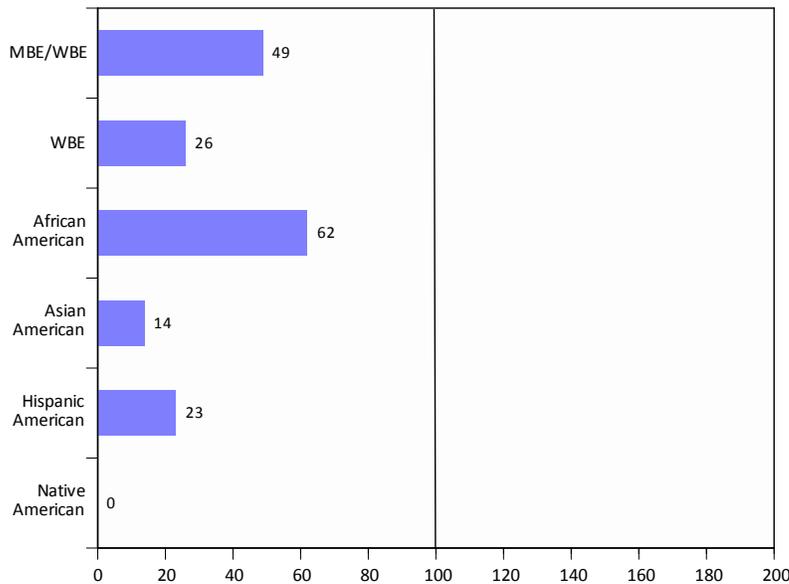
Figure 19.
Disparity indices for City-funded other services contracts,
July 2009-Dec. 2012 (100 = parity)



Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

When examining other services contracts outside the EBO and SBO Ordinances, utilization of minority- and women-owned firms was only one-half of what might be expected from the availability analysis. Figure 20 shows substantial disparities for WBEs and African American-, Asian American-, Hispanic American- and Native American-owned firms.

Figure 20.
Disparity indices for City-funded other services contracts, without goals, July 2009-Dec. 2012 (100 = parity)

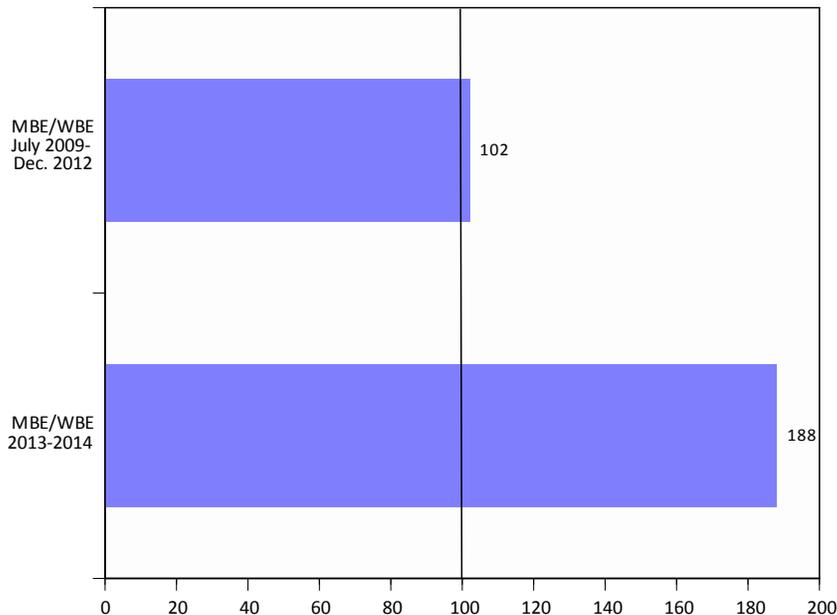


Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

g. Disparity analysis for City-funded contracts under the SBO Program. Keen Independent analyzed information concerning the prime contracts and subcontracts awarded when SBE contract goals applied. Based on the data from July 2009 through December 2012 that could be analyzed, MBE/WBE utilization was about the same as what might be anticipated from the availability analysis (disparity index of 102). Utilization of MBE/WBEs exceeded availability for the small number of SBE goals contracts that could be examined for 2013 and 2014. Figure 21 presents overall disparity results for contracts with SBE goals.

Based on City certification data from 2015, about one-half (259) of the 509 SBEs certified at that time were also M/FBE-certified. Because of the small size of the program and its limited marketing to potential participants, it appears that firms already certified as M/FBEs with the City were more likely than other firms to become certified and participate in the program. This limits the conclusions that can be drawn about the effectiveness of this program. It may only be possible to fully evaluate the success of the SBE contract goals program if it grows in scale and is more broadly marketed.

Figure 21.
 Disparity indices for City-funded contracts with SBE goals,
 July 2009-Dec. 2012 and 2013-2014 (100 = parity)



Source: Keen Independent analysis of City-funded contracts and 2014-2015 Atlanta Availability Survey data.

5. Summary of Study Results

Key results of the 2015 Disparity Study are summarized below.

Marketplace conditions. The pattern of disparities in City-funded contracts when contract goals were not applied is consistent with information about the Atlanta Metropolitan Area marketplace. This includes disparities for the contractors obtaining building permits for commercial and public construction projects within Atlanta city limits as well as prime contract dollars going to construction prime contractors and design prime consultants on non-City public sector projects within city limits.

Effectiveness of the EBO and SBO Ordinances. The EBO and SBO Ordinances enacted in 2009 appear to be effective in encouraging participation of minority- and women-owned firms in City-funded contracts during the July 2009 through December 2012 study period. Without the EBO and SBO Ordinances, the evidence suggests there would have been disparities in the overall utilization of minority- and women-owned firms in these contracts.

Even with the EBO and SBO Ordinances, there were substantial disparities in the utilization of certain MBE/WBE groups for City-funded contracts.

SBE contract goals. Although data for SBE goals contracts for July 2009 through December 2012 and for 2013 through 2014 might be too limited to reach definitive conclusions, results suggest that the SBE contract goals program encourages utilization of at least African American-owned firms and white women-owned businesses on City-funded contracts. The City might consider expanded use of SBE contract goals for City-funded contracts. Such efforts might include greater outreach to other groups to become certified as SBEs.

One-half of the SBEs certified as of 2015 were also certified as M/FBEs, just slightly more than the share of small businesses in the availability database that were MBE/WBEs (45%). However, data for the 509 SBE-certified firms in 2015 indicated that only ten were Hispanic American-owned and also certified as MBEs with the City. Just eight SBE-certified companies were Asian American-owned and MBE-certified. By comparison, there were 186 African American-owned firms that were both MBE- and SBE-certified and 55 women-owned companies that were both FBE- and SBE-certified.

Analysis of the minority- and women-owned firms receiving the most dollars of City-funded contracts shows that most would qualify as small businesses under the City's size standards for SBE certification. Such results suggest that greater use of SBE contract goals could still include many of the MBE/WBEs that have been most successful in obtaining City work.

Results for Native American-owned firms. The EBO Program currently does not include Native American-owned firms. (Like other businesses, Native American-owned companies can still be certified as SBEs under the SBO Program.) Less than 1 percent of firms available for City contracts are Native American-owned, which makes disparity analysis for this group more difficult than groups with greater availability. Even so, utilization of Native American-owned firms was substantially below availability for City-funded construction, professional services and other services contracts.

Overall aspirational goals for MBE/WBE participation. In implementing the EBO Ordinance, the City has used availability benchmarks for each industry to gauge participation of minority- and women-owned firms on City-funded contracts. If it continues to use such benchmarks, the City might consider the availability information in Figure 11. These dollar-weighted availability figures are based on the types and sizes of City-funded prime contracts and subcontracts for each industry within the July 2009 through December 2012 study period. They are most useful as future benchmarks if the types and sizes of upcoming contracts within each industry are similar to those within the study period.

If the City continues to set M/FBE and SBE contract goals, it should continue to do so on a contract-by-contract basis, and only where there appears to be subcontracting opportunities for which there appear to be certified firms to perform the work.

Joint venture program element. The City might further evaluate the effectiveness of the joint venture program authorized by the EBO Ordinance. Much of the participation in the program has been by African American-owned companies, which was the group that did not experience disparities in City-funded construction prime contracts outside the EBO and SBO Ordinances. Such results for African American-owned prime contractors are consistent with an effective joint venture program that pre-dates the 2009 Ordinances, although additional research is needed.

APPENDIX A.

Utilization Data Collection

Keen Independent compiled data about City of Atlanta procurements and the firms used as prime contractors and subcontractors on those contracts. From these data, Keen Independent calculated the percentage of contract dollars that went to minority-, women- and majority-owned businesses. The study team counted MBE- and FBE-certified as well as non-certified minority- and women-owned businesses when calculating MBE/WBE utilization. The utilization analysis focused on construction, professional services, goods and other services contracts during the July 2009 through December 2012 study period.

Appendix A describes the study team's utilization data collection processes in five parts:

- A. Construction, professional services and other services prime contract and subcontract data;
- B. Goods procurement data;
- C. City bid and proposal data;
- D. Characteristics of utilized firms and bidders;
- E. City review; and
- F. Data limitations

A. Construction, Professional Services and Other Services Prime Contract and Subcontract Data

Keen Independent compiled information on construction, professional services and other services prime contracts and subcontracts through three sources:

- 1. Data maintained in the Office of Contract Compliance PRISM system;
- 2. Contract approvals identified in City Council Minutes; and
- 3. City payments data for procurements not appearing in PRISM or Council Minutes.

1. Data from PRISM. The City of Atlanta maintains data on payments to prime contractors and subcontractors for construction, professional services and other services in its PRISM system. The Office of Contract Compliance maintains this system. Keen Independent examined information for contracts with Prism award dates between July 1, 2009 and December 2012. The study team also examined task orders issued within the study period for contracts with PRISM start dates prior to July 1, 2009.

Information compiled. The PRISM data include the following data fields.

For prime contracts, the study team obtained information including:

- Firm name;
- Contract name;
- Contract number;
- Award date;
- End date;
- Award amount;
- Commitment amount;
- Payments amount;
- Funding source;
- Certification type;
- Program administered (EBO or SBE);
- Overall goal;
- MBE, FBE, SBE and/or DBE commitment percentage;
- Contract status (active, closed, open but inactive, in close out);
- Department;
- Industry; and
- Terms (Annual, close-end, not defined, time and material).

For subcontracts, PRISM data provided information including:

- Subcontractor name;
- Prime name;
- Contract status;
- Prime commitment;
- Sub payments;
- Award date;
- End date;
- Award amount;
- Race;
- Gender;
- Certification; and
- DBE status.

Payment-based information. The Office of Contract Compliance collects information concerning payments to prime contractors and subcontractors, as reported by the prime. The data stored in PRISM accumulate payments for the prime contractor and each subcontractor for the project. In other words, the payments data pertain to total payments for that contract rather than payments

within a certain time period. Therefore, the payments Keen Independent examined for contracts with start dates from July 2009 through December 2012 extended from the beginning of the contract into November 2013. This extended information concerning payments was advantageous as it provided a more complete picture of prime contractor and subcontractor utilization for contracts starting later in the study period (e.g., 2012 contracts).

Completeness of information for subcontractors. The City requires that prime contractors report information for all subcontractors on contracts for which the EBO Program applied, including non-certified MBE/FBEs and majority-owned firms. It is possible that the City does not receive complete subcontract payment information for non-certified firms. Keen Independent researched other data sources to identify prime contractor and subcontractor participation on City contracts, but no data sources appeared to be as accurate and comprehensive as PRISM.

Inclusion of task orders for pre-July 2009 contracts. The City sometimes enters master agreements for certain types of construction or services. Master agreements can include several prime contractors or consultants. Specific work is then authorized through task orders. PRISM contains information for payments on these task orders, including payments to subcontractors.

Keen Independent included task orders initiated within the July 2009 through December 2012 study period including on agreements awarded prior to July 2009.

Because a master agreement may not lead to any work for firms included under that agreement, analysis of payments for specific task orders is useful in this analysis. Analysis of the PRISM data for task orders during the study period allows inclusion of this information.

Contract extensions. PRISM data include totals for contract payments for initial contracts and any extensions and amendments. Some of the payments on contracts initiated during the study period may be for contract extensions or amendments made in 2013. Similarly, payments for contract extensions or amendments made during the study period for pre-July 2009 contracts are not included in the data examined.

Coding of work types for prime contracts and subcontracts. Specific elements of the City's EBO Program apply differently based on general type of work involved in each contract. Those general industry categories appear in the information for prime contracts in the PRISM system. However, Keen Independent required more detailed coding of work by subindustry and used multiple sources of information to record work types for each prime contract and subcontract in the PRISM data. Keen Independent used the 8-digit subindustry codes developed by Dun & Bradstreet based on the Standard Industrial Classification (SIC) system. This is a more detailed coding of subindustries available (than 6-digit NAICS codes but still convertible into NAICS codes.)

The City reviewed this detailed coding of prime contracts and subcontracts, as discussed later in this Appendix.

2. Data from Council Minutes. Keen Independent compiled prime contracts and task orders identified in Council Minutes that were initiated within the July 1, 2009 through December 2012 study period.

Contract award information. Types of information the study team gleaned from Council Minutes included:

- Council minutes date;
- Council Committee (Finance, Executive, Transportation etc.);
- Contract number;
- Type of procurement (Sole source, Special, Emergency, Cooperative Purchasing Agreement);
- Type of contract (Agreement, purchase, renewal, payment, extension, initial contract etc.);
- Vendor;
- End user Department;
- Contract amount; and
- Specific legislation.

Coding of work types for prime contracts. In some cases, the Council Minutes included a work description. When that information was not provided, Keen Independent used data on the primary type of work performed by the firm to code work type for construction, professional services and other services procurements identified in the Council Minutes.

Merging of PRISM and Council Minutes data. Many of the PRISM contracts also appeared in the Council Minutes data. Because of the comprehensiveness of the information for prime contractors and subcontractors in PRISM, Keen Independent used PRISM as the primary data source for any contracts appearing in both datasets.

Council Minutes were only used as the primary data source for those construction, professional services and other services contracts not appearing in PRISM. These included certain types of procurements for which the EBO typically does not apply:

- Cooperative purchasing agreements;
- Emergency procurement;
- Sole source agreements; and
- Special procurement.

3. Data from payment records. Keen Independent also researched small procurements relating to construction, professional services and other services from City payments data.

Because the EBO Program does not typically apply to contracts under \$100,000, PRISM does not usually have information for these contracts. Similarly, contracts less than \$100,000 typically do not require City Council approval unless they are one of the four types listed above. Therefore, Keen Independent supplemented the PRISM and Council Minutes information for construction, professional services and other services contracts through payments data maintained by the Department of Information Technology (DIT). These DIT data were also used to compile information for goods contracts, which is discussed starting on page 6 of this Appendix.

The payments data provided amounts paid for each check written to contractors and vendors for each month from July 2009 through December 2012. They did not consistently include contract number information, so payments could not be summed by individual procurement on a consistent basis. Instead, Keen Independent summed information for each calendar year for each contractor and vendor (and one six month period: July through December 2012). The study team then further examined firms receiving more than \$20,000 in payments for each period.

Payments made on contracts awarded before the study period were excluded from analysis.

Payment information. Types of information the study team obtained from each payment record included:

- Supplier number;
- Vendor name;
- Invoice date;
- Invoice number;
- Invoice amount;
- Amount paid;
- Payment method;
- Check date;
- Check number;
- Check amount;
- Batch number;
- Batch date;
- Description;
- Period;
- Funding source;
- Department;
- Account;
- Project description; and
- Task name.

Coding of work types for prime contracts. Keen Independent used data on the primary type of work performed by the firm to code work type for small construction, professional services and other services procurements identified in the DIT payment data. In some cases, work description information contained in the payment records was available as well.

B. Goods Payment Data

The City purchases goods through annual contracts, one-time contracts and small purchasing procedures. The City does not maintain one consistent listing of all of these goods purchases. The Department of Procurement (DOP) is responsible for larger goods purchases, but individual City departments can make small purchases. Because the EBO Program does not apply to commodities purchases, OCC does not typically maintain data on goods contracts in PRISM. (When contracts the study team labeled as “goods” appeared in PRISM, DIT data were used as the primary source information.) City Council Minutes sometimes identify these procurements but does not contain information on the dollar amount of purchases actually made under a contract. The one consistent source of information about payments to firms providing goods to the City is the DIT payment data.

Payment information. Keen Independent collected the same data for goods purchases from the DIT payments database as described for small construction, professional services and other services purchases described above. The study team summed payments by calendar year (or for July through December for 2013), and then included those summed payments as a contract in the analysis when the firm received \$20,000 in a single time period. (Payments that did not total \$20,000 for a firm in a year accounted for less than 1 percent of the total dollars the City paid to businesses within the study period.)

Coding of work types for procurements. Keen Independent used data on the primary type of work performed by the firm to code work type for goods contracts. In some cases, work description information contained in the DIT data was available as well.

C. City Bid and Proposal Data

Keen Independent conducted case studies of a random sample of City construction, professional services, goods and other services procurements during the study period to further examine the City’s contract practices and participation of minority-, women- and majority-owned firms at each stage of the contracting process. The study team examined hard copy records maintained by the Department of Procurement to compile these data.

D. Characteristics of Utilized Firms and Bidders

For each firm identified as working on City contract, Keen Independent attempted to collect business characteristics including the race, ethnicity and gender of the business owner. Keen Independent also collected information about bidders and proposers (including those not receiving work). Firm-level data included company name, address, race/ethnicity and gender ownership, whether the firm was MFBE or SBE certified, and when available, the primary type of work performed by the firm, length of time in business, size and other characteristics.

Keen Independent compiled company information from multiple sources. The City provided contact and other information on businesses that they utilized as prime contractors and subcontractors. Keen obtained additional information about utilized firms from Dun & Bradstreet and other sources.

Collecting data on the race, ethnicity and gender ownership of utilized firms was key to building the database on firm characteristics. Sources of information to determine whether firms were owned by minorities or women (including race/ethnicity) and whether MBE/WBEs were MFBE-certified, included:

- Study team telephone interviews with firm owners and managers (attempted with each utilized firm);
- Availability interviews;
- City of Atlanta MFBE certification data;
- Georgia Unified Certification Program (UCP);
- Georgia Department of Transportation (GDOT) DBE database;
- Fulton and DeKalb County vendor tables;
- Small Business Administration SBA and SBA 8a data;
- Historical data from past GDOT and SBA vendor certification tables;
- Information from Dun & Bradstreet; and
- City staff review.

E. City Review

City staff reviewed Keen Independent utilization data during several stages of the study process. The study team met with City staff multiple times to review the data collection process, information that the study team gathered and summary results. City staff also reviewed contract and vendor information. Keen Independent reviewed and incorporated City feedback throughout the study process.

F. Data Limitations

Limitations concerning contract data collection include the following:

- The City did not track subcontract data for non-goals contracts. The study team was only able to evaluate prime contractor data for contracts originating from DIT and Council Minutes. As non-goals contracts were typically goods purchases or smaller construction, professional services or other services contracts, it appears that subcontracting would have been minimal for these contracts.
- Some of the additional 2013 and 2014 SBE goals contracts had incomplete subcontract data. They were excluded from analysis.
- Keen Independent coded work types for prime contracts and subcontracts based on City information available for that work. In some instances, no City information was identified, in which case the types of work were coded based on the primary line of work for the firm receiving the prime contract or subcontract. Although final work type coding may not perfectly describe the actual work performed on the contract, it does not appear that any inaccuracies would materially affect overall availability or disparity results.

- The study team attempted to confirm ownership information through telephone calls or other research for each firm receiving a contract during the study period. City staff also reviewed this ownership information for City work. Although there were extensive efforts to develop accurate ownership information, it is possible that some final ownership data were not correct. It does not appear that any inaccuracies would materially affect overall utilization, availability or disparity results.

APPENDIX B.

Utilization Analysis

Keen Independent’s utilization analysis reports the percentage of City-funded contract dollars going to minority-owned firms (MBEs) and white women-owned firms (WBEs). Appendix B presents results of the utilization in three parts:

- A. Overview of the utilization analysis;
- B. Overall MBE/WBE and certified M/FBE utilization on City contracts;
- C. Utilization by racial, ethnic and gender group;
- D. MBE/WBE Utilization on contracts with and without M/FBE contract goals;
- E. Utilization of Hispanic American-owned firms with and without eligibility to meet M/FBE contract goals; and
- F. Utilization of MBE/WBEs on City-funded contracts with SBE contract goals.

A. Overview of the Utilization Analysis

Keen Independent examined the participation of minority- and women-owned firms on City contracts from July 2009 through December 2012. In total, Keen Independent’s utilization analysis included 2,032 contracts and totaling \$880 million over this time period. Keen Independent’s analysis of these contracts included 710 subcontracts identified in City data (2,742 prime contracts and subcontracts in total).

Appendix A explains the methods used to collect these data and determine the racial, ethnic and gender ownership characteristics of individual firms.

Note that the City awards work through a variety of agreements; to simplify, the utilization analysis refers to all such work as “contracts.”¹

Figure B-1. Defining and measuring “utilization”

“Utilization” of MBE/WBEs refers to the share of prime contract and subcontract dollars that a public agency awarded to MBE/WBEs during a particular time period. Keen Independent measures the utilization of all MBE/WBEs, regardless of certification. The study team reports utilization for firms owned by different racial, ethnic and gender groups.

Keen Independent measures MBE/WBE utilization as percentage of total prime contract and subcontract dollars. For example, if 5 percent of prime contract and subcontract dollars went to WBEs during the study period, WBE utilization would be 5 percent.

Information about MBE/WBE utilization is instructive on its own, but it is even more useful when it is compared with the utilization that might be expected based on the availability of MBE/WBEs for City work. The study team presents such comparisons as part of the “disparity analysis” later in Appendix D.

¹ Also, prime contractors, not the City, “award” subcontracts to subcontractors. To streamline the discussion, City “award” of subcontracts is used here and throughout the report.

Calculation of “utilization.” The study team measured MBE/WBE “utilization” as the percentage of prime contract and subcontract dollars awarded to MBE/WBEs during the study period (see Figure B-1). Keen Independent calculated MBE/WBE utilization for a group of contracts by dividing the contract dollars going to MBE/WBEs by the contract dollars for all firms.

To avoid double-counting contract dollars and better gauge utilization of different types of firms, Keen Independent based the utilization of prime contractors on the amount of the contract retained by the prime after deducting subcontract amounts. In other words, a \$1 million contract that involved \$400,000 in subcontracting only counts as \$600,000 to the prime contractor in the utilization analysis.

Different results than the City’s utilization reports. Keen Independent’s analysis of MBE/WBE utilization goes beyond what the City currently reports in its M/FBE utilization reports, as explained below.

- **All MBE/WBEs, not just certified M/FBEs.** The City’s utilization reports focus exclusively on certified M/FBEs or DBEs.

Keen Independent’s utilization analyses examines the utilization of minority- and women-owned firms — not just the utilization of certified firms. The study team’s analysis includes the utilization of MBE/WBEs that may have once been M/FBE or DBE-certified and graduated (or let their certifications lapse) and the utilization of MBE/WBEs that have never been certified. (Keen Independent separately reports utilization of MBE/WBEs that were M/FBE-certified during the study period.)

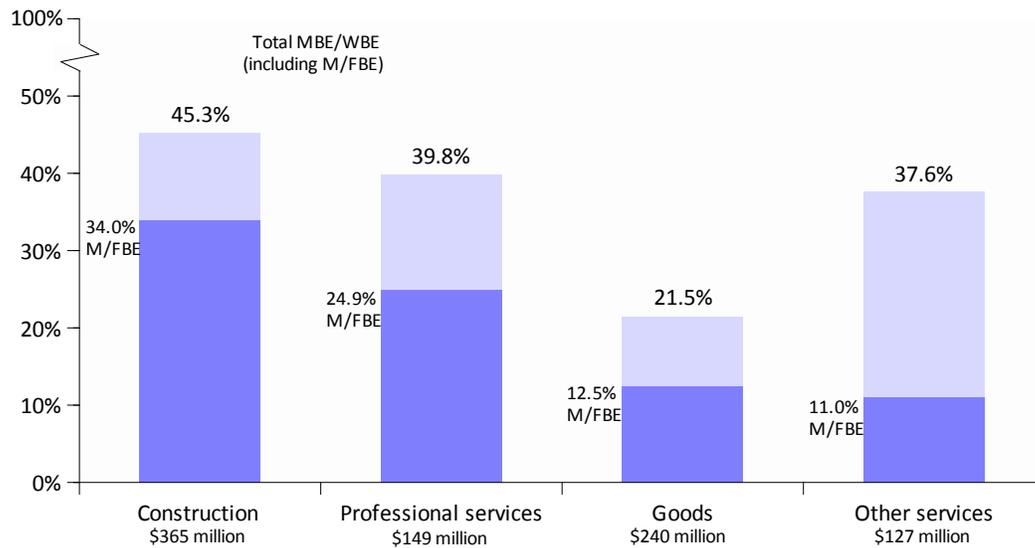
- **Contracts with and without application of the EBO Program, not just contracts monitored by OCC.** The City’s Office of Contract Compliance (OCC) prepares reports on M/FBE participation only for contracts monitored by OCC (and mostly for which the EBO or DBE programs apply). The City does not prepare City-wide analyses of M/FBE participation. OCC reports, for example, rarely include goods purchases, as the EBO Program does not apply to those purchases.

As a result, Keen Independent’s estimates of MBE/WBE participation on City-funded contracts during the study period are not the same as the overall M/FBE participation OCC reported for contracts under the EBO Program.

B. Overall MBE/WBE and Certified M/FBE Utilization on City-funded Contracts

Figure B-2 presents overall MBE/WBE utilization (as a percentage of total dollars) on City contracts awarded during the study period. Results are for 2,742 prime contracts and subcontracts. The darker portion of the bar presents the utilization of MBE/WBEs that were M/FBE-certified.

Figure B-2.
 MBE/WBE and M/FBE share of City-funded contracts, July 2009-Dec. 2012



Note: Bottom portion of each bar reflects utilization of firms with certification as M/FBEs during the year of the contract award. Includes prime contract dollars (retained amounts) and subcontracts. Numbers rounded to nearest tenth of 1 percent. Number of contracts/subcontracts analyzed is 767 for construction, 648 for professional services, 926 for goods and 401 for other services.

Source: Keen Independent from data on City contracts and payments July 2009-Dec. 2012.

Construction contracts. Keen Independent examined 329 construction prime contracts and 438 subcontracts from July 2009 through December 2012. In total, there was \$365 million in contract dollars for these City-funded contracts. Construction contracts were the largest segment of City contracts included in the study.

MBE/WBEs received \$165 million, or 45 percent of City -funded contract dollars during study period. About \$124 million (34%) of contract dollars went to firms that were M/FBE-certified.² Minority- and women-owned firms not certified as M/FBEs accounted for \$41 million or 11 percentage points of the total 45 percent MBE/WBE participation. Note that the City set M/FBE contract goals on 85 of these contracts.

Professional services contracts. The study team obtained data on 407 City-funded professional services prime contracts and 241 subcontracts for July 2009 through December 2012. These contracts totaled \$149 million.

Minority- and women-owned firms received 40 percent of the contract dollars for City-funded professional services contracts during the study period. Of this amount, 25 percentage points were as certified M/FBE participation (see Figure B-2).

² Held City of Atlanta M/FBE certification during the year of the contract award.

Goods procurements. The study team identified 926 City-funded goods procurements during the study period totaling \$240 million. MBE/WBEs obtained 22 percent of these contract dollars, of which 12 percentage points went to certified M/FBEs. The data the Keen Independent analyzed did not include any subcontracts on goods purchases (a typical result in the study team’s experience).

Other services contracts. Keen Independent identified \$128 million in other services contracts for the study period (370 prime contracts and 31 subcontracts).

More than one-third of the dollars on these contracts (38%) went to MBE/WBEs. Certified M/FBE participation accounted for about 11 percentage points of this participation.

C. Utilization by Racial, Ethnic and Gender Group

Figure B-3 presents detailed information for minority- and women-owned firms (top portion of the table) and certified M/FBEs (bottom portion of the table) for City-funded contracts during the study period. For each of these two sets of contracts, Figure B-3 shows:

- Total number of prime contracts and subcontracts awarded to the group (e.g. 318 prime contracts and subcontracts to white women-owned firms);
- Combined dollars of prime contracts and subcontracts going to the group (e.g., \$73,750,000 to white women-owned firms); and
- The percentage of combined contract dollars for the group (e.g., white women-owned firms received 8.4 percent of total contract dollars).

As shown in the top portion of Figure B-3, African American-owned firms received the largest number of prime contracts and subcontracts (595), the most dollars (\$204,164,000) and the highest share of dollars (23.2%) out of all MBE/WBE groups. The second largest group was white women-owned firms (described in the bullets above) and the third largest group was Hispanic American-owned firms (\$337,680,000 or 4.3 percent of total dollars).

The bottom portion of Figure B-3 indicates that M/FBEs owned by African Americans, white women and Hispanic Americans accounted for nearly all of the certified M/FBE participation on City-funded contracts. In total, certified M/FBEs received 624 prime contracts and subcontracts and \$209 million of City-funded contracts examined for the study period. This accounted for 18 percent of City-funded contract dollars.

Figure B-3.
 MBE/WBE and certified M/FBE share of City-funded contracts, by group, July 2009-Dec. 2012

	All industries		
	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs			
African American-owned	595	\$204,164	23.2 %
Asian American-owned	52	5,910	0.7
Hispanic American-owned	64	37,680	4.3
Native American-owned	16	2,327	0.3
WBE (white women-owned)	<u>318</u>	<u>73,750</u>	<u>8.4</u>
Total MBE/WBE	1,045	\$323,832	36.8 %
Majority-owned	<u>1,697</u>	<u>556,486</u>	<u>63.2</u>
Total	2,742	\$880,318	100.0 %
M/FBE-certified			
African American-owned	386	\$127,402	11.3 %
Asian American-owned	21	3,085	0.3
Hispanic American-owned	38	30,345	2.6
Native American-owned	2	604	0.1
WBE (white women-owned)	<u>177</u>	<u>43,350</u>	<u>4.9</u>
Total M/FBE certified	624	\$204,786	23.3 %
Non-M/FBE	<u>2,118</u>	<u>675,532</u>	<u>82.0</u>
Total	2,742	\$880,318	100.0 %

Note: *Number of prime contracts and subcontracts.
 Dollars include prime contracts (retained amount) and subcontracts.
 Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.
 Source: Keen Independent from data on City contracts and payments.

Construction contracts. Figure B-4 shows participation of MBE/WBEs, by group, in City-funded construction contracts. African American-owned companies obtained 30 percent of construction contract dollars (top half of Figure B-4). Of that amount, about 24 percentage points was with M/FBE-certified firms (see the bottom half of Figure B-4). White women-owned firms received 8 percent of contract dollars and Hispanic American-owned firms obtained about 6 percent of construction contract dollars. Asian American-owned firms accounted for less than 1 percent of City-funded construction contract dollars. Keen Independent’s analysis found \$129,000 going to firms identified as Native American-owned, less than 0.1 percent of construction contract dollars.

There were 252 minority- or women-owned firms that received City-funded construction prime contracts or subcontracts.

Overall, most of the utilization of each group was firms certified as M/FBEs. Of the 45 percent utilization of minority- and women-owned firms in City-funded construction contracts, 34 percentage points was certified M/FBE participation.

Of the \$165 million in participation of minority- and women-owned firms on construction contracts, \$115 million was as subcontractors. Of the subcontract dollars identified for City-funded construction contracts, 92 percent went to minority- and women-owned firms.

About 21 percent of the \$239 million in prime contract dollars (retained by prime contractors and not subcontracted out) went to MBE/WBEs.

Some large City construction projects went to joint ventures that involved minority- or women-owned firms. Based on City records, most of the joint-venture partners were African American-owned firms. Consistent with City of Atlanta Office of Contract Compliance data collection and analysis, dollars of junior joint venture partner participation is counted based on the subcontract dollars received for those contracts.

Professional services contracts. The 40 percent overall utilization of minority- and women-owned firms in City-funded professional services contracts in the study period was similar to construction contracts, but the distribution among MBE/WBE groups somewhat differed. As shown to the right-hand side of Figure B-4, African American-owned firms received about 32 percent of City-funded professional services contracts, somewhat higher than for construction contracts. About 6 percent of professional services contract dollars went to white women-owned firms and less than 1 percent went to Hispanic American-owned firms. Asian American-owned firms received about 1 percent of the contract dollars. There were 108 minority- and women- firms that received City-funded professional services prime contracts or subcontracts.

Certified M/FBEs obtained 25 percent of professional services contract dollars, considerably less than for construction contracts. Non-M/FBE-certified firms accounted for 15 percentage points of the participation of minority- and women-owned firms in professional services contracts.

Minority- and women-owned firms received \$36 million of the \$49 million in total professional services subcontract dollars identified in the study. MBE/WBEs received 74 percent of subcontract dollars, of which all but 5 percentage points went to certified M/FBEs.

MBE/WBEs accounted for \$23 million of the \$100 million going to prime consultants, or about one-quarter of these dollars.

Figure B-4.

MBE/WBE and certified M/FBE share of City funded construction and professional services contracts, July 2009-Dec. 2012

	Construction			Professional services		
	Number of contracts*	\$1,000s	Percent of dollars	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs						
African American-owned	282	109,479	30.0 %	209	47,207	31.7 %
Asian American-owned	17	2,585	0.7	17	2,103	1.4
Hispanic American-owned	41	23,438	6.4	8	760	0.5
Native American-owned	4	129	0.0	1	580	0.4
WBE (white women-owned)	<u>121</u>	<u>29,528</u>	<u>8.1</u>	<u>74</u>	<u>8,529</u>	<u>5.7</u>
Total MBE/WBE	<u>465</u>	<u>165,160</u>	<u>45.3 %</u>	<u>309</u>	<u>59,178</u>	<u>39.8 %</u>
Majority-owned	<u>302</u>	<u>199,408</u>	<u>54.7</u>	<u>380</u>	<u>89,530</u>	<u>60.2</u>
Total	767	364,568	100.0 %	648	148,708	100.0 %
M/FBE-certified						
African American-owned	215	85,676	23.5 %	130	27,360	18.4 %
Asian American-owned	11	2,033	0.6	9	1,002	0.7
Hispanic American-owned	27	16,880	4.6	4	503	0.3
Native American-owned	1	24	0.0	1	580	0.4
WBE (white women-owned)	<u>81</u>	<u>19,367</u>	<u>5.3</u>	<u>61</u>	<u>7,540</u>	<u>5.1</u>
Total M/FBE certified	<u>335</u>	<u>123,980</u>	<u>34.0 %</u>	<u>205</u>	<u>36,985</u>	<u>24.9 %</u>
Non-M/FBE	<u>432</u>	<u>240,588</u>	<u>66.0</u>	<u>443</u>	<u>111,723</u>	<u>75.1</u>
Total	767	364,568	100.0 %	648	148,708	100.0 %

Note: *Number of prime contracts and subcontracts.

Dollars include prime contracts (retained amount) and subcontracts.

Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.

Source: Keen Independent from data on City contracts and payments.

Goods procurements. The study team identified \$240 million in goods procurements (mostly from City payments data), of which 22 percent went to minority- and women-owned firms. Figure B-5 presents number of procurements and dollars by group. There were no subcontracts identified for City-funded goods contracts. There were 74 firms identified as minority- or women-owned that received City-funded goods contracts.

Unlike the other three areas of contracts, more goods dollars went to white women-owned firms (10%) than other MBE/WBE groups. Hispanic American-owned firms accounted for 5.4 percent of the goods dollars and African American-owned firms obtained 4.9 percent of goods procurement amounts. Combined, Asian American- and Native American-owned firms received 1 percent of goods dollars.

Certified M/FBEs accounted for 12 percentage points of the overall utilizations, mostly certified white women-owned and Hispanic American-owned companies.

Other services contracts. Keen Independent examined \$128 million in other services contract dollars in the utilization analysis (see Figure B-5).

About 38 percent of City-funded other services contract dollars went to minority- and women-owned firms (67 different firms received prime contracts or subcontracts). Utilization of African

American-owned firms (28%) and white women-owned firms (9%) represented nearly all of the MBE/WBE participation. Hispanic American- and Asian American-owned firms each accounted for 0.4 percent of the other services dollars.

Relatively little of the other services contract dollars went to M/FBE-certified firms. Of the 11 percent utilization for M/FBEs, African American-owned firms accounted for nearly all of this participation (10%).

Of the \$25 million in subcontracts identified for other services contracts, each went to a minority- or woman-owned firm. MBE/WBE utilization was \$23 million of the \$103 million in prime contract dollars, or 22 percent of this total.

Figure B-5.
MBE/WBE and certified M/FBE share of City-funded goods and other services contracts, July 2009-Dec. 2012

	Goods			Other services		
	Number of contracts*	\$1,000s	Percent of dollars	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs						
African American-owned	49	\$11,649	4.9 %	55	\$35,829	28.1 %
Asian American-owned	11	723	0.3	7	499	0.4
Hispanic American-owned	9	12,962	5.4	6	520	0.4
Native American-owned	11	1,618	0.7	0	0	0.0
WBE (white women-owned)	90	24,624	10.3	33	11,070	8.7
Total MBE/WBE	170	\$51,576	21.5 %	101	\$47,918	37.6 %
Majority-owned	756	187,926	78.5	300	79,621	62.4
Total	926	\$239,502	100.0 %	401	\$127,539	100.0 %
M/FBE-certified						
African American-owned	16	\$2,084	0.9 %	25	\$12,282	9.6 %
Asian American-owned	1	50	0.0	0	0	0.0
Hispanic American-owned	4	12,637	5.3	3	325	0.3
Native American-owned	0	0	0.0	0	0	0.0
WBE (white women-owned)	26	15,069	6.3	9	1,375	1.1
Total M/FBE certified	47	\$29,840	12.5 %	37	\$13,982	11.0 %
Non-M/FBE	851	209,662	87.5	364	113,557	89.0
Total	926	\$239,502	100.0 %	401	\$127,539	100.0 %

Note: *Number of prime contracts and subcontracts.

Dollars include prime contracts (retained amount) and subcontracts.

Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.

Source: Keen Independent from data on City contracts and payments.

D. MBE/WBE Utilization on Contracts with and without M/FBE Contract Goals

Based on information provided by the City of Atlanta Office of Contract Compliance, Keen Independent separated procurements into those for which the City applied M/FBE contract goals and those without goals. (There were only a few contracts with SBE contract goals, which are examined separately.)

There were 208 contracts with M/FBE goals examined in the study totaling \$460 million. Figure B-7 shows that minority- and women-owned firms were awarded one-half of these contract dollars. A large portion of that utilization (34 percentage points) was firms that had certification as M/FBEs in

the year of those contracts. Much of this participation was as subcontractors, with 89 percent of the subcontract dollars going to minority- and owned firms.

Keen Independent identified about 1,800 City-funded procurements without M/FBE goals. These included:

- Contracts for which the Office of Contract Compliance decided not to set an M/FBE or SBE goal;
- Emergency contracts (identified in Council Minutes);
- Sole source procurements (identified in Council Minutes);
- Special procurements (from Council Minutes);
- Cooperative purchases with other agencies (also in Council Minutes);
- Payments on contracts less than \$100,000 (identified in City payments data);
- Art work, which is not included under the EBO Program (identified in Council Minutes or City payment data);
- Any goods purchases or other types of procurements not included under the EBO Program (identified in Council Minutes or City payment data);
- Any other City-funded contracts that might have been eligible for M/FBE contract goals but for whatever reason did not go through the Office of Contract Compliance for goals consideration (from Council Minutes or City payment data).

No-goals contract classification. The study team reviewed each individual non-goal contract to determine why goals were not applied. Although a contract could fit into multiple non-goal categories, each contract was placed into a single category. The first step involved categorizing all non-goals contracts with goods-related work types as goods. Next, all non-goals contracts less than \$100,000 were categorized under their data source (Council or DIT) as less than \$100,000. The study team then reviewed City Council minutes to identify procurement methods for all remaining Council Minutes contracts that were above \$100,000 and were not goods-related.

Goods (59.4%), procurement methods excluded from the EBO Program (23.8%), small contracts (6.5%) and art work (1%) accounted for over 90 percent of non-goals contracts identified. Additional information on the remaining contracts was unavailable, and they could not be classified.

As discussed in Appendix A, the City did not track subcontract data for non-goals contracts. The study team was only able to evaluate prime contractor data for contracts originating from DIT and Council Minutes.

Figure B-6 identifies the number and the dollar value of these non-goals procurements during the study period. As shown, most of these procurements were goods or small procurements, or were otherwise properly not under the City's EBO Program.

Figure B-6.
Procurement method for no-goals City-funded contracts, July 2009-Dec. 2012

Type of "no-goal" contract	Number of contracts	Value of contracts	Percentage of remaining "no goals" contracts
Goods	926	\$ 239,502,372	59.4 %
DIT<\$100,000	583	25,765,574	6.4
Council <\$100,000	12	486,353	0.1
Art work	14	4,061,407	1.0
Emergency	91	36,124,963	9.0
Sole source	53	26,638,721	6.6
CPA	59	18,339,653	4.6
Special	27	14,313,353	3.6
Council unable to determine	27	28,109,160	7.0
DIT unable to determine	15	3,705,854	0.9
Other	3	5,963,932	1.5
Total	1,810	\$ 403,011,342	100.0 %

Source: Keen Independent from data on City contracts and payments.

Of the \$403 million in City-funded contracts during the study period for which M/FBE goals were not applied, minority- and women-owned firms received \$87 million, or 21 percent of these dollars. Certified M/FBEs accounted for 11 percentage points of this utilization. Figure B-7 compares MBE/WBE utilization when contract goals applied and utilization for no-goals contracts.

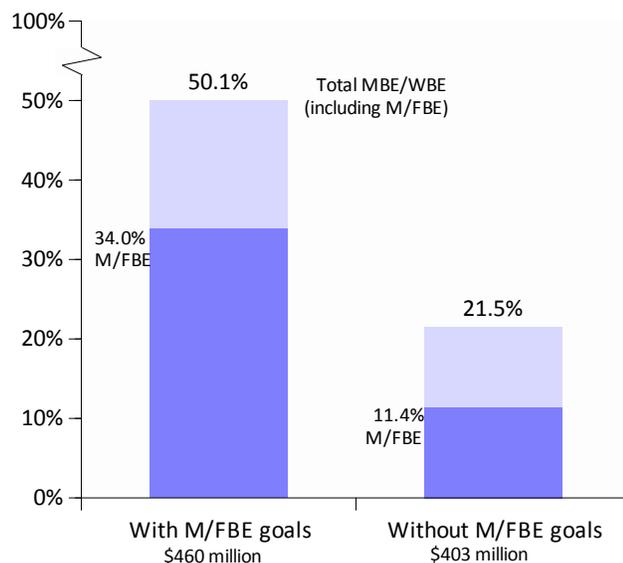
Figure B-7.
MBE/WBE and certified M/FBE share of City-funded contract dollars, with and without M/FBE goals, July 2009-Dec. 2012

Note:

Dark portion of bar is certified M/FBE utilization.
Number of contracts/subcontracts analyzed is 876 for contracts with M/FBE goals and 1,811 for contracts without goals.

Source:

Keen Independent from data on City contracts and payments.



The tables that follow separately compare these results for construction (Figure B-8), professional services (Figure B-9) and other services contracts (Figure B-10).

None of the City goods procurements had M/FBE goals applied, so the utilization results presented in Figure B-5 are for goods contracts without goals.

Construction contracts with and without M/FBE goals. The left side of Figure B-8 presents utilization results for construction contracts with M/FBE goals. The right side of the figure provides results for construction contracts for which no M/FBE or SBE goals were set. (The study team did not include any contracts with DBE contract goals.)

Construction contracts with M/FBE goals. The study team examined prime construction contracts totaling \$301 million that had M/FBE goals applied. There were 404 subcontracts on these contracts that totaled \$118 million.

Combining prime contract and subcontract amounts, about \$147 million of the contract dollars with M/FBE goals, or 49 percent of the total, went to minority- and women-owned firms. The percentage of contract dollars going to each group was:

- 32 percent to African American-owned firms;
- 9 percent to white women-owned businesses;
- 8 percent to Hispanic American-owned companies; and
- 1 percent to Asian American-owned firms.

There was one subcontract for \$24,000 to a Native American-owned business (about 1 hundredth of a percent of contract dollars).

The distribution of dollars to M/FBE-certified companies followed this same pattern, with most of the dollars for each group going to certified businesses. In total, certified M/FBEs received 38 percent of the contract dollars.

Construction contracts without M/FBE goals. The study team examined 244 construction contracts for \$50 million that did not appear to have M/FBE or SBE goals applied. The City had no data on subcontracts for these contracts. Contracts averaged about \$200,000 in size.

Minority- and women-owned firms obtained \$13 million of these contracts, or about 27 percent of contract dollars. Certified M/FBEs accounted for 50 of the 90 contracts awarded to minority- and women-owned firms (for \$10 million).

African American-owned businesses represented 23 percentage points of the utilization of MBE/WBEs. There was little utilization of

- White women-owned firms (3%),
- Asian American-owned businesses (1%),

- Native American-owned companies (0.2%); and
- Hispanic American-owned firms (one contract for \$25,000, or 0.1 percent of these contract dollars).

Figure B-8.
MBE/WBE and certified M/FBE share of City-funded construction contracts, with M/FBE goals and without goals, July 2009-Dec. 2012

	M/FBE goals			Without goals		
	Number of contracts*	\$1,000s	Percent of dollars	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs						
African American-owned	207	\$95,445	31.8 %	69	\$11,280	22.7 %
Asian American-owned	13	1,872	0.6	2	462	0.9
Hispanic American-owned	39	23,346	7.8	1	25	0.1
Native American-owned	1	24	0.0	3	105	0.2
WBE (white women-owned)	100	25,960	8.6	15	1,418	2.9
Total MBE/WBE	360	\$146,646	48.8 %	90	\$13,290	26.8 %
Majority-owned	124	153,920	51.2	154	36,383	73.2
Total	484	\$300,566	100.0 %	244	\$49,673	100.0 %
M/FBE-certified						
African American-owned	164	\$75,554	25.1 %	47	\$9,266	18.7 %
Asian American-owned	9	1,592	0.5	1	438	0.9
Hispanic American-owned	26	16,855	5.6	1	25	0.1
Native American-owned	1	24	0.0	0	0	0.0
WBE (white women-owned)	78	19,266	6.4	1	22	0.0
Total M/FBE certified	278	\$113,292	37.7 %	50	\$9,751	19.6 %
Non-M/FBE	206	187,274	62.3	237	39,922	80.4
Total	484	\$300,566	100.0 %	289	\$49,673	100.0 %

Note: *Number of prime contracts and subcontracts.

Dollars include prime contracts (retained amount) and subcontracts.

Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.

Source: Keen Independent from data on City contracts and payments.

Professional services contracts. Figure B-9 reports utilization results for professional services contracts with and without M/FBE goals.

Professional services contracts with M/FBE goals. Of the 351 professional services prime contracts and subcontracts, 239 went to minority- and women-owned firms. About \$51 million of the \$90 million in contract dollars went to MBE/WBEs (57% utilization).

In addition to the \$33 million in utilization of certified M/FBEs, \$18 million went to non-certified MBE/WBE companies.

African American-owned firms received 46 percent of professional services contract dollars for contracts with M/FBE goals. Utilization of white women-owned firms was 9 percent and all other groups combined accounted for 2 percent of contract dollars when M/FBE goals applied.

Professional services contracts without M/FBE goals. Fifty-seven of the 284 professional services contracts without any goals went to MBE/WBEs. In terms of dollars, MBE/WBEs received \$7 million, or 13 percent of total contract dollars. Less than one-half of this utilization was contracts going to certified M/FBEs (5%).

African American-owned businesses accounted for most of the MBE/WBE participation on these contracts, as shown in Figure B-9.

Figure B-9.
MBE/WBE and certified M/FBE share of City-funded professional services contracts, with M/FBE goals and without goals, July 2009-Dec. 2012

	M/FBE Goals			M/FBE without goals		
	Number of contracts*	\$1,000s	Percent of dollars	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs						
African American-owned	168	\$41,472	46.0 %	36	\$4,824	8.5 %
Asian American-owned	9	980	1.1	8	1,123	2.0
Hispanic American-owned	4	199	0.2	4	561	1.0
Native American-owned	1	580	0.6	0	0	0.0
WBE (white women-owned)	63	7,745	8.6	9	608	1.1
Total MBE/WBE	245	\$50,976	56.6 %	57	\$7,115	12.6 %
Majority-owned	106	39,157	43.4	286	49,566	87.4
Total	351	\$90,133	100.0 %	284	\$56,681	100.0 %
M/FBE-certified						
African American-owned	108	\$24,339	27.0 %	20	\$2,428	4.3 %
Asian American-owned	8	979	1.1	1	24	0.0
Hispanic American-owned	1	24	0.0	3	479	0.8
Native American-owned	1	580	0.6	0	0	0.0
WBE (white women-owned)	58	7,283	8.1	2	91	0.2
Total M/FBE certified	176	\$33,204	36.8 %	26	\$3,021	5.3 %
Non-M/FBE	175	56,929	63.2	258	53,660	94.7
Total	351	\$90,133	100.0 %	284	\$56,681	100.0 %

Note: *Number of prime contracts and subcontracts.

