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# City of El Paso:
# Cross Sectional Comparison of Bilingualism in the Workplace

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Institute for POLICY and ECONOMIC Development
The University of Texas at El Paso

# Introduction

The Institute for Policy and Economic Development (IPED) at the University of Texas at El Paso conducted an analysis of bilingualism in the workplace between El Paso and other regions. This study, performed for the City of El Paso Department of Economic Development, highlights El Paso's bilingual workforce in 22 occupational groups and 20 industry sectors and makes cross-sectional comparisons to 19 Metropolitan Statistical Areas (MSAs) that are in geographic proximity or contain a high number or percentage of Spanish-speaking populations. In addition, detailed occupations and detailed industries are reported for El Paso that offer English-Spanish bilinguals good wages, contain skills that can be transferred to other employment, and provide employment opportunity. Results indicate that El Paso's workforce offers employers, both existing and potential, a strong bilingual foundation in comparison to other regions.

# Key Findings

## *Occupational Groups*

- ✓ The following 22 occupational groups were analyzed:
  - Management
  - Business & Financial Operations
  - Computer & Mathematical Science
  - Architecture & Engineering
  - Life, Physical & Social Science
  - Community & Social Services
  - Legal
  - Education, Training & Library
  - Arts, Design, Entertainment, Sports, & Media
  - Healthcare Practitioner and Technical
  - Healthcare Support
  - Protective Service
  - Food Preparation & Serving Related
  - Building & Grounds Cleaning & Maintenance
  - Personal Care & Service
  - Sales & Related
  - Office & Administrative Support
  - Farming, Fishing & Forestry
  - Construction & Extraction
  - Installation, Maintenance & Repair
  - Production
  - Transportation & Material Moving

- ✓ The four occupational groups that employ the most bilingual speakers in El Paso, as a percent of that group's respective workforce (bilingual percent in parenthesis), include:
  - Office & Administrative Support *(17.8%)*
  - Sales & Related *(12.9%)*
  - Production *(10.6%)*
  - Transportation & Material Moving (*7.9%*)

- ✓ The seven MSAs with the largest Hispanic and bilingual populations, as a percent of the total population (Hispanic followed by bilingual percent in parenthesis), appeared the most often among the top MSAs with the largest shares of occupational group employment that is bilingual and include:

- Albuquerque *(41.6% ; 19.4%)*
- El Paso *(78.2% ; 49.7%)*
- Los Angeles *(40.3% ; 20.7%)*
- McAllen *(88.3% ; 54.8%)*
- Miami *(40.3% ; 26.6%)*
- San Antonio *(51.2% ; 30.1%)*
- Santa Fe *(44.4% ; 23.7%)*

✓ El Paso labor is at least 50% bilingual in 17 of the 22 occupational groups studied.
- Lowest bilingual share (*35.2%*) in *Farming, Fishing, and Forestry*
- Highest bilingual share (*65.9%*) in *Protective Service*
- Median bilingual share (*54.4%*) in *Production* and (*54.8%*) *Construction and Extraction*

✓ In each of the 22 occupational groups, and when compared to the other MSAs studied, El Paso ranks either first or second with the largest percent of the workforce that is bilingual.

✓ 11 occupational groups stand out with regard to economic opportunity (strong employment base, wages and skills sets) for bilingual speakers; they include:
- Office & Administrative Support
- Community & Social Services
- Business & Financial Operations
- Installation, Maintenance & Repair
- Education, Training & Library
- Construction & Extraction
- Architecture & Engineering
- Healthcare Practitioner & Technical
- Legal
- Computer & Mathematical Science
- Life, Physical & Social Science

## *Industry Sectors*

✓ The following 20 industry sectors were analyzed:
- Agriculture, Forestry, Fishing, & Hunting
- Mining, Quarrying, & Oil & Gas Extraction
- Utilities
- Construction
- Manufacturing
- Wholesale Trade
- Retail Trade
- Transportation & Warehousing
- Information
- Finance & Insurance
- Real Estate & Rental & Leasing
- Professional, Scientific & Technical Services
- Management of Companies & Enterprises
- Administrative & Support & Waste Management & Remediation Services
- Educational Services
- Health Care & Social Assistance
- Arts, Entertainment & Recreation
- Accommodation & Food Services
- Other Services (except Public Administration)
- Public Administration

- ✓ The three industry sectors that employ the most bilingual speakers in El Paso, as a percent of that sector's respective workforce (bilingual percent in parenthesis), include:
  - Manufacturing *(15.0%)*
  - Retail Trade *(12.8%)*
  - Educational Services *(11.9%)*

- ✓ The seven MSAs with the largest Hispanic and bilingual populations, as a percent of the total population (Hispanic followed by bilingual percent in parenthesis), appeared the most often among the top MSAs that have the largest shares of industry sector employment that is bilingual. The seven MSAs are identical to those listed for the occupational groups and include:
  - Albuquerque *(41.6% ; 19.4%)*
  - El Paso *(78.2% ; 49.7%)*
  - Los Angeles *(40.3% ; 20.7%)*
  - McAllen *(88.3% ; 54.8%)*
  - Miami *(40.3% ; 26.6%)*
  - San Antonio *(51.2% ; 30.1%)*
  - Santa Fe *(44.4% ; 23.7%)*

- ✓ El Paso labor is at least 50% bilingual in 16 of the 20 industry sectors studied.
  - Lowest bilingual share (*32.5%*) in *Agriculture, Forestry, Fishing and Hunting*
  - Highest bilingual share (*65.6%*) in *Transportation and Warehousing*
  - Median bilingual share (*56.5%*) in *Manufacturing* and *Accommodation and Food Services*.

- ✓ In 19 of the 20 industry sectors, and when compared to the other MSAs studied, El Paso ranks either first, second or third with the largest percent of the workforce that is bilingual.

- ✓ 10 industry sectors stand out with regard to economic opportunity (strong employment base, wages and skills sets) for bilingual speakers; they include:
  - Transportation & Warehousing
  - Information
  - Finance & Insurance
  - Administrative & Support & Waste Management & Remediation Services
  - Health Care & Social Assistance
  - Manufacturing
  - Construction
  - Professional, Scientific & Technical Services
  - Real Estate & Rental & Leasing
  - Educational Services

## Methodology

Twenty Metropolitan Statistical Areas (MSAs), including El Paso, were chosen for the cross-sectional comparison of bilingualism in the workplace. These MSAs were selected based on 1) a minimum population size of 500,000 (with the exception of Santa Fe), 2) a substantial Hispanic population share or count (where Hispanic is a proxy for bilingualism), 3) a significant level of economic development (as

determined by various economic indicators), and/or 4) geographical vicinity to El Paso (i.e., Santa Fe). Table 1 depicts the 20 selected MSAs and corresponding share of the population that is Hispanic and bilingual (in parenthesis is the 2000 population):

**Table 1. Twenty Selected Metropolitan Statistical Areas and Corresponding Population Statistics**

- **Albuquerque, NM** (712,738)
  Hispanic – 296,373 ; 41.6%
  Bilingual – 138,556 ; 19.4%
- **Austin-San Marcos, TX** (1,249,763)
  Hispanic – 327,760 ; 26.2%
  Bilingual – 163,480 ; 14.0%
- **Chicago-Gary-Kenosha, IL-IN-WI** (9,157,540)
  Hispanic – 1,498,507 ; 16.4%
  Bilingual – 835,758 ; 9.2%
- **Dallas-Fort Worth, TX** (5,221,801)
  Hispanic – 1,120,350 ; 21.5%
  Bilingual – 570,057 ; 11.3%
- **Denver-Boulder-Greeley, CO** (2,581,506)
  Hispanic – 476,627 ; 18.5%
  Bilingual – 186,551 ; 7.5%
- **El Paso, TX** (679,622)
  Hispanic – 531,654 ; 78.2%
  Bilingual – 335,958 ; 49.7%
- **Houston-Galveston, Brazoria, TX** (4,669,571)
  Hispanic – 1,348,588 ; 28.9%
  Bilingual – 722,658 ; 15.5%
- **Las Vegas, NV-AZ** (1,563,282)
  Hispanic – 322,038 ; 20.6%
  Bilingual – 157,148 ; 11.4%
- **Los Angeles-Riverside-Orange County, CA** (16,373,645)
  Hispanic – 6,598,488 ; 40.3%
  Bilingual – 3,391,999 ; 20.7%
- **McAllen-Edinburg-Mission, TX** (569,463)
  Hispanic – 503,100 ; 88.3%
  Bilingual – 309,980 ; 54.8%
- **Miami-Fort Lauderdale, FL** (3,876,380)
  Hispanic – 1,563,389 ; 40.3%
  Bilingual – 1,023,180 ; 26.6%
- **New York-Northern New Jersey-Long Island, NY-NJ-CT-PA** (21,199,865)
  Hispanic – 3,852,138 ; 18.2%
  Bilingual – 2,331,922 ; 11.1%
- **Orlando, FL** (1,644,561)
  Hispanic – 271, 627 ; 16.5%
  Bilingual – 192,171 ; 11.6%
- **Phoenix-Mesa, AZ** (3,251,876)
  Hispanic – 817,012 ; 25.1%
  Bilingual – 365,168 ; 11.9%
- **Sacramento-Yolo, CA** (1,796,857)
  Hispanic – 278,182 ; 15.5%
  Bilingual – 122,358 ; 6.8%
- **San Antonio, TX** (1,592,383)
  Hispanic – 816,037 ; 51.2%
  Bilingual – 466,825 ; 30.1%
- **San Diego, CA** (2,813,833)
  Hispanic – 750,965 ; 26.7%
  Bilingual – 418,460 ; 14.9%
- **San Francisco-Oakland-San Jose, CA** (7,039,362)
  Hispanic – 1,383,661 ; 19.7%
  Bilingual – 694,899 ; 9.9%
- **Santa Fe, NM** (147,635)
  Hispanic – 65,560 ; 44.4%
  Bilingual – 35,281 ; 23.7%
- **Tucson, AZ** (843,746)
  Hispanic – 247,578 ; 29.3%
  Bilingual – 148,244 ; 17.6%

Source for bilingual count: 2000 Census, 5% Public Use Microdata Sample.

