

ECONOMIC IMPACTS OF THE CONSTRUCTION INDUSTRY ON THE STATE OF COLORADO



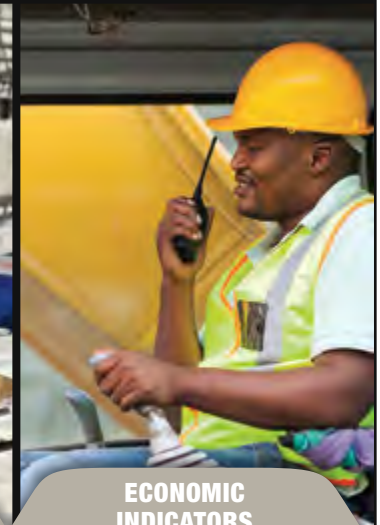
**COLORADO
CONSTRUCTION**



**COLORADO
EMPLOYMENT & WAGES**



**INDUSTRY
PROJECTIONS**



**ECONOMIC
INDICATORS**

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**Prepared by Melissa Thevenin, M.S. and Jonathan Elliott, Ph.D.
Department of Construction Management • Colorado State University**

JANUARY 2015

January 2015

Greetings:

On behalf of the Associated General Contractors of Colorado (AGC), the Colorado Association of Mechanical & Plumbing Contractors (CAMPC), the Rocky Mountain Chapter of the National Electrical Contractors Association (NECA), and the Colorado Chapter of Sheet Metal and Air Conditioning Contractors' National Association (SMACNA), we would like to thank you for taking the time to review this Fourth Edition of our report outlining the economic impact of the Construction Industry on the State of Colorado.

According to the report, it is estimated in Colorado there will be more than 60,000 new jobs in construction by 2023 (see Table 4 on page 38). **This represents nearly a 47% increase above today's employment levels, most of which will be created by specialty trade contractors (subcontractors).** These are only NEW jobs, and do not account for the baby boomer generation, which will retire in record levels over the next ten years. Some economists believe that could add another 40,000 jobs. So make no mistake, our industry is heavily focused on better outreach to recruit tomorrow's talent.

Speaking of jobs, the state has in recent years made significant investments in maintaining the State's existing 2,400 buildings, while making investments in new buildings. Last year was a significant investment of \$364 million, which equates to 6,500 jobs you've created just last year in construction. We encourage the legislature to consider the development of a dedicated funding stream for Controlled Maintenance possibly patterned after what some of our neighboring states have done (1% of building value dedicated to maintenance). Dedicated investments in Controlled Maintenance funding will ensure the services of the state will be able to be delivered to the taxpayers of Colorado.

We would also like to thank the Governor, State Legislators, Office of Economic Development and International Trade, Department of Higher Education, and the Colorado Department of Labor and Employment for your devotion and interest to creating a vibrant and robust workforce in Colorado. The Construction Industry takes pride in the contributions we make to the State's economy, as well as, building the many roads, bridges, and buildings in our great state. We are proud of the training programs in which we invest heavily to create tomorrow's workforce. We know there is room for improvement. However, much of what makes Colorado unique is how we arrive at solutions, crafting them in a collaborative and inclusive manner. It is our intent to carefully seek and construct solutions to recruit the people necessary to fill the needs of our industry for these high paying jobs.

We hope you find the information included in this report valuable. We invite you to learn more about our industry and our associations, and we will be happy to serve as a resource for your questions or business needs. On behalf of our four associations and Boards of Directors, we look forward to working with you in the community, and partnering to help better shape Colorado and its economy for the years to come.

Sincerely,



Michael Gifford
President & CEO, AGC
(303) 388-2422
mgifford@agcColorado.org



Dave Davia
EVP & CEO, CAMPC
(303) 757-3956
dave@campc.org



Rory Berumen
Executive Director, NECA
(303) 937-3900
berumenr@rmcneca.org



Thomas P. Keating
Executive Director, SMACNA
(303) 832-4224
tkeating@smacnacolorado.org



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Construction is a significant contributor to Colorado's economy. This industry plays a critical role in Colorado employment, wages and contribution to Gross Domestic Product by state. As a subsector of the construction industry, the mechanical, electrical and plumbing trades contribute substantially to the overall impacts of the construction industry. The purpose of this report is to bring together measures of the construction industry's economic impact on the State of Colorado, as well as the importance of the mechanical, electrical and plumbing sector. The results support the conclusion that construction is one of the more important industries in Colorado:

- Construction contributed \$11.820 billion (or 4.01%) to Colorado's GDP by state in 2013 (page 42 and Appendix G), a 2.7% decrease since 2004.
- Total retail sales for construction and related industries in Colorado totaled \$11.7 billion in 2013, 6.8% of the state's total retail sales (page 49).
- Every \$1 million invested in construction in Colorado increases the state's total industry output by \$2.27 million and increases Colorado household earnings by \$0.78 million while creating 18 new jobs in Colorado (page 48).
- Colorado was home to more than 16,669 construction establishments in 2013. Of these establishments, 67% were specialty trade companies (subcontractors) and over 25% were MEP contractors¹ (page 10).
- Almost 93% of Colorado's construction industry is comprised of small companies that have fewer than 20 employees. Over 91% of MEP¹ establishments have fewer than 20 employees (page 11).
- The construction industry employs 6.5% of the total private workforce in Colorado, accounting for \$6.514 billion of the state's total payroll (pages 14 and 26).
- Over 28% of total construction employment in Colorado is in the MEP industries¹, significantly more than in any other construction subsector. MEP¹ employment accounts for 1.9% of total private employment in Colorado (page 15).
- Payroll for mechanical, electrical, and plumbing contractors¹ was \$1.89 billion in 2013, representing almost 30% of total construction payroll and 1.9% of total payroll for the state (page 28).
- The national average annual wage for mechanical, electrical, and plumbing contractors was \$54,414, 51% percent higher than the average for those with an associate's degree and 67% higher than the average wage for high school graduates in 2012 (page 20).
- By 2023, construction employment in Colorado is expected to grow by almost 47%, adding nearly 60,000 jobs in the state. Approximately 40,000 of these positions are projected to be in the specialty trades (page 37).
- The percentage of construction workers age 55 and older increased by 6% between 2004 and 2013, while the percentage of workers age 34 and younger decreased by 5%. During the same time period, mechanical, electrical and plumbing workers¹ that were 55 year of age and older increased by 6%, while the percentage under 35 decreased by 6% (pages 36 and 37).
- In 2013, 9.2% of Colorado workers were represented by unions, while nationally 14.9% of all construction workers were represented by unions (page 34).

In summary, this study shows there will be an increasing opportunity for good paying jobs in the construction industry in Colorado. The challenge will be to fund programs that prepare Colorado citizens for these jobs.

¹ Mechanical, electrical, plumbing, and HVAC (MEP) contractors are referred to as 'building equipment contractors' under the NAICS classification codes.

INTRODUCTION

Nationwide, the construction industry is a significant contributor to the United States economy. In 2013, the construction industry employed 5.8 million people (5.15%) of total non-governmental employment in the US.² Construction employees earned an average yearly income of \$53,181, which is 7% higher than the \$49,701 average income for all private US industries. In comparison, the 2013 national average income for mechanical, electrical, and plumbing contractors was \$55,181, which is 3.8% higher than the overall construction industry and over 11% higher than the national average for all private US industries.²

The construction industry contributes significantly at the state level as well. The purpose of this study is to present the significance of the construction industry to Colorado in terms of:

- (1) state employment and economics, and
- (2) future educational and employment opportunities.

This report is organized into four sections. Each section presents information for the overall construction industry in Colorado and, when possible, information specific to mechanical, electrical and plumbing contractors. The four sections comprising this report are:

Section 1 - Colorado Construction Establishments: determines the size and composition of the construction industry in Colorado. This includes both the overall number of construction establishments and the number of construction establishments by construction subsector.

Section 2 - Construction Employment and Wages: focuses on current and past construction employment and wages. This includes information on construction employment, annual wages, and weekly wages.

Section 3 - Industry Education and Employment Opportunities: presents information pertaining to the future employment needs of the Colorado construction industry and includes information on construction-related educational opportunities within Colorado.

Section 4 - Economic Indicators: focuses on the construction industry's contribution to Colorado's GDP by state, the economic multiplier of construction in Colorado, and construction retail sales in Colorado.



² U.S. Department of Labor, Bureau of Labor Statistics. Quarterly Census of Employment and Wages. Retrieved October 2014 from <http://data.bls.gov/>

Data for this report was obtained primarily from the U.S. Department of Labor's Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis, the U.S. Census Bureau, the Colorado Department of Revenue, and the Colorado Department of Labor and Employment. Data was obtained for the following ten subsectors of the construction industry:

- General building contractors – residential
- General building contractors – non-residential
- Utility system contractors
- Land subdivision contractors
- Highway, street, and bridge contractors
- Other heavy and civil engineering construction
- Foundation, structure, and building exterior contractors
- Building equipment contractors (Mechanical, Electrical and Plumbing [MEP] Contractors)³
- Building finishing contractors
- Other specialty trade contractors

The six industries selected for comparison purposes are:

- Manufacturing
- Retail trade
- Finance and insurance
- Real estate and rental and leasing
- Professional and technical services
- Health care and social assistance



The 2012 North American Industry Classification System (NAICS) is used as the basis for organizing the data presented in this report. This is the standard used by all Federal statistical agencies, specifically the U.S. Census Bureau, U.S. Department of Labor's Bureau of Labor Statistics and the Colorado Department of Revenue. Following are brief NAICS descriptions for each construction and comparison industry sectors and subsectors as defined on the U.S. Census Bureau's website.

Construction Sectors

The NAICS classifies industries using a six-digit industrial classification system to describe the nature of a business. This system replaced the Standard Industrial Classification (SIC) system. The following definitions are from the U.S. Census Bureau's NAICS website.⁴

NAICS 2361 – Residential Building Construction. This industry comprises establishments primarily responsible for the construction or remodeling and renovation of single-family and multifamily residential buildings. Included in this industry are residential housing general contractors (i.e., new construction, remodeling, or renovating existing residential structures), for-sale builders and remodelers of residential structures, residential project construction management firms, and residential design-build firms.

NAICS 2362 – Non-Residential Building Construction. This industry group comprises establishments primarily responsible for the construction (including new work, additions, alterations, maintenance, and repairs) of non-residential buildings. This industry group includes non-residential general contractors, non-residential for-sale builders, non-residential design-build firms, and non-residential project construction management firms. The two subcategories under Non-Residential Building Construction are: 1) Industrial Building Construction; and 2) Commercial and Institutional Building Construction.

³ This subsector of the Construction Industry is commonly referred to as the Mechanical, Electrical, and Plumbing (MEP) Contractors and includes establishments primarily engaged in the installing or servicing equipment that part of a building's mechanical system (e.g., electricity, water, heating, and cooling). Throughout the remainder of this report, the term Mechanical, Electrical and Plumbing (or MEP) Contractors will be used when referring to this industry subsector.

⁴ Additional information about the North American Industry Classification System (NAICS) can be found at <http://www.census.gov/eos/www/naics/>.

NAICS 2371 – Utility System Construction. This industry group comprises establishments primarily engaged in the construction of distribution lines and related buildings and structures for utilities (i.e., water, sewer, petroleum, gas, power, and communication). All structures (including buildings) that are integral parts of utility systems (e.g., storage tanks, pumping stations, power plants, and refineries) are included in this industry group. The subcategories under Utility System Construction are: 1) Water and Sewer Line and Related Structures Construction; 2) Oil and Gas Pipeline and Related Structures Construction; and 3) Power and Communication Line and Related Structures Construction.

NAICS 2372 – Land Subdivision. This industry comprises establishments primarily engaged in servicing land and subdividing real property into lots, for subsequent sale to builders. Servicing of land may include excavation work for the installation of roads and utility lines. The extent of work may vary from project to project. Land subdivision precedes building activity and the subsequent building is often residential, but may also be commercial tracts and industrial parks. These establishments may do all the work themselves or subcontract the work to others. Establishments that perform only the legal subdivision of land are not included in this industry.

NAICS 2373 – Highway, Street, and Bridge Construction. This industry comprises establishments primarily engaged in the construction of highways (including elevated), streets, roads, airport runways, public sidewalks, or bridges. The work performed may include new work, reconstruction, rehabilitation, and repairs. Specialty trade contractors are included in this group if they are engaged in activities primarily related to highway, street, and bridge construction (e.g., installing guardrails on highways).

NAICS 2379 – Other Heavy and Civil Engineering Construction. This industry comprises establishments primarily engaged in heavy and engineering construction projects (excluding highway, street, bridge, and distribution line construction). The work performed may include new work, reconstruction, rehabilitation, and repairs. Specialty trade contractors are included in this group if they are engaged in activities primarily related to engineering construction projects (excluding highway, street, bridge, distribution line, oil and gas structure, and utilities building and structure construction). Construction projects involving water resources (e.g., dredging and land drainage), development of marine facilities, and projects involving open space improvement (e.g., parks and trails) are included in this industry.

NAICS 2381 – Foundation, Structure, and Building Exterior Contractors. This industry group comprises establishments primarily engaged in the specialty trades needed to complete the basic structure (i.e., foundation, frame, and shell) of buildings. The work performed may include new work, additions, alterations, maintenance, and repairs. Subcategories included under this category are: 1) Poured Concrete Foundation and Structure Contractors; 2) Structural Steel and Precast Concrete Contractors; 3) Framing Contractors; 4) Masonry Contractors; 5) Glass and Glazing Contractors; 6) Roofing Contractors; 7) Siding Contractors; and 8) Other Foundation, Structure, and Building Exterior Contractors.

NAICS 2382 – Building Equipment Contractors. This industry group comprises establishments primarily engaged in installing or servicing equipment that forms part of a building mechanical system (e.g., electricity, water, heating, and cooling). The work performed may include new work, additions, alterations, maintenance, and repairs. Contractors installing specialized building equipment, such as elevators, escalators, service station equipment, and central vacuum cleaning systems are also included. Subcategories included under Building Equipment Contractors are: 1) Electrical Contractors and Other Wiring Installation Contractors; 2) Plumbing, Heating, and Air-Conditioning Contractors; and 3) Other Building Equipment Contractors.

NAICS 2383 – Building Finishing Contractors. This industry group comprises establishments primarily engaged in the specialty trades needed to finish buildings. The work performed may include new work, additions, alterations, maintenance, and repairs. Subcategories included under Building Finishing Contractors are: 1) Drywall and Insulation Contractors; 2) Painting and Wall Covering Contractors; 3) Flooring Contractors; 4) Tile and Terrazzo Contractors; 5) Finish Carpentry Contractors; and 6) Other Building Finishing Contractors.

NAICS 2389 – Other Specialty Trade Contractors. Subcategories included under Other Specialty Trade Contractors are: 1) Site Preparation Contractors; and 2) All other Specialty Trade Contractors.

In addition to the above construction NAICS categories, subcategories of the Building Equipment Contractors subsector were examined to present a more in-depth report. These categories include:

NAICS 23821 – Electrical Contractors and Other Wiring Installation Contractors. This industry comprises establishments primarily engaged in installing and servicing electrical wiring and equipment. Contractors included in this industry may include both the parts and labor when performing work. These contractors may perform new work, additions, alterations, maintenance, and repairs. The classification system includes further categorization into residential and non-residential electrical contractors.

NAICS 23822 – Plumbing and HVAC Contractors. This industry comprises establishments primarily engaged in installing and servicing plumbing, heating, and air-conditioning equipment. Contractors in this industry may provide both parts and labor when performing work. The work performed may include new work, additions, alterations, maintenance, and repairs. The classification system includes further categorization into residential and non-residential plumbing and electrical contractors.

NAICS 23829 – Other Building Equipment Contractors. This industry comprises establishments primarily engaged in installing or servicing building equipment (except electrical, plumbing, heating, cooling, or ventilation equipment). The repair and maintenance of miscellaneous building equipment is included in this industry. The work performed may include new work, additions, alterations, maintenance, and repairs. The classification systems include further categorization of other building equipment contractors into residential and non-residential.

Industry Groups Used for Comparisons:

The following are descriptions of the industry groups used for comparison in this report.

NAICS 31-33 – Manufacturing. The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

NAICS 44-45 – Retail Trade. The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and non-store retailers.

NAICS 52 – Finance and Insurance. The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

NAICS 53 – Real Estate and Rental and Leasing. The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services. The major portion of this sector comprises establishments that rent, lease, or otherwise allow the use of their own assets by others. The assets may be tangible, as is the case of real estate and equipment, or intangible, as is the case with patents and trademarks. This sector also includes establishments primarily engaged in managing real estate for others, selling, renting and/or buying real estate for others, and appraising real estate.

NAICS 54 – Professional, Scientific, and Technical Services. The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services.

NAICS 62 – Health Care and Social Assistance. The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector share this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

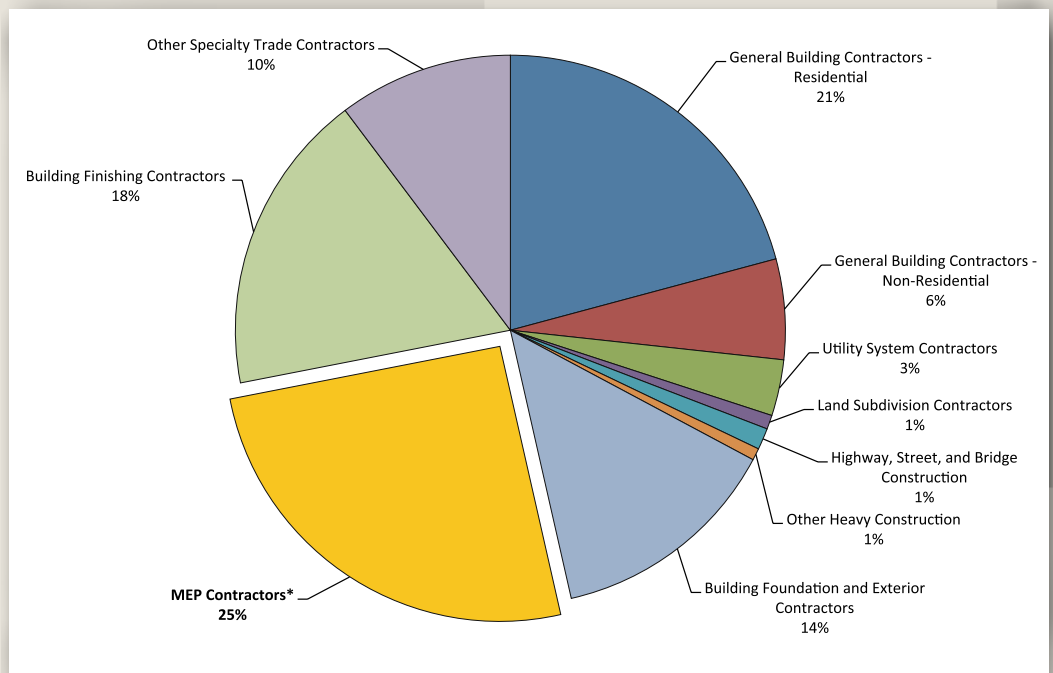
SECTION 1 Colorado Construction Establishments

In 2013, the highest percentage of construction establishments was specialty trade contractors: mechanical, electrical, and plumbing contractors (25%), building finishing contractors (18%); foundation, structure, and building exterior contractors (14%), and other specialty trade contractors (10%) (Figure 1). Combined, the specialty trades accounted for 67% of construction establishments in Colorado.

Figure 1. Construction establishments in Colorado by industry subsectors, 2013.

* NAICS category is Building Equipment Contractors.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

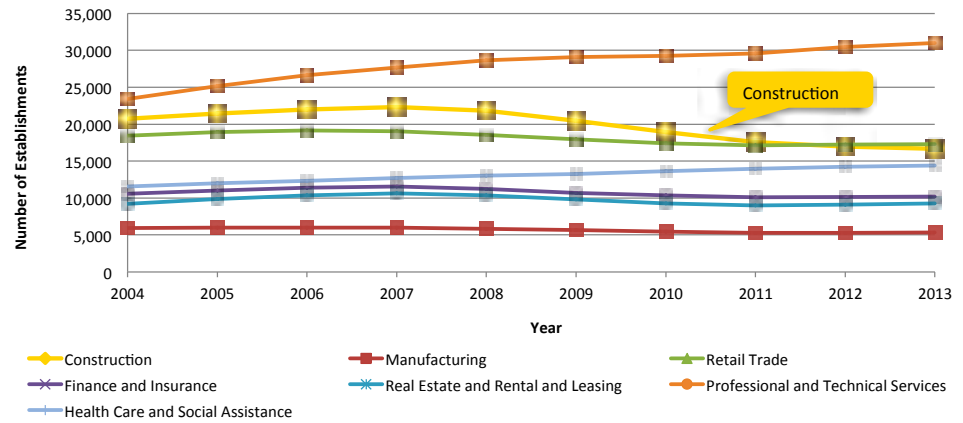


The total number of construction establishments in private industry was 16,669 in 2013. This is a 25.3% decrease from 2007, which saw the highest number of construction establishments in the last ten years, and a 19.7% decrease from 2004 (Figure 2). Between 2007 and 2013, the only comparable industries reviewed in this report to increase in number of establishments were health care and social assistance, which increased 13.1%, and professional and technical services, which increased 12.1%. The other four comparable industries all declined in total number of establishments. Finance and insurance establishments declined 11.7%, manufacturing declined 11.2%, retail trade declined 9.3%, and real estate declined 12.7%. (Detailed tables are available in Appendix A.)

SECTION 1 Colorado Construction Establishments

Figure 2. Number of private establishments for select industries in Colorado, 2004-2013.

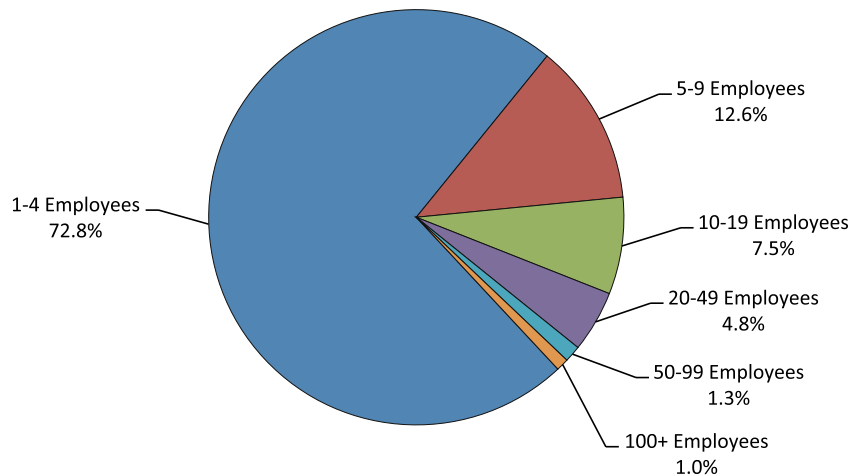
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Information on the number of establishments by number of employees was obtained from the U.S. Census Bureau's County Business Patterns for 2012, the most recent data available at the time this report was compiled. (Detailed tables are provided in Appendix B.) According to this information, 73% of construction establishments in Colorado employ four or less employees and less than 3% have more than 50 employees (Figure 3). The construction of buildings subsector with the highest percentage of small establishments (four or less employees) is residential building (Figure 4). Almost 87% of residential establishments have four or less employees. In contrast, only 57% of non-residential building construction establishments had four or less employees. Of the remainder non-residential building construction establishments, 17% have five to nine employees, 14% have 10-19 employees, 8% have 20-49 employees, and 4% have 50 or more employees.

Figure 3. Percentage of construction establishments by number of employees, 2012.

Source: U.S. Census Bureau - County Business Patterns. Retrieved November, 2014.



Other construction subsectors with a high percentage of small establishments (four or less employees) are: land subdivision (79%), building finish contractors (78%), other specialty trade contractors (68%), foundation, structure, and building exterior contractors (67%), and mechanical, electrical, and plumbing contractors (65%). Combined, over 69% of specialty contractor establishments have four or less employees.