Dollars include prime contracts (retained amount) and subcontracts.

Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.

Source: Keen Independent from data on City contracts and payments.

Other services contracts. Utilization results for other services contracts with and without M/FBE goals can be found in Figure B-10.

Other services contracts with M/FBE goals. There were just 41 other services contracts with M/FBE goals examined in the study, totaling \$69 million.

Almost one-half of the other services contract dollars went to minority- and women-owned firms when M/FBE goals applied. Utilization of M/FBE-certified firms was 15 percent. All of the subcontract dollars went to minority- and women-owned firms.

African American-owned firms received one-third of total dollars on other services contracts when M/FBE goals applied and white women-owned firms accounted for 14 percent of contract dollars.

About 1 percent went to Hispanic American-owned firms and one contract for \$75,000 went to a firm identified as Asian American-owned (0.1% utilization).

Other services contracts without M/FBE goals. Most of the other services procurements identified in the study did not have M/FBE goals. MBE/WBEs received 67 of these 357 contracts. Minority- and women-owned companies obtained \$15 million of the \$57 million in other services contract dollars, or 25 percent of the total. About 6 percent of contract dollars went to certified M/FBEs.

African American-owned firms received 22 percent of contract dollars and white women-owned firms received 2 percent of contract dollars, as shown in Figure B-10. Less than 1 percent of the work went to firms owned by other minority groups.

Figure B-10.
MBE/WBE and certified M/FBE share of City-funded other services contracts, with M/FBE goals and without goals, July 2009-Dec. 2012

	M/FBE Goals			M/FBE without goals		
	Number of contracts*	\$1,000s	Percent of dollars	Number of contracts*	\$1,000s	Percent of dollars
MBE/WBEs						
African American-owned	21	\$22,715	32.7 %	32	\$12,613	22.0 %
Asian American-owned	1	75	0.1	6	424	0.7
Hispanic American-owned	3	392	0.6	3	128	0.2
Native American-owned	0	0	0.0	0	0	0.0
WBE (white women-owned)	7	9,640	13.9	26	1,430	2.5
Total MBE/WBE	32	\$32,822	47.2 %	67	\$14,595	25.5 %
Majority-owned	9	36,650	52.8	290	42,660	74.5
Total	41	\$69,472	100.0 %	357	\$57,255	100.0 %
M/FBE-certified						
African American-owned	13	\$8,720	12.6 %	10	\$3,061	5.3 %
Asian American-owned	0	0	0.0	0	0	0.0
Hispanic American-owned	2	258	0.4	1	67	0.1
Native American-owned	0	0	0.0	0	0	0.0
WBE (white women-owned)	5	1,209	1.7	4	165	0.3
Total M/FBE certified	20	\$10,187	14.7 %	15	\$3,294	5.8 %
Non-M/FBE	21	59,285	85.3	342	53,961	94.2
Total	41	\$69,472	100.0 %	357	\$57,255	100.0 %

Note: *Number of prime contracts and subcontracts.

Dollars include prime contracts (retained amount) and subcontracts.

Numbers rounded to nearest tenth of 1 percent. Dollars and percentages may not add to totals due to rounding.

Source: Keen Independent from data on City contracts and payments.

E. Utilization of Hispanic American-owned Firms with and without Eligibility to Meet M/FBE Contract Goals

Changes in the EBO Program that began in January 2010 removed Hispanic American-owned firms as eligible for meeting M/FBE contract goals for construction and other services contracts.

Construction contracts with M/FBE contract goals. As the study period for this disparity study began with contracts in July 2009, there were only six months of contracts that could be examined under the old program. However, there were 116 prime contracts and subcontracts totaling

\$89 million for construction contracts with M/FBE goals within that six month period, which allowed study team analysis of potential impacts of the change in program.

Figure B-11 displays the drop in utilization of Hispanic American-owned businesses after the change in the program. In July through December 2009, Hispanic American-owned firms obtained 10.4 percent of construction contract dollars for which M/FBE goals applied. Almost 9 percentage points of that participation was certified firms. From January 2010 through December 2012, Hispanic American-owned firms received 6.7 percent of dollars on construction contracts where M/FBE goals applied (4.3 percentage points was M/FBE certified firms).

Figure B-11.
Hispanic American-owned firms' share of City-funded construction contract dollars with M/FBE goals, July-Dec. 2009 and Jan. 2010-Dec. 2012

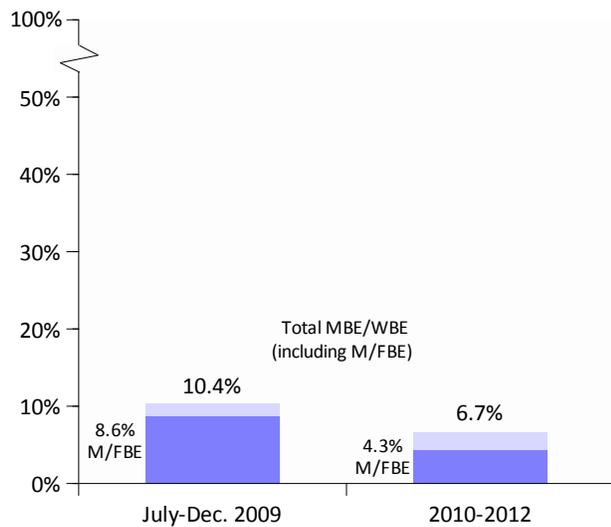
Note:

Dark portion of bar is certified M/FBE utilization.

Number of contracts/subcontracts analyzed is 116 for July-Dec. 2009 and 368 for 2010-2012.

Source:

Keen Independent from data on City contracts and payments.



Note that Keen Independent includes any female minority-owned firms with results for male minority-owned firms, so some of the certified M/FBE participation might have been female Hispanic American-owned firms that were still eligible to meet M/FBE contract goals after January 2010.

Other services contracts. The smaller overall number of other services prime contracts and subcontracts with M/FBE goals (26 for July-Dec. 2009 and 15 for 2010-2012) does not allow for any meaningful impact of the change for other services contracts.³

F. Utilization of MBE/WBEs on City-funded Contracts with SBE Contract Goals

During the July 2009 through December 2012 study period, Keen Independent identified 13 City-funded contracts where the City applied SBE contract goals. Five contracts were construction, six were professional services and two were other services. Minority- and women-owned firms received

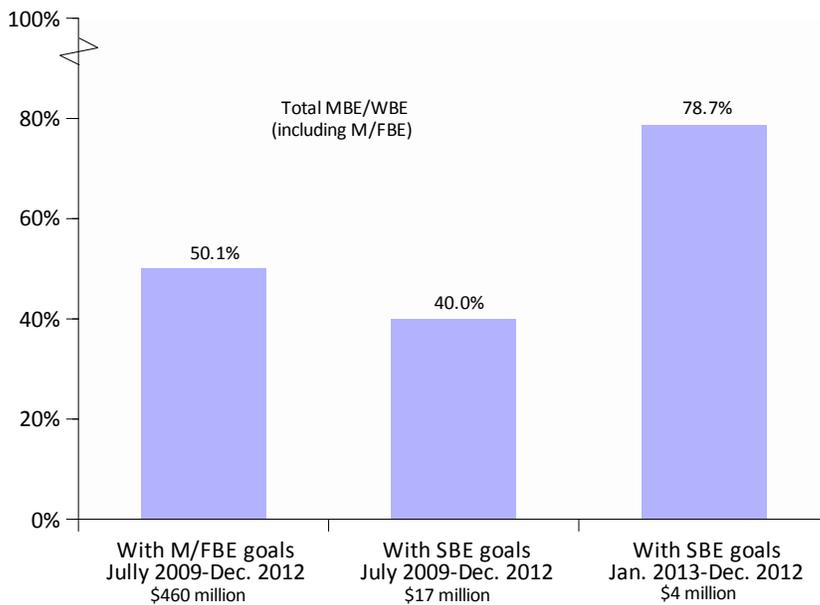
³ Utilization of Hispanic American-owned firms increased from 0.2 percent for July-Dec. 2009 to 1.6 percent for 2010 through 2012, but the small number of other services contracts with M/FBE goals makes it difficult to reach any conclusions for these contracts.

about \$7 million out of the \$17 million in total contract dollars, which represents 40 percent utilization of MBE/WBEs. Only \$2 million of the \$7 million went to firms certified as M/FBEs.

The contracts with SBE goals accounted for only 2 percent of the \$880 million in contracts examined for the July 2009 through December 2012 study period, and only 4 percent of combined dollars of contracts with either an M/FBE contract goal or an SBE goal. Therefore, Keen Independent sought additional information about contracts with SBE goals for subsequent time periods.

For calendar years 2013 and 2014, Keen Independent was able to examine nine City-funded contracts with SBE contract goals totaling \$4 million. (Note that there were several other contracts with SBE goals in 2013 through 2014 that the study team could not examine because of incomplete data.)

Figure B-12.
MBE/WBE share of City-funded contract dollar when M/FBE goals and SBE goals apply,
July 2009-Dec. 2012 and 2013-2014



Note: Number of contracts/subcontracts analyzed is 876 for M/FBE contract goals, 55 for SBE goals July 2009-Dec. 2012 and nine for SBE goals 2013-2014.

Source: Keen Independent from data on City contracts and payments.

APPENDIX C.

Availability Analysis

Keen Independent analyzed the availability of minority- and women-owned business enterprises (MBE/WBEs) that are ready, willing and able to perform City of Atlanta prime contracts and subcontracts.

Appendix C describes the study team’s availability analysis in eight parts:

- A. Purpose of the availability analysis;
- B. Definitions of MBEs, WBEs and majority-owned businesses;
- C. General approach to collecting availability information;
- D. Development of the interview instruments;
- E. Businesses included in the availability database;
- F. MBE/WBE availability calculations on a contract-by-contract basis;
- G. Dollar-weighted availability results; and
- H. Additional considerations related to measuring availability.

A. Purpose of the Availability Analysis

The 2015 Disparity Study compares the City’s utilization of minority- and women-owned firms against an availability benchmark. MBE/WBE “availability” is defined as the percentage of dollars that might be expected to go to minority- and women-owned businesses based on their availability for specific types and sizes of City contracts.

Comparisons between utilization and availability identify whether any MBE/WBE groups were underutilized based on their availability for City work.

The balance of Appendix C explains each step in determining the availability benchmarks, beginning with definitions of terms.

B. Definitions of MBEs, WBEs and Majority-owned Businesses

The following definitions of terms based on ownership and certification status are useful background to the availability analysis.

MBE/WBEs. The availability benchmark and the base figure analyses use the same definitions of minority- and women-owned business enterprises (MBE/WBEs), as do other components of the Disparity Study. MBE/WBEs that are certified through the City of Atlanta Equal Business Opportunity Minority and Female Business Enterprise program are referred to as M/FBEs.

Race, ethnic and gender groups. The study team separately examined utilization, availability and disparity results for businesses owned by:

- African Americans;
- Asian Americans;
- Hispanic Americans;
- Native Americans;
- Non-Hispanic white women; and
- Subcontinent Asian Americans.

Note that “majority-owned businesses” refer to businesses that are not minority- or women-owned.

Firms owned by minority women. Businesses owned by minority women are included with the results for each minority group. The term “WBEs” in this report refers to non-Hispanic white women-owned businesses. This definition of WBEs gives the City of Atlanta information to answer questions that may arise pertaining to the utilization of non-Hispanic white women-owned businesses. Keen Independent’s approach is consistent with court decisions that have considered this issue.

All MBE/WBEs, not only certified firms. When availability results are used as a benchmark in the disparity analysis, all minority- and women-owned firms are counted as such whether or not they are certified as MBEs or FBEs. Analyzing the availability and utilization of minority- and women-owned firms regardless of M/FBE certification status allows one to assess whether there are disparities affecting *all* MBE/WBEs and not just certified firms. Businesses may be discriminated against because of the race or gender of their owners regardless of whether they have successfully applied for certification.

The courts that have reviewed disparity studies have accepted analyses based on the race, ethnicity and gender of business ownership rather than on certification status.

Majority-owned businesses. Majority-owned businesses are businesses that are not owned by minorities or women (i.e., businesses owned by non-Hispanic white males). In the utilization and availability analyses, the study team coded each business as minority-, women-, or majority-owned.

C. General Approach to Collecting Availability Information

Keen Independent’s availability analysis focused on firms with Atlanta metro area locations that work in subindustries related to City construction, professional services, goods and other services contracts.

Based on a review of City of Atlanta prime contracts and subcontracts during the study period, the study team identified specific subindustries for inclusion in the availability analysis. Keen Independent contacted businesses within those subindustries by telephone to collect information about their availability for specific types and sizes of City prime contracts and subcontracts.

Keen Independent’s method of examining availability is sometimes referred to as a “custom census” and has been accepted in federal court. Figure C-1 summarizes characteristics of Keen Independent’s custom census approach to examining availability.

Overview of availability interviews. The study team conducted telephone interviews with business owners and managers to identify businesses that are potentially available for City prime contracts and subcontracts.¹ Figure C-2 summarizes the process for identifying businesses, contacting them and completing the interviews.

Keen Independent began by compiling lists of business establishments that Dun & Bradstreet/Hoovers identified in certain subindustries in the Atlanta area.²

Figure C-1.
Summary of the strengths of Keen Independent’s “custom census” approach

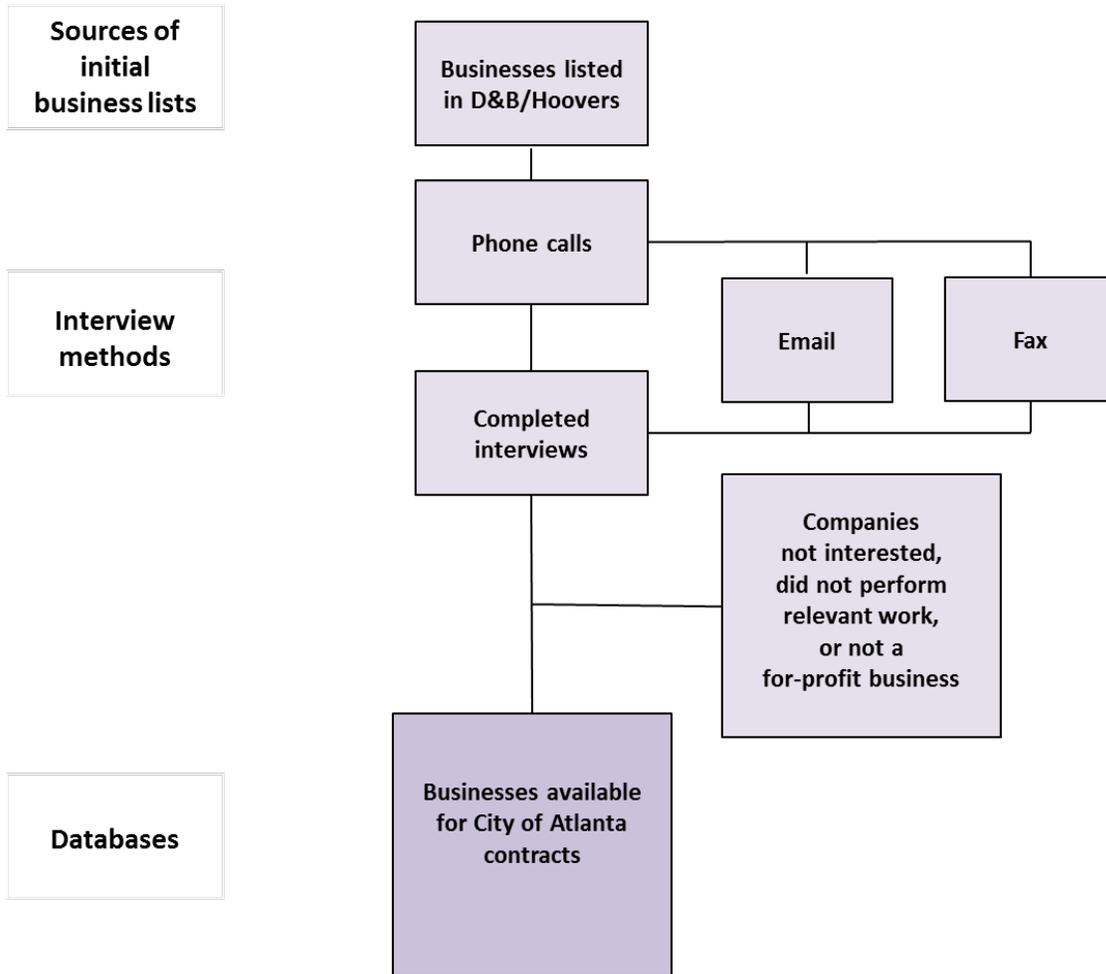
Federal courts have reviewed and upheld “custom census” approaches to examining availability. Compared with some other previous court-reviewed custom census approaches, Keen Independent added several layers of screening to determine which businesses are potentially available for City contracts.

For example, the Keen Independent analysis included discussions with businesses about interest in City work and contract roles — items not included in some of the previous court-reviewed custom census approaches. For construction, professional services and other services businesses, Keen Independent also analyzed the sizes of contracts and subcontracts on which businesses have bid on or performed in the past (referred to as “bid capacity” in this analysis).

¹ The study team offered business representatives the option of completing interviews via fax or email if they preferred not to complete interviews via telephone.

² D&B’s Hoover’s database is accepted as the most comprehensive and complete source of business listings in the nation. Keen Independent collected information about all business establishments listed under 8-digit work specialization codes (as developed by D&B) that were most related to the contracts that the City of Atlanta awarded during the study period.

Figure C-2.
Availability interview process



Dun & Bradstreet Hoover’s database. Dun & Bradstreet’s Hoover’s affiliate maintains the largest commercially-available database of businesses in the United States.

Keen Independent determined the types of work involved in City of Atlanta contract elements by reviewing prime contract and subcontract dollars that went to different types of businesses during the study period. D&B classifies types of work by 8-digit work specialization codes.³ Figure C-3 on the following page identifies the work specialization codes the study team determined were the most related to the City contract dollars in the study.

³ D&B has developed 8-digit industry codes to provide more precise definitions of firm specializations than the 4-digit SIC codes or the NAICS codes that the federal government has prepared.

Figure C-3.
D&B 8-digit codes for availability list source

Figure D-3. D&B 8-digit codes for availability list source			
Code	Description	Code	Description
17950000	Wrecking and demolition work	87420402	Construction project management consultant
17959900	Wrecking and demolition work, nec	87420000	Management consulting services
17959902	Demolition, buildings and other structures	73710000	Custom computer programming services
17949901	Excavation and grading, building construction	73730000	Computer integrated systems design
16299901	Blasting contractor, except building demolition	73740000	Data processing and preparation
16299903	Land clearing contractor	73790000	Computer related services, nec
16299906	Trenching contractor	87310302	Environmental research
42129900	Local trucking, without storage, nec	87311100	Environmental and ecological services
17710000	Concrete work	87480200	Urban planning and consulting services
17719903	Flooring contractor	87489905	Environmental consultant
17719904	Foundation and footing contractor	87420410	Transportation consultant
17310000	Electrical work	28120000	Alkalies and chlorine
17310100	Electric power systems contractor	28190000	Industrial inorganic chemicals, nec
17310103	Standby or emergency power specialization	51690000	Chemicals and allied products, nec
17310104	Switchgear and related devices installation	50870304	Janitors' supplies
17310300	Communications Specialization	56990100	Uniforms and work clothing
17310301	Cable television installation	36630000	Radio and t.v. communications equipment
17310302	Fiber Optic Cable Installation	38120000	Search and navigation equipment
17310304	Telephone and telephone equipment installation	14290000	Crushed and broken stone, nec
17310305	Voice, data, and video wiring contractor	14420000	Construction sand and gravel
17310400	Safety and security specialization	32730000	Ready-mix concrete
17310401	Access control systems specialization	50390000	Construction materials, NEC
17310402	Closed circuit television installation	50720000	Hardware
17310403	Fire detection and burglar alarm systems specialization	52110000	Lumber and other building materials
17319902	Computer installation	50319904	Lumber: rough, dressed, and finished
17319903	General electrical contractor	50320602	Limestone
17319904	Lighting contractor	50329904	Cement
17969901	Elevator installation and conversion	29510000	Asphalt paving mixtures and blocks
17969907	Power generating equipment installation	50999912	Signs, except electric
17110000	Plumbing, heating, air-conditioning	36840000	Lighting equipment, nec
17110103	Heating systems repair and maintenance	36990000	Electrical equipment and supplies, nec
17110200	Plumbing contractors	50630000	Electrical apparatus and equipment
17110300	Sprinkler contractors	50650000	Electronic parts and equipment
17110400	Heating and air conditioning contractors	36210110	Power generators industry
17110401	Mechanical contractor	36259904	Control equipment electric
17110405	Warm air heating and air-conditioning contractors	36690206	Traffic signals, electric
15400000	General building contractors-nonresidential buildings	35340000	Elevators and moving stairways
15410000	Industrial buildings and warehouses	35610000	Pumps and pumping equipment
15420000	Nonresidential construction, nec	35990000	Industrial machinery
15420100	Commercial and Office Building Contractors	50840000	Industrial machinery and equipment
15420101	Commercial and office building, new construction	50850000	Industrial supplies
15420103	Commercial and office buildings, renovation and repair	38230000	Process control instruments
15420400	Specialized public building contractors	38240000	Fluid meters and counting devices
15420402	Fire station construction	51720000	Petroleum products
16110206	Sidewalk construction	59830000	Fuel oil dealers
16220000	Bridge, tunnel, and elevated highway construction	59840000	Liquefied petroleum gas dealers
16110000	Highway and street construction	59899900	Fuel dealers
16110101	Guardrail construction, highways	50740000	Plumbing and hydronic heating supplies
16110102	Highway and street sign installation	50750000	Warm air heating and air conditioning
16110200	Surfacing and paving	34919910	Water works valves
16110203	Grading	34940000	Valves and pipe fittings, nec
16110205	Resurfacing contractor	50499903	Law enforcement equipment and supplies
16119900	Highway and street construction, nec	35690200	Firefighting and related equipment
16119901	General contractor, highway and street construction	35690201	Firefighting apparatus
73899921	Flagging service (traffic control)	38420100	Personal safety equipment
17210303	Pavement marking contractor	50870500	Firefighting equipment
16110201	Airport runway construction	50990300	Safety equipment and supplies
16290505	Waste water and sewage treatment plant construction	50120201	Ambulances
16230000	Water, sewer, and utility lines	50120203	Fire trucks
16230300	Water and sewer line construction	55110000	New and used car dealers
16230302	Sewer line construction	50130000	Motor vehicle supplies and new parts
16230303	Water main construction	49530000	Refuse systems
16239901	Electric power line construction	49590000	Sanitary services
16239903	Pipe laying construction	73490000	Building maintenance services, nec
16239904	Pipeline construction, nsk	41110300	Airport transportation, limousine and regular route
16239905	Pumping station construction	75210000	Automobile parking
16230200	Communication line and transmission tower construction	41110401	Commuter rail passenger operation
16290000	Heavy construction	76990200	Tank repair and cleaning services
87110000	Engineering services	76990500	Industrial equipment services
73890200	Inspection and testing services	73810000	Detective, guard and armored car services
87120000	Architectural services	73820000	Security systems services
87419902	Construction management		

Keen Independent obtained a list of firms from the D&B Hoover's database within relevant work codes that had locations in the Atlanta area. D&B provided phone numbers for these businesses. Keen Independent obtained nearly 35,000 business listings from this source (this count includes duplicate records). Keen Independent did not draw a sample of those firms for the availability analysis; rather, the study team attempted to contact each business identified through telephone interviews and other methods described below.

Telephone interviews. Figure C-2 outlines the process Keen Independent used to complete interviews with businesses possibly available for City work.

- The study team contacted firms by telephone to ask them to participate in the interviews (identifying the City of Atlanta as the organization requesting the information). Firms indicating over the phone that they were not interested or not involved in City work were not asked to complete the other interview questions. Interviews began in December 2014 and were completed in May 2015. Keen Independent contracted with Customer Research International (CRI), a telephone survey research firm, to complete this work. CRI has extensive experience performing similar interviews for disparity studies throughout the country.
- Some firms completed interviews when first contacted. For firms not immediately responding, the study team executed intensive follow-up over many weeks.
- CRI identified and attempted to interview an available company representative such as the owner, manager or other key official who could provide accurate and detailed responses to the questions included in the interview.
- Firm owners could also request that questionnaires be faxed or emailed to them. Sixty-eight firms returned completed questionnaires via fax/email.

CRI provided Keen Independent with daily data reports.

Screening of firms for the availability database. The study team asked business owners and managers several questions concerning the types of work that their companies performed; their past bidding history; and their qualifications and interest in working on contracts for the City among other topics. Keen Independent considered businesses to be potentially available for City prime contracts or subcontracts if they reported possessing *all* of the following characteristics:

- a. Being a private business (as opposed to a public agency or not-for-profit organization);
- b. Providing goods or services relevant to the City of Atlanta;
- c. Having bid on or obtained relevant contracts (or subcontracts) in the Atlanta area in the previous five years; and
- d. Reporting qualifications for and interest in work for the City of Atlanta.

D. Development of the Interview Instrument

The study team developed a general interview instrument which was then tailored for each industry in the study. Individual surveys were developed for each industry so that firms were only asked questions that were relevant to their area of work. For example, goods firms were not asked about bonding requirements and construction firms were not asked about brand specifications. A total of five instruments were developed:

- Construction;
- Architecture and engineering-related professional services;
- Consulting and IT-related professional services;
- Other services; and
- Goods.

City of Atlanta staff reviewed each of the draft interview instruments. The availability interview instrument for construction firms can be found at the end of this appendix.

Interview structure. The availability interview included eight sections for construction, architecture and engineering and professional services while the goods and other services interviews included seven sections. The study team did not know the race, ethnicity or gender of the business owner when calling a business establishment. Obtaining that information was a key component of the interview.

Areas of interview questions included:

- **Identification of purpose.** The interviews began by identifying the City of Atlanta as the interview sponsor and describing the purpose of the study (i.e., “compiling a list of companies interested in working on a wide range of City contracts”).
- **Verification of correct business name.** CRI confirmed that the business reached was, in fact, the business sought out.
- **Contact information.** CRI then collected complete contact information for the establishment and the individual who completed the interview.
- **Verification of work related to City projects.** All firms were asked to verify their main line of business. Because construction and professional services firms often work in multiple, inter-related, areas, they were asked about the specific types of work they perform related to commercial or public sector projects. For example, a construction firm’s main line of business may be excavation, but they also do trucking. In contrast, firms providing other services and goods related to commercial are very specialized and were not asked to identify all of the types of work they perform.

- **Verification of for-profit business status.** The survey then asked whether the organization was a for-profit business as opposed to a government or not-for-profit entity (Question 2). Interviewers continued the interview with businesses that responded “yes” to that question.
- **Identification of main lines of business.** Construction, architecture and engineering and other professional services firms chose from a list of work types that their firm performed. In addition to choosing all areas that the firms did work, the study team asked businesses to briefly describe their main line of business as an open-ended question. Keen Independent then coded the responses into standardized work types.
- **Sole location or multiple locations.** The interviewer asked business owners or managers if their businesses had other locations and whether their establishments were affiliates or subsidiaries of other firms. (Keen Independent combined responses from multiple locations into a single record for multi-establishment firms.)
- **Past bids or work with government agencies and private sector organizations.** The survey then asked about bids and work on past government and private sector contracts. The questions were asked in connection with both prime contracts and subcontracts.
- **Qualifications and interest in future public work.** The interviewer asked about businesses’ qualifications and interest in future work with the City of Atlanta and other government agencies in connection with both prime contracts and subcontracts.
- **Largest contracts.** The study team asked businesses to identify the value of the largest contract or subcontract on which they had bid or had been awarded during the past five years.
- **Ownership.** Businesses were asked if at least 51 percent of the firm was owned and controlled by women and/or minorities. If businesses indicated that they were minority-owned, they were also asked about the race and ethnicity of owners. The study team reviewed reported ownership against other available data sources such as M/FBE directories.
- **Business background.** The study team asked businesses to identify the approximate year in which they were established. The interviewer asked several questions about the size of businesses in terms of their revenues and number of employees. For businesses with multiple locations, this section also asked about their revenues and number of employees across all locations.
- **Potential barriers in the marketplace.** Establishments were asked a series of questions concerning general insights about the marketplace and City of Atlanta contracting practices including obtaining loans, bonding and insurance. The interview also included an open-ended question asking for any additional barriers or general thoughts about contracting in the City of Atlanta. In addition, the interview included a question asking whether interviewees would be willing to participate in a follow-up interview about marketplace conditions.

Establishments that the study team successfully contacted. Figure C-4 presents the disposition of the businesses the study team attempted to contact for availability interviews.

Note that the following analysis is based on business counts after Keen Independent removed duplicate listings (beginning list of 34,709 unique businesses).

Because results are based on a simple count of firms with no analysis of availability for specific City contracts, they only reflect the first step in the availability analysis.

Figure C-4.
Disposition of attempts to interview business establishments

Note:
Study team made at least five attempts to complete an interview with each establishment.

Source:
Keen Independent from 2015 availability Interviews.

	Number of firms	Percent of business listings
Beginning list (unique businesses)	34,709	
Less non-working phone numbers	4,202	
Less wrong number	1,254	
Firms with working phone numbers	29,253	100.0 %
Less no answer	13,978	47.8
Less could not reach responsible staff member	1,216	4.2
Less unreturned fax/email	1,166	4.0
Firms successfully contacted	12,893	44.1 %

Non-working or wrong phone numbers. Some of the business listings that the study team attempted to contact were:

- Non-working phone numbers (4,202); or
- Wrong numbers for the desired businesses (1,254).

Some non-working phone and wrong numbers reflected business establishments that closed, were sold or changed their names and phone numbers between the time that a source listed them and the time that the study team attempted to contact them.

Working phone numbers. As shown in Figure C-4, there were 29,253 businesses with working phone numbers that the study team attempted to contact. For various reasons, the study team was unable to contact some of those businesses:

- **No answer.** Some businesses could not be reached after at least five attempts at different times of the day and on different days of the week (13,978) establishments.
- **Could not reach responsible staff member.** For a small number of businesses (1,216), a responsible staff person could not be reached after repeated attempts.
- **Unreturned fax/email.** The study team sent faxes or emailed the availability questionnaires upon request. There were 1,166 businesses that requested such surveys but did not return them.

After taking those unsuccessful attempts into account, the study team was able to successfully contact 12,893 businesses, or 44.1 percent of those with working phone numbers.

Establishments included in the availability database. Figure C-5 presents the disposition of the 12,893 businesses the study team successfully contacted and how that number resulted in the 3,703 businesses the study team included in the availability database.

Figure C-5.
Disposition of
successfully
contacted
businesses

Source:
Keen Independent from
2015 availability
Interviews.

	Number of firms
Firms successfully contacted	12,893
Less businesses not interested in discussing availability for City of Atlanta work	8,012
Less language barrier	64
Firms that completed interviews about business characteristics	4,817
Less no related work	1,013
Less not a for-profit business	101
Firms included in availability database	3,703

Establishments not interested in discussing availability for City of Atlanta work. Of the 12,893 businesses that the study team successfully contacted, 8,012 were not interested in discussing their availability for City of Atlanta work. This typically indicates that firms are not available for City work.

Language barriers. Sixty-four language barriers were identified during the availability interviews, which were conducted in English

Businesses excluded from the availability database. Many firms completing interviews were excluded from the final availability database because they indicated that they did not perform work related to City contracting or reported that they were not a for-profit business:

- Keen Independent excluded 1,013 businesses that indicated that they did not perform work related to City contracting.
- Of the completed interviews, 101 indicated that they were not a for-profit business (including non-profits, government agencies or homes). Interviews ended when respondents reported that their establishments were not for-profit businesses.

After those final screening steps, the interview effort produced a database of 3,703 businesses potentially available for City of Atlanta work.

Coding responses from multi-location businesses. As described above, there were multiple responses from some firms. Responses from different locations of the same business were combined into a single, summary data record after reviewing the multiple responses.

E. Businesses Included in the Availability Database

After completing interviews with 4,817 Atlanta area businesses, the study team developed a database of information about the 3,703 businesses that are potentially available for City goods and services contracts (and subcontracts). The study team used the availability database to produce availability benchmarks to determine whether there were any disparities in City of Atlanta utilization of MBE/WBEs during the study period.

Data from the availability interviews allowed Keen Independent to develop a representative depiction of businesses that are qualified and interested in the highest dollar volume areas of City construction, professional services, goods and other services contracts, but it should not be considered an exhaustive list of every business that could potentially participate in City contracts.

Figure C-6 presents the number of businesses that the study team included in the availability database for each racial/ethnic and gender group. The study team's research identified 3,703 businesses reporting that they were available for specific types of contracts that the City awarded during the study period. Of those businesses 1,597 (43.1%) were MBEs or WBEs.

Figure C-6.
Number of businesses included in the availability database

Note:

Numbers rounded to nearest tenth of 1 percent. Percentages may not add to totals due to rounding.

Source:

Keen Independent availability analysis.

Race/ethnicity and gender	Number of firms	Percent of firms
African American-owned	837	22.6 %
Asian American-owned	185	5.0
Hispanic American-owned	118	3.2
Native American-owned	28	0.8
Total MBE	1,168	31.5 %
WBE (white women-owned)	429	11.6
Total MBE/WBE	1,597	43.1 %
Total majority-owned firms	2,106	56.9
Total firms	3,703	100.0 %

F. MBE/WBE Availability Calculations on a Contract-by-Contract Basis

Keen Independent analyzed information from the availability database to develop dollar-weighted availability estimates for use as a benchmark in the disparity analysis.

- Dollar-weighted availability estimates represent the percentage of City contract dollars that MBE/WBEs might be expected to receive based on their availability for specific types and sizes of City prime contracts and subcontracts.
- Keen Independent’s approach to calculating availability was a bottom up, contract-by-contract process of “matching” available firms to specific prime contracts and subcontracts.

Steps to calculating availability. Only a portion of the businesses in the availability database were considered potentially available for any given City construction, professional services, other services or goods contract or subcontract (referred to collectively as “contract elements”). The study team first examined the characteristics of each specific contract element, including type of work contract size and contract date. The study team then identified businesses in the availability database that perform work of that type, in that location, of that size, in that role (i.e., prime contractor or subcontractor), and that were in business in the year that the contract element was awarded. (The process of considering availability did not include purchase size for goods procurements.)

Steps to the availability calculations. The study team identified the specific characteristics of each of the 2,742 City prime contracts and subcontracts included in the utilization analysis and then took the following steps to calculate availability for each contract element:

1. For each contract element, the study team identified businesses in the availability database that reported that they:
 - Are qualified and interested in performing work in that particular role, for that specific type of work, for the City or had actually performed work in that role based on contract data for the study period;
 - Except for goods firms, had bid on or performed work of that size in the Atlanta area in the past five years (or had done so based on contract data for the study period); and
 - Were in business in the year that the contract or task order was awarded.
2. For the specific contract element, the study team then counted the number of MBEs (by race/ethnicity), WBEs and majority-owned businesses among all businesses in the availability database that met the criteria specified in Step 1.

Figure C-7. Example of an availability calculation

One of the subcontracts examined was in 2009 for electrical work (\$50,000) on a gym renovation project. To determine the number of MBE/WBEs and majority-owned firms available for that subcontract, the study team identified businesses in the availability database that:

- a. Were in business in 2009;
- b. Indicated that they performed electrical work;
- c. Reported working or bidding on subcontracts in the Atlanta Metro Area in the past five years;
- d. Reported bidding on work of similar or greater size in the past five years; and
- f. Reported qualifications and interest in working as a subcontractor on City projects.

There were 262 businesses in the availability database that met those criteria. Of those businesses, 119 were MBEs or WBEs. Therefore, MBE/WBE availability for the subcontract was 45 percent (i.e., $119/262 = 45\%$).

3. The study team translated the numeric availability of businesses for the contract element into percentage availability (as described in Figure C-7).

The study team repeated those steps for each contract element examined in the Disparity Study. The study team multiplied the percentage availability for each contract element by the dollars associated with the contract element, added results across all contract elements, and divided by the total dollars for all contract elements. The result was a dollar-weighted estimate of overall availability of MBE/WBEs and estimates of availability for each MBE/WBE group. Figure C-7 provides an example of how the study team calculated availability for a specific subcontract in the study period.

Special considerations for supply contracts. When calculating availability for a particular type of goods, including construction materials supplies, Keen Independent counted as available all firms supplying those materials that reported qualifications and interest in that work for the City and indicated that they could provide supplies. Bid capacity was not considered in these calculations.

Improvements on a simple “head count” of businesses. Keen Independent used a “custom census” approach to calculating MBE/WBE availability for City work rather than using a simple “head count” of MBE/WBEs (i.e., simply calculating the percentage of all Atlanta area businesses that are minority- or women-owned). Using a custom census approach typically results in lower availability estimates for MBEs and WBEs than a headcount approach due in large part to Keen Independent’s consideration of “bid capacity” in measuring availability and because of dollar-weighting availability results for each contract element (a large prime contract has a greater weight in calculating overall availability than a small subcontract). The largest contracts that MBE/WBEs have bid on or performed in the Atlanta area tend to be smaller than those of other businesses, as discussed in Appendix H. Therefore, MBE/WBEs are less likely to be identified as available for the largest prime contracts and subcontracts.

There are several important ways in which Keen Independent’s custom census approach to measuring availability is more precise than completing a simple head count approach.

Keen Independent’s approach accounts for qualifications and interest in City prime contract and subcontract work. The study team collected information on whether businesses are qualified and interested in working as prime contractors, subcontractors, or both on City contracts, in addition to the consideration of several other factors related to prime contracts and subcontracts (e.g., contract types and sizes):

- Only businesses that reported being qualified for and interested in working as prime contractors were counted as available for prime contracts (or included because contract data for the City indicated that they had prime contracts in the past five years).
- Only businesses that reported being qualified for and interested in working as subcontractors were counted as available for subcontracts (or included because contract data for the City indicated that they subcontracts in the past five years).
- Businesses that reported being qualified for and interested in working as both prime contractors and subcontractors were counted as available for both prime contracts and subcontracts.

Keen Independent’s approach accounts for the size of prime contracts and subcontracts. The study team considered the size — in terms of dollar value — of the prime contracts and subcontracts

that a business bid on or received in the previous five years (i.e., bid capacity) when determining whether to count that business as available for a particular contract element. When counting available businesses for a particular prime contract or subcontract, the study team considered whether businesses had previously bid on or received at least one contract of an equivalent or greater dollar value in the Atlanta area in the previous five years, based on the most inclusive information from survey results and analysis of past City prime contracts and subcontracts.

Keen Independent's approach is consistent with many recent, key court decisions that have found relative capacity measures to be important to measuring availability.

Keen Independent's approach accounts for the geographic location of the work. The study team determined the location where work was performed for City of Atlanta contracts: the Atlanta metropolitan area (see Appendix A).

Keen Independent's approach generates dollar-weighted results. Keen Independent examined availability on a contract-by-contract basis and then dollar-weighted the results for different sets of contract elements. Thus, the results of relatively large contract elements contributed more to overall availability estimates than those of relatively small contract elements.

G. Dollar-weighted Availability Results

Keen Independent used the custom census approach described above to estimate the availability of MBE/WBEs and majority-owned businesses for 2,742 City-funded construction, professional services, other services and goods prime contracts and subcontracts that the City awarded during the study period.

Figure C-8 presents overall dollar-weighted availability estimates by MBE/WBE group for those contracts.

H. Additional Considerations Related to Measuring Availability

The study team made several additional considerations related to its approach to measuring availability.

Not providing a count of all businesses available for City of Atlanta work. The purpose of the availability interviews was to provide precise and representative estimates of the percentage of MBE/WBEs potentially available for City of Atlanta work. The availability analysis did not provide a comprehensive listing of every business that could be available for City of Atlanta work and should not be used in that way. Federal courts have approved the custom census approach to measuring availability that Keen Independent used in this study.

Figure C-8.
Overall dollar-weighted availability estimates by MBE/WBEs for City contracts,
July 2009 through December 2012

Race/ethnicity and gender	Construction	Professional services	Goods	Other services
African American-owned	17.0 %	15.2 %	8.0 %	18.1 %
Asian American-owned	3.7	8.4	2.7	2.9
Hispanic American-owned	6.0	2.9	2.7	0.6
Native American-owned	0.9	0.9	0.7	0.2
WBE (white women-owned)	<u>11.1</u>	<u>8.2</u>	<u>13.3</u>	<u>7.4</u>
Total MBE/WBE	38.7 %	35.7 %	27.5 %	29.2 %

Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

Source: Keen Independent availability analysis.

Not using MBE/WBE directories, prequalification lists or bidders lists. The methodology applied in this study takes a custom census approach to measuring availability and adds several layers of refinement to a simple head count approach. For example, the interviews provide data on businesses' qualifications, relative bid capacity and interest in City of Atlanta work, which allowed the study team to take a more refined approach to measuring availability.

Using D&B lists. Dun & Bradstreet was the source of business listings in Keen Independent's availability analysis. Note that D&B does not require firms to pay a fee to be included in its listings — it is completely free to listed firms. D&B provides the most comprehensive private database of business listings in the United States. Even so, the database does not include all establishments operating in the City of Atlanta due to the following reasons:

- There can be a lag between formation of a new business and inclusion in D&B listings, meaning that the newest businesses may be underrepresented in the sample frame.
- Although D&B includes home-based businesses, those businesses are more difficult to identify and are thus somewhat less likely than other businesses to be included in D&B listings. Small, home-based businesses are more likely than large businesses to be minority- or women-owned, which again suggests that MBE/WBEs might be underrepresented in the final availability database.

Keen Independent is not able to quantify how much, if any, underrepresentation of MBE/WBEs exists in the final availability database. However, Keen Independent concludes that any such underrepresentation would be minor and would not have a meaningful effect on the availability and disparity analyses presented in this report.

Selection of specific subindustries. Keen Independent identified specific subindustries when compiling business listings from Dun & Bradstreet. D&B provides highly specialized, 8-digit codes to assist in selecting firms within specific specializations. However, there are limitations when choosing specific D&B work specialization codes to define sets of establishments to be interviewed, which leave some businesses off the contact list.

Non-response bias. An analysis of non-response bias considers whether businesses that were not successfully interviewed are systematically different from those that were successfully interviewed and included in the final data set. There are opportunities for non-response bias in any survey effort. The study team considered the potential for non-response bias due to:

- Research sponsorship; and
- Work specializations.

Research sponsorship. Interviewers introduced themselves by identifying the City of Atlanta as the interview sponsor because businesses may be less likely to answer somewhat sensitive business questions if the interviewer was unable to identify the sponsor.

Work specializations. Businesses in highly mobile fields, such as trucking, may be more difficult to reach for availability interviews than businesses more likely to work out of fixed offices (e.g., professional firms). That assertion suggests that response rates may differ by work specialization. Simply counting all interviewed businesses across work specializations to determine overall MBE/WBE availability would lead to estimates that were biased in favor of businesses that could be easily contacted by email or telephone.

However, work specialization as a potential source of non-response bias in the availability analysis is minimized because the availability analysis examines businesses within particular work fields before determining an MBE/WBE availability figure. In other words, the potential for trucking firms to be less likely to complete an interview is less important because the percentage of MBE/WBE availability is calculated within trucking before being combined with information from other work fields in a dollar-weighted fashion. In this example, work specialization would be a greater source of non-response bias if particular subsets of trucking firms were less likely than other subsets to be easily contacted by telephone.

Response reliability. Business owners and managers were asked questions that may be difficult to answer, including questions about revenues and employment.

Keen Independent explored the reliability of interview responses in a number of ways. For example:

- Keen Independent reviewed data from the availability interviews in light of information from other sources such as the City of Atlanta M/FBE directory and other vendor information that the study team collected from the City. This included data on the race/ethnicity and gender of the owners of M/FBE-certified businesses and was compared with interview responses concerning business ownership.
- Keen Independent compared interview responses about the largest contracts that businesses won during the past five years with actual City of Atlanta contract data.

Summary of non-response bias. Based on the MBE and WBE coding of firms by Dun & Bradstreet, Keen Independent researched whether the telephone interview method and availability screening method led to a lower number of MBEs and WBEs in the final availability database than the initial D&B list. The study team found no evidence of any underrepresentation of MBEs and WBEs in the final availability data.

A copy of the construction interview instrument follows.

Atlanta Availability Interview Instrument [Construction]

Hello. My name is *[interviewer name]*. We are calling on behalf of the City of Atlanta. This is not a sales call. The City is compiling a list of companies interested in working on construction, repair and maintenance projects on a wide range of facilities throughout the City and at the Airport.

Who can I speak with to get the information we need from your firm?

[After reaching THE OWNER OR an appropriately senior staff member, the interviewer should re-introduce the purpose of the interview and begin with questions]

[IF NEEDED ... We are contacting thousands of contractors, trucking companies, suppliers and other types of businesses in the Atlanta area.]

[IF INTERVIEWEE REQUESTS ADDITIONAL INFORMATION ... You can call Larry Scott at the City at 404-330-6010.]

[IF ASKED, THE INFORMATION DEVELOPED IN THESE INTERVIEWS WILL ADD TO THE CITY'S DATA ON COMPANIES INTERESTED IN WORKING WITH THE CITY]

X1. I have a few basic questions about your company and the type of work you do. Can you confirm that this is *[firm name]*?

1=RIGHT COMPANY – SKIP TO A1

2=NOT RIGHT COMPANY – SKIP TO Y1

3=REFUSE TO GIVE INFORMATION – TERMINATE

Y1. Can you give me any information about *[firm name]*?

1=Yes, same owner doing business under a different name – SKIP TO Y4

2=Yes, can give information about named company – SKIP TO Y2

3=Company bought/sold/changed ownership – SKIP TO Y4

4=No, does not have information – END, INTERVIEW COMPLETE

5=Refused to give information – END, INTERVIEW COMPLETE

Y1. ENTER NEW NAME

1=VERBATIM

Y2. Can you give me the phone number of *[firm name]*?

(ENTER UPDATED PHONE OF NAMED COMPANY)

1=VERBATIM

Y3. Can you give me the complete address or city for *[firm name]*?

(NOTE TO INTERVIEWER - RECORD IN THE FOLLOWING FORMAT:

. STREET ADDRESS

. CITY

. STATE

. ZIP)

1=VERBATIM

Y4. And what is the new name of the business that used to be *[firm name]*?

(ENTER UPDATED NAME)

1=VERBATIM

Y5. Can you give me the name of the owner or manager of the new business?

(ENTER UPDATED NAME)

1=VERBATIM

Y6. Can I have a telephone number for them?

(ENTER UPDATED PHONE)

1=VERBATIM

Y7. Can you give me the complete address or city for *[new firm name]*?

1=VERBATIM

Y8. Do you work for this new company?

1=YES - CONTINUE

2=NO – END ... INTERVIEW COMPLETE

A. Confirmation of Business and Commercial or Public Work

- A1. Does your firm do any work related to construction, maintenance or repair of commercial or public buildings, roads, water and sewer facilities, parks, airport facilities or other commercial or public facilities?

1=Yes

2=No [END ... INTERVIEW COMPLETE]

98=(DON'T KNOW)

- A2. Is your firm a business, as opposed to a non-profit organization, a foundation or a government office?

1=Yes

2=No ... END, INTERVIEW COMPLETE

98=(DON'T KNOW)

99=(REFUSED)

- A3. Let me also confirm what kind of business this is. The information we have from Dun & Bradstreet indicates that your main line of business is [*SIC Code description*]. Is this correct?

(NOTE TO INTERVIEWER - IF ASKED, DUN & BRADSTREET OR D&B, IS A COMPANY THAT COMPILES BUSINESS INFORMATION THROUGHOUT THE COUNTRY)

1=Yes – SKIP TO A5

2=No

98=(DON'T KNOW)

99=(REFUSED)

- A4. What would you say is the main line of business?

(ENTER VERBATIM RESPONSE)

1=VERBATIM

- A5. Is this the sole location for your business, or do you have offices in other locations?

1=Sole location

2=Have other locations

98=(DON'T KNOW)

99=(REFUSED)

A6. Is your company a subsidiary or affiliate of another firm?

1=Independent – SKIP TO B1

2=Subsidiary or affiliate of another firm

98=(DON'T KNOW)

99=(REFUSED)

A7. What is the name of your parent company?

