

Business Information Systems Technology

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 10% between 2017 and 2022** in the Inland Empire/Desert Region. More than **8,362 annual job openings** will be available over the five-year timeframe.
- The entry-level wage for each occupation in the business information systems technology occupational group, except medical assistants, is **above the MIT Living Wage estimate of \$12.30 per hour** for a single adult living in the Inland Empire/Desert Region.
- There appears to be an opportunity for program growth based on the average annual number of program completions for the selected community college programs (**135 average annual community college awards, 332 annual average awards from other educational institutions, 467 total awards**), and the annual openings for business information systems technology occupations in the local region (**8,362 annual job openings**). Below is a more detailed supply/demand analysis by the three occupational groups included in this report:
 - **General Office Technology:** 5,712 average annual job openings/353 average annual awards
 - **Legal Office Technology and Court Reporting:** 162 average annual job openings/32 average annual awards
 - **Medical Office Technology:** 2,488 average annual job openings/82 average annual awards

Introduction

This report details relevant occupations to each of the three occupational categories in business information systems technology. The report is broken into 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

General Office Technology

Job Opportunities

In 2017, there were nearly 47,200 general office technology occupational group jobs in the Inland Empire/Desert Region. This group is projecting to increase employment 8% by 2022. Employers in the region will need to add 28,561 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes retirements). Appendix A, Table 1 shows the projected job growth for each of the occupations in this group.

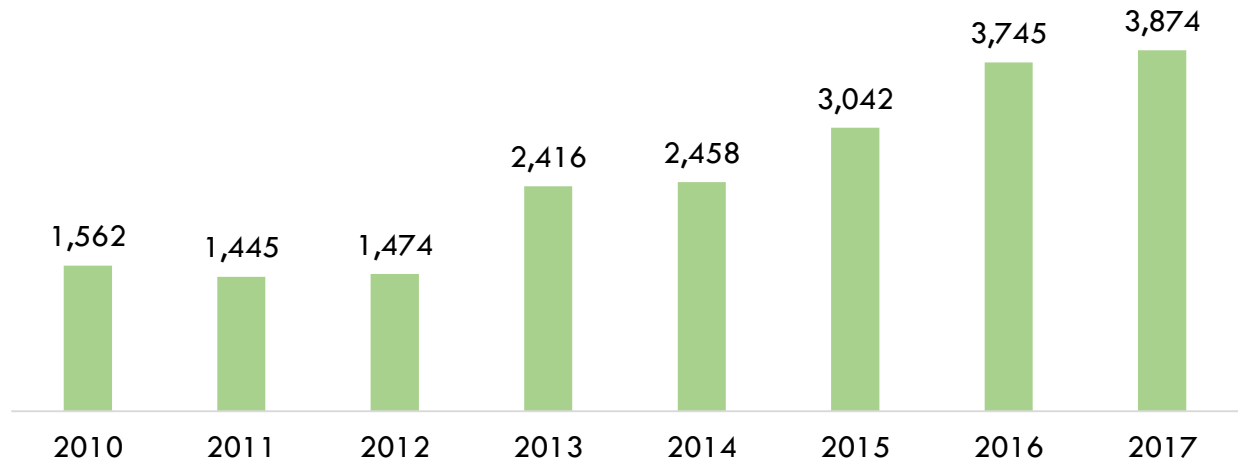
Exhibit 1: Five-year projections for the general office technology occupational group in the Inland Empire/Desert Region

Region	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Inland Empire/Desert	47,181	8%	28,561	5,712	30%

Source: EMSI 2018.2

Over the last 12 months (May 2017 to April 2018), there were 3,755 advertisements (ads) for jobs in the business information systems technology occupational group in the Inland Empire/Desert Region. From 2010 to 2017, there was an average of 2,502 job ads per year (Exhibit 2).

Exhibit 2: Number of online job postings for the general office technology occupational group in the Inland Empire/Desert Region, 2010 to 2017



Source: Burning Glass – Labor Insights

Exhibit 3 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 nationally. On average, the general office technology occupational group takes a similar amount of time to fill in the local region as it does in the nation as a whole.

Exhibit 3: Job ads by each of the general office technology occupations in the Inland Empire/Desert Region during the last 12 months and time to fill, May 2017 – Apr 2018

Occupation	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	2,491	28	28
First-Line Supervisors of Office and Administrative Support Workers	677	35	31
Executive Secretaries and Executive Administrative Assistants	320	26	28
Administrative Services Managers	267	40	39
TOTAL	3,755	-	-

Source: Burning Glass – Labor Insights

Earnings

The entry-level wage for each of the occupations in the general office technology occupational group is above the MIT Living Wage estimate of \$12.30 per hour for a single adult living in the Inland Empire/Desert Region. The median wage for each occupation in this group is sufficient for an

adult living in a household with one other working adult and one child (\$14.50 per hour, per adult or \$30,160 annually for each adult). Exhibit 4 displays wage information for this occupational group in the Inland Empire/Desert Region.