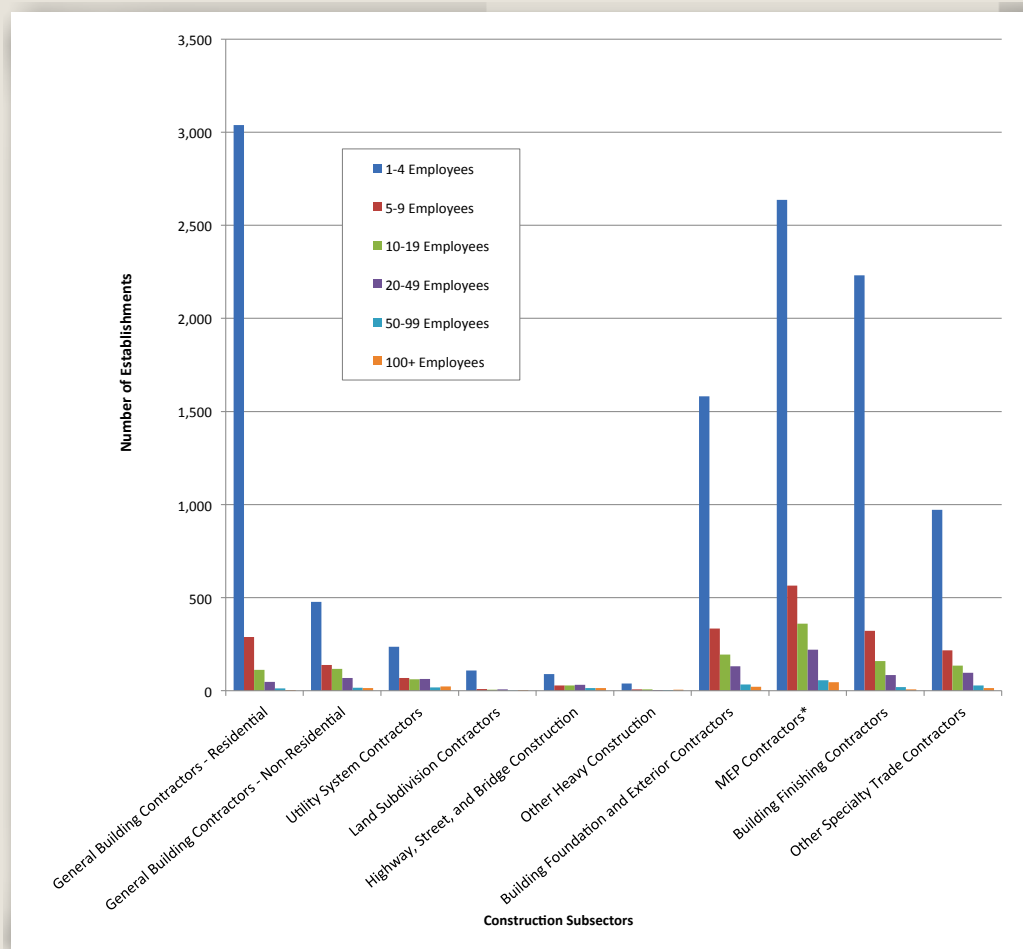
SECTION 1 Colorado Construction Establishments

The building equipment (MEP) subsector of the construction industry includes mechanical, electrical contractors, plumbing and HVAC contractors, and other building equipment contractors. A majority of these establishments (68%) are small companies with four or less employees. Fifteen percent have between five and nine employees, 9% have between 10 and 19 employees, and almost 6% have between 20 and 49 employees. Less than 3% of MEP establishments have 50 or more employees. Of these, 1.5% of MEP establishments have between 50 and 99 employees and just over 1% have 100 plus employees.

Figure 4. Construction subsector establishment by number of employees, 2012.

* NAICS category is Building Equipment Contractors.

Source: U.S. Census Bureau - County Business Patterns.
Retrieved November, 2014.



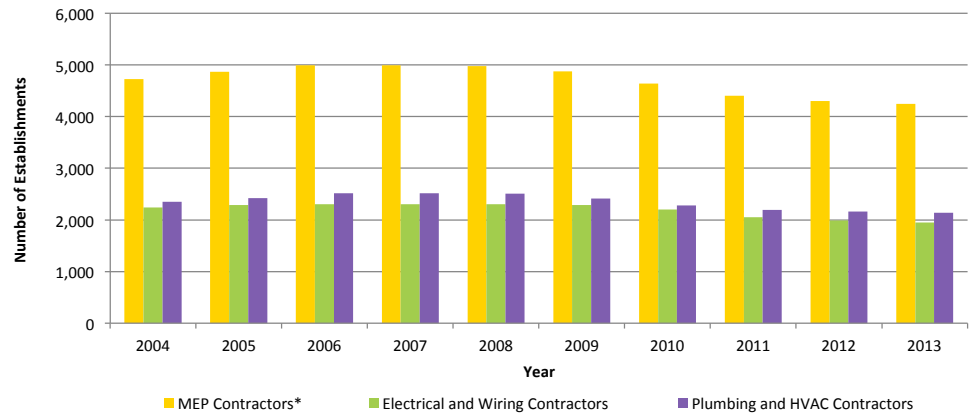
The number of electrical and wiring contractor establishments grew from 2,243 establishments in 2004 to 2,305 establishments in 2007, an increase of 2.76% (Figure 5). Between 2007 and 2013, the number of electrical and wiring contractor establishments decreased to 1,953 in 2013. The number of plumbing and HVAC contractor establishments increased from 2,353 in 2004 to 2,516 in 2007, an increase of 6.93%, then decreased to 2,137 in 2013.

SECTION 1 Colorado Construction Establishments

Figure 5. Number of electrical and wiring, plumbing and HVAC, and other building equipment establishments in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Of the 1,953 electrical and wiring contractor establishments in Colorado, 1,230 (63%) were residential and 723 (37%) were non-residential in 2013. Of the 2,137 plumbing and HVAC establishments in Colorado, 1,656 (77%) were residential and 481 (23%) were non-residential in 2013. Between 2004 and 2013, electrical and wiring establishments averaged 47% and plumbing and HVAC establishments averaged 50% of the total number of building equipment (MEP) establishments. (Detailed charts are available in Appendix A.)



SECTION 2 Construction Employment and Wages

This section contains information on current employment, average wages (both annual and weekly) and total payroll for the construction industry in Colorado. Information on the impact of government employment and union membership on wages is also provided.

Current Construction Employment in Colorado

Employment data from 2013 was obtained from the U.S. Department of Labor's Bureau of Labor Statistics for private industries in Colorado.⁵ During 2013, the Colorado construction industry provided 127,603 jobs, representing 6.5% of the state's total employment (Figure 6). Over the last ten years, construction employment accounted for an average of 7.5% of total employment in Colorado. During that time, the percentage of construction employment in the state varied from a high of 8.9% in 2006 to a low of 6.1% in 2011 (Figure 7). (Detailed tables are available in Appendix C.)

Figure 6. Colorado employment for selected industries, 2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

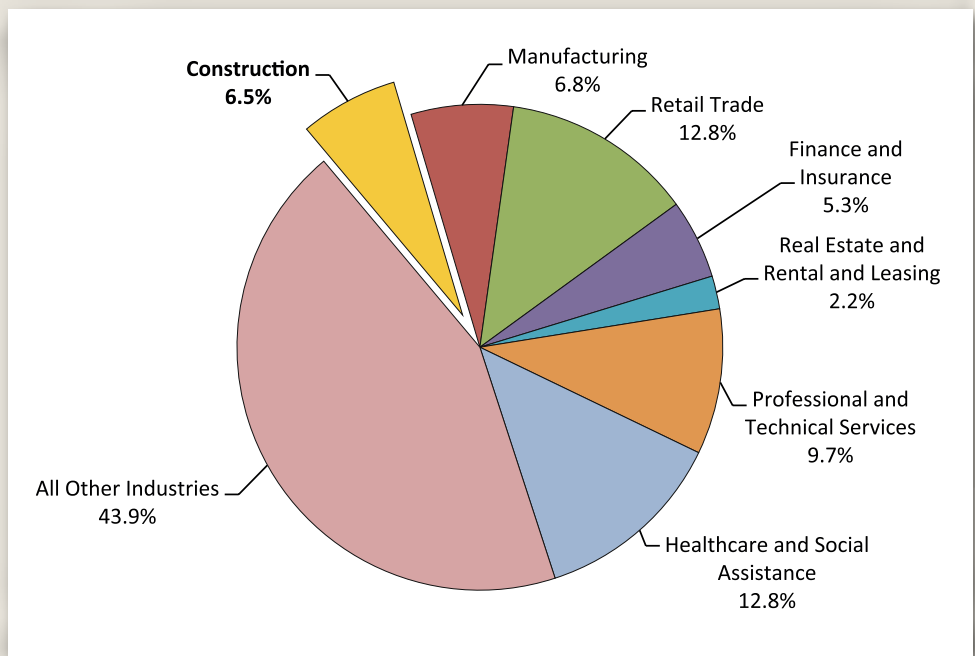
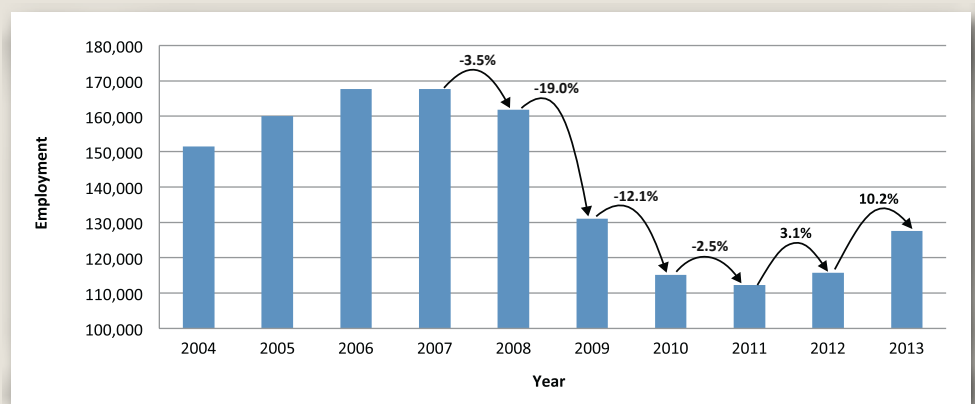


Figure 7. Construction employment in Colorado, 2004 - 2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



⁶ This data does not include government employment or wages. The effects of government employment and wages are presented in a separate section of this report.

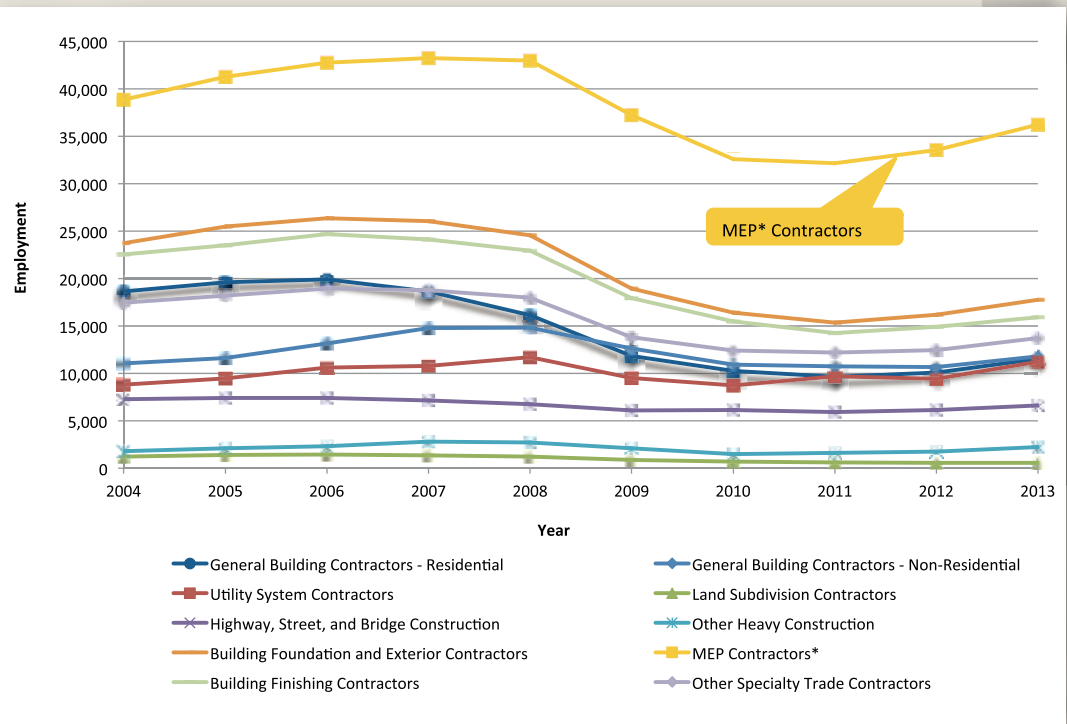
SECTION 2 Construction Employment and Wages

Mechanical, electrical, and plumbing contractors accounted for an average of 27.2% of total construction employment in Colorado between 2004 and 2013, significantly higher than any other subsector (Figure 8). On average, mechanical, electrical, and plumbing contractors represent 2.0% of total employment in Colorado. The following section presents the average-, high-, and low percentage of construction employment for each construction industry subgroup.

Figure 8. Construction employment in Colorado by industry subsectors, 2004-2013.

* NAICS category is Building Equipment Contractors.

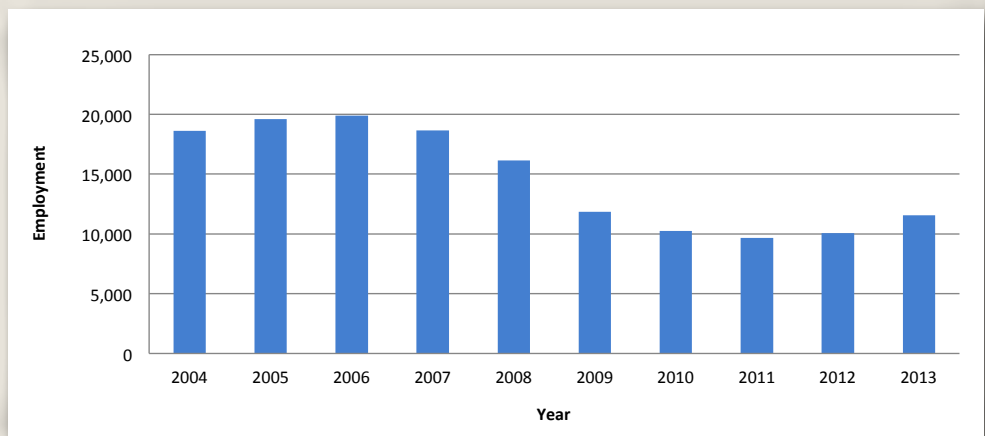
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Residential building employment averaged 10.2% of total construction employment from 2004 to 2013 (Figure 9). The high for this period was 12.3% in 2004, and the low was 8.6% in 2011.

Figure 9. Residential building contractor employment in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



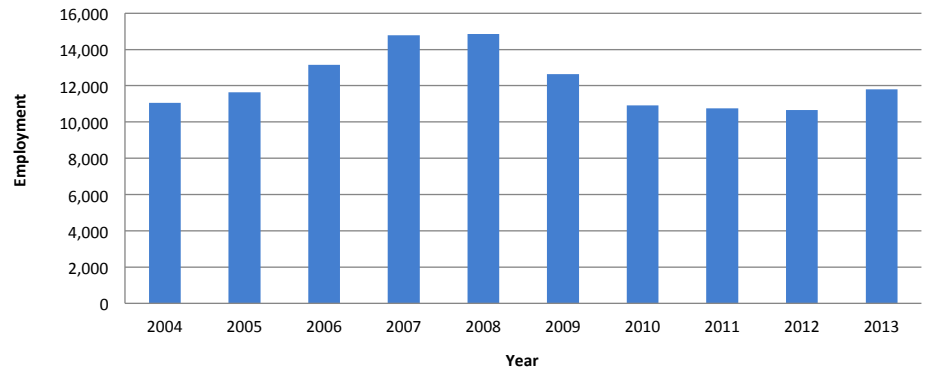
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Construction Employment and Wages

Non-residential building employment averaged 8.8% of total construction employment from 2004 to 2013 (Figure 10). The high for this period was 9.7% in 2009, and the low was 7.3% in 2005.

Figure 10. Non-residential building contractor employment in Colorado, 2004-2013.

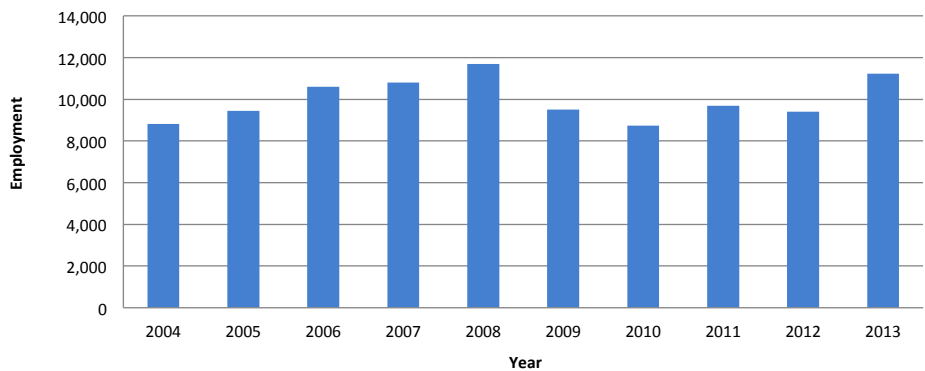
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



From 2004 to 2013, utility systems employment (Figure 11) averaged 7.2% of total construction employment. The high for this period was 8.8% in 2013, and the low was 5.8% in 2004.

Figure 11. Utility systems contractor employment in Colorado, 2004-2013.

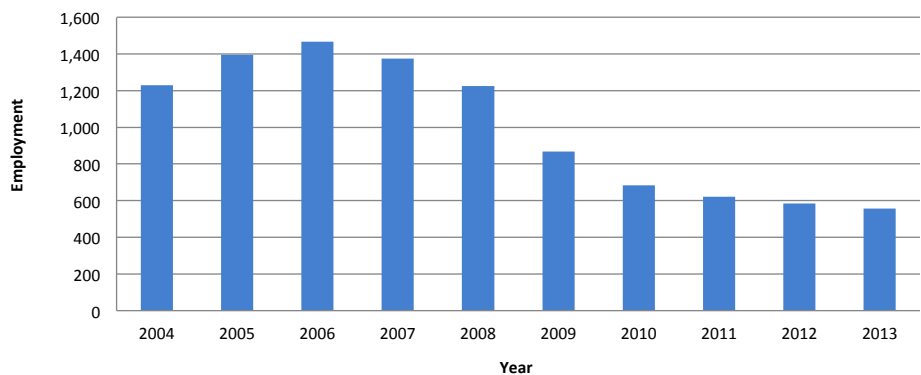
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Land subdivision employment (Figure 12) contributed an average of 0.7% of total construction employment in Colorado from 2004 to 2013. The high for this period was 0.9% in 2006; the low was 0.4% in 2013.

Figure 12. Land subdivision contractor employment in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

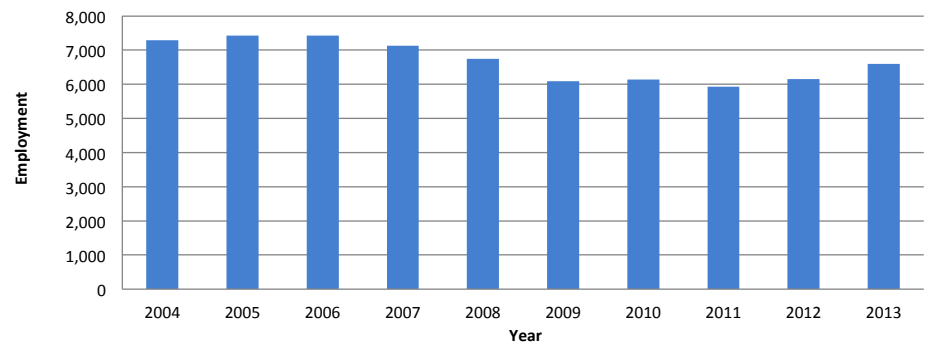


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Highway, street, and bridge employment (Figure 13) contributed an average of 4.8% of total construction employment from 2004 to 2013. The high for this period was 5.3% in 2010, and the low was 4.2% in 2008.

Figure 13. Highway, street, and bridge construction employment in Colorado, 2004-2013.

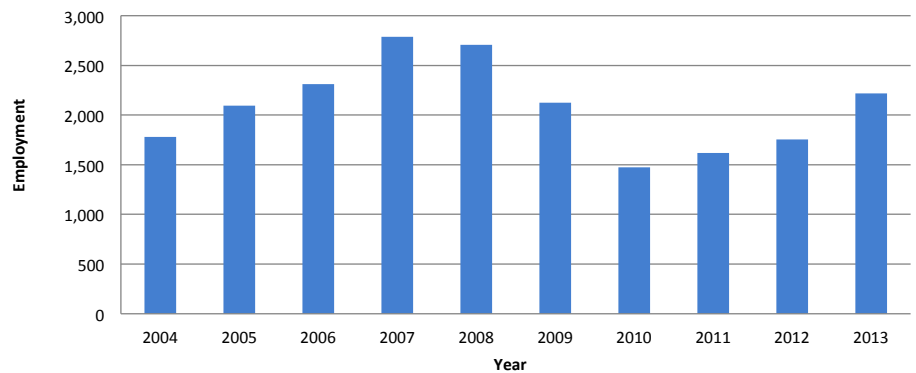
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



From 2004 to 2013, other heavy and civil engineering employment (Figure 14) averaged 1.5% of Colorado's total construction employment. The high for this period was 1.7% in 2013, and the low was 1.2% in 2004.

Figure 14. Other heavy and civil engineering contractor employment in Colorado, 2004-2013.

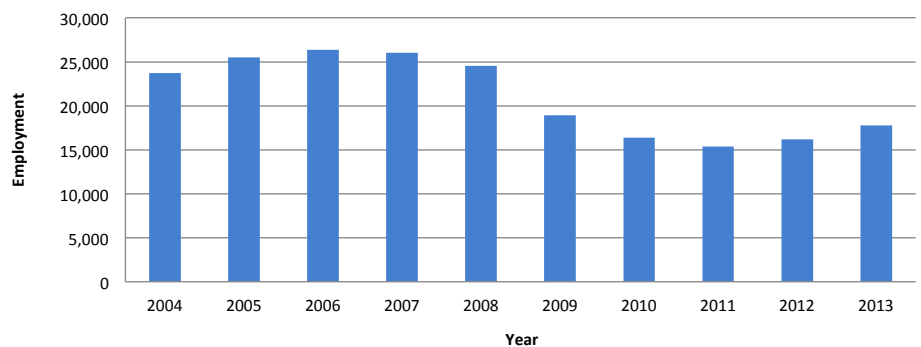
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Foundation, structure, and building exterior employment averaged 14.8% of the state's total construction employment from 2004 to 2013 (Figure 15). The high for this period was 15.9% in 2005, and the low was 13.7% in 2011.

Figure 15. Foundation, structure, and building exterior contractor employment in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



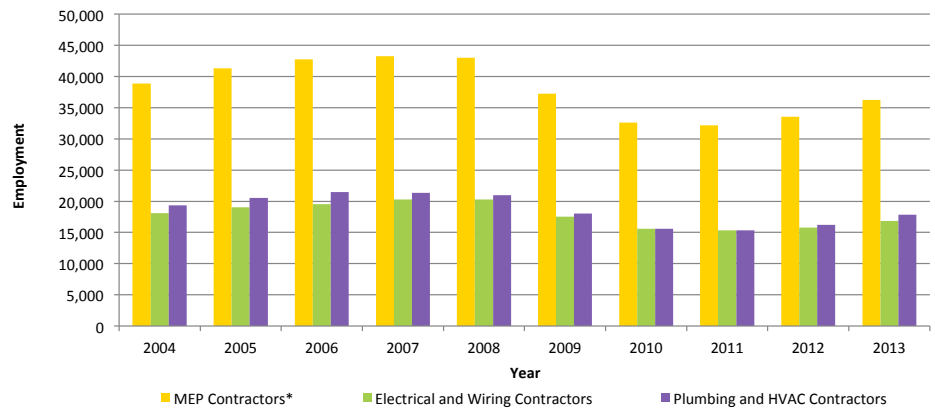
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Mechanical, electrical, and plumbing contractor employment, averaged 27.2% of Colorado's total construction employment from 2004 to 2013 (Figure 16). The high for this period was 29.0% in 2012, and the low was 25.5% in 2006.

Figure 16. Mechanical, electrical, and plumbing contractor* employment in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors.

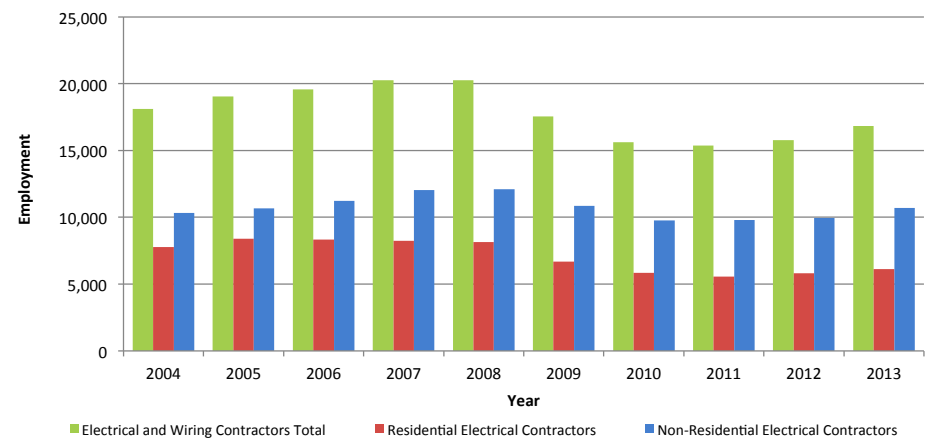
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Electrical and wiring contractor employment averaged 46.9% of total MEP employment, while plumbing and HVAC contractor employment averaged 48.9%. In 2013, the majority (64%) of electrical and wiring contractors were employed in non-residential construction (Figure 17). Just slightly more than half (52%) of plumbing and HVAC contractors were employed in residential construction (Figure 18).

Figure 17. Electrical and wiring contractor employment in Colorado, 2004-2013.

