

# Business Information Systems Technology

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## *Inland Empire/Desert Region (Riverside-San Bernardino-Ontario Metropolitan Statistical Area)* Summary

- Employment for the business information systems technology occupational group is expected to **increase by 6%** between 2018 and 2023 and have **7,793 annual job openings** over the next five years.
- The 50<sup>th</sup> percentile, median, hourly wages for the business information systems technology occupational group are **above the MIT Living Wage estimate of \$14.75** for a two-adult household, both working, with one child in the Inland Empire/Desert Region.
- There were 189 credentials issued from regional community college training programs over the last three academic years.
- This report separates the business information systems technology occupational group into three occupational categories. The smaller occupational groups allow for a more detailed analysis of these occupations. The occupational groups are listed below:
  - **General Office Technology:** Page 3
  - **Legal Office Technology and Court Reporting:** Page 11
  - **Medical Office Technology:** Page 16

## Introduction

This report details occupations relevant to each of the three occupational categories in business information systems technology. The report combines three sections; each occupational category contains the following occupations:

- General Office Technology
  - Administrative Services Managers
  - Executive Secretaries and Executive Administrative Assistants
  - First-Line Supervisors of Office and Administrative Support Workers
  - Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
- Legal Office Technology and Court Reporting
  - Court Reporters
  - Legal Secretaries
- Medical Office Technology
  - Medical and Health Services Managers
  - Medical Assistants
  - Medical Records and Health Information Technicians
  - Medical Secretaries
  - Medical Transcriptionists

## Business Information Systems Technology

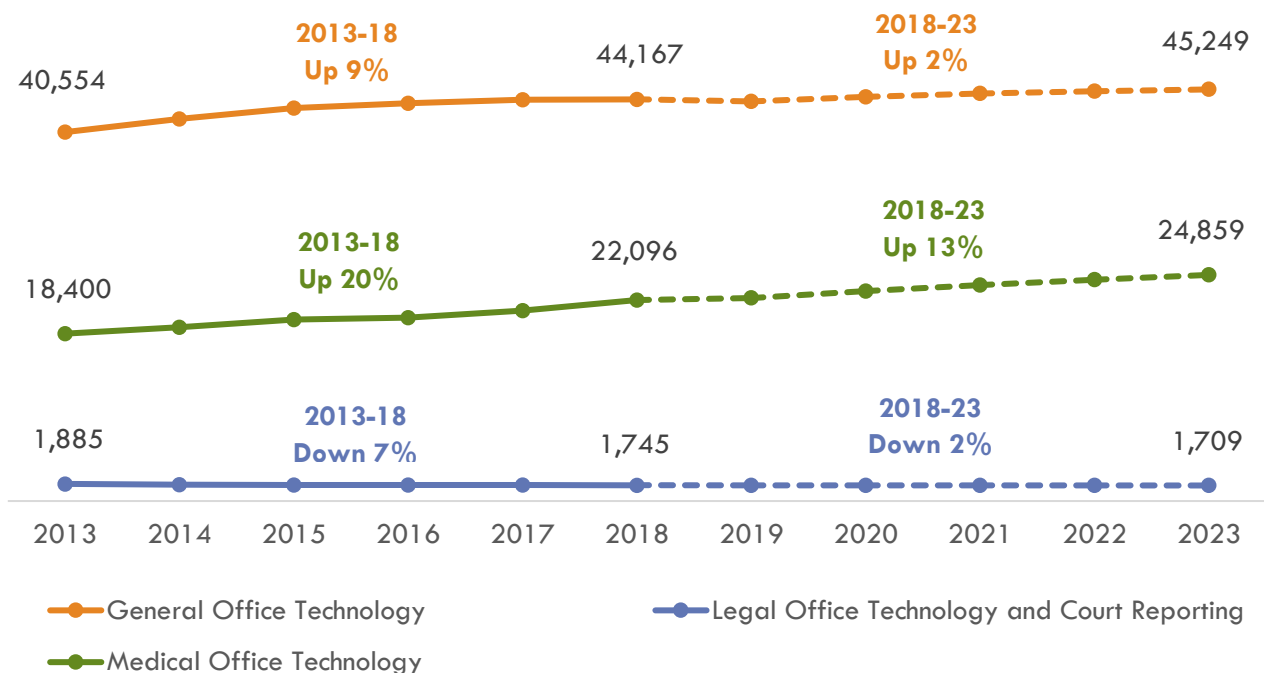
In 2018, there were 68,008 business information systems technology (BIST) occupational group jobs in the Inland Empire/Desert Region (IEDR). This group is projecting to increase employment by 6% over the next five years. Employers in the region will need to add 38,963 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes retirements). The appendix displays the projected job growth for each of the occupations in this group. Medical office technology jobs grow the fastest over the next five year and the general office technology group will have the most annual job openings. Exhibit 1 displays five-year projected job growth, and Exhibit 2 displays historical and projected jobs for the BIST occupational group in the IEDR.

Exhibit 1: Five-year projections for the BIST occupational group in the IEDR

Occupational Group	2018 Jobs	5-Year % Change (New Jobs)	5-Year Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
General Office Technology	44,167	2%	24,076	4,815	30%
Medical Office Technology	22,096	13%	14,001	2,800	20%
Legal Office Technology and Court Reporting	1,745	(2%)	886	177	33%
<b>Total</b>	<b>68,008</b>	<b>6%</b>	<b>38,963</b>	<b>7,793</b>	<b>27%</b>

Source: EMSI 2019.4

Exhibit 2: Historical and projected jobs for the BIST occupational group, 2013 – 2023



