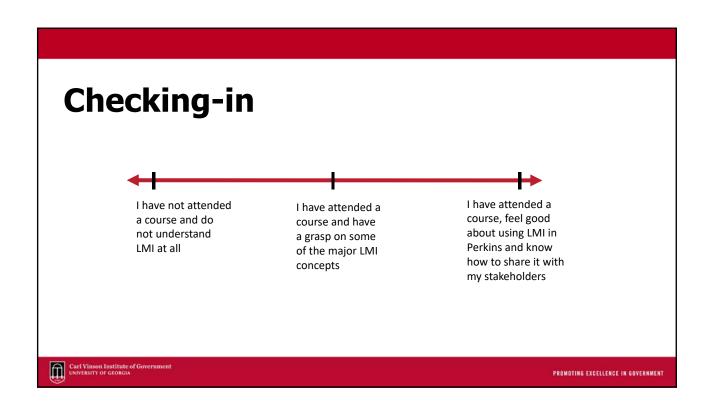


Labor Market Alignment

CTAE Winter Conference February 4, 2020

Rebecca McIver Greg Wilson



Labor Market Alignment Overview



PROMOTING EXCELLENCE IN GOVERNMENT

What does Labor Market Alignment mean in context of Perkins V?

A description of how career and technical education programs offered by the eligible recipient are—

- (I) aligned to State, regional, Tribal, or local in demand industry sectors or occupations identified by the State workforce development board described in section 101 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3111) (referred to in this section as the "State board") or local workforce development board, including career pathways, where appropriate; or
- (II) designed to meet local education or economic needs not identified by State boards or local workforce development boards.

Source: Perkins V Section 134(2)(B)(ii): Labor Market Alignment



Put Simply

School districts must analyze labor market data to answer questions like:

- Do we offer pathways to occupations that are projected to grow in our community, our region, or our state (in-demand occupations)?
- Are we preparing students to enter key industries in our community, our region, or our state?
- Are we teaching the technical and employability skills required for in-demand occupations and key industries?
- Do our pathways lead to family sustaining wages and career growth opportunities?

Goal—Support students with career pathways to lead to economically sustaining jobs that support Georgia's growing and diverse economy



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Labor Market Alignment To-Do List

- Gather relevant labor market information for the CLNA process
- Analyze the labor market information, identify trends, develop a list of strengths and weaknesses
- Share the labor market information with stakeholders and gather feedback
- Use the data, analyses, and feedback to complete the CLNA
- Over the long-term use the results to shape program offerings, delivery strategies, new partnerships, and course content



Nuts and Bolts of Labor Market Informatin



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Industry Data

North American Industry Classification System

(NAICS)—System used to classify business by industry 2 to 6 digit system

For example **51121 Software Publishers**

51=Information

511=Publishing Industries

5112=Software Publishers

51121=Software Publishers

https://www.census.gov/eos/www/naics





Occupational Data

The Standard Occupational Classification (SOC) system is used to organize occupations by major groups (23), minor groups (97), broad occupations (461), and detailed occupations (840) 2 to 5 digit system

For example 13-1071 = Human Resources Specialists

13 = Business and Financial Operations Occupations (Major Group)

13-1 = Business Operation Specialists (Minor Group)

13-107 = Human Resources Workers (Broad Occupation)

13-1071 = Human Resources Specialists (Detailed Occupation)

https://www.bls.gov/soc/home.htm





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Geography for Perkins V Data

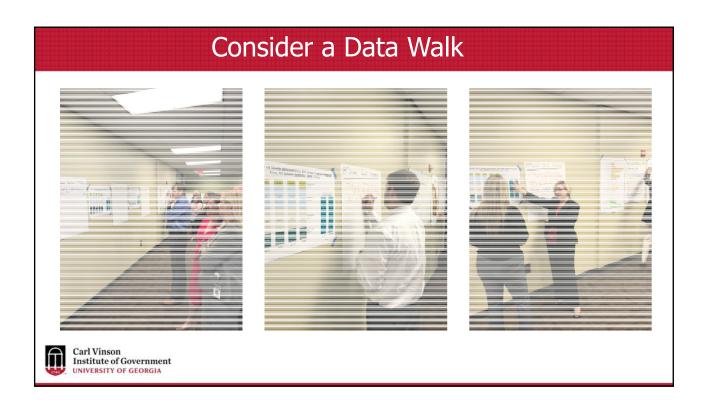
Labor market information uses many different geographic areas for releasing data.