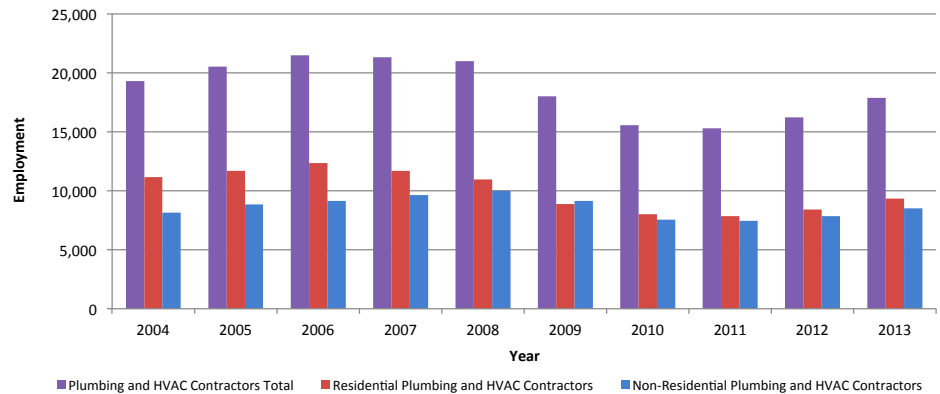
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



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Figure 18. Plumbing and HVAC contractor employment in Colorado, 2004-2013.

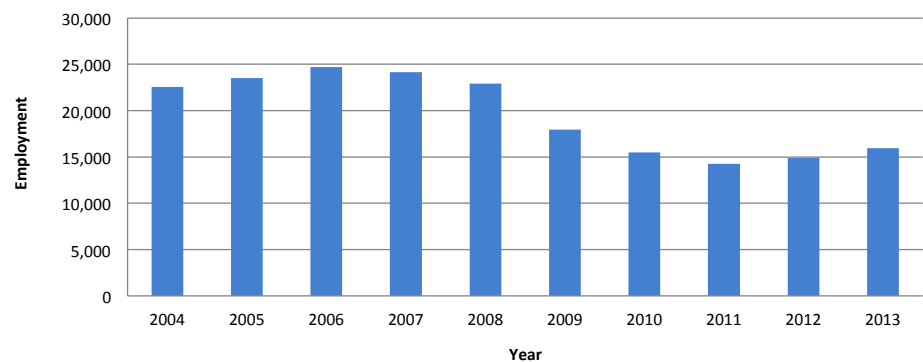
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Building finishing employment (Figure 19) averaged 13.8% of total construction employment in Colorado from 2004 to 2013. The high for this period was 14.9% in 2004, and the low was 12.5% in 2013.

Figure 19. Building finishing contractor employment in Colorado, 2004-2013.

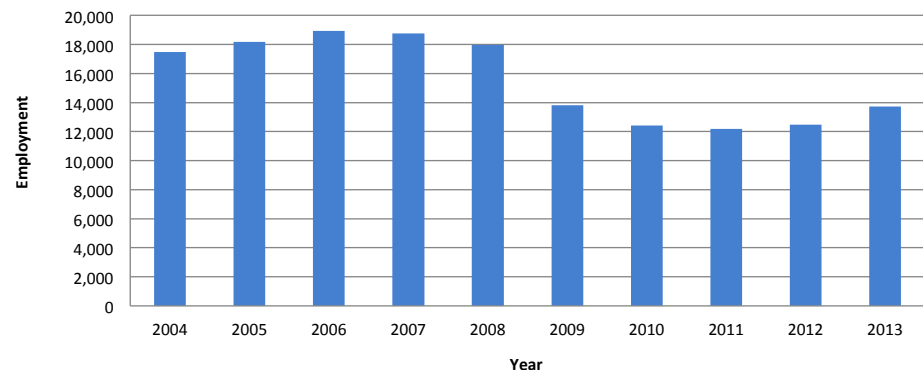
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Other specialty trade employment (Figure 20) averaged 11.0% of Colorado's total construction employment from 2004 to 2013. The high for this period was 11.5% in 2004, and the low was 10.5% in 2009.

Figure 20. Other specialty trade contractor employment in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



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Average Annual Pay

Data for average annual pay were obtained from the U.S. Department of Labor's Bureau of Labor Statistics⁶. During 2013, the average annual pay nationwide was \$49,701 for all private industries. At \$53,181, the average annual construction pay was 7.0% higher than the national average. The average pay for mechanical, electrical, and plumbing contractors increased from \$54,414 in 2012 to \$55,181 in 2013, which was 11.0% higher than the national average for all private industries and 3.8% higher than the national average for construction.

Average annual pay by educational level nationwide is shown in Table 1. The information presented is for 2012, the most recent data available. In 2012, high school graduates earned an average of \$32,630, while those with an associate's degree (or some college) earned an average of \$35,943. The national average annual pay for mechanical, electrical, and plumbing contractors in 2012 was \$54,414, which was 51.4% higher than the average for an associate's degree and 66.8% higher than the average pay for high school graduates.

Table 1. Average earning by educational attainment for workers 18 years old and over, 2012.

Characteristic ^a	Total	Not a High School Graduate	High School Graduate	Some College or Associate's Degree	Bachelor's Degree	Master's Degree
Total	\$45,598	\$21,622	\$32,630	\$35,943	\$60,159	\$89,253
Men	\$54,118	\$24,955	\$38,454	\$43,593	\$72,546	\$110,501
Women	\$36,404	\$15,250	\$25,487	\$28,861	\$47,596	\$66,934
White	\$46,844	\$22,048	\$33,928	\$36,493	\$61,527	\$90,948
African-American	\$34,800	\$18,889	\$26,625	\$31,730	\$48,972	\$68,329
Asian	\$55,151	\$23,994	\$30,149	\$33,239	\$59,507	\$93,772
Hispanic Origin (of any race)	\$31,596	\$21,087	\$28,097	\$30,694	\$50,592	\$77,985

^a Race characteristics are based on the definitions and categories used by the US Census Bureau. According to their website, the 2003 census asked respondents to choose one or more race. As a result, about 2.6 percent of respondents reported more than one race. Therefore, White refers to people who reported White and did not report any other race category. Additionally, African American refers to respondents who only reported Black and Asian refers to respondents who only reported Asian.

Source: US Census Bureau, Current Population Survey: Annual Social and Economic Supplement. Retrieved October 2014.

The 2013 average annual income for all private industries in Colorado was \$51,135, which was 2.9% higher than the national average. The average annual pay of construction employees in Colorado was \$51,052 in 2013, just slightly less than the state average for all private industries. Mechanical, electrical, and plumbing contractors earned \$52,135, nearly 2% above both the average annual pay for all private industries and construction industries.

A recent survey conducted at Colorado State University determined the average starting salary for construction management students graduating in May 2014 ranged from \$48,000 to over \$70,000. The average was \$57,000. Of the 33 students who responded to the pay survey, 64% had accepted employment in Colorado.

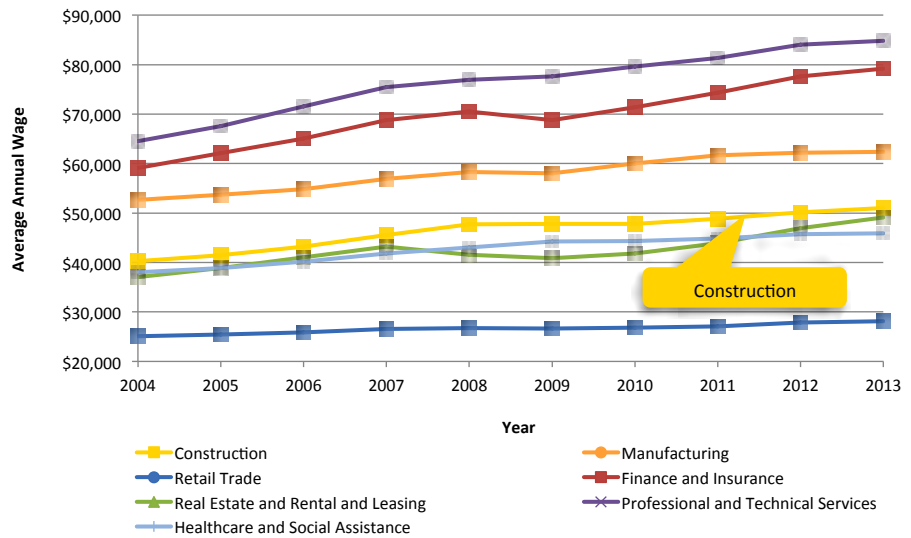
⁶ U.S. Department of Labor, Bureau of Labor Statistics. Quarterly Census of Employment and Wages. Retrieved October 2014 from <http://data.bls.gov/>

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When compared to average annual pay of selected industries in Colorado, construction consistently ranks fourth (Figure 21). In 2013, professional and technical services paid an average yearly salary of \$84,852, the highest among the comparison industries. The lowest was retail at \$28,159. The largest increase in average annual pay was in finance and insurance, which rose 34.0% between 2004 and 2013. Retail had the lowest increase with 12.3%. During this same time, the average annual construction pay increased 26.8%.

Figure 21. Average annual pay for selected industries in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



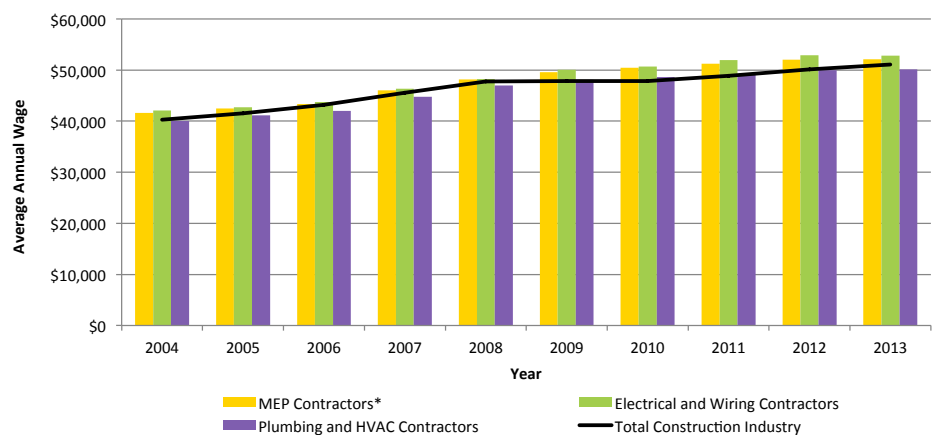
The average annual pay for mechanical, electrical, and plumbing contractors was \$52,135 in 2013, a 25.2% increase from \$41,629 in 2004 (Figure 22). The average annual pay for electrical and wiring contractors was \$52,790 in 2013, an increase of 25.5% from \$42,058 in 2004. Residential electrical and wiring contractors made an average annual pay of \$45,209 in 2013, while the average annual pay for non-residential electrical and wiring contractors was \$57,134.

Plumbing and HVAC contractors made an average of \$50,143 in 2013, which was a 25.2% increase from \$40,039 in 2004. Residential plumbing and HVAC contractors made an average of \$43,537 in 2013, while non-residential plumbing and HVAC contractors averaged \$57,399.

Figure 22. Average annual pay for mechanical, electrical, and plumbing* contractors in Colorado, 2004-2013.

*NAICS category is Building Equipment Contractors.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



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Among the construction crafts in Colorado, electricians, plumbers and pipefitters, and HVAC technicians have the highest annual pay according to recent surveys conducted by the Associated General Contractors (AGC) of Colorado and the Mountain States Employers Council in 2014 (Figure 23). The results from these two surveys are combined in this report to provide comparable wage information for construction crafts in Colorado. Electrician wages ranged from \$43,000 for an apprentice, to \$57,000 for a journeyman, to almost \$70,000 for a master electrician. Annual pay for plumbers and pipefitters was just over \$54,000. Annual pay for HVAC technicians was just over \$66,000. Estimates were based on average hourly wage rates derived from the combined results of both the AGC and MSEC salary surveys. This information should only be used as a general comparison.

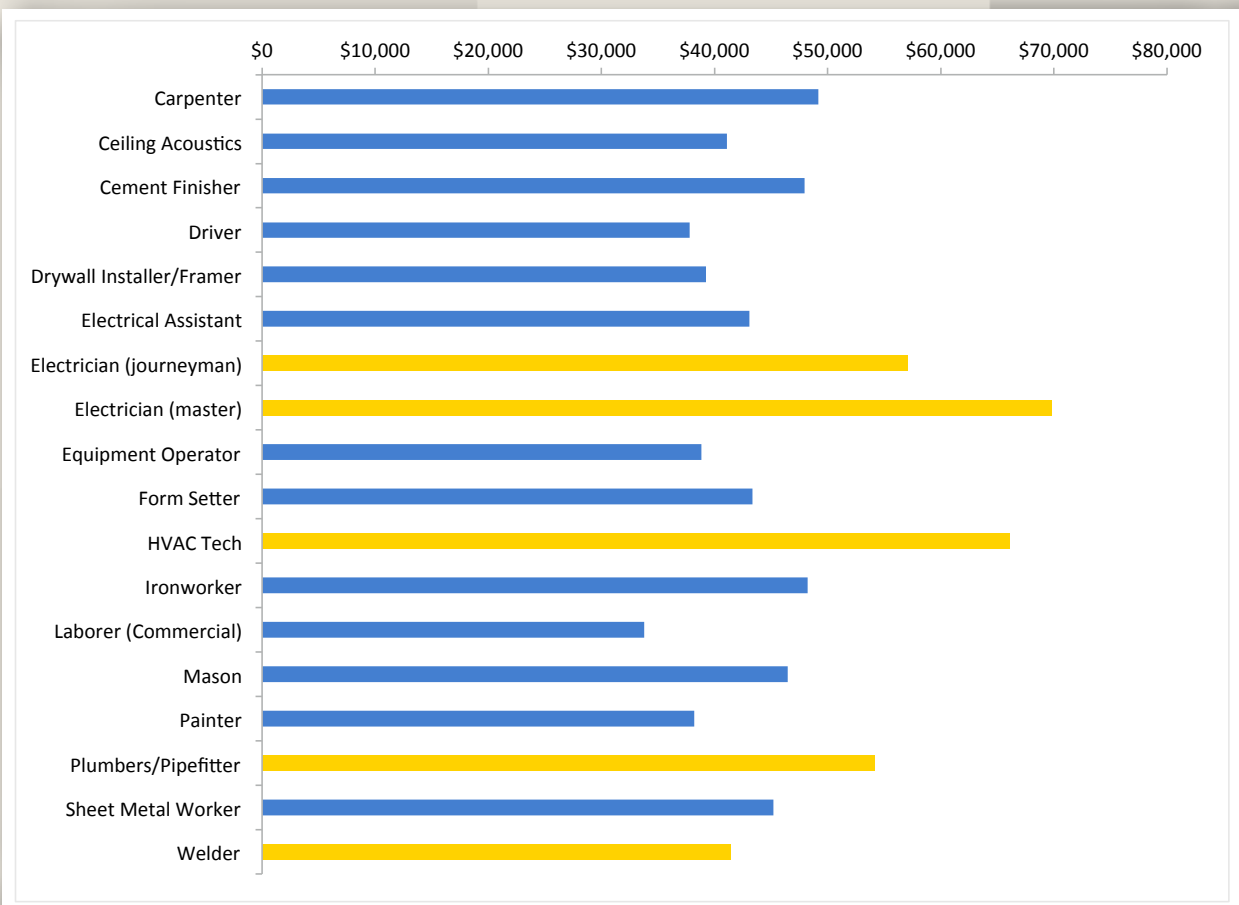


Figure 23. Average annual pay for construction crafts in Colorado, 2014.

NOTE: Annual annual pay calculations are based on 2014 average hourly wage multiplied by 2,080 hours.

Source: Mountain States Employer Council Survey (MSEC) and Associated General Contractors (AGC) of Colorado Salary Survey. AGC of Colorado data was reported in ranges and excludes outliers; AGC data was normalized based on the weighted average calculation used by the MSEC.

For comparison, wage data was also obtained for plumber, pipefitter, and HVAC technician union members in Colorado for 2014 (Table 2). Although this data represents a convenience sample, it is useful in understanding the differences between union and non-union wages in Colorado. All annual wages are based on average reported weekly wages, not including benefits. The simple average for plumbers, pipefitters, and HVAC technicians as calculated above was \$60,067 in 2010 (Figure 23). In comparison, the simple average for the plumber, pipefitter, and HVAC technicians who are union members was \$67,350 in 2010 (Table 2). Based on this information, the union members earned roughly 12% higher wages than non-union members in Colorado during 2014.

Table 2. Plumber, pipefitter, and HVAC technician union wages in Colorado, 2014.

Area of Colorado	2007		2010		2014	
	Average Hourly Wage	Average Annual Pay	Average Hourly Wage	Average Annual Pay	Average Hourly Wage	Average Annual Pay
Northeastern	\$32.97	\$68,578	\$33.30	\$69,264	\$37.09	\$77,147
Southeastern	\$28.55	\$59,384	\$31.55	\$65,624	\$32.41	\$67,406
Western	\$28.49	\$59,259	\$30.04	\$62,483	\$27.64	\$57,496

Source: Colorado Association of Mechanical and Plumbing Contractors.

Average Weekly Wage

Data for average weekly wages for selected Colorado industries, including construction, were obtained from the U.S. Department of Labor – Bureau of Labor Statistics and are presented in Figure 24. (Detailed tables are available in Appendix D). In 2013, professional and technical services had the highest average weekly wage (\$1,632) of the six Colorado industries being compared in this study. From 2004 to 2013, finance and insurance weekly wages increased the most (34.0%), and retail weekly wages increased the least (12.4%). Average construction weekly wages were \$982, ranked fourth among the comparison industries in 2013. Average weekly wage for construction increased 26.7% between 2004 and 2013. Nationally, the average weekly wage for all industries increased 27.0% from \$753 in 2004 to \$956 in 2013. National averages for construction weekly wages increased 31.3% from \$779 in 2004 to \$1,023 in 2013.

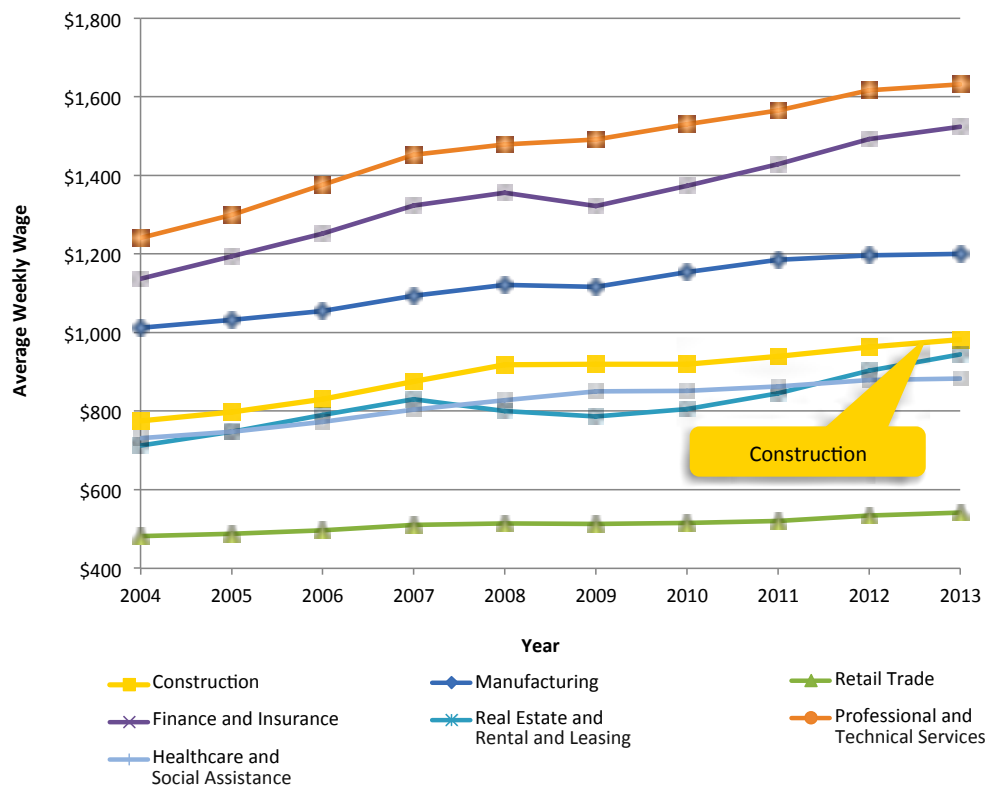


Figure 24. Average weekly wage for selected Colorado industries, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

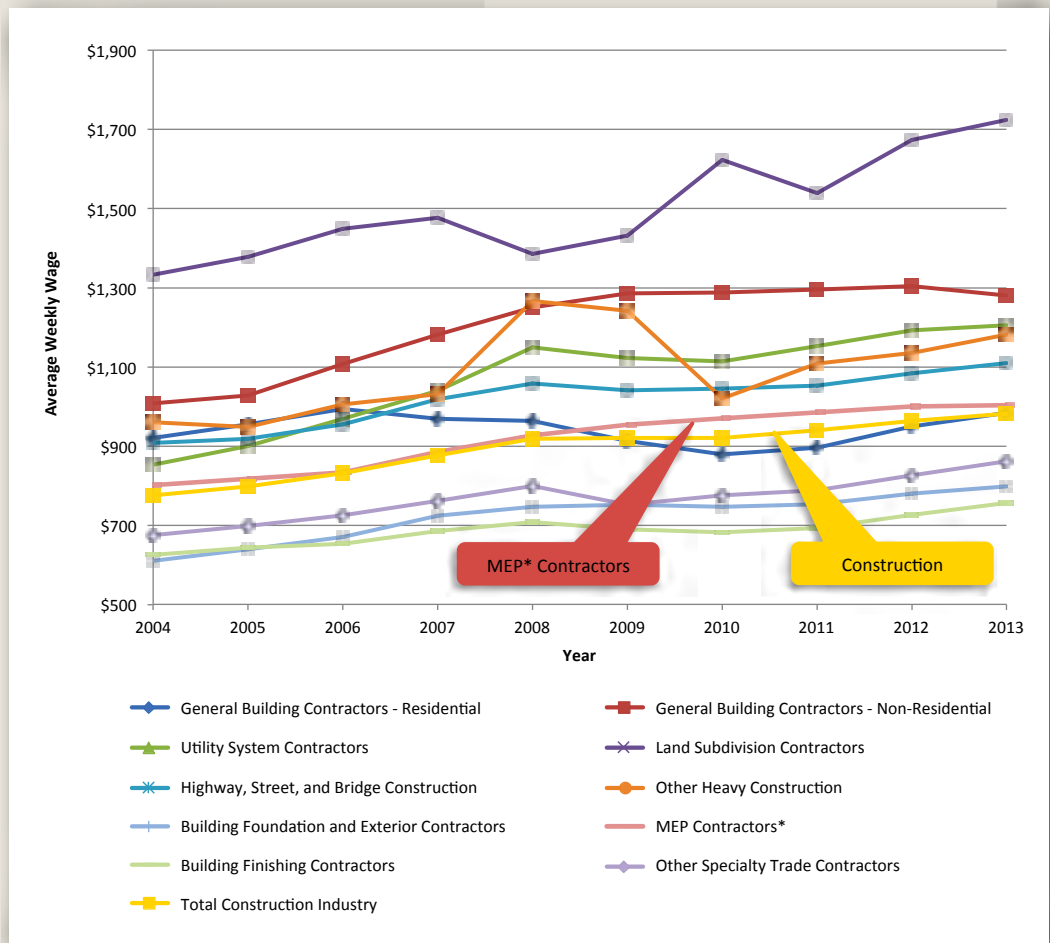
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Average weekly wages for construction subsectors in Colorado from 2004-2013 are presented in Figure 25. In 2013, the construction subsector with the highest weekly wage was land subdivision contractors at \$1,724, a 29.3% increase from 2004. Building finishing contractors had the lowest average weekly wage at \$756, a 21.0% increase from 2004. Utility system contractors had the highest increase in weekly wages (41.3%), going from \$853 in 2004 to \$1,205 in 2013. Residential contractors had the lowest increase (6.8%), going from \$921 in 2004 to \$984 in 2013.

Figure 25. Average weekly wage for construction subsectors in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

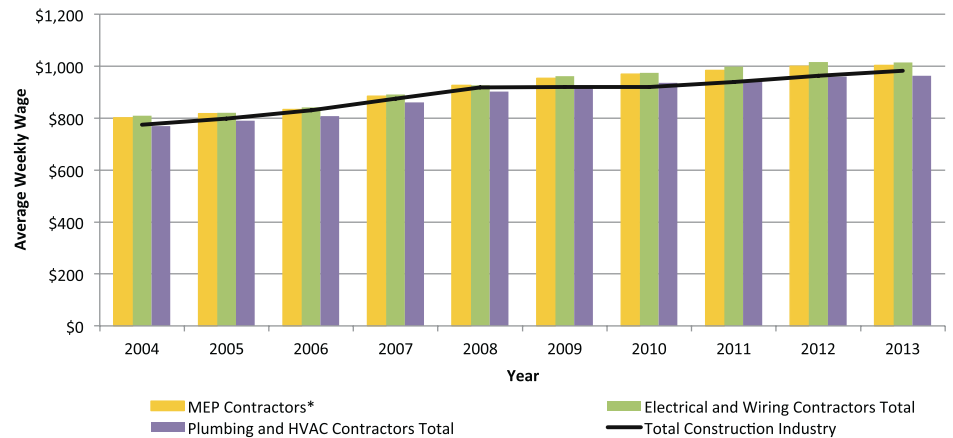


Between 2004 and 2013, the average weekly wage for mechanical, electrical, and plumbing contractors increased 25.2% from \$801 in 2004 to \$1,003 in 2013 (Figure 26). During this same period, electrical and wiring contractor weekly wages increased 25.5% from \$809 in 2004 to \$1,015 in 2013. The weekly wage for plumbing and HVAC contractors increased 25.2% from \$770 in 2004 to \$964 in 2013. The average weekly wage for construction overall in Colorado is shown as a black line in Figure 26. For comparison, the national average weekly wages for MEP contractors ranged from \$815 in 2004 to \$1,061 in 2013.