Source: EMSI 2019.4

## General Office Technology Job Opportunities

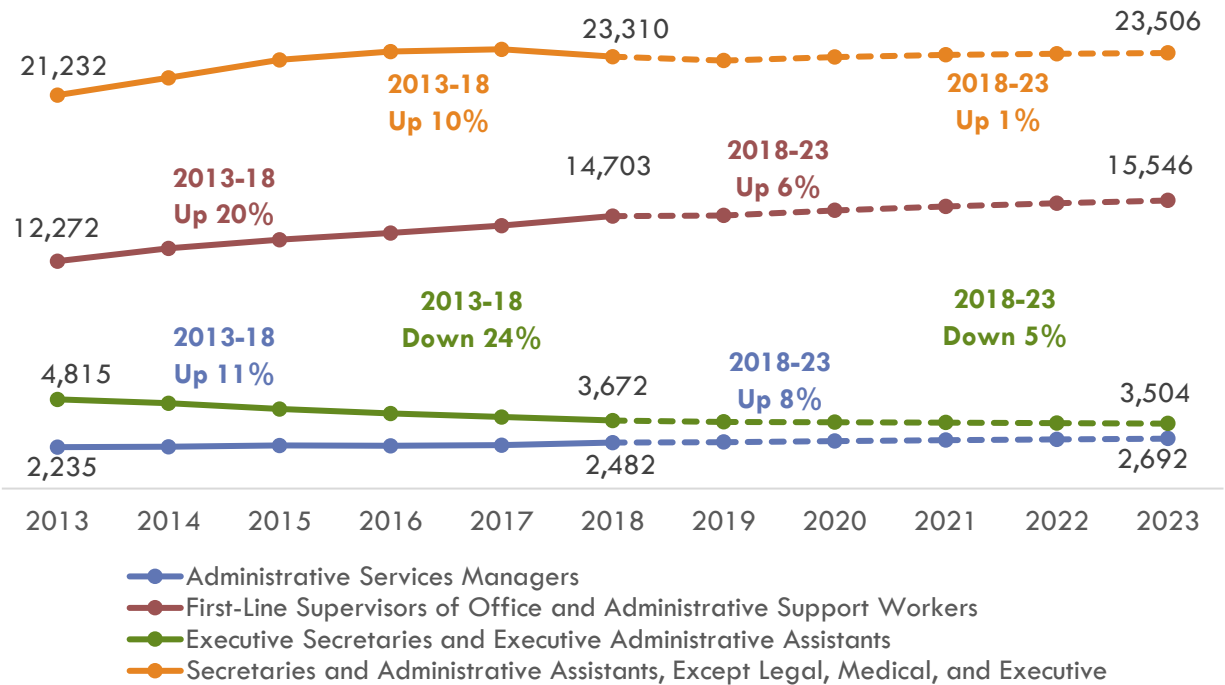
In 2018, there were 44,167 general office technology (GOT) occupational group jobs in the IEDR. This group is projecting to increase employment by 2% over the next five years. Employers in the region will need to add 24,076 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes retirements). Exhibit 3 displays five-year projected job growth, and Exhibit 4 displays historical and projected jobs for the GOT occupational group in the IEDR.

*Exhibit 3: Five-year projections for the GOT occupational group in the IEDR*

Occupation	2018 Jobs	5-Year % Change (New Jobs)	5-Year Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	23,310	1%	12,826	2,565	33%
First-Line Supervisors of Office and Administrative Support Workers	14,703	6%	8,128	1,626	24%
Executive Secretaries and Executive Administrative Assistants	3,672	(5%)	1,901	380	33%
Administrative Services Managers	2,482	8%	1,221	244	33%
<b>Total</b>	<b>44,167</b>	<b>2%</b>	<b>24,076</b>	<b>4,815</b>	<b>30%</b>

Source: EMSI 2019.4

Exhibit 4: Historical and projected jobs for the GOT occupational group, 2013 – 2023



Source: EMSI 2019.4

Exhibit 5 shows the number of job ads posted during the last 12 months and the average time to fill each occupation in the local region and statewide. On average, regional employers fill online job postings for the GOT occupational group within 27 days; three days shorter than the statewide average of 30 days, indicating that local employers may face fewer hiring challenges than other employers in California.

Exhibit 5: Job ads by each of the GOT occupations in the IEDR, 2019

Occupation	Job Ads	Regional Average Time to Fill (Days)	Statewide Average Time to Fill (Days)
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	2,889	24	26
First-Line Supervisors of Office and Administrative Support Workers	1,192	33	36
Administrative Services Managers	523	31	34
Executive Secretaries and Executive Administrative Assistants	315	25	27
<b>TOTAL</b>	<b>4,919</b>	<b>27</b>	<b>30</b>

Source: Burning Glass – Labor Insights

## Earnings and Benefits

The MIT Living Wage Calculator measures the wage an individual must earn to support his or herself and their family (Glasmeier, 2019). The average IEDR household had 3.3 residents in 2017 (American Factfinder,

2018). Variations of the hourly and annual earnings necessary to support a three-person household are displayed in Exhibit 6.

*Exhibit 6: Variations in hourly and annual MIT Living Wage estimates for three resident households*

Three Resident Household	Hourly Wage	Annual Wage
2 Adults (Both Working), 1 Child	\$14.75	\$30,700
2 Adults (1 Working), 1 Child	\$24.58	\$51,100
1 Adult, 2 Children	\$32.73	\$68,100

Source: MIT Living Wage Calculator

The median-level wage (50<sup>th</sup> percentile) for the GOT occupational group is above the \$18.00 per hour (\$37,440 per year) “good job” wage established by the Brookings Institute in their *Advancing Opportunity in California’s Inland Empire* report (Shearer, Shah & Gootman, p. 25). According to occupational guides developed by the California Labor Market Information Division, most employers provide these occupations with medical benefits when working full-time (Detailed Guide, 2019). Exhibit 7 displays the hourly earnings for the GOT occupational group in the IEDR.

*Exhibit 7: Earnings for the GOT occupational group in the IEDR*

Occupation	Entry to Experienced Hourly Earnings Range (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Wage (50 <sup>th</sup> percentile)	Average Annual Earnings
Administrative Services Managers	\$34.34 to \$62.96	\$47.27	\$106,200
Executive Secretaries and Executive Administrative Assistants	\$23.01 to \$34.32	\$28.12	\$61,600
First-Line Supervisors of Office and Administrative Support Workers	\$20.77 to \$33.48	\$26.40	\$58,400
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$14.13 to \$23.71	\$18.55	\$40,300

Source: EMSI 2019.4

## Employers, Skills, Education, and Work Experience

Exhibit 8 displays the employers posting the most job ads during the last 12 months.

*Exhibit 8: Employers posting the most job ads for the GOT occupational group in the IEDR, 2019*

Occupation	Top Employers	
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (n=2,713)	<ul style="list-style-type: none"> <li>California State University, San Bernardino</li> <li>University of California, Riverside</li> </ul>	<ul style="list-style-type: none"> <li>Riverside County Office of Education</li> <li>Marriott International, Inc.</li> <li>Lowe’s Companies, Inc.</li> </ul>
First-Line Supervisors of Office and Administrative Support Workers (n=1,052)	<ul style="list-style-type: none"> <li>H&amp;R Block</li> <li>Marriott International, Inc.</li> <li>Instep Management Group</li> <li>Acuity One</li> </ul>	<ul style="list-style-type: none"> <li>Walker Medical Solutions</li> <li>US Census Bureau</li> <li>Riverside County Office of Education</li> <li>Hawkins Diagnostic Services</li> </ul>
Administrative Services Managers (n=487)	<ul style="list-style-type: none"> <li>University of California, Riverside</li> <li>Target</li> <li>Co-Op Financial Services</li> </ul>	<ul style="list-style-type: none"> <li>California State University, San Bernardino</li> <li>San Manuel Band of Mission Indians</li> <li>Riverside County</li> </ul>
Executive Secretaries and Executive Administrative Assistants (n=288)	<ul style="list-style-type: none"> <li>California State University, San Bernardino</li> <li>San Manuel Band of Mission Indians</li> </ul>	<ul style="list-style-type: none"> <li>University of California, Riverside</li> <li>State Farm</li> <li>College of the Desert</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 9 lists a sample of in-demand specialized, employability, and software and programming skills that employers are seeking when looking for workers to fill GOT positions. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.” Knowing which skills are in-demand may be useful for program development.