The geographies most relevant to Perkins V are:

- County
- Locally Developed Region
- Local Workforce Development Areas (LWDA) / WorkSource Boards
- Metropolitan/Micropolitan Statistical Area







NAICS	Description	2009 Jobs	2018 Jobs	2009–2018 Change		Avg. Earnings Per Job	2018 Location Quotient	2018 Establishments
11	Agriculture, Forestry, Fishing and Hunting	776	412	-364	-47%	\$42,067	0.37	26
21	Mining, Quarrying, and Oil and Gas Extraction	49	46	-3	-6%	\$86,879	0.12	3
22	Utilities	147	158	11	7%	\$116,441	0.48	6
23	Construction	5,105	5,590	485	10%	\$53,464	1.05	463
31	Manufacturing	15,430	20,594	5,164	33%	\$56,040	2.72	258
42	Wholesale Trade	3,562	4,498	936	26%	\$72,292	1.27	296
44	Retail Trade	7,758	9,295	1,537	20%	\$34,812	0.96	568
48	Transportation and Warehousing	2,206	3,116	910	41%	\$64,586	0.90	142
51	Information	611	554	-57	-9%	\$76,419	0.31	38
52	Finance and Insurance	2,537	2,836	299	12%	\$80,058	0.73	263
53	Real Estate and Rental and Leasing	761	845	84	11%	\$45,594	0.52	186
54	Professional, Scientific, and Technical Services	1,906	2,378	472	25%	\$63,421	0.38	392
55	Management of Companies and Enterprises	272	969	697	256%	\$116,057	0.71	29
56	Administrative and Support and Waste Management and Remediation Services	4,724	6,499	1,775	38%	\$32,479	1.08	274
61	Educational Services	1,360	1,722	362	27%	\$32,981	0.70	36
62	Health Care and Social Assistance	9,425	13,267	3,842	41%	\$67,945	1.09	514
71	Arts, Entertainment, and Recreation	880	1,116	236	27%	\$270,227	0.67	75
72	Accommodation and Food Services	4,555	6,914	2,359	52%	\$20,717	0.84	306
81	Other Services (except Public Adminis- tration)	3,387	3,571	184	5%	\$27,293	0.78	263
90	Government	11,469	11,467	-2	-0%	\$55,874	0.79	116
	Total	76,919	95,846	18,927	25%	\$70,782		4,252

District Pathway Offerings and Enrollment

Clusters / Pathways	2018-2019 Enrollment
Agriculture, Food, & Natural Resources	
Architecture and Construction	25
Arts, A/V Technology, & Communications	65
Business Management & Administration	110
Education and Training	20
Energy	Not Offered
Finance	75
Government & Public Administration	45
Health Science	90
Hospitality & Tourism	Not Offered
Human Services	30
Information Technology	60
Law, Public Safety, Corrections, & Security	Not Offered
Manufacturing	35
Marketing	40
Science, Technology, Engineering, Mathematics	55
Transportation, Distribution & Logistics	30

$Highest\ growth\ occupations\ (by\ change\ in\ total\ number\ of\ jobs)$ $requiring\ some\ college\ or\ more,\ 2018-2028.$

Occupation	2018 Jobs	Projected 2028 Jobs	2018–2028 Change	Percent Change	Avg. Hourly Earnings	Typical Entry Level Education	Annual Openings
Registered Nurses	1,162	1,541	379	33%	\$32.06	Bachelor's degree	106
Medical Assistants	1,023	1,369	346	34%	\$15.67	Postsecondary nondegree award	161
General and Operations Managers	1,486	1,727	241	16%	\$51.16	Bachelor's degree	154
Heavy and Tractor-Trailer Truck Drivers	1,609	1,837	228	14%	\$22.67	Postsecondary nondegree award	207
Postsecondary Teachers	841	1,046	205	24%	\$33.84	Doctoral or pro- fessional degree	92
Emergency Medical Techni- cians and Paramedics	753	957	204	27%	\$16.48	Postsecondary nondegree award	71
Accountants and Auditors	555	684	129	23%	\$32.14	Bachelor's degree	68
Physicians and Surgeons, All Other	524	643	119	23%	\$128.65	Doctoral or pro- fessional degree	27
Nursing Assistants	569	687	118	21%	\$12.77	Postsecondary nondegree award	82
Bookkeeping, Accounting, and Auditing Clerks	787	882	95	12%	\$18.46	Some college, no degree	102

Source: EMSI

High Wage Jobs

Table 7. Top ten middle-skill occupations in Hall County, 2018.