Source for population and Hispanic count: 2000 Census of Population and Housing.

Note: More recent (2007) population and Hispanic counts are not included because Census changed area definitions (changed geographical boundaries) for a majority of the selected MSAs found in the PUMS database.

The dataset utilized in this study is the *2000 Census of Population and Housing, 5% Public Use Microdata Sample (PUMS)*. The 5% PUMS files are the result of a 5% sub-sample of the 2000 Census Long Form survey recipients. PUMS data files were chosen because they allow for the retrieval of raw data and the subsequent creation of tables otherwise unavailable. The 5% PUMS files were collected through the Federated Electronic Research, Review, Extraction and Tabulation Tool (DataFerrett).

Four variables provide the basis for this report:

1. **Occupation Code –** This variable is based on the 2000 Standard Occupational Classification (SOC) system and provides a count of employees found in each occupational category (see Table 2 for an understanding of the SOC hierarchy). There are a total of ***22 SOC (2-digit) major groups*** and these are the main unit of analysis for occupational employment.

**Table 2. SOC Hierarchy**

| SOC Level | SOC Example |
|---|---|
| 2-digit (Major Group) | **43-0000** Administrative and Support |
| 3-digit (Minor Group) | **43-3000** Financial Clerks |
| 4-digit (Broad Occupation) | **43-3010** Bill and Account Collectors |
| 5-digit (Detailed Occupation) | **43-3011** Bill and Account Collectors |

2. **Industry Code –** This variable is based on the 1997 North American Industry Classification System (NAICS) and provides a count of employees found in each industry category (see Table 3 for an understanding of the NAICS hierarchy). There are a total of ***20 NAICS (2-digit) industry sectors*** and these are the primary unit of analysis for industrial employment.

**Table 3. NAICS Hierarchy**

| NAICS Level | NAICS Example |
|---|---|
| 2-digit (Industry Sector) | **32** Manufacturing |
| 3-digit (Industry Subsector) | **325** Chemical Mfg. |
| 4-digit (Industry Group) | **3254** Pharmaceutical and Medicine Mfg. |
| 5-digit (NAICS Industry) | **32541** Pharmaceutical and Medicine Mfg. |
| 6-digit (National Industry) | **325411** Medicinal and Botanical Mfg. |

3. **Language for the 1% File –** This variable is derived from question 11a and 11b of the 2000 Census Long Form questionnaire and allows users to restrict the population to only those individuals who speak a selected language(s) other than English. In this case, the population was restricted to Spanish-speakers.

4. **English Ability –** This variable is derived from question 11c of the 2000 Census Long Form questionnaire and allows users to further restrict the English-speaking population to those who speak Spanish and selected level(s) of English. In this case, the population was further restricted to those individuals who speak English *well* or *very well*. Thus, the term *bilingual* in this study is defined as those individuals able to speak Spanish at an unknown proficiency level and speak English at a proficiency level of *well* or *very well*.

From the above four variables, a series of cross-tabulations were generated for each of the 20 chosen MSAs. The purpose of these cross-tabulations was to obtain for every MSA the bilingual workforce percentage for each of the 22 SOC major groups as well as for each of the 20 NAICS industry sectors. These percentages are used as the unit of comparison.

It is important to discuss the two notable limitations associated with the dataset. First, the 2000 Census serves as the foundation for analysis because it provides the most recent data available. While we are limited to this older dataset, it is acceptable because it is unlikely that Hispanic, and thus bilingual, communities have radically shifted or significantly changed in language characteristics within the past eight years. Second, while it was possible to evaluate English language proficiency (only individuals that spoke *well* or *very well* were accounted for), it was not possible to measure Spanish language proficiency. As a result, individuals with only limited knowledge of Spanish may be included in the group identified as bilingual. Thus, it is possible that the bilingual workforce percentages are overestimated, particularly in those geographical areas where various levels of Spanish proficiency prevail.

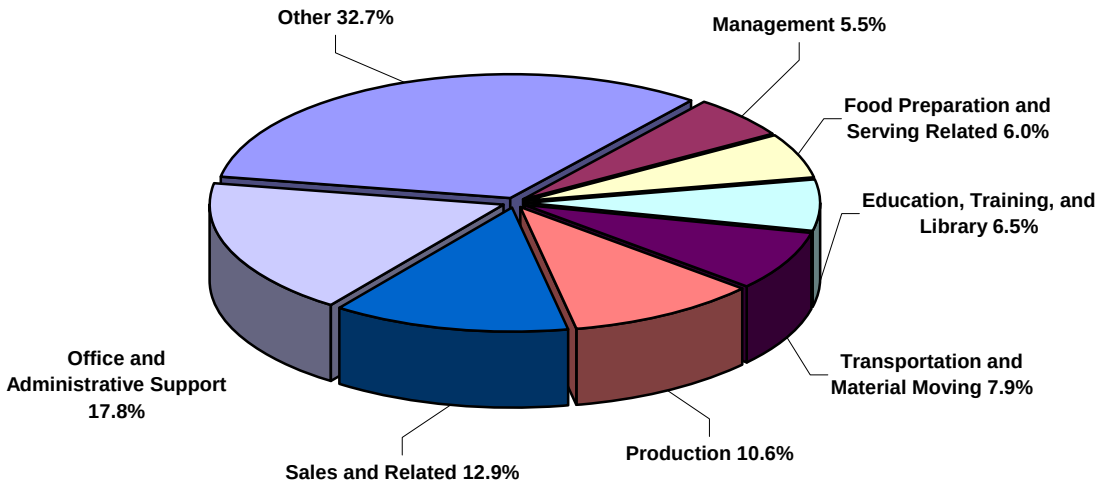
# Findings

## Occupational Employment

The distribution of bilingual jobs over the 22 occupational groups in El Paso was first examined and these results were compared to the occupational distribution of the other 19 MSAs. Within the El Paso MSA, about one in six bilingual occupations are found in *Office and Administrative Support*, making this the top occupational group employing bilinguals in the region (Figure 1). *Sales and Related* ranks second, followed by *Production* and *Transportation and Material Moving*.

The 19 comparison MSAs exhibited a similar trend, with *Office and Administrative Support* as well as *Sales and Related* exhibiting the greatest proportion of occupational employment that is bilingual. Since these occupational groups overall typically have larger shares of employment within an economy, it is not surprising that these occupational groups also tend to have a larger share of bilingual speakers. For example, most economies have a large demand for cashiers, so this occupation will be high in terms of employment regardless of the region.

**Figure 1. Top SOC Major Group Employment for Bilingual Speakers in El Paso**




Next, a cross-sectional analysis was performed by comparing the proportion of bilingual speakers by occupational group across the 20 MSAs under study. Figures 2 through 23 identify the top seven MSAs with the largest bilingual workforce percentages for each of the 22 occupational groups. For example, in Figure 2, 58 percent of the El Paso workforce employed in *Arts, Design, Entertainment, Sports and Media* is bilingual, ranking El Paso first in this SOC group. By comparison, McAllen, Miami and San Antonio rank 2nd, 3rd and 4th, respectively, with 55, 31 and 22 percent of the workforce that is bilingual in *Arts, Design, Entertainment, Sports and Media*.

El Paso and McAllen rank among the top seven in the proportion of employed that are bilingual across all 22 SOC groups. This is influenced by the fact that both MSAs are border regions, and, as a result, have the largest Hispanic communities relative to their total populations. Other MSAs with large Hispanic communities relative their total population base include: Albuquerque, Los Angeles, Miami, San Antonio, and Santa Fe. These regions are most often found among the top seven MSAs employing the largest share of bilingual speakers after El Paso and McAllen. On the other hand, several regions chosen for comparison do not appear in the top seven for any of the occupational groups, despite their large Hispanic population counts. These regions include Chicago, Dallas, and San Francisco, each with Hispanic populations of over 1 million, and New York with a Hispanic population of nearly 4 million. Consequently, this methodology looks at regions with large Hispanic communities relative their total population rather than communities with only large Hispanic population counts.