*Exhibit 9: Sample of in-demand skills from employer job ads for GOT occupations in the IEDR, 2019*

Occupation	Specialized skills	Employability skills	Software and Programming skills
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (n=2,675)	<ul style="list-style-type: none"> <li>Scheduling</li> <li>Data Entry</li> <li>Customer Service</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Organizational Skills</li> <li>Detail-Oriented</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> <li>QuickBooks</li> </ul>

Occupation	Specialized skills	Employability skills	Software and Programming skills
First-Line Supervisors of Office and Administrative Support Workers (n=1,080)	<ul style="list-style-type: none"> <li>Customer Service</li> <li>Office Management</li> <li>Scheduling</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Organizational Skills</li> <li>Problem Solving</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>
Administrative Services Managers (n=487)	<ul style="list-style-type: none"> <li>Budgeting</li> <li>Scheduling</li> <li>Staff Management</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Planning</li> <li>Organizational Skills</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>
Executive Secretaries and Executive Administrative Assistants (n=304)	<ul style="list-style-type: none"> <li>Scheduling</li> <li>Travel Arrangements</li> <li>Budgeting</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Organizational Skills</li> <li>Detail-Oriented</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 10 displays the entry-level education level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

Exhibit 10: Typical entry-level education, educational attainment, and minimum advertised education requirements for the GOT occupational group in the IEDR, 2019

Occupation	Typical Entry-Level Education Requirement	Educational Attainment (Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework)	Minimum Advertised Education Requirement from Job Ads			
			Number of job postings	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	High school diploma or equivalent	47%	1,808	78%	10%	12%
First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	40%	662	43%	9%	48%
Administrative Services Managers	Bachelor's degree	38%	391	28%	6%	66%

Occupation	Typical Entry-Level Education Requirement	Educational Attainment (Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework)	Minimum Advertised Education Requirement from Job Ads			
			Number of job postings	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	47%	210	50%	9%	41%

Source: EMSI 2019.4, Burning Glass – Labor Insights

Exhibit 11 displays the work experience typically required to enter each occupation and the real-time work experience requirements from employer job ads.

Exhibit 11: Work experience required and real-time work experience requirements, 2019

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	None	1,598	63%	35%	2%
First-Line Supervisors of Office and Administrative Support Workers	Less than 5 years	682	41%	50%	9%
Administrative Services Managers	Less than 5 years	366	34%	48%	18%
Executive Secretaries and Executive Administrative Assistants	Less than 5 years	182	25%	67%	8%

Source: EMSI 2019.4, Burning Glass – Labor Insights

## Student Completions for General Office Technology Programs

Exhibits 12 & 14 display completion data for the California Community College office technology/office computer applications (0514.00) program and the office management (0514.40) program between 2015 and 2018, as well as enrollments in the 2016/17 academic year. The student completion and outcome methodology are available on page 30.



**General Office Technology Programs:**

- 0514.00 – Office Technology/Office Computer Applications: 149 avg. awards
- 0514.40 – Office Management: 25 avg. awards
- 52.0401 – Administrative Assistant and Secretarial Science, General: 62 avg. annual awards
- 52.407 – Business/Office Automation/Technology/Data Entry: 60 avg. annual awards
- 52.408 – General Office Occupations and Clerical Services: 115 avg. annual awards

*Exhibit 12: 2015-18 annual average community college credentials and enrollments for the office technology/office computer applications program in the IEDR*

0514.00 – Office Technology/Office Computer Applications	Certificates			Degrees		CCC Annual Average Credentials, Academic Years 2015-18	CCC Enrollments, Academic Year 2016-17
	6 to <18 Semester Units	18 to <30 Semester Units	30 to <60 Semester Units	Associate of Science (A.S.)	Associate of Arts		
<b>Barstow</b>	-	-	-	-	-	-	94
<b>Chaffey</b>	1	31	5	8	-	46	1,657
<b>Copper Mountain</b>	-	-	-	-	-	-	-
<b>Desert</b>	-	9	-	-	-	9	-
<b>Moreno Valley</b>	-	-	-	-	-	-	89
<b>Mt. San Jacinto</b>	-	-	10	14	-	25	811
<b>Norco</b>	-	-	-	-	-	-	111
<b>Palo Verde</b>	13	-	-	-	-	13	-
<b>Riverside</b>	13	3	3	-	-	19	844
<b>San Bernardino</b>	1	-	9	-	4	15	563
<b>Victor Valley</b>	-	3	3	16	-	23	1,538
<b>Total</b>	<b>29</b>	<b>46</b>	<b>31</b>	<b>39</b>	<b>4</b>	<b>149</b>	<b>5,716</b>

Source: LaunchBoard, MIS Data Mart

Community college student outcome information based on the selected TOP code and region is provided in Exhibit 13.

*Exhibit 13: 0514.00 – Office technology/office computer applications strong workforce program outcomes*

<b>Strong Workforce Program Metrics: 0514.00 – Office Technology/Office Computer Applications Academic Year 2016 -17, unless noted otherwise</b>	<b>Inland Empire/Desert region</b>	<b>California region</b>
Course enrollments	5,716	102,321
Completed 9+ career education units in one year (2017-18)	1,002 (28%)	10,828 (24%)
Economically disadvantaged students	83%	71%
Students who attained a noncredit workforce milestone in a year	-	59%

<b>Strong Workforce Program Metrics: 0514.00 – Office Technology/Office Computer Applications Academic Year 2016 -17, unless noted otherwise</b>	<b>Inland Empire/Desert region</b>	<b>California</b>
Students who earned a degree, certificate, or attained apprenticeship (2017-18)	144	1,492
Transferred to a four-year institution (transfers)	59	1,324
Job closely related to the field of study (2015-16)	59%	68%
Median annual earnings (all exiters)	\$25,380	\$28,508
Median change in earnings (all exiters)	28%	26%
Attained a living wage (completers and skills-builders)	52%	44%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 14: 2015-18 annual average community college credentials and enrollments for the office management program in the IEDR

<b>0514.40 – Office Management</b>	<b>Certificates</b>		<b>Degrees</b>	<b>CCC Annual Average Credentials, Academic Years 2015-18</b>	<b>CCC Enrollments, Academic Year 2016-17</b>
	<b>6 to &lt;18 Semester Units</b>	<b>30 to &lt;60 Semester Units</b>	<b>Associate of Science (A.S.)</b>		
<b>Chaffey</b>	-	7	11	18	47
<b>Mt. San Jacinto</b>	-	-	-	-	86
<b>Riverside</b>	4	-	3	7	-
<b>Total</b>	<b>4</b>	<b>7</b>	<b>14</b>	<b>25</b>	<b>133</b>

Source: LaunchBoard, MIS Data Mart

Community college student outcome information based on the selected TOP code and region is provided in Exhibit 15.

Exhibit 15: 0514.40 – Office management strong workforce program outcomes

<b>Strong Workforce Program Metrics: 0514.40 – Office Management Academic Year 2016 -17, unless noted otherwise</b>	<b>Inland Empire/Desert region</b>	<b>California</b>
Course enrollments	133	500
Completed 9+ career education units in one year (2017-18)	67 (61%)	164 (48%)
Economically disadvantaged students	90%	87%
Students who earned a degree, certificate, or attained apprenticeship (2017-18)	19	40
Median annual earnings (all exiters)	\$16,208	\$23,396
Median change in earnings (all exiters)	(4%)	18%
Attained a living wage (completers and skills-builders)	-	39%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibits 16 – 18 display general office awards conferred outside the community college system.