Figure 26. Average weekly wage for mechanical, electrical, and plumbing contractors in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

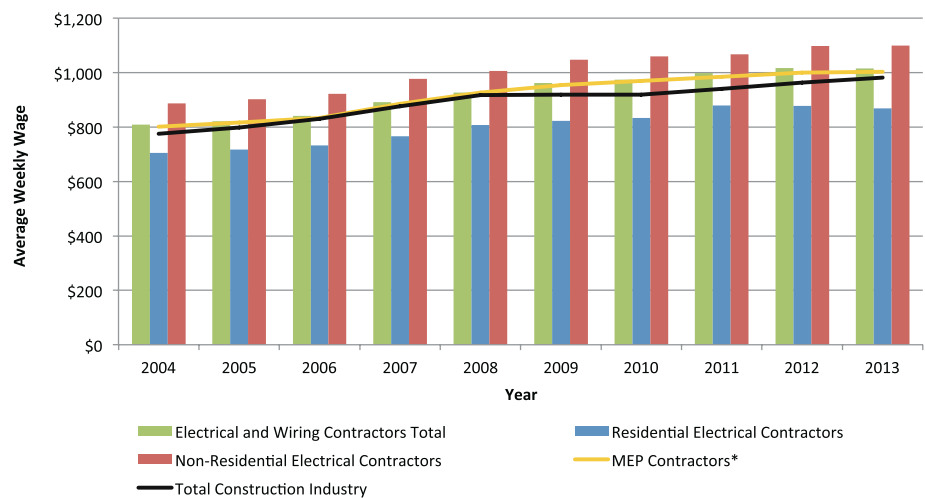


Between 2004 and 2013, the average weekly wage for electrical and wiring contractors in Colorado increased 25.5% from \$809 in 2004 to \$1,015 in 2013. The average for residential electrical and wiring contractors increased 23.3% from \$705 in 2004 to \$869 in 2013. Non-residential weekly wages for electrical and wiring contractors increased 23.9% from \$887 in 2004 to \$1,099 in 2013. While the average weekly wage for electrical and wiring contractors has tended over time to follow the construction average, or to be slightly higher, the average weekly wages for residential electrical contractors has consistently been below this average. The weekly wage for non-residential electrical contractors has consistently been above this average (Figure 27).

Figure 27. Average weekly wage for electrical and wiring contractors in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Between 2004 and 2013, the average weekly wage for plumbing and HVAC contractors in Colorado increased 25.2% from \$770 in 2004 to \$964 in 2013. The average for residential plumbing and HVAC contractors increased 23.3% from \$679 in 2004 to \$837 in 2013. Non-residential weekly wages for plumbing and HVAC contractors increased 23.5% from \$894 in 2004 to \$1,104 in 2013.

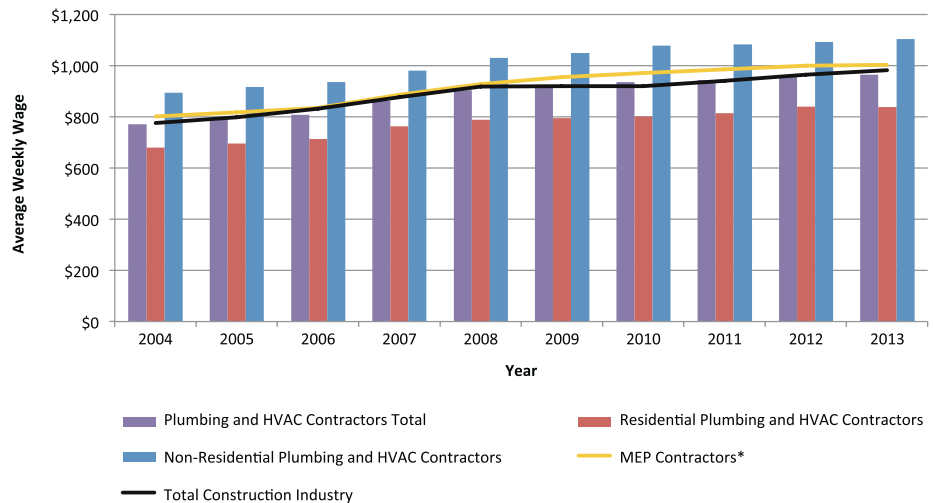
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While the average weekly wage for plumbing and HVAC contractors has tended over time to follow the construction average, it has consistently been slightly below the average for MEP Contractors. Additionally, the average weekly wages for residential plumbing and HVAC contractors has consistently been below both the average weekly wage for MEP Contractors and construction overall. The weekly wage for non-residential plumbing and HVAC contractors has consistently been above both the construction overall and the MEP contractors average weekly wage (Figure 28).

Figure 28. Average weekly wage for plumbing and HVAC contractors in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

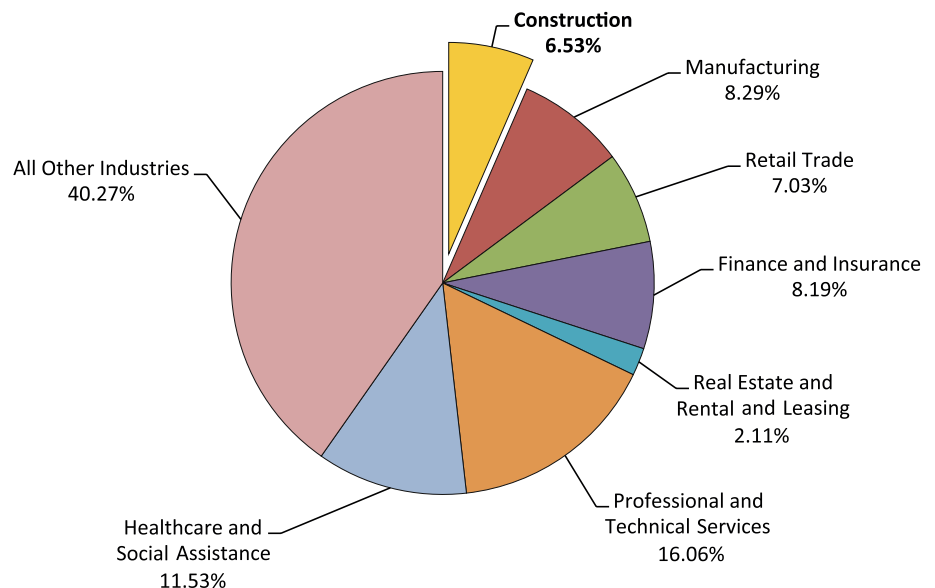


Construction Payroll

In 2013, construction payrolls in Colorado totaled \$6.514 Billion, or 6.5% of total payroll for the state (Figure 29). Among the industries used for comparison purposes in this study, the percentage of total payrolls for all Colorado industries ranged from a low of 2.1% for real estate to a high of 16.1% for professional and technical services. (Detailed payroll information is available in Appendix E.)

Figure 29. Total payroll in Colorado by industry sector, 2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

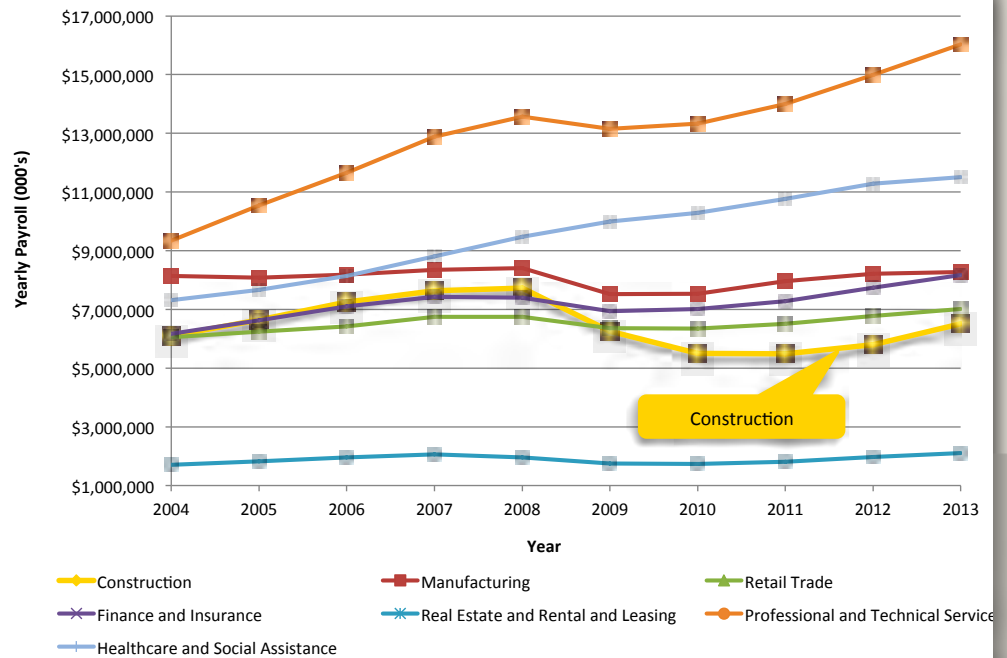


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Yearly payrolls for selected industries in Colorado from 2004 to 2013 are shown in Figure 30. During this time, professional and technical services payroll increased 71.7%, the largest increase of the selected industries. Healthcare and social assistance increased 57.3%, finance and insurance increased 32.5%, real estate increased 23.5%, retail increased 16.0%, and manufacturing increased 1.8%. In comparison, construction increased 6.8%. Total state payroll increased 37.9% between 2004 and 2013.

Figure 30. Total payroll for selected industries in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Total payrolls for construction subsectors from 2004 to 2013 are shown in Figure 31. During this time, the only construction subsectors that decreased in total payroll were residential general building contractors, land subdivision contractors, and building finishing contractors. The sector with the largest decrease was land subdivision contractors, which had a 41.3% reduction in total payroll. Total payroll for all other construction subsectors increased between 2004 and 2013. Utility system contractors had the largest increase (79.9%). Mechanical, electrical, and plumbing contractors increased 16.9%.

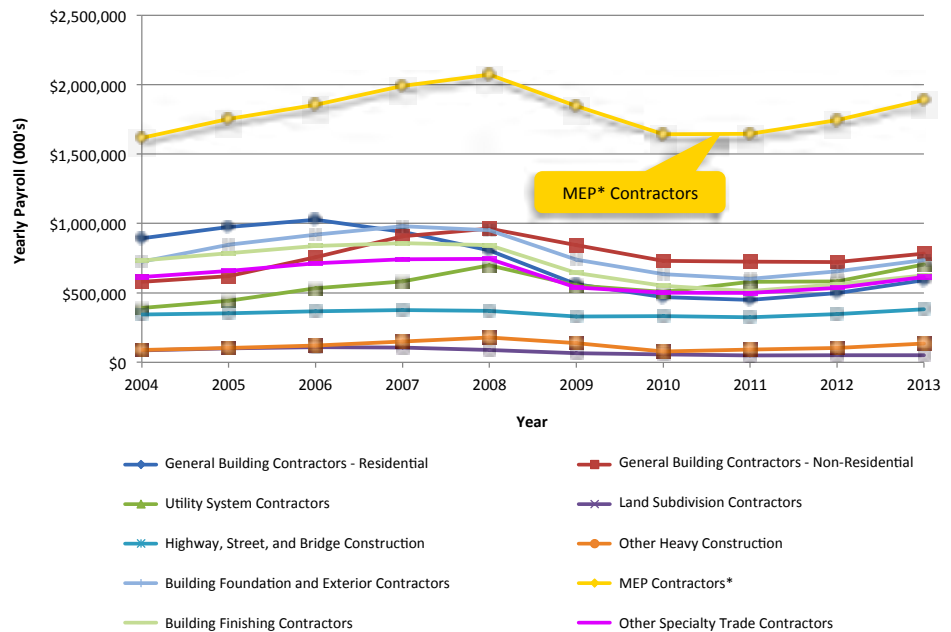


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Figure 31. Construction payroll by industry subsector, 2004-2013

* NAICS category is Building Equipment Contractors

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

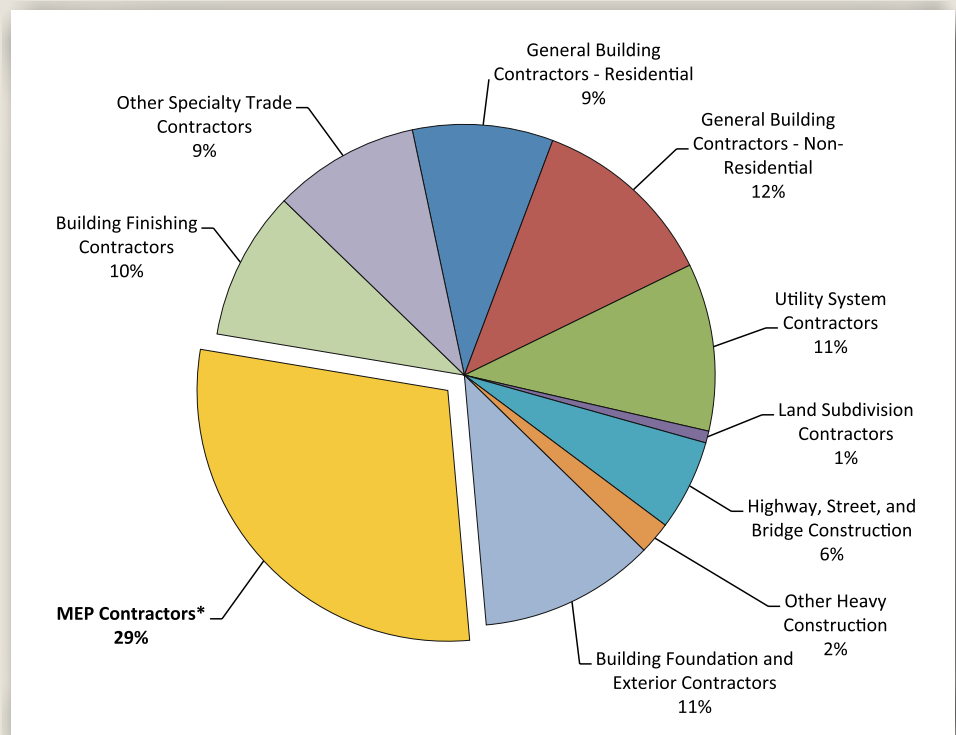


Within the construction industry in 2013, the mechanical, electrical, and plumbing subsector had the largest total payroll of \$1.890 billion, which accounted for 29.0% of total construction payroll (Figure 32). Total payroll for mechanical, electrical, and plumbing comprised 1.9% of the total payroll for all industries in Colorado in 2013. Between 2004 and 2013, the payroll for mechanical, electrical, and plumbing contractors has averaged 28.0% of total construction payroll and 2.1% of total payroll for all private Colorado industries.

Figure 32. Construction payroll by industry subsector, 2013.

* NAICS category is Building Equipment Contractors

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



The following eleven charts show the annual average payroll for each construction industry subsector between 2004 and 2013. For each subsector, the high and low percentage of total construction payroll is also provided in text form. This data does not include government employment or wages. (Detailed information on construction payroll in Colorado is provided in Appendix E.) The impact of government employment and wages is presented in a separate section of this report on page 34.

Total construction payroll from 2004 to 2013 (Figure 33) averaged 7.5% of total payroll for all Colorado industries. The high for this period was 8.8% in 2006, the low was 6.0% in 2012. Over the last 10 years, specialty trade construction has averaged 60.1% of total construction payroll in Colorado while building construction payroll averaged 22.8% and heavy and civil engineering construction averaged 17.1%.

Figure 33. Total construction payroll in Colorado, 2004-2013.

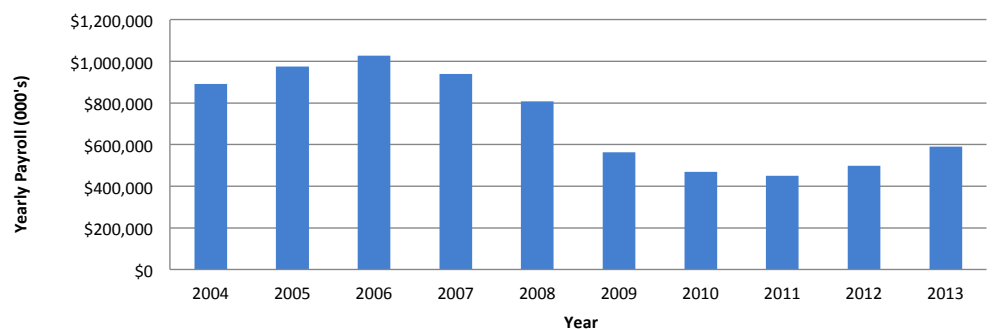
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Residential building payroll from 2004 to 2013 (Figure 34) averaged 11.0% of total construction payroll. The high for this period was 14.7% in 2005, the low was 8.2% in 2011.

Figure 34. Residential building contractor payroll in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



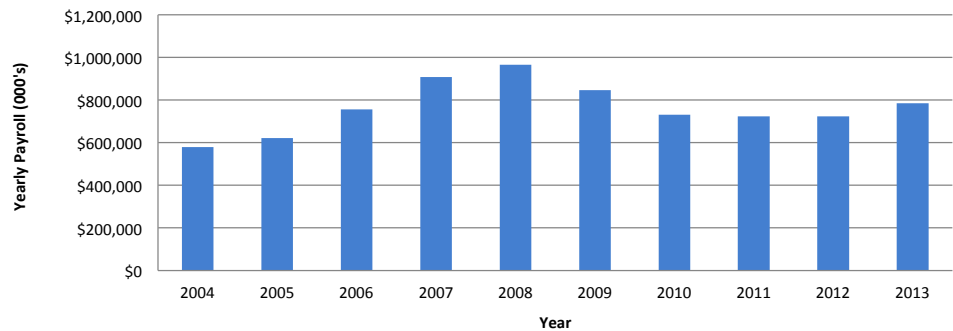
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Non-residential building payroll from 2004 to 2013 (Figure 35) averaged 11.8% of total construction payroll. The high for this period was 13.5% in 2009, the low was 9.4% in 2005.

Figure 35. Non-residential building contractor payroll in Colorado, 2004-2013.

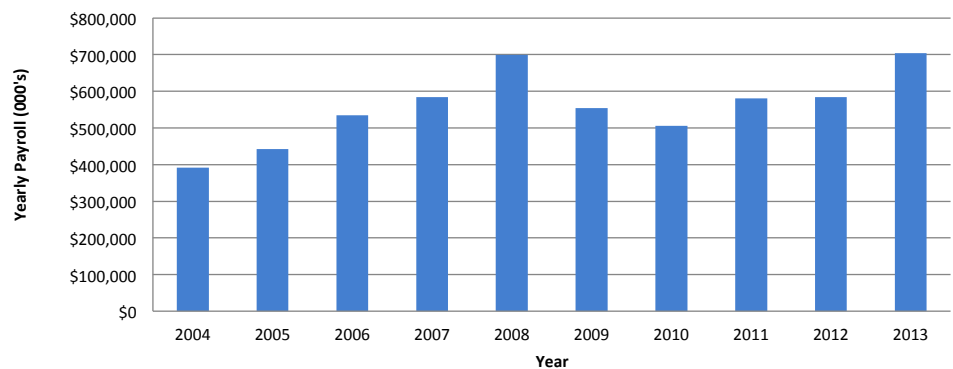
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Utility systems payroll from 2004 to 2013 (Figure 36) averaged 8.7% of total construction payroll. The high for this period was 10.8% in 2013, the low was 6.4% in 2004.

Figure 36. Utility systems contractor payroll in Colorado, 2004-2013.

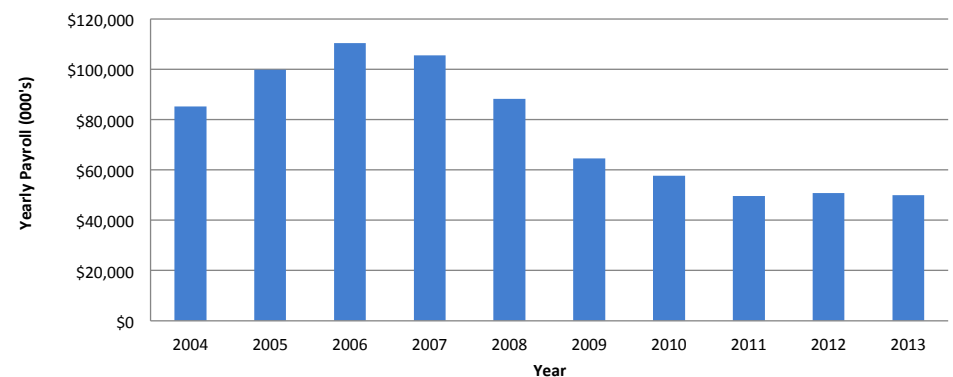
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



From 2004 to 2013, land subdivision payroll averaged 1.2% of total construction payroll (Figure 37). The high for this period was 1.5% in 2006, the low was 0.8% in 2013.

Figure 37. Land subdivision contractor payroll in Colorado, 2004-2013.

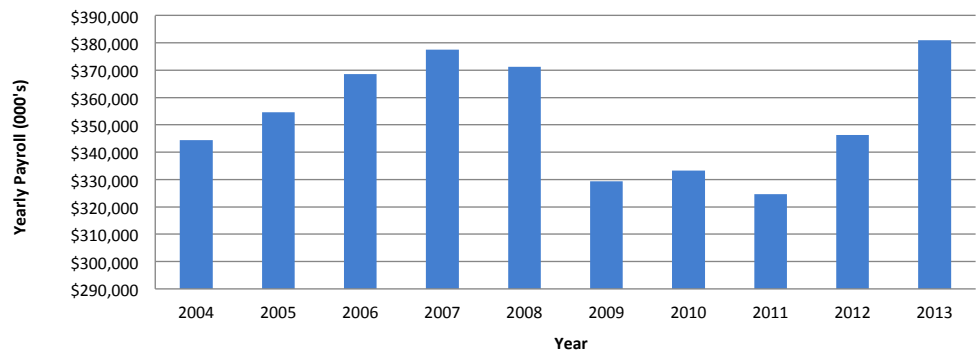
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Highway, street, and bridge payroll from 2004 to 2013 (Figure 38) averaged 5.5% of total construction payroll. The high for this period was 6.1% in 2010, the low was 4.8% in 2008.

Figure 38. Highway, street, and bridge construction payroll in Colorado, 2004-2013.

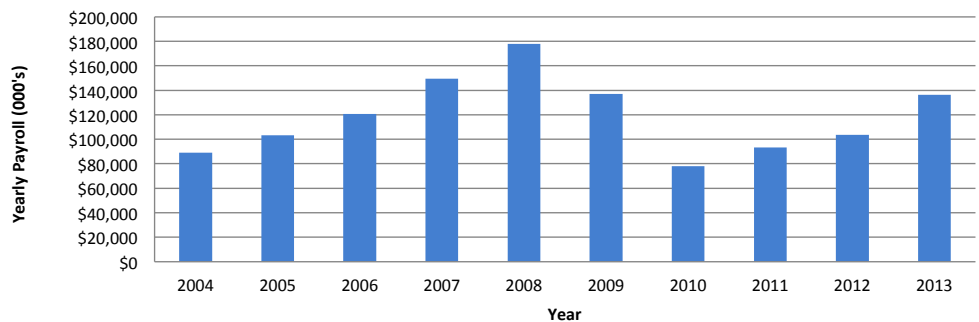
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Other heavy and civil payroll from 2004 to 2013 (Figure 39), averaged 1.8% of total construction payroll. The high for this period was 2.3% in 2008, the low was 1.4% in 2010.

Figure 39. Other heavy and civil engineering contractor payroll in Colorado, 2004-2013.

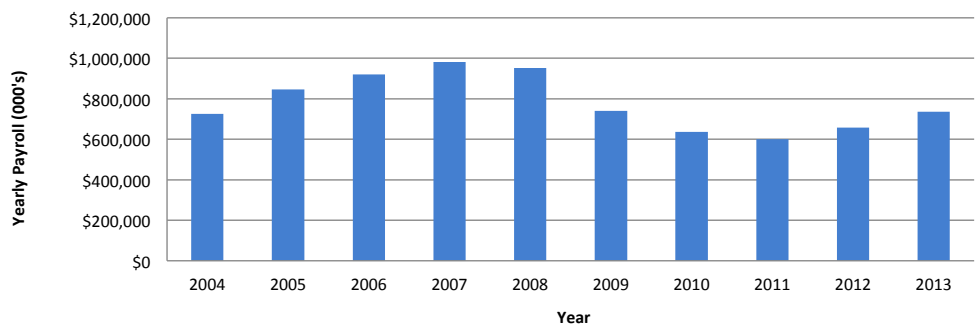
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



From 2004 to 2013, foundation, structure, and building exterior payroll (Figure 40) averaged 11.9% of total construction payroll. The high for this period was 12.8% in 2007, the low was 11.0% in 2011.