Occupation	2018 Jobs	Avg. Hourly Earnings	Typical Entry Level Education	Annual Openings
Heavy and Tractor-Trailer Truck Drivers	1,515	\$22.97	Postsecondary nondegree award	175
Medical Assistants	1,022	\$15.62	Postsecondary nondegree award	129
Teacher Assistants	891	\$10.00	Some college, no degree	94
Bookkeeping, Accounting, and Auditing Clerks	758	\$18.48	Some college, no degree	90
Emergency Medical Technicians and Para- medics	753	\$16.48	Postsecondary nondegree award	81
Surgical Technologists	686	\$26.03	Postsecondary nondegree award	72
Nursing Assistants	564	\$12.77	Postsecondary nondegree award	68
Licensed Practical and Licensed Vocational Nurses	484	\$20.10	Postsecondary nondegree award	40
Automotive Service Technicians and Mechan- ics	460	\$17.09	Postsecondary nondegree award	48
Firefighters	391	\$17.65	Postsecondary nondegree award	31
Courses EMCI				

Table 8. Top ten high-skill occupations in Hall County, 2018.

Occupation	2018 Jobs	Avg. Hourly Earnings	Typical Entry Level Education	Annual Openings
General and Operations Managers	1,478	\$51.31	Bachelor's degree	153
Registered Nurses	1,154	\$32.09	Bachelor's degree	78
Elementary School Teachers, Except Special Education	1,133	\$25.31	Bachelor's degree	86
Postsecondary Teachers	830	\$33.92	Doctoral or professional degree	85
Secondary School Teachers, Except Special and Career/Technical Education	665	\$27.51	Bachelor's degree	51
Accountants and Auditors	511	\$32.78	Bachelor's degree	52
Physicians and Surgeons, All Other	508	\$130.33	Doctoral or professional degree	34
Loan Officers	506	\$39.85	Bachelor's degree	69
Special Education Teachers, Kindergarten and Elementary School	400	\$26.96	Bachelor's degree	32
Business Operations Specialists, All Other	318	\$33.25	Bachelor's degree	32

Source: EMSI

Community Commuting Patterns

Figure 9. Work destination counties for region residents, 2015

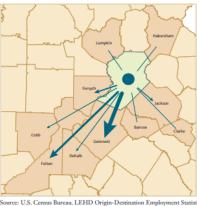
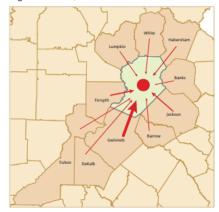
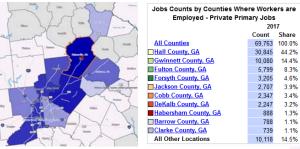


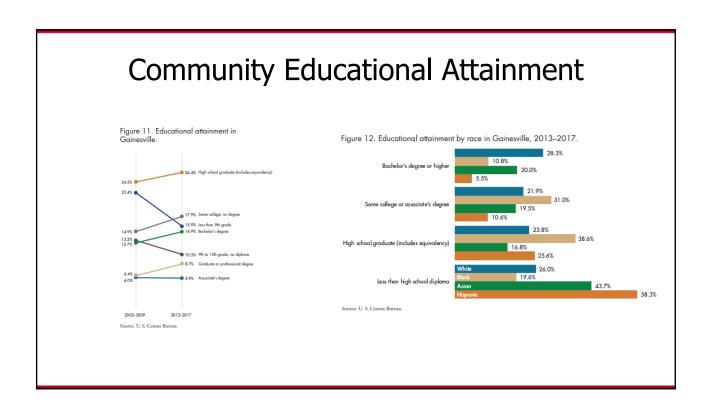
Figure 10. Home destination counties for region workers, 2015