Exhibit 4: Earnings for the general office technology occupational group in the Inland Empire/Desert Region

Occupation	Entry to Experienced Hourly Earnings Range*	Median Wage*	Average Annual Earnings
Administrative Services Managers	\$32.23 to \$57.13	\$43.87	\$98,400
First-Line Supervisors of Office and Administrative Support Workers	\$20.77 to \$31.79	\$26.08	\$57,100
Executive Secretaries and Executive Administrative Assistants	\$22.12 to \$30.90	\$26.71	\$56,700
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$14.08 to \$22.46	\$17.96	\$38,300

Source: EMSI 2018.2

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Work Locations, Employers, Skills, and Education

Exhibit 5 displays the top employers posting job ads as well as the top work locations from job ads during the last 12 months.

Exhibit 5: The top employers and work locations for the general office technology occupational group in the Inland Empire/Desert Region during the last 12 months, May 2017 – Apr 2018

Occupation	Top Employers	Top Work Locations
General Office Technology Occupational Group (n=2,257)	<ul style="list-style-type: none"> Riverside Healthcare University of California, Riverside California State University, San Bernardino Loma Linda University Health 	<ul style="list-style-type: none"> Riverside San Bernardino Ontario Corona

Source: Burning Glass – Labor Insights

Exhibit 6 lists a sample of in-demand specialized and soft skills that employers are seeking when looking for workers to fill general office technology positions.

Exhibit 6: Sample of in-demand skills from employer job ads for general office technology occupations in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Specialized skills	Soft skills	Software and Programming skills
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (n=2,158)	<ul style="list-style-type: none"> Scheduling Data Entry Appointment Setting 	<ul style="list-style-type: none"> Organizational Skills Communication Skills Typing 	<ul style="list-style-type: none"> Microsoft Office
First-Line Supervisors of Office and Administrative Support Workers (n=600)	<ul style="list-style-type: none"> Customer Service Scheduling Accounting 	<ul style="list-style-type: none"> Communication Skills Organizational Skills Problem Solving 	<ul style="list-style-type: none"> Microsoft Office QuickBooks
Executive Secretaries and Executive Administrative Assistants (n=271)	<ul style="list-style-type: none"> Scheduling Travel Arrangements Expense Reports 	<ul style="list-style-type: none"> Communication Skills Detail-Oriented Organizational Skills 	<ul style="list-style-type: none"> Microsoft Office
Administrative Services Managers (n=226)	<ul style="list-style-type: none"> Budgeting Scheduling Customer Service 	<ul style="list-style-type: none"> Communication Skills Planning Organizational Skills 	<ul style="list-style-type: none"> Microsoft Office

Source: Burning Glass – Labor Insights

Exhibit 7 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 7: Educational attainment and online job ads with minimum advertised education requirements for the general office technology occupational group in the Inland Empire/Desert Region, May 2017-Apr 2018

Occupation	Typical Entry-Level Education Requirement	Educational Attainment*	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
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	High school diploma or equivalent	47%	1,138	75%	11%	14%
First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	40%	353	50%	9%	41%
Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	47%	133	32%	12%	56%
Administrative Services Managers	Bachelor's degree	38%	196	27%	9%	64%

Source: EMSI 2018.2, Burning Glass – Labor Insights

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

Industry

Staffing patterns show the industries that employ the most workers of a specific occupation. Exhibit 7 displays the industries that hire general office technology occupations in the two-county region.

Exhibit 8: Top industries employing general office technology occupations in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Top Industries from Staffing Pattern (NAICS) - % of occupation employed in industry	Industry Classification from Job Ads	
		Number of Job Postings (n=)	Top Industries from Job Ads (NAICS)
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	<ul style="list-style-type: none"> Education and Hospitals (Local Government) (9036) 17% Local Government, Excluding Education and Hospitals (9039) 7% 	1,358	<ul style="list-style-type: none"> Elementary and Secondary Schools (6111) Colleges, Universities, and Professional Schools (6113)
First-Line Supervisors of Office and Administrative Support Workers	<ul style="list-style-type: none"> Local Government, Excluding Education and Hospitals (9039) 8% Offices of Physicians (6211) 6% 	401	<ul style="list-style-type: none"> Traveler Accommodation (7211) Accounting, Tax Preparation, Bookkeeping, and Payroll Services (5412)
Executive Secretaries and Executive Administrative Assistants	<ul style="list-style-type: none"> Local Government, Excluding Education and Hospitals (9039) 14% Education and Hospitals (Local Government) (9036) 10% 	144	<ul style="list-style-type: none"> Colleges, Universities, and Professional Schools (6113) General Medical and Surgical Hospitals (6221)
Administrative Services Managers	<ul style="list-style-type: none"> Local Government, Excluding Education and Hospitals (9039) 14% Education and Hospitals (Local Government) (9036) 8% 	206	<ul style="list-style-type: none"> Department Stores (4521) General Medical and Surgical Hospitals (6221)

Source: EMSI 2018.2, Burning Glass – Labor Insights

Student Completions for General Office Technology Programs

Exhibits 9 and 10 show the annual average regional community college awards (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code as well as the program title used at each college, sourced from the Chancellor’s Office Curriculum Inventory (COCI). Awards granted from 2013 to 2016 from other education facilities outside of the California Community Colleges are displayed in Exhibits 11 to 13, along with the relevant CIP code. Please note, an award is not equivalent to a single person in search of a job opening since a student may earn more than one award, such as an associate degree in addition to



a certificate. Community College student outcome information was obtained from the CTE LaunchBoard based on the selected TOP code(s) and region.