1=ENTER NAME

98=(DON'T KNOW)

99=(REFUSED)

A7. ENTER NAME OF PARENT COMPANY

1=VERBATIM

B. Type of Construction Work

B1. Including the main line of business we previously discussed, what types of work does your firm perform related to commercial or public sector construction? [READ, MULTIPUNCH]

1=Demolition, excavation or other site prep

2=Trucking and hauling

3=Concrete work

4=Electrical work

5=Plumbing, heating or air-conditioning

6=Building construction

7=Sidewalk construction

8=Bridge, tunnel and elevated highway construction

9=General highway and street construction

10=Airport runway construction

11=Wastewater and sewer plants

12=Water and sewer lines

13=Communication lines, power lines and transmission towers

14=OTHER [DON'T READ]

98=(DON'T KNOW)

99=(REFUSED)

B1. ENTER OTHER TYPE OF WORK

1=VERBATIM

C. Contract Role

- C1. Thinking about work in the past five years in the Atlanta metro area, has your company bid on or been awarded work related to public sector or commercial projects or customers?

[MULTIPUNCH]

[INCLUDES PRIME, SUB, SUPPLIER BIDS AND BIDS AS TRUCKERS, PUBLIC SECTOR INCLUDES CITIES, OTHER LOCAL GOVERNMENTS, AND STATE AND FEDERAL AGENCIES, ATLANTA METRO AREA INCLUDES 20-COUNTIES SURROUNDING ATLANTA]

1=Public sector

2=Commercial

3=Other [VERBATIM]

8=None – SKIP TO C3

98=(DON'T KNOW) – SKIP TO C3

99=(REFUSED) – SKIP TO C3

- C1. ENTER "OTHER"

1=VERBATIM

- C2. Were those bids or awards to work as a prime contractor, a subcontractor, a supplier or a trucking company? [MULTIPUNCH]

1=Prime contractor

2=Subcontractor

3=Supplier (or manufacturer)

4=Trucker

5=Other [VERBATIM]

98=(DON'T KNOW)

99=(REFUSED)

- C2. ENTER "OTHER"

1=VERBATIM

- C3. Is your company qualified and interested in working with the City of Atlanta as a *prime contractor*?

1=Yes

2=No

98=(DON'T KNOW)

99=(REFUSED)

C4. Is your company qualified and interested in working with the City of Atlanta as a *subcontractor, trucker/hauler, or supplier*?

1=Yes

2=No

98=(DON'T KNOW)

99=(REFUSED)

D. Contract History

D1. About what year was your firm established?

[RECORD FOUR-DIGIT YEAR, e.g., '1997']

(9998 = DON'T KNOW)

(9999 = REFUSED)

1=NUMERIC (1600-2008)

D2. In rough dollar terms, what was the largest contract or subcontract your company was awarded in the Atlanta metro area during the past five years?

[NOTE TO INTERVIEWER - INCLUDES CONTRACTS NOT YET COMPLETE- READ CATEGORIES IF NECESSARY]

1=Less than \$100,000

7= \$10 million up to \$20 million

2= \$100,000 up to \$500,000

8= \$20 million up to \$100 million

3= \$500,000 up to \$1 million

9=\$100 million or more

4= \$1 million up to \$2 million

97=(NONE)

5= \$2 million up to \$5 million

98=(DON'T KNOW)

6= \$5 million up to \$10 million

99=(REFUSED)

D3. Was this the largest contract or subcontract that your company bid on or submitted quotes for in the Atlanta metro area during the past five years?

1=Yes – SKIP TO E1

2=No

98=(DON'T KNOW) – SKIP TO E1

99=(REFUSED) – SKIP TO E1

D4. What was the largest contract or subcontract that your company bid on or submitted quotes for in the Atlanta metro area during the past five years? [NOTE TO INTERVIEWER - INCLUDES CONTRACTS NOT YET COMPLETE- READ CATEGORIES IF NECESSARY]

1=Less than \$100,000

7= \$10 million up to \$20 million

2= \$100,000 up to \$500,000

8= \$20 million up to \$100 million

3= \$500,000 up to \$1 million

9=\$100 million or more

4= \$1 million up to \$2 million

97=(NONE)

5= \$2 million up to \$5 million

98=(DON'T KNOW)

6= \$5 million up to \$10 million

99=(REFUSED)

E. Ownership

E1. My next questions are about the ownership of the business. A business is defined as woman-owned if more than half — that is, 51 percent or more — of the ownership and control is by women. By this definition, is your firm a woman-owned business?

1=Yes

2=No

98=(DON'T KNOW)

99=(REFUSED)

E2. A business is defined as minority-owned if more than half — that is, 51 percent or more — of the ownership and control is African American, Asian, Hispanic, Native American or another minority group. By this definition, is your firm a minority-owned business?

1=Yes

2=No – SKIP TO F1

3=(OTHER GROUP - SPECIFY)

98=(DON'T KNOW)

99=(REFUSED)

E2. OTHER GROUP - SPECIFY

1=VERBATIM

- E3. Would you say that the minority group ownership is mostly African American, Asian-Pacific American, Subcontinent Asian American, Hispanic American, or Native American?
- 1=African-American (persons having origins in any of the Black racial groups of Africa)
 - 2=Asian Pacific American (persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia(Kampuchea),Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Common-wealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kirbati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong)
 - 3=Hispanic American (persons of Spanish or Portuguese culture with origins in Mexico, South or Central America or the Caribbean Islands, regardless of race)
 - 4=Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians)
 - 5=Subcontinent Asian American (persons whose Origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka)
 - 6=(OTHER - SPECIFY)
 - 98=(DON'T KNOW)
 - 99=(REFUSED)

F. Business Background

- F1. My next questions pertain to annual averages for your company for 2012 through 2014 [OR JUST YEARS IN BUSINESS IF FORMED AFTER 2012]. Dun & Bradstreet indicates that your company has about [number] employees working out of just your location. Is that an accurate estimate of your company's average employees from 2012 through 2014?

[NOTE TO INTERVIEWER - INCLUDES EMPLOYEES WHO WORK AT THAT LOCATION AND THOSE WHO WORK FROM THAT LOCATION]

- 1=Yes – SKIP TO F3
 - 2=No
 - 98=(DON'T KNOW)
 - 99=(REFUSED) – SKIP TO F3
- F2. About how many employees did you have working out of just your location, on average, from 2012 through 2014?
- (RECORD NUMBER OF EMPLOYEES)
- 1=NUMERIC (1-999999999)

F3. Dun & Bradstreet lists the annual gross revenue of your company, just considering your location, to be about [dollar amount]. Is that an accurate estimate for your company's average annual gross revenue from 2012 through 2014? [Or for the years your company was in business if started after 2012].

1=Yes – SKIP TO F5

2=No

98=(DON'T KNOW)

99=(REFUSED) – SKIP TO F5

F4. Roughly, what was the average annual gross revenue of your company, just considering your location, from 2012 through 2014? Would you say . . . [READ LIST]

1=Less than \$1 million

8=\$20.6 million to \$24 million

2=\$1.1 million to \$2.5 million

9=\$24.1 million to \$27.5 million

3=\$2.6 million to \$5 million

10=\$27.6 million to \$36.5 million

4=\$5.1 million to \$7.5 million

11=\$36.6 million or more

5=\$7.6 million to \$11 million

98=(DON'T KNOW)

6=\$11.1 to \$15 million

99=(REFUSED)

7=\$15.1 million to \$20.5 million

F5. [IF ANSWER THAT HAVE OTHER LOCATIONS IN #A5] About how many employees did you have, on average, for all of your locations from 2012 through 2014?

1=(ENTER RESPONSE)

98=(DON'T KNOW)

99=(REFUSED)

F6. [IF ANSWER THAT HAVE OTHER LOCATIONS IN #A5] Roughly, what was the average annual gross revenue of your company for all of your locations from 2012 through 2014? [Or for the years your company was in business if started after 2012] Would you say . . . [READ LIST]

1=Less than \$1 million

8=\$20.6 million to \$24 million

2=\$1.1 million to \$2.5 million

9=\$24.1 million to \$27.5 million

3=\$2.6 million to \$5 million

10=\$27.6 million to \$36.5 million

4=\$5.1 million to \$7.5 million

11=\$36.6 million or more

5=\$7.6 million to \$11 million

98=(DON'T KNOW)

6=\$11.1 to \$15 million

99=(REFUSED)

7=\$15.1 million to \$20.5 million

G. Barriers or Difficulties

Finally, we're interested in whether your company has experienced barriers or difficulties associated with starting or expanding a business in your industry or with obtaining work. Think about your experiences within the past five years as you answer these questions.

G1a. Has your company experienced any difficulties in obtaining lines of credit or loans?

1=Yes

2=No

98=(Don't know)

99=(Does not apply)

G1b. Has your company obtained or tried to obtain a bond for a project?

1=Yes

2=No [SKIP TO G1d]

98=(Don't know) [SKIP TO G1d]

99=(Does not apply) [SKIP TO G1d]

G1c. Has your company had any difficulties obtaining bonds needed for a project?

1=Yes

2=No

98=(Don't know)

99=(Does not apply)

G1d. Have you had any difficulty in licensing or being prequalified for work in Georgia?

1=Yes

2=No

98=(Don't know)

99=(Does not apply)

G1e. Have any insurance requirements on projects presented a barrier to bidding?

1=Yes

2=No

98=(Don't know)

99=(Does not apply)

- G1f. Has large size of projects presented a barrier to bidding?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)
- G1g. Has your company experienced any difficulties learning about bid opportunities with the City of Atlanta or the Airport?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)
- G1h. Has your company experienced any difficulties learning about bid opportunities with other public agencies in the Atlanta metro area?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)
- G1i. Has your company experienced any difficulties with learning about bid opportunities in the private sector in the Atlanta metro area?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)
- G1j. Has your company experienced any difficulties learning about subcontracting opportunities from Atlanta area prime contractors?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)

- G1k. Has your company experienced any difficulties receiving payment in a timely manner?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)
- G1l. Has your company experienced any difficulties obtaining final approval on your work from inspectors or prime contractors?
- 1=Yes
 - 2=No
 - 98=(Don't know)
 - 99=(Does not apply)
- G2. Do any other barriers come to mind to winning work as a prime or subcontractor with the City of Atlanta, the Airport or others? Do you have any general thoughts or insights on starting and expanding a business in your field?
- 1=VERBATIM (PROBE FOR COMPLETE THOUGHTS)
 - 97=(NOTHING/NONE/NO COMMENTS)
 - 98=(DON'T KNOW)
 - 99=(REFUSED)
- G3. Would you be willing to participate in a follow-up interview about any of these issues?
- 1=Yes
 - 2=No
 - 98=(DON'T KNOW)
 - 99=(REFUSED)

H. Interviewee and other Contact Information

H1. Just a few last questions. What is your name and position at [*firm name / new firm name*]?

(RECORD FULL NAME)

1=VERBATIM

H2. What is your position?

1=Receptionist

2=Owner

3=Manager

4=CFO

5=CEO

6=Assistant to Owner/CEO

7=Sales manager

8=Office manager

9=President

9=(OTHER - SPECIFY)

99=(REFUSED)

H2. OTHER - SPECIFY

1=VERBATIM

H3. For purposes of receiving procurement information from the City, is your mailing address [*firm address*]:

1=Yes – SKIP TO H5

2=No

98=(DON'T KNOW)

99=(REFUSED)

H4. What mailing address should they use to get any materials to you?

1=VERBATIM

H5. What fax number could they use to fax any materials to you?

1=NUMERIC (1000000000-9999999999)

H6. What e-mail address could they use to get any materials to you?

1=ENTER E-MAIL

97=(NO EMAIL ADDRESS)

98=(DON'T KNOW)

99=(REFUSED)

H6. (RECORD EMAIL ADDRESS) (VERIFY ADDRESS LETTER BY LETTER: EXAMPLE: 'John@CRI-RESEARCH.COM' SHOULD BE VERIFIED AS: J-O-H-N-at-C-R-I-hyphen-R-E-S-E-A-R-C-H-dot-com)

1=VERBATIM

End of survey message:

Thank you for your time. This is very helpful for the City.

APPENDIX D.

Disparity Analysis Methodology

Keen Independent’s utilization analysis reports the percentage of City contract dollars going to minority- and women-owned firms. The disparity analysis compares that utilization with the participation of minority- and women-owned firms that might be expected based on the availability analysis. Appendix D provides an overview of the disparity analysis calculations and describes the statistical significance of the disparity analysis results.

A. Disparity Analysis for City-funded Contracts

To conduct the disparity analysis, Keen Independent compared the actual utilization of MBE/WBEs on City-funded prime contracts and subcontracts with the percentage of contract dollars that MBE/WBEs might be expected to receive based on their availability for that work. (Availability is also referred to as the “utilization benchmark.”) Keen Independent made those comparisons for individual MBE/WBE groups. Appendix C explains how the study team developed benchmarks from the availability data.

Keen Independent expressed both utilization and availability as percentages of the total dollars associated with a particular set of contracts, making them directly comparable (e.g., 5% utilization compared with 4% availability). Keen Independent then calculated a “disparity index” to help compare utilization and availability results among MBE/WBE groups and across different sets of contracts. Figure D-1 describes how Keen Independent calculated disparity indices.

- A disparity index of 100 indicates an exact match between actual utilization and what might be expected based on MBE/WBE availability for a specific set of contracts (often referred to as “parity”).
- A disparity index of less than 100 may indicate a disparity between utilization and availability, and disparities of less than 80 in this report are described as “substantial.”¹

Figure D-1.
Calculation of disparity indices

The disparity index provides a straightforward way of assessing how closely actual utilization of an MBE/WBE group matches what might be expected based on its availability for a specific set of contracts. With the disparity index, one can directly compare results for one group to that of another group, and across different sets of contracts. Disparity indices are calculated using the following formula:

$$\frac{\% \text{ actual utilization}}{\% \text{ availability}} \times 100$$

For example, if actual utilization of MBEs on a set of City of Atlanta contracts was 2 percent and the availability of MBEs for those contracts was 4 percent, then the disparity index would be 2 percent divided by 4 percent, which would then be multiplied by 100 to equal 50. In this example, MBEs would have actually received 50 cents of every dollar that they might be expected to receive based on their availability for the work.

¹ Some courts deem a disparity index below 80 as being “substantial” and have accepted it as evidence of adverse impacts against MBE/WBEs. For example, see *Associated General Contractors of America, San Diego Chapter, Inc. v. California Department of*

B. Statistical Significance of Disparity Analysis Results

Testing for statistical significance relates to testing the degree to which a researcher can reject “random chance” as an explanation for any observed differences. Random chance in data sampling is the factor that researchers consider most in determining the statistical significance of results. However, the study team attempted to contact every firm in the relevant geographic market area identified as possibly doing business within relevant subindustries (as described in Appendix C), mitigating many of the concerns associated with random chance in data sampling as they may relate to Keen Independent’s availability analysis. The utilization analysis also approaches a “population” of contracts. Therefore, one might consider any disparity identified when comparing overall utilization with availability to be “statistically significant.”

Figure D-2 explains the high level of statistical confidence in the utilization and availability results. As outlined on the next page, the study team also used a sophisticated statistical simulation tool to further examine statistical significance of disparity results.

Figure D-2. Confidence intervals for availability and utilization measures

Keen Independent conducted telephone interviews with 12,893 business establishments — a number of completed interviews that is generally considered large enough to be treated as a “population,” not a sample. However, if the results are treated as a sample, the reported 31.5 percent representation of MBEs among all available firms is accurate within about +/- 0.6 percentage points. The level of accuracy for WBEs is similar (+/- 0.4 of the overall figure of 11.6 percent). By comparison, many survey results for proportions reported in the popular press are accurate within +/- 5 percentage points. (Keen Independent applied a 95 percent confidence level and the finite population correction factor when determining these confidence intervals.)

Keen Independent attempted to collect data for all relevant City procurements during the study period and no confidence interval calculation applies for the utilization results.

Transportation, et al., 713 F. 3d 1187 (9th Cir. 2013).; *Rothe Development Corp v. U.S. Dept of Defense*, 545 F.3d 1023 (Fed. Cir 2008); *Eng’g Contractors Ass’n of South Florida, Inc. v. Metropolitan Dade County*, 122 F.3d 914 (11th Circuit 1997); *Concrete Works of Colo., Inc. v. City and County of Denver*, 36 F.3d 1513 (10th Cir. 1994). Also see Appendix B for additional discussion.

Monte Carlo analysis. There were many opportunities in the sets of prime contracts and subcontracts for MBE/WBEs to be awarded work. Some contract elements involved large dollar amounts and others involved only a few thousand dollars.

Monte Carlo analysis was a useful tool for the study team to use for statistical significance testing in the disparity study, because there were many individual chances at winning City prime contracts and subcontracts during the study period, each with a different payoff. Figure D-3 describes Keen Independent's use of Monte Carlo analysis.

Results. Keen Independent identified a substantial disparity between MBE utilization and availability and between WBE utilization and availability across City-funded non-goals contracts for the July 2009 through December 2012 study period. Therefore, the Monte Carlo simulation focused on these results.

Figure D-4 presents the results from the Monte Carlo analysis as they relate to the statistical significance of disparity analysis results for MBEs for City-funded contracts without goals.

Figure D-3. Monte Carlo analysis

The study team began the Monte Carlo analysis by examining individual contract elements. For each contract element, Keen Independent's availability database provided information on individual businesses that were available for that contract element, based on type of work, contractor role, contract size and location of the work.

The study team assumed that each available firm had an equal chance of "receiving" that contract element. For example, the odds of an MBE receiving that contract element were equal to the number of MBEs available for the contract element divided by the total number of firms available for the work. The Monte Carlo simulation then randomly chose a business from the pool of available businesses to "receive" that contract element.

The Monte Carlo simulation repeated the above process for all other elements in a particular set of contracts. The output of a single Monte Carlo simulation for all contract elements in the set represented simulated utilization of MBEs for that set of contract elements.

The entire Monte Carlo simulation was then repeated 20,000 times. The combined output from all 20,000 simulations represented a probability distribution of the overall utilization of MBEs and utilization of WBEs if contracts were awarded randomly among businesses identified as available for City work.

The output of the Monte Carlo simulations represents the number of runs out of 20,000 that produced a simulated utilization result that was equal or below the observed utilization in the actual data for each MBE/WBE group and for each set of contracts. If that number was less than or equal to 500 (i.e., 2.5% of the total number of runs), then the disparity index is considered to be statistically significant.

The Monte Carlo simulations did not replicate the disparity for MBEs in any of the 20,000 simulation runs. Therefore, one can be confident that chance in contract award can be rejected as an explanation for the observed disparity for minority-owned businesses in City-funded contracts without goals.

The Monte Carlo simulations replicated the disparity for WBEs in 81 out of the 20,000 simulation runs, or less than one-half of 1 percent of those simulations. This results means that one can be confident that chance in contract award can be rejected as an explanation of the observed disparity for white women-owned businesses in City-funded contracts without goals.

Figure D-4.
Monte Carlo results for MBEs and WBEs for City-funded contracts without goals, July 2009-Dec. 2012

Source:
 Keen Independent from data on City-funded contracts, July 2009-Dec. 2012.

	MBE	WBE
Disparity index	63	59
Number of simulation runs out of 20,000 that replicated observed utilization	0	81
Probability of observed disparity occurring due to "chance"	< 0.1 %	< 0.1 %
Reject chance in awards of contracts as a cause of disparity for MBEs?	Yes	Yes

It is important to note that this test may not be necessary to establish statistical significance of results (see discussion in Figure D-2 and elsewhere in this report), and it may not be appropriate for a very small populations of firms.²

² Even if there were zero utilization of a particular group, Monte Carlo simulation might not reject chance in contract awards as an explanation for that result if there were a small number of firms in that group or a small number of contract elements included in the analysis. Results can also be affected by the size distribution of contract elements.

APPENDIX E.

Entry and Advancement in the Construction, Professional Services, Goods and Other Services Industries in the Atlanta Metropolitan Area

Congress has 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.”¹ Congress found that discrimination had impeded the formation of qualified minority-owned businesses. In the marketplace appendices (Appendix E through Appendix I), the study team examines whether some of the barriers to business formation that Congress found for minority- and women-owned businesses also appear to occur in the Atlanta Metropolitan Area.² These analyses focus on data that became available since the City’s most recent disparity study in 2009.

Potential barriers to business formation include barriers associated with entry and advancement in the construction, professional services, goods and other services industries. Appendix E examines recent data on education, employment, and workplace advancement that may ultimately influence business formation in the construction, professional services, goods and other services industries in the Atlanta Metropolitan Area.^{3,4}

¹ *Sherbrooke Turf, Inc. v. Minnesota Dept. of Transportation*, 345 F.3d 964, 970 (8th Cir. 2003), citing *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1167-1176 (10th Cir. 2000); see, e.g., *Cone Corp. v. Hillsborough County*, 908 F.2d 908, 914-916 (11th Cir. 1990) [describing statistical “disparity clearly constitut[ing] a prima facie case of discrimination indicating that the racial classification in the [government’s MBE] plan [was] necessary”]; *Western States Paving Co. v. Washington State DOT*, 407 F.3d 983, 991-992 (9th Cir. 2005) [describing statistical evidence considered by Congress].

² For the purposes of the marketplace analyses that examine Census data, the Atlanta Metropolitan Area is defined using Public Use Microdata Areas (PUMAs). PUMAs are statistical geographic areas defined for the dissemination of Public Use Microdata Sample (PUMS) data. They are built on census tracts and counties and generally defined to contain at least 100K people and be geographically contiguous. They are periodically redefined by Census to account for shifting/growing/declining population by area. PUMA boundaries based on the 2010 Census apply to the years 2008-2011 in the data. PUMA boundaries based on the 2010 Census apply to the year 2012. As a result of shifting PUMA boundaries the counties included in the Atlanta Metropolitan Area in this study do not necessarily contain the same counties across all five years of the sample data. Jackson and Morgan counties are included only in the year 2012. Pickens, Spalding, and Dawson counties are only included in the years 2008-2011. Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, and Walton counties are included in all five years from the ACS sample.

³ In Appendix E and other marketplace appendices, information for “professional services” refers to data processing, hosting and related services; architectural, engineering, and related services; computer systems design and related services; management, scientific and technical consulting services; and scientific research and development services. “Goods” refers to wholesale trade. “Other services” refers to bus services and urban transit; taxi and limousine; investigation and security services; services to building and dwellings, except construction cleaning; other administrative and other support services; waste management and remediation services; commercial and industrial machinery and equipment repair maintenance; and other personal services.

⁴ Several other report appendices analyze other quantitative aspects of conditions in the Atlanta Metropolitan Area. Appendix F explores business ownership. Appendix G presents an examination of access to capital. Appendix H considers the success of businesses. Appendix I presents the data sources that the study team used in those appendices.

Introduction

The study team examined whether there were barriers to the formation of minority- and women-owned businesses in the Atlanta Metropolitan Area. Business ownership often results from an individual entering an industry as an employee and then advancing within that industry. Within the entry and advancement process, there may be some barriers that limit opportunities for minorities and women.

Appendix E uses the 2008-2012 American Community Survey (ACS) data to analyze education, employment and workplace advancement — all factors that may influence whether individuals form construction, professional services, goods or other services businesses. The study team analyzed barriers to entry into construction, professional services, goods and other services separately, because entrance requirements and opportunities for advancement differ for those industries. Where possible, analyses are presented by detailed race/ethnicity.

Representation of minorities among workers and business owners in the Atlanta

Metropolitan Area. As a starting point, the study team examined the representation of racial/ethnic minorities among workers and business owners in the Atlanta Metropolitan Area. Figure E-1 shows demographics of the labor force, business owners in non-study industries and business owners in construction, professional services, good and other services industries based on 2008-2012 data. (Demographics of the construction, professional services, goods and other services industries are considered separately later in Appendix E.) Due to small sample sizes in the American Community Survey data for the Atlanta Metropolitan Area, Asian Pacific Americans, Subcontinent Asian Americans and other minority groups are studied together throughout much of this appendix.

Demographic results for the City of Atlanta Metropolitan Area in 2008 through 2012 indicated that African Americans had a lower representation among construction, professional services, goods and other services business owners than in the workforce as a whole. African Americans accounted for about 32 percent of all workers but only 22 percent of business owners in non-study industries and only 15 percent of business owners in the study industries.

Both Hispanic American and non-Hispanic whites had a higher representation among business owners in the relevant study industries than among business owners in all other industries in the Atlanta Metropolitan Area in 2008 through 2012:

- Hispanic Americans accounted for 9 percent of all workers, 7 percent of non-study industry business owners and 14 percent of business owners in the study industries.
- Non-Hispanic whites accounted for about 54 percent of all workers in the Atlanta Metropolitan Area, 62 percent of non-study industry business owners, and 67 percent of study industry business owners.

Other minority groups accounted for approximately 5 percent of all workers, 9 percent of non-study industry business owners and 5 percent of business owners in the study industries.

Representation of women among workers and business owners in the Atlanta Metropolitan

Area. Figure E-1 also presents the representation of women among workers and business owners in 2008 through 2012 in the Atlanta Metropolitan Area. In 2008 through 2012, women accounted for

about 48 percent of the Atlanta Metropolitan Area workforce and 44 percent of non-study industry business owners. However, women only accounted for 19 percent of business owners in the construction, professional services, goods and other services industries during those years.

Figure E-1.
Demographic distribution of the workforce and business owners, 2008-2012

Atlanta	Workforce in all industries	Business owners study industries	Business owners in non-study industries
	2008-12 (n=149,401)	2008-12 (n=4,996)	2008-12 (n=10,054)
Race/ethnicity			
African American	31.9 %	14.5 % **	21.7 %
Hispanic American	9.1	13.6 **	7.3
Other minority group	5.3	4.6 **	8.6
Non-Hispanic white	53.7	67.3	62.3
Total	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>
Gender			
Female	47.6 %	18.5 % **	44.4 %
Male	52.4	81.5	55.6
Total	<u>100.0 %</u>	<u>100.0 %</u>	<u>100.0 %</u>

Note: ** Denotes that the difference in proportions between all study industry business owners and business owners in non-study industries for the given race/ethnicity/gender group is statistically significant at the 95% confidence level

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Construction Industry

The study team examined how education, training, employment, and advancement may affect the number of businesses that individuals of different races/ethnicities and genders owned in the construction industry in the Atlanta Metropolitan Area in 2008 through 2012.

Education. Formal education beyond high school is not a prerequisite for most construction jobs (or ownership, as discussed in Appendix F). For that reason, the construction industry often attracts individuals who have relatively low levels of educational attainment. Most construction industry employees in the Atlanta Metropolitan Area do not have a four-year college degree. Based on the 2008-2012 ACS, 36 percent of workers in the construction industry in the Atlanta Metropolitan Area were high school graduates with no post-secondary education and 30 percent had not finished high school. Only 12 percent of those working in the construction industry in the Atlanta Metropolitan Area had a four-year college degree or higher, compared to 33 percent of all workers.

Race/ethnicity. Hispanic Americans represented an especially large pool of workers with no post-secondary education in the Atlanta Metropolitan Area. In 2008 through 2012, only 16 percent of all Hispanic American workers 25 and older who worked in the Atlanta Metropolitan Area held at least a four-year college degree, far below the figure for non-Hispanic whites working in the region (43%). The percentage of African American (29%) and Native American (33%) workers in the Atlanta

Metropolitan Area with a four-year college degree was also substantially lower than that of non-Hispanic whites in 2008 through 2012. Based on educational requirements of entry-level jobs and the limited education beyond high school for many African Americans, Native Americans and Hispanic Americans in the Atlanta Metropolitan Area, one might expect a relatively high representation of those groups in the construction industry, especially in entry-level positions.

A substantial proportion of Asian-Pacific American workers 25 and older (47%) and Subcontinent Asian American workers 25 and older (75%) in the Atlanta Metropolitan Area had four-year college degrees in 2008 through 2012. Therefore, Asian Americans might be expected to represent a lower portion of the construction workforce than found in other industries

Gender. In the Atlanta Metropolitan Area, female workers age 25 or older achieve a similar level of education, on average, as men. Based on 2008 through 2012 data, 38 percent of female workers and 36 percent of male workers age 25 and older had at least a four-year college degree.

Apprenticeship and training. Training in the construction industry is largely on-the-job or offered through trade schools and apprenticeship programs. Entry-level jobs for workers out of high school are often for laborers, helpers or apprentices. More skilled positions in the construction industry may require additional training through a technical or trade school or through an apprenticeship or other employer-provided training program. Apprenticeship programs can be developed by employers, trade associations, trade unions or other groups. Workers can enter apprenticeship programs from high school or trade school. Apprenticeships have traditionally been three- to five-year programs that combine on-the-job training with classroom instruction.⁵ Opportunities for those programs across race/ethnicity are discussed later in Appendix E.

Employment. With data concerning educational attainment as background, the study team examined the demographics of employment in the Atlanta Metropolitan Area construction industry. Figure E-2 presents data from 2008 through 2012 to compare the demographic composition of the construction industry with the total workforce in all other industries in the Atlanta Metropolitan Area.

⁵ Bureau of Labor Statistics, U.S. Department of Labor. 2006-07. "Construction." *Career Guide to Industries*. <http://www.bls.gov/oco/cg/cgs003.htm> (accessed February 15, 2007)

Figure E-2.
Demographics of workers in
construction and all non-
construction industries, 2008-2012

Note:

** Denotes that the difference in proportions between workers in the construction industry and all non-construction industries for the given ACS year is statistically significant at the 95% confidence level.

Source:

Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	Construction industry	Non-construction industries
	2008-12 (n=9,473)	2008-12 (n=139,928)
Race/ethnicity		
African American	14.3 % **	33.3 %
Hispanic American	30.3 **	7.4
Other minority group	1.9 **	5.5
Non-Hispanic white	53.5	53.8
Total	<u>100.0 %</u>	<u>100.0 %</u>
Gender		
Female	9.3 % **	50.5 %
Male	90.7	49.5
Total	<u>100.0 %</u>	<u>100.0 %</u>

Race/ethnicity. Based on 2008-2012 ACS data, 46 percent of people working in the construction industry and non-construction industries in the Atlanta Metropolitan Area were minorities. An examination of the Atlanta Metropolitan Area construction workforce in 2008 through 2012 shows that:

- Almost one-in-three construction workers were Hispanic American;
- About 14 percent were African American; and
- About 2 percent were Asian Americans and other minorities.

In the Atlanta Metropolitan Area, Hispanic Americans made up a much larger percentage of workers in construction (30%) than in other non-construction industries (7%). African Americans made up a smaller percentage of workers in the construction industry (14%) than in other industries (33%).

Average educational attainment of African Americans is consistent with requirements for construction jobs, so education does not explain the relatively low number of African American workers in the Atlanta Metropolitan Area construction industry. Several studies throughout the United States have argued that race discrimination by construction unions has contributed to the low employment of African Americans in construction trades.⁶ The role of unions is discussed more thoroughly later in Appendix E (including research that suggests discrimination is now less prevalent in unions).

⁶Waldinger, Roger and Thomas Bailey. 1991. "The Continuing Significance of Race: Racial Conflict and Racial Discrimination in Construction." *Politics & Society*, 19(3).

Gender. There were large differences between the percentage of all workers who were women and the percentage of construction workers who were women in the Atlanta Metropolitan Area in 2008 through 2012. During those years, women represented 51 percent of all non-construction workers in the Atlanta Metropolitan Area but only 9 percent of construction workers.

Academic research concerning the effect of race- and gender-based discrimination. There is substantial academic literature that has examined whether race- or gender-based discrimination affects opportunities for minorities and women to enter construction trades in the United States. Many studies indicate that race- and gender-based discrimination negatively affects opportunities for minorities and women in the construction industry. The literature concerning women in construction trades has identified substantial barriers to entry and advancement due to gender discrimination and sexual harassment.⁷ Research concerning highway construction projects in three major U.S. cities (Boston, Los Angeles, and Oakland) identified evidence of prevailing attitudes that women do not belong in construction, and that such discrimination was worse for women of color than for white women.⁸

Importance of unions to entry in the construction industry. Labor researchers characterize construction as a historically volatile industry that is sensitive to business cycles, making the presence of labor unions important for stability and job security within the industry.⁹ The temporary nature of construction work results in uncertain job prospects, and the relatively high turnover of laborers presents a disincentive for construction firms to invest in training. Some researchers have claimed that constant turnover has lent itself to informal recruitment practices and nepotism, compelling laborers to tap social networks for training and work. Those researchers credit the importance of social networks with the high degree of ethnic segmentation in the construction industry.¹⁰ Unable to integrate themselves into traditionally white social networks, African Americans and other minorities historically faced long-standing historical barriers to entering into the industry.¹¹

Construction unions aim to provide a reliable source of labor for employers and preserve job opportunities for workers by formalizing the recruitment process, coordinating training and apprenticeships, enforcing standards of work, and mitigating wage competition. The unionized sector of construction would seemingly be the best road for African Americans and other underrepresented groups into the industry. However, some researchers have identified racial discrimination by trade unions that has historically prevented minorities from obtaining employment in skilled trades.¹² Some

⁷ See, for example, Erickson, Julia A and Donna E. Palladino. 2009. "Women Pursuing Careers in Trades and Construction." *Journal of Career Development*. 36(1): 68-89.

⁸ Note that those interviews took place between 1996 and 1999. Price, Vivian, 2002. "Race, Affirmative Action and Women's Participation in U.S. Highway Construction." *Feminist Economics*. 8(2), 87-113.

⁹ Applebaum, Herbert. 1999. *Construction Workers, U.S.A.* Westport: Greenwood Press.

¹⁰ Waldinger, Roger and Thomas Bailey. 1991. "The Continuing Significance of Race: Racial Conflict and Racial Discrimination in Construction." *Politics & Society*, 19(3).

¹¹ Feagin, Joe R. and Nikitah Imani. 1994. "Racial Barriers to African American Entrepreneurship: An Exploratory Study." *Social Problems*. 41(4): 562-584.

¹² U.S. Department of Justice. 1996. Proposed Reforms to Affirmative Action in Federal Procurement. 61 FR 26042.

researchers argue that union discrimination has taken place in a variety of forms, including the following examples:

- Unions historically used admissions criteria that adversely affect minorities. In the 1970s, federal courts ruled that standardized testing requirements for unions unfairly disadvantaged minority applicants who had less exposure to testing. In addition, the policies that required new union members to have relatives who were already in the union perpetuated the effects of past discrimination.¹³
- Of those minority individuals who are admitted to unions, a disproportionately low number are admitted into union-coordinated apprenticeship programs. Apprenticeship programs are an important means of producing skilled construction laborers, and the reported exclusion of African Americans from those programs has severely limited their access to skilled occupations in the construction industry.¹⁴
- Although formal training and apprenticeship programs exist within unions, most training of union members takes place informally through social networking. Nepotism characterizes the unionized sector of construction as it does the non-unionized sector, and that practice favors a white-dominated status quo.¹⁵
- Traditionally, white unions have been successful in resisting policies designed to increase African American participation in training programs. The political strength of unions in resisting affirmative action in construction has hindered the advancement of African Americans in the industry.¹⁶
- Discriminatory practices in employee referral procedures, including apportioning work based on seniority, have precluded minority union members from having the same access to construction work as their white counterparts.¹⁷
- According to testimony from African American union members, even when unions implement meritocratic mechanisms of apportioning employment to laborers, white workers are often allowed to circumvent procedures and receive preference for construction jobs.¹⁸

¹³ *Ibid.* See *United States v. Iron Workers Local 86* (1971), *Sims v. Sheet Metal Workers International Association* (1973), and *United States v. International Association of Bridge, Structural and Ornamental Iron Workers* (1971).

¹⁴ Applebaum. 1999. *Construction Workers, U.S.A.*

¹⁵ *Ibid.* 299. A high percentage of skilled workers reported having a father or relative in the same trade. However, the author suggests this may not be indicative of current trends.

¹⁶ Waldinger and Bailey. 1991. "The Continuing Significance of Race: Racial Conflict and Racial Discrimination in Construction."

¹⁷ U.S. Department of Justice. 1996. Proposed Reforms to Affirmative Action in Federal Procurement. 61 FR 26042. See *United Steelworkers of America v. Weber* (1979) and *Taylor v. United States Department of Labor* (1982).

¹⁸ Feagin and Imani. 1994. "Racial Barriers to African American Entrepreneurship: An Exploratory Study." *Social Problems*. 41 (4): 562-584.

However, more recent research suggests that the relationship between minorities and unions has been changing. As a result, historical observations may not be indicative of current dynamics in construction unions. Recent studies focusing on the role of unions in apprenticeship programs have compared minority and female participation and graduation rates for apprenticeships in joint programs (that unions and employers organize together) with rates in employer-only programs. Many of those studies conclude that the impact of union involvement is generally positive or neutral for minorities and women, compared to non-Hispanic white males:

- Glover and Bilginsoy (2005) analyzed apprenticeship programs in the U.S. construction industry during the period 1996 through 2003. Their dataset covered about 65 percent of apprenticeships during that time. The authors found that joint programs had “much higher enrollments and participation of women and ethnic/racial minorities” and exhibited “markedly better performance for all groups on rates of attrition and completion” compared to employer-run programs.¹⁹
- In a similar analysis focusing on female apprentices, Bilginsoy and Berik (2006) found that women were most likely to work in highly-skilled construction professions as a result of enrollment in joint programs as opposed to employer-run programs. Moreover, the effect of union involvement in apprenticeship training was higher for African American women than for white women.²⁰
- A recent study on the presence of African Americans and Hispanic Americans in apprenticeship programs found that African Americans were 8 percent more likely to be enrolled in a joint program than in an employer-run program. However, Hispanic Americans were less likely to be in a joint program than in an employer-run program.²¹ Those data suggest that Hispanic Americans may be more likely than African Americans to enter the construction industry without the support of a union.

Recent union membership data support those findings as well. For example, 2012 Current Population Survey (CPS) data indicate that union membership rates for African Americans is slightly higher than for non-Hispanic whites and union membership rates for Hispanic Americans are similar to those of non-Hispanic whites.²² The CPS asked participants, “Are you a member of a labor union or of an employee association similar to a union?” CPS data showed union membership to be 13 percent for African American workers, 10 percent for Hispanic American workers and 11 percent for non-Hispanic white workers. In the construction industry, the union membership rates for both African American workers and non-Hispanic white workers is 17 percent but the rate for Hispanic construction workers is only 8 percent.

¹⁹ Glover, Robert and Bilginsoy, Cihan. 2005. “Registered Apprenticeship Training in the U.S. Construction Industry.” *Education & Training*, Vol. 47, 4/5, p 337.

²⁰ Günseli Berik, Cihan Bilginsoy. 2006. “Still a wedge in the door: women training for the construction trades in the USA”, *International Journal of Manpower*, Vol. 27 Iss: 4, pp.321 – 341.

²¹ Bilginsoy, Cihan. 2005. “How Unions Affect Minority Representation in Building Trades Apprenticeship Programs.” *Journal of Labor Research*, 57(1).

²² 2012 Current Population Survey (CPS), Merged Outgoing Rotation Groups, U.S. Census Bureau and Bureau of Labor Statistics.

Other research focusing on specific states also indicates a more productive relationship between unions and minority workers than that which may have prevailed in the past. A study by Berik, Bilginsoy and Williams found minority and white women were overrepresented in union apprenticeship programs in Oregon. Although white women and minorities were less likely to graduate compared to white men, graduation rates for those groups in the union apprenticeship programs were higher than for nonunion programs.²³ Similar research conducted over a ten-year period in Massachusetts found women and minorities were recruited at a higher rate for union apprenticeship programs compared to nonunion programs and that the completion rates for these groups in union programs were consistently higher than those of nonunion programs.²⁴

Although union membership and union program participation varies based on race/ethnicity, the causes of those differences and their effects on construction industry employment are unresolved. Research is especially limited on the impact of unions on Asian American employment. It is unclear from past studies whether unions presently help or hinder equal opportunity in construction and whether effects in the Atlanta Metropolitan Area are different from other parts of the country. In addition, the current research indicates that the effects of unions on entry into the construction industry may be different for different minority groups.

Union membership in Atlanta. Overall, union membership is declining in the United States and Atlanta is no exception. Data regarding union membership in Atlanta shows that only 4.2 percent of public and private sector workers were members of a union in 2014. In 2000, 5.9 percent of workers in the Atlanta metro area were union members.²⁵

The decline in union membership among workers in the Atlanta metro area has been more pronounced among public sector employees. In 2000, about 17.2 percent of public sector employees were members of a union. By 2014, only 11.9 percent of public sector workers were union members. Among private sector workers, union membership declined from 4.4 percent in 2000 to 3.1 percent in 2014.

²³ Berik, Bilginsoy and Williams. 2011. "Gender and Racial Training Gaps in Oregon Apprenticeship Programs." *Labor Studies Journal*: 36(2): 221-244.

²⁴ Argyres, Annetta and Moir, Susan. 2008. "Building Trades Apprentice Training in Massachusetts: An Analysis of Union and Non-Union Programs, 1997-2007". *Labor Resource Center Publications*. Paper 2.

²⁵ Barry Hirsch and David Macpherson. 2014. "Union Membership and Coverage Database from the CPS." <http://unionstats.com> (accessed October 20, 2014).

Occupational advancement. To research opportunities for advancement in the Atlanta Metropolitan Area construction industry, the study team examined the representation of minorities and women in construction occupations defined by the U.S. Bureau of Labor Statistics.²⁶ Appendix I provides full descriptions of construction trades with large enough sample sizes in the 2008-2012 ACS for the study team to analyze.

Racial/ethnic composition of construction occupations. Figure E-3 presents the race/ethnicity of workers in select construction-related occupations in the Atlanta Metropolitan Area, including low-skill occupations (e.g., construction laborers), higher-skill construction trades (e.g., electricians), and supervisory roles. Figure E-3 presents those data for 2008 through 2012.

Based on 2008-2012 ACS data, there are large differences in the racial/ethnic makeup of workers in various trades related to construction in the Atlanta Metropolitan Area. Overall, minorities comprised 46 percent of the construction industry workforce in 2008 through 2012. Minorities comprised a relatively large percentage of laborers working as:

- Brickmasons (84%);
- Cement masons and terrazzo workers (83%);
- Drywall installers (80%);
- Roofers (77%);
- Construction laborers (71%); and
- Painters (71%).

Some occupations had relatively low representations of minorities:

- Sheet metal workers (15%);
- Iron and steel workers (29%);
- Pipelayers (31%); and
- Electricians (32%).

Minorities made up 28 percent of first-line supervisors in 2008 through 2012²⁷. That percentage was still much less than the total percentage of construction workers who were minorities during those years (46%).

²⁶ Bureau of Labor Statistics, U.S. Department of Labor. 2001. "Standard Occupational Classification Major Groups." http://www.bls.gov/soc/soc_majo.htm (accessed February 15, 2007).

²⁷ First-line supervisors perform both supervisory and management functions and may also engage in the same work as the workers they supervise. Work leaders who spend 20 percent or more of their time at tasks similar to those under their supervision are included in the individual occupation.

Most minorities working in the Atlanta Metropolitan Area construction industry in 2008 through 2012 were Hispanic Americans. The representation of Hispanic Americans was substantially larger among:

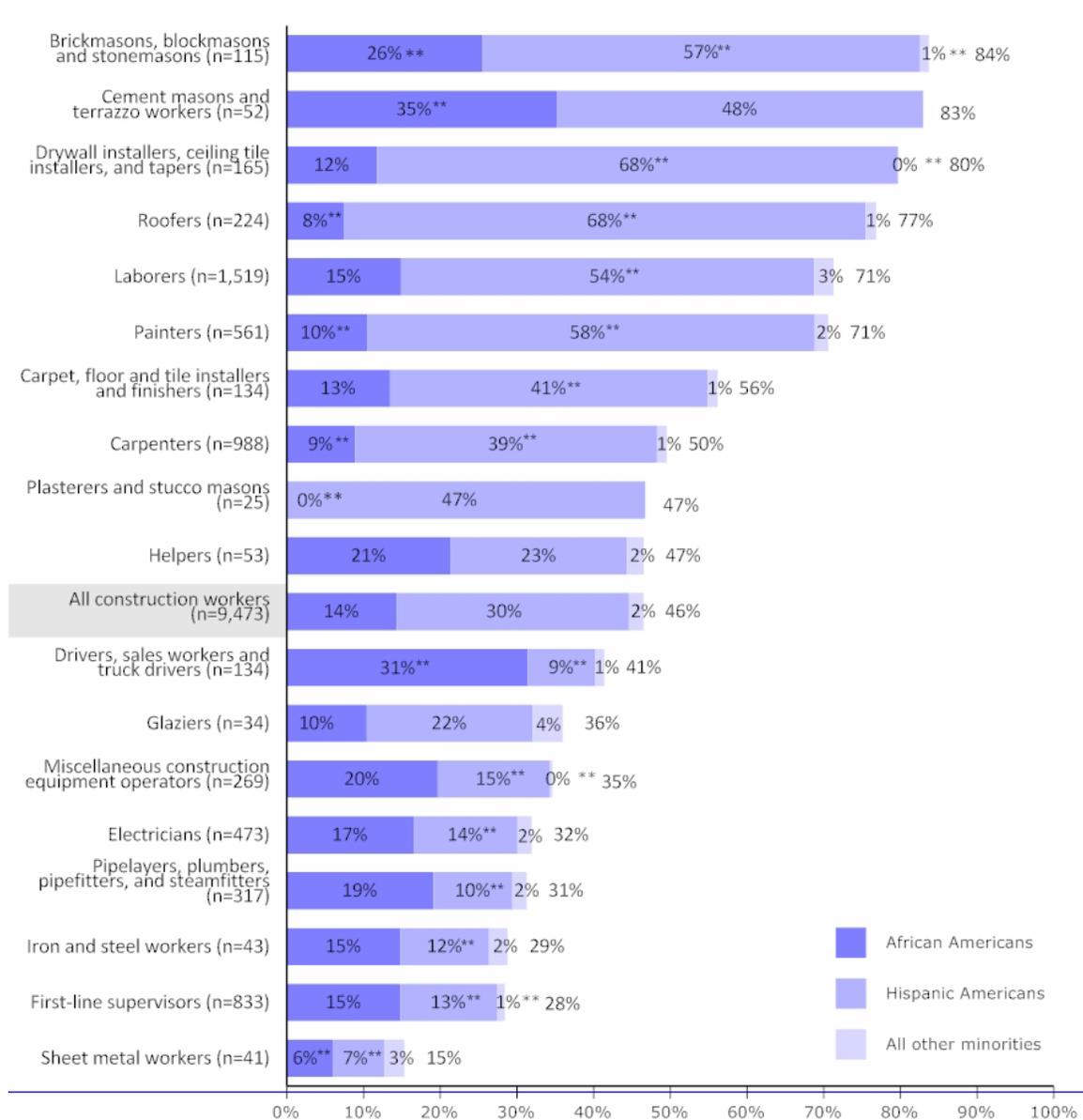
- Roofers (68%);
- Drywall installers (68%);
- Painters (58%);
- Brickmasons (57%);
- Construction laborers (54%);
- Carpet installers (41%); and
- Carpenters (39%).

Those occupations tend to be low-skill occupations. Among the higher-skilled occupations, Hispanic Americans were less represented among:

- Sheet metal worker (7%);
- Pipelayers (10%);
- Iron and steel workers (12%);
- Electricians (14%); and
- Machine operators (15%).

The representation of African Americans in the construction industry was substantially larger among cement masons (35%), drivers (31%), and brickmasons (26%).

Figure E-3.
 Minorities as a percentage of selected construction occupations in the Atlanta Metropolitan Area, 2008-2012



Note: Crane and tower operators, dredge, excavating and loading machine and dragline operators, paving, surfacing and tamping equipment operators and miscellaneous construction equipment operators were combined into the single category of machine operators.

** Denotes that the difference in proportions between workers in the construction industry overall and specified construction occupations at the 95% confidence level.