*Exhibit 16: Annual average other educational program student completions for administrative assistant and secretarial science, general programs in the Inland Empire/Desert Region*

<b>52.0401 Administrative Assistant and Secretarial Science, General (CIP Program)</b>	<b>Other Educational Institutions Annual Average Certificates or Other Credit Awards (2014-17)</b>
<b>California Technical Academy</b>	
Award < 1 academic year	49
<b>Riverside County Office of Education-School of Career Education</b>	
Award < 1 academic year	13
<b>Total annual average other awards</b>	<b>62</b>

Source: IPEDS

*Exhibit 17: Annual average other educational program student completions for business/office automation/technology/data entry programs in the Inland Empire/Desert Region*

<b>52.407 Business/Office Automation/Technology/Data Entry (CIP Program)</b>	<b>Other Educational Institutions Annual Average Certificates or Other Credit Awards (2014-17)</b>
<b>California Technical Academy</b>	
Award < 1 academic year	15
<b>CET - Coachella</b>	
Award 1 < 2 academic years	44
<b>Total annual average other awards</b>	<b>60</b>

Source: IPEDS

*Exhibit 18: Annual average other educational program student completions for general office occupations and clerical services programs in the Inland Empire/Desert Region*

<b>52.408 General Office Occupations and Clerical Services (CIP Program)</b>	<b>Other Educational Institutions Annual Average Certificates or Other Credit Awards (2014-17)</b>
<b>UEI College-Riverside</b>	
Award 1 < 2 academic years	61
<b>United Education Institute-Ontario</b>	
Award 1 < 2 academic years	54
<b>Total annual average other awards</b>	<b>115</b>

Source: IPEDS

## Legal Office Technology and Court Reporting Job Opportunities

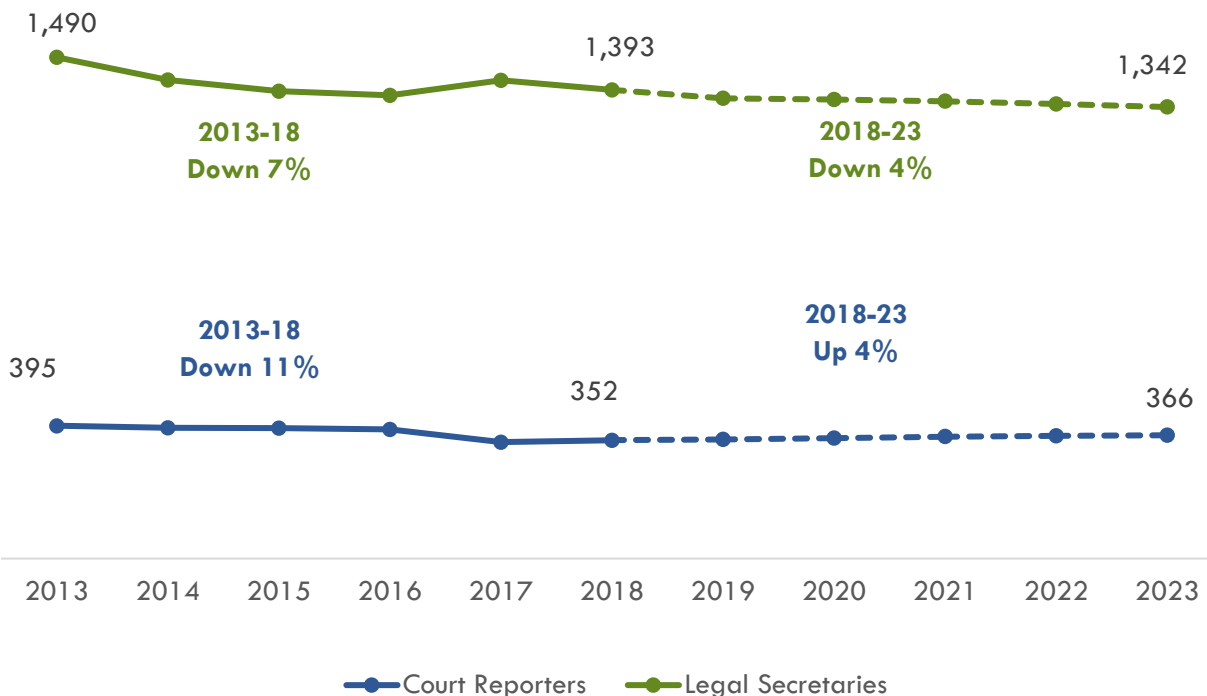
In 2018, there were 1,745 legal office technology and court reporting (LOT) jobs in the IEDR. This occupational group is projecting to decrease employment by 2% over the next five years. Despite this, employers in the region will need to add 886 workers over the next five years to backfill jobs that workers are permanently vacating (includes retirements). Exhibit 19 displays five-year projected job growth, and Exhibit 20 displays historical and projected jobs for the LOT occupational group in the IEDR.

Exhibit 19: Five-year projections for the LOT occupational group in the IEDR

Region	2018 Jobs	5-Year % Change (New Jobs)	5-Year Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Legal Secretaries	1,393	(4%)	726	145	33%
Court Reporters	352	4%	160	32	35%
<b>Total</b>	<b>1,745</b>	<b>(2%)</b>	<b>886</b>	<b>177</b>	<b>33%</b>

Source: EMSI 2019.4

Exhibit 20: Historical and projected jobs for the LOT occupational group, 2013 – 2023



Source: EMSI 2019.4

Exhibit 21 shows the number of job ads posted during the last 12 months and the average time to fill each occupation in the local region and statewide. On average, regional employers fill online job postings for the LOT occupational group within 22 days; two days shorter than the statewide average of 24 days, indicating that local employers may face fewer hiring challenges than other employers in California. During the past 12 months, there were no employer job advertisements for court reporters in the IEDR; no job posting information is available for this occupation.

*Exhibit 21: Job ads by each of the LOT occupations in the IEDR, 2019*

Occupation	Job Ads	Regional Average Time to Fill (Days)	Statewide Average Time to Fill (Days)
Legal Secretaries	125	22	24
Court Reporters	0	-	-
<b>Total</b>	<b>125</b>	<b>22</b>	<b>24</b>

Source: Burning Glass – Labor Insights

## Earnings

The entry-level wage (25 percentile) for the LOT occupational group is above the \$18.00 per hour (\$37,440 per year) “good job” wage established by the Brookings Institute in their *Advancing Opportunity in California’s Inland Empire* report (Shearer, Shah & Gootman, p. 25). According to occupational guides developed by the California Labor Market Information Division, most employers provide these occupations with medical benefits when working full-time (Detailed Guide, 2019). Exhibit 22 displays the hourly earnings for the LOT occupational group in the IEDR.