General Office Technology Programs: 5,712 avg. annual job openings

- 0514.00 – Office Technology/Office Computer Applications: 107 avg. annual awards
- 0514.40 – Office Management: 21 avg. annual awards
- 52.0401 – Administrative Assistant and Secretarial Science, General: 100 avg. annual awards
- 52.407 – Business/Office Automation/Technology/Data Entry: 45 avg. annual awards
- 52.408 – General Office Occupations and Clerical Services: 80 avg. annual awards

Exhibit 9: Annual average community college student completions for office technology/office computer applications programs in the Inland Empire/Desert Region

0514.00 Office Technology/Office Computer Applications	Annual Community College Headcount (2016-17)	Community College Annual Average Awards (2014-17)
Barstow – Business Information Systems – Administrative Assistant	87	
Certificate 18 to < 30 semester units		1*
Chaffey – Professional Administrative Assistant: Executive-Bilingual/Transcriptionist-General/Transcriptionist-Medical/Professional Office Skills/Professional Administrative Assistant/Microsoft Office Excel Applications/Business Information Worker (BIW) Stage One/Business Information Worker (BIW) Stage Two	949	
Associate Degree		9
Certificate 30 to < 60 semester units		6
Certificate 18 to < 30 semester units		9
Certificate 6 to < 18 semester units		1
Desert – Administrative Office Assistant/Administrative Office Professional		
Certificate 18 to < 30 semester units		4
Moreno Valley	89	
Mt. San Jacinto – Microsoft Applications Specialist/Microsoft Applications Specialist: Tech Prep/Office Administration/Office Administration: Tech Prep/Office Administration Technician/Business Clerical/Business Clerical: Tech Prep	606	
Associate Degree		17
Certificate 30 to < 60 semester units		10

0514.00 Office Technology/Office Computer Applications	Annual Community College Headcount (2016-17)	Community College Annual Average Awards (2014-17)
Norco	106	
Riverside – Administrative Office Management/Business Information Worker	603	
Certificate 30 to < 60 semester units		4
Certificate 18 to < 30 semester units		1
Certificate 6 to < 18 semester units		13
San Bernardino – Administrative Assistant Certificate/CIT – Office Technology	434	
Associate Degree		8
Certificate 30 to < 60 semester units		8
Certificate 6 to < 18 semester units		2
Victor Valley – Business Education Technologies/Administrative Assistant	956	
Associate Degree		14
Certificate 30 to < 60 semester units		1
Certificate 18 to < 30 semester units		2
Total Community College Headcount (2016-17)	3,821	
Total Annual Average Community College Awards		107

Source: LaunchBoard, IPEDS, COCI

*Barstow awarded one certificate in 2014-15

0514.00 Office Technology/Office Computer Applications program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16:

- Number of course enrollments: 5,716 (California median: 7,864)*
- Number of students who transferred to a 4-year institution: 214 (CA: 253)
- Employed in the second fiscal quarter after exit: 65% (CA: 65%)
- Median earnings in the second fiscal quarter after exit: \$6,683 (CA:\$6,751)
- Employed in the fourth fiscal quarter after exit: 64% (CA: 65%)
- Median annual earnings: \$21,983 (CA: \$24,020)
- The percentage in a job closely related to the field of study: 76% (CA: 75%) [2014-15]
- Median change in earnings: 44% (CA: 44%)
- The proportion of students who attained a living wage: 45% (CA: 46%)

*academic year 2016-17

Exhibit 10: Annual average community college student completions for office management programs in the Inland Empire/Desert Region

0514.40 Office Management	Annual Community College Headcount (2016-17)	Community College Annual Average Awards (2014-17)
Chaffey – Professional Office Management	45	
Associate Degree		8
Certificate 30 to < 60 semester units		6
Mt. San Jacinto	85	
Riverside – Executive Office Management		
Associate Degree		3
Certificate 6 to < 18 semester units		5
Total Community College Headcount (2016-17)	130	
Total Annual Average Community College Awards		21

Source: LaunchBoard, IPEDS, COCI

0514.40 Office Management program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16:

- Number of course enrollments: 133 (California median: 98)*
- Number of students who transferred to a 4-year institution: N/A (CA: 7) [2014-15]
- Employed in the second fiscal quarter after exit: 77% (CA: 77%)
- Median earnings in the second fiscal quarter after exit: \$5,576 (CA:\$6,027)
- Employed in the fourth fiscal quarter after exit: 77% (CA: 74%)
- Median annual earnings: \$22,431 (CA: \$21,304)
- The percentage in a job closely related to the field of study: 83% (CA: 83%) [2014-15]
- Median change in earnings: 168% (CA: 74%)
- The proportion of students who attained a living wage: 45% (CA: 39%)

*academic year 2016-17

Exhibit 11: Annual average other educational program student completions for administrative assistant and secretarial science, general programs in the Inland Empire/Desert Region