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

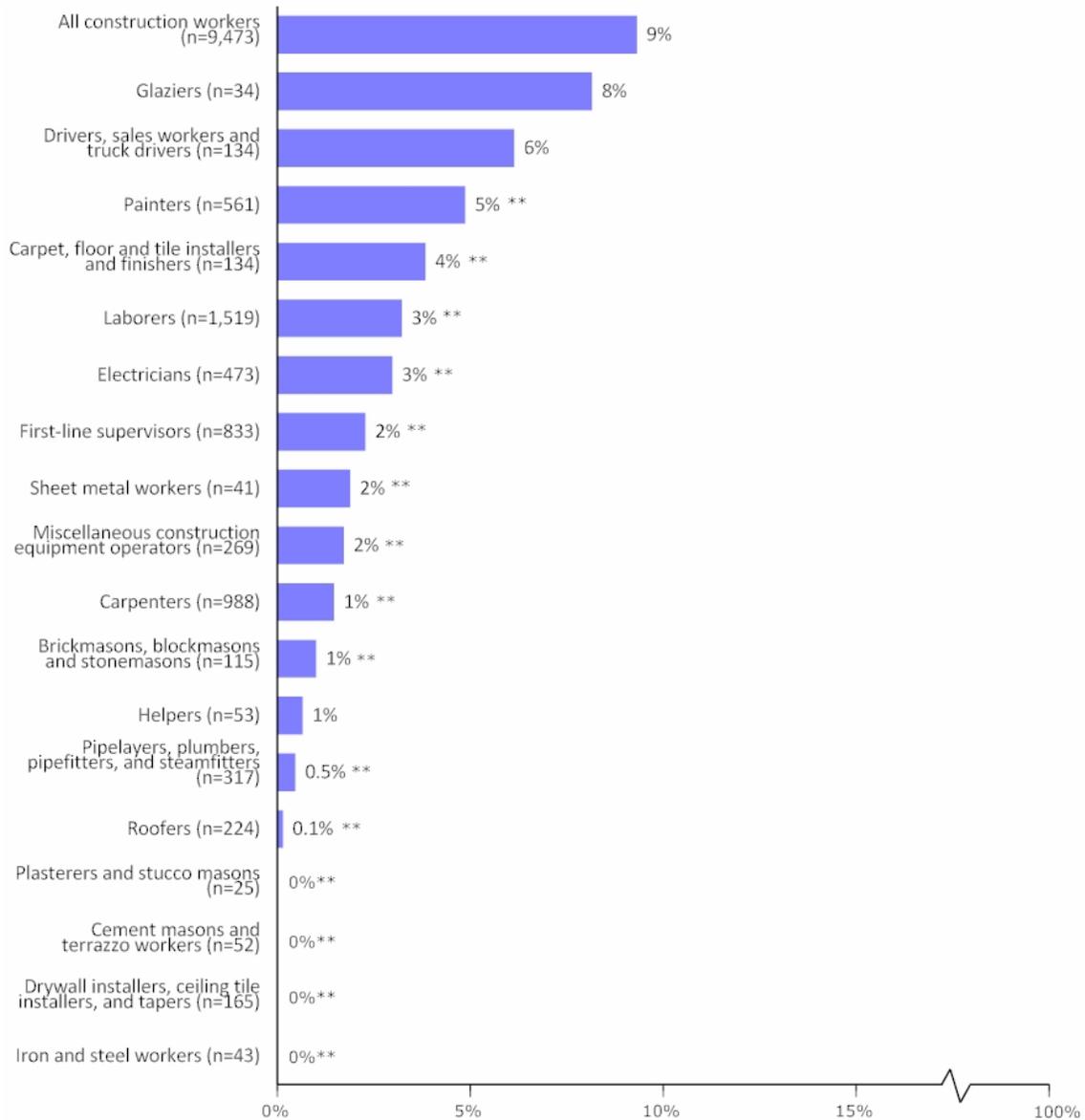
Gender composition of construction occupations. The study team also analyzed the proportion of women in construction-related occupations. Figure E-4 summarizes the gender of workers in select construction-related occupations for 2008 through 2012. Overall, only 9 percent of construction workers in the Atlanta Metropolitan Area were women in 2008 through 2012.

In 2008 through 2012, less than 2 percent of workers were women in the following trades:

- Carpenters;
- Brickmasons;
- Helpers;
- Pipelayers;
- Roofers;
- Plasterers;
- Cement masons;
- Drywall installers; and
- Iron and steel workers.

The proportion of first-line supervisors who were women was 2 percent in 2008 through 2012.

Figure E-4.
 Women as a percentage of selected construction occupations in the Atlanta Metropolitan Area, 2008-2012



Note: Crane and tower operators, dredge, excavating and loading machine and dragline operators, paving, surfacing and tamping equipment operators and miscellaneous construction equipment operators were combined into the single category of machine operators.

** Denotes that the difference in proportions between workers in the construction industry overall and specified construction occupations at the 95% confidence level.

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Percentage of minorities and women who are managers. To further assess advancement opportunities for minorities and women in the Atlanta Metropolitan Area construction industry, the study team examined differences between demographic groups in the proportion of construction workers who reported being managers. Figure E-5 presents the percentage of construction workers who reported being construction managers in 2008 through 2012 for the Atlanta Metropolitan Area by racial, ethnic and gender group.

Figure E-5.
Percentage of construction workers who worked as a manager in the Atlanta Metropolitan Area, 2008-2012

Note:

** Denotes that the difference in proportions between the minority group and non-Hispanic whites (or between females and males) for the given Census/ACS year is statistically significant at the 95% confidence level.

Source:

Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	2008-2012
Race/ethnicity	
African American	5.4 % **
Hispanic American	2.1 **
Other minority group	9.0 **
Non-Hispanic white	11.4
Gender	
Female	6.1 %
Male	7.9
All individuals	7.7 %

In 2008 through 2012, about 11 percent of non-Hispanic whites in the Atlanta Metropolitan Area construction industry were managers. Compared with non-Hispanic whites, a smaller percentage of all minority groups were managers in the Atlanta Metropolitan Area construction industry:

- About 5 percent of African Americans working in the Atlanta Metropolitan Area construction industry were managers;
- About 2 percent of Hispanic Americans were managers; and
- About 9 percent of other minority groups were managers.

Female construction workers in the Atlanta Metropolitan Area were less likely than their male counterparts to be managers in 2008 through 2012.

Professional Services Industry

The study team also examined how education and employment may potentially influence the number of minority and female entrepreneurs working in the Atlanta Metropolitan Area professional services industry.

Education. In contrast to the construction industry, lack of educational attainment may preclude workers' entry into the professional services industry because many occupations require at least a four-year college degree and some require licensure. According to the 2008-2012 ACS, 68 percent of individuals working in the Atlanta Metropolitan Area professional services industry had at least a four-year college degree. Therefore, barriers to education can restrict employment opportunities, advancement opportunities, and, ultimately, business ownership. Any disparities in business

ownership rates in professional services-related work could have resulted from the lack of sufficient education for particular race/ethnicity and gender groups.²⁸

Based on 2008-2012 ACS data, Figure E-6 presents the percentage of workers age 25 and older with at least a four-year college degree in the Atlanta Metropolitan Area. The level of education necessary to work in the professional services industry may partially restrict employment opportunities for African Americans, Hispanic Americans, and Native Americans. For each of those groups, the percentage of workers age 25 or older with a bachelor’s degree or higher was substantially lower than that of non-Hispanic whites in the Atlanta Metropolitan Area for 2008 through 2012.

Race/ethnicity. In the Atlanta Metropolitan Area, about 43 percent of all non-Hispanic white workers age 25 and older had at least a four-year degree in 2008 through 2012. For other racial/ethnic groups, data for the Atlanta Metropolitan Area indicated that:

- About 29 percent of African Americans had at least a four-year college degree;
- Only 16 percent of Hispanic Americans had at least a four-year college degree; and
- About 33 percent of Native Americans had at least a four-year college degree.

Asian-Pacific Americans and Subcontinent Asian Americans in the Atlanta Metropolitan Area were more likely than non-Hispanic whites to be college graduates in 2008 through 2012.

Gender. In the Atlanta Metropolitan Area in 2008 through 2012, about 38 percent of women and 36 percent of men had at least a four-year college degree.

Figure E-6.
Percentage of all workers 25 and older with at least a four-year degree in the Atlanta Metropolitan Area, 2008-2012

Note:

** Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male gender groups) for the given Census/ACS year is statistically significant at the 95% confidence level.

Source:

Keen Independent study team from 2000 U.S. Census 5% sample and 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	2008-2012
Race/ethnicity	
African American	29.2 % **
Asian-Pacific American	46.6 **
Subcontinent Asian American	75.5 **
Hispanic American	16.4 **
Native American	33.0 **
Other minority group	36.6
Non-Hispanic white	42.7
Gender	
Female	37.9 % **
Male	35.8

²⁸ Feagin, Joe R. and Nikitah Imani. 1994. “Racial Barriers to African American Entrepreneurship: An Exploratory Study.” *Social Problems*. 42 (4): 562-584.

Employment. After consideration of educational opportunities and attainment for minorities and women, the study team examined the race/ethnicity and gender composition of workers in the professional services industry in the Atlanta Metropolitan Area. Figure E-7 compares the demographic composition of workers in the Atlanta Metropolitan Area professional services industry to that of all workers in the Atlanta Metropolitan Area who are 25 years or older and have a college degree.

Figure E-7.
Demographic distribution of professional services-related workers and workers age 25 and older with a four-year college degree in all industries in Atlanta, 2008-2012.

Note:
** Denotes that the difference in proportions between professional services workers and workers age 25+ in all industry groups for the given Census/ACS year is statistically significant at the 95% confidence level.

Source:
Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center:
<http://usa.ipums.org/usa/>.

Atlanta	Workers 25+ with college degree (n=52,191)	Prof. services workforce (n=7,172)
Race/ethnicity		
African American	24.8 %	19.4 % **
Asian-Pacific American	3.9	4.1
Subcontinent Asian American	3.2	6.6 **
Hispanic American	3.8	3.7
Native American	0.4	0.4
Other minority group	0.2	0.3
Total minority	36.4 %	34.5 %
Non-Hispanic white	63.6	65.5
Total	100.0 %	100.0 %
Gender		
Female	49.0 %	34.5 % **
Male	51.0	65.5
Total	100.0 %	100.0 %

Race/ethnicity. In 2008 through 2012, about 35 percent of the workforce in the professional services industry in the Atlanta Metropolitan Area was made up of minorities. Of that workforce:

- About 19 percent was made up of African Americans;
- About 7 percent was made up of Subcontinent Asian Americans;
- About 4 percent was Asian-Pacific American;
- Hispanic Americans were 4 percent; and
- Less than one-half of 1 percent was made up of Native Americans.

Other minorities comprised less than one-half of 1 percent of the Atlanta Metropolitan Area professional services workforce in 2008 through 2012.

In 2008 through 2012, African Americans made up 25 percent of workers with a four-year college degree but only 19 percent of workers in the professional services industry. Subcontinent Asian Americans made up 3 percent of workers with a college degree but 7 percent of professional services workers. Asian Pacific Americans, Hispanic Americans, and Native Americans comprised a similar percentage of workers in the professional services industry and of workers with a college degree in all industries.

Gender. Compared to their representation among workers 25 and older with a college degree in all industries, substantially fewer women work in the professional services industry. In 2008 through 2012, women represented about 35 percent of professional services-related workers in the Atlanta Metropolitan Area but 49 percent of workers with a four-year college degree.

Goods Industry

The study team also examined the demographics of workers employed in the goods industry and how employment may potentially influence the number of minority and female entrepreneurs working in the goods industry in the Atlanta Metropolitan Area.

Employment. Analyses of the demographics of workers in the good industry show minorities and women are less likely to be employed in this industry relative to other industries. Figure E-8 presents data from 2008 through 2012 to compare the demographic composition of the goods industry with the total workforce in all other industries in the Atlanta Metropolitan Area.

Figure E-8.
Demographics of workers in goods and all non-goods industries, 2008-2012

Note:

** Denotes that the difference in proportions between workers in the construction industry and all non-construction industries for the given ACS year is statistically significant at the 95% confidence level.

Source:

Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	Non-goods industries	Goods industry
	2008-12 (n=144,474)	2008-12 (n=4,927)
Race/ethnicity		
African American	32.2 %	22.8 % **
Hispanic American	9.1	7.9 **
Other minority	5.3	5.6
Non-Hispanic	53.4	63.8
Total	100.0 %	100.0 %
Gender		
Female	48.1 %	30.7 % **
Male	51.9	69.3
Total	100.0 %	100.0 %

Race/ethnicity. Based on 2008-2012 ACS data, 36 percent of people working in the goods industry in the Atlanta Metropolitan Area were minorities. An examination of the Atlanta Metropolitan Area goods workforce in 2008 through 2012 shows that:

- 23 percent was made up of African Americans;
- 8 percent was made up of Hispanic Americans; and
- 6 percent was made up of other minority groups.

Both African Americans and Hispanic Americans made up smaller percentages of workers in the goods industry than in non-goods industries. Nearly one-third of workers in other industries were African American compared to 23 percent of workers in the goods industry.

Gender. There was a substantial difference between the percentage of all non-goods workers who were women and the percentage of goods workers who were women in the Atlanta Metropolitan Area in 2008 through 2012. During those years, women represented 48 percent of all non-goods workers in the Atlanta Metropolitan Area but only 31 percent of goods workers.

Other Services Industry

The study team also examined how employment may potentially influence the number of minority and female entrepreneurs working in the Atlanta Metropolitan Area other services industry.

Employment. The study team examined the demographics of employment in the Atlanta Metropolitan Area other services industry. Figure E-9 presents data from 2008 through 2012 to compare the demographic composition of the other services industry with the total workforce of all other industries in the Atlanta Metropolitan Area.

Figure E-9.
Demographics of workers in other services and all non-other services industries, 2008-2012

Note:

** Denotes that the difference in proportions between workers in the construction industry and all non-construction industries for the given ACS year is statistically significant at the 95% confidence level.

Source:

Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	All other industries	Other service industries
	2008-12 (n=145,227)	2008-12 (n=4,174)
Race/ethnicity		
African American	31.6 %	41.3 % **
Hispanic American	8.9	13.4 **
Other minority group	5.3	3.4 **
Non-Hispanic white	54.1	41.8
Total	<u>100.0 %</u>	<u>100.0 %</u>
Gender		
Female	47.9 %	38.5 % **
Male	52.1	61.5
Total	<u>100.0 %</u>	<u>100.0 %</u>

Race/ethnicity. Based on 2008-2012 ACS data, 58 percent of people working in the other services industry in the Atlanta Metropolitan Area were minorities. An examination of the Atlanta Metropolitan Area other services workforce in 2008 through 2012 shows that:

- 41 percent was made up of African Americans;
- 13 percent was made up of Hispanic Americans; and
- 3 percent was made up of other minority groups.

In the Atlanta Metropolitan Area, African American and Hispanic Americans made up a larger percentage of workers in other services (41% and 13%, respectively) than in other non-other services industries (32% and 9%). Other minorities made up smaller percentages of workers in the other services industry than in non-other services industries.

Gender. There were large differences between the percentage of all non-other services workers and the percentage of other services workers who were women in the Atlanta Metropolitan Area in 2008 through 2012. During those years, women represented 48 percent of all non-other services workers in the Atlanta Metropolitan Area but only 39 percent of other services workers.

Summary

The study team's analyses suggest that there are barriers to entry for certain minority groups and for women in the construction, professional services, goods and other services industries in the Atlanta Metropolitan Area. As those working in an industry tend to be those who start businesses, any barriers to employment and advancement in an industry may affect the relative number of businesses owned by minorities and women.

- Fewer African Americans worked in the Atlanta Metropolitan Area construction industry than what might be expected based on their representation in the overall workforce.
- Fewer African Americans worked in the Atlanta Metropolitan Area professional services industry than what might be expected based on their representation among workers 25 and older with a college degree.
- Lack of education may be a barrier to entry into the Atlanta Metropolitan Area professional services industry for African Americans, Hispanic Americans and Native Americans. Workers in each of those groups were less likely to have a four-year college degree compared to non-Hispanic whites.
- Fewer African Americans and Hispanic Americans worked in the City of Atlanta area good industry than what might be expected based on representation in the overall workforce.
- Women accounted for relatively few workers in the Atlanta Metropolitan Area construction, professional services, goods and other services industries.

Barriers to advancement for certain minority groups and for women are also evident in the Atlanta Metropolitan Area construction industry.

- Representation of minorities and women was much lower in certain construction trades (including first-line supervisors) compared with other trades.
- Compared to non-Hispanic whites, African Americans, Hispanic Americans, and other minorities were less likely to be managers in the construction industry.

APPENDIX F.

Business Ownership in the Atlanta Metro Area Construction, Professional Services, Goods and Other Services Industries

Appendix F examines rates of business ownership for people working in the construction, professional services, goods and other services industries in the Atlanta Metropolitan Area from 2008 through 2012. Overall rates of business ownership for people working in these industries were relatively high. About one in four construction workers in the Atlanta Metropolitan Area was a self-employed business owner in 2008 through 2012.¹ About one in six workers in the local services industry (including professional services and other services) was a self-employed business owner. Workers in the good industry were less likely to be business owners: only one in twelve workers was a self-employed business owner.²

Focusing on the construction, professional services, goods and other services industries, the study team examined business ownership for different racial, ethnic and gender groups in the Atlanta Metropolitan Area. Any disparities in the rates of business ownership for these groups affects the current availability of minority- and/or women-owned firms in the local marketplace, which might negatively affect the relative availability of minority- and women-owned firms for City of Atlanta contracts. The study team used Public Use Microdata Samples (PUMS) from the 2008 through 2012 American Community Survey (ACS) to study business ownership rates in the construction, professional services, goods and other services industries. These data became available since the City's most recent disparity study in 2009. Note that "self-employment" and "business ownership" are used interchangeably in Appendix F.

Business Ownership Rates

Many studies have explored differences between minority and non-minority business ownership at the national level.³ Although overall self-employment rates have increased for minorities and women

¹ For the purposes of this study, the Atlanta Metropolitan Area was defined using Public Use Microdata Areas (PUMAs). PUMA boundaries based on the 2010 Census apply to the years 2008-2011 in the data. PUMA boundaries based on the 2010 Census apply to the year 2012. As a result of shifting PUMA boundaries the counties included in the Atlanta Metropolitan Area in this study do not necessarily contain the same counties across all 5 years of the sample data. Jackson and Morgan counties are included only in the year 2012. Pickens, Spalding, and Dawson counties are only included in the years 2008-2011. Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, and Walton counties are included in all 5 years from the ACS sample.

² In Appendix F and other marketplace appendices, information for "professional services" refers to Data processing, hosting and related services; Architectural, engineering, and related services; Computer systems design and related services; Management, scientific and technical consulting services; and Scientific research and development services. "Goods" refers to Wholesale trade. "Other services" refers to Bus services and urban transit; Taxi and limousine; Investigation and security services; Services to building and dwellings, except construction cleaning; Other administrative and other support services; Waste management and remediation services; Commercial and industrial machinery and equipment repair maintenance; and Other personal services.

³ See, for example, Waldinger, Roger and Howard E. Aldrich. 1990. *Ethnicity and Entrepreneurship*. Annual Review of Sociology. 111-135.; Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793.; Fairlie, Robert W. and Alicia M. Robb. 2007. *Why are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances and Business Human*

over time, a number of studies indicate that race/ethnicity and gender continue to affect opportunities for business ownership. The extent to which such individual characteristics may limit business ownership opportunities differs from industry to industry and by location.

Construction industry. Compared to other industries, construction has a large number of business owners. In 2008 through 2012, 25 percent of workers in the construction industry in the Atlanta Metropolitan Area were self-employed (in incorporated or unincorporated businesses) compared with only 9 percent of workers across all industries. However, rates of self-employment in the local construction industry vary by race/ethnicity and gender. Figure F-1 shows the percentage of workers in the Atlanta Metropolitan Area who were self-employed in the construction industry by group for 2008 through 2012. Due to small sample sizes, Subcontinent Asian Americans and other minority groups are included in the “other minority” category.

Figure F-1.
Percentage of workers in the construction industry who were self-employed, Atlanta Metropolitan Area, 2008-2012

Note: *, ** Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male groups) for the given Census/ACS year is statistically significant at the 90% or 95% confidence level, respectively.
† Other minority includes Subcontinent Asian Americans and other minority groups.

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center:
<http://usa.ipums.org/usa/>.

Atlanta	Self-Employment	
	Rate 2008-2012	Sample size 2008-2012
Race/ethnicity		
African American	23.7 % **	1,262
Asian-Pacific American	23.4 %	106
Hispanic	16.8 % **	2,049
Native American	24.2 %	50
Other Minority†	31.1 %	38
Non-Hispanic white	30.7 %	5,968
Gender		
Female	17.8 % **	1,041
Male	26.1 %	8,432
All individuals	25.4 %	9,473

In 2008 through 2012, substantial, statistically significant disparities existed in the business ownership rates for African Americans and Hispanic Americans when compared to non-Hispanic whites.

- African American construction workers in Atlanta owned businesses at approximately three-fourths the rate of non-Hispanic whites (24% and 31%, respectively).
- About 17 percent of Hispanic Americans in the construction industry owned businesses in 2008 through 2012, slightly more than half the rate for non-Hispanic whites in the Atlanta Metropolitan Area.

Capital. Journal of Labor Economics, 25(2), 289-323.; and Fairlie, Robert W. and Alicia M. Robb. 2006. *Race, Families and Business Success: A Comparison of African-American-, Asian-, and White-Owned Businesses*. Russell Sage Foundation.

Eighteen percent of women working in the construction industry in the Atlanta Metropolitan Area were self-employed in 2008 through 2012, substantially less than 26 percent found for men (a statistically significant difference).

Professional services industry. The study team also examined business ownership rates in the local professional services industry and found certain minority groups and women less likely to own businesses. Figure F-2 presents the percentage of workers who were self-employed in the professional services industry in 2008 through 2012. Due to small sample sizes, Native Americans are included in the “other minority” category.

Figure F-2.
Percentage of workers in the professional services industry who were self-employed, Atlanta Metropolitan Area, 2008-2012

Note: *, ** Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male groups) for the given Census/ACS year is statistically significant at the 90% or 95% confidence level, respectively.
† Other minority includes Native Americans and other minority groups.

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	Self-Employment	
	Rate	Sample size
	2008-2012	2008-2012
Race/ethnicity		
African American	9.8 % **	1,157
Asian-Pacific American	10.7 % **	287
Subcontinent Asian American	8.4 % **	450
Hispanic	16.8 %	243
Other Minority†	14.5 %	51
Non-Hispanic white	18.8 %	4,984
Gender		
Female	13.7 % **	2,458
Male	17.1 %	4,714
All individuals	15.9 %	7,172

As shown in Figure F-2, African Americans, Asian-Pacific Americans and Subcontinent Asian Americans had substantially lower business ownership rates than non-Hispanic whites (statistically significant differences).

- The business ownership rate in 2008 through 2012 for African Americans (10%) was considerably below non-Hispanic whites (19%).
- The business ownership rates for Asian-Pacific Americans (11%) and Subcontinent Asian Americans were also substantially less than the business ownership rate for non-Hispanic whites.

The rate of business ownership for women (14%) working in the professional services industry was lower than men (17%) in 2008 through 2012.

Goods industry. Analysis of the goods industry in the Atlanta Metropolitan Area also revealed differences in the rates of business ownership by race/ethnicity and gender. Figure F-3 presents the percentage of workers who were self-employed in the goods industry in 2008 through 2012. Due to small sample sizes, Subcontinent Asian Americans are included in the “other minority” category.

As shown in Figure F-3, the rates of business ownership for African Americans and Hispanic Americans were substantially lower than for non-Hispanic whites (statistically significant differences).

- The business ownership rate for Hispanic Americans was 5 percent or about one-half the rate for non-Hispanic whites.
- The business ownership rate for African Americans was 3 percent, less than one-third the rate for non-Hispanic whites.

The rate of business ownership for women working in the goods industry in the Atlanta Metropolitan Area (6.8%) was substantially lower than for men (9.2%) in 2008 through 2012, a statistically significant difference.

Figure F-3.
Percentage of workers in the goods industry who were self-employed, Atlanta Metropolitan Area, 2008-2012

Note: *, ** Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male groups) for the given Census/ACS year is statistically significant at the 90% or 95% confidence level, respectively.
† Other minority includes Subcontinent Asian Americans and other minority groups.

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	Self-Employment Rate 2008-2012	Sample size 2008-2012
Race/ethnicity		
African American	2.8 % **	916
Asian-Pacific American	24.0 %	169
Hispanic	4.8 % **	321
Native American	16.0 %	30
Other Minority†	11.6 %	41
Non-Hispanic white	9.7 %	3,450
Gender		
Female	6.8 % **	1,563
Male	9.1 %	3,364
All individuals	8.4 %	4,927

Other services industry. The study team also examined business ownership rates within the other services industry. Figure F-4 presents the percentage of workers in the other services industry who were self-employed for 2008 through 2012. Due to small sample sizes, Native Americans and Subcontinent Asian Americans are included with the “other minority” category.

As shown in Figure F-4, the rates of business ownership for African Americans and Hispanics were substantially lower than for non-Hispanic whites (statistically significant differences).

- The business ownership rate for Hispanic Americans was 12 percent, one-half the rate for non-Hispanic whites (24%).
- The rate of business ownership for African Americans (11%) was less than one-half the rate for non-Hispanic whites.

The rate of business ownership rate for women (18%) working in the other services industry was higher than the business ownership rate for men (16%) in 2008 through 2012.

Figure F-4.
Percentage of workers in the other services industry who were self-employed, Atlanta Metropolitan Area, 2008-2012

Note: *, ** Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male groups) for the given Census/ACS year is statistically significant at the 90% or 95% confidence level, respectively.
† Other minority includes Native Americans, Subcontinent Asian Americans and other minority groups.

Source: Keen Independent study team from 2008-2012 ACS Public Use Microdata samples. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Atlanta	Self-Employment	
	Rate	Sample size
	2008-2012	2008-2012
Race/ethnicity		
African American	10.5 % **	1,627
Asian-Pacific American	33.1 %	83
Hispanic	11.6 % **	412
Other Minority†	26.3 %	61
Non-Hispanic white	23.8 %	1,991
Gender		
Female	18.4 %	1,649
Male	15.9 %	2,525
All individuals	16.9 %	4,174

Potential causes of differences in business ownership rates. Researchers have examined whether there are disparities in business ownership rates after considering business owners' race- and gender-neutral personal characteristics such as education and age. Several studies have found that disparities in business ownership still exist even after accounting for such race- and gender-neutral factors.

- **Financial capital.** Some studies have concluded that access to financial capital is a strong determinant of business ownership. Researchers have consistently found a positive relationship between startup capital and business formation, expansion and survival.⁴ In addition, one study found that housing appreciation measured at the Metropolitan Statistical Area level is a positive determinant of becoming self-employed.⁵ However, unexplained differences in business ownership rates for minorities still exist after statistically controlling for those factors.⁶ Access to capital is discussed in more detail in Appendix G.

⁴ See Lofstrom, Magnus and Chunbei Wang. 2006. *Hispanic Self-Employment: A Dynamic Analysis of Business Ownership*. Working paper, Forschungsinstitut zur Zukunft der Arbeit (Institute for the Study of Labor); and Fairlie, Robert W. and Alicia M. Robb. 2006. *Race, Families and Business Success: A Comparison of African-American-, Asian- and White-Owned Businesses*. Russell Sage Foundation.

⁵ Fairlie, Robert W. and Harry A. Krashinsky. 2006. *Liquidity Constraints, Household Wealth and Entrepreneurship Revisited*.

⁶ Lofstrom, Magnus and Chunbei Wang. 2006. *Hispanic Self-Employment: A Dynamic Analysis of Business Ownership*. Working paper, Forschungsinstitut zur Zukunft der Arbeit (Institute for the Study of Labor).

- **Education.** Education has a positive effect on the probability of business ownership in most industries. However, results of multiple studies indicate that minorities are still less likely to own a business than non-minorities with similar levels of education.⁷ Recent research confirms a significant relationship between education and ability to obtain startup capital.⁸
- **Intergenerational links.** Intergenerational links affect one’s likelihood of self-employment. One study found that experience working for a self-employed family member increases the likelihood of business ownership for minorities.⁹
- **Immigration to the United States.** Time since immigration and assimilation into American society are also important determinants of self-employment, but unexplained differences in business ownership between minorities and non-minorities still exist when accounting for those factors.¹⁰

Business Ownership Regression Analysis

Race, ethnicity and gender can affect opportunities for business ownership, even when accounting for individuals’ race- and gender-neutral personal characteristics such as education, age and familial status. Recent research using data from 2007 through 2010 indicates minorities (including African Americans and Hispanic Americans) face greater credit constraints at business startup and throughout business ownership than non-Hispanic whites even after controlling for other factors including credit score.¹¹

To further examine business ownership, the study team developed multivariate regression models to explore patterns of business ownership in the Atlanta Metropolitan Area. Those models estimate the effect of race, ethnicity and gender on the probability of business ownership while statistically controlling for other factors.

An extensive body of literature examines whether race- and gender-neutral personal factors such as access to financial capital, education, age and family characteristics (e.g., marital status) help explain differences in business ownership. That subject has also been examined in other disparity analyses.

⁷ See Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793; and Butler, John Sibley and Cedric Herring. 1991. *Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-Employment*. Sociological Perspectives. 79-94.

⁸ Robb, Alicia, Fairlie, Robert w. and Robinson, David T. 2009. “Capital Injections among New Black and White Business Ventures: Evidence from the Kauffman Firm Survey.” Working Paper. Federal Reserve Bank of Cleveland.

⁹ See Fairlie, Robert W. and Alicia M. Robb. 2006. Race, Families and Business Success: A Comparison of African-American-, Asian- and White-Owned Businesses. Russell Sage Foundation; and Fairlie, Robert W. and Alicia M. Robb. 2007. *Why are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances and Business Human Capital*. Journal of Labor Economics, 25(2), 289-323.

¹⁰ See Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793; and Butler, John Sibley and Cedric Herring. 1991. *Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-Employment*. Sociological Perspectives. 79-94.

¹¹ Robb, Alicia. 2012. “Access to Capital among Young Firms, Minority-owned Firms, Women-owned Firms and High-Tech Firms.” Small Business Administration.

For example, prior studies in Minnesota and Illinois have used econometric analyses to investigate whether disparities in business ownership for minorities and women working in the construction and engineering industries persist after statistically controlling race- and gender-neutral personal characteristics.¹² Those studies have incorporated probit econometric models using PUMS data from the 2000 Census and have been among materials that agencies have submitted to courts in subsequent litigation concerning the implementation of the Federal DBE Program.

The Keen Independent study team used similar probit regression models to predict business ownership from multiple independent or “explanatory” variables.¹³ Independent variables included:

- Personal characteristics that are potentially linked to the likelihood of business ownership —age, age-squared, disability, marital status, number of children in the household, number of elderly people in the household, and English-speaking ability;
- Indicators of 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; and
- Variables representing the race/ethnicity and gender of the individuals included in the analysis along with interaction variables to represent the combined effect of being a minority and being female.

The study team developed four probit regression models using PUMS data for the Atlanta Metropolitan Area from the 2008 through 2012 ACS:

- A model for the construction industry that included 8,761 observations;
- A model for the professional services industry that included 6,831 observations;
- A model for the goods industry that included 4,645 observations; and
- A model for the other services that included 3,807 observations.

Results for the construction industry in the Atlanta Metropolitan Area in 2008 through 2012.

Figure F-5 presents the coefficients from the probit model predicting business ownership in the construction industry in the Atlanta Metropolitan Area in 2008 through 2012. Statistically significant positive coefficients indicate an increase in particular factor leads to an increase in the predicted probability of business ownership. A statistically significant negative coefficient means that an

¹² National Economic Research Associates, Inc. 2000. *Disadvantaged Business Enterprise Availability Study*. Prepared for the Minnesota Department of Transportation. National Economic Research Associates, Inc. 2004. *Disadvantaged Business Enterprise Availability Study*. Prepared for the Illinois Department of Transportation.

¹³ Probit models estimate the effects of multiple independent or “predictor” variables in terms of a single, dichotomous dependent or “outcome” variable — in this case, business ownership. The dependent variable is binary, coded as “1” for individuals in a particular industry who are self-employed; “0” for individuals who are not self-employed. The model enables estimation of the probability that a worker in a given estimation sample is self-employed. The study team excluded observations where the Census Bureau had imputed values for the dependent variable, business ownership.

increase in the factor leads to a decrease in the predicted probability of business ownership. The model indicates that several race- and gender-neutral factors were important and statistically significant in predicting the probability of business ownership in the construction industry:

- Older individuals were more likely to be business owners with lower marginal effects for the oldest individuals.
- An increase in the number of children living in the worker's household was associated with an increase in the worker's likelihood of owning a business.
- Owning a home increases the likelihood of owning a business. Additionally, for those who did own a home, higher home values and higher monthly mortgage payments were associated with a higher likelihood of business ownership.
- Greater interest and dividend income as well as income from a spouse or partner increased workers' likelihood of owning a business.
- Having a four-year degree was associated with a lower likelihood of business ownership.

After controlling for the race- and gender-neutral factors described above, a statistically significant difference persisted in the rates of business ownership for African American, Hispanic American and female construction workers in the Atlanta Metropolitan Area.

Figure F-5.
 Construction industry business
 ownership model, Atlanta
 Metropolitan Area, 2008-2012
 Dependent variable:
 business ownership

Note: *, ** Denote statistical significance at
 the 90% and 95% confidence levels,
 respectively.

Source: Keen Independent study team from
 2008-2012 ACS data. The raw data extract was
 obtained through the IPUMS program of the
 MN Population Center:
<http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	-1.9382 **
Age	0.0373 **
Age-squared	-0.0002 *
Married	-0.0567
Number of children in household	0.0334 *
Number of people over 65 in household	-0.0036
Owns home	0.1258 **
Home value (\$000s)	0.0000 **
Monthly mortgage payment (\$000s)	0.0001 **
Interest and dividend income (\$000s)	0.0000 **
Income of spouse or partner (\$000s)	0.0000 **
Speaks English well	0.0834
Less than high school education	0.0047
Some college	0.0669
Four-year degree	-0.1702 **
Advanced degree	-0.2184
Hispanic American	-0.1395 **
African American	-0.1302 **
Asian-Pacific American	-0.2097
Subcontinent Asian American	-0.0856
Native American	-0.1177
Other minority	0.4690
Female	-0.5246 **

Simulations of business ownership rates. The study team used the 2008 through 2012 results to simulate business ownership rates if minorities and women had the same probability of self-employment as similarly situated non-Hispanic whites and non-Hispanic white males, respectively. This allows a researcher to estimate the size of the difference in business ownership rates for the racial, ethnic or gender group compared with what it would be if the group owned businesses at the same rates as whites or white males. Again, the study team performed these calculations for only those groups where race, ethnicity or gender was a statistically significant negative factor in business ownership (as shown in Figure F-5). Figure F-6 shows actual and simulated (“benchmark”) business ownership rates for African American, Hispanic American and non-Hispanic white female construction workers in the Atlanta Metropolitan Area.

In 2008 through 2012 African American construction workers owned businesses at 83 percent and Hispanic Americans at 56 percent of the rate that would be expected for similarly situated non-Hispanic white workers.

Simulation results for women in 2008 through 2012 also indicated a substantial disparity. About 36 percent of women would own businesses in the construction industry if gender did not have an impact on self-employment. However, the actual 2008 through 2012 self-employment rate for women was 19 percent (disparity index of 53).

Figure F-6.
Comparison of actual business ownership rates to simulated rates
for Atlanta Metropolitan Area construction workers, 2008 through 2012

Group	Self-employment rate		Disparity index (100 = parity)
	Actual	Benchmark	
African American	25.0%	30.1%	83
Hispanic American	17.0%	30.3%	56
Non-Hispanic white female	19.2%	36.3%	53

Note: As the benchmark figure can only be estimated for records with an observed (rather than imputed) dependent variable, comparison is made with only this subset of the sample. For this reason, actual self-employment rates may differ slightly from those in Figure F-1.

Source: Keen Independent study team from statistical models of 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Results for the professional services industry in the Atlanta Metropolitan Area in 2008 through 2012. Figure F-7 presents the coefficients from the probit model predicting business ownership in the professional services industry in the Atlanta Metropolitan Area in 2008 through 2012. The model indicates that several race- and gender-neutral factors were important and statistically significant in predicting the probability of business ownership in the professional services industry:

- The oldest individuals were more likely to be business owners;
- For those who own a home, higher home values are associated with a higher likelihood of business ownership;
- Income from a spouse or partner increased likelihood of owning a business; and

- Having some college, a four-year degree or an advanced degree was associated with a higher likelihood of business ownership.

After controlling for race- and gender-neutral factors, a statistically significant difference persisted in the rates of business ownership for African American, Subcontinent Asian American and female professional services workers in the local area.

Figure F-7.
Professional services industry
business ownership model, Atlanta
Metropolitan Area, 2008-2012

Dependent variable: business
ownership

Note: *,** Denote statistical significance at
the 90% and 95% confidence levels,
respectively.

Source: Keen Independent study team from
2008-2012 ACS data. The raw data extract was
obtained through the IPUMS program of the
MN Population Center:
<http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	-1.7697 **
Age	-0.0020
Age-squared	0.0003 *
Married	-0.0105
Number of children in household	-0.0051
Number of people over 65 in household	0.0145
Owens home	-0.1304
Home value (\$000s)	0.0000 **
Monthly mortgage payment (\$000s)	0.0000
Interest and dividend income (\$000s)	0.0000
Income of spouse or partner (\$000s)	0.0000 **
Speaks English well	-0.0193
Less than high school education	0.2716
Some college	0.2363 *
Four-year degree	0.2747 **
Advanced degree	0.2909 **
Hispanic American	0.0843
African American	-0.2047 **
Asian-Pacific American	-0.1939
Subcontinent Asian American	-0.3109 **
Native American	-0.0324
Other minority	-0.1550
Female	-0.1002 **

Simulations of business ownership rates. The study team simulated business ownership rates in the professional services industry using the same approach as it used for the construction industry. Figure F-8 presents actual and simulated (“benchmark”) business ownership rates for African American, Subcontinent Asian American and non-Hispanic white female workers in the local professional services industry.

Figure F-8.
 Comparison of actual business ownership rates to simulated rates
 for Atlanta Metropolitan Area professional service workers, 2008 through 2012

Group	Self-employment rate		Disparity index (100 = parity)
	Actual	Benchmark	
African American	10.0%	14.1%	71
Subcontinent Asian American	8.5%	13.3%	64
Non-Hispanic white female	16.6%	19.0%	87

Note: As the benchmark figure can only be estimated for records with an observed (rather than imputed) dependent variable, comparison is made with only this subset of the sample. For this reason, actual self-employment rates may differ slightly from those in Figure F-2.

Source: Keen Independent study team from statistical models of 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Approximately 10 percent of African Americans in the Atlanta Metropolitan Area professional service industry were business owners in 2008 through 2012 compared with a benchmark business ownership rate of 14 percent (a disparity index of 71). Less than 9 percent of Subcontinent Asian Americans in the Atlanta professional services industry were business owners, compared to a benchmark ownership rate of 13 percent. This simulated business ownership rate indicates that Subcontinent Asian Americans working in the professional services industry own firms at less than two-thirds (64%) of the rate observed for similarly-situated non-Hispanic whites.

Simulation results for women in 2008 through 2012 indicated a disparity, although somewhat smaller. Nineteen percent of women would own businesses in the construction industry if gender did not have an impact on self-employment. However, the actual 2008 through 2012 self-employment rate for women was 17 percent (disparity index of 87).

Results for the goods industry in the Atlanta Metropolitan Area in 2008 through 2012. Figure F-9 presents the coefficients from the probit model predicting business ownership in the goods industry in the Atlanta Metropolitan Area in 2008 through 2012. The model indicates that several race- and gender-neutral factors were important and statistically significant in predicting the probability of business ownership in the goods industry:

- The oldest individuals were more likely to own a business;
- Being married decreased the likelihood of owning a business;
- Individuals with more children were more likely to be business owners;
- Higher home values were associated with a higher likelihood of business ownership;
- Higher interest and dividend income as well as income from a spouse or a partner increased the likelihood of business ownership; and
- Having a four-year degree was associated with a higher likelihood of business ownership.

After statistically controlling for race- and gender-neutral factors, the regression model indicated that African Americans and women were less likely than non-Hispanic whites and males, respectively, to own goods businesses in the Atlanta Metropolitan Area in 2008 through 2012.

Figure F-9.
Goods industry business ownership model, Atlanta Metropolitan Area, 2008-2012

Dependent variable: business ownership

Note:*,** Denote statistical significance at the 90% and 95% confidence levels, respectively.

Source: Keen Independent study team from 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	-2.1415 **
Age	-0.0079
Age-squared	0.0004 *
Married	-0.1473 *
Number of children in household	0.0811 *
Number of people over 65 in household	0.0837
Owns home	0.1361
Home value (\$000s)	0.0000 **
Monthly mortgage payment (\$000s)	0.0001
Interest and dividend income (\$000s)	0.0000 *
Income of spouse or partner (\$000s)	0.0000 *
Speaks English well	-0.0519
Less than high school education	-0.0093
Some college	0.1134
Four-year degree	0.2537 **
Advanced degree	0.1897
Hispanic American	-0.0281
African American	-0.3818 **
Asian-Pacific American	0.7270
Subcontinent Asian American	0.3912
Native American	0.6814
Other minority	0.9056
Female	-0.1843 **

Simulations of business ownership rates. The study team simulated business ownership rates in the goods industry using the same approach as it used for the construction and professional services industries. Figure F-10 presents actual and simulated (“benchmark”) business ownership rates for African American and non-Hispanic white women workers in the local goods industry.

Figure F-10.
Comparison of actual business ownership rates to simulated rates for Atlanta Metropolitan Area goods workers, 2008-2012

Group	Self-employment rate		Disparity index (100 = parity)
	Actual	Benchmark	
African American	2.9%	6.0%	48
Non-Hispanic white female	7.4%	11.2%	66

Note: As the benchmark figure can only be estimated for records with an observed (rather than imputed) dependent variable, comparison is made with only this subset of the sample. For this reason, actual self-employment rates may differ slightly from those in Figure F-3.

Source: Keen Independent study team from statistical models of 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Approximately 3 percent of African Americans in the local goods industry were business owners in 2008 through 2012 compared with a benchmark business ownership rate of about 6 percent (a disparity index of 48). The simulated business ownership rates indicated that African Americans working in the industry own goods firms at about one-half of the rate observed for similarly-situated non-Hispanic whites (i.e., non-Hispanic white who share the same personal, financial and educational characteristics of African Americans).

Eleven percent of women would own businesses in the construction industry if gender did not have an impact on self-employment. The actual 2008 through 2012 self-employment rate for women was approximately 7 percent (disparity index of 66).

Results for the other services industry in the Atlanta Metropolitan Area in 2008 through 2012.

Figure F-11 presents the coefficients from the probit model predicting business ownership in the other services industry in the Atlanta Metropolitan Area in 2008 through 2012. The model indicates that two race- and gender-neutral factors were important and statistically significant in predicting the probability of business ownership in the other services industry:

- Older age was associated with a higher likelihood of business ownership in the other services industry, and the marginal effect was less for the oldest individuals; and
- Having individuals in the household 65 years or older was associated with a higher likelihood of business ownership;

After statistically controlling for race- and gender-neutral factors, the regression model indicated that African Americans and Hispanic Americans were less likely than non-Hispanic whites to own other services businesses in the local area in 2008 through 2012.

Figure F-11.
Other services industry business ownership model, Atlanta Metropolitan Area, 2008-2012

Dependent variable: business ownership

Note:*,** Denote statistical significance at the 90% and 95% confidence levels, respectively.

Source: Keen Independent study team from 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	-2.4273 **
Age	0.0612 **
Age-squared	-0.0005 **
Married	0.0627
Number of children in household	0.0018
Number of people over 65 in household	0.1359 *
Owens home	0.0364
Home value (\$000s)	0.0000
Monthly mortgage payment (\$000s)	0.0000
Interest and dividend income (\$000s)	0.0000
Income of spouse or partner (\$000s)	0.0000
Speaks English well	-0.0452
Less than high school education	-0.0364
Some college	0.0055
Four-year degree	0.0299
Advanced degree	-0.0609
Hispanic American	-0.3375 *
African American	-0.4993 **
Asian-Pacific American	0.0583
Subcontinent Asian American	-0.4607
Native American	-0.0592
Other minority	0.5342
Female	0.1442

Simulations of business ownership rates. The study team simulated business ownership rates in the other services industry using the same approach as it used for the three other industries. Figure F-12 presents actual and simulated (“benchmark”) business ownership rates for African American and Hispanic American workers in the local other services industry.

Figure F-12.
Comparison of actual business ownership rates to simulated rates for Atlanta Metropolitan Area other service workers, 2008-2012

Group	Self-employment rate		Disparity index (100 = parity)
	Actual	Benchmark	
Hispanic American	12.3%	39.0%	32
African American	10.4%	23.6%	44

Note: As the benchmark figure can only be estimated for records with an observed (rather than imputed) dependent variable, comparison is made with only this subset of the sample. For this reason, actual self-employment rates may differ slightly from those in Figure F-4.

Source: Keen Independent study team from statistical models of 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Approximately 10 percent of African Americans and 12 percent Hispanic Americans in the local other services industry were business owners in 2008 through 2012 compared with benchmark business ownership rates of about 24 and 39 percent (a disparity index of 44 and 32, respectively). The simulated business ownership rates indicated that African Americans working in the other

services industry own their firms at about one-half of the rate and Hispanic Americans at about one-third of the rate observed for similarly-situated non-Hispanic whites.

Summary of Business Ownership in the Construction, Professional Services, Goods and Other Services Industries in the Atlanta Metropolitan Area

Disparities in business ownership were present in the construction industry in the Atlanta Metropolitan Area:

- Business ownership rates for African Americans and Hispanic Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012.
- Business ownership rates for women were substantially lower than that of men in 2008 through 2012.
- Business ownership rates for Asian-Pacific Americans and for Native Americans were also lower than non-Hispanic whites, but due to small sample sizes for those groups, these differences were not statistically significant.
- After statistically controlling for a number of race- and gender-neutral factors, there were statistically significant disparities in business ownership rates for African Americans, Hispanic Americans and women working in the local construction industry in 2008 through 2012.

The study team identified disparities in business ownership in the professional services industry in the Atlanta Metropolitan Area:

- Business ownership rates for African Americans, Asian-Pacific Americans and Subcontinent Asian Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012.
- Business ownership rates for women were substantially lower than that of men in 2008 through 2012.
- The study team used regression models to investigate the presence of race/ethnicity- and gender-based disparities in business ownership rates after accounting for race- and gender-neutral factors. The results indicated statistically significant disparities for African Americans, Subcontinent Asian Americans and women in 2008 through 2012.

In the local goods industry, the study team examined business ownership rates by group:

- Business ownership rates for Hispanic Americans and African Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012.
- Business ownership rates for women were substantially lower than that of men in 2008 through 2012.

- After statistically controlling for a number of race- and gender-neutral factors, there were statistically significant disparities for African Americans and women in 2008 through 2012.

The study team also identified disparities in business ownership in the other services industry:

- Business ownership rates for African Americans and Hispanic Americans were substantially lower than that of non-Hispanic whites in 2008 through 2012.
- After statistically controlling for a number of race- and gender-neutral factors, there were statistically significant disparities for African Americans and Hispanic Americans owned other services businesses for 2008 through 2012.

APPENDIX G.

Access to Capital for Business Formation and Success

Access to capital is one factor that researchers have examined when studying business formation and success. If race- or gender-based discrimination exists in capital markets, minorities and women may have difficulty acquiring the capital necessary to start, operate or expand businesses.^{1,2} Researchers have also found that the amount of start-up capital can affect long-term business success and, on average, minority- and women-owned businesses appear to have less start-up capital than non-Hispanic white-owned businesses and male-owned businesses.³ For example:

- In 2007, 30 percent of majority-owned businesses that responded to a national U.S. Census Bureau survey indicated that they had start-up capital of \$25,000 or more;⁴
- Only 17 percent of African American-owned businesses indicated a comparable amount of start-up capital;
- Disparities in startup capital were identified for every other minority group except Asian Americans; and
- Nineteen percent of female-owned businesses reported start-up capital of \$25,000 or more compared with 32 percent of male-owned businesses (not including businesses that were equally owned by men and women).

Similar research using longitudinal data from 2004 through 2006 found African American-owned firms received significantly lower levels of external startup capital, after controlling for owner and business characteristics, and relied more on owner equity funding. This finding persisted in subsequent years of business operation.⁵

Race- or gender-based discrimination in start-up capital can have long-term consequences, as can discrimination in access to business loans after businesses have already been formed.⁶ Keen Independent's telephone interviews with construction, professional services, goods and other

¹ For example, see Mitchell, Karlyn and Douglas K. Pearce. 2005. "Availability of Financing to Small Firms Using the Survey of Small Business Finances." U.S. Small Business Administration, Office of Advocacy. 57.

² Fairlie, Robert W. and Alicia M. Robb. 2010. *Race and Entrepreneurial Success*. Cambridge: MIT Press.

³ *Ibid.*

⁴ Business owners were asked, "What was the total amount of capital used to start or acquire this business? (Capital includes savings, other assets, and borrowed funds of owner(s))." From U.S. Census Bureau, Statistics for All U.S. Firms by Total Amount of Capital Used to Start or Acquire the Business by Industry, Gender, Ethnicity, Race, and Veteran Status for the U.S.: 2007 Survey of Business Owners:
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=SBO_2007_00CSCB16&prodType=table.