**Note: The percentages in Figures 2 through 23 below refer to the percent of the workforce that is bilingual in the respective SOC major group.**

**Figure 2. Arts, Design, Entertainment, Sports, and Media**

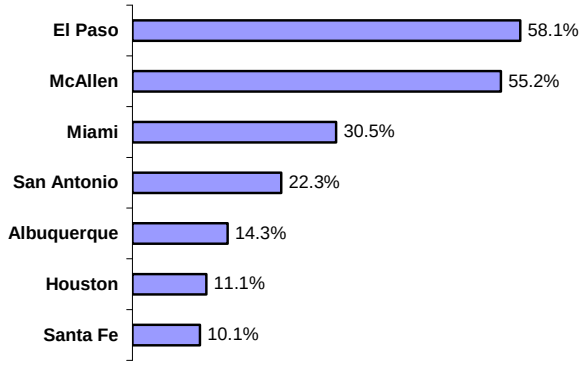



**Figure 3. Transportation and Material Moving**

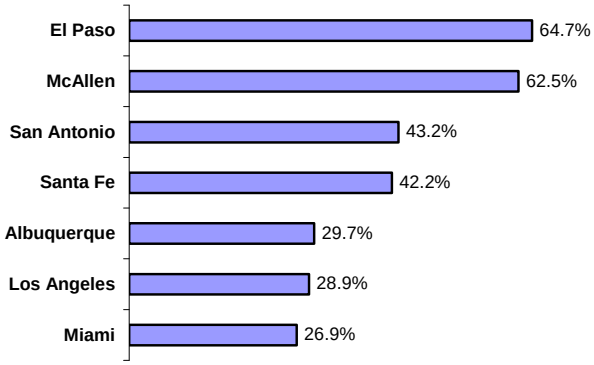



**Figure 4. Management**

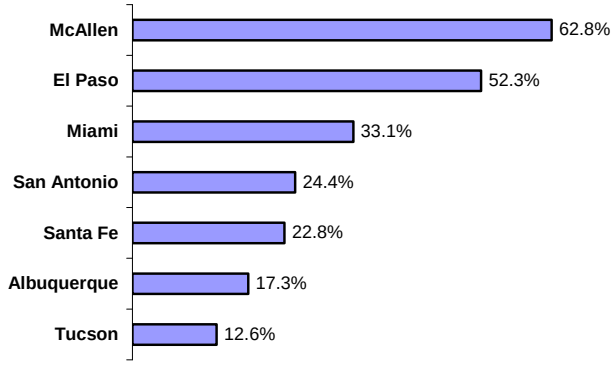



**Figure 5. Business and Financial Operations**

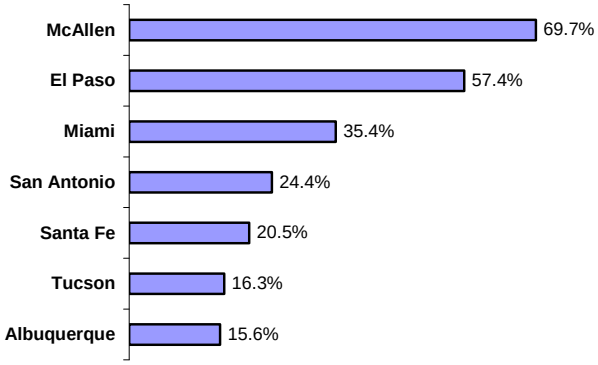



**Figure 6. Computer and Mathematical Science**

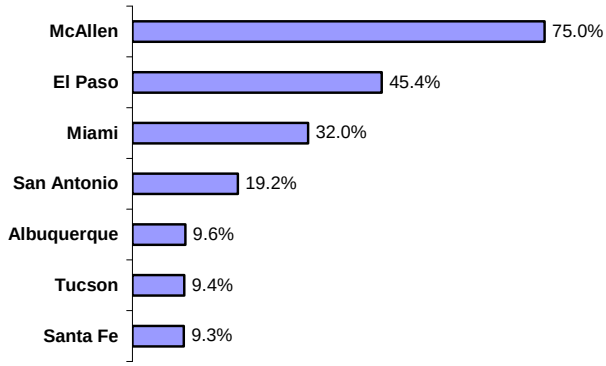



**Figure 7. Architecture and Engineering**

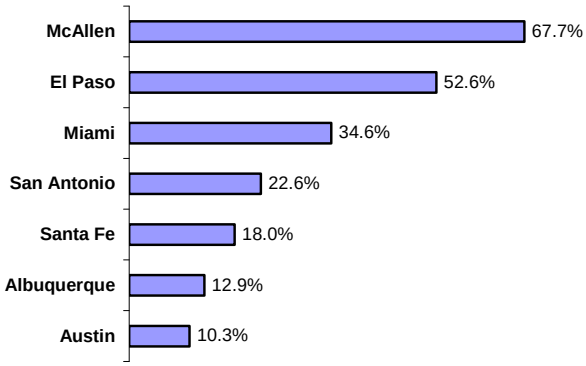


**Figure 8. Life, Physical, and Social Science**

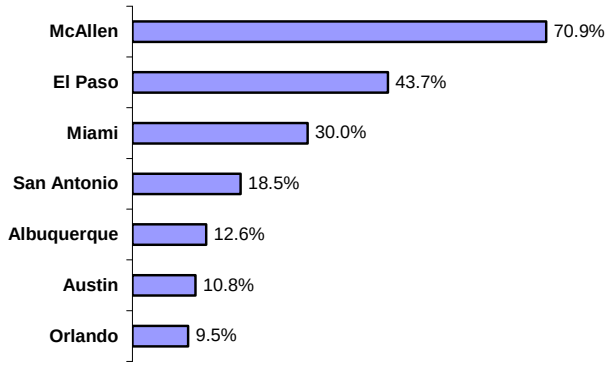



**Figure 9. Community and Social Services**

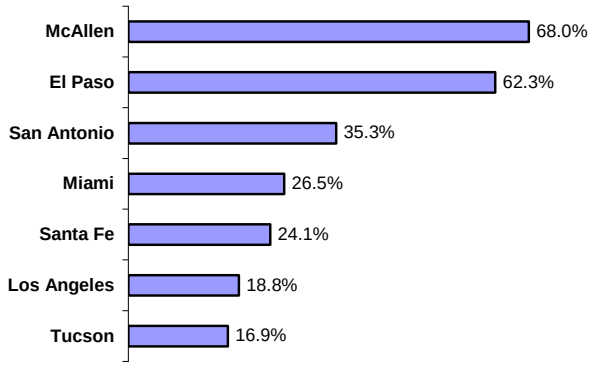



**Figure 10. Legal**

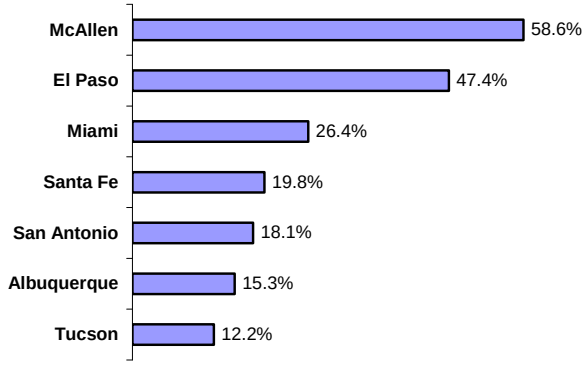



**Figure 11. Education, Training, and Library**

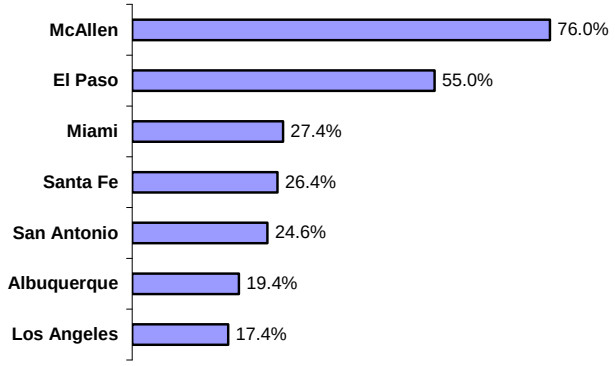



**Figure 12. Healthcare Practitioner and Technical**

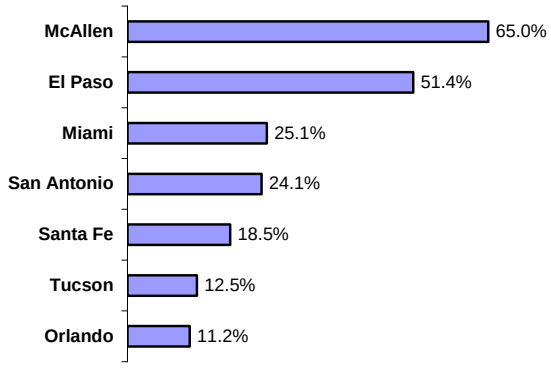



**Figure 13. Healthcare Support**

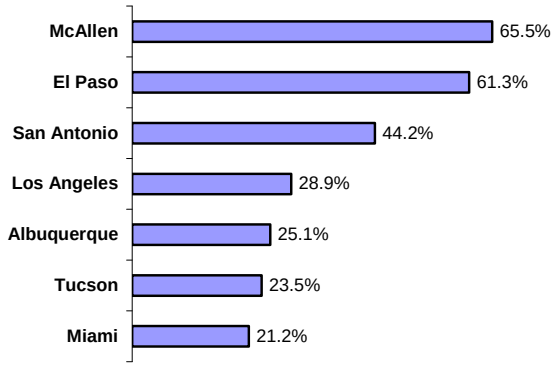


**Figure 14. Protective Service**

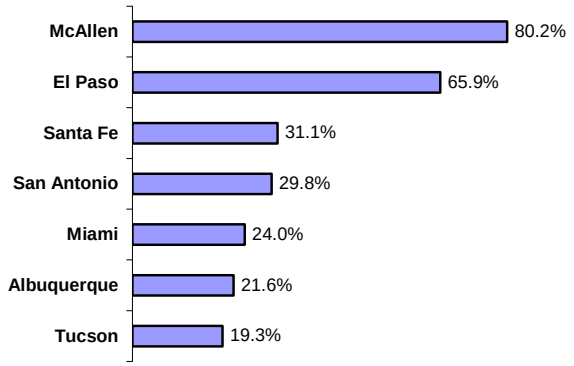



**Figure 15. Food Preparation and Serving Related**

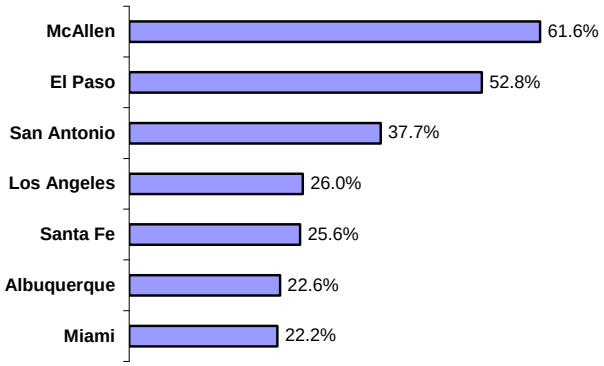



**Figure 16. Building and Grounds Cleaning and Maintenance**

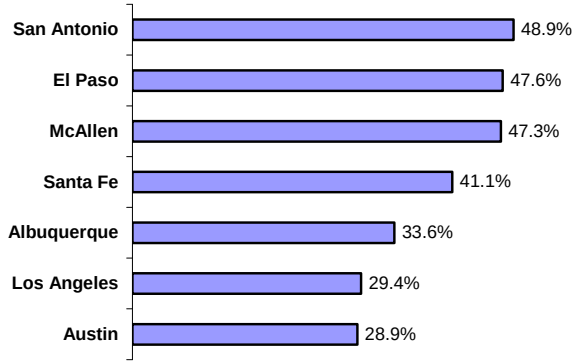



**Figure 17. Personal Care and Service**

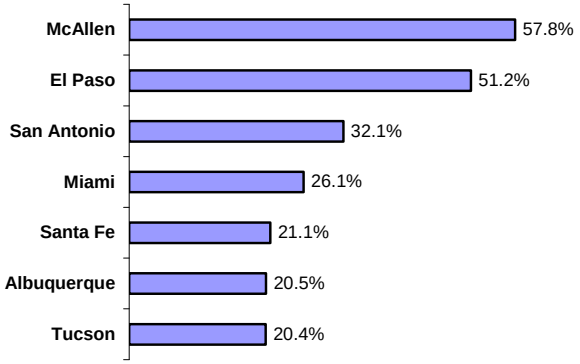



**Figure 18. Sales and Related**

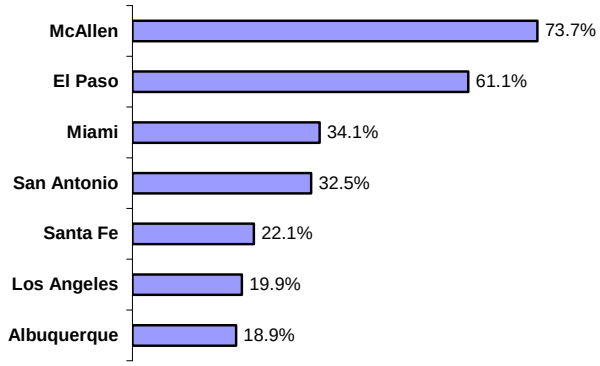



**Figure 19. Office and Administrative Support**

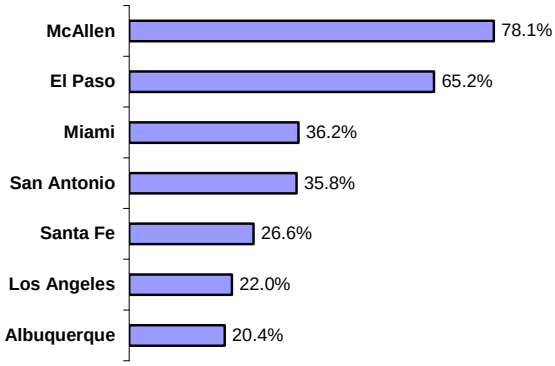