52.0401 Administrative Assistant and Secretarial Science, General (CIP Program)	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
Computer Training Academy	
Award < 1 academic yr	56
Riverside County Office of Education-School of Career Education	
Award < 1 academic yr	8
Westech College	
Award < 1 academic yr	37
Total annual average other awards	100

Source: IPEDS

Exhibit 12: Annual average other educational program student completions for business/office automation/technology/data entry programs in the Inland Empire/Desert Region

52.407 Business/Office Automation/Technology/Data Entry (CIP Program)	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
CET - Coachella	
Award 1 < 2 academic yrs	45
Total annual average other awards	45

Source: IPEDS

Exhibit 13: Annual average other educational program student completions for general office occupations and clerical services programs in the Inland Empire/Desert Region

52.408 General Office Occupations and Clerical Services (CIP Program)	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
UEI College-Riverside	
Award 1 < 2 academic yrs	37
United Education Institute-Ontario	
Award 1 < 2 academic yrs	43
Total annual average other awards	80

Source: IPEDS

Legal Office Technology and Court Reporting

Job Opportunities

In 2017, there were more than 1,400 legal office technology and court reporting jobs in the Inland Empire/Desert Region. This occupational group is projecting to increase employment 6% by 2022. Employers in the region will need to add more than 800 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes retirements). Appendix A, Table 2 shows the projected job growth for each of the occupations in this group.

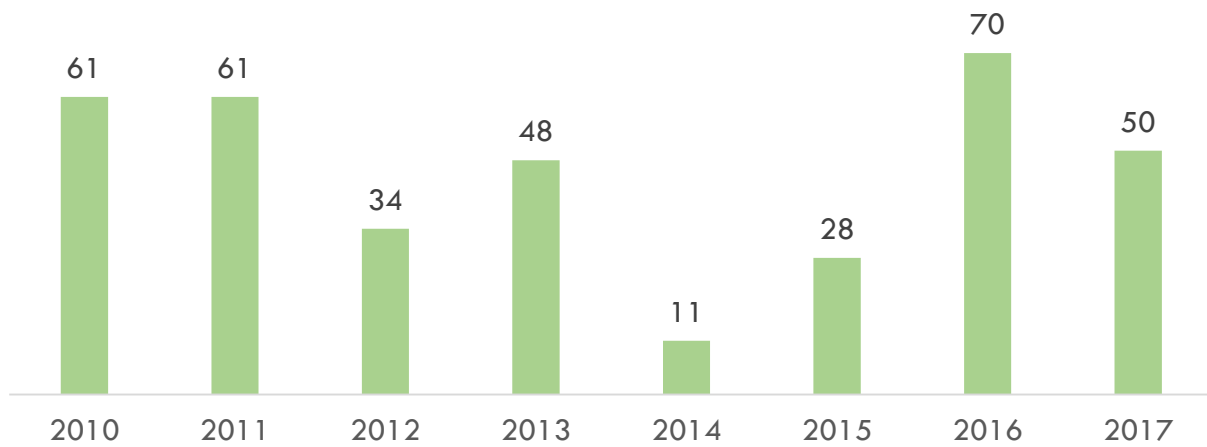
Exhibit 14: Five-year projections for the legal office technology and court reporting occupational group in the Inland Empire/Desert Region

Region	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Inland Empire/Desert	1,408	6%	811	162	34%

Source: EMSI 2018.2

Over the last 12 months (May 2017 to April 2018), there were 42 advertisements (ads) for jobs in the legal office technology and court reporting occupational group in the Inland Empire/Desert Region. From 2010 to 2017, there was an average of 45 job ads per year (Exhibit 15).

Exhibit 15: Number of online job postings for the legal office technology and court reporting occupational group in the Inland Empire/Desert Region, 2010 to 2017



Source: Burning Glass – Labor Insights

Exhibit 16 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 nationally. On average, legal secretaries take a similar amount of time to fill in the local region as it does in the nation as a whole. No data is currently available for court reporters as there were no posting for this occupation during the past 12 months in the Inland Empire/Desert Region.

Exhibit 16: Job ads by each of the legal office technology and court reporting occupations in the Inland Empire/Desert Region during the last 12 months and time to fill, May 2017 – Apr 2018

Occupation	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Legal Secretaries	42	27	26
Court Reporters	0	-	-
TOTAL	42	-	-

Source: Burning Glass – Labor Insights

Earnings

The entry-level wage for each of the occupations in the legal office technology and court reporting occupational group is above the MIT Living Wage estimate of \$12.30 per hour for a single adult living in the Inland Empire/Desert Region. These wages are also sufficient for an adult living in a household with one other working adult and one child (\$14.50 per hour, per adult or \$30,160 annually for each adult). Exhibit 17 displays wage information for this occupational group in the Inland Empire/Desert Region.

Exhibit 17: Earnings for the business information systems technology occupational group in the Inland Empire/Desert Region

Occupation	Entry to Experienced Hourly Earnings Range*	Median Wage*	Average Annual Earnings
Court Reporters	\$28.47 to \$36.52	\$31.32	\$69,600
Legal Secretaries	\$14.57 to \$23.77	\$17.92	\$40,400

Source: EMSI 2018.2

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Work Locations, Employers, Skills, and Education

Exhibit 18 displays the top employers posting job ads as well as the top work locations from job ads during the last 12 months.