⁵ Robb, Alicia, Fairlie, Robert w. and Robinson, David T. 2009. "Capital Injections among New Black and White Business Ventures: Evidence from the Kauffman Firm Survey." Working Paper. Federal Reserve Bank of Cleveland.

⁶ Fairlie, Robert W. and Alicia M. Robb. 2010. *Race and Entrepreneurial Success*. Cambridge: MIT Press.

services firms in the Atlanta Metropolitan Area performed as part of the availability data collection in this disparity study included questions concerning access to capital. Minority-owned businesses surveyed were about twice as likely to report difficulties obtaining lines of credit or loans than majority-owned firms. Appendix H reports these results.

Appendix G presents information about homeownership and mortgage lending, because home equity can be an important source of capital to start and expand businesses. These analyses focus on data that became available since the City's most recent disparity study. As the business loan data from the Survey of Small Business Finances were examined in that disparity study and have not been updated since that time, they are not examined here.

Homeownership and Mortgage Lending

The study team analyzed homeownership and the mortgage lending industry to explore differences across race/ethnicity and gender that may lead to disparities in access to capital.

Homeownership. Wealth created through homeownership can be an important source of capital to start or expand a business.⁷ In sum:

- A home is a tangible asset that provides borrowing power;⁸
- Wealth that accrues from housing equity and tax savings from homeownership contributes to capital formation;⁹
- Next to business loans, mortgage loans have traditionally been the second largest loan type for small businesses;¹⁰ and
- Homeownership is associated with an estimated 30 percent reduction in the probability of loan denial for small businesses.¹¹

Any barriers to homeownership and home equity growth for minorities and women can affect business opportunities by constraining their available funding. Similarly, any barriers to accessing home equity through home mortgages can also affect available capital for new or expanding businesses. Recent research confirms the importance of homeownership on the likelihood of starting a business, even when examined separately by recent work history (independently examining workers that recently experienced a job loss and those that did not). A strong relationship exists between

⁷ The housing and mortgage crisis beginning in late 2006 has substantially impacted the ability of small businesses to secure loans through home equity. Later in Appendix G, the study team discusses the consequences of the housing and mortgage crisis on small businesses and MBE/WBEs.

⁸ Nevin, Allen. 2006. "Homeownership in California: A CBIA Economic Treatise." *California Building Industry Association*. 2.

⁹ Jackman, Mary R. and Robert W. Jackman 1980. "Racial Inequalities in Home Ownership." *Social Forces*. 58. 1221-1234.

¹⁰ Berger, Allen N. and Gregory F. Udell. 1998. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance*. 22.

¹¹ Cavalluzzo, Ken and John Wolken. 2005. "Small Business Loan Turndowns, Personal Wealth and Discrimination." *Journal of Business*. 78:2153-2178.

increases in home equity and entry into self employment for both groups.¹² The study team analyzed homeownership rates and home values before considering loan denial and subprime lending.

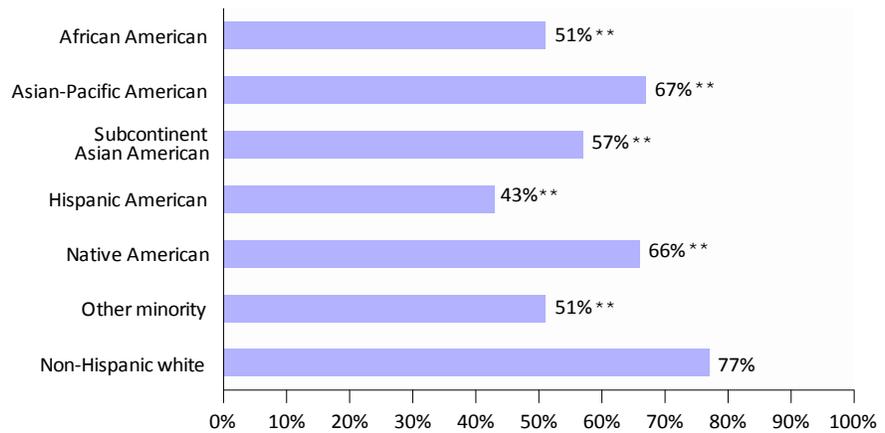
It is important to note that the Great Recession depressed homeownership rates, reduced home values and equity in homes, and changed the mortgage finance market. Lower (or negative) equity in a home and tighter lending standards during the Great Recession may have limited home equity as a source of capital for many existing or potential business owners.

Homeownership rates. Many studies have documented past discrimination in the national housing market. The United States has a history of restrictive real estate covenants and property laws that affect the ownership rights of minorities and women.¹³ For example, in the past, a woman’s participation in homeownership was secondary to that of her husband and parents.¹⁴

The study team used 2008-2012 American Community Survey (ACS) data to examine homeownership rates in the Atlanta Metropolitan Area.¹⁵ Figure G-1 presents homeownership rates for minority groups and non-Hispanic whites.

Figure G-1.
Homeownership rates,
Atlanta Metropolitan
Area, 2008-2012

Note:
The sample universe is all households.
** Denotes that the difference in proportions from non-Hispanic white for the given year is statistically significant at the 95% confidence level.



Source:
Keen Independent study team from 2008-2012 ACS data. The raw data extract was obtained through the IPUMS program of the MN Population Center:
<http://usa.ipums.org/usa/>.

¹² Fairlie, Robert W. and Harry A. Krashinsky. 2012. “Liquidity Constraints, Household Wealth and Entrepreneurship Revisited.” *Review of Income and Wealth*. 58(2).

¹³ Ladd, Helen F. 1982. “Equal Credit Opportunity: Women and Mortgage Credit.” *The American Economic Review*. 72:166-170.

¹⁴ Card, Emily. 1980. “Women, Housing Access, and Mortgage Credit.” *Signs*. 5:215-219.

¹⁵ For the purposes of this study, the City of Atlanta market area was defined using Public Use Microdata Areas (PUMAs). PUMA boundaries based on the 2010 Census apply to the years 2008-2011 in the data. PUMA boundaries based on the 2010 Census apply to the year 2012. As a result of shifting PUMA boundaries the counties included in the City of Atlanta market area in this study do not necessarily contain the same counties across all 5 years of the sample data. Jackson and Morgan counties are included only in the year 2012. Pickens, Spalding, and Dawson counties are only included in the years 2008-2011. Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, and Walton counties are included in all 5 years from the ACS sample.

Disparities in homeownership rates between racial/ethnic minorities and non-minorities in the Atlanta Metropolitan Area were apparent in 2008 through 2012.¹⁶ Compared with the 77 percent homeownership rate for non-minorities:

- Approximately one-half (51%) of African American households were homeowners;
- About 43 percent of Hispanic American households were homeowners;
- Homeownership rates for Subcontinent Asian Americans and Asian-Pacific Americans were 57 percent and 67 percent, respectively; and
- About two-thirds (66%) of Native American households owned homes.

Lower rates of homeownership may reflect lower incomes for minorities. That relationship may be self-reinforcing, as low wealth puts individuals at a disadvantage in becoming homeowners, which has historically been a path to building wealth. An older study found that the probability of homeownership is considerably lower for African Americans than for comparable non-Hispanic whites throughout the United States.¹⁷ Recent research shows that while African Americans narrowed the homeownership gap in the 1990s, the first half of the following decade brought little change and the second half of the decade brought significant losses, resulting in a widening of the gap in homeownership between African Americans and non-Hispanic whites.¹⁸

Home values. Using 2008 through 2012 ACS data, the study team compared median home values in the Atlanta Metropolitan Area by racial/ethnic group.¹⁹ Figure G-2 presents median home values by racial/ethnic groups in the Atlanta Metropolitan Area. African Americans (\$135,000), Hispanic Americans (\$140,000) and Native Americans (\$150,000) had substantially lower median home values than non-Hispanic whites (\$180,000) in the Atlanta Metropolitan Area. On average, Asian-Pacific Americans and Subcontinent Asian Americans owned homes of greater value than non-Hispanic whites.

¹⁶ Although not presented in this report, the study team also examined homeownership rates for heads of households working in the construction, professional services, goods, and other services industries. Each minority group in all of the study industries had a lower rate of home ownership than non-Hispanic whites in the City of Atlanta market area in 2008 through 2012.

¹⁷ Jackman. 1980. "Racial Inequalities in Home Ownership."

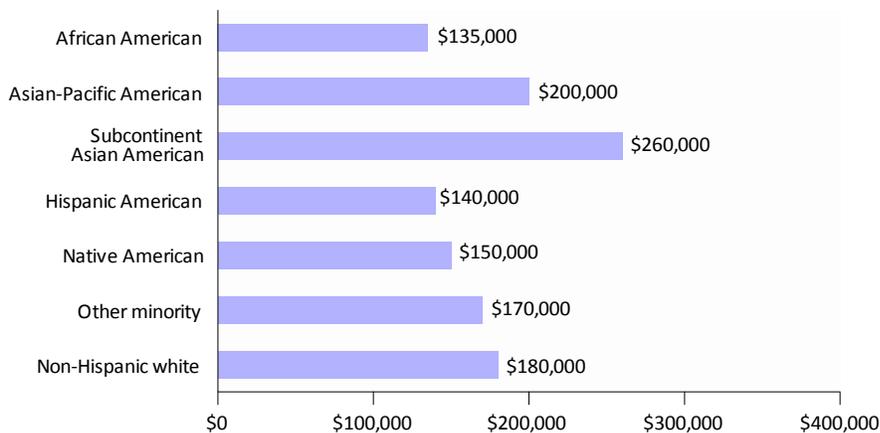
¹⁸ Rosebaum, E. 2012. "Home Ownership's Wild Ride, 2001-2011." U.S. 2010 Project, Census Brief. New York: Russell Sage Foundation.

¹⁹ The study team also examined the proportion of homeowners who own their homes free and clear but the differences among racial/ethnic groups were minimal. In addition, an analysis of home values for homes owned free and clear was not substantially different than trends reflected in the analysis of median home values for all homes by race/ethnicity.

Figure G-2.
Median home values,
Atlanta Metropolitan
Area, 2008-2012

Note:
The sample universe is all
owner-occupied housing units.

Source:
Keen Independent study team
from 2008-2012 American
Community Survey data. The
raw data extract was obtained
through the IPUMS program
of the MN Population Center:
<http://usa.ipums.org/usa/>.



Mortgage lending. Minorities may be denied opportunities to own homes, to purchase more expensive homes, or to access equity in their homes if they are discriminated against when applying for home mortgages. Therefore, any such discrimination could have lasting effects. Bank of America paid \$335 million to settle allegations that its Countrywide Financial unit discriminated against African American and Hispanic American borrowers between 2004 and 2008. The case was brought by the Securities and Exchange Commission after finding evidence of “statistically significant disparities by race and ethnicity” among Countrywide Financial customers.²⁰

A 2012 study extrapolated that African American borrowers were offered high-cost loans at a rate exceeding that of identically situated Non-Hispanic whites. There was also evidence indicative of structural discrimination against borrowers categorized as Hispanic and, to a lesser extent, for women.²¹ Further, minority-owned businesses experience higher loan denial probabilities and pay higher interest rates than white-owned businesses even after controlling for differences in creditworthiness.²²

²⁰ Savage, Charlie. December 22, 2011. “\$335 Million Settlement on Countywide Lending Bias.” *NYTimes.com*. Available online at: <http://www.nytimes.com/2011/12/22/business/us-settlement-reported-on-countrywide-lending.html>

²¹ Maya Sen. 2012. “Quantifying Discrimination: Exploring the Role of Race and Gender and the Awarding of Subprime Mortgage Loans.” Available at SSRN: <http://ssrn.com/abstract=1593183>.

²² Robb, Alicia. 2012. “Access to Capital among Young Firms, Minority-owned Firms, Women-owned firms and High-Tech Firms.” Small Business Administration.

The study team explored market conditions for mortgage lending in the Atlanta Metropolitan Area. The best available source of information concerning mortgage lending is Home Mortgage Disclosure Act (HMDA) data, which contain information on mortgage loan applications that financial institutions, savings banks, credit unions, and some mortgage companies receive.²³ Those data include information about the location, dollar amount, and types of loans made, as well as race/ethnicity, income, and credit characteristics of all loan applicants. The data are available for home purchases, loan refinances, and home improvement loans.

The study team examined HMDA statistics provided by the Federal Financial Institutions Examination Council (FFIEC) for 2006, 2009, and 2012. Although 2012 provides a more recent representation of the home mortgage market, the 2006 data represent a more complete data set from before the recent mortgage crisis. Many of the institutions that originated loans in 2006 were no longer in business by the 2012 reporting date for HMDA data.²⁴ For example, the 2006 HMDA data include information about 821,000 loan applications in the Atlanta Metropolitan Area that approximately 1,100 lenders processed. The 2012 HMDA data for the Atlanta Metropolitan Area include information about 351,000 loan applications that about 800 lenders processed. In addition, the percentage of government-insured loans, which the study team did not include in its analysis, increased dramatically between 2006 and 2012, decreasing the proportion of total loans that the study team analyzed in the 2012 data.²⁵

Mortgage denials. The study team examined mortgage denial rates on conventional loan applications made by high-income households. Conventional loans are loans that are not insured by a government program. High-income applicants are those households with 120 percent or more of the U.S. Department of Housing and Urban Development (HUD) area median family income.²⁶ Loan denial rates are calculated as the percentage of mortgage loan applications that were denied, excluding applications that the potential borrowers terminated and applications that were closed due to incompleteness.²⁷

²³ Financial institutions were required to report 2012 HMDA data if they had assets of more than \$41 million (\$39 million for 2009 and \$35 million for 2006), have a branch office in a metropolitan area, and originated at least one home purchase or refinance loan in the reporting calendar year. Mortgage companies are required to report HMDA data if they are for-profit institutions, had home purchase loan originations exceeding 10 percent of all loan obligations in the past year, are located in a Metropolitan Statistical Area (MSA); or originated five or more home purchase loans in an MSA) and either had more than \$10 million in assets or made at least 100 home purchase or refinance loans in the calendar year.

²⁴ According to an article by the Federal Reserve, the volume of reported loan applications and originations fell sharply from 2007 to 2008 after previously falling between 2006 and 2007. See Avery, Brevoort, and Canner, “The 2008 HMDA Data: The Mortgage Market during a Turbulent Year.” Available online: <http://www.federalreserve.gov/pubs/bulletin/2009/pdf/hmda08draft.pdf>.

²⁵ Loans insured by government programs have surged since 2006. In 2006, about 10 percent of first lien home loans were insured by a government program. More than half of home loans were insured by the government in 2009. Source: “The 2009 HMDA Data: The Mortgage Market in a Time of Low Interest Rates and Economic Distress,” *Federal Reserve Bulletin*, December 2010, pp A39-A77.

²⁶ The median family income in 2012 was about \$69,000 for the Atlanta-Sandy Springs-Marietta MSA (in 2012 dollars). Median family income for 2006 was \$76,000 for the Atlanta-Sandy Springs-Marietta MSA (in 2012 dollars). Source: U.S. Department of Housing and Urban Development (HUD) at www.huduser.org.

²⁷ For this analysis, loan applications are considered to be applications for which a specific property was identified, thus excluding preapproval requests.

Figure G-3 presents loan denial results for the Atlanta Metropolitan Area in 2006, 2009 and 2012. Data for 2006 show higher denial rates for all groups in the Atlanta Metropolitan Area compared with 2012. In 2006, African American, Asian American, Hispanic American, Native American and Native Hawaiian and other Pacific Islander high-income applicants all exhibited higher loan denial rates compared with non-Hispanic white applicants. Results in 2009 were similar.

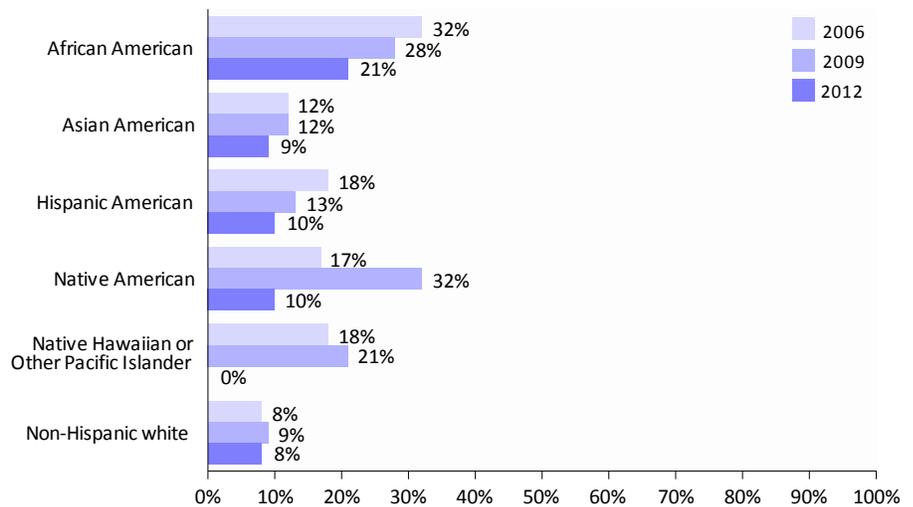
In 2012, loan denial rates remained high for all minority loan applicants except Native Hawaiian and other Pacific Islanders in the Atlanta Metropolitan Area:

- The denial rate was particularly high among high-income African American applicants, 21 percent of whom had their applications denied, compared to only 8 percent of non-Hispanic white applicants.
- Compared with non-minorities, loan denial rates in 2012 were also higher for Native Americans (10%), Hispanic Americans (10%) and Asian Americans (9%) compared with non-Hispanic white applicants.

Figure G-3.
Denial rates of conventional purchase loans to high-income households, Atlanta Metropolitan Area, 2006, 2009 and 2012

Note:
High-income borrowers are those households with 120% or more than the HUD area median family income (MFI).

Source:
FFIEC HMDA data 2006, 2009 and 2012.



Additional research. Several national studies have examined disparities in loan denial rates and loan amounts for minorities in the presence of other influences. For example:

- A study by the Federal Reserve Bank of Boston is one of the most cited studies of mortgage lending discrimination.²⁸ It was conducted using the most comprehensive set of credit characteristics ever assembled for a study on mortgage discrimination.²⁹ The study provided persuasive evidence that lenders in the Boston area discriminated against minorities in 1990.³⁰
- Analyses based on the Federal Reserve Board’s 1983 Survey of Consumer Finances and the 1980 Census of Population and Housing data revealed that minority households were one-third as likely to receive conventional loans as non-Hispanic white households after taking into account financial and demographic variables.³¹
- Findings from a Midwest study indicate a relationship between race and both the number and size of mortgage loans. Data matched on socioeconomic characteristics revealed that African American borrowers across 13 census tracts received significantly fewer loans and of smaller sizes compared to their white counterparts.³²

However, other studies have found that differences in preferences for Federal Housing Administration (FHA) loans — mortgage loans that the government insures — versus conventional loans among racial and ethnic groups may partially explain disparities found in conventional loan approvals between minorities and non-minorities.³³ Several studies have found that, historically, minority borrowers are far more likely to seek FHA loans than comparable non-Hispanic white borrowers across different income and wealth levels. The insurance on FHA loans protects the lender, but the borrower can be disadvantaged by higher borrowing costs.³⁴

Subprime lending. Loan denial is only one of several ways minorities might be discriminated against in the home mortgage market. Mortgage lending discrimination can also occur through higher fees and interest rates. Subprime lending provides a unique example of such types of discrimination through fees associated with various loan types.³⁵

²⁸ Munnell, Alicia H., Geoffrey Tootell, Lynn Browne and James McEneaney. 1996. “Mortgage Lending in Boston: Interpreting HMDA Data.” *The American Economic Review*. 86: 25-53.

²⁹ Ladd, Helen F. 1998. “Evidence on Discrimination in Mortgage Lending.” *The Journal of Economic Perspectives*. 12:41-62.

³⁰ Yinger, John. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. New York: Russell Sage Foundation, 71.

³¹ Canner, Glenn B., Stuart A. Gabriel and J. Michael Woolley. 1991. “Race, Default Risk and Mortgage Lending: A Study of the FHA and Conventional Loan Markets.” *Southern Economic Journal*. 58:249-262.

³² Leahy, Peter J. 1985. “Are Racial Factors Important for the Allocation of Mortgage Money?: A Quasi-Experimental Approach to an Aspect of Discrimination.” *American Journal of Economics and Sociology*. 44:185-196.

³³ Canner. 1991. “Race, Default Risk and Mortgage Lending: A Study of the FHA and Conventional Loan Markets.”

³⁴ Yinger. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. 80.

³⁵ See definition of subprime loans discussed on the following page.

Until the Great Recession, one of the fastest growing segments of the home mortgage industry was subprime lending. From 1994 through 2003, subprime mortgage activity grew by 25 percent per year and accounted for \$330 billion of U.S. mortgages in 2003, up from \$35 billion a decade earlier. In 2006, subprime loans represented about one-fifth of all mortgages in the United States.³⁶ With higher interest rates than prime loans, subprime loans were historically marketed to customers with blemished or limited credit histories who would not typically qualify for prime loans. Over time, subprime loans also became available to homeowners who did not want to make a down payment, did not want to provide proof of income and assets, or wanted to purchase a home with a cost above that for which they would qualify from a prime lender.³⁷ Because of higher interest rates and additional costs, subprime loans affected homeowners' ability to grow home equity and increased their risks of foreclosure.

Although there is no standard definition of a subprime loan, there are several commonly-used approaches to examining rates of subprime lending. The study team used a “rate-spread method” — in which subprime loans are identified as those loans with substantially above-average interest rates—to measure rates of subprime lending in 2006, 2009, and 2012.³⁸ Because lending patterns and borrower motivations differ depending on the type of loan being sought, the study team separately considered home purchase loans and refinance loans. Patterns in subprime lending did not differ substantially between the different types of loans.

Figure G-4 shows the percent of conventional home purchase loans that were subprime in the Atlanta Metropolitan Area, based on 2006, 2009 and 2012 HMDA data. The rates of subprime lending in 2009 and 2012 were dramatically lower overall than in 2006 due to the collapse of the mortgage lending market in the late 2000s.

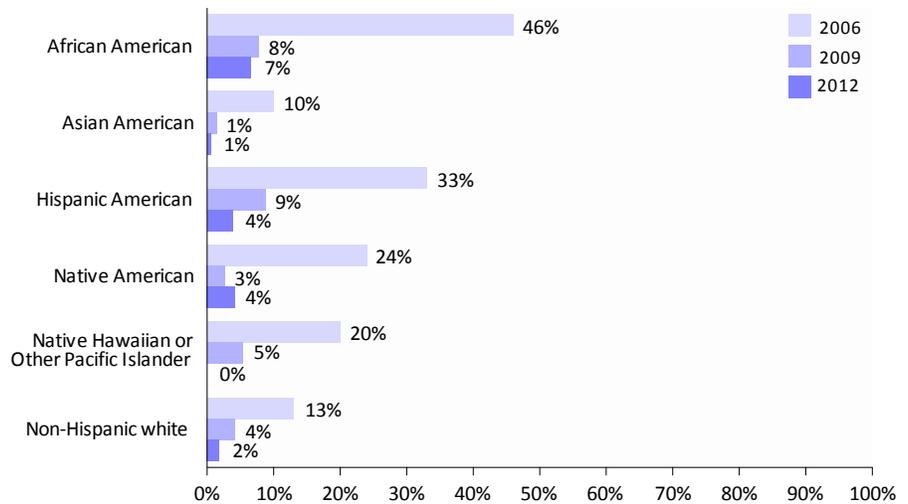
In the Atlanta Metropolitan Area, African American and Hispanic American borrowers were more likely to receive subprime home purchase loans than non-Hispanic whites in all three years (2006, 2009 and 2012). Native American borrowers were also more likely than non-Hispanic whites to receive subprime loans in 2006 and 2012, and Native Hawaiian or other Pacific Islanders were more likely than non-Hispanic whites to receive subprime loans in both 2006 and 2009.

³⁶ Avery, Brevoort, and Canner, “The 2006 HMDA Data.” Federal Reserve Bulletin, December 2007, pp. A73-A109.

³⁷ Gerardi, Shapiro, and P. Willen. 2008. “Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosure.” *Federal Reserve Bank of Boston*.

³⁸ Prior to October 2009, first lien loans were identified as subprime if they had an annual percentage rate (APR) that was 3.0 percentage points or greater than the federal treasury security rate of like maturity. As of October 2009, rate spreads in HMDA data were calculated as the difference between APR and Average Prime Offer Rate, with subprime loans defined as 1.5 percentage points of rate spread or more. The study team identified subprime loans according to those measures in the corresponding time periods.

Figure G-4.
Percent of conventional home purchase loans that were subprime, Atlanta Metropolitan Area, 2006, 2009 and 2012



Source:
FFIEC HMDA data 2006, 2009 and 2012.

In general, although the overall volume of subprime loans dropped substantially between 2006 and 2012, racial/ethnic disparities in subprime lending persisted between those years for African Americans, Hispanic Americans and Native Americans.

Figure G-5 presents the percentage of home refinance loans that were subprime in the Atlanta Metropolitan Area. As with home purchase loans, the rates of subprime lending for refinance loans in 2009 and 2012 were dramatically lower than in 2006 due to the collapse of the mortgage lending market in the late 2000s.

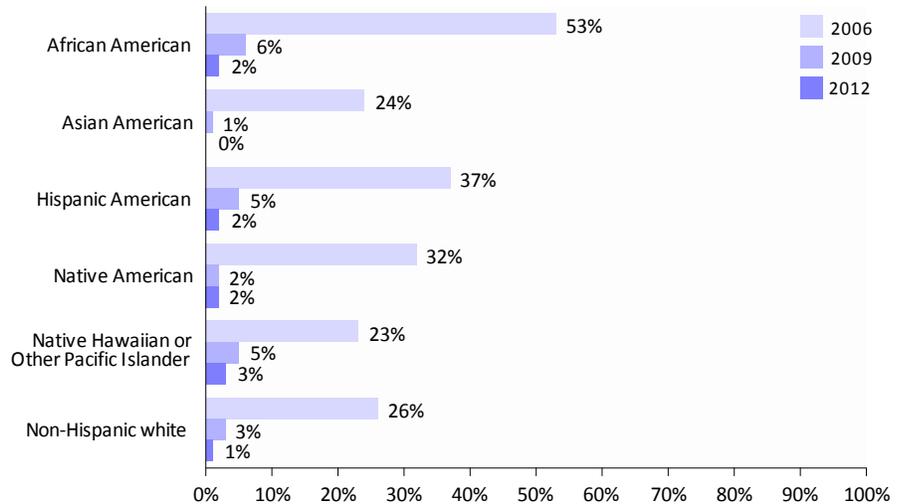
In the Atlanta Metropolitan Area, subprime trends for refinance loans were similar to subprime trends for home purchase loans. Compared to non-Hispanic white borrowers, African Americans and Hispanic Americans were more likely to receive subprime refinance loans in 2006, 2009 and 2012; Native American borrowers were more likely to receive subprime refinance loans in both 2006 and 2012; and Native Hawaiian or Other Pacific Islanders were more likely to receive subprime refinance loans in both 2009 and 2012.

In 2006, about 53 percent of refinance loans issued to African Americans, 37 percent of refinance loans issued to Hispanic Americans, and 32 percent of refinance loans issued to Native Americans were subprime. In contrast, only 26 percent of refinance loans issued to non-Hispanic whites in 2006 were subprime.

By 2012, subprime loans made up a much smaller proportion of the total conventional home refinance loans issued. The decrease in subprime refinance loans was evident for all racial/ethnic groups in the Atlanta Metropolitan Area but most minority households that received refinance loans in 2012 were still more likely than non-Hispanic whites to be issued subprime loans.

Figure G-5.
Percent of conventional
refinance loans that
were subprime, Atlanta
Metropolitan Area,
2006, 2009 and 2012

Source:
FFIEC HMDA data 2006, 2009
and 2012.



Additional research. Some evidence suggests that lenders sought out and offered subprime loans to individuals who often would not be able to pay off the loan, a form of “predatory lending.”³⁹ Furthermore, some research has found that many recipients of subprime loans could have qualified for prime loans.⁴⁰ Previous studies of subprime lending suggest that predatory lenders have disproportionately targeted minorities. A 2001 HUD study using 1998 HMDA data found that subprime loans were disproportionately concentrated in African American neighborhoods compared with white neighborhoods, even after controlling for income.⁴¹ For example, borrowers in higher-income African American neighborhoods were six times more likely to refinance with subprime loans than borrowers in higher-income white neighborhoods. More recent analyses using 2006 HMDA data found that African American borrowers, going to the same lender and displaying similar financial characteristics, were significantly more likely to receive high-cost loans (those with an interest rate more than 3 percent higher than comparable U.S. Treasury instruments) compared to non-Hispanic whites.⁴²

Implications of the recent mortgage lending crisis. The turmoil in the housing market since late 2006 has been far-reaching, resulting in the loss of home equity, decreased demand for housing, and increased rates of foreclosure.⁴³ Much of the blame has been placed on risky practices in the mortgage industry including substantial increases in subprime lending. As discussed above, the number of subprime mortgages increased at an extraordinary rate between the mid-1990s and mid-

³⁹ Department of Housing and Urban Development (HUD) and the Department of Treasury. 2001. HUD-Treasury National Predatory Lending Task Force Report. *HUD*; Carr, J. and L. Kolluri. 2001. *Predatory Lending: An Overview*. *Fannie Mae Foundation*; and California Reinvestment Coalition, Community Reinvestment Association of North Carolina, Empire Justice Center, Massachusetts Affordable Housing Alliance, Neighborhood Economic Development Advocacy Project, Ohio Fair Lending Coalition and Woodstock Institute, 2008. “Paying More for the American Dream.”

⁴⁰ Freddie Mac. 1996, September. “Automated Underwriting: Making Mortgage Lending Simpler and Fairer for America’s Families.” *Freddie Mac*. (accessed February 5, 2007); and Lanzerotti. 2006. “Homeownership at High Cost: Foreclosure Risk and High Cost Loans in California.” *Federal Reserve Bank of San Francisco*.

⁴¹ Department of Housing and Urban Development (HUD) and the Department of Treasury. 2001.

⁴² Maya Sen. 2012. “Quantifying Discrimination: Exploring the Role of Race and Gender and the Awarding of Subprime Mortgage Loans.” Available at SSRN: <http://ssrn.com/abstract=1593183>.

⁴³ Joint Center for Housing Studies of Harvard University. 2008. “The State of the Nation’s Housing.”

2000s. Those high-cost, high-interest loans increased from 8 percent of originations in 2003 to 20 percent in 2005 and 2006.⁴⁴ The preponderance of subprime lending is important because households that are repaying subprime loans have a greater likelihood of delinquency or foreclosure. A 2008 study released from the Federal Reserve Bank of Boston found that “homeownerships that begin with a subprime purchase mortgage end up in foreclosure almost 20 percent of the time, or more than six times as often as experiences that begin with prime purchase mortgages.”⁴⁵

Such problems substantially impact the ability of homeowners to secure capital through home mortgages to start or expand small businesses. That issue has been highlighted in statements made by members of the Board of Governors of the Federal Reserve System to the U.S. Senate and U.S. House of Representatives:

- On April 16, 2008, Frederic Mishkin informed the U.S. Senate Committee on Small Business and Entrepreneurship that “one of the most important concerns about the future prospects for small business access to credit is that many small businesses use real estate assets to secure their loans. Looking forward, continuing declines in the value of their real estate assets clearly have the potential to substantially affect the ability of those small businesses to borrow. Indeed, anecdotal stories to this effect have already appeared in the press.”⁴⁶
- On November 20, 2008, Randall Kroszner told the U.S. House of Representatives Committee on Small Business that “small business and household finances are, in practice, very closely intertwined. [T]he most recent Survey of Small Business Finances (SSBF) indicated that about 15 percent of the total value of small business loans in 2003 was collateralized by ‘personal’ real estate. Because the condition of household balance sheets can be relevant to the ability of some small businesses to obtain credit, the fact that declining house prices have weakened household balance-sheet positions suggests that the housing market crisis has likely had an adverse impact on the volume and price of credit that small businesses are able to raise over and above the effects of the broader credit market turmoil.”⁴⁷

Federal Reserve Chairman Ben Bernanke recognized the reality of those concerns in a speech titled “Restoring the Flow of Credit to Small Businesses” on July 12, 2010.⁴⁸ Bernanke indicated that small businesses have had difficulty accessing credit and pointed to the declining value of real estate as one of the primary obstacles.

⁴⁴ *Ibid.*

⁴⁵ Gerardi, Shapiro, and P. Willen. 2008. “Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosure.” *Federal Reserve Bank of Boston*.

⁴⁶ Mishkin, Frederic. 2008. “Statement of Frederic S. Mishkin, Member, Board of Governors of the Federal Reserve System before the Committee on Small Business and Entrepreneurship, U.S. Senate on April 16.”

⁴⁷ Kroszner, Randall. 2008. “Effects of the financial crisis on small business.” *Testimony before the Committee on Small Business, U.S. House of Representative on November 20*.

⁴⁸ Bernanke, Ben. 2010. Restoring the Flow of Credit to Small Businesses. *Presented at the Federal Reserve Meeting Series: Addressing the Financing Needs of Small Businesses on July 12*.

Furthermore, the National Federation of Independent Business (NFIB) conducted a national survey of 751 small businesses in late-2009 to investigate how the recession impacted access to capital.^{49, 50} NFIB concluded that “falling real estate values (residential and commercial) severely limit small business owner capacity to borrow and strains currently outstanding credit relationships.” Survey results indicated that 95 percent of small business employers owned real estate and 13 percent held “upside-down” property — that is, property for which the mortgage is worth more than its appraised value.

Another study analyzed the Survey of Consumer Finances to explore racial/ethnic disparities in wealth and how those disparities were impacted by the recession.⁵¹ The study showed that there are substantial wealth disparities between African Americans and whites as well as between Hispanics and whites and that those wealth disparities worsened between 1983 and 2010. High wealth families (the top 20% by net worth) saw their average wealth increase by nearly 120 percent between 1983 and 2010, while middle-wealth families saw their average wealth go up by only 13 percent. The lowest wealth families (the bottom 20%) saw their average wealth fall below zero, that is to say that their average debts exceeded their assets. In addition to growing over time, the wealth disparity also grows with age—whites are on a higher accumulation curve than blacks or Hispanics. The study also reports that the 2007 through 2009 recession exacerbated wealth disparities, particularly for Hispanics. In 2010, Non-Hispanic whites on average had six times the wealth of African Americans and Hispanic Americans. The income gap, by comparison, is much smaller. In 2010, the average income for Non-Hispanic whites was twice that of African Americans and Hispanic Americans.⁴⁷

Opportunities to obtain business capital through home mortgages appear to be limited especially for homeowners with little home equity. Furthermore, the increasing rates of default and foreclosure, especially for homeowners with subprime loans, reflect shrinking access to capital available through such loans. Those consequences are likely to have a disproportionate impact on minorities in terms of both homeownership and the ability to secure capital for business start-up and growth.

Redlining. Redlining refers to mortgage lending discrimination against geographic areas associated with high lender risk. Those areas are often racially determined, such as African American or mixed-race neighborhoods.⁵² That practice can perpetuate problems in already poor neighborhoods.⁵³ Most quantitative studies have failed to find strong evidence in support of geographic dimensions of lender decisions. Studies in Columbus, Ohio; Boston, Massachusetts; and Houston, Texas found that racial differences in loan denial had little to do with the racial composition of a neighborhood but rather

⁴⁹ The study defined a small business as a business employing no less than one individual in addition to the owner(s) and no more than 250 individuals.

⁵⁰ National Federation of Independent Business (NFIB). 2010. Small Business Credit in a Deep Recession.

⁵¹ McKernan, Signe-Mary, Caroline Ratcliffe, Eugene Steverle and Sisi Zhang. 2013. “Less Than Equal: Racial Disparities in Wealth Accumulation.” Urban Institute.

⁵² Holloway, Steven R. 1998. “Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio.” *Annals of the Association of American Geographers*. 88:252-276.

⁵³ Ladd, Helen F. 1998. “Evidence on Discrimination in Mortgage Lending.” *The Journal of Economic Perspectives*. 12:41-62.

with the individual characteristics of the borrower.⁵⁴ Some studies found that the race of an applicant — but not the racial makeup of the neighborhood— to be a factor in loan denials.

Studies of redlining have primarily focused on the geographic aspect of lender decisions. However, redlining can also include the practice of restricting credit flows to minority neighborhoods through procedures that are not observable in actual loan decisions. Examples include branch placement, advertising and other pre-application procedures.⁵⁵ Such practices can deter minorities from starting businesses. Locations of financial institutions are important to small business start up, because local banking sectors often finance local businesses.⁵⁶ Redlining practices would deny that resource to minorities.

In September of 2014, the New York attorney general filed a lawsuit against a regional lender in the Buffalo area, accusing it of violating the Fair Housing Act by denying mortgages to African Americans, regardless of credit. The suit claims the bank created a map that defined a “trade area” within which the bank would offer loans and the area deliberately excluded all predominately African American neighborhoods. This case is ongoing. In May 2014, Los Angeles filed suit against JPMorgan Chase, accusing it of both traditional redlining and reverse redlining (steering minorities toward subprime loans). This case is also ongoing. Also in May of 2014, the City of Providence, Rhode Island, filed suit against Santander bank, accusing it of refusing to offer mortgages in predominately minority neighborhoods. Santander settled with the City later that year and agreed to provide \$1.3 million in grants to three Providence nonprofit organizations.⁵⁷

Steering by real estate agents. Historically, differences in the types of loans that are issued to minorities have also been attributed to “steering” by real estate agents, who serve as an information filter.⁵⁸ Despite the fact that steering has been prohibited by law for many decades, some studies claim that real estate brokers provide different levels of assistance and different information on loans to minorities than they do to non-minorities.⁵⁹ Such steering can affect the perception of minority borrowers about the availability of mortgage loans.

Gender discrimination in mortgage lending. Comparatively little information is available on gender-based discrimination in mortgage lending markets. Historically, lending practices overtly discriminated against women by requiring information on marital and childbearing status. Perceived

⁵⁴ See Holloway. 1998. “Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio.” Tootell. 1996. “Redlining in Boston: Do Mortgage Lenders Discriminate Against Neighborhoods?” and Holmes, Andrew and Paul Horvitz. 1994. “Mortgage Redlining: Race, Risk, and Demand.” *The Journal of Finance*. 49:81-99.

⁵⁵ Yinger, John. 1995. “Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination.” Russell Sage Foundation. New York. 78-79.

⁵⁶ Holloway. 1998. “Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio.”

⁵⁷ The New York Times, New York Accuses Evans Bank of Redlining. (2014, September 2). Retrieved from http://nytimes.com/2014/09/02/new-york-set-to-accuse-evans-bank-of-redlining/?_php=true&_type=blogs&_php=true&_type=blogs&ref=business&_r=1.

⁵⁸ Kantor, Amy C. and John D. Nystuen. 1982. “De Facto Redlining a Geographic View.” *Economic Geography*. 4:309-328.

⁵⁹ Yinger. 1995. Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination. 78–79.

risks associated with granting loans to women of childbearing age and unmarried women resulted in “income discounting,” limiting the availability of loans to women.⁶⁰

The Equal Credit Opportunity Act in 1973 suspended such discriminatory lending practices. However, certain barriers affecting women have persisted after 1973 in mortgage lending markets. For example, there is some past evidence that lenders under-appraised properties for female borrowers.⁶¹

Summary

There is evidence that minorities and women continue to face certain disadvantages in accessing capital that is necessary to start, operate, and expand businesses. Capital is required to start companies, so barriers accessing capital can affect the number of minorities and women who are able to start businesses. In addition, minorities and women start business with less capital (based on national data). A number of studies have demonstrated that lower start-up capital adversely affects prospects for those businesses. Key results included the following:

- Home equity is an important source of funds for business start-up and growth. Relatively fewer African Americans, Asian Americans, Hispanic Americans and Native Americans in the Atlanta Metropolitan Area own homes compared with non-Hispanic whites. African Americans, Hispanic Americans and Native Americans who do own homes tend to have lower home values.
- High-income African American, Asian American, Hispanic American and Native American households applying for conventional home mortgages in the Atlanta Metropolitan Area were more likely than non-Hispanic whites to have their applications denied (in 2006, 2009 and 2012).
- African American and Hispanic American mortgage borrowers in the Atlanta Metropolitan Area were more likely than non-Hispanic whites to be issued subprime home purchase and refinance loans in 2006, 2009 and 2012. Native Americans and Native Hawaiians or other Pacific Islanders were also more likely to receive subprime loans during the study period.

⁶⁰ Card. 1980. “Women, Housing Access, and Mortgage Credit.”

⁶¹ Ladd, Helen F. 1982. “Equal Credit Opportunity: Women and Mortgage Credit.” *The American Economic Review*. 72:166-170.

APPENDIX H.

Success of Businesses in Construction, Professional Services, Goods and Other Services Industries in the Atlanta Metropolitan Area

The study team examined the success of minority- and women-owned business enterprises (MBE/WBEs) in the Atlanta Metropolitan Area construction, professional services, goods and other services industries. The study team assessed whether business outcomes for MBE/WBEs differ from those of non-Hispanic white male-owned businesses (i.e., majority-owned businesses).¹ These analyses focus on data that were not a part of the City’s most recent disparity study or became available since the City’s most recent disparity study.

The study team examined outcomes for MBE/WBEs and majority-owned businesses in terms of:

- Business closures, expansions, and contractions;
- Business receipts and earnings;
- Bid capacity; and
- Potential barriers to starting or expanding businesses.

Business Closures, Expansions and Contractions

The study team used Small Business Administration (SBA) data to examine business outcomes — including closures, expansions, and contractions — for minority-owned businesses in Georgia and in the nation as a whole. The SBA analyses compare business outcomes for minority-owned businesses (by demographic group) to business outcomes for all businesses.

Business closures. High rates of business closures may reflect adverse business conditions for minority business owners.

Overall rates of business closures in Georgia. A 2010 SBA report investigated business dynamics and whether minority-owned businesses were more likely to close than other businesses. By matching data from business owners who responded to the 2002 U.S. Census Bureau Survey of Business Owners (SBO) to data from the Census Bureau’s 1989-2006 Business Information Tracking Series, the SBA reported on business closure rates between 2002 and 2006 across different sectors of the economy.^{2,3} The SBA report examined patterns in each state but not in individual metropolitan areas.

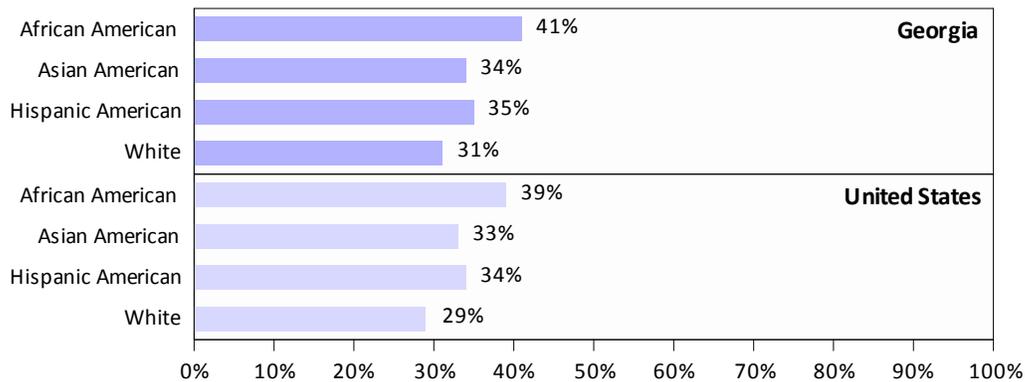
¹ The study team uses the terms “MBEs” and “WBEs” to refer to businesses that are owned and controlled by minorities or women, regardless of whether they meet requirements for M/FBE certification and regardless of whether they are certified as MBEs or FBEs.

² Lowrey, Ying. 2010. “Race/Ethnicity and Establishment Dynamics, 2002-2006.” U.S. Small Business Administration Office of Advocacy. Washington D.C

Figure H-1 presents those data for African American-, Asian American-, and Hispanic American-owned businesses as well as for non-Hispanic white-owned businesses.

As shown in Figure H-1, 41 percent of African American-owned businesses operating in Georgia in 2002 had closed by the end of 2006, a higher rate than that of all other groups. Hispanic American- and Asian American-owned firms also had closure rates higher than for non-minority-owned businesses during this time period. Disparities in closure rates for minority-owned firms, compared to white-owned firms, appear to have been similar in Georgia and in the United States during the same time period.

Figure H-1.
Rates of business closure, 2002 through 2006, Georgia and the United States



Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

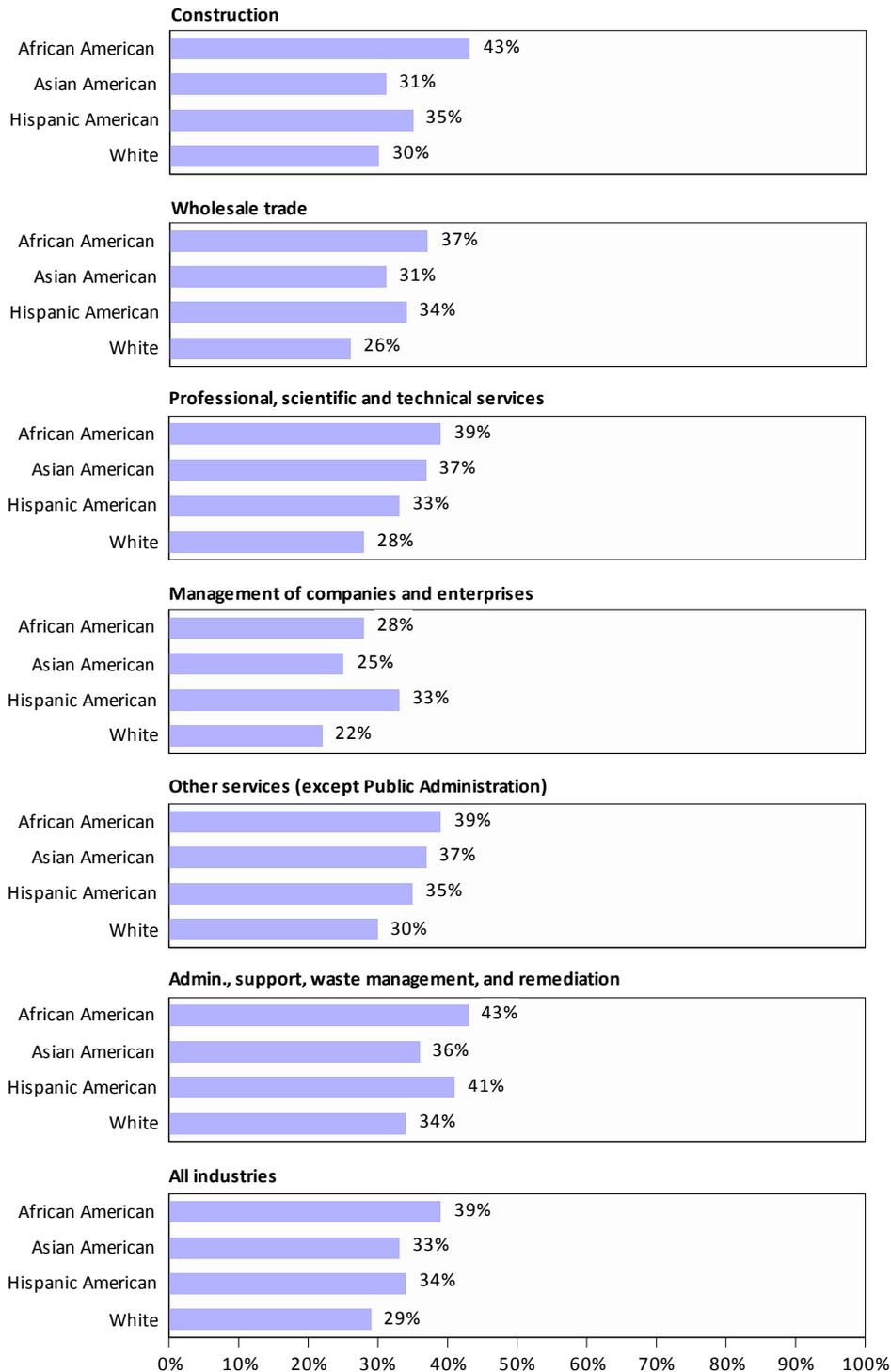
Source: Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006." U.S. Small Business Administration Office of Advocacy. Washington D.C.

Rates of business closures by industry. The SBA report also examined business closure rates by race/ethnicity for 21 different industry classifications. Figure H-2 compares national rates of firm closure for construction; goods (wholesale trade); professional services (professional, scientific, and technical services and management of companies and enterprises); and other services (other services except public administration and administrative, support, waste management, and remediation). Figure H-2 also presents closure rates for all industries by race/ethnicity.