*Exhibit 22: Earnings for the LOT occupational group in the IEDR*

Occupation	Entry to Experienced Hourly Earnings Range (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Wage (50 <sup>th</sup> percentile)	Average Annual Earnings
Court Reporters	\$27.22 to \$56.93	\$45.25	\$93,800
Legal Secretaries	\$18.17 to \$30.85	\$25.36	\$52,800

Source: EMSI 2019.4

## Employers, Skills, Education, and Work Experience

Exhibit 23 displays the employers posting the most job ads for the LOT occupational group during the last 12 months. The majority of employers seeking legal secretaries only posted one advertisement over the last 12 months.

*Exhibit 23: Employers posting the most job ads for the LOT occupational group in the IEDR, 2019*

Occupation	Top Employers
Legal Secretaries (n=54)	<ul style="list-style-type: none"> <li>Benthale, McKibbin, &amp; McKnight</li> <li>Kent Daniels and Associates, Inc.</li> <li>Home &amp; Stone Attorneys</li> <li>San Bernardino County</li> </ul>
Legal Secretaries (n=0)	<ul style="list-style-type: none"> <li>-</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 24 lists a sample of in-demand specialized, employability, and software and programming skills that employers are seeking when looking for workers to fill LOT positions. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.” Knowing which skills are in-demand may be useful for program development.

*Exhibit 24: Sample of in-demand skills from employer job ads for LOT occupations in the IEDR, 2019*

Occupation	Specialized skills	Employability skills	Software and Programming skills
Legal Secretaries (n=119)	<ul style="list-style-type: none"> <li>Legal Support</li> <li>Administrative Support</li> <li>Legal Documentation</li> <li>Dictation</li> <li>Transcription</li> </ul>	<ul style="list-style-type: none"> <li>Typing</li> <li>Multi-Tasking</li> <li>Detail-Oriented</li> <li>Communication Skills</li> <li>Organizational Skills</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>
Court Reporters (n=0)	<ul style="list-style-type: none"> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 25 displays the entry-level education level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

Exhibit 25: Educational attainment and online job ads with minimum advertised education requirements for the LOT occupational group in the IEDR, 2019

Occupation	Typical Entry-Level Education Requirement	Educational Attainment (Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework)	Minimum Advertised Education Requirement from Job Ads			
			Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Legal Secretaries	High school diploma or equivalent	47%	10	60%	-	40%
Court Reporters	Postsecondary nondegree award	39%	0	-	-	-

Source: EMSI 2019.4, Burning Glass – Labor Insights

Exhibit 26 displays the work experience typically required to enter each occupation and the real-time work experience requirements from employer job ads.

Exhibit 26: Work experience required and real-time work experience requirements, 2019

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Legal Secretaries	None	57	51%	40%	9%
Court Reporters	None	0	-	-	-

Source: EMSI 2019.4, Burning Glass – Labor Insights

## Student Completions for Legal Office Technology Programs

Exhibit 27 displays completion data for the California Community College legal office technology (0514.10) program between 2015 and 2018, as well as enrollments in the 2016/17 academic year. The student completion and outcome methodology are available on page 30.

### Legal Office Technology and Court Reporting Occupational Group:

- 0514.10 – Legal Office Technology: 3 avg. annual awards
- 22.0302 – Legal Assistant/Paralegal: 22 avg. annual awards

Exhibit 27: 2015-18 annual average community college credentials and enrollments for the legal office technology program in the IEDR

0514.10 – Legal Office Technology	Certificates	CCC Annual Average Credentials, Academic Years 2015-18	CCC Enrollments, Academic Year 2016-17
	6 to <18 Semester Units		
Riverside	3	3	119
<b>Total</b>	<b>3</b>	<b>3</b>	<b>119</b>

Source: LaunchBoard, MIS Data Mart

Community college student outcome information based on the selected TOP code and region is provided in Exhibit 28.

Exhibit 28: 0514.10 – Legal office technology strong workforce program outcomes

<b>Strong Workforce Program Metrics: 0514.10 – Legal Office Technology Academic Year 2016 -17, unless noted otherwise</b>	<b>Inland Empire/Desert region</b>	<b>California</b>
Course enrollments	119	315
Completed 9+ career education units in one year (2017-18)	26 (25%)	103 (46%)
Economically disadvantaged students	82%	83%
Students who earned a degree, certificate, or attained apprenticeship (2017-18)	-	17
Median annual earnings (all exiters)	\$35,450	\$36,848
Median change in earnings (all exiters)	41%	35%
Attained a living wage (completers and skills-builders)	70%	67%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibits 16 – 18 display general office awards conferred outside the community college system.

Exhibit 29: Annual average other educational program student completions for legal assistant/paralegal programs in the IEDR

<b>22.0302 Legal Assistant/Paralegal (CIP)</b>	<b>Other Educational Institutions Annual Average Certificates or Other Credit Awards (2014-17)</b>
Platt College-Ontario	
Associate's degree	9
Platt College-Riverside	
Associate's degree	13
<b>Total annual average other awards</b>	<b>22</b>

Source: IPEDS



## Medical Office Technology

### Job Opportunities

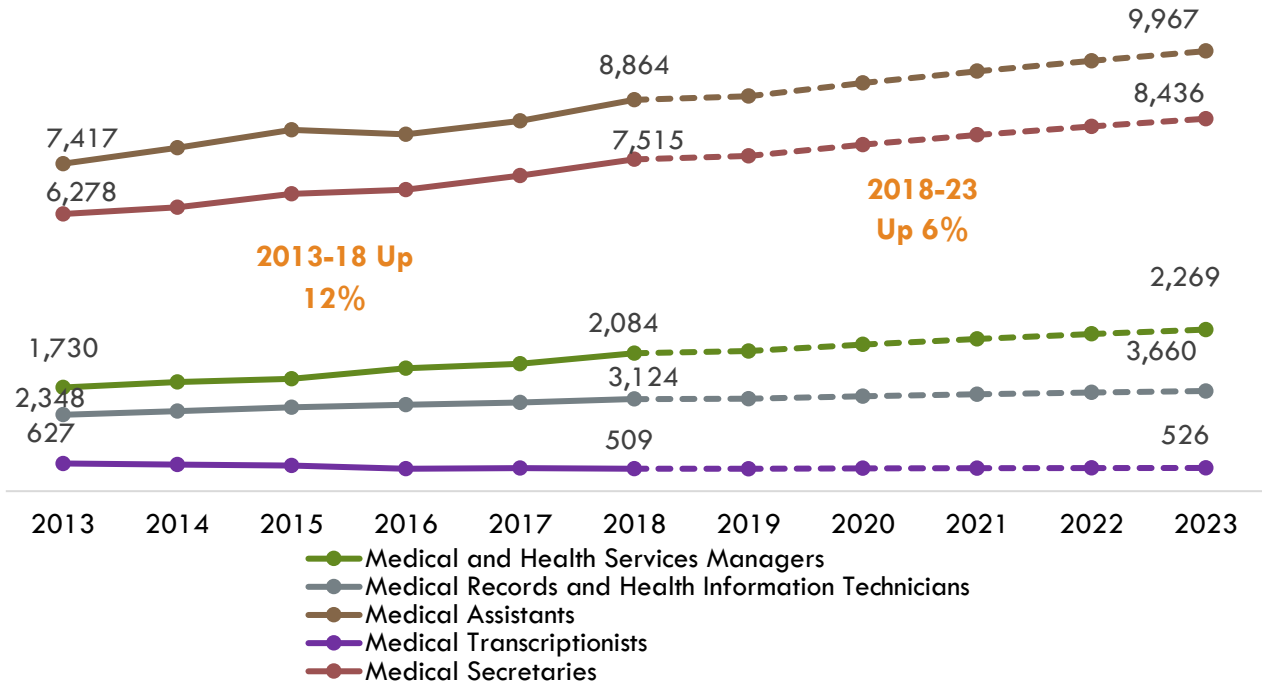
In 2018, there were 22,096 medical office technology (MOT) jobs in the IEDR. This occupational group is projecting to increase employment 13% by 2023. Employers in the region will need to add 14,001 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes retirements). Exhibit 30 displays five-year projected job growth, and Exhibit 31 displays historical and projected jobs for the MOT occupational group in the IEDR.