Figure 40. Foundation, structure, and building exterior contractor payroll in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



SECTION 2 Construction Employment and Wages

Mechanical, electrical, and plumbing payroll averaged 28.0% of total construction payroll from 2004 to 2013 (Figure 41). The high for this period was 30.0% in 2012. The low was 25.6% in 2006. During this period, both the electrical and wiring subsector and plumbing and HVAC subsector payrolls each averaged 47.3% of total mechanical, electrical, and plumbing contractor payroll. Total payroll for electrical and wiring was \$889,123,000 in 2013, 68.8% of which was non-residential and 31.2% was residential (Figure 42). Total payroll for plumbing and HVAC was \$895,908,000 in 2013, of which 45.4% was residential and 54.6% was non-residential (Figure 43).

Figure 41. Mechanical, electrical, and plumbing contractor payroll in Colorado, 2004-2013.

* NAICS category is Building Equipment Contractors

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

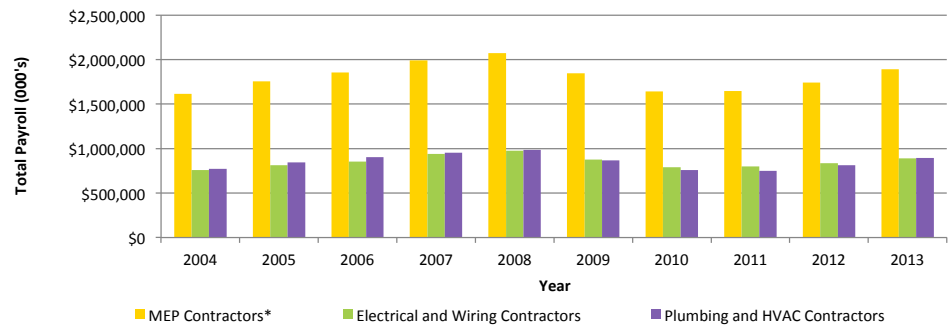


Figure 42. Electrical and wiring contractor payroll, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

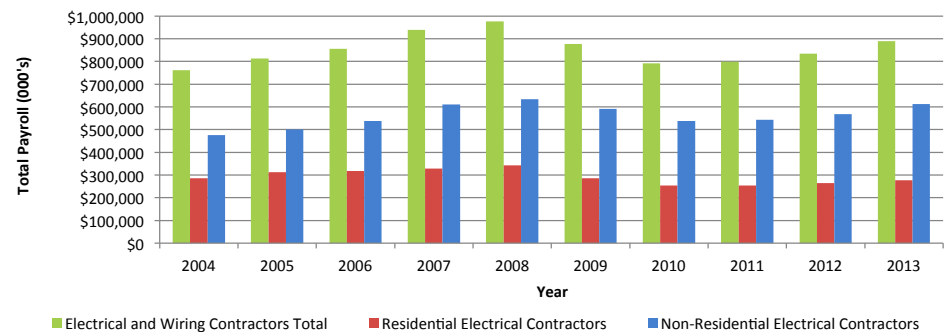
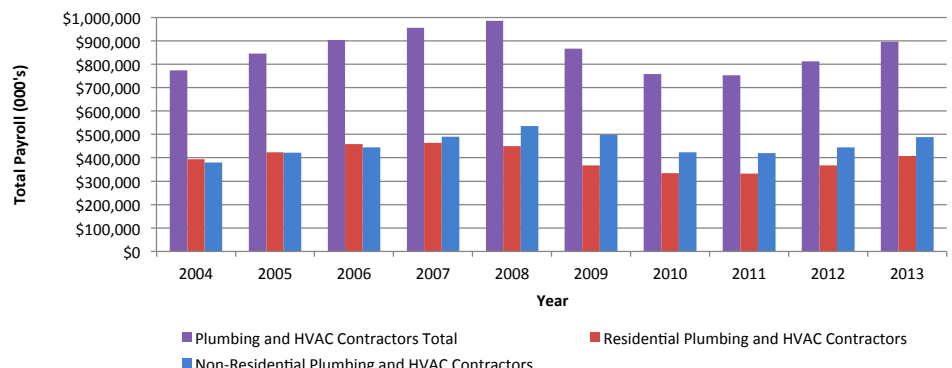


Figure 43. Plumbing and HVAC contractor payroll, 2004-2013.

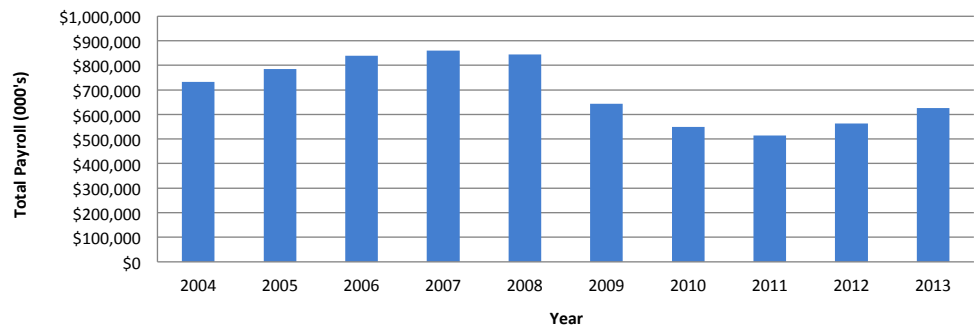
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



Building finishing payroll (Figure 44) averaged 10.7% of total construction payroll from 2004 to 2013. The high for this period was 12.0% in 2004, the low was 9.6% in 2013.

Figure 44. Building finishing contractor payroll in Colorado, 2004-2013.

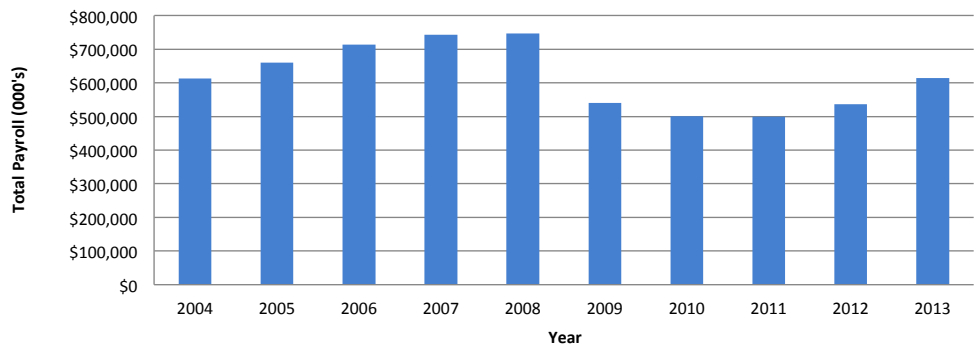
Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



From 2004 to 2013, other specialty trade payroll (Figure 45) averaged 9.5% of total construction payroll. The high for this period was 10.1% in 2004, the low was 8.6% in 2009.

Figure 45. Other specialty trade contractor payroll in Colorado, 2004-2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



SECTION 2 Construction Employment and Wages

State and Local Government Employment and Wages

The most current data on state and local government employment and wages from the Quarterly Census of Employment Wages is for 2013; state data was not available for 2010 and local data was not available for 2009-2010 (Table 3). In 2013, the state government employed 3,075 individuals in construction, bringing total construction employment in Colorado to 130,679 for 2013. All of these jobs (3,075) were in the heavy and civil engineering construction sector. None were reported in either the building construction or specialty trades sectors. The average weekly wage for state employees in 2013 was \$1,119 and the annual pay for state employees was \$58,181 in 2013, both of which were almost 14% higher than the average weekly and annual pay for the private construction industry. The weighted average weekly wage for private and government employment was \$985 and the weighted average annual pay for private and government employment was \$51,220.

Table 3. State and local government construction employment and wages in Colorado, 2004– 2013.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Employees										
State	3,155	3,125	3,126	3,130	3,202	3,163	ND	3,072	3,068	3,075
Local	252	297	356	310	178	ND	ND	136	138	ND
Private	151,429	160,101	167,647	167,717	161,815	131,003	115,110	112,242	115,754	127,604
Total Employment	154,836	163,523	171,129	171,157	165,195	134,166	115,110	115,450	118,960	130,679
Average Annual Pay										
State	\$49,272	\$50,999	\$52,588	\$49,615	\$56,359	\$57,817	ND	\$56,375	\$56,295	\$58,181
Local	\$38,188	\$44,325	\$43,529	\$44,541	\$43,217	ND	ND	\$39,921	\$46,706	ND
Private	\$40,276	\$41,488	\$43,219	\$45,549	\$47,736	\$47,824	\$47,827	\$48,865	\$50,151	\$51,052
Average Weekly Wage										
State	\$948	\$981	\$1,011	\$954	\$1,084	\$1,112	ND	\$1,084	\$1,083	\$1,119
Local	\$734	\$852	\$837	\$857	\$831	ND	ND	\$768	\$898	ND
Private	\$775	\$798	\$831	\$876	\$918	\$920	\$920	\$940	\$964	\$982
Total Wages (in 000's)										
State	\$155,446	\$159,375	\$164,404	\$155,302	\$180,484	\$182,889	ND	\$173,195	\$172,723	\$178,930
Local	\$9,623	\$13,157	\$15,485	\$13,823	\$7,707	ND	ND	\$5,436	\$6,426	ND
Private	\$6,098,987	\$6,642,248	\$7,245,580	\$7,639,275	\$7,724,390	\$6,265,031	\$5,505,346	\$5,484,646	\$5,805,216	\$6,514,415
Weighted Average (Avg) Annual Pay and Weekly Wage										
Avg Annual Pay	\$40,456	\$41,675	\$43,391	\$45,622	\$47,898	\$48,060	\$47,827	\$49,054	\$50,305	\$51,220
Avg Weekly Wage	\$778	\$802	\$834	\$877	\$921	\$925	\$920	\$944	\$967	\$985

ND: Data not available.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved December, 2014.

Union Affiliation

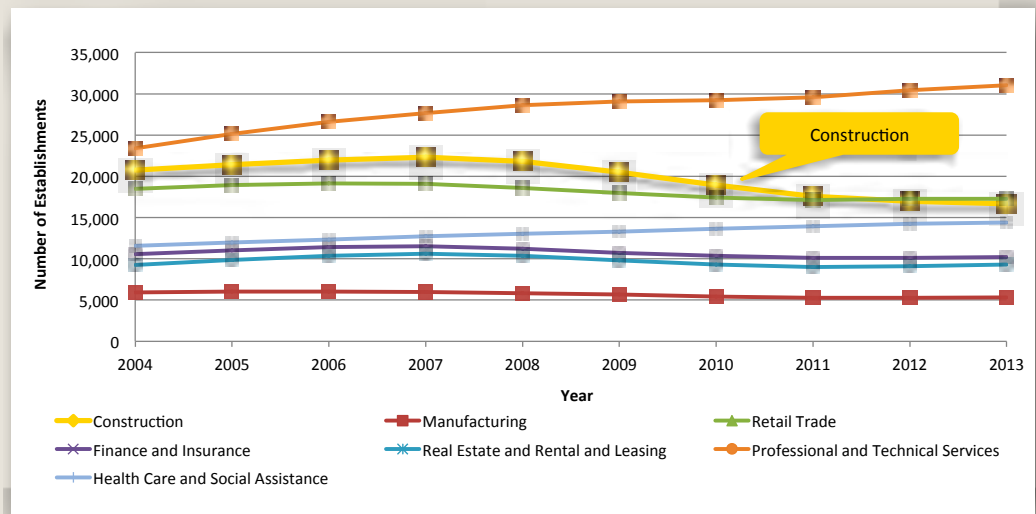
In 2013, 7.6% of all wage and salary workers in Colorado were members of a union, while 9.2% of workers were represented by a union according to a recent news release on union membership by the U.S. Bureau of Labor Statistics (January 24, 2014). Within the construction industry nationally, 14.1% of construction workers were members of a union and 14.9% were represented by a union (this includes both union members and non-union members whose jobs are covered by a union or employee association contract). For comparison, in 2012, 13.2% of construction workers were union members, while 13.7% were represented by unions. In the Mountain-Northern Plains region, which includes Colorado, construction union membership went from 10.9% in 2008 down to 7.3% in 2010 according to a study of union trends in Colorado conducted by the Construction Labor Research Council in 2011.

The number of construction establishments increased by an average of 1.9% per year from 2004 to 2007, reaching 22,327. This trend reversed between 2007 and 2013. As a result, the number of construction establishments decreased 25.3% from 22,327 in 2007 to 16,669 in 2013. When data for the residential building sector is removed, the change in establishments only changes slightly to a decrease of 23.6% between 2007 and 2013. From 2004 to 2007, the residential sector had an average increase of 2.9% per year in the number of establishments, and then decreased an average of 6.0% per year between 2007 and 2013. In comparison, non-residential building construction establishments increased an average of 3.9% per year between 2004 and 2007, and then decreased an average of 1.4% per year from 2007 to 2013.

Similar trends are reflected in some of the comparison industries, although construction had the largest decline. Manufacturing, retail trade, finance and insurance, and real estate all decreased in the number of establishments between 2007 and 2013. Of these, real estate decreased the most going from 10,641 establishments in 2007 down to 9,288 establishments in 2013, a decrease of 12.7%. The change in number of establishments for the comparison industries from 2004 to 2013 ranged from a decrease of 10.1% for manufacturing to an increase of 27.5% for professional and technical services (Figure 46). See Appendix A for detailed data tables on the number of construction establishments in Colorado from 2004 to 2013.

Figure 46. Trends in establishments per industry sector in Colorado, 2004 to 2013.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.



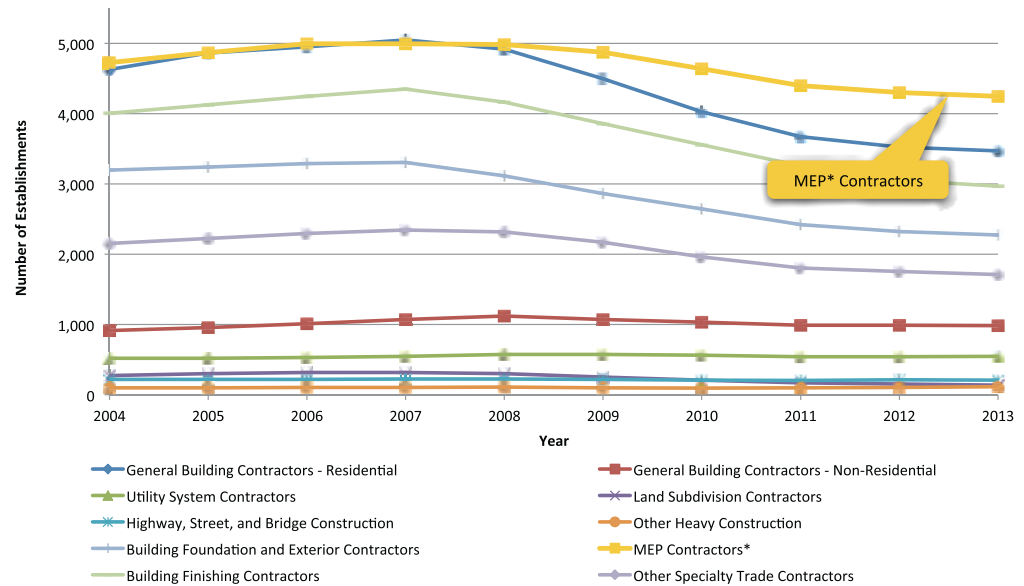
All construction industry subsectors experienced negative growth trends between 2007 and 2013 with the exception of utility system contractors and other heavy construction (Figure 47). The largest declines between 2007 and 2013 occurred in land subdivision contractors (-57.1%), building finishing contractors (-31.7%), residential building construction (-31.3%), and building foundation and exterior contractors (-31.2%). A majority also experienced negative growth trends between 2004 and 2013. The only construction subsectors to have increased in number of establishments between 2004 and 2013 were non-residential building construction (7.4%), utility system contractors (5.2%), and other heavy construction (14.7%).

SECTION 3 Industry Education and Employment Opportunities

Figure 47. Number of establishments per Colorado construction industry subsector, 2004 to 2013.

*NAICS category is Building Equipment Contractors.

Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

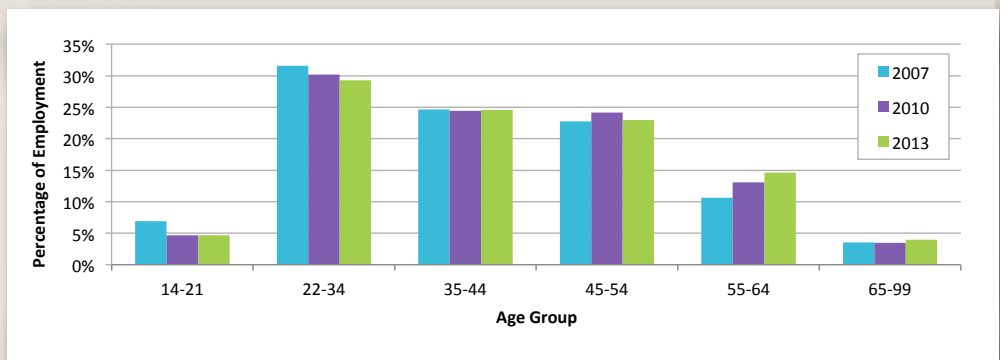


Age of the Workforce

Data from the Colorado Department of Labor and Employment's Labor Market Information website indicates Colorado's construction workforce is continuing to age (Figure 48). In 2004, 12.2% of construction workers employed in private industry were 55+ years old. This percentage increased to 16.6% in 2010 and to 18.5% in 2013. In contrast, the percentage of workers who were 34 years old or younger was 39.1% in 2004. This percentage decreased to 34.9% in 2010 and to 33.9% in 2013.

Figure 48. Age distribution for the construction industry in Colorado, 2007-2013.

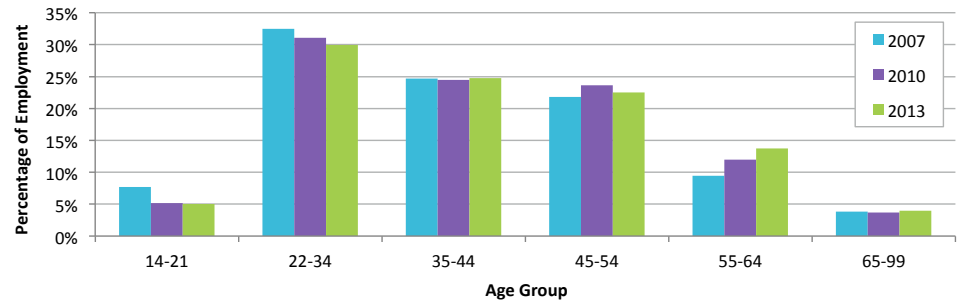
Source: Colorado Department of Labor and Employment's Labor Market Information website. Retrieved November, 2014.



The ages of Colorado's specialty trade contractors follow a similar trend (Figure 49). Workers 55 and older comprised 11.5% of all specialty trade workers in private industry in 2004. This percentage increased to 15.7% in 2010, then to 17.7% in 2013. In contrast, workers 34 years old or younger represented 40.9% of specialty trade workers in private industry in 2004. This percentage decreased to 36.2% in 2010, then to 35.0% in 2013.

Figure 49. Age distribution for specialty trade contractors in Colorado, 2007-2013.

Source: Colorado Department of Labor and Employment's Labor Market Information website. Retrieved November, 2014.

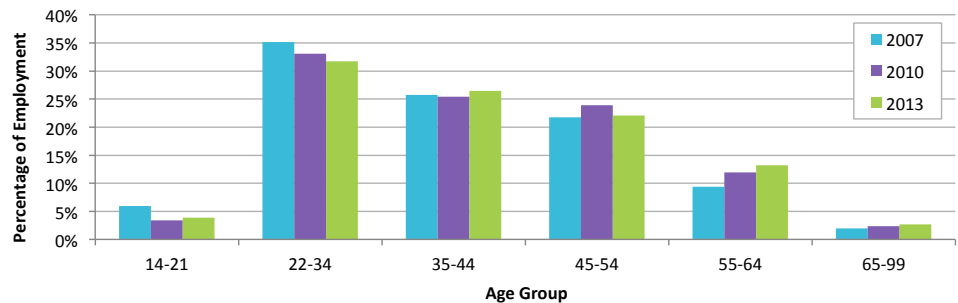


The portion of mechanical, electrical, and plumbing contractors who were 55 and older increased from 9.8% in 2004 to 14.3% in 2010 and to 15.9% in 2013 (Figure 50). At the same time, mechanical, electrical, and plumbing contractors 34 years old and younger decreased from 41.7% in 2004 to 36.4% in 2010, then to 35.6% in 2013.

Figure 50. Age distribution for MEP contractors in Colorado, 2007-2013.*

*NAICS category is Building Equipment Contractors.

Source: Colorado Department of Labor and Employment's Labor Market Information website. Retrieved November, 2014.



Projected Future Employment Needs of Colorado's Construction Industry

Employment projections for the construction industry in Colorado are summarized in Table 4. This information was obtained from the Colorado Department of Labor and Employment's Labor Market Information website and was combined with current employment information for 2013 from U.S. Labor Department's Quarterly Census of Labor Statistics.

According to the Colorado Department of Labor, total construction employment is projected to increase (21.8%) going from 127,604 in 2013 to 155,434 in 2015 before increasing to 187,164 in 2023. The greatest increase in employment between now and 2015 is projected to come from heavy and civil construction (33.1%), followed by building construction (23.8%), and MEP contractors (18.5%).

Between 2015 and 2023, construction employment is projected to increase by over 31,000 jobs. This is a 20.4% increase. Specialty trades will account for the largest number of new employees, with over 24,000 new hires projected between 2015 and 2023. Additionally, heavy and civil construction is projected to add over 3,000 employees and over 4,000 new hires are projected in building construction between 2015 and 2023.

Table 4. Employment projections for the construction industry in Colorado.

	2013	2015		2023		Total Projected Change between 2013 and 2023
	Current Employment ^a	Projected Employment ^b	Avg. Annual % Change from 2013	Projected Employment ^b	Avg. Annual % Change from 2013	
Construction of Buildings	23,332	28,874	11.88%	33,191	3.59%	42.26%
Heavy and Civil Engineering Construction	20,621	27,442	16.54%	30,768	4.08%	49.21%
Specialty Trade Contractors	83,651	99,118	9.24%	123,205	3.95%	47.28%
Total Construction Jobs	127,604	155,434	10.90%	187,164	3.90%	46.68%

^a Source: U.S. Department of Labor – Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved October 2014.

^b Source: Colorado Department of Labor and Employment's Labor Market Information website. Retrieved October 2014.

Appendix F presents detailed long term employment projections for each construction industry subsector obtained from the Colorado Department of Labor and Employment's Labor Market Information website. According to this information both electrician employment and plumber, pipefitter and steamfitter employment are expected to have moderate to good growth rates compared to other construction occupations. Electrician employment is projected to grow 47.7% between 2013 and 2023 while employment of plumbers, pipefitters and steamfitters is projected to grow 48.8% between 2013 and 2023.

Construction Education

In an effort to address the demand for new hires in the Colorado construction industry, numerous organizations have made contributions to support construction education programs within the state. Donors include Local 3, Local 58, Local 145, Local 208, Colorado Association of Mechanical and Plumbing Contractors and the Construction Industry Training Council. Combined, these organizations have donated or contributed over \$2.3 million to support construction education in Colorado.

Numerous educational opportunities are available for individuals interested in working in the construction industry. Information on construction education opportunities can be found on the Colorado Department of Higher Education's website. This site lists all institutions of higher education in Colorado and the programs of study available at each institution. This information is summarized in Table 5 and 6.

Table 5. Construction-related higher education programs in Colorado.