**Figure 20. Farming, Fishing, and Forestry**

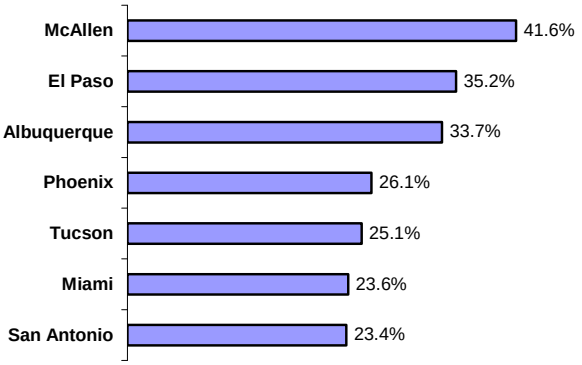



**Figure 21. Construction and Extraction**

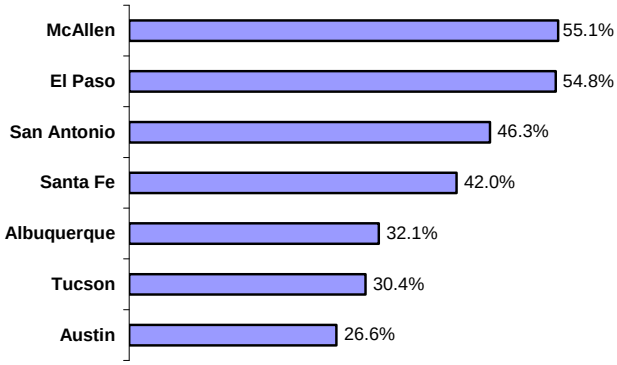



**Figure 22. Installation, Maintenance, and Repair**

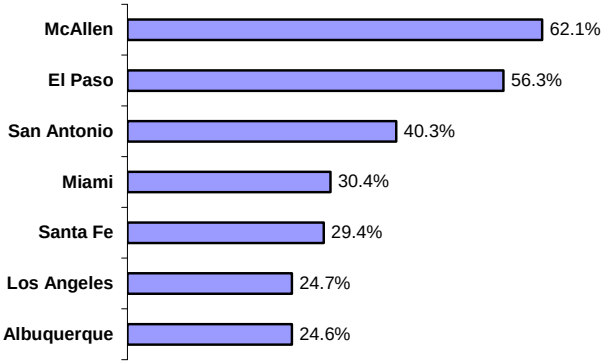
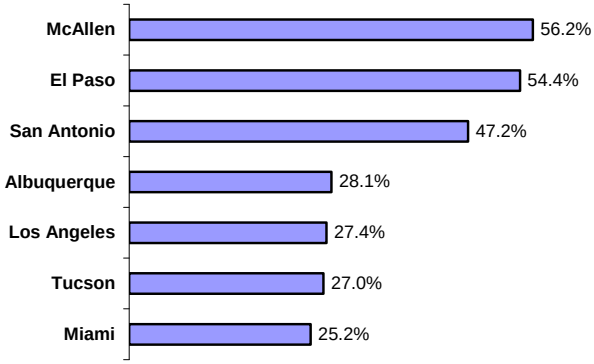



**Figure 23. Production**




By comparison to the other MSAs, El Paso ranks first in the percentage of the workforce that is bilingual for two of the 22 occupational groups (Figures 2 and 3); these include 1) *Arts, Design, Sports, Entertainment, and Media* and 2) *Transportation and Material Moving*. The region ranks second in the remaining 20 occupational categories (Figures 4 through 23); in 19 of those 20 cases, El Paso ranks second only to McAllen. As noted previously, this is influenced by the fact that both El Paso and McAllen are border regions with larger Hispanic communities relative their total population size.

The smallest bilingual occupations workforce in El Paso, in percentage terms, is found in *Farming, Fishing, and Forestry* with 35 percent bilingual, while the largest is found in *Protective Service* with 66 percent bilingual. Table 4 ranks El Paso's bilingual workforce percentages by occupational groups, from the largest to the smallest. The median bilingual workforce for the region, as a percent, is shared by *Production* with 54 percent bilingual and by *Construction and Extraction* with 55 percent bilingual.

Furthermore, in 17 of the 22 occupational groups, El Paso has workforces that are at least 50% bilingual. These descriptive statistics suggest El Paso has a strong bilingual occupational foundation.