African American-owned businesses that were operating in the United States in 2002 had the highest rate of closure by 2006 among all racial/ethnic groups—including white-owned businesses—in construction (43%); wholesale trade (37%); professional, scientific, and technical services (39%); other services (39%); administrative, support, waste management, and remediation (43%); and all industries (39%). Hispanic American-owned businesses and Asian American-owned businesses that were operating in 2002 were also more likely to have closed by 2006 than white-owned businesses in all of the study industries, and all industries. The study team could not examine whether those differences also existed in the Atlanta Metropolitan Area or in Georgia as a whole, because the SBA analysis by industry was not available for individual states or metropolitan areas.

³ Businesses classifiable by race/ethnicity exclude publicly traded companies. The study team did not categorize racial groups by ethnicity. As a result some Hispanic Americans may also be included in statistics for African Americans, Asian Americans, and whites.

Figure H-2.
Rates of business closure, 2002 through 2006, relevant study industries and all industries
in the United States



Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

Source: Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006." U.S. Small Business Administration Office of Advocacy. Washington D.C.

Unsuccessful closures. Not all business closures can be interpreted as “unsuccessful closures.” Businesses may close when an owner retires or a more profitable business opportunity emerges, both of which represent “successful closures.” The 1992 Characteristics of Business Owners (CBO) Survey is one of the few Census Bureau sources to classify business closures into successful and unsuccessful subsets.⁴ The 1992 CBO combines data from the 1992 Economic Census and a survey of business owners conducted in 1996. The survey portion of the 1992 CBO asked owners of businesses that had closed between 1992 and 1995, “Which item below describes the status of this business at the time the decision was made to cease operations?” Only the responses “successful” and “unsuccessful” were permitted. A firm that reported being unsuccessful at the time of closure was understood to have failed.

Figure H-3 presents CBO data on the proportion of businesses that closed due to failure between 1992 and 1995 in construction; wholesale trade; professional, scientific, and technical services; other services; and all industries.^{5, 6, 7}

According to CBO data, African American-owned businesses were the most likely to report being “unsuccessful” at the time at which their businesses closed. About 77 percent of African American-owned businesses in all industries reported an unsuccessful business closure between 1992 and 1995, compared with only 61 percent of non-Hispanic white male-owned businesses. Unsuccessful closure rates were also relatively high for Hispanic American-owned businesses (71%) and for businesses owned by “other minority groups” (73%). The rate of unsuccessful closures for women-owned businesses (61%) was similar to that of non-Hispanic white male-owned businesses.

In the construction industry, minority- and women-owned businesses were more likely to report unsuccessful business closures than non-Hispanic white male-owned businesses (58%). Those trends were similar in the wholesale trade and professional services industries with one exception—women-owned businesses in the professional services industry (52%) were less likely to report unsuccessful closures than non-Hispanic white male-owned businesses (59%).

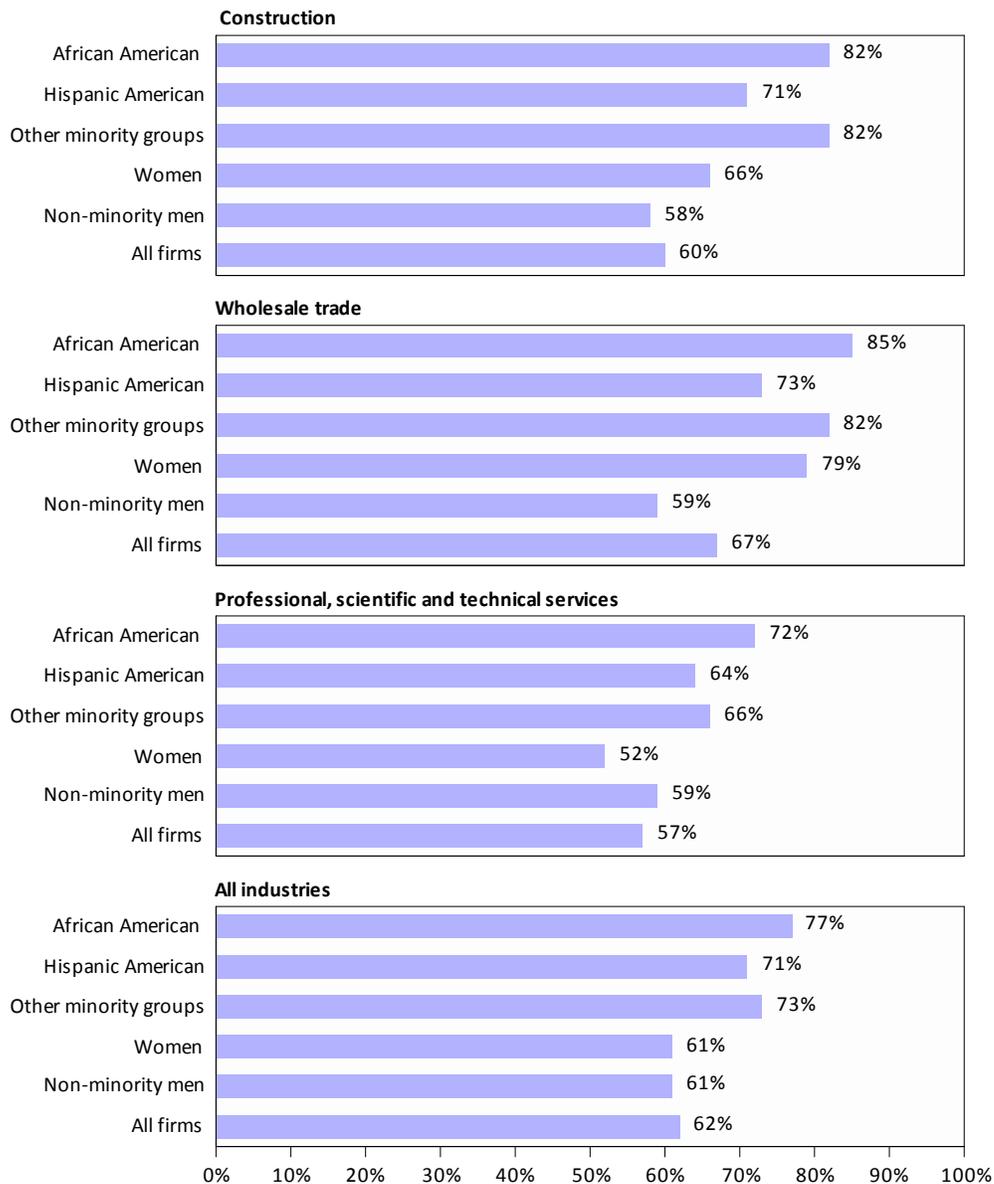
⁴ CBO data from more recent Economic Censuses do not include statistics on successful and unsuccessful business closures. To date, the 1992 CBO is the only U.S. Census dataset that includes such statistics.

⁵ All CBO data should be interpreted with caution as businesses that did not respond to the survey cannot be assumed to have the same characteristics of ones that did. Holmes, Thomas J. and James Schmitz. 1996. “Nonresponse Bias and Business Turnover Rates: The Case of the Characteristics of Business Owners Survey.” *Journal of Business & Economic Statistics*. 14(2): 231-241. This report does not include CBO data on overall business closure rates, because businesses not responding to the survey were found to be much more likely to have closed than ones that did.

⁶ This study includes CBO data on firm success because there is no compelling reason to believe that closed businesses responding to the survey would have reported different rates of success/failure than those closed businesses that did not respond to the survey. Headd, Brian. U.S. Small Business Administration, Office of Advocacy. 2000. *Business Success: Factors leading to surviving and closing successfully*. Washington D.C.: 12.

⁷ Data for firms operating in the management of companies and enterprises and administrative, support, waste management, and remediation industries were not available in the CBO survey.

Figure H-3.
Share of closures reported as unsuccessful between 1992 and 1995 in the United States



Source: U.S. Census Bureau, 1996 Characteristics of Business Owners Survey (CBO).

Reasons for differences in unsuccessful closure rates. Several researchers have offered explanations for higher rates of unsuccessful closures among minority- and women-owned businesses compared with non-Hispanic white-owned businesses:

- Unsuccessful business failures of minority-owned businesses are largely due to barriers in access to capital (see Appendix G for a discussion of access to capital). Regression analyses have identified initial capitalization as a significant factor in determining firm viability. Because minority-owned businesses secure smaller amounts of debt equity in

the form of loans, they may be more liable to fail. Difficulty in accessing capital is found to be particularly acute for minority-owned businesses in the construction industry.⁸

- Prior work experience in a family member’s business or similar experiences are found to be strong determinants of business viability. Because minority business owners are much less likely to have such experience, their businesses are less likely to survive.⁹ Similar research has been conducted for women-owned businesses and found similar gender-based gaps in the likelihood of business survival.¹⁰
- Level of education is found to be a strong determinant of business survival. Educational attainment explains a substantial portion of the gap in business closure rates between African American-owned and non-minority-owned businesses.¹¹
- Non-minority business owners have broader business opportunities, increasing their likelihood of closing successful businesses to pursue more profitable business alternatives. Minority business owners, especially those who do not speak English, have limited employment options and are less likely to close a successful business.¹²
- The possession of greater initial capital and generally higher levels of education among Asian Americans are related to the relatively high rate of survival of Asian American-owned businesses compared to other minority-owned businesses.¹³

Expansions and contractions. Comparing rates of expansion and contraction between minority-owned and white-owned businesses is also useful in assessing the success of minority-owned businesses. As with closure data, only some of the data on expansions and contractions that were available for the nation were also available at the state level.

Expansions. The 2010 SBA study of minority business dynamics from 2002 through 2006 examined the number of non-publicly-held Georgia businesses that expanded and contracted between 2002 and 2006. Figure H-4 presents the percentage of all businesses, by race/ethnicity of ownership that increased their total employment between 2002 and 2006. Those data are presented for Georgia and for the nation as a whole.

⁸ Bates, Timothy and Caren Grown. 1991. “Commercial Lending Practices and the Development of Black-Owned Construction Companies.” Center for Economic Studies, U.S. Census Bureau.

⁹ Robb, A. and Fairlie, R. 2005. “Why are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances, and Business Human Capital.” University of California, Santa Cruz.

¹⁰ Fairlie, R. and A. Robb. 2009. “Gender Differences in Business Performance: Evidence from the Characteristics of Business Owners Survey.” University of California, Santa Cruz.

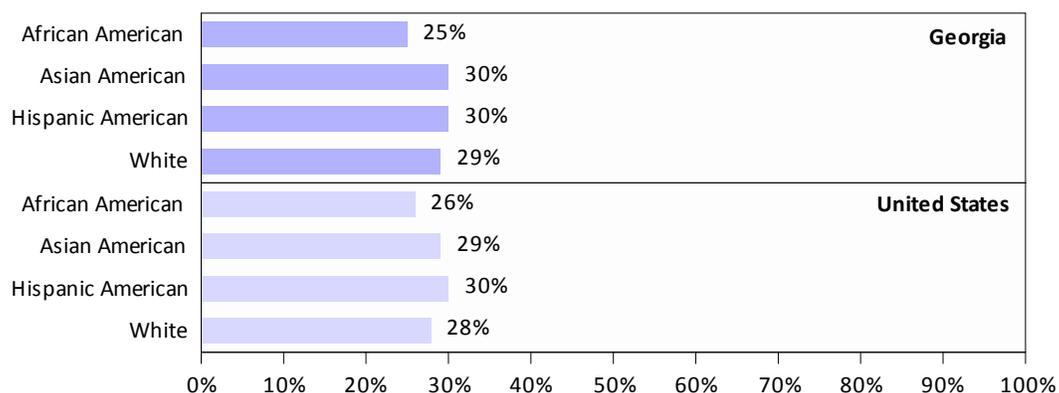
¹¹ *Ibid.* 24.

¹² Bates, Timothy. 2002. “Analysis of Young Small Businesses That Have Closed: Delineating Successful from Unsuccessful Closures.” Center for Economic Studies, U.S. Census Bureau.

¹³ Bates, Timothy. 1993. “Determinants of Survival and Profitability Among Asian Immigrant-Owned Small Businesses.” Center for Economic Studies, U.S. Census Bureau.

Approximately 29 percent of white-owned Georgia businesses expanded between 2002 and 2006, with similar results for Asian American- and Hispanic American-owned firms. However, only 25 percent of African American-owned businesses expanded during that time period. Expansion results for Georgia were similar for the nation as a whole.

Figure H-4.
Percentage of businesses that expanded, 2002 through 2006, Georgia and the United States

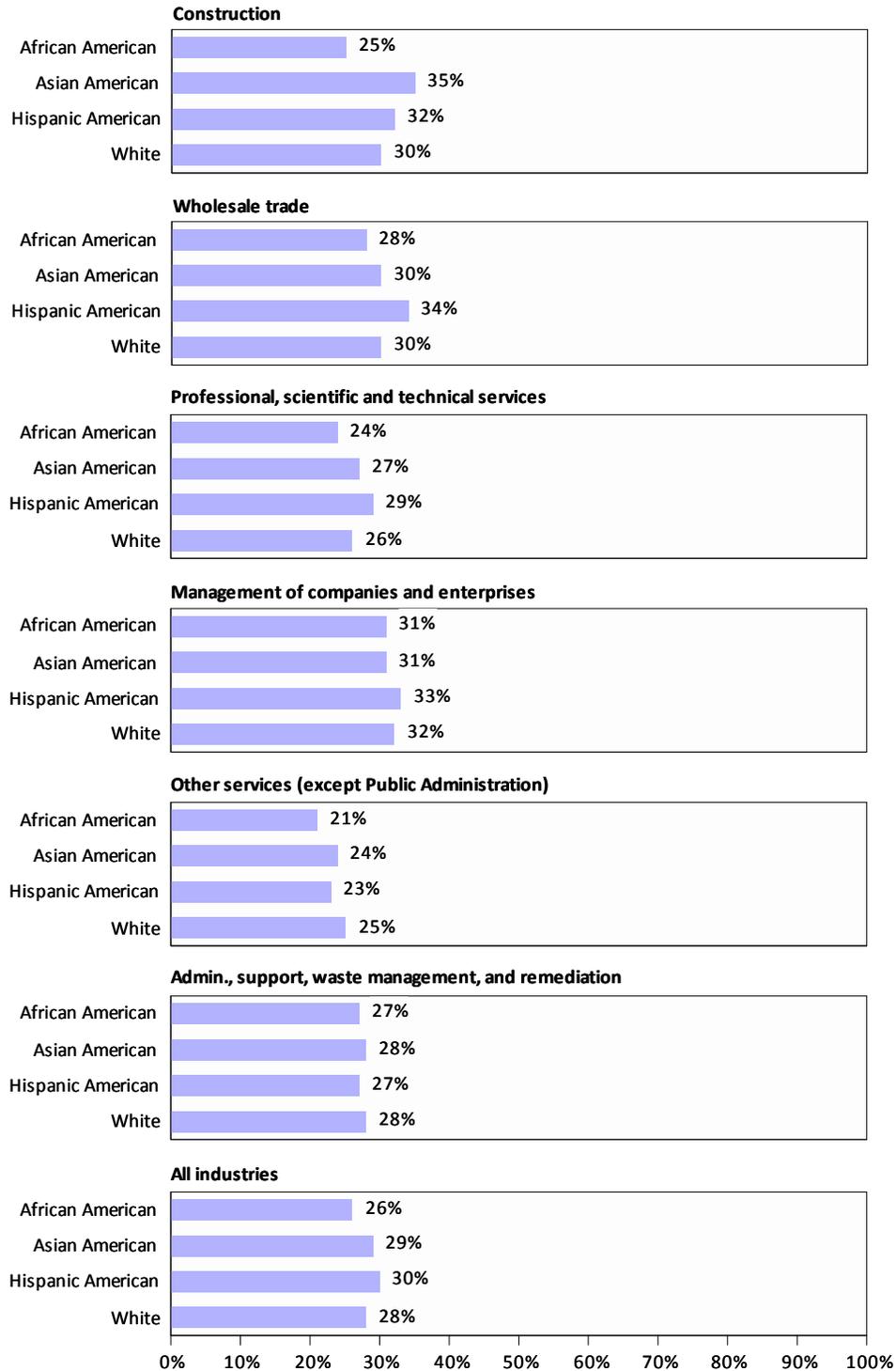


Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

Source: Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006." U.S. Small Business Administration Office of Advocacy. Washington D.C.

Figure H-5 presents the percentage of businesses that expanded in construction; wholesale trade; professional, scientific, and technical services; management of companies and enterprises; other services, administrative, support, waste management and remediation; and in all industries in the United States. (The 2010 SBA study did not report results for businesses in individual industries at the state level.) As with the results for all industries based on these national data, relatively fewer African American-owned firms expanded within each of the individual industries examined.

Figure H-5.
 Percentage of businesses that expanded, 2002 through 2006, relevant study industries and all industries in the United States

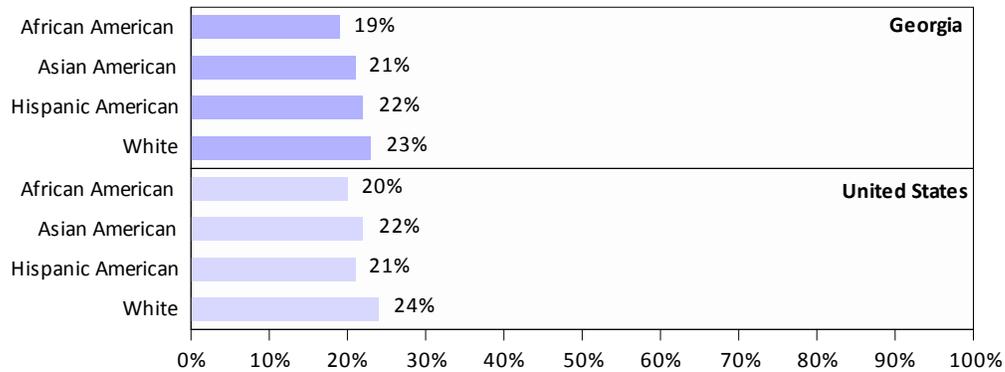


Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

Source: Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006." U.S. Small Business Administration Office of Advocacy. Washington D.C.

Contraction. Figure H-6 shows the percentage of non-publicly held businesses operating in 2002 that reduced their employment (i.e., contracted) between 2002 and 2006 in Georgia and in the nation as a whole. In Georgia, African American-, Asian American- and Hispanic American-owned businesses were less likely to have contracted during 2002 through 2006 than white-owned businesses. This might be related to the fact that relatively more of the minority-owned firms experiencing distress closed rather than contracted (see Figure H-2).

Figure H-6.
Percentage of businesses that contracted, 2002 through 2006, Georgia and the United States

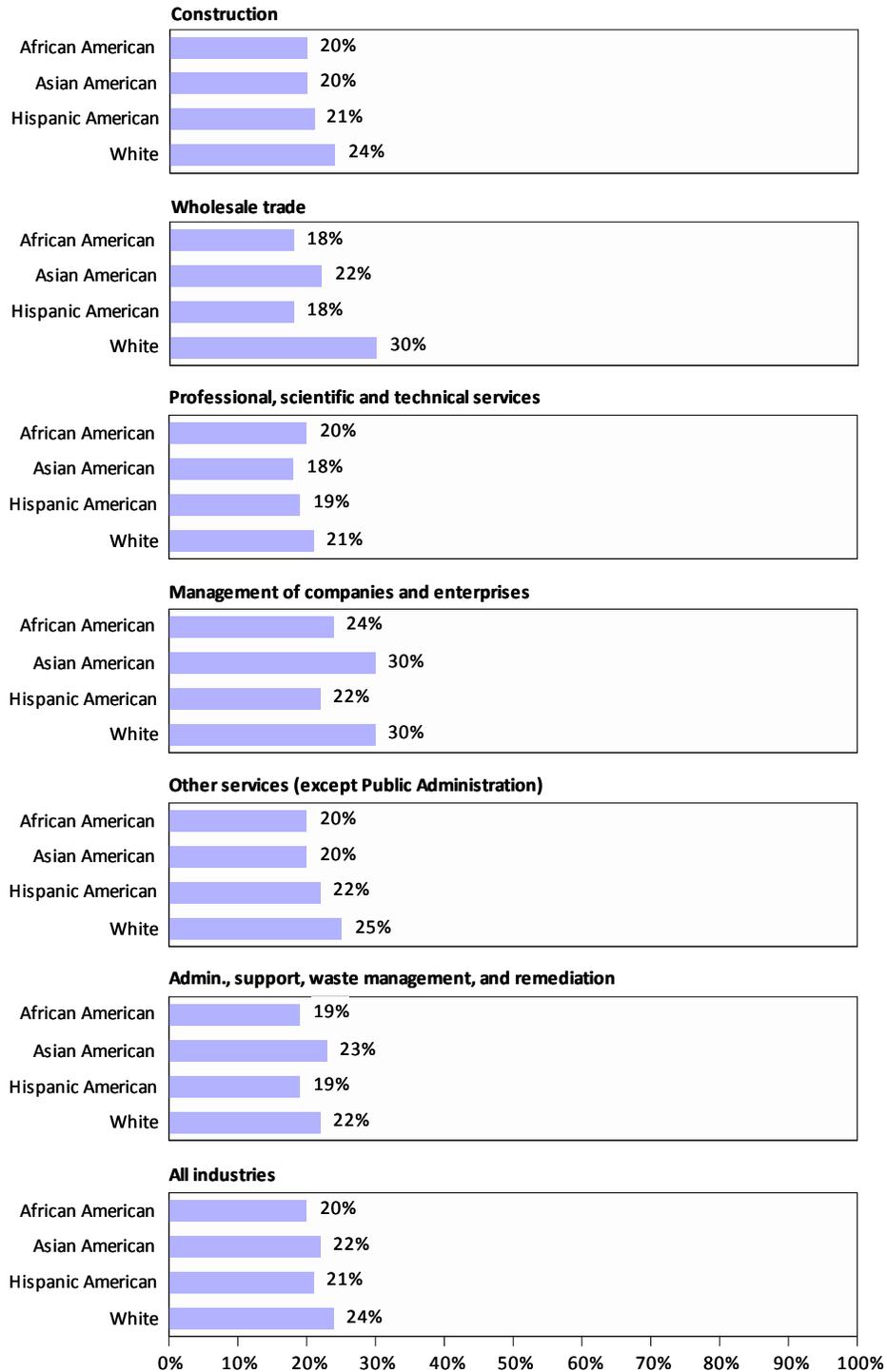


Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

Source: Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006." U.S. Small Business Administration Office of Advocacy. Washington D.C.

The SBA study did not report state-specific results relating to contractions in individual industries. Figure H-7 shows the percentage of businesses that contracted in the relevant study industries and in all industries at the national level. Compared to white-owned businesses in the United States, in general, a smaller percentage of African American-, Hispanic American-, and Asian American-owned businesses in the relevant study industries and in all industries contracted between 2002 and 2006.

Figure H-7.
 Percentage of businesses that contracted, 2002 through 2006, relevant study industries and all industries in the United States



Note: Data refer only to non-publicly held businesses only. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

Source: Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006." U.S. Small Business Administration Office of Advocacy. Washington D.C.

Business Receipts and Earnings

Beyond whether a company expanded or contracted, total annual revenue for companies and earnings for business owners are also indicators of the economic success of businesses. The study team examined:

- Business receipts data from the U.S. Census Bureau 2007 Survey of Business Owners;
- Business earnings data for business owners from the 2008-2012 American Community Survey (ACS); and
- Annual revenue data for firms in the study industries located in the Atlanta Metropolitan Area that the study team collected as part of availability interviews.

Business receipts. The study team examined receipts for businesses in the Atlanta Metropolitan Statistical Area (MSA) and the United States using data from the 2007 SBO, conducted by the U.S. Census Bureau.¹⁴ The study team also analyzed receipts for businesses in individual industries. The SBO reports business receipts separately for employer businesses (i.e., those with paid employees other than the business owner and family members) and for all businesses.¹⁵

Receipts for all businesses. Figure H-8 presents 2007 mean annual receipts for employer and non-employer businesses by race, ethnicity and gender. The top of the figure examines whether there are differences in business receipts based on the owner's race (African American, Asian American, American Indian, Native Hawaiian and Other Pacific Islander, and white). The next portion of the chart compares business revenue for Hispanic American-owned firms with all other firms. The bottom portion of the graph provides data for female-owned companies and male-owned companies (of all races and ethnicities).

The SBO data for businesses across all industries in the Atlanta MSA indicate that average receipts for minority- and women-owned businesses were much lower than that for other firms.

- Average receipts of African American-owned businesses in the Atlanta MSA (\$52,000) were 10 percent of the average for white-owned businesses (\$539,000).
- Asian American-owned businesses had average receipts (\$315,000) that were 58 percent of the average of white-owned businesses.
- Average receipts of American Indian and Alaska Native-owned businesses (\$144,000) were 27 percent of the average of white-owned businesses.

¹⁴The 2007 SBO data are not available at the same geographic level as Census and ACS data. For most marketplace analyses using Census and ACS data, results are presented for the 20-county "Atlanta Metropolitan Area" but analyses using the SBO data are conducted for the Atlanta MSA, which includes the Atlanta Metropolitan Area counties along with eight additional counties. The Atlanta MSA includes the following Georgia counties: Barrow, Bartow, Butts, Carroll, Cherokee, Clayton, Cobb, Coweta, Dawson, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Haralson, Heard, Henry, Jasper, Lamar, Meriwether, Newton, Paulding, Pickens, Pike, Rockdale, Spalding, and Walton.

¹⁵We use "all businesses" to denote SBO data used in this analysis. The data include incorporated and unincorporated businesses, but not publicly-traded companies or other businesses not classifiable by race/ethnicity and gender.

- Average receipts of Native Hawaiian-owned businesses (\$59,000) were 11 percent of the average of white-owned businesses.
- Hispanic American-owned businesses (of any race) had average receipts (\$192,000) that were less than half that of non-Hispanic-owned businesses of any race (\$419,000).
- Average receipts for women-owned businesses (\$167,000) were 28 percent of the average of male-owned businesses (\$600,000).

Disparities in business receipts for minority- and women-owned businesses compared to non-Hispanic white- and male-owned businesses in the Atlanta MSA are consistent with those seen in the United States as a whole. A 2007 SBA study identified differences similar to those presented in Figure H-22 when examining businesses in all industries across the United States¹⁶

¹⁶ Lowrey, Ying. 2007. *Minorities in Business: A Demographic Review of Minority Business Ownership*. Office of Economic Research, Office of Advocacy, U.S. Small Business Administration.

Figure H-8.
Mean annual receipts
(thousands) for all
businesses, by
race/ethnicity and
gender of owners,
2007

Note:

Includes employer and non-employer businesses. Does not include publicly-traded companies or other businesses not classifiable by race/ethnicity and gender. As sample sizes are not reported, statistical significance of these results cannot be determined.

Source:

2007 Survey of Business Owners, part of the U.S. Census Bureau's 2007 Economic Census.

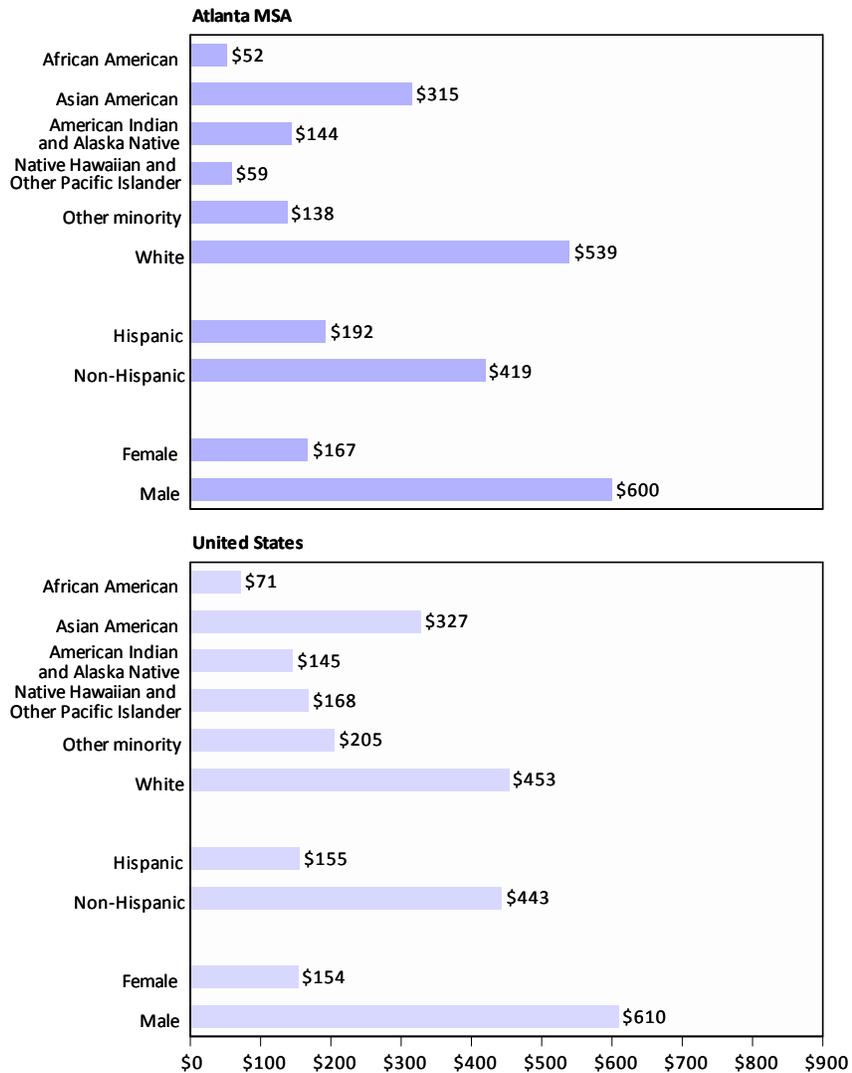


Figure H-9 presents average annual receipts in 2007 for only employer businesses in the Atlanta MSA and in the United States. (Employer businesses are those with paid employees.) Minority- and women-owned businesses had substantially lower average business receipts than non-Hispanic-, white- and male-owned employer businesses in the Atlanta MSA:

- Average receipts of African American-owned businesses (\$701,000) were 30 percent of the average for white-owned businesses (\$2.3 million).
- Asian American-owned businesses had average receipts (\$988,000) that were 43 percent of the average of white-owned businesses.
- Average receipts of American Indian and Alaska Native-owned businesses (\$1.6 million) were about two-thirds that of the average of white-owned businesses.
- Average receipts of Native Hawaiian-owned businesses (\$811,000) were 35 percent of the average of white-owned businesses.

- Hispanic American-owned businesses had average receipts (\$1.5 million) that were about three-quarters that of non-Hispanic-owned businesses (\$2.1 million).
- Average receipts for women-owned businesses (\$1.3 million) were about half the average of male-owned businesses (\$2.5 million).

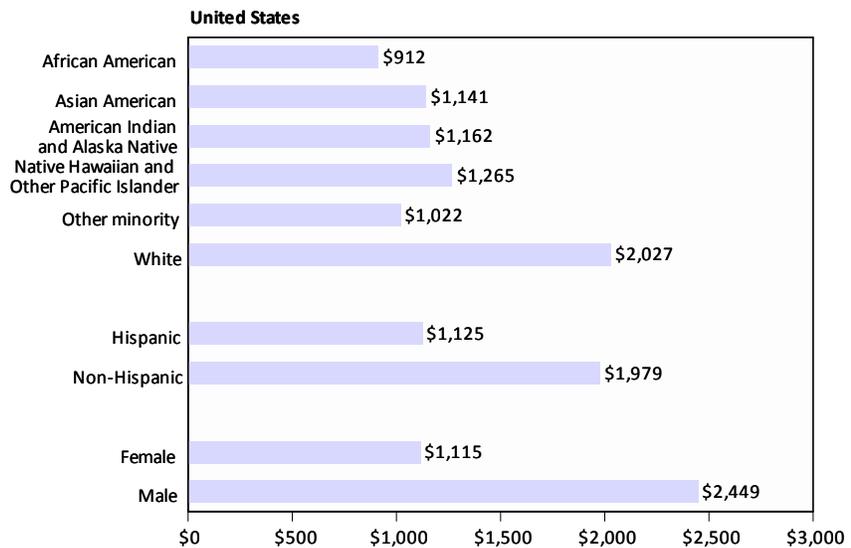
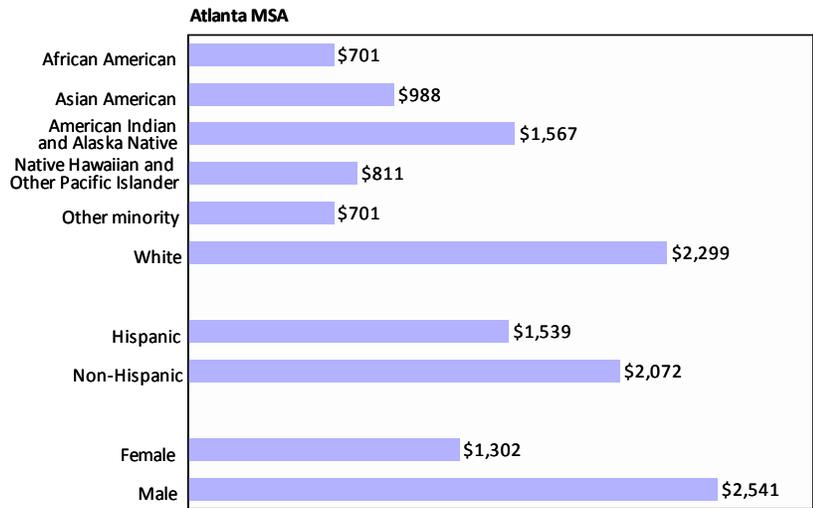
Figure H-9.
Mean annual receipts
(thousands) for
employer businesses,
by race/ethnicity and
gender of owners,
2007

Note:

Includes only employer businesses. Does not include publicly-traded companies or other businesses not classifiable by race/ethnicity and gender. As sample sizes are not reported, statistical significance of these results cannot be determined.

Source:

2007 Survey of Business Owners, part of the U.S. Census Bureau's 2007 Economic Census.



Receipts by industry. The study team also analyzed SBO receipts data separately for businesses in the relevant study industries. Figure H-10 and H-11 present mean annual receipts in 2007 for all (i.e., employer and non-employer businesses combined) businesses in the relevant study industries and for just employer businesses by racial, ethnic and gender group. Results are presented for the Atlanta MSA and for the nation as a whole.

Analysis of all businesses (including business without paid employees) in all industries in the Atlanta MSA showed average 2007 receipts were lower for most minority and female-owned businesses than the average for non-Hispanic, white- and male-owned businesses. In general, these trends persisted when analyzing industry-specific data in the Atlanta MSA. Within the study industries, where data were available for specific minority groups and females, those groups generally earned less than non-Hispanic, white- and male-owned businesses. Results across all study industries indicate that:

- Average receipts of African American-owned businesses were between 6 and 26 percent that of white-owned businesses.
- Average receipts of Asian American-owned businesses were between 36 and 53 percent that of white-owned construction businesses.
- Average receipts of American Indian and Alaska Native-owned businesses were between 16 and 102 percent that of white-owned businesses.
- Hispanic-owned businesses exhibited revenues that varied between 24 and 115 percent that of the average of non-Hispanic-owned businesses.
- Average receipts for women-owned businesses varied between one-quarter (25%) and two-thirds (64%) that of the average for male-owned businesses.

Figure H-10.
Mean annual receipts (thousands) for all firms in the relevant study industries, by race/ethnicity and gender of owners, 2007

Atlanta MSA	All firms						
	All industries together	Construction	Wholesale trade	Management	Other services	Administrative & other services	Professional, scientific, & technical
Race							
African American	\$ 52	\$109	\$ 235	n/a	\$ 21	\$ 29	\$ 60
Asian American	\$315	\$206	\$2,137	n/a	\$ 49	\$125	\$ 226
American Indian and Alaska Native	\$144	\$582	n/a	n/a	\$ 18	\$ 69	\$ 149
Native Hawaiian and Other Pacific Islander	\$ 59	n/a	n/a	n/a	n/a	n/a	n/a
Other minority	\$138	\$ 91	n/a	n/a	n/a	n/a	n/a
White	\$539	\$571	\$4,039	\$1,433	\$112	\$271	\$ 234
Ethnicity							
Hispanic	\$192	\$135	\$3,081	n/a	\$ 83	\$ 55	\$ 121
Non-Hispanic	\$419	\$555	\$3,575	\$1,375	\$ 72	\$194	\$ 210
Gender							
Female	\$167	\$354	\$2,720	\$ 752	\$ 35	\$ 73	\$ 101
Male	\$600	\$557	\$4,371	\$1,570	\$105	\$296	\$ 290
United States							
Race							
African American	\$ 71	\$105	\$ 782	\$1,791	\$ 21	\$ 46	\$ 77
Asian American	\$327	\$264	\$2,163	\$1,920	\$ 57	\$149	\$ 198
American Indian and Alaska Native	\$145	\$224	\$ 892	\$1,103	\$ 36	\$ 85	\$ 108
Native Hawaiian and Other Pacific Islander	\$168	\$312	\$ 773	n/a	\$ 32	\$109	n/a
Other minority	\$205	\$181	\$1,856	n/a	\$ 54	\$ 73	\$ 154
White	\$453	\$467	\$3,587	\$1,762	\$ 89	\$201	\$ 207
Ethnicity							
Hispanic	\$155	\$167	\$1,455	\$3,232	\$ 41	\$ 63	\$ 121
Non-Hispanic	\$443	\$481	\$3,516	\$1,742	\$ 83	\$204	\$ 206
Gender							
Female	\$154	\$361	\$1,839	\$1,501	\$ 36	\$ 83	\$ 98
Male	\$610	\$480	\$4,431	\$1,962	\$111	\$274	\$ 276

Note: Does not include publicly-traded companies or other businesses not classifiable by race/ethnicity and gender. As sample sizes are not reported, statistical significance of these results cannot be determined. "N/A" indicates that estimates were suppressed by the SBO because publication standards were not met.

Source: 2007 Survey of Business Owners, part of the U.S. Census Bureau's 2007 Economic Census.

Analysis of all employer businesses in all industries in the Atlanta MSA also showed average 2007 receipts were lower for most minority and female-owned businesses than the average for non-Hispanic, white- and male-owned businesses and these trends persisted when analyzing industry-specific data in the Atlanta MSA. Within the study industries, where data were available for specific minority groups and females, those groups generally earned less than non-Hispanic, white- and male-owned businesses. Results across all study industries for employer firms indicate that:

- Average receipts of African American-owned businesses were between 28 and 62 percent of average receipts of white-owned businesses.
- Average receipts of Asian American-owned businesses were between 41 and 51 percent of average receipts of white-owned construction businesses.
- Average receipts of American Indian and Alaska Native-owned businesses varied between 43 and 281 percent of average receipts of white-owned businesses.¹⁷
- Hispanic-owned businesses exhibited revenues between 35 and 160 percent of average receipts of the average of non-Hispanic-owned businesses.
- Average receipts for women-owned businesses varied between 46 and 106 percent of average receipts of the average for male-owned businesses.

¹⁷ This variation may be due to small sample sizes.

Figure H-11.

Mean annual receipts (thousands) for employer firms in the relevant study industries, by race/ethnicity and gender of owners, 2007

Atlanta MSA	All industries together	Construction	Wholesale trade	All firms			
				Management	Other services	Administrative & other services	Professional, scientific, & technical
Race							
African American	\$ 701	\$1,601	\$ 2,317	n/a	\$162	\$ 516	\$ 606
Asian American	\$ 988	\$1,143	\$ 3,966	n/a	\$241	\$ 761	\$ 766
American Indian and Alaska Native	\$1,567	\$7,276	n/a	n/a	n/a	\$1,102	\$ 352
Native Hawaiian and Other Pacific Islander	\$ 811	n/a	n/a	n/a	n/a	n/a	n/a
Other minority	\$ 701	n/a	n/a	n/a	n/a	n/a	n/a
White	\$2,299	\$2,593	\$ 8,214	\$1,433	\$582	\$1,486	\$ 813
Ethnicity							
Hispanic	\$1,539	\$ 913	\$11,021	n/a	\$773	\$1,011	\$ 762
Non-Hispanic	\$2,072	\$2,634	\$ 7,641	\$1,375	\$484	\$1,388	\$ 802
Gender							
Female	\$1,302	\$2,187	\$ 8,833	\$ 752	\$286	\$ 937	\$ 465
Male	\$2,541	\$2,862	\$ 8,316	\$1,570	\$614	\$1,717	\$ 969
United States							
Race							
African American	\$ 912	\$1,021	\$ 6,303	\$1,791	\$262	\$ 745	\$ 707
Asian American	\$1,141	\$1,518	\$ 4,163	\$1,920	\$250	\$ 982	\$ 941
American Indian and Alaska Native	\$1,162	\$1,357	\$ 4,318	\$1,103	\$375	\$1,043	\$ 629
Native Hawaiian and Other Pacific Islander	\$1,265	\$1,599	\$ 2,769	n/a	\$312	\$1,158	n/a
Other minority	\$1,022	\$1,065	\$ 3,730	n/a	\$361	\$ 597	\$ 803
White	\$2,027	\$1,808	\$ 8,135	\$1,762	\$507	\$1,124	\$ 861
Ethnicity							
Hispanic	\$1,125	\$1,083	\$ 4,697	\$3,232	\$312	\$ 686	\$ 693
Non-Hispanic	\$1,979	\$1,833	\$ 7,860	\$1,742	\$485	\$1,139	\$ 871
Gender							
Female	\$1,115	\$1,625	\$ 6,202	\$1,501	\$272	\$ 845	\$ 543
Male	\$2,449	\$2,008	\$ 8,912	\$1,962	\$587	\$1,354	\$1,031

Note: Does not include publicly-traded companies or other businesses not classifiable by race/ethnicity and gender. As sample sizes are not reported, statistical significance of these results cannot be determined. "N/A" indicates that estimates were suppressed by the SBO because publication standards were not met.

Source: 2007 Survey of Business Owners, part of the U.S. Census Bureau's 2007 Economic Census

Business earnings. U.S. Census data are also available to assess the success of people who were self-employed (business owners) in the relevant study industries. The study team examined earnings of business owners using Public Use Microdata Series (PUMS) data from the 2008-2012 ACS. The study team analyzed earnings of incorporated and unincorporated business owners age 16 and older who reported positive business earnings.

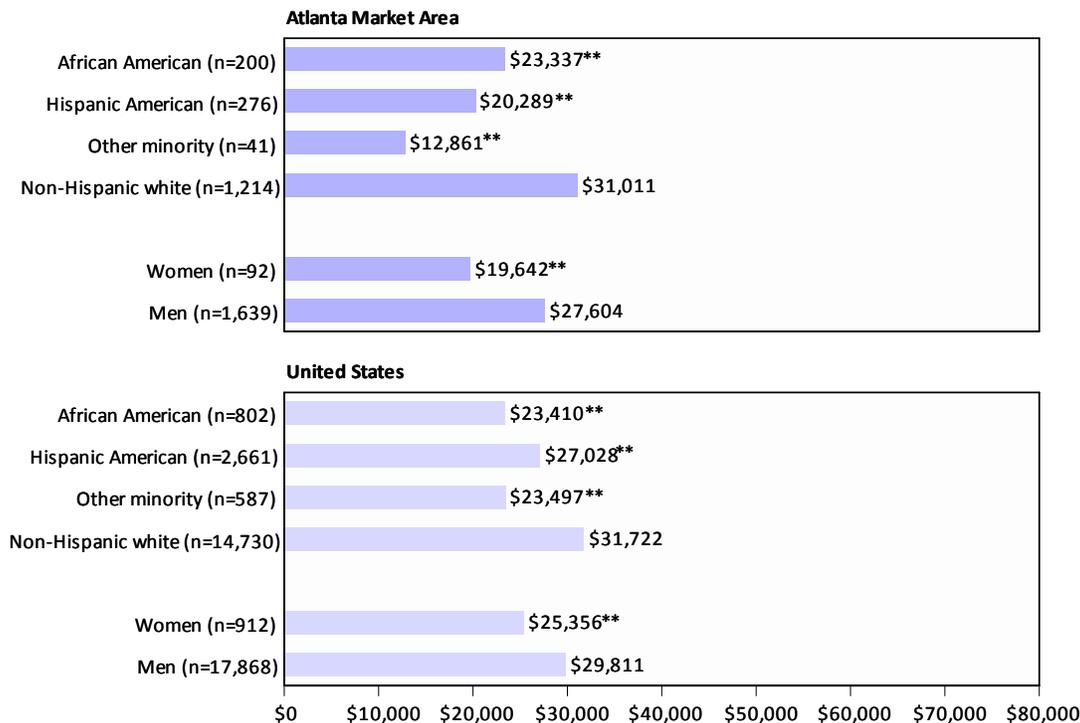
Construction business owner earnings, 2007-2012. The ACS asks business owners about their business earnings in the previous year. Earnings for business owners reported in the 2008 through 2012 sample were for the previous 12 months between 2007 and 2012.¹⁸ All dollar amounts are presented in 2012 dollars.

Figure H-12 shows earnings in 2007 through 2012 for business owners in the construction industry in the Atlanta Metropolitan Area and the nation as a whole. Again, due to small sample sizes for individual minority groups, results for Asian Pacific Americans, Subcontinent Asian Americans, Native Americans and “other race” minorities are for these groups combined.

- On average, African American construction business owners in the Atlanta Metropolitan Area earned less in 2007-2012 (\$23,337) than non-Hispanic white construction business owners (\$31,011), a statistically significant difference.
- Hispanic American business owners also earned substantially less (\$20,289) than non-Hispanic white business owners in 2007-2012, a statistically significant difference.
- Other minority business owners earned substantially less (\$12,860) than non-Hispanic white business owners in 2007-2012.
- Female construction business owners in the Atlanta Metropolitan Area earned substantially less, on average (\$19,642), than male construction business owners (\$27,604), a statistically significant difference.

¹⁸ For example, if a business owner completed the survey on January 1, 2008, the figures for the previous 12 months would reference January 1, 2007 to December 31, 2007. Similarly, a business owner completing the survey December 31, 2012 would reference amounts since January 1, 2012.

Figure H-12.
 Mean annual business owner earnings in the construction industry,
 2007 through 2012, the Atlanta Metropolitan Area and the United States



Note: The sample universe is business owners age 16 and over who reported positive earnings. All amounts in 2010 dollars.
 *,** Denotes statistically significant differences from non-Hispanic whites (for minority groups) or from men (for women) at the 90% and 95% confidence level, respectively.

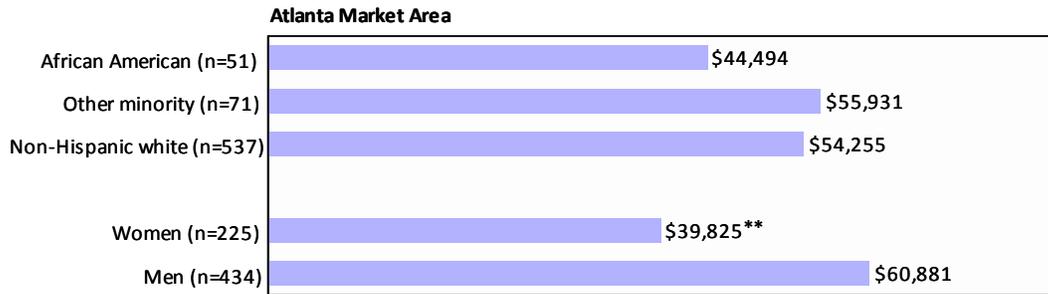
Source: Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Professional services business owner earnings, 2007-2012. Analysis of business earnings from the 2008 through 2012 ACS for professional services business owners in the Atlanta Metropolitan Area and the United States is presented in Figure H-13. Due to small sample sizes, results are presented for African Americans, other minority groups, and non-Hispanic white business owners.¹⁹

- On average, African American in the professional service industry had lower earnings than non-Hispanic white business owners in the Atlanta Metropolitan Area in 2007 through 2012, although this difference was not statistically significant (possibly due to small sample sizes).
- Other minority professional services business owners had higher average earnings than non-Hispanic white business owners.
- Average earnings for female professional services business owners (\$39,825) were lower than for male business owners (\$60,881) in the Atlanta Metropolitan Area in 2007 through 2012.

¹⁹ For the professional services industry, “other minority groups” includes Hispanic Americans, Asian-Pacific Americans, Subcontinent Asian Americans, Native Americans, and other race minorities.