*Exhibit 30: Five-year projections for the MOT occupational group in the IEDR*

Region	2018 Jobs	5-Year % Change (New Jobs)	5-Year Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Medical Assistants	8,864	12%	5,972	1,194	9%
Medical Secretaries	7,515	12%	5,086	1,017	27%
Medical and Health Services Managers	3,124	17%	1,800	360	29%
Medical Records and Health Information Technicians	2,084	9%	819	164	25%
Medical Transcriptionists	509	3%	325	65	33%
<b>Total</b>	<b>22,096</b>	<b>13%</b>	<b>14,001</b>	<b>2,800</b>	<b>20%</b>

Source: EMSI 2019.4

Exhibit 31: Historical and projected jobs for the MOT occupational group, 2013 – 2023



Source: EMSI 2019.4

Exhibit 32 shows the number of job ads posted during the last 12 months and the average time to fill each occupation in the local region and statewide. On average, regional employers fill online job postings for the MOT occupational group within 40 days. This is the same as the statewide average of 40 days, indicating that local employers may similar challenges to other employers in California.

Exhibit 32: Job ads by each of the MOT occupations in the IEDR, 2019

Occupation	Job Ads	Regional Average Time to Fill (Days)	Statewide Average Time to Fill (Days)
Medical and Health Services Managers	4,194	42	42
Medical Records and Health Information Technicians	2,289	44	44
Medical Secretaries	1,794	31	31
Medical Assistants	1,385	40	40
Medical Transcriptionists	360	32	32
<b>TOTAL</b>	<b>10,022</b>	<b>40</b>	<b>40</b>

Source: Burning Glass – Labor Insights

## Earnings

The experienced-level wages (75<sup>th</sup> percentile) for the MOT occupational group, except medical assistants, are above the \$18.00 per hour (\$37,440 per year) “good job” wage established by the Brookings Institute in their *Advancing Opportunity in California’s Inland Empire* report (Shearer, Shah & Gootman, p. 25). According to occupational guides developed by the California Labor Market Information Division, most employers provide these occupations with medical benefits when working full-time (Detailed Guide, 2019). Exhibit 33 displays the hourly earnings for the MOT occupational group in the IEDR.

Exhibit 33: Earnings for the MOT occupational group in the IEDR

Occupation	Entry to Experienced Hourly Earnings Range (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Wage (50 <sup>th</sup> percentile)	Average Annual Earnings
Medical and Health Services Managers	\$43.27 to \$70.89	\$56.44	\$123,000
Medical Records and Health Information Technicians	\$17.09 to \$36.34	\$22.43	\$57,500
Medical Secretaries	\$14.07 to \$21.49	\$17.39	\$37,600
Medical Transcriptionists	\$11.41 to \$26.17	\$17.32	\$41,000
Medical Assistants	\$13.13 to \$17.82	\$15.23	\$32,700

Source: EMSI 2019.4

## Employers, Skills, Education, and Work Experience

Exhibit 34 displays the top employers posting the most job ads for MOT occupations during the last 12 months.

Exhibit 34: Employers posting the most job ads for the MOT occupational group in the IEDR, 2019

Occupation	Top Employers
Medical and Health Services Managers (n=3,549)	<ul style="list-style-type: none"> <li>Anthem Blue Cross</li> <li>Loma Linda University Health</li> <li>Knapp Medical Center</li> <li>St. Bernardine Medical Center</li> <li>Temecula Valley Hospital</li> </ul>
Medical Records and Health Information Technicians (n=1,059)	<ul style="list-style-type: none"> <li>Anthem Blue Cross</li> <li>Knapp Medical Center</li> <li>Loma Linda University Health</li> <li>Eisenhower Medical Center</li> </ul>
Medical Secretaries (n=1,317)	<ul style="list-style-type: none"> <li>Pacific Dental Services, Inc.</li> <li>Smile Brands</li> <li>Anthem Blue Cross</li> <li>West Coast Dental</li> <li>Loma Linda University Health</li> </ul>

Occupation	Top Employers	
Medical Assistants (n=1,162)	<ul style="list-style-type: none"> <li>Loma Linda University Health</li> <li>Arrowhead Orthopaedics</li> </ul>	<ul style="list-style-type: none"> <li>Eisenhower Medical Center</li> <li>Planned Parenthood</li> </ul>
Medical Transcriptionists (n=52)	<ul style="list-style-type: none"> <li>Brookdale Senior Living</li> <li>Eisenhower Medical Center</li> </ul>	<ul style="list-style-type: none"> <li>Loma Linda University Health</li> <li>St. Bernardine Medical Center</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 35 lists a sample of in-demand specialized, employability, and MOT positions. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.” Knowing which skills are in-demand may be useful for program development.

Exhibit 35: Sample of in-demand skills from employer job ads for MOT occupations in the IEDR, 2019

Occupation	Specialized skills	Employability skills	Software and Programming skills
Medical and Health Services Managers (n=3,781)	<ul style="list-style-type: none"> <li>Staff Management</li> <li>Budgeting</li> <li>Scheduling</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Teamwork/ Collaboration</li> <li>Planning</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>
Medical Records and Health Information Technicians (n=2,159)	<ul style="list-style-type: none"> <li>Medical Coding</li> <li>Medical Billing</li> <li>Outpatient Coding</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Teamwork/ Collaboration</li> <li>Detail-Oriented</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> <li>ICD-10 –CM Coding</li> <li>HCPCS Coding</li> </ul>
Medical Secretaries (n=1,647)	<ul style="list-style-type: none"> <li>Administrative Support</li> <li>Scheduling</li> <li>Appointment Setting</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Telephone Skills</li> <li>Bilingual/English – Spanish</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> <li>Dentrix</li> </ul>
Medical Assistants (n=1,247)	<ul style="list-style-type: none"> <li>Scheduling</li> <li>Vital Signs Measurement</li> <li>Cardiopulmonary Resuscitation (CPR)</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Bilingual/English – Spanish</li> <li>Telephone Skills</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>
Medical Transcriptionists (n=359)	<ul style="list-style-type: none"> <li>Pathology</li> <li>Dictation</li> <li>Secretarial Skills</li> </ul>	<ul style="list-style-type: none"> <li>Research</li> <li>Detail-Oriented</li> <li>Typing</li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Office</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 36 displays the entry-level education level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