**Table 4. Bilingual Workforce Percentage by SOC Major Group in El Paso**

- Protective Service (65.9%)
- Office and Administrative Support (65.2%)
- Transportation and Material Moving (64.7%)
- Community and Social Services (62.3%)
- Healthcare Support (61.3%)
- Sales and Related (61.1%)
- Arts, Design, Entertainment, Sports, and Media (58.1%)
- Business and Financial Operations (57.4%)
- Installation, Maintenance, and Repair (56.3%)
- Education, Training, and Library (55.0%)
- Construction and Extraction (54.8%)
- Production (54.4%)
- Food Preparation and Serving Related (52.8%)
- Architecture and Engineering (52.6%)
- Management (52.3%)
- Healthcare Practitioner and Technical (51.4%)
- Personal Care and Service (51.2%)
- Building and Grounds Cleaning and Maintenance (47.6%)
- Legal (47.4%)
- Computer and Mathematical Science (45.4%)
- Life, Physical, and Social Science (43.7%)
- Farming, Fishing, and Forestry (35.2%)

Following the cross-sectional comparison, detailed occupations within SOC major groups that offer more economic opportunity for bilingual speakers in El Paso were analyzed. In the bullets below, detailed occupations were selected based on those exhibiting: 1) a significant bilingual employment percentage within the occupation and 2) a large workforce count. A proportionately large bilingual workforce suggests a demand for, or an inherent skill within, the occupation and a large total workforce count suggests greater employment opportunity (in terms of job availability and future growth). Detailed occupations were further narrowed to those offering: 1) relatively high wages (close to or above $29 thousand annually), as well as 2) trainable and transferrable skills since these are essential to economic development and are more desirable to job seekers. Detailed occupations for El Paso are listed under their respective SOC 2-digit major group below, with 2007 median hourly wages in parentheses (wages obtained from the Occupational Employment Statistics, U.S. Bureau of Labor Statistics). In sum, the selected detailed occupations offer good wages, contain skills that can be used across other occupations, and provide opportunity in the sense that they have a sufficient employment base to support a workforce.

1. **Office and Administrative Support *(65.3% bilingual)***
   - Secretaries and Administrative Assistants ($10.91 - $15.24)
   - Insurance Claims and Policy Processing Clerks ($13.78)
   - Eligibility Interviewers, Government Programs ($13.87)
   - Payroll and Timekeeping Clerks ($13.87)
   - Production, Planning, and Expediting Clerks ($14.58)
   - Procurement Clerks ($14.80)

2. **Community and Social Services *(62.3% bilingual)***
   - Counselors ($11.30 - $28.75)
   - Social Workers ($12.22 - $27.95)

3. **Business and Financial Operations *(57.4% bilingual)***
   - Human Resources, Training, and Labor Relations Specialists ($15.11 - $23.74)
   - Loan Counselors and Officers ($15.27-$22.34)
   - Purchasing Agents, except wholesale, retail, and farm products ($19.99)
   - Claims Adjustors, Appraisers, Examiners, and Investigators ($21.69)
   - Accountants and Auditors ($23.36)
   - Tax Examiners, Collectors, and Revenue Agents ($24.05)
   - Management Analysts ($26.13)
   - Compliance Officers, except agriculture, construction, health and safety, and transport ($26.88)
   - Budget Analysts ($27.71)

4. **Installation, Maintenance, and Repair *(56.3% bilingual)***
   - Heating, Air Conditioning, and Refrigeration Mechanics and Repairers ($14.51)
   - Computer, Automated Teller, and Office Machine Repairers ($15.87)
   - Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics ($16.21)
   - Telecommunications Line Installers and Repairers ($16.37)
   - Precision Instrument and Equipment Repairers ($17.01)
   - Aircraft Mechanics and Service Technicians ($22.75)
   - Radio and Telecommunications Equipment Installers and Repairers ($23.43)
   - Electrical Power-Line Installers and Repairers ($25.02)

5. **Education, Training, and Library *(55.0% bilingual)***
   - Preschool and Kindergarten Teachers ($7.93 - $21.51)
   - Postsecondary Teachers ($19.95 - $40.64)
   - Special Education Teachers ($20.43 - $21.27)
   - Elementary and Middle School Teachers ($21.90 - $22.11)
   - Secondary School Teachers ($22.74 - $23.22)
   - Librarians ($23.66)

6. **Construction and Extraction *(54.8% bilingual)***
   - Pipelayers, Plumbers, Pipefitters, and Steamfitters ($11.60 - $14.70)
   - Insulation Workers ($13.99)
   - Sheet Metal Workers ($14.04)
   - Electricians ($16.07)

- Construction and Building Inspectors ($16.54)
- Brickmasons, Blockmasons, and Stonemasons ($16.60)

**7. Architecture and Engineering *(52.6% bilingual)***

- Engineering Technicians, except drafters ($15.93 - $22.19)
- Mechanical Engineers ($27.12)
- Civil Engineers ($27.79)
- Industrial Engineers, including health and safety ($28.29)
- Electrical and Electronic Engineers ($28.45 - $34.16)

**8. Healthcare Practitioner and Technical *(51.4% bilingual)***

- Health Diagnosing and Treating Practitioner Support Technicians ($10.92 - $17.04)
- Clinical Laboratory Technologists and Technicians ($13.41 - $23.69)
- Licensed Practical and Licensed Vocational Nurses ($18.48)
- Diagnostic Related Technologists and Technicians ($21.15 - $34.39)
- Registered Nurses ($26.03)
- Pharmacists ($49.30)
- Physicians and Surgeons ($73.39 - $87.67)

**9. Legal *(47.4% bilingual)***

- Paralegals and Legal Assistants ($18.68)
- Court Reporters, Title Examiners, Abstractors, and Searchers ($19.25 - $28.22)
- Lawyers ($45.41)

**10. Computer and Mathematical Science *(45.4% bilingual)***

- Computer Support Specialists ($18.53)
- Computer Programmers ($19.52)
- Network and Computer Systems Administrators ($23.64)
- Operations Research Analysts ($27.71)
- Network Systems and Data Communications Analysts ($37.90)

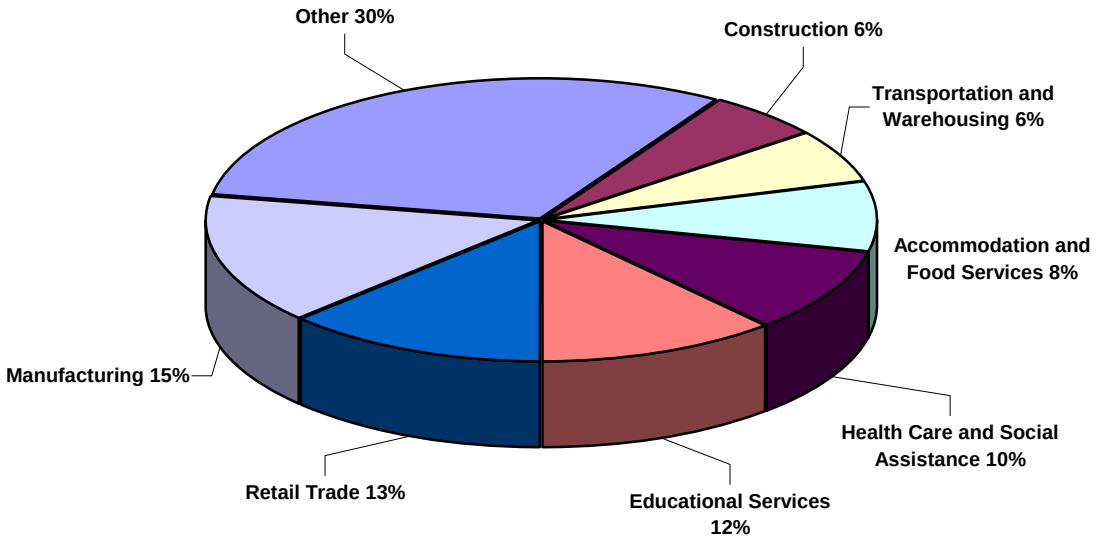
**11. Life, Physical, and Social Science *(43.7% bilingual)***

- Chemical Technicians ($22.05)

## Industry Sector Employment

The second phase of this study focused on bilingualism in the workplace with respect to industry sectors. The distribution of bilingual jobs over the 20 industry sectors in El Paso shows that 15 percent of bilingual employment is in *Manufacturing*, making this the top industry sector employing bilinguals in the region (Figure 24). *Retail Trade* ranks second, followed by *Educational Services*.

**Figure 24. Top NAICS Industry Sector Employment for Bilinguals in El Paso**




The 19 comparison MSAs studied show a partially similar breakdown for industrial employment as the one observed for El Paso in Figure 24: 1) *Retail Trade*, 2) *Health Care and Social Assistance*, and 3) *Accommodation and Food Services* are in the top seven sectors employing bilingual speakers in all 19 MSAs. In addition, 1) *Manufacturing*, 2) *Construction*, and 3) *Educational Services* are in a majority of the MSA's top seven sectors employing bilingual speakers. This shared trend among MSAs is more a result of these top industry sectors being key employers in major economies rather than due to a special need for bilingual speakers.