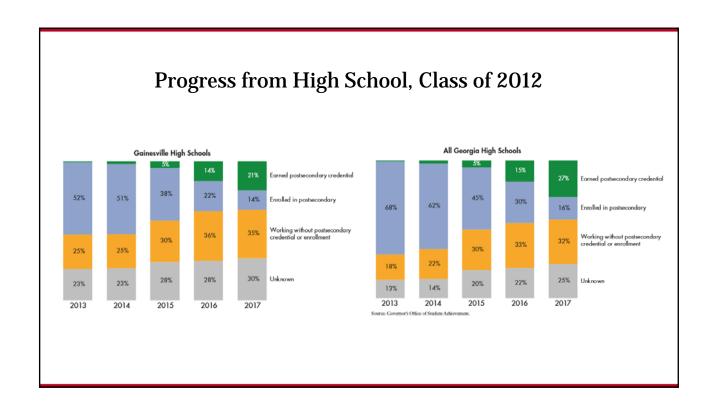


Community Commuting Patterns - OnTheMap









Six Alignment Questions

- 1. What are the largest industries in my region?
- 2. What are the fastest growing jobs in my region?
- 3. What are the highest paying jobs in my region?
- 4. Where are people in my region commuting to and from for work?
- 5. What are the current training and education levels of my community's workforce?
- 6. Where do the students from our high school(s) go after graduation?



PROMOTING EXCELLENCE IN GOVERNMENT

1. What are the largest industries in my region?

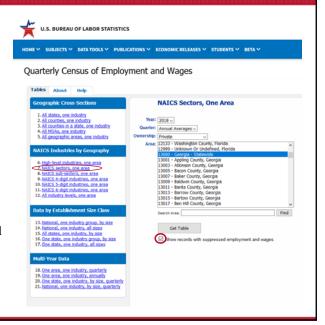
Source:

 BLS Quarterly Census of Employment and Wages (QCEW)

https://www.bls.gov/cew/data.htm

- Depending on your county/MSA use report 6 (less detail),7, or 8 (more detailed)
- 2018 annual averages with private ownership should produce the most results. <u>Always</u> check box with suppressed records
- Data set includes:
 - Sector, establishments, annual average employment, total annual wages, annual average weekly wage, annual wages per employee, annual average employment LQ, Total Annual wages LQ





1. What are the largest industries in my region?

Source: BLS Quarterly Census of Employment and Wages

		Annual Average			Annual Average		Annual Wages per
	Annual Establishments	Employment	Total Annual Wa	ges	Weekly Wage	e	Employee
NAICS 11 Agriculture, forestry, fishing and hunting	2,401	24,187 \$	870,540,069	\$	692	\$	35,992
NAICS 21 Mining, quarrying, and oil and gas extraction	229	5,208 \$	364,338,796	\$	1,345	\$	69,959
NAICS 22 Utilities	452	19,041 \$	1,916,606,501	\$	1,936	\$	100,659
NAICS 23 Construction	20,577	195,221 \$	11,912,101,173	\$	1,173	\$	61,018
NAICS 31-33 Manufacturing	9,884	406,818 \$	24,070,456,397	\$	1,138	\$	59,168
NAICS 42 Wholesale trade	21,005	214,843 \$	16,448,212,780	\$	1,472	\$	76,559
NAICS 44-45 Retail trade	32,379	493,665 \$	15,349,013,663	\$	598	\$	31,092
NAICS 48-49 Transportation and warehousing	7,160	206,710 \$	12,393,308,270	\$	1,153	\$	59,955
NAICS 51 Information	5,113	114,231 \$	11,036,197,180	\$	1,858	\$	96,613
NAICS 52 Finance and insurance	14,573	168,990 \$	15,922,502,586	\$	1,812	\$	94,222
NAICS 53 Real estate and rental and leasing	11,652	68,910 \$	4,200,635,360	\$	1,172	\$	60,958
NAICS 54 Professional and technical services	36,558	275,936\$	24,062,764,365	\$	1,677	\$	87,204
NAICS 55 Management of companies and enterprises	1,512	73,372 \$	8,708,828,914	\$	2,283	\$	118,695
NAICS 56 Administrative and waste services	16,645	338,014 \$	13,271,157,445	\$	755	\$	39,262
NAICS 61 Educational services	3,310	74,676 \$	4,024,158,740	\$	1,036	\$	53,888
NAICS 62 Health care and social assistance	25,641	487,760 \$	25,257,217,585	\$	996	\$	51,782
NAICS 71 Arts, entertainment, and recreation	3,607	53,709 \$	1,881,411,999	\$	674	\$	35,030
NAICS 72 Accommodation and food services	20,668	433,890 \$	8,164,927,341	\$	362	\$	18,818
NAICS 81 Other services, except public administration	17,999	108,656 \$	3,952,575,377	\$	700	\$	36,377
Total	251,365	3,763,837 \$	203,806,954,541	\$	1,041.32	\$	54,148.72