*Exhibit 36: Educational attainment and online job ads with minimum advertised education requirements for the MOT occupational group in the IEDR, 2019*

Occupation	Typical Entry-Level Education Requirement	Educational Attainment (Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework)	Minimum Advertised Education Requirement from Job Ads			
			Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Medical and Health Services Managers	Bachelor's degree	28%	2,573	-	18%	82%
Medical Records and Health Information Technicians	Postsecondary nondegree award	56%	955	64%	11%	25%
Medical Secretaries	High school diploma or equivalent	47%	783	89%	3%	8%
Medical Assistants	Postsecondary nondegree award	66%	678	98%	2%	-
Medical Transcriptionists	Postsecondary nondegree award	59%	22	100%	-	-

Source: EMSI 2019.4, Burning Glass – Labor Insights

Exhibit 37 displays the work experience typically required to enter each occupation and the real-time work experience requirements from employer job ads.

*Exhibit 37: Work experience required and real-time work experience requirements, 2019*

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Medical and Health Services Managers	Less than 5 years	3,032	32%	50%	18%
Medical Records and Health Information Technicians	None	1,669	38%	60%	2%
Medical Secretaries	None	1,004	65%	35%	-

Occupation	Work Experience Typically Required	Real-Time Work Experience			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Medical Assistants	None	728	84%	15%	1%
Medical Transcriptionists	None	346	97%	3%	-

Source: EMSI 2019.4, Burning Glass – Labor Insights

## Student Completions for Medical Office Technology Programs

Exhibit 38 displays completion data for the California Community College medical office technology (0514.20) program between 2015 and 2018, as well as enrollments in the 2016/17 academic year. The student completion and outcome methodology are available on page 30.

### Medical Office Technology Occupational Group:

- 0514.20 – Medical Office Technology: 2 avg. annual awards
- 51.0716 – Medical Administrative/Executive Assistant and Medical Secretary: 98 avg. annual awards

Exhibit 38: 2015-18 annual average community college credentials and enrollments for the medical office technology program in the IEDR

0514.20 – Medical Office Technology	Certificates	Degrees	CCC Annual Average Credentials, Academic Years 2015-18	CCC Enrollments, Academic Year 2016-17
	30 to <60 Semester Units	Associate of Science (A.S.)		
Chaffey	1*	1	1	
San Bernardino	-	-	-	121
Victor Valley	1*		0	
<b>Total</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>121</b>

Source: LaunchBoard, MIS Data Mart

\*Chaffey issued one certificate in 2015-16. Victor Valley issued one certificate in 2016-17.

Community college student outcome information based on the selected TOP code and region is provided in Exhibit 39.

Exhibit 39: 0514.20 – Medical office technology strong workforce program outcomes

Strong Workforce Program Metrics: 0514.20 – Medical Office Technology Academic Year 2016 -17, unless noted otherwise	Inland Empire/Desert region	California
Course enrollments	121	4,987
Completed 9+ career education units in one year (2017-18)	12 (10%)	951 (25%)

<b>Strong Workforce Program Metrics: 0514.20 – Medical Office Technology Academic Year 2016 -17, unless noted otherwise</b>	<b>Inland Empire/Desert region</b>	<b>California</b>
Economically disadvantaged students	83%	78%
Students who attained a noncredit workforce milestone in a year	-	94
Students who earned a degree, certificate, or attained apprenticeship (2017-18)	-	244
Transferred to a four-year institution (transfers)	-	102
Job closely related to the field of study (2015-16)	-	52%
Median annual earnings (all exiters)	\$25,562	\$23,830
Median change in earnings (all exiters)	40%	29%
Attained a living wage (completers and skills-builders)	62%	41%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 40 displays the awards conferred outside the community college system.

*Exhibit 40: Annual average other education program student completions for medical administrative/executive assistant and medical secretary programs in the Inland Empire/Desert Region*

<b>51.0716 Medical Administrative/Executive Assistant and Medical Secretary (CIP)</b>	<b>Other Educational Institutions Annual Average Certificates or Other Credit Awards (2014-17)</b>
<b>American College of Healthcare</b>	
Award < 1 academic year	40
<b>California Nurses Educational Institute</b>	
Award < 1 academic year	4
<b>Milan Institute-Palm Desert</b>	
Award < 1 academic year	21
<b>North-West College-Riverside</b>	
Award < 1 academic year	7
<b>Riverside County Office of Education-School of Career Education</b>	
Award < 1 academic year	25
<b>Total annual average other awards</b>	<b>98</b>

Source: IPEDS

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January 2020

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## Appendix: Occupation definitions, sample job titles, five-year projections, and earnings for business information systems technology occupations

### **Occupation Definitions (SOC code), Education and Training Requirement, Community College Education Attainment**

#### **Administrative Services Managers (11-3011)**

Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services.

**Sample job titles:** Administrative Coordinator, Administrative Director, Administrative Manager, Administrative Officer, Administrative Specialist, Administrator, Business Administrator, Business Manager, Facilities Manager, Office Manager

*Entry-Level Educational Requirement: Bachelor's degree*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 38%*

#### **Medical and Health Services Managers (11-9111)**

Plan, direct, or coordinate medical and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.

**Sample job titles:** Clinical Director, Health Information Management Corporate Director, Health Information Management Director, Health Manager, Mental Health Program Manager, Nurse Manager, Nursing Director, Office Manager, Practice Administrator, Program Manager

*Entry-Level Educational Requirement: Bachelor's degree*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 28%*

### **Court Reporters (23-2091)**

Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings or other information. Includes stenocaptioners who operate computerized stenographic captioning equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers.

**Sample job titles:** Certified Shorthand Reporter (CSR), Court Recording Monitor, Court Reporter, Court Stenographer, Deposition Reporter, Digital Court Reporter, Freelance Court Reporter, Official Court Reporter, Realtime Court Reporter, Stenographer

*Entry-Level Educational Requirement: Postsecondary nondegree award*

*Training Requirement: Less than one-month on-the-job training*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 39%*

### **Medical Records and Health Information Technicians (29-2071)**

Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information for health requirements and standards in a manner consistent with the healthcare industry's numerical coding system.

**Sample job titles:** Coder, Health Information Clerk, Health Information Specialist, Health Information Technician (Health Information Tech), Medical Records Analyst, Medical Records Clerk, Medical Records Coordinator, Medical Records Director, Medical Records Technician (Medical Records Tech), Registered Health Information Technician (RHIT)

*Entry-Level Educational Requirement: Postsecondary nondegree award*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 56%*

### **Medical Assistants (31-9092)**

Perform administrative and certain clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician.