The only sector in which El Paso differs significantly from the comparison MSAs is in *Transportation and Warehousing*. This sector ranked in the top seven industry sectors for only four of the 20 MSAs: in El Paso, New York, Miami, and Orlando. This specialization results from the fact that these communities are logistics nodes for international trade.

The following cross-sectional findings compare the proportion of bilingual speakers by industry sector. Figures 25 through 44 illustrate the top seven MSAs that contain the largest bilingual workforce share for each of the 20 sectors. Only McAllen and Miami rank among the top seven MSAs for all 20 sectors, while

El Paso ranks among the top seven MSAs in 19 of the 20 sectors. Other regions appearing in the top seven for at least 75 percent of the employment sectors include Albuquerque, Los Angeles, San Antonio, and Santa Fe. These seven MSAs are also most commonly found among the top seven regions with proportionately large bilingual workforces in the occupational groupings. In addition, several of the selected regions with large Hispanic population counts but with smaller Hispanic proportions relative the total population do not appear in the top seven with high percentages of bilingual workers for any of the 20 industry sectors. These include: Chicago, Dallas, New York, and San Francisco.

**Note: The percentages in Figures 25 through 44 below refer to the percent of the workforce that is bilingual in the respective NAICS industry sector.**

**Figure 25. Wholesale Trade**

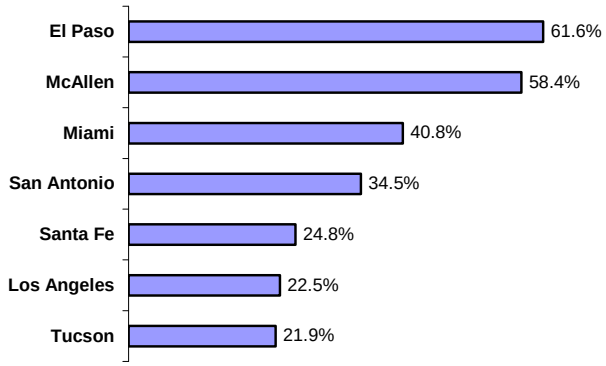



**Figure 26. Administrative and Support and Waste Management and Remediation Services**

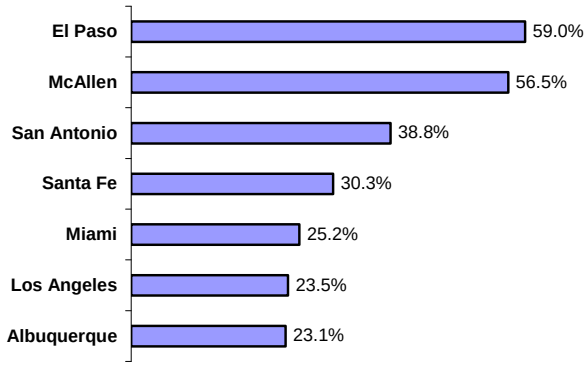



**Figure 27. Arts, Entertainment, and Recreation**

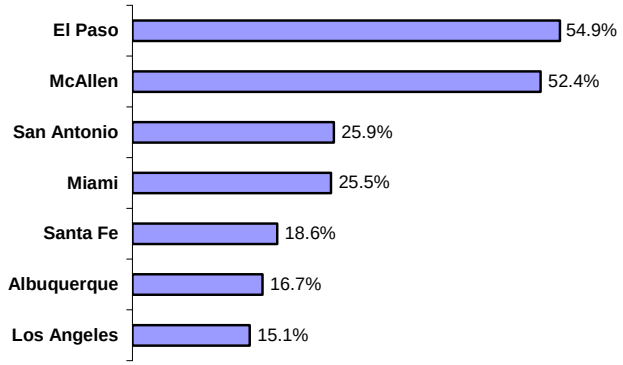



**Figure 28. Agriculture, Forestry, Fishing and Hunting**

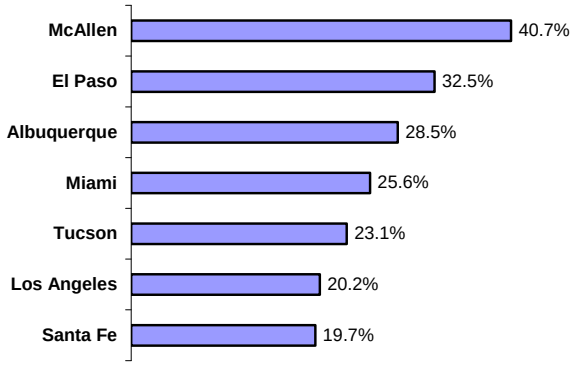


**Figure 29. Construction**

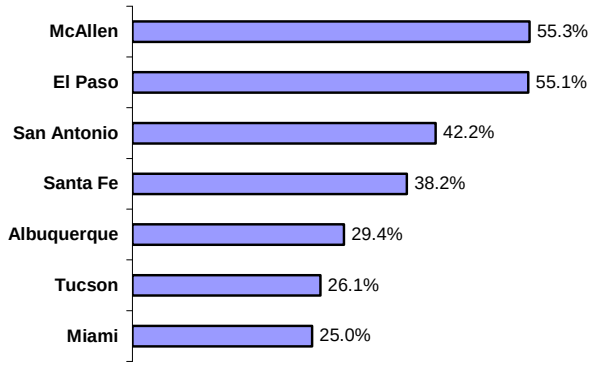



**Figure 30. Manufacturing**

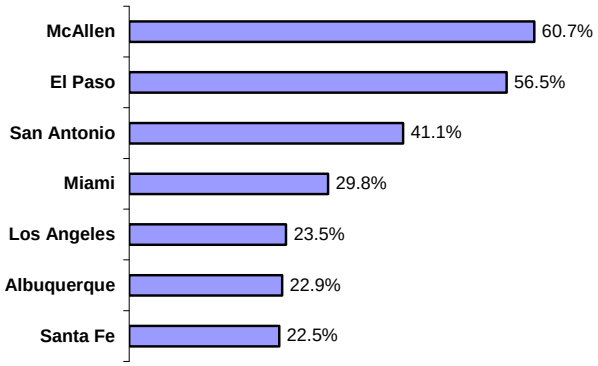



**Figure 31. Retail Trade**

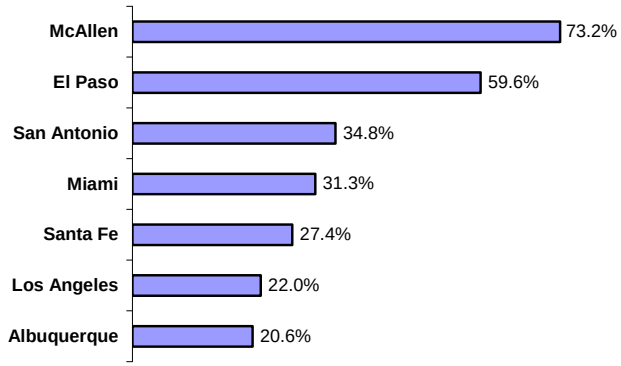



**Figure 32. Transportation and Warehousing**

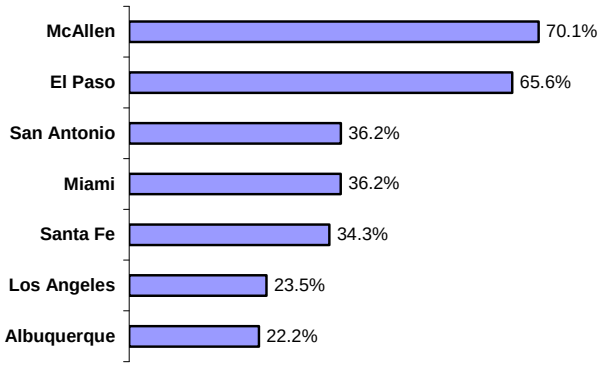



**Figure 33. Information**

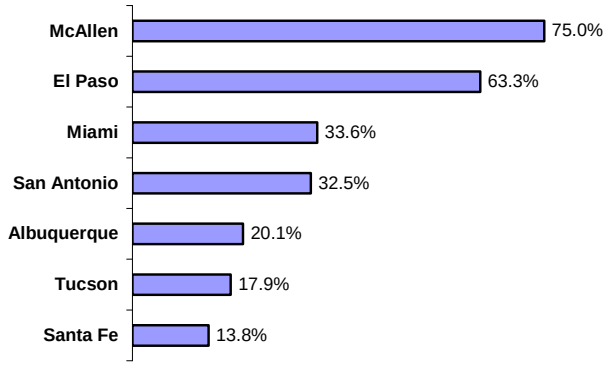



**Figure 34. Finance and Insurance**

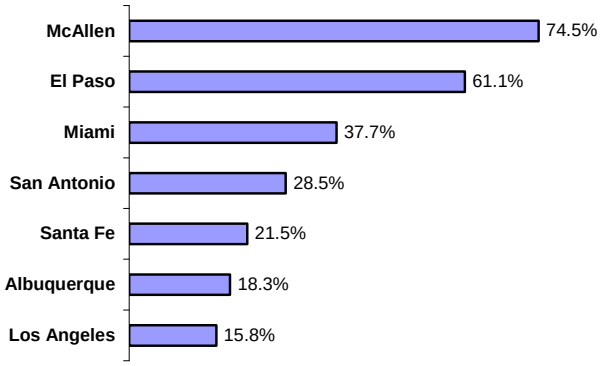