Figure H-13.
 Mean annual business owner earnings in the professional services industry,
 2007 through 2012, the Atlanta Metropolitan Area and the United States



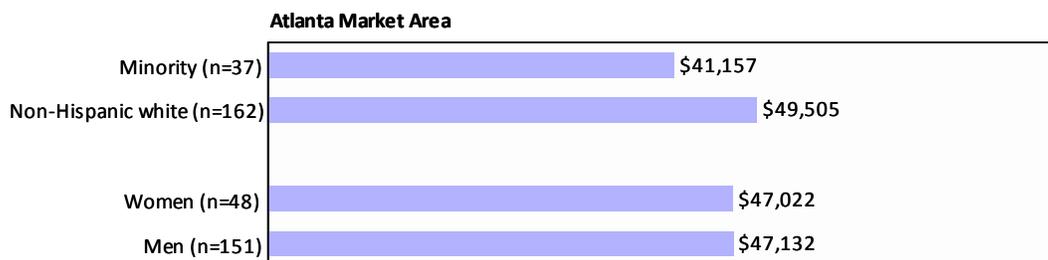
Note: The sample universe is business owners age 16 and over who reported positive earnings. All amounts in 2011 dollars.
 ** Denotes statistically significant differences from non-Hispanic whites (for minority groups) or from men (for women) at the 90% and 95% confidence level, respectively.

Source: Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Goods business owner earnings, 2007-2012. The study team also analyzed business earnings from 2007 to 2012 for business owners in the goods industry. Due to small sample sizes, all minority business owners were combined into a single category. Those results are displayed in Figure H-14.

- Average earnings for minority business owners in the goods industry (\$41,157) were less than non-Hispanic white business owners (\$49,505), although this difference was not significant.
- Average earnings for female goods business owners (\$47,022) were similar to earnings of male business owners (\$47,132) in the Atlanta Metropolitan Area in 2007 through 2012.

Figure H-14.
 Mean annual business owner earnings in the goods industry,
 2007 through 2012, the Atlanta Metropolitan Area and the United States



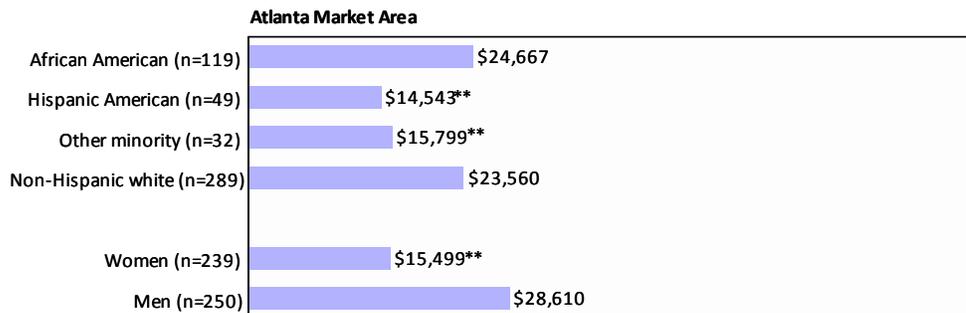
Note: The sample universe is business owners age 16 and over who reported positive earnings. All amounts in 2011 dollars.
 ** Denotes statistically significant differences from non-Hispanic whites (for minority groups) or from men (for women) at the 90% and 95% confidence level, respectively.

Source: Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Other services business owner earnings, 2007-2012. Analysis of earnings from 2007 through 2012 for business owners in other services in the Atlanta Metropolitan Area is presented in Figure H-15. Results are presented for African Americans, Hispanic Americans, other minority groups and non-Hispanic white business owners.²⁰

- On average, African American other services business owners in the Atlanta Metropolitan Area earned about the same (\$24,667) in 2007-2012 than non-Hispanic white other services business owners (\$23,560).
- Hispanic American business owners earned substantially less (\$14,543) than non-Hispanic white business owners in 2007-2012, a statistically significant difference.
- Other minority business owners also earned substantially less (\$15,799) than non-Hispanic white business owners in 2007-2012.
- Female other services business owners in the Atlanta Metropolitan Area earned substantially less (\$15,499) than male other services business owners (\$28,610), a statistically significant difference.

Figure H-15.
Mean annual business owner earnings in the other services industry,
2007 through 2012, the Atlanta Metropolitan Area and the United States



Note: The sample universe is business owners age 16 and over who reported positive earnings. All amounts in 2011 dollars.
** Denotes statistically significant differences from non-Hispanic whites (for minority groups) or from men (for women) at the 90% and 95% confidence level, respectively.

Source: Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

²⁰ For the professional services industry, “other minority groups” includes Asian-Pacific Americans, Subcontinent Asian Americans, Native Americans, and other race minorities.

Regression analyses of business earnings. Differences in business earnings among different racial/ethnic and gender groups may be at least partially attributable to race- and gender-neutral factors such as age, marital status, and educational attainment. The study team performed regression analyses using 2008-2012 ACS data to examine whether there were differences in business earnings between minorities and non-Hispanic whites and between women and men after statistically controlling for certain race- and gender-neutral factors.

The study team applied an ordinary least squares regression model to the data similar to models reviewed by courts after other disparity studies.²¹ The dependent variable in the model is the natural logarithm of business earnings. Business owners who reported zero or negative business earnings were excluded, as were observations for which the U.S. Census Bureau had imputed values of business earnings. Along with variables for the race/ethnicity and gender of business owners, the model also included available measures from the data considered likely to affect earnings potential, including age, age-squared, marital status, ability to speak English well, disability condition, and educational attainment.

The study team developed models for business owner earnings in 2008 through 2012 for the Atlanta Metropolitan Area in the following industries:

- A model for the construction industry that included 1,731 observations;
- A model for the professional services industry that included 659 observations;
- A model the goods industry that included 199 observations; and
- A model for the other services industry that included 489 observations.

²¹ For example, National Economic Research Associates, Inc. 2000. *Disadvantaged Business Enterprise Availability Study*. Prepared for the Minnesota Department of Transportation; and National Economic Research Associates, Inc. 2004. *Disadvantaged Business Enterprise Availability Study*. Prepared for the Illinois Department of Transportation.

Construction industry regression results, 2007 through 2012. Figure H-16 illustrates the results of the regression model for 2007 through 2012 earnings in the construction industry in the Atlanta Metropolitan Area. The model indicated that several race- and gender-neutral factors significantly predicted earnings of business owners in the construction industry in the Atlanta Metropolitan Area:

- Older business owners tended to have greater business earnings than younger business owners (age had less of an effect for the oldest individuals);
- Married business owners tended to have greater business earnings than unmarried business owners;
- Having a disability was associated with lower business earnings; and
- Business owners with greater educational attainment (such as a four-year degree) tended to have greater business earnings than business owners with less education.

After statistically controlling for race- and gender-neutral factors, there were still statistically significant effects of race and gender. Specifically, being African American, other race minority or female was associated with lower business earnings.

Figure H-16.
Atlanta Metropolitan Area construction business owner earnings model, 2007-2012

Note:

*,** Denotes statistical significance at the 90% and 95% confidence level, respectively.

Source:

Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	7.559 **
Age	0.092 *
Age-squared	-0.001 *
Married	0.309 **
Speaks English well	-0.052
Disabled	-0.490 *
Less than high school	-0.227 **
Some college	0.080
Four-year degree	0.368 **
Advanced degree	-0.145
African American	-0.233 *
Asian Pacific American	-0.306
Subcontinent Asian American	-0.602
Hispanic American	0.136
Native American	-0.388
Other Minority	-1.298 **
Female	-0.571 **

Professional services industry regression results, 2007 through 2012. Figure H-17 presents the results of the regression model of business owner earnings specific to the Atlanta Metropolitan Area professional services-related industry for 2007 through 2012. Business owners with a four-year degree and owners with an advanced degree had greater business earnings on average as did older business owners.

After accounting for neutral factors, the model indicated a statistically significant disparity in earnings for female business owners.

Figure H-17.
Atlanta Metropolitan Area professional services industry business owner earnings model, 2007-2012

Note:

*,** Denotes statistical significance at the 90% and 95% confidence level, respectively.

Source:

Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	5.041 **
Age	0.150 **
Age-squared	-0.002 **
Married	0.372
Speaks English well	0.501
Disabled	0.343
Less than high school	0.500
Some college	0.738
Four-year degree	1.058 *
Advanced degree	1.326 **
African American	0.047
Asian Pacific American	0.248
Subcontinent Asian American	0.114
Hispanic American	-0.321
Native American	-0.974
Other Minority	0.261 *
Female	-0.545 **

Goods industry regression results, 2007 through 2012. Figure H-18 presents the results of the regression model of business owner earnings specific to the Atlanta Metropolitan Area goods industry for 2007 through 2012. Due to small sample sizes, the “other minority” category includes Subcontinent Asian Americans, Native Americans, and other minority groups. The model indicated that several race- and gender-neutral factors significantly predicted earnings of business owners in the goods industry in the Atlanta Metropolitan Area:

- Older business owners tended to have greater business earnings than younger business owners (age had less of an effect for the oldest individuals);
- Speaking English well was associated with lower business earnings (unclear why); and
- Business owners who had a less than high school education tended to have lower business earnings.

After accounting for neutral factors, the model indicated a statistically significant disparity in earnings for Hispanic American and female business owners.

Figure H-18.
Atlanta Metropolitan Area goods industry
business owner earnings model, 2007-2012

Note:

*** Denotes statistical significance at the 90% and 95% confidence level, respectively.

Source:

Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center:
<http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	10.939 **
Age	0.100 **
Age-squared	-0.001 **
Married	-0.067
Speaks English well	-2.047 **
Disabled	-0.809
Less than high school	-1.220 **
Some college	-0.339
Four-year degree	-0.532
Advanced degree	-0.069
African American	-0.727
Asian Pacific American	-0.209
Hispanic American	-1.743 **
Other Minority	-0.286
Female	-0.718 **

Other services industry regression results, 2007 through 2012. Figure H-19 presents the results of the regression model of business owner earnings specific to the Atlanta Metropolitan Area other services industry for 2007 through 2012. The model indicated that several race- and gender-neutral factors significantly predicted earnings of business owners in the other industry in the Atlanta Metropolitan Area:

- Older business owners tended to have greater business earnings than younger business owners (age had less of an effect for the oldest individuals); and
- Business owners who had a less than high school education tended to have lower business earnings.

After accounting for neutral factors, the model indicated a statistically significant disparity in earnings for female business owners.

Figure H-19.
Atlanta Metropolitan Area other services industry business owner earnings model, 2007-2012

Note:

**, ** Denotes statistical significance at the 90% and 95% confidence level, respectively.

Source:

Keen Independent study team from 2008-2012 ACS. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

Variable	Coefficient
Constant	6.309 **
Age	0.156 **
Age-squared	-0.002 **
Married	0.149
Speaks English well	-0.063
Disabled	0.057
Less than high school	-0.646 **
Some college	-0.214
Four-year degree	-0.097
Advanced degree	-1.171
African American	-0.074
Asian Pacific American	0.164
Subcontinent Asian American	-0.259
Hispanic American	0.023
Native American	-0.849
Other Minority	0.108
Female	-0.515 **

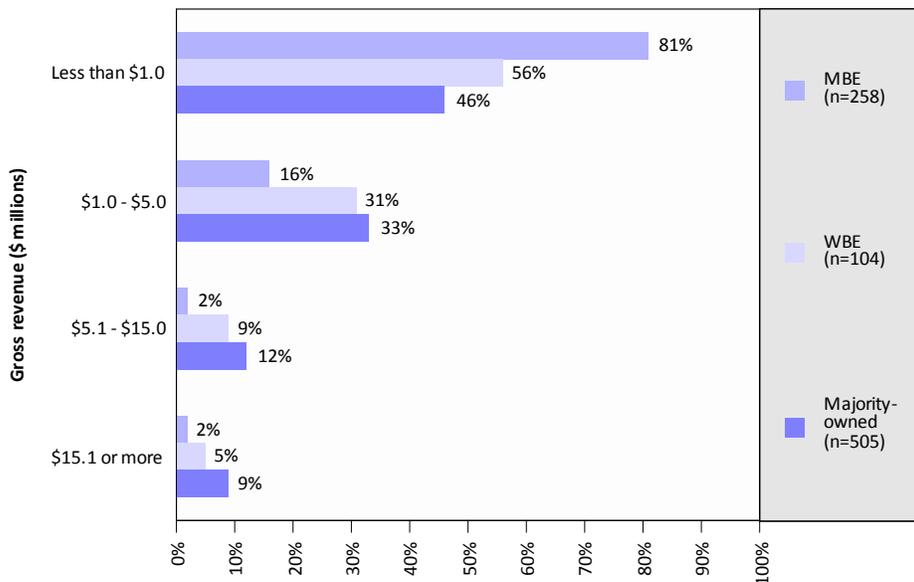
Gross revenue of firms from availability interviews. As discussed previously, total revenue is a key measure of the economic success of businesses. In the availability telephone interviews that Keen Independent conducted (discussed in Appendix C), firm owners and managers were asked to identify the size range of their average annual gross revenue in the previous three years: from 2012 to 2014. Analysis by each of the four study industries showed majority-owned firms were more likely to report larger annual revenues relative to MBEs and WBEs. Only firms with locations in the Atlanta Metropolitan Area were included in the availability interviews.

Construction. Figure H-20 presents the reported annual revenue for MBE, WBE and majority-owned construction businesses in the Atlanta availability interviews. Majority-owned construction firms were more likely to report higher average annual revenues relative to minority- and women-owned construction firms in the Atlanta Metropolitan Area.

- About 81 percent of MBEs and more than half of WBEs (56%) reported average revenue of less than \$1 million per year compared to 46 percent of majority-owned firms.
- After combining the highest revenue categories, relatively few MBEs (2%) and WBEs (5%) reported average revenue of more than \$15 million per year compared with 9 percent of majority-owned businesses.

Figure H-20.

Average annual gross revenue of company over previous three years, construction industry



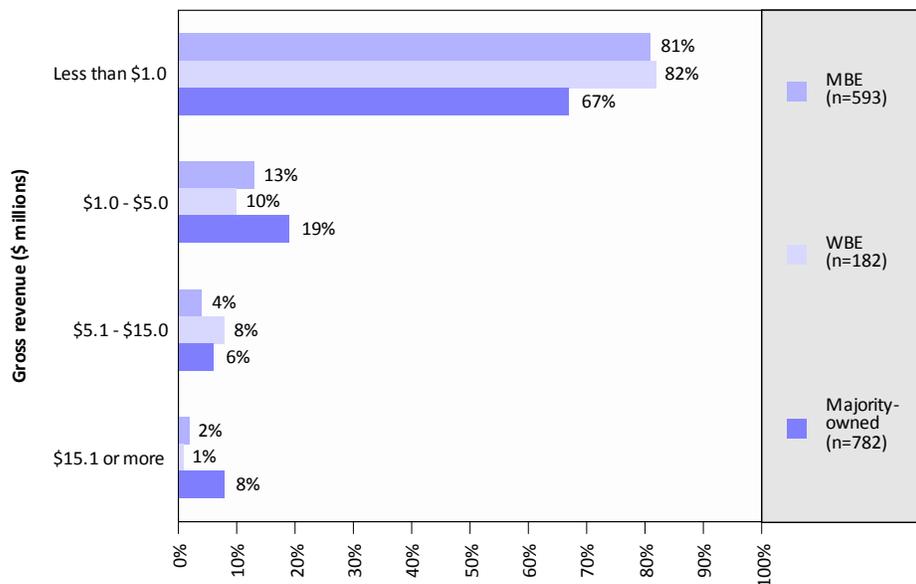
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Professional services. Figure H-21 presents the reported annual revenue for MBEs, WBEs and majority-owned professional services businesses in the Atlanta Metropolitan Area. In the professional services industry, MBEs and WBEs were more likely to report lower annual revenues compared to majority-owned businesses.

- A higher percentage of MBEs (81%) and WBEs (82%) than majority-owned businesses (67%) reported average revenue of less than \$1 million per year.
- Relatively few MBE firms (2%) and WBE firms (1%) reported average revenue of more than \$15 million per year compared with majority-owned businesses (8%).

Figure H-21.
Average annual gross revenue of company over previous three years, professional services industry



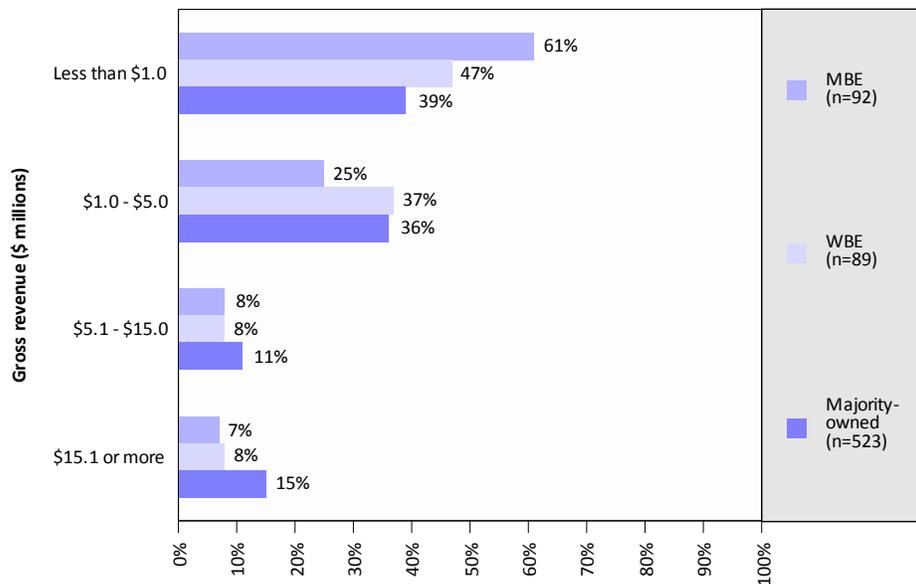
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Goods industry. Figure H-22 presents the reported annual revenue for MBEs, WBEs and majority-owned goods industry businesses in the Atlanta Metropolitan Area. As with construction and professional services, majority-owned firms reported greater annual revenues relative to MBEs and WBEs.

- More than one-half of MBEs (61%) and about one-half of WBEs (47%) reported average revenue of less than \$1 million per year compared to 39 percent of majority-owned businesses.
- Only 7 percent of MBEs and 8 percent of WBEs reported average revenue more than \$15 million. This was less than one-half of the percentage of majority-owned firms reporting such revenue (15%).

Figure H-22.
Average annual gross revenue of company over previous three years, goods industry



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

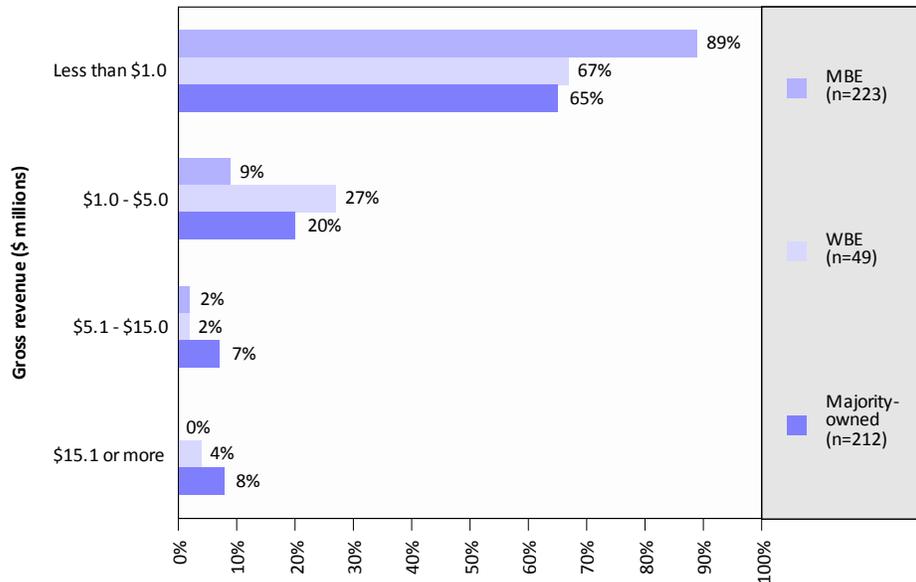
Source: Keen Independent Research from 2014-2015 availability interviews.

Other services. Figure H-23 presents the reported annual revenue for MBEs, WBEs and majority-owned businesses providing other services in the Atlanta Metropolitan Area.

- About nine-in-ten MBEs (91%) reported average revenue of less than \$1 million per year compared to about two-thirds of WBEs (67%) and majority-owned firms (65%).
- Less than 1 percent of MBEs and about 4 percent of WBEs reported average revenue more than \$15 million compared to 8 percent of majority-owned businesses.

Figure H-23.

Average annual gross revenue of company over previous three years, other services



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Summary of analysis of business receipts and earnings. The Keen Independent study team examined business earnings data for Atlanta study industries 2008 through 2012 ACS and the 2015 availability interviews with Atlanta businesses. The data from different data sets pertained to annual revenue in 2007-2012 and the three years before 2015.

- Regression analyses using U.S. Census Bureau data for the Atlanta Metropolitan Area for business owner earnings for 2007-2012 indicated that there were statistically significant effects of race and gender on business earnings, after statistically controlling for certain gender-neutral factors:
 - Being female was associated with lower business earnings in the construction, professional services, goods and other services industries;
 - Being African American was associated with lower business earnings in the construction industry; and
 - Being Hispanic American was associated with lower business earnings in the goods industry in 2007-2012.

- Analysis of availability interviews indicated substantial differences in the revenues of MBEs and WBEs compared with majority-owned firms in the construction, professional services, goods and other services industries. In each industry, relative few MBEs and WBEs were high-revenue firms compared with majority-owned firms. In the construction, professional services and goods industries, MBEs and WBEs were more likely to report annual revenue below \$1 million compared to majority-owned firms. In the other services industry, MBEs were more likely than majority-owned firms to report annual revenue of less than \$1 million.

Relative Bid Capacity

Some legal cases regarding race- and gender-conscious contracting programs have considered the importance of the “relative capacity” of businesses included in an availability analysis.²² Keen Independent directly measured bid capacity in its availability analysis.²³

Through this analysis, Keen Independent was able to distinguish firms based on the largest contracts or subcontracts they had performed or bid on (i.e., “bid capacity” as used in this study). Although additional measures of capacity might be theoretically possible, the bid capacity concept can be articulated and quantified for individual firms for specific time periods.

Measurement of bid capacity. The availability analysis produced a database of 2,172 businesses for which bid capacity could be examined. “Relative capacity” for a business is measured as the largest contract or subcontract that the business performed or reported that they had bid on within the five years preceding when Keen Independent interviewed it.

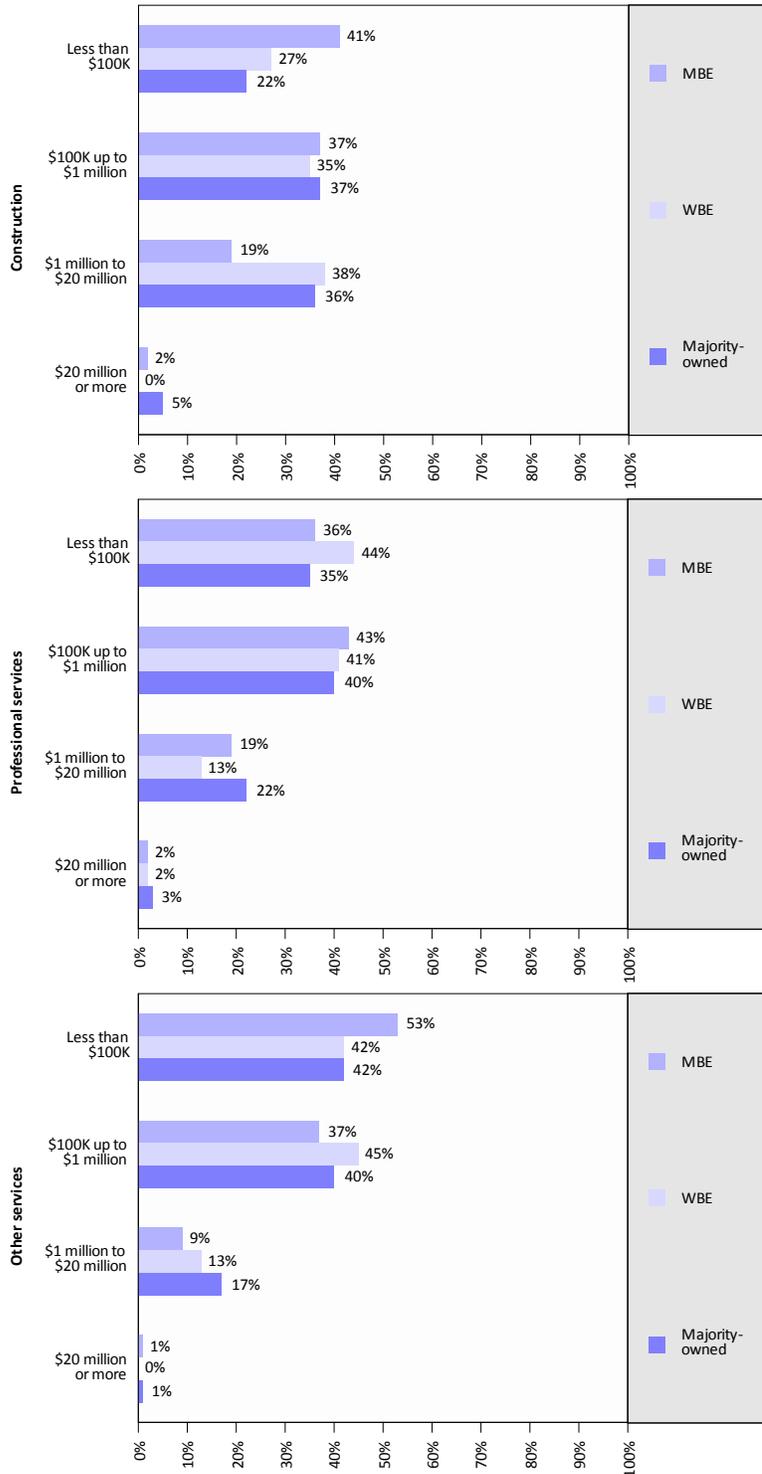
As shown in Figure H-24, MBEs in construction and other services tend to have lower bid capacity than majority-owned firms. About 41 percent of MBE construction firms had bid capacity of less than \$100,000 compared with only 22 percent of majority-owned firms. In the other services industry, 53 percent of MBEs had bid capacity of less than \$100,000 compared with 42 percent of majority-owned firms.

²² For example, see the decision of the United States Court of appeals for the Federal Circuit in *Rothe Development Corp. v. U.S. Department of Defense*, 545 F.3d 1023 (Fed. Cir. 2008).

²³ See Appendix C for details about the availability interview process.

Figure H-24.

Largest contract bid on or awarded (bid industry) by industry for construction, professional services and other services firms in the Atlanta Metropolitan Area available for City contracts



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Above median bid capacity. Subindustries such as general public building construction tend to involve relatively large projects. Other subindustries, such as cleaning and maintenance, typically involve smaller contracts. Figure H-25 reports the median relative bid capacity among Atlanta Metropolitan Area businesses in 28 subindustries. Results categorized companies according to their primary line of business (e.g., results for a firm that primarily performs excavation that also does trucking hauling are included under demolition, land clearing, earthwork and excavation).²⁴

Figure H-25.
Median relative capacity of Atlanta Metropolitan Area businesses by subindustry

Subindustry	Median bid capacity
Construction	
General public building construction	\$2 million to \$5 million
Bridge, tunnel, and elevated highway construction	\$2 million to \$5 million
Water, sewer and pipeline construction	\$1 million to \$2 million
Waste water and sewage treatment plant construction	\$1 million
Demolition, land clearing, earthwork and excavation	\$500,000 to \$1 million
Highway and street construction	\$500,000 to \$1 million
Trucking	\$100,000 to \$500,000
Concrete work	\$100,000 to \$500,000
Electrical work	\$100,000 to \$500,000
Plumbing and HVAC	\$100,000 to \$500,000
Communication line, power line, and transmission tower construction	\$100,000 to \$500,000
Other construction	\$100,000 to \$500,000
Professional services	
Construction management	\$1 million to \$2 million
Architectural services	\$100,000 to \$500,000
Engineering	\$100,000 to \$500,000
Environmental consulting and urban planning	\$100,000 to \$500,000
Business research and consulting	\$100,000 to \$500,000
IT and data services	\$100,000 to \$500,000
Other professional services	\$100,000 to \$500,000
Other architecture and engineering	\$100,000
Inspection and testing services	\$100,000 or less
Other services	
Environmental clean up and specialized waste removal	\$100,000 to \$500,000
Parking lot and parking related services	\$100,000 to \$500,000
Repair services	\$100,000 to \$500,000
Security services	\$100,000 to \$500,000
Cleaning and maintenance	\$100,000 or less
Local transportation services	\$100,000 or less
Other services	\$100,000 or less

Source: Keen Independent Research from 2014-2015 availability interviews.

²⁴ Only subindustries with a minimum of three respondents in the availability interviews were analyzed.

Comparison of above median bid capacity for MBEs, WBEs and majority-owned firms. Based on the median bid capacity figures identified in Figure H-25, Keen Independent classified firms into “above median bid capacity,” “at median bid capacity,” and “below median bid capacity” for their subindustry. Relatively fewer MBE/WBEs (29%) had above-median bid capacity for their subindustry compared with majority-owned firms (38%). This was also evident when separately examining the construction, professional services and other services industries.

Regression analysis. The study team considered whether race- and gender-neutral factors could account for the disparities in bid capacity identified for MBEs and WBEs in construction, professional services and other services. There were several variables from the availability interviews that may be related to relative bid capacity. After considering business characteristics from the availability interviews, Keen Independent determined that age of business was the race- and gender-neutral neutral factor that might best explain differences in relative capacity within a subindustry while also being external to capacity measures. Theoretically, the longer that companies are in business, the larger the contracts or subcontracts that they might pursue.

To test that hypothesis, the study team developed a logistic regression model to determine whether relative bid capacity could be at least partly explained by the age of businesses. The regression results are shown in Figure H-26. The analysis indicated the following:

- Business age was a statistically significant predictor of having above-median bid capacity. The older a business, the more likely it was to show above-median bid capacity.
- African American business ownership was negatively related to having above-median bid capacity, after controlling for age (and business subindustry). That effect was statistically significant at the 95 percent confidence level.
- Female ownership was negatively related to having above-median capacity. That effect was statistically significant at the 90 percent confidence level.

The regression model indicates that age of the business can account for the differences in bid capacity between MBEs and majority-owned firms in the same subindustries. There is indication from the regression analysis that white women-owned firms had lower bid capacity after controlling for primarily line of business and company age.

Figure H-26.
Median bid capacity regression analysis

Note:

*,** Denote statistical significance at the 90% or 95% confidence level, respectively.

Source:

Keen Independent Research from 2014-2015 availability interviews.

Variable	Coefficient	Chi-square statistic
Age of firm	0.03	191.07 **
African American	-0.41	17.54 **
WBE	-0.22	2.85 *

These results suggest that the sizes of contracts African American- and white women-owned firms bid on or receive awards for were smaller than what might be expected based on the age and the subindustry of these firms. This disparity is important when considering that the availability analysis in this disparity study accounted for bid capacity in the determination of availability benchmarks for minority- and women-owned firms. The dollar-weighted availability values for African American- and

white women-owned firms explained in the Summary Report and Appendix C are lower than they would be but for disparities in bid capacity. It may be that disparities between utilization and availability would be larger for these firms had there been no differences in bid capacity.

Keen Independent also conducted regression analysis for just the construction industry alone. This also identified negative effects of ownership by African Americans and by white women. The effect for African Americans was statistically significant at the 95 percent confidence level.

Availability Interview Results Concerning Potential Barriers

As part of the availability interviews conducted with Atlanta businesses, Keen Independent asked firm owners and managers if they had experienced barriers or difficulties associated with starting or expanding a business or with obtaining work. Appendix D explains the interview process and provides the interview questions.

Results for interview questions are discussed within the context of the relevant study industry; some questions were industry-specific and not asked of all available businesses. The analysis is grouped into three groups for each study industry: barriers to learning about bid opportunities, barriers related to project requirements and barriers related to access to capital.

Questions regarding barriers to learning about bid opportunities include:

- Bid opportunities with the City of Atlanta or the Airport;
- Bid opportunities with other public agencies in the Atlanta metro area;
- Bid opportunities in the private sector in Atlanta; and
- Subcontracting opportunities with Atlanta prime consultants.

Questions concerning barriers related to contracts requirements and being able to bid on contracts include:

- Size of project;
- Obtaining final approval from inspectors or prime consultants;
- Becoming licensed or prequalified for work;
- Brand specifications and other restrictions;
- Supply and distributorship relationships; and
- Supplier pricing.

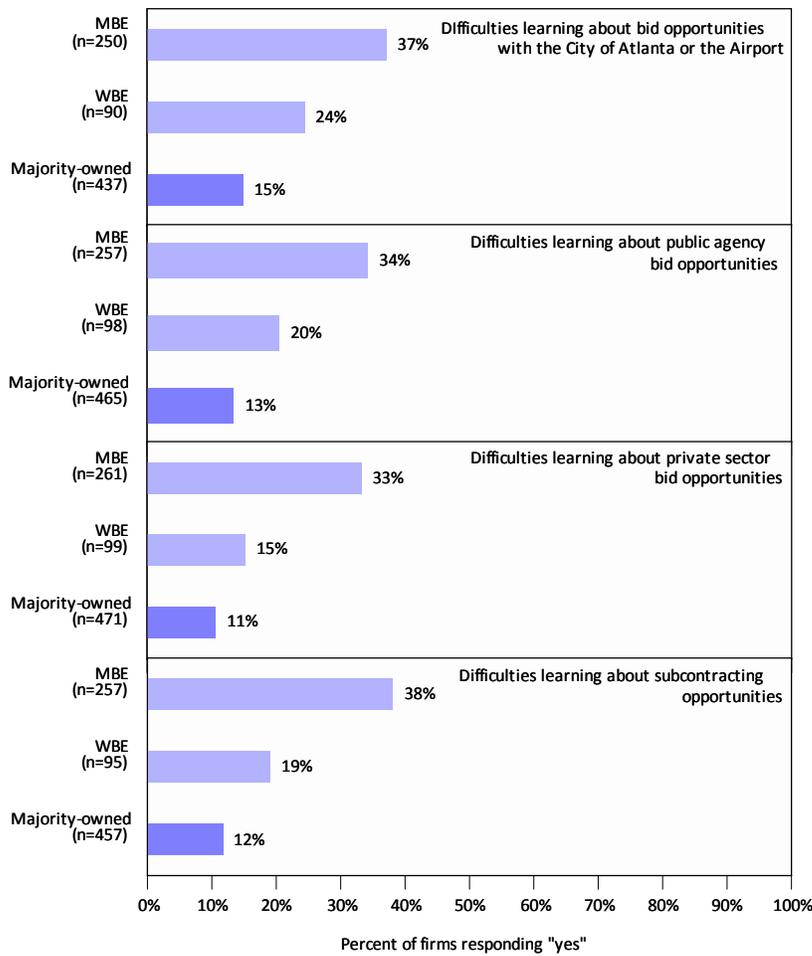
Questions related to access to capital, bonding and insurance include:

- Obtaining lines of credit or loans;
- Obtaining bonding;
- Insurance requirements; and
- Timely receipt of payment.

Construction industry. Overall, MBE and WBE construction firms in the Atlanta Metropolitan Area were more likely to report barriers or difficulties associated with starting or expanding a business or with obtaining work compared to majority-owned firms.

Bid opportunities. As shown in Figure H-27, compared with majority-owned firms, MBEs and WBEs were more likely to report experiencing difficulties learning about bid opportunities with the City of Atlanta or the Airport, other public agencies, and private sector opportunities, including subcontracting opportunities with Atlanta Metropolitan Area prime contractors. In each case, more than one-third of MBEs indicated they had experienced difficulties learning of bid opportunities. Only 10 to 15 percent of majority-owned firms reported difficulties learning of bid opportunities.

Figure H-27.
Responses to availability interview questions concerning learning about work, Atlanta Metropolitan Area MBE, WBE and majority-owned construction firms



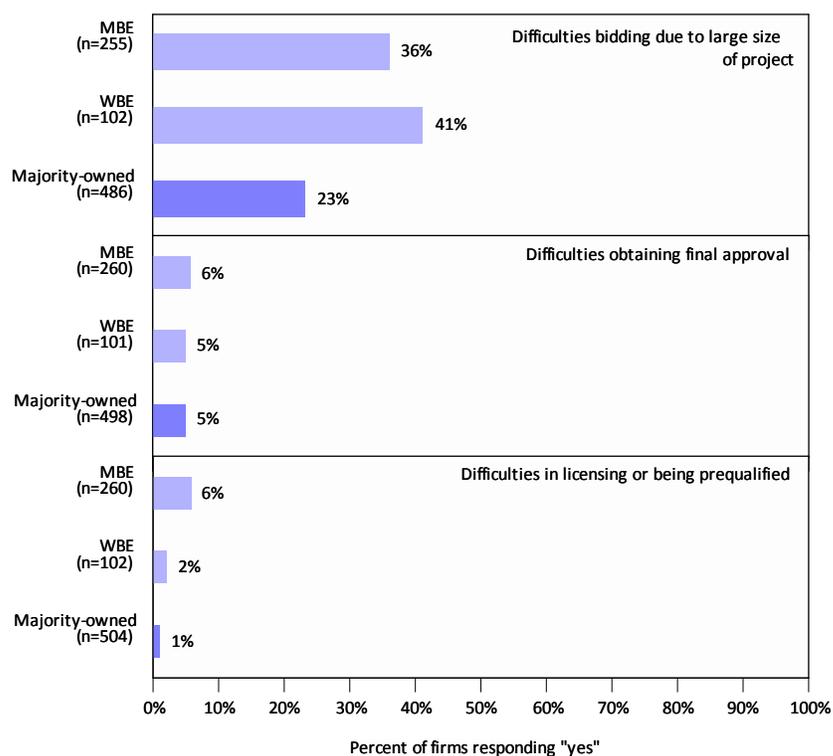
Note: “WBE” represents white women-owned firms, “MBE” represents minority-owned firms and “Majority-owned” represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Project requirements. Minority- and women-owned construction firms in the Atlanta area were also more likely to report difficulties relating to project requirements relative to majority-owned firms. Figure H-28 shows 41 percent of WBEs and 36 percent of MBEs reported that the large size of projects has presented a barrier to bidding compared to 23 percent of majority-owned firms.

Relatively few firms reported difficulties obtaining licensing or prequalification for work as well as final approval from inspectors or prime consultants.

Figure H-28.
Responses to availability interview questions concerning size of projects, approval of work, and licensing and prequalification, Atlanta Metropolitan Area MBE, WBE and majority-owned construction firms



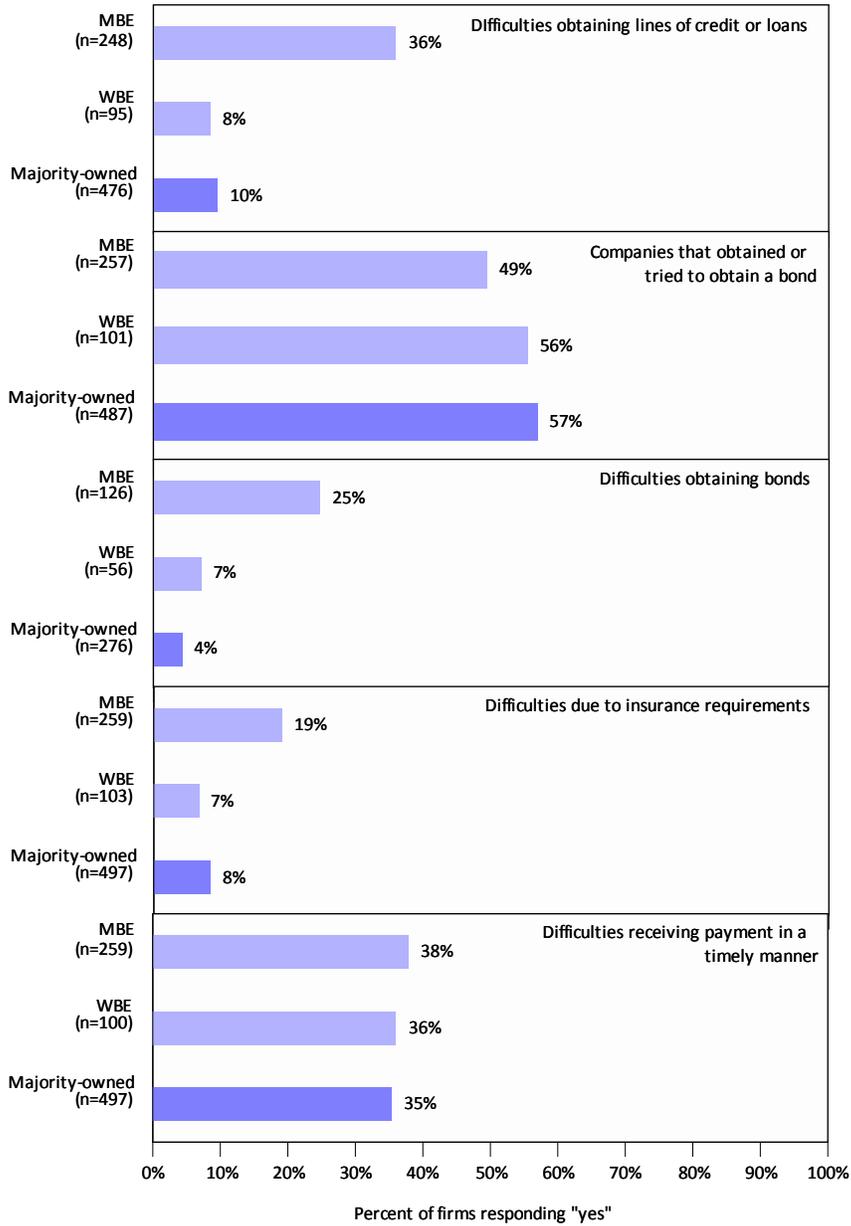
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Access to capital, bonding and insurance. About 10 percent of majority-owned businesses reported difficulties in obtaining lines of credit or loans; more than one-third of MBEs indicated they had experienced these difficulties. About one-half of all firms have obtained or tried to obtain a bond for a project and about one-fourth of MBE firms reported difficulty obtaining bonds while less than 10 percent of WBEs (7%) and less than 5 percent of majority-owned (4%) reported the same. MBEs were also more than twice as likely to report insurance requirements as a barrier to bidding as compared to WBEs and majority-owned firms. Figure H-29 presents these results.

Figure H-29.

Responses to availability interview questions concerning loans, timely payments, bonding and insurance, Atlanta Metropolitan Area MBE, WBE and majority-owned construction firms



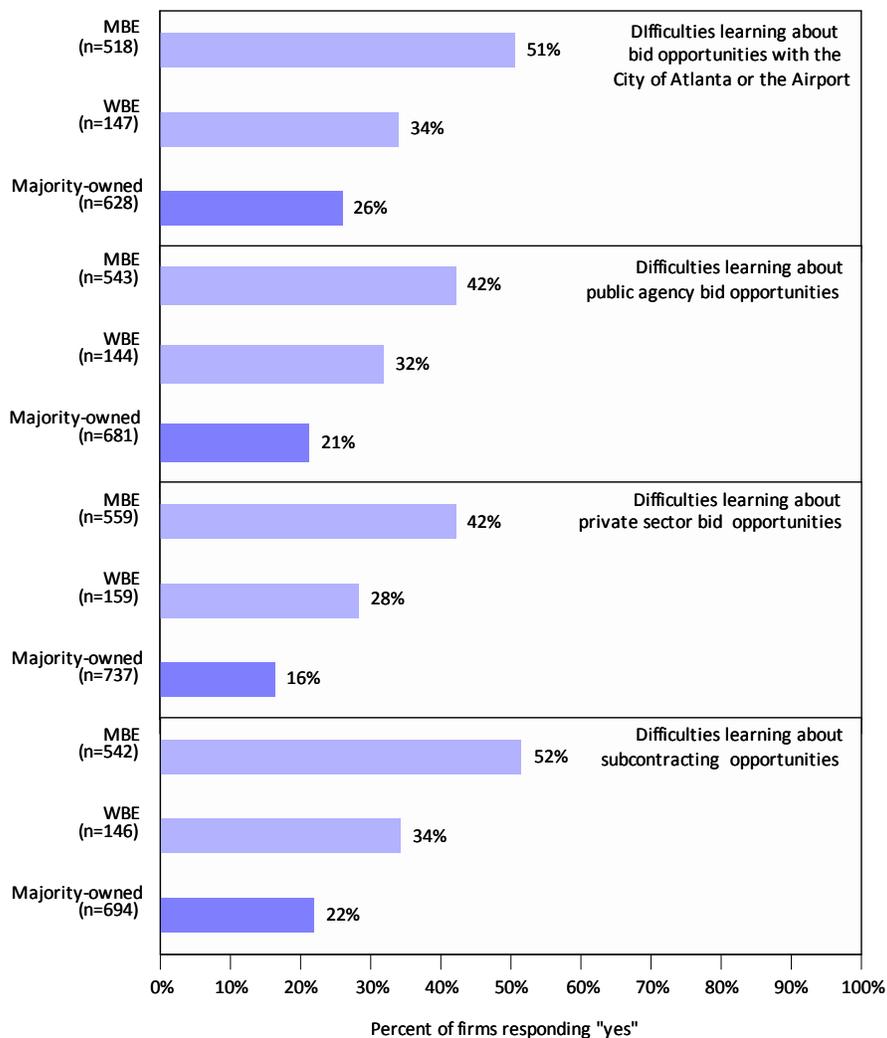
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Professional services industry. As with the construction industry, minority- and women-owned professional service firms in the Atlanta Metropolitan Area were more likely to report barriers or difficulties associated with starting or expanding a business or with obtaining work compared to MBEs and WBEs.

Bid opportunities. Compared to majority-owned businesses MBEs and WBEs were more likely to report experiencing difficulties learning about bid opportunities with the City of Atlanta, the Airport, other public agencies, and private opportunities, including subcontracting opportunities with Atlanta area prime consultants. Minority-owned professional services firms were twice as likely to report difficulties learning about bid opportunities compared to majority-owned firms. About one-third of WBEs reported similar difficulties. Figure H-30 presents these results.

Figure H-30.
Responses to availability interview questions concerning learning about work, Atlanta Metropolitan Area MBE, WBE and majority-owned professional services firms



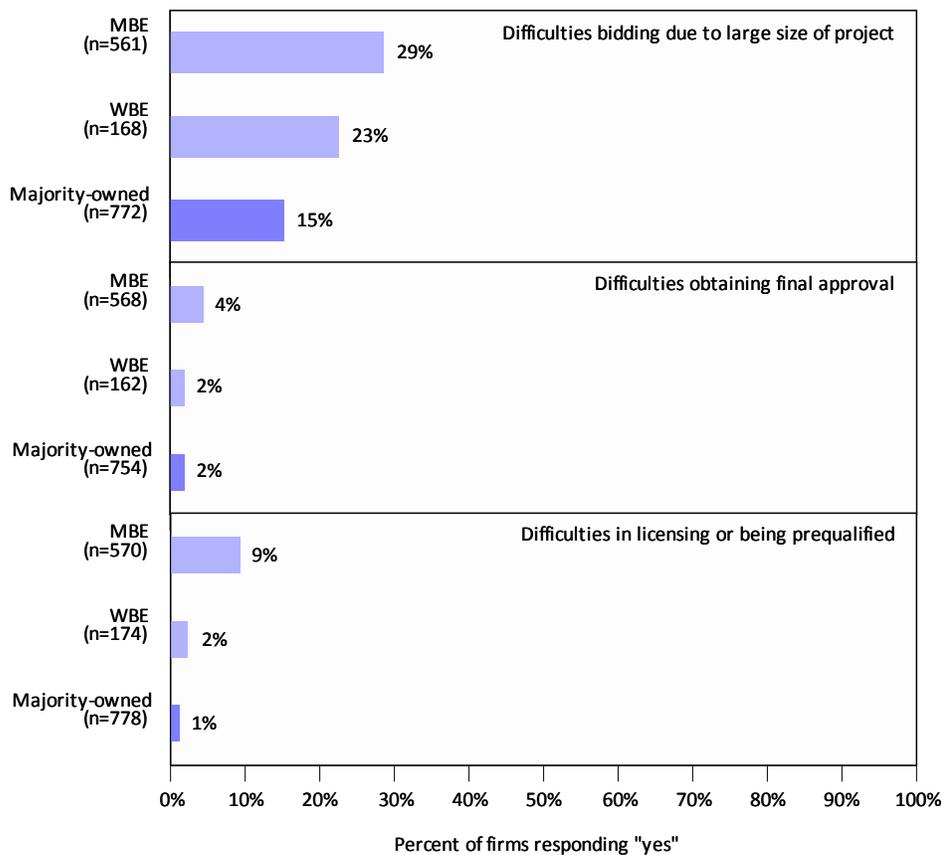
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Project requirements. Figure H-31 shows minority-owned professional services firms in the Atlanta Metropolitan Area were also twice as likely to report that large project sizes present a barrier to bidding (29% of MBEs compared to 15% of majority-owned firms). About one-fourth (23%) of WBEs reported large size of project as a barrier to bidding.