**Sample job titles:** Certified Medical Assistant (CMA), Chiropractor Assistant, Clinical Assistant, Doctor's Assistant, Medical Assistant (MA), Medical Office Assistant, Ophthalmic Technician, Optometric Assistant, Optometric Technician, Registered Medical Assistant (RMA)

*Entry-Level Educational Requirement: Postsecondary nondegree award*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 66%*

### **Medical Transcriptionists (31-9094)**

Transcribe medical reports recorded by physicians and other healthcare practitioners using various electronic devices, covering office visits, emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Transcribe dictated reports and translate abbreviations into fully understandable form. Edit as necessary and return reports in either printed or electronic form for review and signature, or correction.

**Sample job titles:** Clinical Medical Transcriptionist, Documentation Specialist, Medical Language Specialist, Medical Secretary, Medical Transcriber, Medical Transcription, Medical Transcription Supervisor, Medical Transcriptionist, Radiology Transcriptionist, Transcriptionist

*Entry-Level Educational Requirement: Postsecondary nondegree award*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 59%*

### **First-Line Supervisors of Office and Administrative Support Workers (43-1011)**

Directly supervise and coordinate the activities of clerical and administrative support workers.

**Sample job titles:** Accounting Manager, Accounts Payable Supervisor, Accounts Receivable Manager, Administrative Supervisor, Customer Service Manager, Customer Service Supervisor, Office Coordinator, Office Manager, Office Supervisor, Staff Services Manager

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 40%*

### **Executive Secretaries and Executive Administrative Assistants (43-6011)**

Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff.

**Sample job titles:** Administrative Aide, Administrative Assistant, Administrative Associate, Administrative Coordinator, Administrative Secretary, Administrative Specialist, Executive Administrative Assistant, Executive Assistant, Executive Secretary, Office Assistant

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: None*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 47%*

### **Legal Secretaries (43-6012)**

Perform secretarial duties using legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.

**Sample job titles:** Confidential Secretary, Judicial Administrative Assistant, Legal Administrative Secretary, Legal Assistant, Legal Secretary, Litigation Assistant, Magistrate Assistant, Secretary

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: One to twelve months on-the-job training*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 47%*

### **Medical Secretaries (43-6013)**

Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties may include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.

**Sample job titles:** Admissions Coordinator, Billing Coordinator, Health Unit Coordinator, Medical Office Specialist, Medical Secretary, Patient Coordinator, Physician Office Specialist, Unit Secretary, Unit Support Representative, Ward Clerk

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: One to twelve months on-the-job training*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 47%*

### **Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (43-6014)**

Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers.

**Sample job titles:** Administrative Assistant, Administrative Associate, Administrative Secretary, Administrative Specialist, Administrative Technician, Clerk Typist, Department Secretary, Office Assistant, Secretary, Staff Assistant

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: Less than one-month on-the-job training*

*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 47%*

## Appendix: Student Completions and Program Outcome Methodology

The student completion sections in this report display the average annual regional California Community College (CCC) credentials conferred during the three academic years between 2015 and 2018, from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, along with the enrollments from the most recent year available on LaunchBoard. Credentials are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variation that might be present in a single year. Enrollments are the count of enrollments in courses assigned to the TOP code in the selected year. Credentials earned outside of the community college system are displayed in the report to gain a holistic understanding of business information systems technology supply. Other postsecondary institution completions are displayed between the 2014 and 2017 years, which are the most recent year available in Integrated Postsecondary Education System (IPEDS).

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from records provided by California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2019a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS), administered by Santa Rosa Junior College (LaunchBoard, 2017).

Table 1. 2018 to 2023 job growth, wages, entry-level education, training, and work experience required for the general office technology occupational group, Inland Empire/Desert Region

Occupation (SOC)	2018 Jobs	5-Year Change (New Jobs)	5-Year % Change (New Jobs)	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Hourly Wage (50 <sup>th</sup> percentile)	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (43-6014)	23,310	196	1%	2,565	\$14.13 to \$23.71	\$18.55	\$40,300	High school diploma or equivalent & 1 month	None
First-Line Supervisors of Office and Administrative Support Workers (43-1011)	14,703	843	6%	1,626	\$20.77 to \$33.48	\$26.40	\$58,400	High school diploma or equivalent & none	Less Than 5 Years
Executive Secretaries and Executive Administrative Assistants (43-6011)	3,672	(168)	(5%)	380	\$23.01 to \$34.32	\$28.12	\$61,600	High school diploma or equivalent & none	Less Than 5 Years
Administrative Services Managers (11-3011)	2,482	210	8%	244	\$34.34 to \$62.96	\$47.27	\$106,200	Bachelor's degree & none	Less Than 5 Years
<b>Total</b>	<b>44,167</b>	<b>1,082</b>	<b>2%</b>	<b>4,815</b>	-	-	-	-	-

Source: EMSI 2019.4

Table 2. 2018 to 2023 job growth, wages, entry-level education, training, and work experience required for the legal office technology and court reporting occupational group, Inland Empire/Desert Region

Occupation (SOC)	2018 Jobs	5-Year Change (New Jobs)	5-Year % Change (New Jobs)	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Hourly Wage (50 <sup>th</sup> percentile)	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Legal Secretaries (43-6012)	1,393	(51)	(4%)	145	\$18.17 to \$30.85	\$25.36	\$52,800	High school diploma or equivalent & 1 to 12 months	None
Court Reporters (23-2091)	352	14	4%	32	\$27.22 to \$56.93	\$45.25	\$93,800	Postsecondary nondegree award & 1 month	None
<b>Total</b>	<b>1,745</b>	<b>(36)</b>	<b>(2%)</b>	<b>177</b>	-	-	-	-	-

Source: EMSI 2019.4



Table 3. 2018 to 2023 job growth, wages, entry-level education, training, and work experience required for the medical office technology occupational group, Inland Empire/Desert Region

Occupation (SOC)	2018 Jobs	5-Year Change (New Jobs)	5-Year % Change (New Jobs)	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Hourly Wage (50 <sup>th</sup> percentile)	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Medical Assistants (31-9092)	8,864	1,103	12%	1,194	\$13.13 to \$17.82	\$15.23	\$32,700	Postsecondary nondegree award & none	None
Medical Secretaries (43-6013)	7,515	921	12%	1,017	\$14.07 to \$21.49	\$17.39	\$37,600	High school diploma or equivalent & 1 to 12 months	None
Medical and Health Services Managers (11-9111)	3,124	536	17%	360	\$43.27 to \$70.89	\$56.44	\$123,000	Bachelor's degree & none	Less Than 5 Years
Medical Records and Health Information Technicians (29-2071)	2,084	185	9%	164	\$17.09 to \$36.34	\$22.43	\$57,500	Postsecondary nondegree award & none	None
Medical Transcriptionists (31-9094)	509	17	3%	65	\$11.41 to \$26.17	\$17.32	\$41,000	Postsecondary nondegree award & none	None
<b>Total</b>	<b>22,096</b>	<b>2,763</b>	<b>13%</b>	<b>2,800</b>	-	-	-	-	-

Source: EMSI 2019.4