**Figure 35. Real Estate and Rental and Leasing**

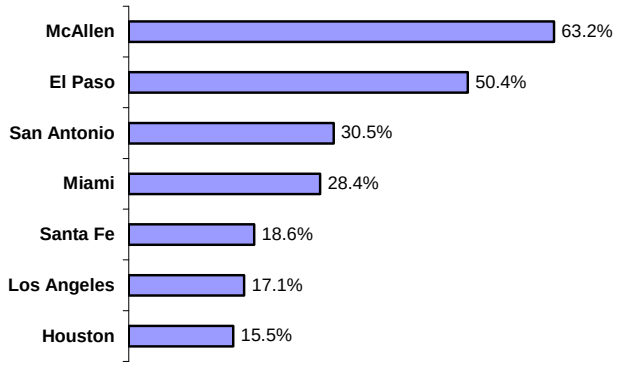



**Figure 36. Professional, Scientific, and Technical Services**

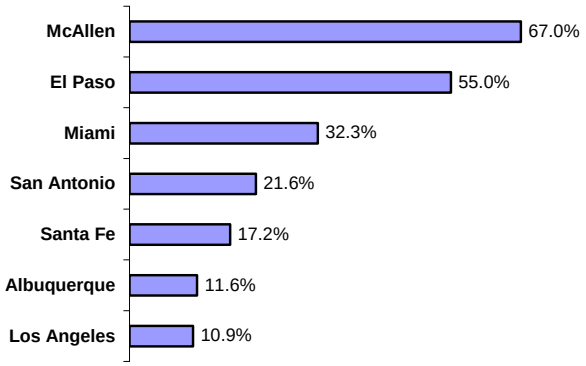



**Figure 37. Educational Services**

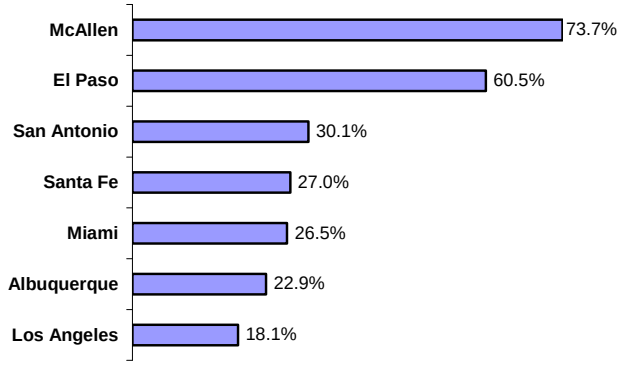



**Figure 38. Health Care and Social Assistance**

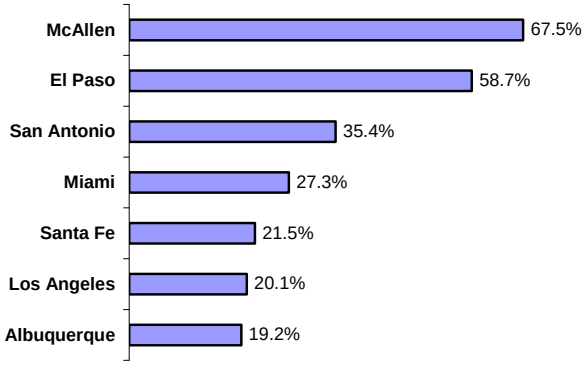



**Figure 39. Accommodation and Food Services**

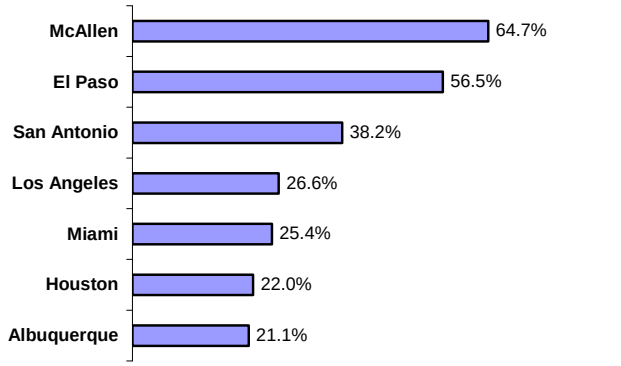



**Figure 40. Other Services (except Public Administration)**

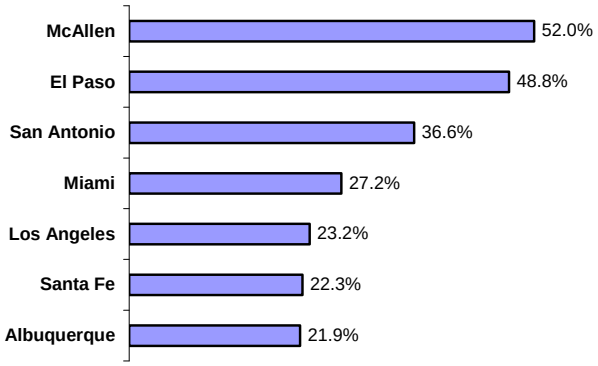


**Figure 41. Public Administration**

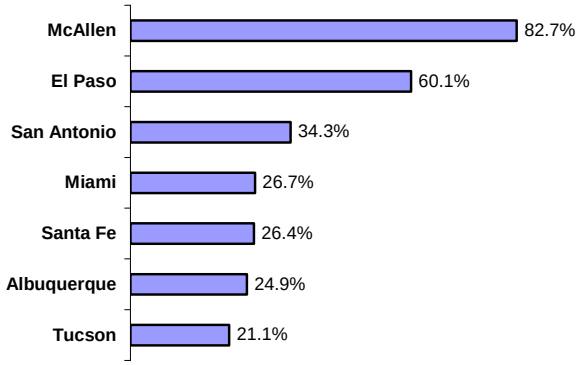



**Figure 42. Mining, Quarrying, and Oil and Gas Extraction**

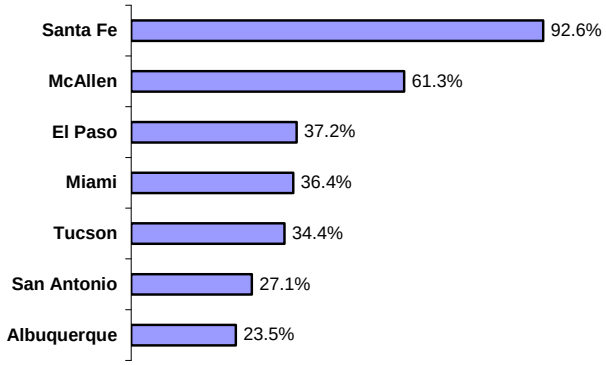



**Figure 43. Utilities**

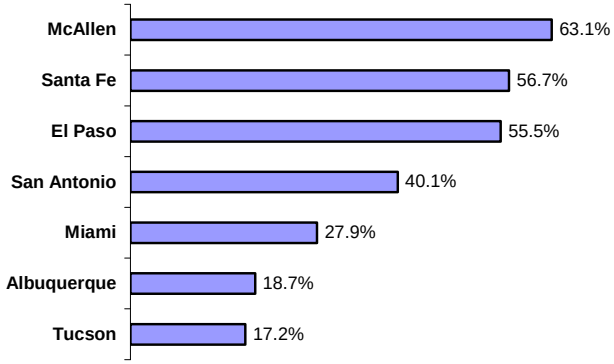
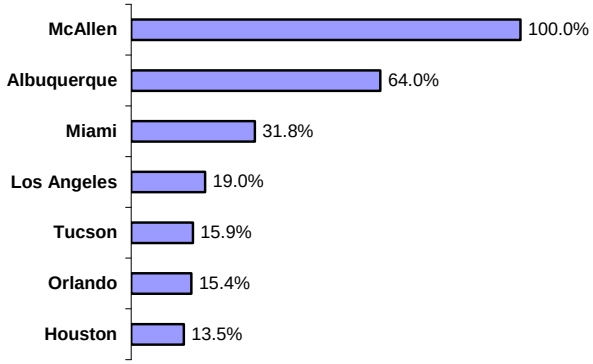



**Figure 44. Management of Companies and Enterprises**




As discussed above, the El Paso region ranks among the top seven MSAs employing bilinguals in 19 of the 20 industry sectors. The sector that El Paso does not rank in is *Management of Companies and Enterprises* (Figure 44). In this sector, whose establishments administer, oversee and manage securities and/or other companies or enterprises, Census PUMS data indicates that there are no bilingual jobs in El Paso. However, it should be noted that this is a minor employment sector within the El Paso economy. Thus, the lack of a reported bilingual workforce in this sector likely results from the sampling error inherent with Census' (in)ability to obtain a representative sample from the small number of persons that work for these establishments.

For the 19 industry sectors that El Paso does rank in, the smallest bilingual workforce, in percentage terms, is found in *Agriculture, Forestry, Fishing, and Hunting* with one-third bilingual, while the largest is found in *Transportation and Warehousing* with two-thirds bilingual. Table 5 shows the rankings for El Paso's bilingual workforce percentages by industry sector, from largest to smallest. The median bilingual

workforce percentage is 56.5 percent, shared by *Manufacturing* and *Accommodation and Food Services*. In 16 sectors El Paso has workforces that are at least 50% bilingual. These percentages offer evidence of El Paso's strong bilingual foundation with respect to industrial employment.