Institution Name	Program Name
Aims Community College	Building/Construction Site Management
	Carpentry
	Electricians Occupations
	Electronics Technology
	Welding Technology
Arapahoe Community College	Architectural Technology/Architectural Contracts
	Architectural Technology/Drafting/Architectural Contracts
	Construction Estimating
	Construction Site Supervision/Management
	Engineering Technologies

Continues on page 39

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Table 5. Construction-related higher education programs in Colorado. (Continued)

Institution Name	Program Name
Colorado Mesa University	Basic Welder
	Computer-Aided Manufacturing/Computer-Aided Design
	Construction Technology
	Electric Lineworker
	Mechanical Engineering Technology
	Manufacturing Technology/Welding Technology
Colorado Mountain College	Heating, Ventilation, and Air Conditioning, AP
	Occupational Safety and Health
	Renewable Energy Technology
	Welding
Colorado Northwestern Community College	Energy and Facilities Management Technology
	Industrial Electrician
Colorado School of Mines	Engineering and Technology Management
Colorado State University	Construction Management
	Manufacturing Technology & Construction MA
Colorado State University - Pueblo	Civil Engineering Technology
	Civil Engineering Technologist
Community College of Denver	Architectural Technologies
	Drafting for Industry
	Welding Technology/Welder
Front Range Community College	Architectural & Construction Technology
	Clean Energy Technology
	Computer Aided Drafting/Design (CAD)
	Heating, Ventilation, & Air Conditioning
	Welding Technology
ITT Technical Institute*	Computer Drafting and Design
	Construction Management
	Drafting and Design Technology
	Electrical Engineering and Communications Technology
	Electronics and Communications Engineering Technology
	Project Management and Administration-Construction
Lamar Community College	Carpentry
	Construction Technologies
	Energy Technology
	Welding
Metropolitan State University of Denver	Civil Engineering Technology
	Electrical Engineering Technology
	Mechanical Engineering Technology

Continues on page 40

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Industry Education and Employment Opportunities

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Table 5. Construction-related higher education programs in Colorado. (Continued)

Institution Name	Program Name
Morgan Community College	Welding & Fabrication
	Welding Technology
Northeastern Junior College	Welding Technologies
Pikes Peak Community College	Architecture & Construction Technology
	Computer Aided Drafting/Design
	Electronics Technology
	Energy Management Technology
	Heating, Air Conditioning & Refrigeration
	Welding
Pueblo Community College	Engineering Technology
	Welding Technology
Red Rocks Community College	Carpentry
	Electrical
	Engineering Graphics Technology
	HVAC
	Renewable Energy Technology
	Welding
	Welding & Fabrication
	Woodworking
Trinidad State Junior College	Construction Technology
	Electrical Line Worker
	Energy Production & Industrial Construction
	Occupational Safety Administration Technology
	Welding-EPIC
University of Colorado*	Architectural Engineering - CEM Specialization
	Civil Engineering - CEM Specialization
University of Denver*	Construction Management
Westwood College*	Computer Aided Design - Architecture Drafting
	Construction Management
	Surveying

* Private Institution

Source: Colorado Department of Higher Education website. Retrieved November 2014.

Table 6. Construction-related vocational/trade programs in Colorado.

School	Program Offered
Construction Industry Training Council (CITC)	Carpentry Electrical Pipefitting Plumbing Sheet Metal
Delta-Montrose Technical College	Technical Drafting & CAD
Emily Griffith Opportunity School	Apprenticeship Training Division Asbestos Insulator Bricklayer Carpenter Carpet and Tile Layer Cement Mason Electrical Line Worker Electrician Glazier Iron Worker Millwright Operating Engineer Painter Pipefitter Plumber Sheet Metal Worker College of Trades and Industry Drafting/AutoCAD Heating, Ventilation, Air Conditioning and Refrigeration Welding
IntelliTec College (2 locations)*	HVAC
Pickens Technical College	Cabinet Making Carpentry Computer Aided Drafting Electrician Occupations Energy Technology HVAC, HRAC Technology Property Maintenance Technician Welding
Redstone College Denver*	Heating, Ventilation, Air Conditioning and Refrigeration
Southwest Colorado Community College	Welding Technology

* Private Institution

Source: Colorado Department of Higher Education website. Retrieved November 2014.

Contribution of Construction to Colorado's Gross Domestic Product by State

The primary measure used to identify the impact of the Colorado construction industry on the state is the Gross Domestic Product (GDP) by state. The Bureau of Economic Analysis⁷ defines GDP by state as “a comprehensive measure of overall economic activity in individual states” (p. 111). It is calculated as “the sum of incomes earned by labor and capital and the costs incurred in the production of goods and services” (p. 112). Therefore, the GDP includes: (a) workers’ wages and salaries; (b) the income of individual and joint entrepreneurs and corporations; and (c) business taxes, including sales taxes, property taxes, and Federal excise taxes. The industry portion of the GDP by state is calculated by dividing the industry GDP by the state’s total GDP. (Detailed tables appear in Appendix G.) All GDP data for the State of Colorado and the Colorado construction industry were obtained from the Bureau of Economic Analysis. This information, however, is only available at the aggregate level for the construction industry, meaning it is not possible to estimate the contribution of construction specialty trades based on GDP by state. To address this issue, data is pulled from the 2007 Economic Census for Colorado and is provided later in this report.

The percentage contribution of each industry during 2013 is shown in Figure 51. The contribution of each industry to the Colorado’s GDP by state from 2004 to 2013 is shown in Figure 52. Figure 53 shows the percentage change in each industry’s contribution to Colorado’s GDP by state between 2004 and 2013. Percentage of change was calculated using indexed values obtained from the U.S. Bureau of Economic Analysis. (Detailed tables for all graphs are provided in Appendix G.)

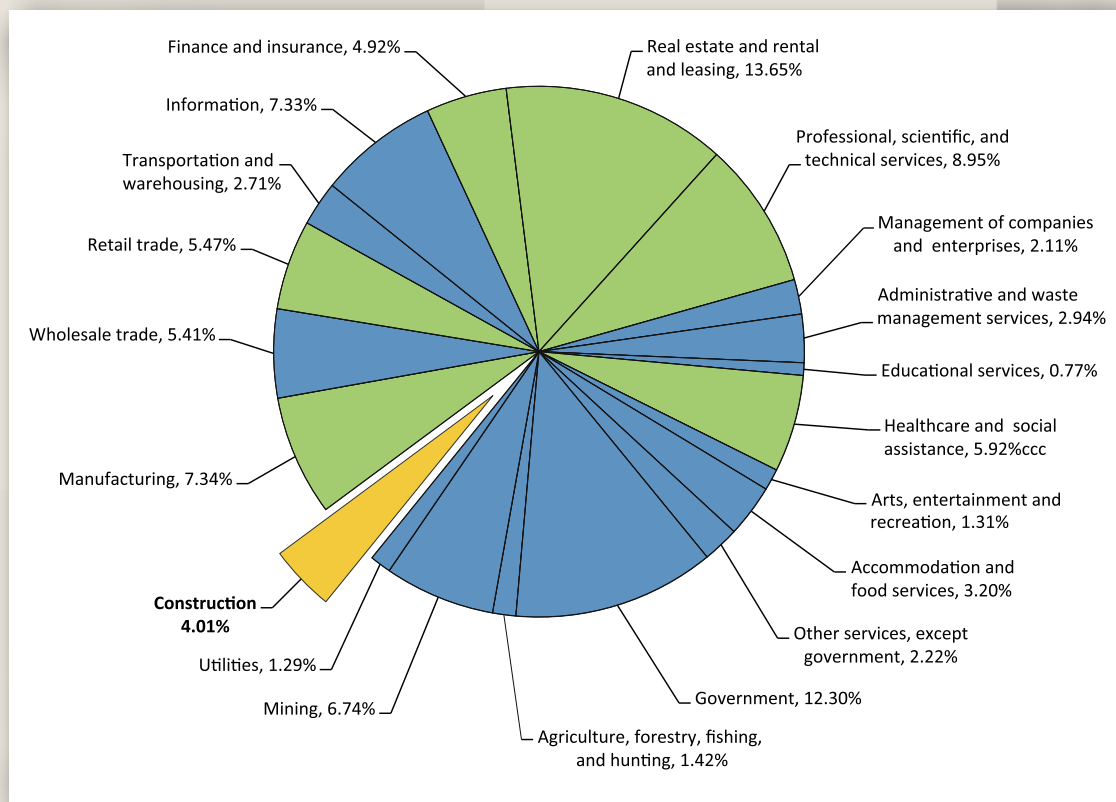


Figure 51. Percentage contribution of industries to GDP by state for Colorado, 2013.

NOTE: Percentages shown do not sum to 100% due to rounding.

Source: U.S. Department of Commerce Bureau of Economic Analysis. Retrieved November 2014.

⁶ Woodruff, C.H., Panek, S. D., & McInerney, T. P. (2007, July). Gross domestic product by state: Advanced estimates for 2006 and revised estimates for 2003-2005. Survey of Current Business, 87(7), 111-139.

SECTION 4 Economic Indicators

Construction accounted for 4.01% of Colorado's GDP in 2013, ranking eleventh among all industries (Figure 51). This was a significant decline from 2007 when construction was seventh (Figure 52). In terms of percentage contribution to Colorado's GDP, construction went from 5.95% in 2004 to 4.01% in 2013. The percentage contribution of construction decreased 32.49% between 2004 and 2013 (Figure 53). This was the largest decrease of any industry sector. Other industries of interest are real estate and mining. Real estate contributed the highest percentage to Colorado's GDP by state, with an average contribution of 13.33% to Colorado's GDP by state from 2004 to 2013.

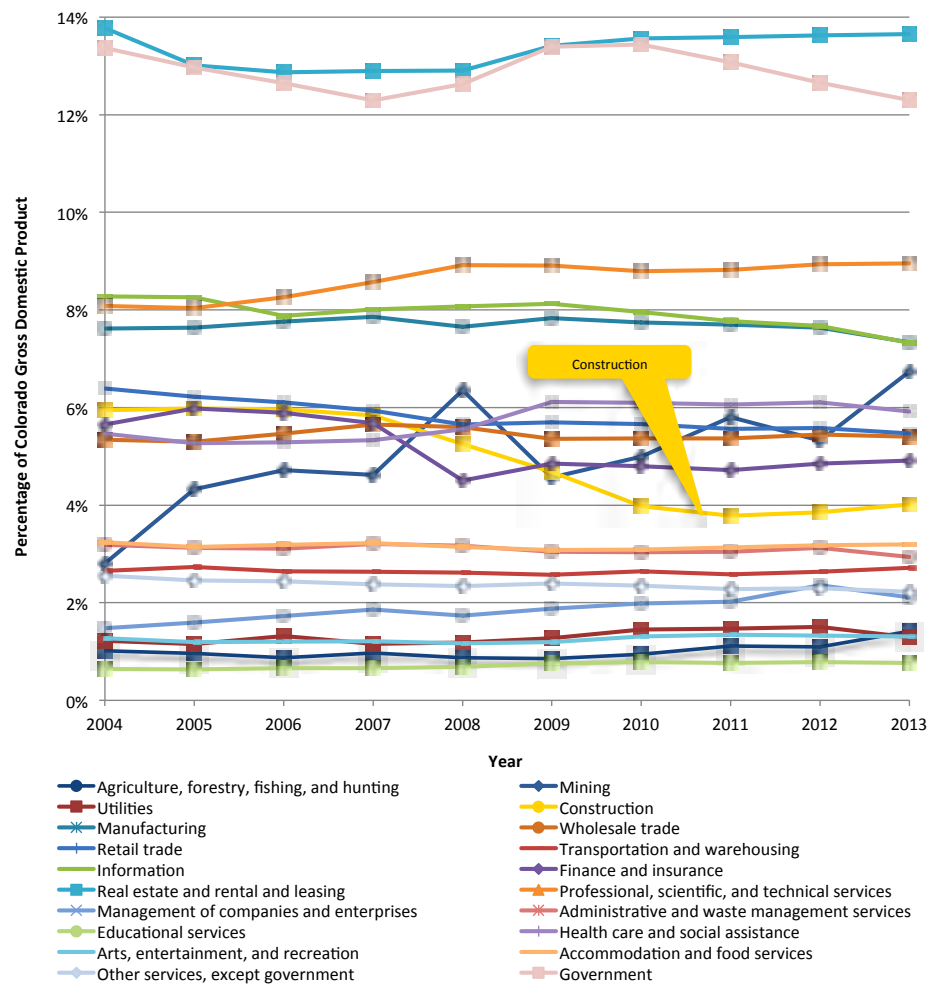


Figure 52. Percentage contribution of industries to GDP by state for Colorado, 2004-2013.

Source: U.S. Department of Commerce
Bureau of Economic Analysis.
Retrieved November 2014.

Mining is the industry whose contribution to Colorado's GDP by state grew the most, increasing 140.45% between 2004 and 2013. Mining was above construction, contributing 6.74% to the GDP by state for Colorado in 2013 (Figure 51, 52, and 53). Over the last ten years, mining's average contribution has been 5.05%, which is just above construction's average contribution of 4.93%.

SECTION 4 Economic Indicators

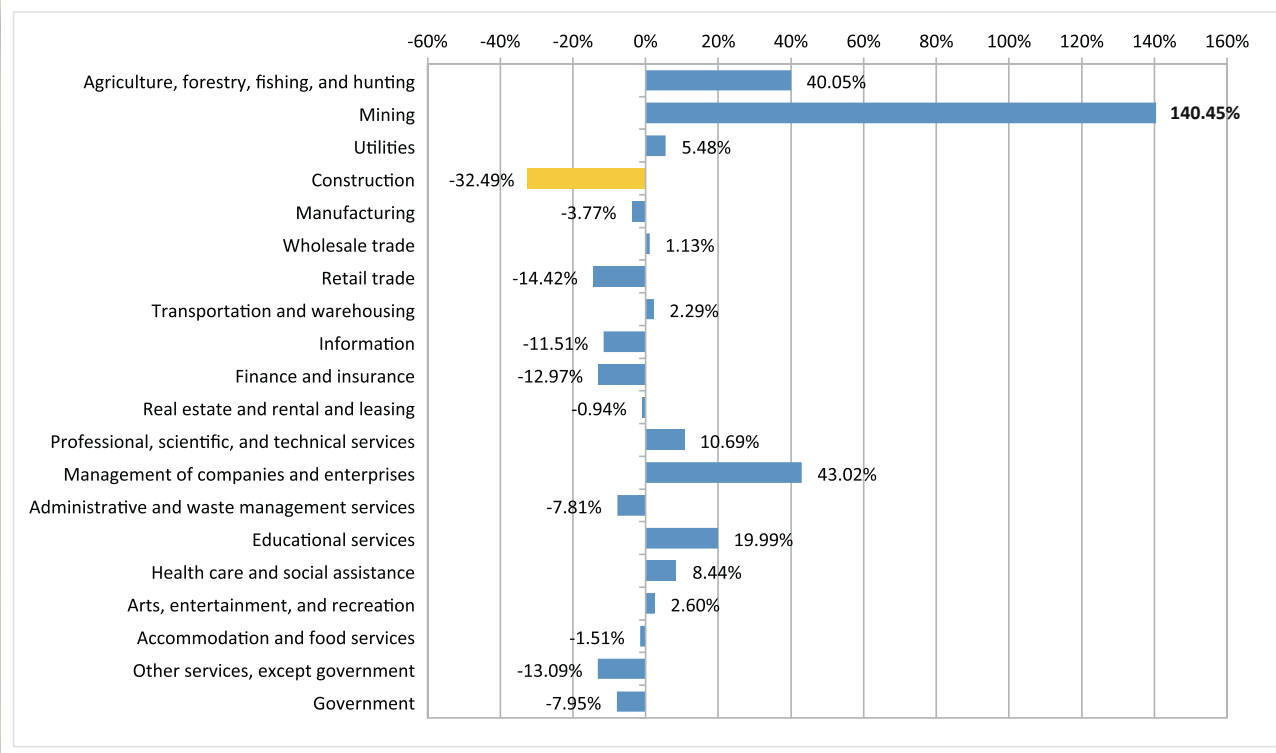


Figure 53. Change in industry contributions to GDP by state for Colorado between 2004 and 2013.

Note: Percentage of change was calculated using indexed values for yearly contribution.

Source: U.S. Department of Commerce Bureau of Economic Analysis. Retrieved November 2014.

Figure 53 shows the change in each industry's percentage contribution to Colorado's GDP by state between 2004 and 2013. Mining's contribution increased almost 141%, the highest positive percentage of increase by far. The next highest was management of companies and enterprises, which increased 43.02%. The contribution of construction to Colorado's GDP by state decreased 32.49%.

Looking just at construction and the six comparison industries, construction had the largest decrease in contribution to GDP by state going from 5.95% in 2004 to 4.01% in 2013 (Figure 54 and 55). Construction's average contribution during this time was 4.93%. The real estate and rental and leasing industry was the largest contributor for the comparison group with 13.65% in 2013 and an average contribution of 13.33% from 2004 to 2013. The professional, scientific, and technical services industry increased over 10%, the largest increase among the comparison group from 2004 to 2013.

SECTION 4 Economic Indicators

Figure 54. Percentage contribution of selected industries to GDP by state for Colorado, 2004-2013.

Source: U.S. Department of Commerce
Bureau of Economic Analysis.
Retrieved November, 2014.

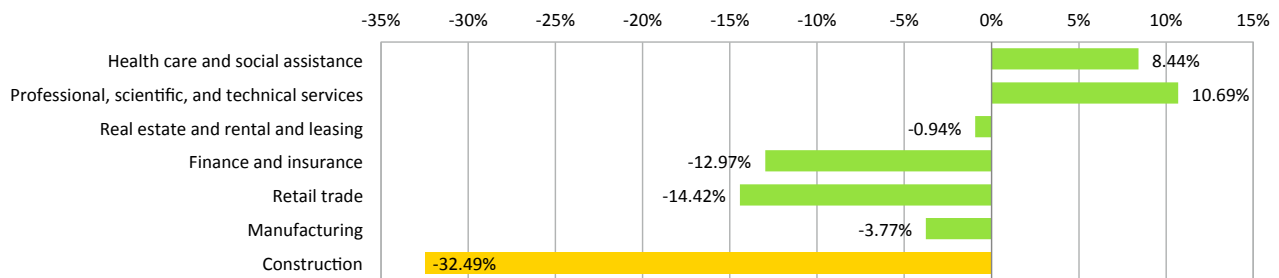
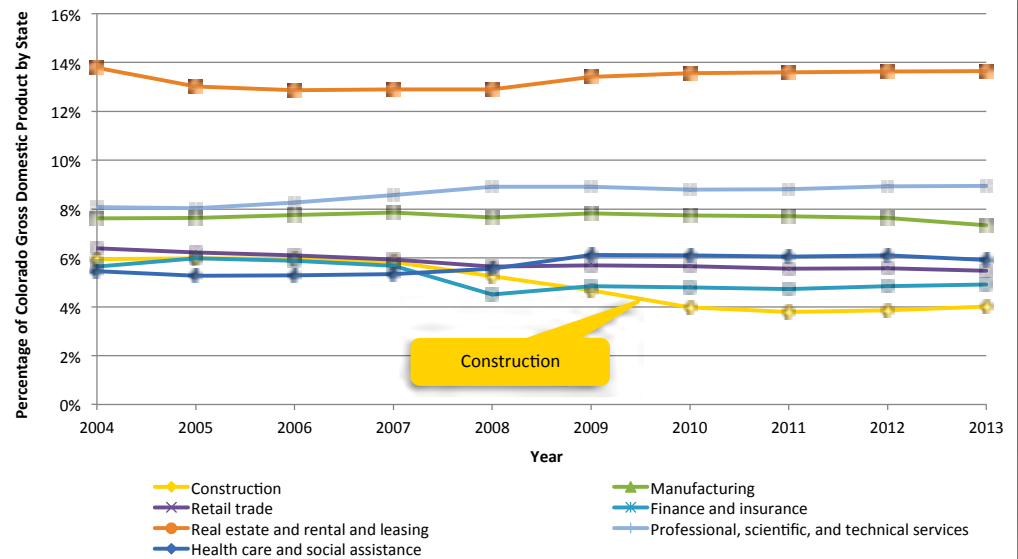


Figure 55. Change in selected industry contributions to GDP by state for Colorado between 2004 and 2013.

Note: Percentage of change was calculated using indexed values for yearly contribution.

Source: U.S. Department of Commerce Bureau of Economic Analysis. Retrieved November, 2014.

Figures 56 and 57 compare industry growth rates between 2012 and 2013 to the average for the preceding five years. Growth rates are based on changes in value added by each industry to Colorado's GDP by state. (Detailed table appears in Appendix H.) Average growth rates are for the period from 2007 to 2012. All industries in Colorado averaged positive growth rates between 2007 and 2012 with the exception of construction and finance and insurance (Figure 56). The industry with the highest average growth rate during this period was mining, which average 8.58%. The next three industries with the highest growth rates were utilities (8.29%), management of companies and enterprises (7.94%), and educational services (6.39%). Additionally, all industries in Colorado had positive growth rates between 2012 and 2013 with the exception of utilities, management of companies and enterprises, and administrative and waste management services. The two industries with the largest change between their five year average and the change between 2012 and 2013 were agriculture, forestry, finishing, and hunting, and mining.

SECTION 4 Economic Indicators

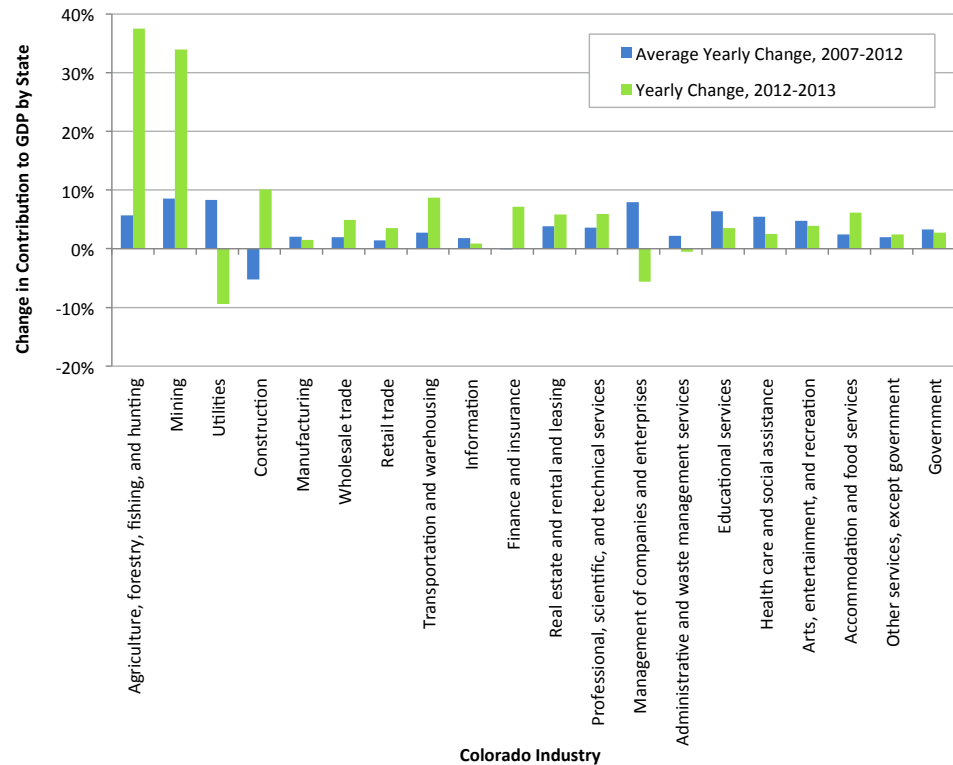


Figure 56: Growth rates for Colorado industries based on contribution to Colorado GDP by state.

Source: U.S. Department of Commerce
Bureau of Economic Analysis.
Retrieved November, 2014.

Among the comparison industries, all but construction and finance and insurance averaged positive growth rates between 2007 and 2012 (Figure 57). The construction industry had the largest change between their five year average and the change between 2012 and 2013. Between 2012 and 2013, construction had a 10.08% growth rate. (Detailed tables for all graphs are provided in Appendix H.)

According to the McGraw-Hill Construction Research and Analytics' Dodge (2014) MarketLook® Report, the value of all construction in Colorado is expected to decrease 3% between 2013 and 2014, then increase 13% in 2015, and 16% in 2016. Non-residential building construction is projected to increase 30% between 2013 and 2014 and residential building construction is projected to increase 3%. During that same period, non-building construction is projected to decrease 45%. These percentages shift between 2014 and 2015 with non-residential and residential building construction both projected to grow 17%. Non-building construction is projected to decrease 11% between 2014 and 2015. In 2016, residential building construction is projected to account for three-fourths (75%) of growth in the industry, while non-residential building construction accounts for just under one-fourth (23%). Non-building construction is projected to remain comparatively flat (2%) from 2015 to 2016.

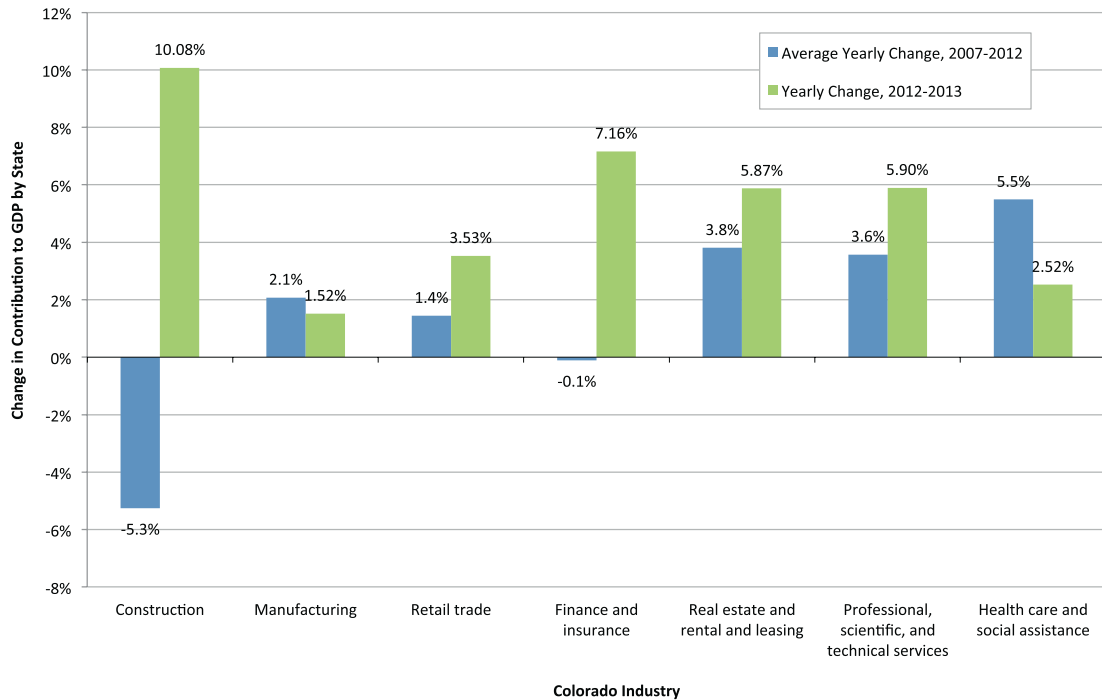


Figure 57: Growth rates for selected Colorado industries based on contribution to Colorado GDP by state.