2. What are the fastest growing jobs in my region?

Source: Georgia Department of Labor https://dol.georgia.gov/get-occupational-trends → Occupational Outlook

2016-2026 Long-term Occupational Projections (statewide and by LWDA)

- While you can click on fastest growing occupations for a region it gives you only the top 15 and it is based solely on the annual growth rate and does not take into account the annual openings or other important factors.
- The <u>best</u> option is to use all occupations for a region.
 Cleaned and ready to use versions of these files can be found on the Winter Conference page.





2. What are the fastest growing jobs in my region?

Georgia Department of Labor 2016-2026 Long-term Occupational Projections *Understanding the Table:*

Column	Title	Description
F	Total Change in Employment	The numerical change in employment measures the projected number of job gains or losses for the total $10\ \mathrm{year}$ window.
G	Percent change in Employment	The percent change in employment measures the projected number of job gains or losses over the base employment. $ \\$
Н	Annual growth rate	Percent change divided by the number of years (10) gives you the annual growth rate
I	Annual Labor Force Exits	The projected number of workers leaving an occupation and transferring to a different occupation. Transfers represent permanent separations from an occupation, not temporary movements where the worker is expected to return to the same occupation in the future.
J	Annual Occupational Transfers	The projected number of workers leaving an occupation and exiting the labor force entirely. Labor force exits are more common at older ages as workers retire, but can occur at any age.
K	Annual Change in Employment	Change in employment for each year in the 10 year projection window
L	Annual Occupational Openings	Total change in employment + occupational transfers + labor force exits



2. What are the fastest growing jobs in my region?

Suggestions for filtering and sorting all occupations for a region

- Filter for greater than 50 annual openings
- · Filter for jobs with more than a HS diploma or equivalent
 - · Maybe make several table that look at different education levels
- Sort based on total change in employment or annual occupational openings
- Look at other data sources like GA DOL for wage data to ensure occupations are not only in-demand but also provide a livable wage



2. What are the fastest growing jobs in my region?

SOC Code	Occupations	Typical Education	2016 Base Employment	2026 Projected Employment	Total Change in Employment	Percent Change in Employment	Rate	Separations - Labor	Annual Occupational Separations - Occupational Transfers	Annual Change in Employment	Annual Occupational Openings =
53-3032	Heavy and Tractor-Trailer Truck Drivers	5-Postsecondary non-degree award	59,740	68,220	8,480	14.2%	1.3%	2,710	4,020	850	7,580
43-3031	Bookkeeping, Accounting, and Auditing Clerks	6-Some college, no degree	44,890	46,720	1,830	4.1%	0.4%	2,840	2,200	180	5,220
31-1014	Nursing Assistants	5-Postsecondary non-degree award	36,780	42,600	5,820	15.8%	1.5%	2,410	2,010	580	5,000
25-9041	Teacher Assistants	6-Some college, no degree	35,830	41,320	5,490	15.3%	1.4%	2,120	1,760	550	4,430
31-9092	Medical Assistants	5-Postsecondary non-degree award	21,150	27,330	6,180	29.3%	2.6%	1,060	1,490	620	3,170
49-3023	Automotive Service Technicians and Mechanics	5-Postsecondary non-degree award	24,670	28,470	3,800	15.4%	1.4%	840	1,600	380	2,820
29-2061	Licensed Practical and Licensed Vocational Nurses	5-Postsecondary non-degree award	26,370	29,340	2,970	11.3%	1.1%	980	970	300	2,250
15-1151	Computer User Support Specialists	6-Some college, no degree	21,930	24,500	2,570	11.7%	1.1%	470	1,200	260	1,930
39-5012	Hairdressers, Hairstylists, and Cosmetologists	5-Postsecondary non-degree award	13,110	14,890	1,780	13.6%	1.3%	930	700	180	1,810
25-2011	Preschool Teachers, Except Special Education	4-Associate's degree	14,620	16,610	1,990	13.6%	1.3%	670	830	200	1,700
SOC Code	Occupations	Typical Education	2016 Base Employmen +						Annual Occupational Separations - Occupations =	Annual Change	Annual Occupational
11-1021	General and Operations Managers	3-Bachelor's degree	88,130	101,150	13,020	14.8%	1.4%	1,960	5,650	1,300	8,910
29-1141	Registered Nurses	3-Bachelor's degree	73,840	87,350	13,510	18.3%	1.7%	2,310	1,750	1,350	5,410
25-2021	Elementary School Teachers, Except Special Education	3-Bachelor's degree	51,360	58,980	7,620	14.8%	1.4%	1,820	2,040	760	4,620
13-2011	Accountants and Auditors	3-Bachelor's degree	37,790	44,090	6,300	16.7%	1.6%	1,210	2,360	630	4,200
13-1199	Business Operations Specialists, All Other	3-Bachelor's degree	33,670	38,150	4,480	13.3%	1.3%	1,130	2,070	450	3,650
13-1111	Management Analysts	3-Bachelor's degree	24,630	28,750	4,120	16.7%	1.6%	860	1,380	410	2,650
13-1161	Market Research Analysts and Marketing Specialists	3-Bachelor's degree	18,090	23,340	5,250	29.0%	2.6%	550	1,420	530	2,500
25-2022	Middle School Teachers, Except Special and Career/Technical Education	3-Bachelor's degree	26,900	30,940	4,040	15.0%	1.4%	950	1,070	400	2,420
15-1132	Software Developers, Applications	3-Bachelor's degree	23,350	29,750	6,400	27.4%	2.5%	360	1,300	640	2,300
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	3-Bachelor's degree	25.290	29.080	3,790	15.0%	1.4%	830	1.010	380	2,220