Relatively few firms reported difficulties obtaining final approval from inspectors or prime consultants, although MBEs were more than twice as likely as WBEs and majority-owned firms to report such difficulties (4% of MBEs compared to 2% each of WBEs and majority-owned firms). Similarly, less than 10 percent of all firms reported difficulty with licensing or being prequalified for work, although MBEs were much more likely to report this barrier (9% of MBEs compared to 2% of WBEs and 1% of majority-owned firms).

Figure H-31.
Responses to availability interview questions concerning size of projects, approval of work, and licensing and prequalification, Atlanta Metropolitan Area MBE, WBE and majority-owned professional services firms

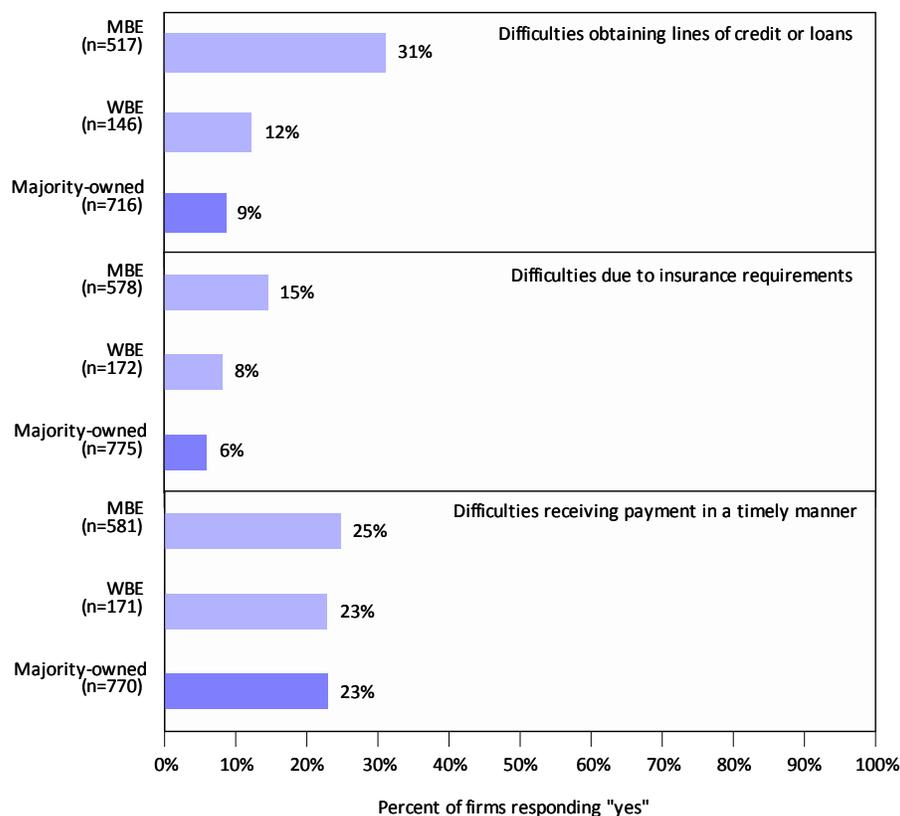


Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Access to capital. About three-in-ten MBEs reported difficulties obtaining lines of credit or loans, a rate more than three times that of majority-owned firms (9%). About one-fourth of all firms reported difficulties receiving payment in a timely fashion, regardless of ownership. About 15 percent of MBEs indicated insurance requirements have presented a barrier to bidding compared to 8 percent of WBEs and 6 percent of majority-owned. Figure H-32 present these results.

Figure H-32.
Responses to availability interview questions concerning loans, timely payments, bonding and insurance, Atlanta Metropolitan Area MBE, WBE and majority-owned professional services firms



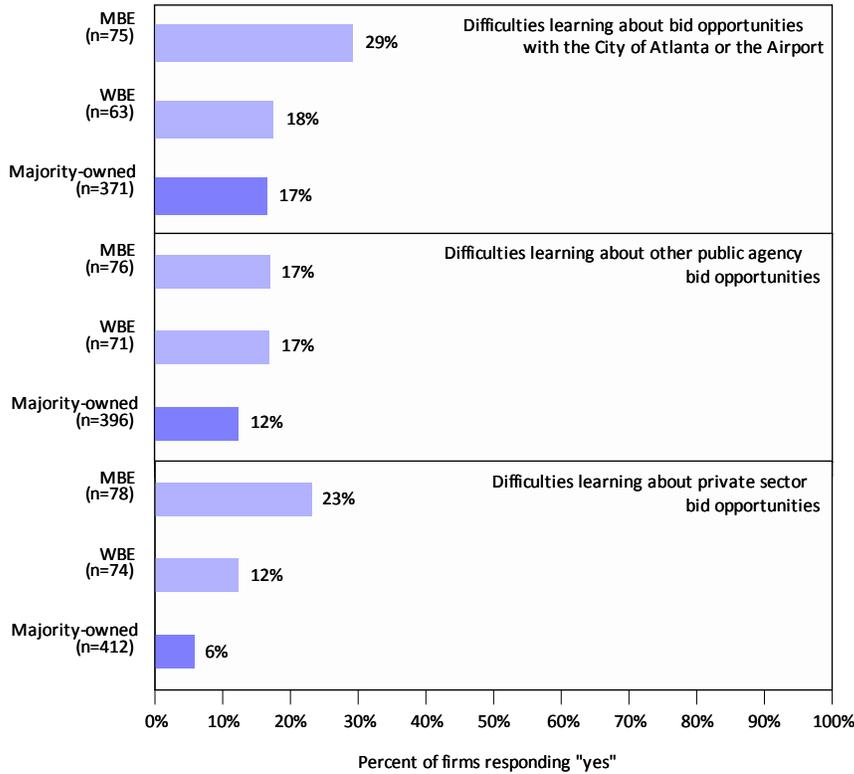
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Goods industry. Firms available to provide goods to the City of Atlanta were also asked about any barriers or difficulties associated with starting or expanding a business or with obtaining work compared to other industries.

Bid opportunities. As shown in Figure H-33, about one-in-three MBEs (29%) reported experiencing difficulties learning about bid opportunities with the City of Atlanta and the Airport compared with about 18 percent of WBEs and 17 percent of majority-owned firms. Fewer MBEs (17%) reported difficulties learning of bid opportunities with other public agencies, a percentage similar to that of WBEs (17%) and majority-owned businesses (12%). Relatively more MBEs (23%) and WBEs (12%) reported difficulties learning about private sector bid opportunities compared with majority-owned firms (6%).

Figure H-33.
 Responses to availability interview questions concerning learning about work,
 Atlanta Metropolitan Area MBE, WBE and majority-owned goods industry firms



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

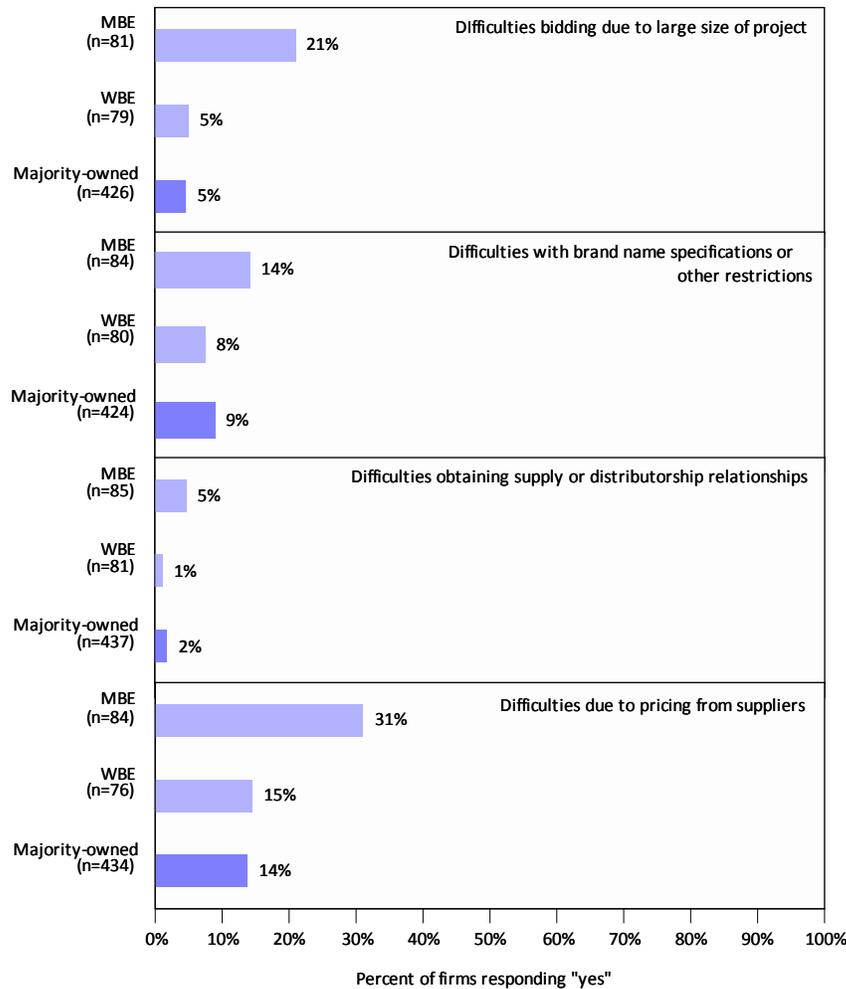
Project requirements. In addition to being asked about project size, firms available to provide goods to the City of Atlanta were asked additional questions related to project requirements.

Figure H-34 shows about one-fifth of MBEs (21%) reported that large project sizes have presented a barrier to bidding. About 5 percent of WBEs and majority-owned firms reported large size of project as a barrier to bidding.

Available goods industry businesses were also asked if their company has experienced any difficulties with brand name specification or other restrictions on bidding. About 8 percent of WBEs and 9 percent of majority-owned firms reported this as a barrier. About 14 percent of MBEs reported experiencing related difficulties. When goods firms were asked about any difficulties obtaining supply or distributorship relationships, less than 5 percent of firms indicated they have experienced these difficulties, regardless of ownership. However, when asked if they have experienced any competitive disadvantages due to the pricing obtained from suppliers, MBEs were twice as likely to report this disadvantage (31%) as compared to WBEs (15%) and majority-owned firms (14%).

Figure H-34.

Responses to availability interview questions concerning size of projects and other difficulties specific to the goods industry, Atlanta Metropolitan Area MBE, WBE and majority-owned goods industry firms



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

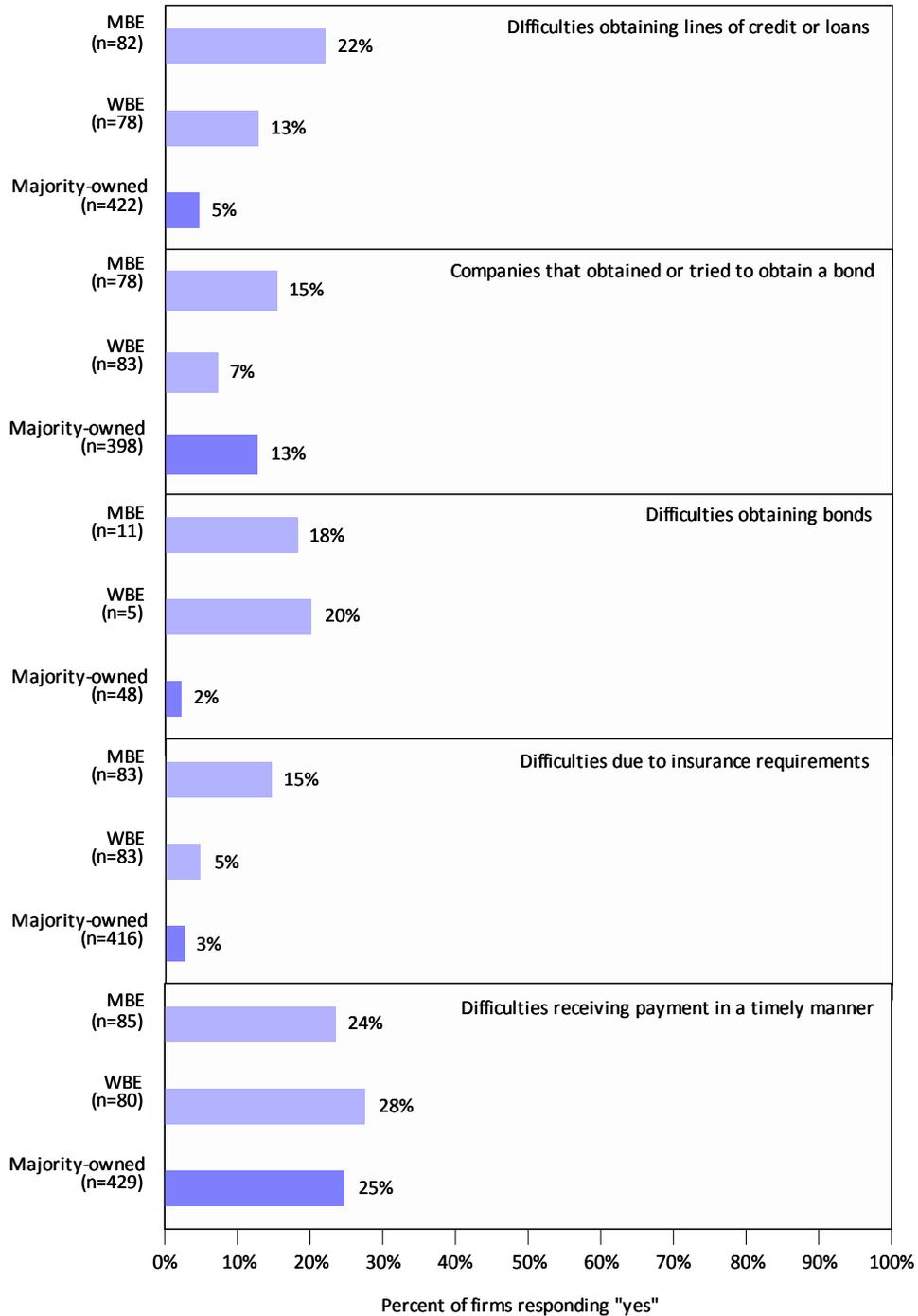
Source: Keen Independent Research from 2014-2015 availability interviews.

Access to capital. About one-fifth of MBE goods firms (22%) and 13 percent of WBEs reported difficulties obtaining lines of credit or loans compared to 5 percent of majority-owned firms. Relatively few firms reported obtaining or trying to obtain a bond for a project regardless of ownership (about 15% of MBEs, 7% of WBEs and 13% of majority-owned firms). About one-in-five MBEs and WBEs that tried to obtain a bond reported difficulty with the process compared to only 2 percent of majority-owned firms.

Most WBEs and majority-owned firms indicated insurance requirements have not presented a barrier to bidding and about 15 percent of MBEs indicate insurance requirements have presented a barrier to bidding. Across all firms, about one-fourth reported difficulties receiving payment in a timely fashion. Figure H-35 present these results.

Figure H-35.

Responses to availability interview questions concerning loans, timely payments, bonding and insurance, Atlanta Metropolitan Area MBE, WBE and majority-owned goods industry firms



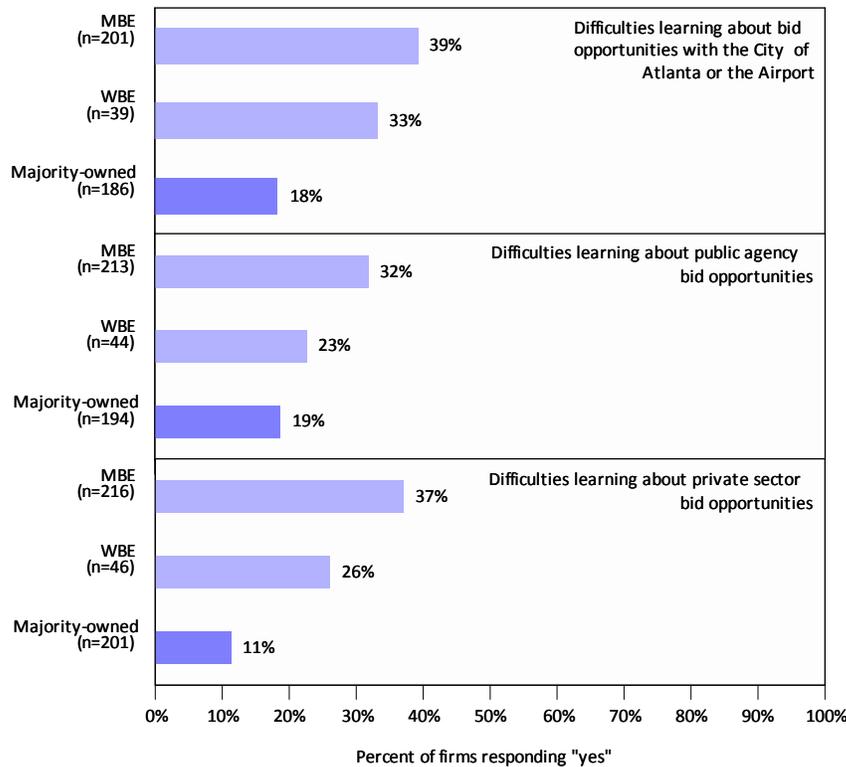
Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Other services industry. MBE and WBE firms available to provide other services to the City of Atlanta were more likely to report difficulties learning about bid opportunities with the City of Atlanta and the Airport as compared to other public agencies in the metro area and opportunities in the private sector.

Bid opportunities. Figure H-36 shows that 39 percent of MBEs reported experiencing difficulties learning about bid opportunities with the City of Atlanta and the Airport compared with 33 percent of WBEs and 18 percent of majority-owned firms. MBEs (32%) and WBEs (23%) were also more likely to report difficulties learning of bid opportunities with other public agencies than majority-owned firms (19%). Relatively more MBEs (37%) and WBEs (26%) reported difficulties learning about private sector bid opportunities than majority-owned firms (11%).

Figure H-36.
Responses to availability interview questions concerning learning about work, Atlanta Metropolitan Area MBE, WBE and majority-owned other services firms

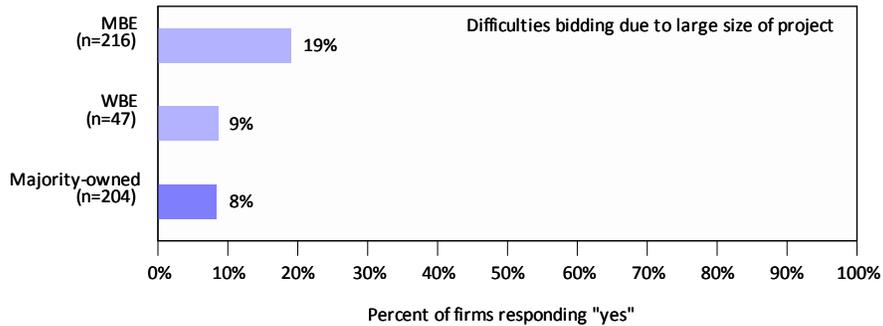


Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Project requirements. About one-in-five MBE firms available to provide other services to the City of Atlanta indicated that large size of projects has presented a barrier to bidding, a rate twice that of WBEs and majority-owned firms. Figure H-37 presents these results.

Figure H-37.
Responses to availability interview questions concerning size of projects, Atlanta Metropolitan Area MBE, WBE and majority-owned other services firms



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

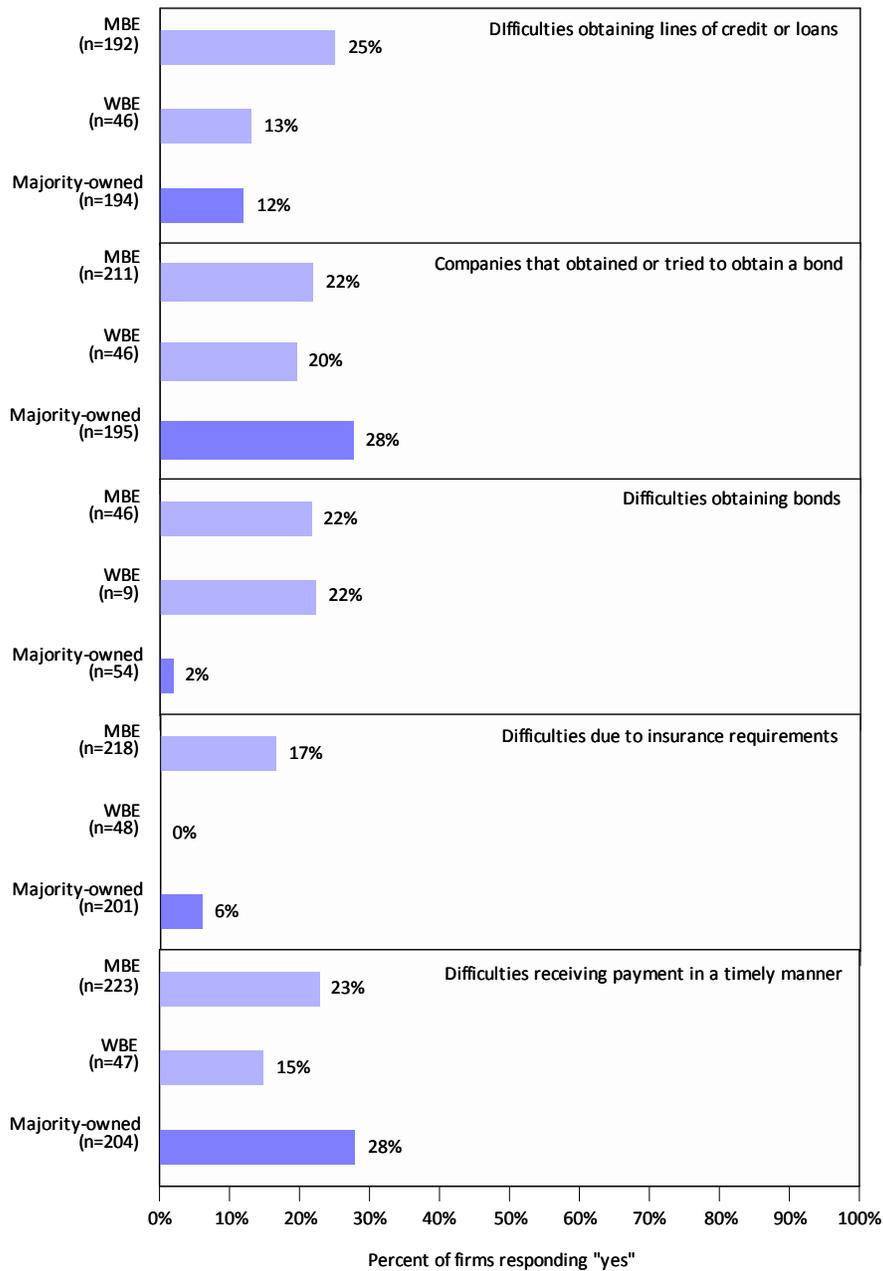
Access to capital, bonding and insurance. One-fourth of MBE other services firms (25%) reported difficulties obtaining lines of credit or loans, about twice the rate of WBEs (13%) and majority-owned firms (12%).

MBEs (22%) and WBEs (20%) were less likely to report obtaining or trying to obtain a bond for a project as a barrier compared to majority-owned firms (28%) but substantially more likely to report difficulties obtaining bonds for a project (22% each for MBEs and WBEs and 2% for majority-owned).

About 17 percent of MBEs and 6 percent of majority-owned firms indicated insurance requirements have presented a barrier to bidding while none of the WBEs reported this potential barrier to bidding. Almost one-in-three majority-owned firms reported difficulties receiving payment in a timely fashion (28%). About 23 percent of MBEs and 15 percent of WBEs reported the same barrier. Figure H-38 present these results.

Figure H-38

Responses to availability interview questions concerning loans, timely payments, bonding and insurance, Atlanta Metropolitan Area MBE, WBE and majority-owned other services firms



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: Keen Independent Research from 2014-2015 availability interviews.

Summary of analysis of availability interview questions concerning barriers. The availability interviews suggest that a pattern of disparities in the relative number of minority- and women-owned firms reporting barriers within the local marketplace than majority-owned firms.

Summary

The study team used the 2010 SBA study of minority business dynamics to examine business closures, expansions, and contractions between 2002 and 2006. In Georgia:

- Among the racial/ethnic groups examined, African American-owned firms were the most likely to close and the least likely to expand. However, they were less likely to contract than non-Hispanic white-owned businesses.
- Hispanic American-owned businesses were more likely to close than non-Hispanic white-owned businesses. However, Hispanic American-owned businesses were slightly more likely to expand and slightly less likely to contract than white-owned businesses.
- Asian American-owned businesses were more likely to close than non-Hispanic white firms. Similar to Hispanic American-owned businesses, they were slightly more likely to expand and slightly less likely to contract than white-owned businesses.

The study team examined several different datasets to analyze business receipts and earnings for minority- and female-owned businesses.

- Analysis of 2007 data indicated that, in the Atlanta MSA, average receipts for African American-, Asian American-, Hispanic American- and women-owned businesses were lower compared to those of white-, non-Hispanic and male-owned businesses in the construction, professional services and other services industries.
- Those 2007 data also indicated that, in the Atlanta MSA, average receipts for African American- and Asian American-owned businesses were lower compared to those of white-owned businesses in the goods industry.
- Regression analyses using U.S. Census Bureau data for the Atlanta Metropolitan Area for business owner earnings for 2007-2012 indicated that there were statistically significant effects of race and gender on business earnings, after statistically controlling for certain gender-neutral factors:
 - Being female was associated with lower business earnings in the construction, professional services, goods and other services industries;
 - Being African American was associated with lower business earnings in the construction industry; and
 - Being Hispanic American was associated with lower business earnings in the goods industry in 2007-2012.
- Analysis of availability interviews indicated majority-owned firms are more likely to report high average annual revenue compared to MBEs and WBEs in each of the four study industries.
- The availability interviews suggest that relatively more minority- and women-owned firms have difficulty learning about bid opportunities, and are more likely to report difficulties bidding due to project requirements and related to access to capital, bonding and insurance.

APPENDIX I.

Analysis of Non-City Construction Contracts within City Limits

Keen Independent analyzed the utilization of minority- and women-owned construction firms as prime contractors on non-City construction projects within city limits. The study team examined information from two data sources:

- City building permits for commercial and public projects within Atlanta city limits for November 2009 through December 2012 (excluding projects for the City);
- Dodge Reports data for public sector projects within the Atlanta Metro Area with a start date of January 2009 through December 2012 (excluding projects for the City).

For Dodge Reports data, Keen Independent could examine the estimated value of the construction project. Data were not reliable to perform this analysis for building permit data.

In addition, Keen Independent was able to examine the number of design contracts for non-City public sector projects reported in the Dodge Reports data. These data were not as complete.

A. City Building Permit Data

Keen Independent examined building permits for commercial and public sector construction projects within Atlanta city limits from November 30, 2009 to December 30, 2012, about the same time period as examined for the utilization analysis for City contracts. These projects include new construction, alterations and repair. Keen Independent was able to exclude building permits for multifamily housing, as this differs from the type of construction performed for the City of Atlanta.

The City requires general contractors to obtain permits as well as companies performing electrical, HVAC and plumbing work (including fire sprinklers). The data identified the specific type of work for the permit, which Keen Independent coded into standard work types.

Data sources. At Keen Independent's request, the City of Atlanta provided electronic records for 26,130 building permits issued by the City from November 30, 2009 to December 30, 2012. Of these records, 21,981 were usable for this analysis.

The study team obtained race, ethnicity and gender ownership information for these companies through the procedures described in Appendix A.

Results. Figure I-1 presents the number of building permits going to minority-, women- and majority-owned contractors. Of the 21,981 permits examined, minority-owned contractors accounted for 1,041, or 4.7 percent, of the permits. White women-owned firms obtained 1,598 (7.3%) of the permits. Combined, MBE/WBE contractors received 12.0 percent of the commercial and public building permits.

Figure I-1 also identifies the race and ethnicity of MBEs obtaining building permits. African American-owned firms were the contractors for 829 of the permits. All other minority-owned firms combined accounted for 180 permits.

Figure I-1.

Number of commercial and public building permits issued on non-City projects within city limits, Nov. 30, 2009-Dec. 31, 2012

	Building permits	
	Number of permits	Percentage
African American-owned	829	3.8 %
Asian American-owned	90	0.4
Hispanic American-owned	73	0.3
Native American-owned	17	0.1
Total MBE	1,041	4.7 %
WBE (white women-owned)	1,598	7.3
Total MBE/WBE	2,639	12.0 %
Total majority-owned firms	18,342	88.0
Total firms	20,981	100.0 %

Source: Keen Independent from City of Atlanta building permits.

B. Dodge Reports Data

Keen Independent examined Dodge Reports data for public sector construction projects within Atlanta city limits that had start dates from January 2009 to December 30, 2012. These projects include public buildings, water and sewer projects, streets and other public facilities.

The Dodge Reports data included information on the value of the project.

Data sources. Keen Independent purchased electronic Dodge Reports data from McGraw Hill Construction. The study team obtained data for commercial and public construction for the Atlanta Metro Area, and narrowed it to projects within Atlanta city limits for public sector agencies (other than the City of Atlanta).

These data identify the general contractor or construction manager for each project. The study team obtained race, ethnicity and gender ownership information for these companies through the methods described in Appendix A.

For some projects, the Dodge Reports data also identifies the design firm. Data concerning dollars for the design work were not provided, so the analysis was based on number of design contracts rather than dollars.

Results. Keen Independent examined 215 non-City of Atlanta public sector contracts for a value of \$863 million. Minority- and women-owned general contractors were awarded \$89 million of this work, or about 10 percent of the total contract dollars. About 6.8 percent of the dollars went to minority-owned firms and 3.5 percent went to white women-owned firms. Figure I-2 provides detailed results by group for public sector construction contracts.

Figure I-2.

Dollars of prime contracts on non-City public sector construction projects within Atlanta city limits, January 2009-December 2012

	Dodge construction prime contracts	
	Contract dollars (millions)	Percentage of dollars
African American-owned	\$ 31	3.5 %
Asian American-owned	14	1.6
Hispanic American-owned	11	1.3
Native American-owned	0	0.0
Total MBE	\$ 59	6.8 %
WBE (white women-owned)	30	3.5
Total MBE/WBE	\$ 89	10.3 %
Total majority-owned firms	774	89.7
Total firms	\$ 863	100.0 %

Source: Keen Independent from McGraw Hill Construction Dodge Reports data.

The Dodge Reports data provided information for 133 design contracts involved in these public sector projects. Twenty-seven of these contracts (20%) went to minority- and women-owned firms.

Figure I-3.

Number of design contracts for non-City public construction projects within Atlanta city limits, January 2009-December 2012

Construction		
	Number of design contracts	Percent of design contracts
African American-owned	12	9.0 %
Asian American-owned	1	0.8
Hispanic American-owned	2	1.5
Native American-owned	<u>0</u>	<u>0.0</u>
Total MBE	15	11.3 %
WBE (white women-owned)	<u>12</u>	<u>9.0</u>
Total MBE/WBE	27	20.3 %
Total majority-owned firms	<u>106</u>	<u>79.7</u>
Total firms	133	100.0 %

Source: Keen Independent from McGraw Hill Construction Dodge Reports data.

APPENDIX J.

Description of Data Sources for Marketplace Analyses

To perform the marketplace analyses presented in Appendices E through H, the study team used data from a range of secondary sources, including:

- Integrated Public Use Microdata Series (IPUMS) data from the 2008-2012 (five-year) American Community Survey (ACS);
- The 2007 Survey of Business Owners (SBO), conducted by the U.S. Census Bureau; and
- 2006, 2009 and 2012 Home Mortgage Disclosure Act (HMDA) data provided by the Federal Financial Institutions Examination Council (FFIEC).

The following sections provide further detail on each data source, including how the study team used it in its quantitative marketplace analyses.

IPUMS Data

The Minnesota Population Center is home to the Integrated Public Use Microdata Series (IPUMS), the largest repository of national and international Census microdata for social and economic research. Researchers may access the IPUMS program and retrieve customized, accurate datasets.¹ The IPUMS-USA data consist of more than 50 samples of the American population. These samples are drawn from censuses (1850 to 2000) and from the ACS (2000-2012).

IPUMS data offer several features ideal for the analyses reported in this study, including historical cross-sectional data, stratified national and state-level samples, and large sample sizes that enable analysis with a high level of statistical confidence, even for subsets of the population (e.g., racial/ethnic and occupational groups). Because the design of these surveys has changed over time, they have a wide range of record layouts and coding schemes. The IPUMS data files are specifically formulated to standardize the U.S. Census Bureau Public Use Microdata Sample (PUMS) data from year to year. Variables that cannot be compared across years are removed from the dataset. In multiyear files, IPUMS inflates dollar values to the most recent year in the sample. IPUMS also provides some additional geographic and family interrelationship variables. Most importantly, IPUMS provides strata and cluster variables for survey samples prior to 2005, as well as replicate weights for survey samples since 2005, to account for the complexity of the sample design in the measurement of standard errors.

The study team obtained selected Decennial Census and ACS IPUMS data from the University of Minnesota Population Center.

¹ Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database]. Minneapolis: University of Minnesota, 2011.

Focusing on the construction and engineering industries, Keen Independent used IPUMS data to analyze workers and households in Arizona by examining:

- Demographic characteristics;
- Measures of financial resources;
- Educational attainment; and
- Self-employment (business ownership).

For the analyses contained in this report, the study team used the 2008-2012 ACS sample.

2008-2012 ACS. The study team examined 2008-2012 ACS data from IPUMS. The U.S. Census Bureau conducts the ACS which uses monthly samples to produce annually updated data for the same small areas as the 2000 Census long-form.² Since 2005, the ACS has expanded to a roughly 1 percent sample of the population, based on a random sample of housing units in every county in the U.S. (along with the District of Columbia and Puerto Rico). The 2008-2012 ACS five-year estimates represent the average characteristics over the five-year period of time.

For national calculations, the study team used a 1 percent ACS sample; for Atlanta Metropolitan Area calculations, the study team used the 5 percent ACS sample. Applying the person-level population weights to the 3,063,887 observations included in the data, the 2008-2012 ACS dataset represents 309,376,285 people in the U.S. For the Atlanta metropolitan area, the 2008-2012 ACS dataset includes 294,546 observations representing 6,369,636 individuals.

Categorizing individual race/ethnicity. To define race/ethnicity, the study team used the IPUMS race/ethnicity variables — RACED and HISPAN — to categorize individuals into one of seven groups:

- Non-Hispanic white;
- Hispanic American;
- African American;
- Asian-Pacific American;
- Subcontinent Asian American;
- Native American; and
- Other minority (unspecified).

² U.S. Census Bureau. *Design and Methodology: American Community Survey*. Washington D.C.: U.S. Government Printing 2009. Available at http://www.census.gov/acs/www/SBasics/desgn_meth.htm

An individual was considered “non-Hispanic white” if he or she did not report Hispanic ethnicity and indicated being white only — not in combination with any other race group. All self-identified Hispanics (based on the HISPAN variable) were considered Hispanic American, regardless of any other race or ethnicity identification.

For the five other racial groups, an individual’s race/ethnicity was categorized by the first (or only) race group identified in each possible race-type combination. The study team used a rank ordering methodology similar to that used in the 2000 Census data dictionary. An individual who identified multiple races was placed in the reported race category with the highest ranking in the study team’s ordering. African American is first, followed by Native American, Asian-Pacific American, and then Subcontinent Asian American. For example, if an individual identified himself or herself as “Korean,” that person was placed in the Asian-Pacific American category. If the individual identified himself or herself as “Korean” in combination with “Black,” the individual was considered African American.

- The Asian-Pacific American category included the following race/ethnicity groups: Cambodian, Chamorro, Chinese, Filipino, Guamanian, Hmong, Indonesian, Japanese, Korean, Laotian, Malaysian, Native Hawaiian, Samoan, Taiwanese, Thai, Tongan and Vietnamese. This category also included other Polynesian, Melanesian and Micronesian races, as well as individuals identified as Pacific Islanders.
- The Subcontinent Asian American category included these race groups: Asian Indian (Hindu), Bangladeshi, Pakistani and Sri Lankan. Individuals who identified themselves as “Asian,” but were not clearly categorized as Subcontinent Asian were placed in the Asian-Pacific American group.
- American Indian, Alaska Native, Native Hawaiian and Latin American Indian groups were considered Native American.
- If an individual was identified with any of the above groups and an “other race” group, the individual was categorized into the known category. Individuals identified as “other race” or “white and other race” were categorized as “other minority.”

For some analyses — those in which sample sizes were small — the study team combined minority groups (often for Asian Americans and Native Americans).

In the 2008-2012 ACS PUMA data, any category representing fewer than 10,000 people was combined with another category. As a result, some PUMS race/ethnicity categories that occur in one sample may not exist in the other, which could lead to inconsistencies between the two samples once the detailed race/ethnicity categories are grouped according to the seven broader categories. That issue is likely to affect only a very small number of observations.

Education variables. The study team used the variable indicating respondents’ highest level of educational attainment (EDUCD) to classify individuals into four categories: less than high school, high school diploma (or equivalent), some college or associate’s degree and bachelor’s degree or higher.³

Home ownership and home value. Rates of home ownership were analyzed using the RELATED variable to identify heads of household and the OWNERSHPD variable to define tenure. Heads of household living in dwellings owned free and clear and dwellings owned with a mortgage or loan (OWNERSHPD codes 12 or 13) were considered homeowners. Median home values are estimated using the VALUEH variable, which reports the value of housing units in contemporary dollars. In the 2008-2012 ACS home value is a continuous variable (rounded to the nearest \$1,000) and median estimation is straightforward.

Definition of workers. The universe for the class of worker, industry, and occupation variables includes workers 16 years of age or older who are “gainfully employed” and those who are unemployed but seeking work. “Gainfully employed” means that the worker reported an occupation as defined by the Census code OCC.

Business ownership. The study team used the Census detailed “class of worker” variable (CLASSWKD) to determine self-employment. The variable classifies individuals into one eight categories, shown in Figure I-1. The study team counted individuals who reported being self-employed—either for an incorporated or a non-incorporated business—as business owners.

Figure I-1.
Class of worker variable
code in the 2008-2012 ACS

Source:
Keen Independent study team from
the IPUMS program:
<http://usa.ipums.org/usa/>.

Description	2008-2012 ACS CLASSWKRD codes
N/A	0
Self-employed, not incorporated	13
Self-employed, incorporated	14
Wage/salary, private	22
Wage/salary at non-profit	23
Federal government employee	25
State government employee	27
Local government employee	28
Unpaid family worker	29

³ In the 1940-1980 samples, respondents were classified according to the highest year of school completed (HIGRADE). In the years after 1980, that method was used only for individuals who did not complete high school, and all high school graduates were categorized based on the highest degree earned (EDUC99). The EDUCD variable merges two different schemes for measuring educational attainment by assigning to each degree the typical number of years it takes to earn it.

Business earnings. The study team used the Census “business earnings” variable (INCBUS00) to analyze business income by race/ethnicity and gender. The study team included business owners aged 16 and over with positive earnings in the analyses.

Study industries. The marketplace analyses focus on four study industries: construction, professional services, goods, and other services. The study team used the IND variable to identify individuals as working in one of these industries. That variable includes several hundred industry and sub-industry categories. Figure I-2 identifies the IND codes used to define each study area.

Figure I-2.
2008-2012 Census industry codes used for construction, professional services, goods, and other services

Study industry	2008-2012 ACS IND codes	Description
Construction	0770	Construction industry
Professional Services	6695; 7290; 7380; 7390; 7460	Data processing, hosting and related services; Architectural, engineering, and related services; computer systems design and related services; Management, scientific and technical consulting services; Scientific research and development services
Goods	4000	Wholesale trade
Other Services	6180; 6190; 7680; 7690; 7780; 7790; 8870; 9090	Bus service and urban transit; Taxi and limousine; Investigation and security services; Services to buildings and dwellings, except construction cleaning; Other administrative and other support services; Waste management and remediation services; Commercial and industrial machinery and equipment repair maintenance; Other personal services

Source: Keen Independent study team from the IPUMS program: <http://usa.ipums.org/usa/>.

Industry occupations. The study team also examined workers by occupation within the construction industry using the PUMS variable OCC. Figure I-3 summarizes the 2008-2012 ACS OCC codes used in the study team’s analyses.

Figure I-3.
2008-2012 ACS occupation codes used to examine workers in construction

2008-2012 ACS occupational title and code	Job description
Construction managers 2008-12 Code: 220	Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. Include specialized construction fields, such as carpentry or plumbing. Include general superintendents, project managers, and constructors who manage, coordinate, and supervise the construction process.
First-line supervisors of construction trades and extraction workers 2008-12 Code: 6200	Directly supervise and coordinate the activities of construction or extraction workers.
Brickmasons, Blockmasons and Stonemasons 2008-12 Code: 6220	Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, Construct or repair walls, partitions, arches, sewers, and other structures. Build stone structures, such as piers, walls, and abutments and lay walks, curbstones, or special types of masonry for vats, tanks, and floors.
Carpenters 2008-12 Code: 6230	Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms, building frameworks, including partitions, joists, studding, rafters, wood stairways, window and door frames, and hardwood floors.
Carpet, floor, and tile installers and finishers 2008-12 Code: 6240	Apply shock-absorbing, sound-deadening, or decorative coverings to floors. Lay carpet on floors and install padding and trim flooring materials. Scrape and sand wooden floors to smooth surfaces, apply coats of finish. Apply hard tile, marble, wood tile, walls, floors, ceilings, and roof decks.

Figure I-3 (continued).
 2008-2012 ACS occupation codes used to examine workers in construction

2008-2012 ACS occupational title and code	Job description
Cement masons, concrete finishers and terrazzo workers 2008-12 Code: 6250	Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs or gutters; patch voids; use saws to cut expansion joints. Terrazzo workers apply a mixture of cement, sand, pigment or marble chips to floors, stairways, and cabinet fixtures.
Construction laborers 2008-12 Code: 6260	Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, clean up rubble and debris, and remove asbestos, lead, and other hazardous waste materials. May assist other craft workers. Exclude construction laborers who primarily assist a particular craft worker, and classify them under "Helpers, Construction Trades."
Paving, surfacing and tamping equipment operators 2008-12 Code: 6300	Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials. Include concrete and asphalt paving machine operators, form tampers, tamping machine operators, and stone spreader operators.
Miscellaneous construction equipment operators, including pile-driver operators 2008-12 Code: 6320	Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. Operate pile drivers mounted on skids, barges, crawler treads, or locomotive cranes to drive pilings for retaining walls, bulkheads, and foundations of structures, such as buildings, bridges, and piers.
Drywall installers, ceiling tile installers and tapers 2008-12 Code: 6330	Apply plasterboard or other wallboard to ceilings or interior walls of buildings, mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound.

Figure I-3 (continued).
 2008-2012 ACS occupation codes used to examine workers in construction

2008-2012 ACS occupational title and code	Job description
Electricians 2008-12 Code: 6350, 6355	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Exclude "Security and Fire Alarm Systems Installers." The 2000 category includes electrician apprentices.
Glaziers 2008-12 Code: 6360	Install glass in windows, skylights, store fronts, display cases, building fronts, interior walls, ceilings, and tabletops.
Painters, construction and maintenance 2008-12 Code: 6420	Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. Remove old paint to prepare surfaces prior to painting and mix colors or oils to obtain desired color or consistency.
Pipelayers, plumbers, pipefitters and steamfitters 2008-12 Code: 6440	Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints. Excludes "Welders, Cutters, Solderers, and Brazers." Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. Includes sprinklerfitters.
Plasterers and stucco masons 2008-12 Code: 6460	Apply interior or exterior plaster, cement, stucco, or similar materials and set ornamental plaster.
Roofers 2008-12 Code: 6510, 6515	Cover roofs of structures with shingles, slate, asphalt, aluminum, and wood. Spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures
Iron and steel workers, including reinforcing iron and rebar workers 2008-12 Code: 6530	Iron and steel workers raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. Reinforcing iron and rebar workers position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Include rod busters.
Helpers, construction trades 2008-12 Code: 6600	All construction trades helpers not listed separately.

Figure I-3 (continued).
 2008-2012 ACS occupation codes used to examine workers in construction

2008-2012 ACS occupational title and code	Job description
Driver/sales workers and truck drivers 2008-12 Code: 9130	<p><i>Driver/sales workers</i> drive trucks or other vehicles over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry. May also take orders and collect payments. Include newspaper delivery drivers. <i>Truck drivers (heavy)</i> drive a tractor-trailer combination or a truck with a capacity of at least 26,000 GVW, to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to unload truck. May require use of automated routing equipment. Requires commercial drivers' license. <i>Truck drivers (light)</i> drive a truck or van with a capacity of under 26,000 GVW, primarily to deliver or pick up merchandise or to deliver packages within a specified area. May require use of automatic routing or location software. May load and unload truck. Exclude "Couriers and Messengers."</p>
Crane and tower operators 2008-12 Code: 9510	<p>Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions. Exclude "Excavating and Loading Machine and Dragline Operators."</p>
Dredge, excavating and loading machine operators 2008-12 Code: 9520	<p><i>Dredge operators</i> operate dredge to remove sand, gravel, or other materials from lakes, rivers, or streams; and to excavate and maintain navigable channels in waterways. <i>Excavating and loading machine and dragline operators</i> Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. <i>Loading machine operators, underground mining</i>, Operate underground loading machine to load coal, ore, or rock into shuttle or mine car or onto conveyors. Loading equipment may include power shovels, hoisting engines equipped with cable-drawn scraper or scoop, or machines equipped with gathering arms and conveyor.</p>

Source: 2008-2012 occupational titles and codes at <https://usa.ipums.org/usa/volii/c2ssoccup.shtml>

Survey of Business Owners (SBO)

The study team used data from the 2007 SBO to analyze mean annual firm receipts. The SBO is conducted every five years by the U.S. Census Bureau. Data for the most recent publication of the SBO were collected in 2007.

Response to the survey is mandatory, which ensures comprehensive economic and demographic information for business and business owners in the U.S. All tax-filing businesses and nonprofits were eligible to be surveyed, including firms with and without paid employees. In 2007, almost 8 million firms were surveyed. The study team examined SBO data relating to the number of firms, number of firms with paid employees, and total receipts. That information is available by geographic location, industry, gender, race and ethnicity.

The SBO uses the 2002 North American Industry Classification System (NAICS) to classify industries. The study team analyzed data for firms in all industries and for firms in selected industries that corresponded closely to construction, professional services, goods, and other services.

To categorize the business ownership of firms reported in the SBO, the Census Bureau uses standard definitions for women-owned and minority-owned businesses. A business is defined as female-owned if more than half of the ownership and control is by women. Firms with joint male-/female-ownership were tabulated as an independent gender category. A business is defined as minority-owned if more than half of the ownership and control is by African Americans, Asian Americans, Hispanic Americans, Native Americans, or by another minority group. Respondents had the option of selecting one or more racial groups when reporting business ownership. Racial categories in the Atlanta metropolitan area are not available by both race and ethnicity so race and ethnicity were analyzed independently. The study team reported business receipts for the following racial, ethnic and gender groups:

- African Americans;
- Asian Americans;
- Hispanic Americans;
- Native Americans;
- Non-Hispanic whites;
- Men; and
- Women.

Home Mortgage Disclosure Act (HMDA) Data

The study team analyzed mortgage lending in the Atlanta metropolitan area using HMDA data that the Federal Financial Institutions Examination Council (FFIEC) provides. HMDA data provide information on mortgage loan applications that financial institutions, savings banks, credit unions and some mortgage companies receive. Those data include information about the location, dollar amount and types of loans made, as well as race/ethnicity, income and credit characteristics of loan applicants. Data are available for home purchase, home improvement, and refinance loans.

Financial institutions were required to report 2012 HMDA data if they had assets of more than \$41 million (\$35 million for 2006 and \$39 million for 2009), had a branch office in a metropolitan area, and originated at least one home purchase or refinance loan in the reporting calendar year. Mortgage companies were required to report HMDA if they are for-profit institutions, had home purchase loan originations exceeding 10 percent of all loan obligations in the past year, were located in an MSA (or originated five or more home purchase loans in an MSA), and either had more than \$10 million in assets or made at least 100 home purchase or refinance loans in the calendar year.

The study team used those data to examine loan denial rates and subprime lending rates for different racial and ethnic groups in 2006, 2009 and 2012. Note that the HMDA data represent the entirety of home mortgage loan applications reported by participating financial institutions in each year examined. Those data are not a sample. Appendix G provides a detailed explanation of the methodology that the study team used for measuring loan denial and subprime lending rates.