Exhibit 18: The top employers and work locations for the legal office technology and court reporting occupational group in the Inland Empire/Desert Region during the last 12 months, May 2017-Apr 2018

Occupation	Top Employers	Top Work Locations
Legal Office Technology And Court Reporting Occupational Group (n=20)	<ul style="list-style-type: none"> Best Best & Krieger Attorney at Law 	<ul style="list-style-type: none"> Ontario Riverside

Source: Burning Glass – Labor Insights

Exhibit 19 lists a sample of in-demand specialized and soft skills that employers are seeking when looking for workers to fill legal office technology and court reporting positions. Court reporters have been removed from the following table due to lack of job postings for this occupation.

Exhibit 19: Sample of in-demand skills from employer job ads for legal office technology and court reporting occupations in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Specialized skills	Soft skills	Software and Programming skills
Legal Secretaries (n=40)	<ul style="list-style-type: none"> Legal Support Administrative Support Legal Documentation 	<ul style="list-style-type: none"> Communication Skills Organizational Skills 	<ul style="list-style-type: none"> Microsoft Office

Source: Burning Glass – Labor Insights

Exhibit 20 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 20: Educational attainment and online job ads with minimum advertised education requirements for the legal office technology and court reporting occupational group in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Typical Entry-Level Education Requirement	Educational Attainment*	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%	6	83%	-	17%
Court Reporters	Postsecondary nondegree award	39%	-	-	-	-

Source: EMSI 2018.2, Burning Glass – Labor Insights

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

Industry

Staffing patterns show the industries that employ the most workers of a specific occupation.

Exhibit 21 displays the industries that hire legal office technology and court reporting occupations in the two-county region.

Exhibit 21: Top industries employing legal office technology and court reporting occupations in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Top Industries from Staffing Pattern (NAICS) - % of occupation employed in industry	Industry Classification from Job Ads	
		Number of Job Postings (n=)	Top Industries from Job Ads (NAICS)
Legal Secretaries	<ul style="list-style-type: none"> Legal Services (5411) 68% Local Government, Excluding Education and Hospitals (9039) 18% 	22	<ul style="list-style-type: none"> Legal Services (5411)
Court Reporters	<ul style="list-style-type: none"> Business Support Services (5614) 71% Local Government, Excluding Education and Hospitals (9039) 17% 	-	-

Source: EMSI 2018.2, Burning Glass – Labor Insights

Student Completions for Legal Office Technology and Court Reporting Programs

Exhibit 22 shows the annual average regional community college awards (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code as well as the program title used at each college, sourced from the Chancellor’s Office Curriculum Inventory (COCI). Awards granted from 2013 to 2016 from other education facilities outside of the California Community Colleges are displayed in Exhibits 23 and 24, along with the relevant CIP code. Please note, an award is not equivalent to a single person in search of a job opening since a student may earn more than one award, such as an associate degree in addition to a certificate. Community College student outcome information was obtained from the CTE LaunchBoard based on the selected TOP code(s) and region.

Legal Office Technology and Court Reporting Occupational Group: 162 avg. annual job openings

- 0514.10 – Legal Office Technology: 5 avg. annual awards
- 22.0301 – Legal Administrative Assistant/Secretary: 2 avg. annual awards
- 22.0303 – Court Reporting/Court Reporter: 25 avg. annual awards

Exhibit 22: Annual average community college student completions for legal office technology programs in the Inland Empire/Desert Region

0514.10 Legal Office Technology	Annual Community College Headcount (2016-17)	Community College Annual Average Awards (2014-17)
Riverside	93	
Certificate 6 to <18-semester units		5
Total Community College Headcount (2016-17)	93	
Total Annual Average Community College Awards		5

Source: LaunchBoard, IPEDS

0514.10 Legal Office Technology program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16:

- Number of course enrollments: 119 (California median: 38)*
- Number of students who transferred to a 4-year institution: N/A (CA: N/A)
- Employed in the second fiscal quarter after exit: 65% (CA: 67%)
- Median earnings in the second fiscal quarter after exit: \$5,428 (CA:\$7,613)
- Employed in the fourth fiscal quarter after exit: N/A (CA: 69%)
- Median annual earnings: \$21,071 (CA: \$25,026)
- The percentage in a job closely related to the field of study: N/A (CA: N/A)
- Median change in earnings: 27% (CA: 64%)
- The proportion of students who attained a living wage: N/A (CA: N/A)

*academic year 2016-17

Exhibit 23: Annual average other educational program student completions for legal administrative assistant/secretary programs in the Inland Empire/Desert Region

22.0301 Legal Administrative Assistant/Secretary (CIP)	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
Summit College	
Award < 1 academic yr	2
Total annual average other awards	2

Source: IPEDS

Exhibit 24: Annual average other educational program student completions for court reporting/court reporter programs in the Inland Empire/Desert Region

22.0303 Court Reporting/Court Reporter (CIP)	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
Sage College	
Associate Degree	6
Award 2 < 4 academic yrs	19
Total annual average other awards	25

Source: IPEDS

Medical Office Technology

Job Opportunities

In 2017, there were more than 18,900 medical office technology jobs in the Inland Empire/Desert Region. This occupational group is projecting to increase employment 14% by 2022. Employers in the region will need to add 12,440 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes retirements). Appendix A, Table 3 shows the projected job growth for each of the occupations in this group.