**Table 5. El Paso's Bilingual Workforce Percentage by Industry Sector**

- Transportation and Warehousing (65.6%)
- Information (63.3%)
- Wholesale Trade (61.6%)
- Finance and Insurance (61.1%)
- Educational Services (60.5%)
- Public Administration (60.1%)
- Retail Trade (59.6%)
- Administrative and Support and Waste Management and Remediation Services (59.0%)
- Health Care and Social Assistance (58.7%)
- Accommodation and Food Services (56.5%)
- Manufacturing (56.5%)
- Utilities (55.5%)
- Construction (55.1%)
- Professional, Scientific, and Technical Services (55.0%)
- Arts, Entertainment, and Recreation (54.9%)
- Real Estate and Rental and Leasing (50.4%)
- Other Services (except Public Administration) (48.8%)
- Mining, Quarrying, and Oil and Gas Extraction (37.2%)
- Agriculture, Forestry, Fishing and Hunting (32.5%)
- Management of Companies and Enterprises (0.0%)

Relative to the other MSAs, El Paso ranks first in the percentage of the workforce that is bilingual for three of the 20 sectors (Figures 25 through 27) including 1) *Wholesale Trade*, 2) *Administrative and Support and Waste Management and Remediation Services*, and 3) *Arts, Entertainment, and Recreation*. The region ranks second, behind McAllen, in 14 sectors (Figures 28 through 41). El Paso ranks third in *Mining* as well as in *Utilites*, behind McAllen and Santa Fe (Figures 42 and 43).

As with the occupational subsection, following the cross-sectional comparison, detailed industries in key bilingual sectors were examined. The detailed industries selected below have proportionately large bilingual workforces, large levels of overall employment, and offer careers or generally develop worker skills that pay relatively high wages (close to or above $29 thousand annually). Detailed industries for El Paso are listed under their respective NAICS 2-digit industry sector below, with 2007 average annual wages included in parentheses (wages obtained from the Quarterly Census of Employment and Wages, Texas Workforce Commission).

1. **Transportation and Warehousing *(65.6% bilingual)***
   - General Warehousing and Storage ($29,542)
   - Specialized Freight (except Used Goods) Trucking, Local ($30,622)
   - Freight Transportation Arrangement ($31,389)
   - Couriers ($34,372)
   - Specialized Freight (except Used Goods) Trucking, Long-Distance ($35,057)
   - General Freight Trucking, Local ($35,866)

- Scheduled Freight Air Transportation ($36,873)
- General Freight Trucking, Long-Distance, Truckload ($36,903)
- General Freight Trucking, Long-Distance, Less Than Truckload ($38,944)
- Scheduled Passenger Air Transportation ($57,399)
- Nonscheduled Chartered Freight Air Transportation ($92,442)

2. **Information *(63.3% bilingual)***
   - Radio Stations ($31,550)
   - Data Processing, Hosting, and Related Services ($35,059)
   - Newspaper Publishers ($37,026)
   - Book Publishers ($38,768)
   - Cable and Other Subscription Programming ($39,562)
   - Wireless Telecommunications Carriers (except Satellite) ($42,753)
   - Television Broadcasting ($44,158)
   - Wired Telecommunications Carriers ($57,184)

3. **Finance and Insurance *(61.1% bilingual)***
   - Financial Transactions Processing, Reserve, and Clearinghouse Activities ($29,236)
   - Direct Property and Casualty Insurance Carriers ($33,021)
   - Credit Unions ($33,160)
   - Consumer Lending ($34,470)
   - Third Party Administration of Insurance and Pension Funds ($35,461)
   - Direct Life Insurance Carriers ($38,618)
   - Insurance Agencies and Brokerages ($39,044)
   - Commercial Banking ($41,721)
   - Real Estate Credit ($48,146)
   - Direct Title Insurance Carriers ($52,150)
   - Securities Brokerage ($107,199)

4. **Administrative and Support and Remediation and Waste Management Services *(59.0% bilingual)***
   - Employment Placement Agencies ($28,092)
   - Private Mail Centers ($28,141)
   - Security Systems Services ($33,960)
   - Court Reporting and Stenotype Services ($36,206)
   - Facilities Support Services ($41,689)
   - Office Administrative Services ($46,277)

**5. Health Care and Social Assistance *(58.7% bilingual)***

- Offices of Optometrists ($32,333)
- Offices of Physical, Occupational and Speech Therapists, and Audiologists ($34,601)
- Specialty (except Psychiatric and Substance Abuse) Hospitals ($34,926)
- HMO Medical Centers ($37,442)
- Offices of Dentists ($37,903)
- General Medical and Surgical Hospitals ($43,679)
- Nursing Care Facilities ($46,744)
- Medical Laboratories ($51,217)
- Diagnostic Imaging Centers ($52,706)
- Offices of Physicians (except Mental Health Specialists) ($57,076)
- Kidney Dialysis Centers ($60,395)

**6. Manufacturing *(56.5% bilingual)***

- Special Die and Tool, Diesel, Jig, and Fixture Manufacturing ($30,118)
- Machine Tool (Metal Cutting Types) Manufacturing ($30,833)
- Fabricated Structural Metal Manufacturing ($31,905)
- Custom Roll Forming ($34,661)
- Pharmaceutical Preparation Manufacturing ($34,813)
- Electronic Resistor Manufacturing ($35,005)
- Metal Stamping ($38,278)
- Semiconductor and Related Device Manufacturing ($45,814)
- Copper Rolling, Drawing, and Extruding ($47,437)
- Primary Smelting and Refining of Copper ($60,107)
- Electric Housewares and Household Manufacturing ($65,895)
- Copper Wire (except Mechanical) Drawing ($67,007)
- Printed Circuit Assembly Manufacturing ($67,546)
- Fluid Power Valve and Hose Fitting Manufacturing ($82,968)

**7. Construction *(55.1% bilingual)***

- Site Preparation Contractors ($28,017)
- Plumbing, Heating, and Air-Conditioning Contractors ($28,720)
- Water and Sewer Line and Related Structures Construction ($29,319)
- Electrical Contractors and Other Wiring Installation Contractors ($30,971)
- Drywall and Insulation Contractors ($32,744)
- Highway, Street, and Bridge Construction ($33,180)
- Oil and Gas Pipeline and Related Structures Construction ($37,165)

- New Single-Family Housing Construction ($41,024)
- Industrial Building Construction ($47,225)
- Land Subdivision ($89,563)

8. **Professional, Scientific, and Technical Services *(55.0% bilingual)***
   - Testing Laboratories ($31,946)
   - Payroll Services ($33,868)
   - Process, Physical Distribution, and Logistics Consulting Services ($35,126)
   - Administrative Management and General Management Consulting Services ($38,156)
   - Custom Computer Programming Services ($38,269)
   - Offices of Certified Public Accountants ($41,857)
   - Offices of Lawyers ($42,328)
   - Architectural Services ($46,496)
   - Media Representatives ($47,542)
   - Engineering Services ($49,363)
   - Advertising Agencies ($49,952)
   - Computer Systems Design Services ($51,267)
   - Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology) ($52,291)
   - Research and Development in Biotechnology ($66,138)

9. **Real Estate and Rental and Leasing *(50.4% bilingual)***
   - Truck, Utility Trailer, and Recreational Vehicle Rental and Leasing ($36,266)
   - Offices of Real Estate Agents and Brokers ($36,900)
   - Home Health Equipment Rental ($40,649)

10. **Educational Services *(60.5% bilingual)***
    - While this industry sector offers bilingual speakers opportunity in terms of employment, education industries are not described in detail here because they are largely public entities and state and local government wages cannot be disaggregated from private education.

## Summary

This study gives an overview of El Paso's bilingual workforce in comparison to 19 MSAs that are either similar in size, have a significant Hispanic make-up, and/or are in geographic proximity. The report highlights both occupational and industry bilingual employment.

For 22 occupational employment groups, El Paso ranks first or second among the top seven MSAs studied with large bilingual workforce percentages. In particular, occupational groups with strong employment, wages and skills sets include:

- ✓ Office and Administrative Support
- ✓ Community and Social Services
- ✓ Business and Financial Operations
- ✓ Installation, Maintenance, and Repair
- ✓ Education, Training, and Library
- ✓ Construction and Extraction
- ✓ Architecture and Engineering
- ✓ Healthcare Practitioner and Technical
- ✓ Legal
- ✓ Computer and Mathematical Science
- ✓ Life, Physical, and Social Science

For 19 of 20 industry employment sectors, El Paso ranks first, second, or third among the top seven MSAs with large bilingual workforce percentages. In particular, key bilingual industry sectors with a strong employment base and relatively high wages include:

- ✓ Transportation and Warehousing
- ✓ Information
- ✓ Finance and Insurance
- ✓ Administrative and Support and Remediation and Waste Management Services
- ✓ Health Care and Social Assistance
- ✓ Manufacturing
- ✓ Construction
- ✓ Professional, Scientific, and Technical Services
- ✓ Real Estate, Rental, and Leasing
- ✓ Educational Services