Source: U.S. Department of Commerce Bureau of Economic Analysis. Retrieved November, 2014.

2007 Economic Census Data

Data from the U.S. Census Bureau's 2007 Economic Census, the most recent available, for Colorado is used to determine the contribution of construction specialty trades to Colorado's economy. According to the 2007 Economic Census conducted by the U.S. Census Bureau, the construction industry in Colorado had over \$17.397 billion of value added business in 2007. Value added is a measure of construction activity equal to the value of business done, less costs for construction work subcontracted out to others and costs for materials, components, supplies, and fuels.⁷ Of the \$17.397 billion of added value, \$6.001 billion (34%) came from construction of buildings, \$3.041 billion (17%) came from heavy and civil engineering construction, and \$8.354 billion (49%) was specialty trade contractors (Figure 58). In the construction of buildings, \$3.659 billion (61%) was residential and \$2.341 billion (39%) was non-residential.

SECTION 4 Economic Indicators

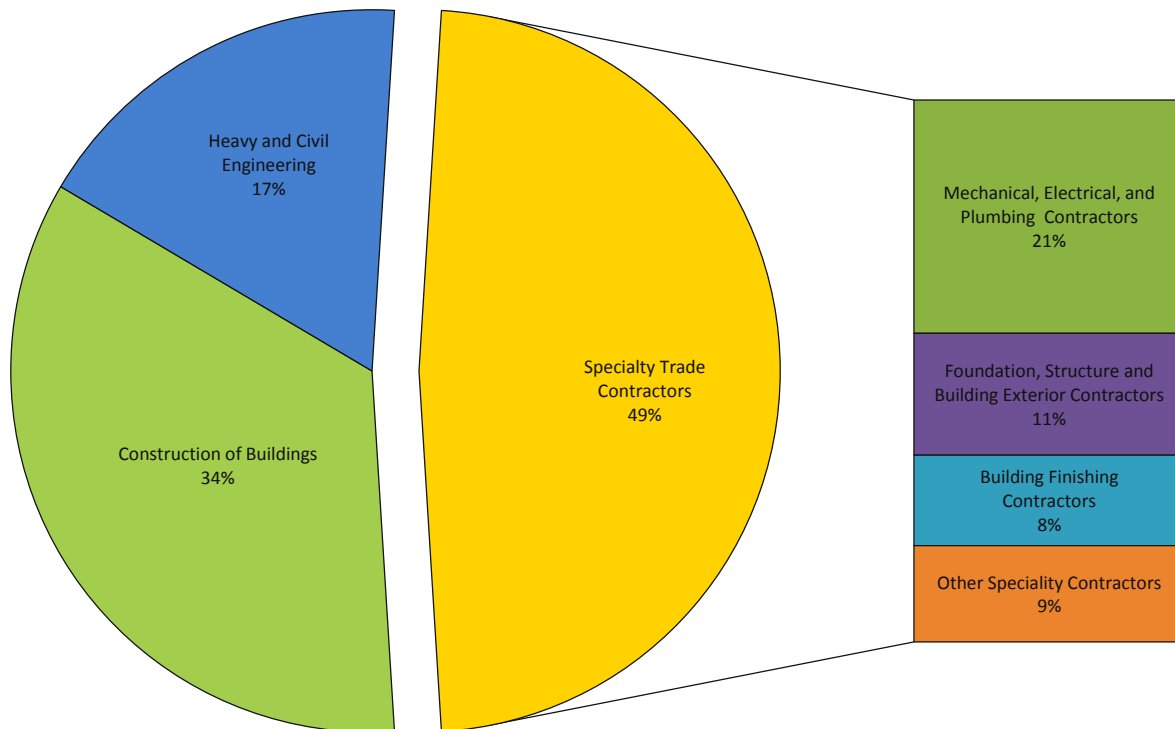


Figure 58. Percentage of value added by major construction sectors in Colorado, 2007.

Source: U.S. Census Bureau, 2007 Economic Census.

Of the \$8.354 billion done by specialty trade contractors, \$3.595 billion (43%) was by mechanical, electrical, and plumbing contractors, which is 21% of total value added for the construction industry in Colorado. More specifically, \$1.4 billion was by electrical contractors and \$1.638 billion was by plumbing, heating, and air conditioning contractors, which is 8.05% and 9.42% respectively of total value added for the construction industry in Colorado.

Multiplier Effect of Construction in Colorado

The construction industry ranks ninth in Colorado, based on its output multiplier (Table 7), which estimates the increase in total output of all industries due to additional invested in the given industry. The following estimations are based on Regional Input-Output Modeling System (RIMS II) multipliers, calculated by the Bureau of Economic Analysis. They do not include the impact of state and local government. Every \$1 million added into the construction industry increases output of all Colorado industries by \$2.268 million and household earnings by \$0.782 million, and results in 18.854 new jobs (Table 7). By comparison, \$1 million of investment into the retail industry resulted in a \$2.033 million increase in output of all industries, a \$0.648 million increase in household earnings, and the creation of 21,270 new jobs.

⁷ U.S. Census Bureau, 2007 Economic Census. Appendix A, p A-3. Retrieved from <http://www.census.gov/prod/ec02/ec0223aco.pdf>.

Table 7. RIMS II final demand multipliers for selected industries in Colorado.

Industry	Output	Earnings	Employment
Funds, trusts, and other financial vehicles	2.2645	0.5189	21.2224
Construction	2.2683	0.7826	18.8544
Hospitals	2.3384	0.7876	17.9788
Educational services	2.2407	0.8295	28.2468
Management of companies and enterprises	2.2761	0.8414	14.3065
Retail trade	2.0329	0.6481	21.2702
Real estate	1.6768	0.2583	11.1550

Source: U.S. Bureau of Economic Analysis. RIMS II Multipliers (2010/2010): Total Multipliers (Type II) for Output, Earnings, and Employment. State of Colorado.

In Colorado, construction ranks thirteenth in terms of earnings (0.783). The earnings multiplier is the amount that household earnings of all industries increase for every dollar increase in output by a specific industry, such as construction. Construction is eighteenth out of 62 industries in terms of final demand multiplier for employment, which is the number of jobs created in all industries for each additional \$1 million of output in a given industry.

Construction Related Retail Sales in Colorado

Colorado retail sales for 2013 totaled \$171.36 billion, according to the Colorado Department of Revenue (Table 8). Construction retail sales for 2013 were \$3.45 billion, an increase of almost 2% from 2012. Over the last four years, construction retail sales have averaged 1.94% of the state's total retail sales, with a high of 2.06% in 2012.

Table 8. Retail sales for Colorado, 2010-2013 (thousands of dollars).

	2010	2011	2012	2013
Construction Industry Retail Sales	2,780,459	2,763,604	3,387,128	3,453,991
Plumbing/Heating/AC Retail Sales	611,302	684,944	738,163	747,659
Electrical	279,933	330,718	384,698	403,811
Building Equipment Installers	77,834	105,380	81,620	86,520
Total MEP ^a	969,069	1,121,042	1,204,481	1,237,990
Construction Related Industry Retail Sales	7,528,775	6,978,051	7,395,402	8,258,242
Total Retail Sales for Construction and Construction Related Industries	10,309,234	9,741,655	10,782,530	11,712,233
Total Retail Sales for Colorado	142,980,298	157,708,535	164,387,649	171,362,038

^a Total MEP is calculated by summing total retail sales for Plumbing/Heating/AC, Electrical, and Building Equipment Installers Subcategories.
Source: 2010 Colorado Department of Revenue. Retrieved November, 2014.

SECTION 4 Economic Indicators

Total retail sales for the MEP trades were obtained by summing the retail sales for: (1) plumbing, heating, and air-conditioning; (2) electrical; and (3) other building equipment retail sales. The resulting MEP total retail sales were \$0.97 billion in 2010 and \$1.24 billion in 2013. MEP retail sales accounted for 35.8% of construction retail sales in 2013, an increase from 2010 when MEP retail sales accounted for 34.8% of construction retail sales.

Additional retail sales numbers were obtained for industries related to construction. A list of these industries is provided in Appendix I. Retail sales for construction related industries totaled \$8.26 billion in 2013, an increase of 11.7% from the previous year (Table 8 and Figure 59). Combined with construction retail sales, total construction related retail sales were \$11.71 billion in 2013, an increase of 8.6% from the previous year. Total retail sales for the construction industry (including construction related industries) accounted for 6.8% of Colorado's total retail sales in 2013. Over the last four years, total construction related retail sales have averaged 6.7% of the state's total retail sales, with a high of 7.2% in 2010.

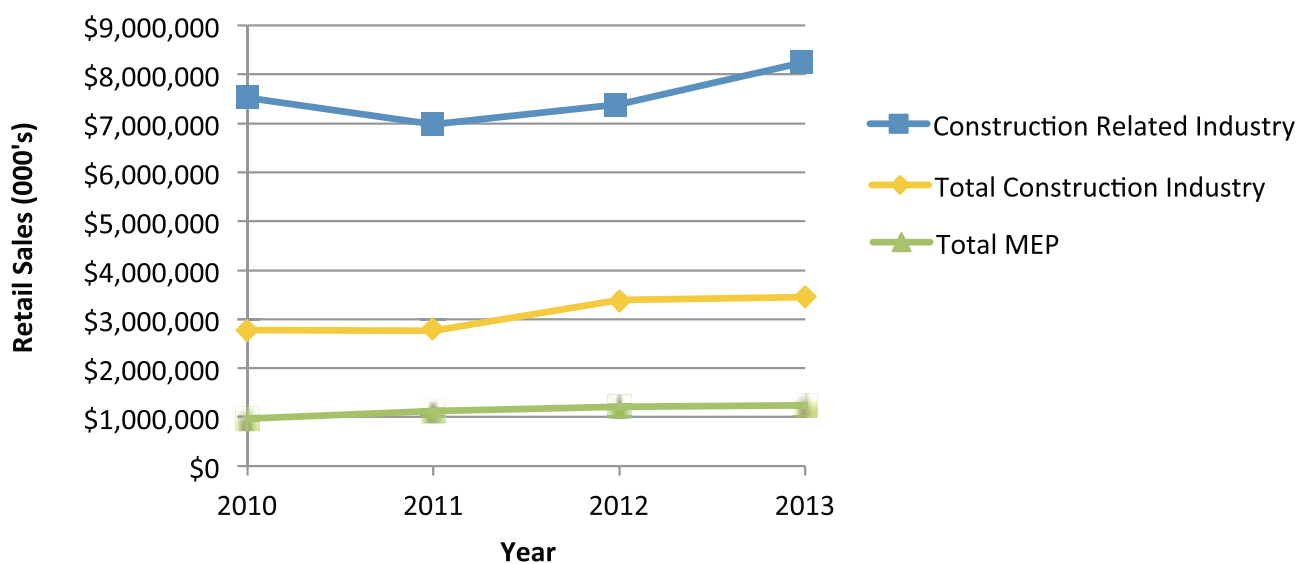


Figure 59. Construction related retail sales, 2010-2013.

Source: 2010 Colorado Department of Revenue. Retrieved November, 2014.

NOTE: Total MEP is calculated by summing total retail sales for Plumbing/Heating/AC Retail Sales, Electrical, and Building Equipment Installers subcategories.

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APPENDIX A
Construction Establishments in Colorado, 2004-2013

NAICS Construction Industry Subsectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Construction of Buildings										
General Building Contractors - Residential	4,630	4,867	4,951	5,050	4,918	4,499	4,030	3,674	3,526	3,471
General Building Contractors - Non-Residential	915	959	1,013	1072	1121	1073	1,033	989	991	983
Heavy and Civil Engineering Construction										
Utility System Contractors	523	518	533	548	573	577	562	542	542	550
Land Subdivision Contractors	277	304	318	319	303	251	208	170	153	137
Highway, Street, and Bridge Construction	220	219	221	228	225	218	211	205	216	210
Other Heavy Construction	102	99	105	107	112	101	96	102	107	117
Specialty Trade Contractors										
Building Foundation and Exterior Contractors	3,199	3,243	3,289	3,307	3,118	2,865	2,646	2,421	2,326	2,274
Building Equipment Contractors*, **	4,726	4,872	4,993	4,998	4,982	4,874	4,638	4,402	4,304	4,248
Building Finishing Contractors	4,005	4,126	4,247	4,350	4,167	3,857	3,557	3,259	3,055	2,969
Other Specialty Trade Contractors	2,157	2,226	2,299	2,348	2,316	2,170	1,963	1,806	1,753	1,710
Total Construction Industry Establishments	20,754	21,433	21,969	22,327	21,835	20,485	18,944	17,570	16,973	16,669
Selected NAICS Comparison Industries										
Manufacturing	5,930	6,019	6,028	5,993	5,848	5,662	5,437	5,278	5,280	5,324
Retail Trade	18,463	18,948	19,133	19,072	18,569	17,963	17,417	17,119	17,261	17,296
Finance and Insurance	10,576	11,035	11,428	11,549	11,248	10,720	10,347	10,110	10,137	10,203
Real Estate and Rental and Leasing	9,234	9,863	10,355	10,641	10,388	9,813	9,289	8,991	9,091	9,288
Professional and Technical Services	23,397	25,138	26,621	27,673	28,632	29,062	29,242	29,592	30,434	31,020
Health Care and Social Assistance	11,555	11,982	12,321	12,717	13,031	13,286	13,665	13,961	14,255	14,382
* MEP Contractors										
** Additional detail provided below										

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

NAICS Building Equipment Contractors* Subsectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Electrical and Wiring Contractors										
Residential Electrical Contractors	1,415	1,460	1,485	1,502	1,509	1,488	1,416	1,305	1,256	1,230
Non-Residential Electrical Contractors	828	829	821	803	798	802	782	747	730	723
Electrical and Wiring Contractors Total	2,243	2,289	2,306	2,305	2,307	2,290	2,198	2,052	1,986	1,953
Plumbing and HVAC Contractors										
Residential Plumbing and HVAC Contractors	1,856	1,902	1,972	1,976	1,963	1,880	1,764	1,691	1,674	1,656
Non-Residential Plumbing and HVAC Contractors	497	522	541	540	543	534	515	499	488	481
Plumbing and HVAC Contractors Total	2,353	2,424	2,513	2,516	2,506	2,414	2,279	2,190	2,161	2,137
Other Building Equipment Contractors										
Other Residential Building Equipment Contractors	33	38	41	40	37	39	33	37	36	38
Other Non-Residential Building Equipment Contractors	98	122	134	137	132	130	128	123	122	121
Other Building Equipment Contractors Total	131	160	175	177	169	169	161	160	158	159
Building Equipment Contractors* Total	4,727	4,873	4,994	4,998	4,982	4,873	4,638	4,402	4,304	4,248
* MEP Contractors										

Source: U.S. Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

APPENDIX B
Construction Establishments in Colorado by Employment-Size, 2012

NAICS Construction Industry Sectors	Total Number of Establishments in Data Set	Number of Employees									
		1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000 +	
Construction of Buildings											
General Building Contractors - Residential	3,500	3,038	288	112	47	12	2	1	0	0	
General Building Contractors - Non-Residential	832	478	138	118	68	16	11	2	0	1	
Heavy and Civil Engineering Construction											
Utility System Contractors	470	236	68	62	64	17	17	4	0	2	
Land Subdivision Contractors	135	108	9	6	7	2	2	1	0	0	
Highway, Street, and Bridge Construction	204	89	28	28	31	14	13	0	1	0	
Other Heavy Construction	65	38	7	8	4	3	4	1	0	0	
Specialty Trade Contractors											
Building Foundation and Exterior Contractors	2,297	1,581	334	195	131	34	20	2	0	0	
Building Equipment Contractors* **	3,884	2,637	565	360	220	57	40	3	2	0	
Building Finishing Contractors	2,823	2,232	321	159	84	19	6	2	0	0	
Other Specialty Trade Contractors	1,463	972	217	134	97	28	12	3	0	0	
Total Construction Industry	15,673	11,409	1,975	1,182	753	202	127	19	3	3	
* MEP Contractors											
** Additional detail provided below											

Source: U.S. Census Bureau – County Business Patterns website. Retrieved November, 2014.

NAICS Building Equipment Contractors* Subsectors	Total Number of Establishments in Data Set	Number of Employees								
		1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000 +
Electrical and Wiring Contractors	1,742	1,199	255	133	106	29	18	2	0	0
Plumbing and HVAC Contractors	2,020	1,373	297	207	100	21	19	1	2	0
Other Building Equipment Contractors	122	65	13	20	14	7	3	0	0	0
* MEP Contractors										

Source: U.S. Census Bureau – County Business Patterns website. Retrieved November, 2014.

APPENDIX C
Construction Employment in Colorado, 2004-2013

NACIS Construction Industry Subsectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Construction of Buildings										
General Building Contractors - Residential	18,629	19,617	19,901	18,643	16,137	11,846	10,257	9,648	10,078	11,543
General Building Contractors - Non-Residential	11,066	11,639	13,154	14,775	14,841	12,644	10,919	10,758	10,670	11,789
Heavy and Civil Engineering Construction										
Utility System Contractors	8,824	9,457	10,611	10,802	11,699	9,502	8,738	9,691	9,417	11,240
Land Subdivision Contractors	1,230	1,395	1,467	1,374	1,225	868	683	621	584	558
Highway, Street, and Bridge Construction	7,293	7,430	7,423	7,131	6,749	6,085	6,137	5,926	6,147	6,603
Other Heavy Construction	1,781	2,093	2,312	2,789	2,705	2,123	1,473	1,620	1,754	2,219
Specialty Trade Contractors										
Building Foundation and Exterior Contractors	23,731	25,486	26,368	26,047	24,550	18,948	16,399	15,357	16,195	17,750
Building Equipment Contractors*, **	38,852	41,301	42,757	43,263	43,008	37,237	32,604	32,165	33,540	36,256
Building Finishing Contractors	22,546	23,497	24,714	24,135	22,929	17,940	15,489	14,256	14,901	15,920
Other Specialty Trade Contractors	17,477	18,186	18,941	18,759	17,971	13,811	12,410	12,201	12,469	13,725
Total Construction Industry	151,429	160,101	167,648	167,718	161,814	131,004	115,109	112,243	115,755	127,603

* MEP Contractors

** Additional detail provided below

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

NACIS Building Equipment Contractors* Subsectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Electrical and Wiring Contractors										
Residential Electrical Contractors	7,776	8,387	8,339	8,236	8,156	6,694	5,856	5,556	5,801	6,135
Non-Residential Electrical Contractors	10,317	10,664	11,222	12,028	12,113	10,842	9,767	9,806	9,966	10,708
Electrical and Wiring Contractors Total	18,093	19,051	19,561	20,264	20,269	17,536	15,623	15,362	15,767	16,843
Plumbing and HVAC Contractors										
Residential Plumbing and HVAC Contractors	11,159	11,682	12,348	11,706	10,976	8,888	8,005	7,854	8,400	9,352
Non-Residential Plumbing and HVAC Contractors	8,161	8,858	9,151	9,628	10,018	9,142	7,559	7,459	7,843	8,515
Plumbing and HVAC Contractors Total	19,320	20,540	21,499	21,334	20,994	18,030	15,564	15,313	16,243	17,867
Other Building Equipment Contractors										
Other Residential Building Equipment Contractors	88	103	94	101	115	130	77	148	125	120
Other Non-Residential Building Equipment Contractors	1,351	1,609	1,603	1,564	1,631	1,540	1,340	1,342	1,406	1,426
Other Building Equipment Contractors Total	1,439	1,712	1,697	1,665	1,746	1,670	1,417	1,490	1,531	1,546
Building Equipment Contractors Total	38,852	41,301	42,757	43,263	43,008	37,237	32,604	32,165	33,540	36,256

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

APPENDIX D
Average Weekly Wages for Construction and Comparison Industries in Colorado, 2004-2013

NAICS Construction Industry Sectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Construction of Buildings										
General Building Contractors - Residential	\$954	\$982	\$1,039	\$1,063	\$1,100	\$1,106	\$1,090	\$1,106	\$1,132	\$1,133
General Building Contractors - Non-Residential	\$921	\$955	\$994	\$969	\$963	\$913	\$879	\$896	\$950	\$984
	\$1,008	\$1,028	\$1,107	\$1,181	\$1,250	\$1,286	\$1,288	\$1,295	\$1,304	\$1,280
Heavy and Civil Engineering Construction										
Utility System Contractors	\$915	\$944	\$1,000	\$1,059	\$1,149	\$1,124	\$1,101	\$1,129	\$1,165	\$1,186
Land Subdivision Contractors	\$853	\$900	\$969	\$1,040	\$1,149	\$1,122	\$1,114	\$1,153	\$1,192	\$1,205
Highway, Street, and Bridge Construction	\$1,333	\$1,378	\$1,449	\$1,477	\$1,386	\$1,432	\$1,623	\$1,539	\$1,673	\$1,724
Other Heavy Construction	\$908	\$918	\$955	\$1,018	\$1,058	\$1,041	\$1,045	\$1,053	\$1,084	\$1,110
	\$960	\$948	\$1,005	\$1,031	\$1,266	\$1,242	\$1,020	\$1,108	\$1,135	\$1,182
Specialty Trade Contractors										
Building Foundation and Exterior Contractors	\$697	\$717	\$738	\$784	\$818	\$825	\$833	\$848	\$873	\$889
Building Equipment Contractors* **	\$610	\$639	\$670	\$724	\$746	\$752	\$746	\$753	\$780	\$798
Building Finishing Contractors	\$801	\$817	\$834	\$885	\$927	\$954	\$970	\$985	\$1,000	\$1,003
Other Specialty Trade Contractors	\$625	\$643	\$653	\$685	\$708	\$690	\$682	\$693	\$726	\$756
	\$675	\$698	\$725	\$762	\$799	\$752	\$775	\$788	\$826	\$861
Total Construction Industry	\$775	\$798	\$831	\$876	\$918	\$920	\$920	\$940	\$964	\$982

Selected NAICS Comparison Industries										
Manufacturing	\$1,012	\$1,033	\$1,055	\$1,094	\$1,122	\$1,116	\$1,154	\$1,186	\$1,197	\$1,200
Retail Trade	\$482	\$488	\$497	\$511	\$514	\$513	\$516	\$521	\$535	\$542
Finance and Insurance	\$1,137	\$1,194	\$1,252	\$1,324	\$1,356	\$1,322	\$1,373	\$1,429	\$1,493	\$1,524
Real Estate and Rental and Leasing	\$712	\$748	\$790	\$831	\$800	\$786	\$805	\$845	\$903	\$944
Professional and Technical Services	\$1,241	\$1,299	\$1,376	\$1,452	\$1,479	\$1,492	\$1,531	\$1,565	\$1,617	\$1,632
Health Care and Social Assistance	\$731	\$748	\$773	\$804	\$828	\$851	\$852	\$863	\$879	\$883
U.S. Total Construction	\$779	\$810	\$856	\$900	\$943	\$948	\$954	\$975	\$1,006	\$1,023
U.S. Total MEP Contractors	\$815	\$837	\$876	\$927	\$977	\$987	\$997	\$1,016	\$1,046	\$1,061
U.S. Total Electrical and Wiring contractors	\$827	\$846	\$882	\$935	\$990	\$1,001	\$1,009	\$1,031	\$1,065	\$1,077
U.S. Total Plumbing and HVAC Contractors	\$785	\$809	\$851	\$899	\$942	\$951	\$961	\$976	\$1,002	\$1,017
* MEP Contractors										
** Additional detail provided below										

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014.