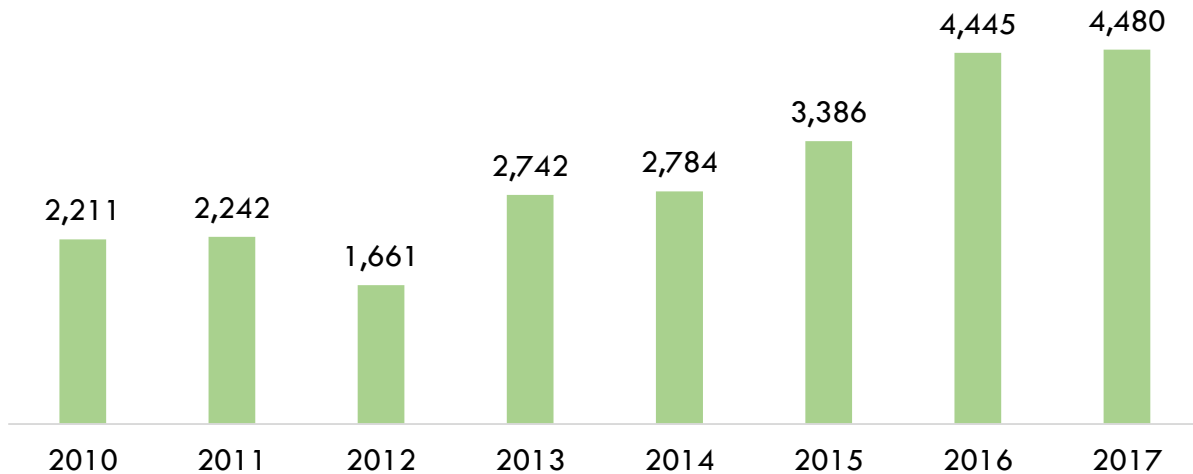
Exhibit 25: Five-year projections for the medical office technology occupational group in the Inland Empire/Desert Region

Region	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Inland Empire/Desert	18,939	14%	12,440	2,488	20%

Source: EMSI 2018.2

Over the last 12 months (May 2017 to April 2018), there were 4,019 advertisements (ads) for jobs in the medical office technology occupational group in the Inland Empire/Desert Region. From 2010 to 2017, there was an average of 2,994 job ads per year (Exhibit 26).

Exhibit 26: Number of online job postings for the medical office technology occupational group in the Inland Empire/Desert Region, 2010 to 2017



Source: Burning Glass – Labor Insights

Exhibit 27 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 nationally. On average, jobs in the medical office technology occupational group take a similar amount of time to fill in the local region as they do across the nation as a whole, except for medical and health services managers, which take nearly two weeks longer in the local region than nationwide.

Exhibit 27: Job ads by each of the medical office technology occupations in the Inland Empire/Desert Region during the last 12 months and time to fill, May 2017 – Apr 2018

Occupation	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Medical and Health Services Managers	1,935	53	41
Medical Records and Health Information Technicians	1,043	37	40
Medical Secretaries	578	33	31
Medical Assistants	442	31	37
Medical Transcriptionists	21	36	31
TOTAL	4,019	-	-

Source: Burning Glass – Labor Insights

Earnings

The median wage for each of the occupations in the medical office technology occupational group is above the MIT Living Wage estimate of \$12.30 per hour for a single adult living in the Inland Empire/Desert Region. This wage for each occupation in this group is sufficient for an adult living in a household with one other working adult and one child (\$14.50 per hour, per adult or \$30,160 annually for each adult), except for medical assistants. Exhibit 28 displays wage information for this occupational group in the Inland Empire/Desert Region.

Exhibit 28: Earnings for the business information systems technology occupational group in the Inland Empire/Desert Region

Occupation	Entry to Experienced Hourly Earnings Range*	Median Wage*	Average Annual Earnings
Medical and Health Services Managers	\$37.62 to \$66.53	\$52.26	\$111,600
Medical Records and Health Information Technicians	\$16.36 to \$25.58	\$20.51	\$46,500
Medical Transcriptionists	\$16.03 to \$26.29	\$18.38	\$43,700
Medical Secretaries	\$13.29 to \$19.43	\$15.72	\$34,900
Medical Assistants	\$12.26 to \$16.71	\$14.04	\$31,500

Source: EMSI 2018.2

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Work Locations, Employers, Skills, and Education

Exhibit 29 displays the top employers posting job ads as well as the top work locations from job ads during the last 12 months.

Exhibit 29: The top employers and work locations for the medical office technology occupational group in the Inland Empire/Desert Region during the last 12 months, May 2017 – Apr 2018

Occupation	Top Employers	Top Work Locations
Medical Office Technology Occupational Group (n=2,747)	<ul style="list-style-type: none"> Riverside Healthcare Loma Linda University Health/Hospital Tenet Health System 	<ul style="list-style-type: none"> Loma Linda Riverside San Bernardino

Source: Burning Glass – Labor Insights

Exhibit 30 lists a sample of in-demand specialized and soft skills that employers are seeking when looking for workers to fill medical office technology positions. N/A indicates that either there were too few job postings to obtain data or a skill type is not applicable to an occupation.