3. What are the highest paying jobs in my region?

Source:

Carl Vinson

UNIVERSITY OF GEORGIA

- **BLS Occupational Employment Statistics** (for Metro areas) https://www.bls.gov/oes/data.htm
- Data is shown on webpage and can be copied and pasted into Excel



Source:

- · GA DOL Occupational Wages (for Statewide, LWD Areas and Metros) https://explorer.gdol.ga.gov/
- Data is downloaded as spreadsheets



3. What are the highest paying jobs in my region?

Source:

- BLS Occupational Employment Statistics (for Metro areas) https://www.bls.gov/oes/data.htm
- Includes the following data points:
 - Employment
 - Mean hourly wage
 - · Median hourly wage
 - · Annual mean wage
 - Location quotient

Source:

- GA DOL Occupational Wages (for Statewide, LWD Areas and Metros) https://explorer.gdol.ga.gov/
- Includes the following data points:
 - Education Level
 - Work Experience
 - · On the job training
 - Employment
 - · Average wage
 - · Average annual wage
 - · Entry wage
 - · Median wage
 - · Percentile ranges



3. What are the highest paying jobs in my region?

Once you get the data into Excel try sorting it a few different ways (employment, annual wage, hourly wage, etc)

Then make a table or graph to share your findings or **combine the** data with the fastest growing to look at the area of in-demand and high wage

Occupational			Location	Median	Mean	Annua
Code	Occupational Title	Employment	Quotient	hourly wage	hourly wage	mean wage
29-1061	Anesthesiologists	540	0.57	\$96.20	\$107.84	\$224,300
29-1062	Family and General Practitioners	*	*	\$86.36	\$91.80	\$190,950
29-1065	Pediatricians, General	680	0.78	\$77.95	\$87.02	\$181,000
29-1021	Dentists, General	3,110	0.91	\$71.75	\$84.90	\$176,600
29-1151	Nurse Anesthetists	990	0.75	\$70.41	\$72.63	\$151,070
53-2021	Air Traffic Controllers	990	1.45	\$70.08	\$65.48	\$136,210
29-1029	Dentists, All Other Specialists	90	0.68	\$66.11	\$75.09	\$156,190
11-9041	Architectural and Engineering Managers	4,740	0.83	\$65.53	\$68.39	\$142,240
11-3021	Computer and Information Systems Managers	13,990	1.18	\$65.48	\$69.20	\$143,930
11-2021	Marketing Managers	7.890	1.08	\$64.20	\$69.07	\$143,660



4. Where are people in my region commuting to and from for work?

Source: OnTheMap - <u>https://onthemap.ces.census.gov/</u>

Search for your community and then perform analysis.