Continues on page 56

APPENDIX D (Continued)

Average Weekly Wages for Construction and Comparison Industries in Colorado, 2004-2013

Continued from page 55

NACIS Building Equipment Contractors* Subsectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Electrical and Wiring Contractors										
Residential Electrical Contractors	\$705	\$718	\$732	\$766	\$808	\$823	\$833	\$879	\$878	\$869
Non-Residential Electrical Contractors	\$887	\$902	\$923	\$977	\$1,007	\$1,048	\$1,060	\$1,067	\$1,098	\$1,099
Electrical and Wiring Contractors Total	\$809	\$821	\$841	\$891	\$927	\$962	\$975	\$999	\$1,017	\$1,015
Plumbing and HVAC Contractors										
Residential Plumbing and HVAC Contractors	\$679	\$696	\$713	\$763	\$788	\$795	\$801	\$813	\$839	\$837
Non-Residential Plumbing and HVAC Contractors	\$894	\$916	\$935	\$980	\$1,029	\$1,049	\$1,078	\$1,082	\$1,092	\$1,104
Plumbing and HVAC Contractors Total	\$770	\$791	\$808	\$861	\$903	\$924	\$936	\$944	\$961	\$964
* MEP Contractors										

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved November, 2014

APPENDIX E
Total Payroll for Construction and Comparison Industries in Colorado (in 000's), 2004-2013

NAICS Construction Industry Sectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Construction of Buildings	\$1,472,432	\$1,596,183	\$1,785,185	\$1,846,605	\$1,772,647	\$1,407,917	\$1,200,291	\$1,173,752	\$1,221,681	\$1,375,169
General Building Contractors - Residential	\$892,483	\$974,165	\$1,028,184	\$939,164	\$807,939	\$562,347	\$469,067	\$449,609	\$497,962	\$590,724
General Building Contractors - Non-Residential	\$579,949	\$622,018	\$757,000	\$907,440	\$964,708	\$845,571	\$731,224	\$724,143	\$723,719	\$784,446
Heavy and Civil Engineering Construction	\$910,140	\$1,000,118	\$1,134,277	\$1,216,708	\$1,336,856	\$1,085,674	\$975,144	\$1,048,808	\$1,084,545	\$1,271,850
Utility System Contractors	\$391,623	\$442,391	\$534,419	\$584,109	\$699,299	\$554,646	\$505,991	\$581,158	\$583,923	\$704,370
Land Subdivision Contractors	\$85,241	\$99,948	\$110,488	\$105,519	\$88,285	\$64,634	\$57,649	\$49,659	\$50,773	\$50,035
Highway, Street, and Bridge Construction	\$344,350	\$354,657	\$368,554	\$377,586	\$371,265	\$329,322	\$333,364	\$324,640	\$346,385	\$381,040
Other Heavy Construction	\$88,926	\$103,123	\$120,815	\$149,494	\$178,007	\$137,072	\$78,140	\$93,351	\$103,465	\$136,405
Specialty Trade Contractors	\$3,716,415	\$4,045,947	\$4,326,117	\$4,575,962	\$4,614,887	\$3,771,439	\$3,329,911	\$3,262,086	\$3,498,989	\$3,867,396
Building Foundation and Exterior Contractors	\$725,535	\$846,934	\$919,326	\$980,602	\$952,180	\$740,820	\$636,379	\$601,471	\$656,668	\$736,717
Building Equipment Contractors**	\$1,617,384	\$1,754,018	\$1,854,314	\$1,991,874	\$2,072,067	\$1,847,151	\$1,643,711	\$1,646,984	\$1,743,928	\$1,890,211
Building Finishing Contractors	\$733,011	\$785,244	\$838,754	\$860,254	\$844,245	\$643,638	\$549,570	\$513,585	\$562,573	\$626,016
Other Specialty Trade Contractors	\$613,485	\$659,750	\$713,724	\$743,233	\$746,395	\$539,831	\$500,251	\$500,046	\$535,820	\$614,453
Total Construction Industry	\$6,098,987	\$6,642,248	\$7,245,578	\$7,639,275	\$7,724,390	\$6,265,032	\$5,505,346	\$5,484,646	\$5,805,216	\$6,514,415

Selected NAICS Comparison Industries										
Manufacturing	\$8,134,056	\$8,085,251	\$8,181,712	\$8,345,550	\$8,407,816	\$7,521,750	\$7,533,772	\$7,964,927	\$8,214,567	\$8,277,436
Retail Trade	\$6,052,011	\$6,248,398	\$6,422,307	\$6,741,880	\$6,751,959	\$6,364,177	\$6,349,723	\$6,506,801	\$6,783,245	\$7,018,399
Finance and Insurance	\$6,167,627	\$6,632,708	\$7,098,403	\$7,434,579	\$7,398,019	\$6,935,548	\$7,014,905	\$7,286,716	\$7,744,142	\$8,172,075
Real Estate and Rental and Leasing	\$1,703,974	\$1,822,420	\$1,959,018	\$2,067,766	\$1,950,441	\$1,754,144	\$1,730,805	\$1,808,983	\$1,966,451	\$2,103,774
Professional and Technical Services	\$9,340,340	\$10,540,610	\$11,662,107	\$12,880,190	\$13,568,211	\$13,157,951	\$13,337,392	\$14,004,598	\$14,990,011	\$16,036,189
Healthcare and Social Assistance	\$7,314,853	\$7,662,631	\$8,137,599	\$8,801,919	\$9,469,348	\$9,997,042	\$10,291,634	\$10,762,466	\$11,286,332	\$11,506,950
All Other Industries	\$27,586,050	\$29,043,461	\$31,846,153	\$34,378,366	\$35,525,541	\$33,635,630	\$34,588,326	\$36,786,570	\$39,543,719	\$40,195,739
Total for All Industries	\$72,397,898	\$76,677,727	\$82,552,877	\$88,289,525	\$90,795,725	\$85,631,274	\$86,351,903	\$90,605,707	\$96,333,683	\$99,824,977
* MEP Contractors										
** Additional detail provided below										

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved December, 2014.

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APPENDIX E (Continued)

Total Payroll for Construction and Comparison Industries in Colorado (in 000's), 2004-2013

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MACIS Building Equipment Contractors* Subsectors	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Electrical and Wiring Contractors										
Residential Electrical Contractors	\$285,191	\$312,965	\$317,366	\$328,153	\$342,767	\$286,496	\$253,758	\$254,091	\$264,721	\$277,364
Non-Residential Electrical Contractors	\$475,778	\$500,452	\$538,479	\$610,860	\$634,365	\$590,955	\$538,436	\$543,853	\$568,810	\$611,759
Electrical and Wiring Contractors Total	\$760,969	\$813,417	\$855,845	\$939,013	\$977,132	\$877,451	\$792,194	\$797,944	\$833,532	\$889,123
Plumbing and HVAC Contractors										
Residential Plumbing and HVAC Contractors	\$394,132	\$422,850	\$457,916	\$464,601	\$449,886	\$367,623	\$333,621	\$331,852	\$366,684	\$407,168
Non-Residential Plumbing and HVAC Contractors	\$379,406	\$422,109	\$445,072	\$490,819	\$536,019	\$498,638	\$423,771	\$419,741	\$445,162	\$488,740
Plumbing and HVAC Contractors Total	\$773,538	\$844,959	\$902,988	\$955,420	\$985,905	\$866,261	\$757,392	\$751,594	\$811,846	\$895,908

* MEP Contractors

Source: US Department of Labor - Bureau of Labor Statistics website on Quarterly Census of Employment and Wages. Retrieved December, 2014.

APPENDIX F
Occupational Employment Projections in Colorado, 2013-2023

Occupation Code (SOC)	Occupational Title	2013 Estimated Employment	2015 Projected Employment	2023 Projected Employment	Total 2013-2023 Employment Change	Annual Avg. Percent Change from 2013	Total Percent Change from 2013
472011	Boilermakers	124	153	154	30	2.2%	24.2%
472021	Brickmasons and Blockmasons	945	1,155	1,606	661	5.4%	69.9%
472031	Carpenters	9,977	12,173	14,429	4,452	3.8%	44.6%
472041	Carpet Installers	456	528	590	134	2.6%	29.4%
472051	Cement Masons and Concrete Finishers	4,523	5,477	6,865	2342	4.3%	51.8%
474011	Construction and Building Inspectors	69	90	100	31	3.8%	44.9%
470000	Construction and Extraction Occupations	81,105	98,530	119,020	37,915	3.9%	46.7%
474099	Construction and Related Workers, All Other	607	720	867	260	3.6%	42.8%
472061	Construction Laborers	12,261	15,346	18,336	6,075	4.1%	49.5%
472000	Construction Trades Workers	69,022	83,729	101,106	32,084	3.9%	46.5%
472081	Drywall and Ceiling Tile Installers	2,614	3,052	3,505	891	3.0%	34.1%
475021	Earth Drillers, Except Oil and Gas	351	431	536	185	4.3%	52.7%
472111	Electricians	11,380	13,527	16,812	5,432	4.0%	47.7%
474021	Elevator Installers and Repairers	182	216	268	86	3.9%	47.3%
475000	Extraction Workers	641	784	975	334	4.3%	52.1%
474031	Fence Erectors	351	424	563	212	4.8%	60.4%
472042	Floor Layers, Except Carpet, Wood, and Hard Tiles	***	***	***	***	***	***
472043	Floor Sanders and Finishers	89	104	122	33	3.2%	37.1%
472121	Glaziers	907	1,074	1,281	374	3.5%	41.2%
473000	Helpers, Construction Trades	2,079	2,488	3,106	1027	4.1%	49.4%
473019	Helpers, Construction Trades, All Other	56	66	82	26	3.9%	46.4%
473011	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	231	282	390	159	5.4%	68.8%
473012	Helpers--Carpenters	272	335	389	117	3.6%	43.0%
473013	Helpers--Electricians	558	674	903	345	4.9%	61.8%
475081	Helpers--Extraction Workers	***	***	***	***	***	***
473014	Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons	244	281	309	65	2.4%	26.6%
473015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	423	506	632	209	4.1%	49.4%
473016	Helpers--Roofers	295	344	401	106	3.1%	35.9%
473012	Helpers--Carpenters	481	473	499	16	0.3	3.3
473013	Helpers--Electricians	512	495	539	33	0.6	6.5
475081	Helpers--Extraction Workers	1,417	1,631	2,123	870	5.4	69.4
473014	Helpers--Painters, Paperhangers, Plasterers, and Stucco Maso	309	295	304	-2	-0.1	-0.7
473015	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	431	425	480	55	1.2	12.9
473016	Helpers--Roofers	246	239	260	17	0.7	7

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APPENDIX F (Continued)
Occupational Employment Projections in Colorado, 2013-2023

Continued from page 59

Occupation Code (SOC)	Occupational Title	2013 Estimated Employment	2015 Projected Employment	2023 Projected Employment	Total 2013-2023 Employment Change	Annual Avg. Percent Change from 2013	Total Percent Change from 2013
474051	Highway Maintenance Workers	83	110	122	39	3.9%	47.0%
472131	Insulation Workers, Floor, Ceiling, and Wall	952	1129	1400	448	3.9%	47.1%
472132	Insulation Workers, Mechanical	***	***	***	***	***	***
472073	Operating Engineers and Other Construction Equipment Operators	5,095	6,460	7,649	2,554	4.1%	50.1%
474000	Other Construction and Related Workers	1,336	1,616	1,991	655	4.1%	49.0%
472141	Painters, Construction and Maintenance	2,663	3,135	3,708	1,045	3.4%	39.2%
472142	Paperhangers	***	***	***	***	***	***
472071	Paving, Surfacing, and Tamping Equipment Operators	1,054	1,350	1,569	515	4.1%	48.9%
472072	Pile-Driver Operators	***	***	***	***	***	***
472151	Pipelayers	887	1,149	1,327	440	4.1%	49.6%
472161	Plasterers and Stucco Masons	526	612	701	175	2.9%	33.3%
472152	Plumbers, Pipefitters, and Steamfitters	6,969	8,336	10,372	3,403	4.1%	48.8%
474061	Rail-Track Laying and Maintenance Equipment Operators	***	***	***	***	***	***
472171	Reinforcing Iron and Rebar Workers	***	***	***	***	***	***
472181	Roofers	2,627	3,054	3,437	810	2.7%	30.8%
475012	Rotary Drill Operators, Oil and Gas	***	***	***	***	***	***
475071	Roustabouts, Oil and Gas	***	***	***	***	***	***
474091	Segmental Pavers	***	***	***	***	***	***
474071	Septic Tank Servicers and Sewer Pipe Cleaners	***	***	***	***	***	***
472211	Sheet Metal Workers	2,113	2,488	2,975	862	3.5%	40.8%
472231	Solar Photovoltaic Installers	75	89	107	32	3.6%	42.7%
472022	Stonemasons	196	238	322	126	5.1%	64.3%
472221	Structural Iron and Steel Workers	803	970	1,144	341	3.6%	42.5%
471000	Supervisors, Construction and Extraction Workers	8,027	9,913	11,842	3,815	4.0%	47.5%
472082	Tapers	456	530	607	151	2.9%	33.1%
472053	Terrazzo Workers and Finishers	***	***	***	***	***	***
472044	Tile and Marble Setters	434	510	605	171	3.4%	39.4%

*** Information not available.

Source: Colorado Department of Labor and Employment's Labor Market Information Report.

APPENDIX G
Colorado Gross Domestic Product by State, 2004-2013

Industry Name	2004		2005		2006		2007		2008	
		% of Total GDP		% of Total GDP		% of Total GDP		% of Total GDP		% of Total GDP
All industry total	204,354	100.00%	221,491	100.00%	232,381	100.00%	244,349	100.00%	254,760	100.00%
Private industries										
Agriculture, forestry, fishing, and hunting	177,039	86.63%	192,766	87.03%	202,993	87.35%	214,306	87.70%	222,587	87.37%
Mining	2,071	1.01%	2,134	0.96%	2,024	0.87%	2,369	0.97%	2,229	0.87%
Utilities	5,729	2.80%	9,581	4.33%	10,970	4.72%	11,295	4.62%	16,196	6.36%
Construction	2,499	1.22%	2,554	1.15%	3,065	1.32%	2,830	1.16%	3,009	1.18%
Manufacturing	12,151	5.95%	13,257	5.99%	13,863	5.97%	14,270	5.84%	13,370	5.25%
Wholesale trade	15,579	7.62%	16,908	7.63%	18,035	7.76%	19,207	7.86%	19,495	7.65%
Retail trade	10,922	5.34%	11,738	5.30%	12,693	5.46%	13,816	5.65%	14,275	5.60%
Transportation and warehousing	13,061	6.39%	13,783	6.22%	14,186	6.10%	14,501	5.93%	14,400	5.65%
Information	5,417	2.65%	6,054	2.73%	6,141	2.64%	6,440	2.64%	6,670	2.62%
Finance and insurance	16,923	8.28%	18,301	8.26%	18,310	7.88%	19,580	8.01%	20,558	8.07%
Real estate and rental and leasing	11,547	5.65%	13,243	5.98%	13,693	5.89%	13,878	5.68%	11,466	4.50%
Professional, scientific, and technical services	28,161	13.78%	28,828	13.02%	29,899	12.87%	31,507	12.89%	32,869	12.90%
Management of companies and enterprises	16,525	8.09%	17,801	8.04%	19,199	8.26%	20,948	8.57%	22,722	8.92%
Administrative and waste management services	3,012	1.47%	3,521	1.59%	4,016	1.73%	4,551	1.86%	4,417	1.73%
Educational services	6,514	3.19%	6,930	3.13%	7,225	3.11%	7,831	3.20%	8,074	3.17%
Health care and social assistance	1,306	0.64%	1,405	0.63%	1,523	0.66%	1,603	0.66%	1,738	0.68%
Arts, entertainment, and recreation	11,161	5.46%	11,669	5.27%	12,292	5.29%	13,037	5.34%	14,157	5.56%
Accommodation and food services	2,603	1.27%	2,640	1.19%	2,789	1.20%	2,953	1.21%	2,975	1.17%
Other services, except government	6,630	3.24%	6,970	3.15%	7,409	3.19%	7,881	3.23%	8,008	3.14%
Government	5,230	2.56%	5,448	2.46%	5,661	2.44%	5,810	2.38%	5,961	2.34%
	27,315	13.37%	28,725	12.97%	29,387	12.65%	30,043	12.30%	32,172	12.63%

Note: NAICS Industry detail is based on the 2007 North American Industry Classification System (NAICS).
Source: U.S. Bureau of Economic Analysis, Regional Product Division -- 11 June 2014 Gross Domestic Product by State (millions of current dollars).

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APPENDIX G (Continued)
Colorado Gross Domestic Product by State, 2004-2013

Continued from page 61

Industry Name	2009		2010		2011		2012		2013	
	% of Total GDP		% of Total GDP		% of Total GDP		% of Total GDP		% of Total GDP	
All industry total	248,177	100.00%	256,628	100.00%	266,243	100.00%	278,551	100.00%	294,443	100.00%
Private industries	214,930	86.60%	222,138	86.56%	231,443	86.93%	243,303	87.35%	258,217	87.70%
Agriculture, forestry, fishing, and hunting	2,112	0.85%	2,426	0.95%	2,968	1.11%	3,040	1.09%	4,179	1.42%
Mining	11,330	4.57%	12,816	4.99%	15,443	5.80%	14,819	5.32%	19,848	6.74%
Utilities	3,152	1.27%	3,727	1.45%	3,916	1.47%	4,193	1.51%	3,798	1.29%
Construction	11,612	4.68%	10,213	3.98%	10,067	3.78%	10,738	3.85%	11,820	4.01%
Manufacturing	19,429	7.83%	19,877	7.75%	20,506	7.70%	21,277	7.64%	21,600	7.34%
Wholesale trade	13,309	5.36%	13,767	5.36%	14,292	5.37%	15,167	5.44%	15,915	5.41%
Retail trade	14,140	5.70%	14,520	5.66%	14,806	5.56%	15,556	5.58%	16,105	5.47%
Transportation and warehousing	6,386	2.57%	6,779	2.64%	6,878	2.58%	7,343	2.64%	7,984	2.71%
Information	20,171	8.13%	20,428	7.96%	20,677	7.77%	21,382	7.68%	21,578	7.33%
Finance and insurance	12,044	4.85%	12,321	4.80%	12,570	4.72%	13,512	4.85%	14,480	4.92%
Real estate and rental and leasing	33,299	13.42%	34,815	13.57%	36,187	13.59%	37,965	13.63%	40,194	13.65%
Professional, scientific, and technical services	22,122	8.91%	22,579	8.80%	23,476	8.82%	24,887	8.93%	26,355	8.95%
Management of companies and enterprises	4,657	1.88%	5,098	1.99%	5,391	2.02%	6,577	2.36%	6,207	2.11%
Administrative and waste management services	7,563	3.05%	7,798	3.04%	8,101	3.04%	8,695	3.12%	8,653	2.94%
Educational services	1,885	0.76%	2,009	0.78%	2,034	0.76%	2,181	0.78%	2,258	0.77%
Health care and social assistance	15,176	6.11%	15,653	6.10%	16,128	6.06%	17,009	6.11%	17,438	5.92%
Arts, entertainment, and recreation	2,958	1.19%	3,366	1.31%	3,590	1.35%	3,703	1.33%	3,848	1.31%
Accommodation and food services	7,640	3.08%	7,922	3.09%	8,337	3.13%	8,865	3.18%	9,409	3.20%
Other services, except government	5,944	2.40%	6,023	2.35%	6,076	2.28%	6,393	2.30%	6,549	2.22%
Government	33,247	13.40%	34,491	13.44%	34,800	13.07%	35,248	12.65%	36,226	12.30%

Note: NAICS Industry detail is based on the 2007 North American Industry Classification System (NAICS).
Source: U.S. Bureau of Economic Analysis, Regional Product Division -- 11 June 2014 Gross Domestic Product by State (millions of current dollars).

APPENDIX H
Percent Change in GDP by State from Preceding Year

Industry	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
All industry total	8.39%	4.92%	5.15%	4.26%	-2.58%	3.41%	3.75%	4.62%	5.71%
Private industries									
Agriculture, forestry, fishing, and hunting	3.04%	-5.15%	17.05%	-5.91%	-5.25%	14.87%	22.34%	2.43%	37.47%
Mining	67.24%	14.50%	2.96%	43.39%	-30.04%	13.12%	20.50%	-4.04%	33.94%
Utilities	2.20%	20.01%	-7.67%	6.33%	4.75%	18.24%	5.07%	7.07%	-9.42%
Construction	9.10%	4.57%	2.94%	-6.31%	-13.15%	-12.05%	-1.43%	6.67%	10.08%
Manufacturing	8.53%	6.67%	6.50%	1.50%	-0.34%	2.31%	3.16%	3.76%	1.52%
Wholesale trade	7.47%	8.14%	8.85%	3.32%	-6.77%	3.44%	3.81%	6.12%	4.93%
Retail trade	5.53%	2.92%	2.22%	-0.70%	-1.81%	2.69%	1.97%	5.07%	3.53%
Transportation and warehousing	11.76%	1.44%	4.87%	3.57%	-4.26%	6.15%	1.46%	6.76%	8.73%
Information	8.14%	0.05%	6.94%	4.99%	-1.88%	1.27%	1.22%	3.41%	0.92%
Finance and insurance	14.69%	3.40%	1.35%	-17.38%	5.04%	2.30%	2.02%	7.49%	7.16%
Real estate and rental and leasing	2.37%	3.72%	5.38%	4.32%	1.31%	4.55%	3.94%	4.91%	5.87%
Professional, scientific, and technical services	7.72%	7.85%	9.11%	8.47%	-2.64%	2.07%	3.97%	6.01%	5.90%
Management of companies and enterprises	16.90%	14.06%	13.32%	-2.94%	5.43%	9.47%	5.75%	22.00%	-5.63%
Administrative and waste management services	6.39%	4.26%	8.39%	3.10%	-6.33%	3.11%	3.89%	7.33%	-0.48%
Educational services	7.58%	8.40%	5.25%	8.42%	8.46%	6.58%	1.24%	7.23%	3.53%
Health care and social assistance	4.55%	5.34%	6.06%	8.59%	7.20%	3.14%	3.03%	5.46%	2.52%
Arts, entertainment, and recreation	1.42%	5.64%	5.88%	0.75%	-0.57%	13.79%	6.65%	3.15%	3.92%
Accommodation and food services	5.13%	6.30%	6.37%	1.61%	-4.60%	3.69%	5.24%	6.33%	6.14%
Other services, except government	4.17%	3.91%	2.63%	2.60%	-0.29%	1.33%	0.88%	5.22%	2.44%
Government	5.16%	2.30%	2.23%	7.09%	3.34%	3.74%	0.90%	1.29%	2.77%

Note: NAICS Industry detail is based on the 2007 North American Industry Classification System (NAICS).
Source: U.S. Department of Commerce / Bureau of Economic Analysis.

APPENDIX I
Industries Related to Construction

2012 NAICS Codes	
212321	Construction Sand and Gravel Mining
236115	New Single-Family Housing Construction (except For-Sale Builders)
236116	New Multifamily Housing Construction (except For-Sale Builders)
236117	New Housing For-Sale Builders
236118	Residential Remodelers
236210	Industrial Building Construction
236220	Commercial and Institutional Building Construction
237110	Water and Sewer Line and Related Structures Construction
237120	Oil and Gas Pipeline and Related Structures Construction
237130	Power and Communication Line and Related Structures Construction
237210	Land Subdivision
237310	Highway, Street, and Bridge Construction
237990	Other Heavy and Civil Engineering Construction
238110	Poured Concrete Foundation and Structure Contractors
238120	Structural Steel and Precast Concrete Contractors
238130	Framing Contractors
238140	Masonry Contractors
238150	Glass and Glazing Contractors
238160	Roofing Contractors
238170	Siding Contractors
238190	Other Foundation, Structure, and Building Exterior Contractors
238210	Electrical Contractors and Other Wiring Installation Contractors
238220	Plumbing, Heating, and Air-Conditioning Contractors
238290	Other Building Equipment Contractors
238310	Drywall and Insulation Contractors
238320	Painting and Wall Covering Contractors
238330	Flooring Contractors
238340	Tile and Terrazzo Contractors
238350	Finish Carpentry Contractors
238390	Other Building Finishing Contractors
238910	Site Preparation Contractors
238990	All Other Specialty Trade Contractors
327120	Clay Building Material and Refractories Manufacturing

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2012 NAICS Codes	
327310	Cement Manufacturing
327320	Ready-Mix Concrete Manufacturing
327331	Concrete Block and Brick Manufacturing
327332	Concrete Pipe Manufacturing
327390	Other Concrete Product Manufacturing
327410	Lime Manufacturing
327420	Gypsum Product Manufacturing
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers
423390	Other Construction Material Merchant Wholesalers
423710	Hardware Merchant Wholesalers
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers
423740	Refrigeration Equipment and Supplies Merchant Wholesalers
444110	Home Centers
444130	Hardware Stores
444190	Other Building Material Dealers
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing
541310	Architectural Services
541320	Landscape Architectural Services
541330	Engineering Services
541340	Drafting Services
541360	Geophysical Surveying and Mapping Services
541370	Surveying and Mapping (except Geophysical) Services



1114 West 7th Avenue, Suite 200
Denver, Colorado 80204
303.388.2422 | Office
303.388.0936 | Fax
www.agcColorado.org



1114 West 7th Avenue, Suite 250
Denver, Colorado 80204
303.757.3956 | Office
303.757.4313 | Fax
www.campc.org



495 Uinta Way, Suite 495
Denver, Colorado 80230
303.937.3900 | Office
303.936.8723 | Fax
www.rmcneca.org



1114 West 7th Avenue, Suite 250
Denver, Colorado 80204
303.832.4224 | Office
303.832.5116 | Fax
www.smacnacolorado.org