Exhibit 30: Sample of in-demand skills from employer job ads for medical office technology occupations in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Specialized skills	Soft skills	Software and Programming skills
Medical and Health Services Managers (n=1,674)	<ul style="list-style-type: none"> • Patient Care • Budgeting • Teaching • Scheduling 	<ul style="list-style-type: none"> • Teamwork/ Collaboration • Communication Skills • Planning 	<ul style="list-style-type: none"> • Microsoft Office
Medical Records and Health Information Technicians (n=944)	<ul style="list-style-type: none"> • Medical Coding • Medical Billing • Accounting 	<ul style="list-style-type: none"> • Communication Skills • Detail-Oriented • Typing and Writing 	<ul style="list-style-type: none"> • Epic Systems • Microsoft Office • ICD-10
Medical Secretaries (n=486)	<ul style="list-style-type: none"> • Administrative Support • Scheduling • Appointment Setting 	<ul style="list-style-type: none"> • Communication Skills • Telephone Skills • Typing 	<ul style="list-style-type: none"> • Microsoft Office
Medical Assistants (n=397)	<ul style="list-style-type: none"> • Scheduling • Vital Signs Measurement • Cardiopulmonary Resuscitation (CPR) 	<ul style="list-style-type: none"> • Communication Skills • Bilingual • Telephone Skills 	<ul style="list-style-type: none"> • Microsoft Office
Medical Transcriptionists (n=11)	<ul style="list-style-type: none"> • Pathology • Dictation • Secretarial Skills 	<ul style="list-style-type: none"> • Communication Skills • Telephone Skills • Preparing Reports 	<ul style="list-style-type: none"> • Meditech • Microsoft Office

Source: Burning Glass – Labor Insights

Exhibit 31 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 31: Educational attainment and online job ads with minimum advertised education requirements for the medical office technology occupational group in the Inland Empire/Desert Region, May 2017 -Apr 2018

Occupation	Typical Entry-Level Education Requirement	Educational Attainment*	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%	1,184	-	22%	78%
Medical Records and Health Information Technicians	Postsecondary nondegree award	56%	590	51%	11%	38%
Medical Secretaries	High school diploma or equivalent	47%	308	85%	2%	13%
Medical Assistants	Postsecondary nondegree award	66%	279	98%	2%	-
Medical Transcriptionists	Postsecondary nondegree award	59%	6	100%	-	-

Source: EMSI 2018.2, Burning Glass – Labor Insights

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

Industry

Staffing patterns show the industries that employ the most workers of a specific occupation.

Exhibit 32 displays the industries that hire medical office technology occupations in the two-county region.

Exhibit 32: Top industries employing medical office technology occupations in the Inland Empire/Desert Region, May 2017 – Apr 2018

Occupation	Top Industries from Staffing Pattern (NAICS) - % of occupation employed in industry	Industry Classification from Job Ads	
		Number of Job Postings (n=)	Top Industries from Job Ads (NAICS)
Medical and Health Services Managers	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221) 21% Outpatient Care Centers (6214) 14% 	1,421	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221)
Medical Records and Health Information Technicians	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221) 26% Office of Physicians (6211) 18% 	497	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221)
Medical Secretaries	<ul style="list-style-type: none"> Office of Physicians (6211) 31% General Medical and Surgical Hospitals (6221) 18% 	378	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221) Offices of Dentists (6212)
Medical Assistants	<ul style="list-style-type: none"> Office of Physicians (6211) 52% Outpatient Care Centers (6214) 19% 	320	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221) Offices of Physicians (6211)
Medical Transcriptionists	<ul style="list-style-type: none"> Business Support Services (5614) 50% Offices of Physicians (6211) 16% 	9	<ul style="list-style-type: none"> General Medical and Surgical Hospitals (6221)

Source: EMSI 2018.2, Burning Glass – Labor Insights

Student Completions for Medical Office Technology Programs

Exhibit 33 shows the annual average regional community college awards (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code as well as the program title used at each college, sourced from the Chancellor’s Office Curriculum Inventory (COCI). Awards granted from 2013 to 2016 from other education facilities outside of the California Community Colleges are displayed in Exhibit 34, along with the relevant CIP code. Please note, an award is not equivalent to a single person in search of a job opening since a student may earn more than one award, such as an associate degree in addition to a certificate.

Community College student outcome information was obtained from the CTE LaunchBoard based on the selected TOP code(s) and region.