Analysis Information

- Home (Residents of the selected area) v Work (people who work in the selected county)
- Most common analysis type:
 - <u>Destination</u> where residents or workers (based on your selection) commute to/from
 - <u>Inflow/Outflow</u> the number of employees who commute into your county to find work, the number that live and work in your community and the number that commute out of the community for work.
 - <u>Area Profile</u> select work to find out about the areas workforce based on several demographics



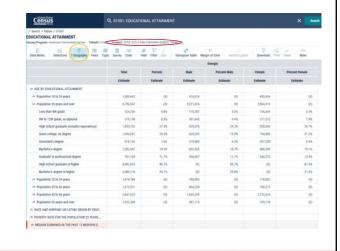


5. What are the current training and education levels of my community's workforce?

Source: Census – American Community Survey https://data.census.gov

Step by Step

- Search for educational attainment in the search bar and select the following table (S1501: Educational Attainment)
- Change to the most recent 5-year estimates (2018: ACS 5-year) at the very top and apply your geography
- From here you will want to copy and paste or download the data and make a graph in Excel





5. What are the current training and education levels of my community's workforce?

Source: Census – American Community Survey https://data.census.gov

Educational Attainment Levels	Total	%	Male	% Male	Female	% Female
Less than 9th grade	324,756	4.80%	170,287	5.30%	154,469	4.30%
9th to 12th grade, no diploma	579,158	8.50%	301,946	9.40%	277,212	7.80%
High school graduate (includes equivalency)	1,890,132	27.90%	939,926	29.20%	950,206	26.70%
Some college, no degree	1,394,241	20.50%	639,255	19.80%	754,986	21.20%
Associate's degree	518,144	7.60%	210,885	6.50%	307,259	8.60%
Bachelor's degree	1,282,947	18.90%	602,438	18.70%	680,509	19.10%
Graduate or professional degree	797,169	11.70%	356,897	11.10%	440,272	12.40%

The standard is to use Population 25+ and look at the 7 levels of educational attainment. You can also look at this data based on race and poverty and other more specific criteria if you are interested.

Format the table if you want to show the full data by highlighting the cells and choosing "insert" → "table" and then playing with the "design" tab at the top to change the color, headers, rows, etc.

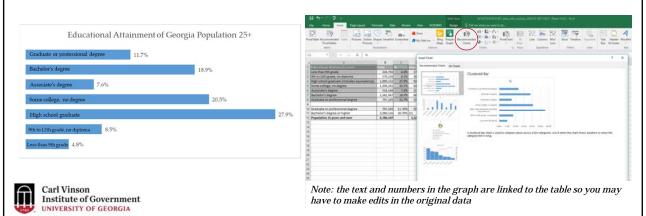
The better option is to make it into a graph... see next slide



5. What are the current training and education levels of my community's workforce?

Source: Census – American Community Survey https://data.census.gov

- Select the data that you want from your table and insert a recommended chart.
- From here you can change the way it looks with the "chart tools" → "design"



17

6. Where do the students from our high school(s) go after graduation?

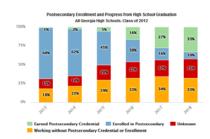
Source: GOSA – High School Outcomes https://hsgrad.gosa.ga.gov/





Through this data source you can look at the following information for graduates of a district or high school for any given year (2007-2017):

- · One year after high school graduation
- Progression in the years following graduation →
- Highest credential earned after 5 years
- · Percent requiring remediation
- Top in-state and out-of-state colleges/universities





While you can download the data and create your own visualizations, the provided ones will work just fine to share with stakeholders

Other potential questions to consider

What industries have a large number of employees retiring?

What industries employ a large number of men or women (non-traditional lens)?

What levels of education do various occupations typically require?





Help with Excel:

 $\underline{https://www.linkedin.com/learning/topics/excel}$

(Start with Excel Essentials Training)

https://edu.gcfglobal.org/en/excel2016/ (also has a YouTube channel)

Other data sources:

Georgia Data.org

Georgia Local Area Profiles

• Industry and sector mix, income, top 10 largest employers, education, etc





Questions / Discussion / Work time

PROMOTING EXCELLENCE IN GOVERNMENT

Office Hours 4:15PM-5:30PM

Labor Market Data

Please use the notecards on the table to indicate what questions or topics you are interested in. We will use this to develop a schedule (if necessary)



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