Medical Office Technology Occupational Group: 2,488 avg. annual job openings

- 0514.20 – Medical Office Technology: 2 avg. annual awards
- 51.0716 – Medical Administrative/Executive Assistant and Medical Secretary: 80 avg. annual awards

Exhibit 33: Annual average community college student completions for medical office technology programs in the Inland Empire/Desert Region

0514.20 Medical Office Technology	Annual Community College Headcount (2016-17)	Community College Annual Average Awards (2014-17)
Chaffey – Professional Administrative Asst: Medical/Medical Insurance Billing		
Associate Degree		1
Certificate 30 to < 60 semester units		1*
San Bernardino	121	
Victor Valley		
Certificate 30 to < 60 semester units		1*
Total Community College Headcount (2016-17)	121	
Total Annual Average Community College Awards		2

Source: LaunchBoard, IPEDS, COCI

*Chaffey awarded 1 30 to <60-semester unit certificate in 2015-16 and Victor Valley awarded 1 30 to <60-semester unit certificate in 2016-17

0514.20 Medical Office Technology program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16:

- Number of course enrollments: 121 (California median: 689)*
- Number of students who transferred to a 4-year institution: 10 (CA: 45)
- Employed in the second fiscal quarter after exit: 76% (CA: 70%)
- Median earnings in the second fiscal quarter after exit: \$8,159 (CA:\$5,598)
- Employed in the fourth fiscal quarter after exit: 76% (CA: 67%)
- Median annual earnings: \$20,458 (CA: \$21,495)
- The percentage in a job closely related to the field of study: N/A (CA: 75%) [2014-15]
- Median change in earnings: 119% (CA: 66%)
- The proportion of students who attained a living wage: 52% (CA: 42%)

*academic year 2016-17

Exhibit 34: Annual average other education program student completions for medical administrative/executive assistant and medical secretary programs in the Inland Empire/Desert Region

51.0716 Medical Administrative/Executive Assistant and Medical Secretary (CIP)	Other Educational Institutions Annual Average Certificates or Other Credit Awards (2013-16)
American College of Healthcare	
Award < 1 academic yr	10
California Nurses Educational Institute	
Award < 1 academic yr	4
Milan Institute-Palm Desert	
Award < 1 academic yr	25
North-West College-Riverside	
Award < 1 academic yr	5
Riverside County Office of Education-School of Career Education	
Award < 1 academic yr	36
Total annual average other awards	80

Source: IPEDS

Sources

O*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard

MIT Living Wage Calculator

Chancellor's Office Curriculum Inventory (COCI, version 2.0)

The Integrated Postsecondary Education Data System (IPEDS)

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May 2018



Appendix A: 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%*

Table 1. 2017 to 2022 job growth, wages, entry-level education, training, and work experience required for the general office technology occupational group, Inland Empire/Desert Region

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry to Experienced Wage*	Median Wage*	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (43-6014)	23,867	1,804	8%	2,984	\$14.08 to \$22.46	\$17.96	\$38,300	High school diploma or equivalent & 1 month	None
First-Line Supervisors of Office and Administrative Support Workers (43-1011)	15,444	1,550	10%	1,879	\$20.77 to \$31.79	\$26.08	\$57,100	High school diploma or equivalent & none	Less Than 5 Years
Executive Secretaries and Executive Administrative Assistants (43-6011)	4,463	146	3%	511	\$22.12 to \$30.90	\$26.71	\$56,700	High school diploma or equivalent & none	Less Than 5 Years
Administrative Services Managers (11-3011)	3,408	289	8%	338	\$32.23 to \$57.13	\$43.87	\$98,400	Bachelor's degree & none	Less Than 5 Years
Total	47,181	3,789	8%	5,712	-	-	-	-	-

Source: EMSI 2018.2

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.



Table 2. 2017 to 2022 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)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry to Experienced Wage*	Median Wage*	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Legal Secretaries (43-6012)	1,079	60	6%	129	\$14.57 to \$23.77	\$17.92	\$40,400	High school diploma or equivalent & 1 to 12 months	None
Court Reporters (23-2091)	330	26	8%	33	\$28.47 to \$36.52	\$31.32	\$69,600	Postsecondary nondegree award & 1 month	None
Total	1,408	86	6%	162	-	-	-	-	-

Source: EMSI 2018.2

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Table 3. 2017 to 2022 job growth, wages, entry-level education, training, and work experience required for the medical office technology occupational group, Inland Empire/Desert Region

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry to Experienced Wage*	Median Wage*	Average Annual Earnings	Entry-Level Education & On-The-Job-Training	Work Experience Required
Medical Assistants (31-9092)	7,834	1,047	13%	1,083	\$12.26 \$16.71	\$14.04	\$31,500	Postsecondary nondegree award & none	None
Medical Secretaries (43-6013)	6,506	829	13%	896	\$13.29 to \$19.43	\$15.72	\$34,900	High school diploma or equivalent & 1 to 12 months	None
Medical and Health Services Managers (11-9111)	2,491	491	20%	305	\$37.62 to \$66.53	\$52.26	\$111,600	Bachelor's degree & none	Less Than 5 Years
Medical Records and Health Information Technicians (29-2071)	1,729	217	13%	151	\$16.36 to \$25.58	\$20.51	\$46,500	Postsecondary nondegree award & none	None
Medical Transcriptionists (31-9094)	379	34	9%	53	\$16.03 to \$26.29	\$18.38	\$43,700	Postsecondary nondegree award & none	None
Total	18,939	2,618	14%	2,488	-	-	-	-	-

Source: EMSI 2018.2

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.