

UNIVERSITY OF COLORADO

# Economic Contribution on the State and Counties of Operations, FY2021-22

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**October 2022**

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## ECONOMIC CONTRIBUTION OF THE UNIVERSITY OF COLORADO SUMMARY

The University of Colorado is the nexus of teaching, research, and healthcare that reaches far beyond economic statistics that quantify purchases and payroll in the state of Colorado. In addition, the university’s economic contributions resonate as an economic engine driven by education, clinical, and research expenditures.

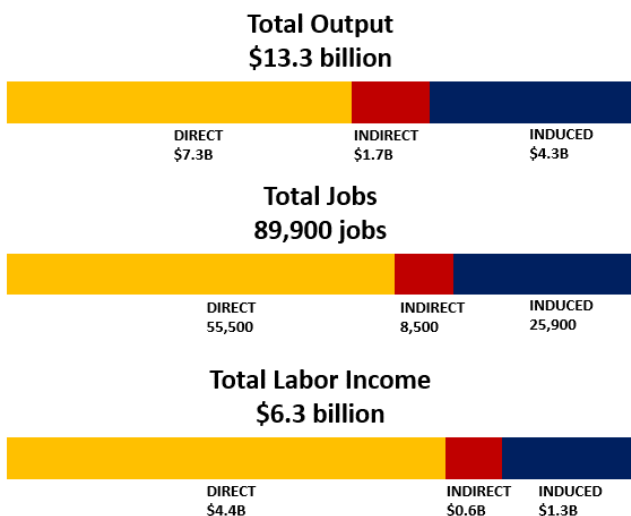
The University of Colorado comprises four campuses—the University of Colorado Boulder (CU Boulder), the University of Colorado Colorado Springs (UCCS), the University of Colorado Denver (CU Denver), and the Anschutz Medical Campus (CU Anschutz), as well as the system administration offices in Denver. This public university serves “Colorado, the nation, and the world through leadership in high-quality education and professional training, public service, advancing research and knowledge, and state-of-the-art health care.”

The University of Colorado is an economic driver in the state of Colorado, employing thousands of workers, buying from local vendors, importing investment, educating the local workforce, and exporting research discoveries. Aside from the direct impact, the university facilitates company growth and job creation through research, tech transfer, and spinoff companies. This study provides a snapshot of the university’s economic contribution to the state. In addition, the economic contribution of the system and the four campuses (CU Boulder, UCCS, CU Denver, and CU Anschutz) to their respective communities is detailed for fiscal year (FY) 2021-22. This study was conducted in cooperation with the University of Colorado System and the individual campuses.

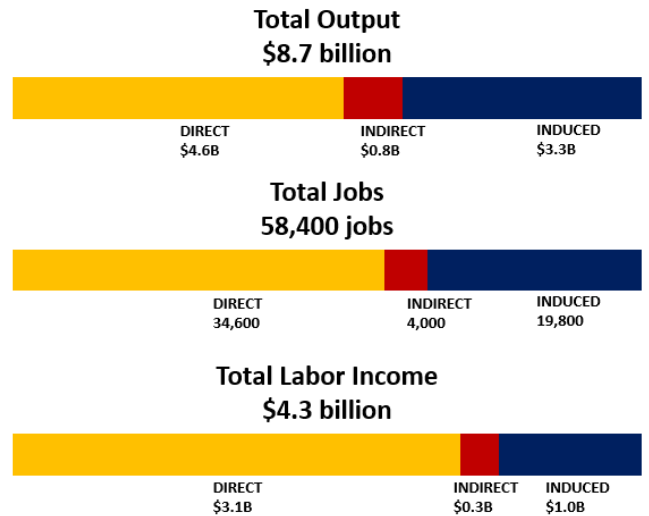
The results of the economic contribution analysis for the University of Colorado and its affiliates at the CU Anschutz Medical Campus, including University of Colorado Hospital and Children’s Hospital Colorado, for FY2021-22 indicate that the University of Colorado System:

- Including the impact stemming from healthcare on the Anschutz campus, the economic impact increased to **\$13.3 billion** for the state of Colorado.
- Impacts stemmed from employee earnings, student worker earnings, operating expenditures, construction, research, and visitors.
- Other acknowledged impacts stem from innovation, technology transfer, skills and training, and alumni in the workforce.
- The Univeristy alone (excluding hospitals) generated a total economic impact of \$8.6 billion, for the state of Colorado.
- Supported a total of **89,900 jobs**, mostly in the Boulder MSA, Denver MSA, and Colorado Springs MSA.
- Generated labor income of **\$6.3 billion**.

**Figure 1: University of Colorado System Statewide Economic Impact, FY2021-22**



**Figure 2: University of Colorado System Statewide Economic Impact (excluding affiliates), FY2021-22**



**Table 1: University of Colorado Economic Contribution (Direct, Indirect, and Induced), FY2021-22**

Campus	Employment	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
CU Boulder	23,783	\$1.5	\$2.0	\$3.3
UCCS	3,902	\$0.2	\$0.3	\$0.4
CU Denver	6,074	\$0.4	\$0.5	\$0.8
CU Anschutz System	23,501 1,156	\$2.2 \$0.1	\$2.6 \$0.1	\$3.9 \$0.2
<b>University of Colorado</b>	<b>58,416</b>	<b>\$4.3</b>	<b>\$5.6</b>	<b>\$8.7</b>
Anschutz Campus Hospitals Impact (subtotal)	31,475	\$2.0	\$2.4	\$4.6
<b>Total Impact</b>	<b>89,891</b>	<b>\$6.3</b>	<b>\$8.0</b>	<b>\$13.3</b>

Note: Anschutz Campus hospitals are independent enterprises and not reflected on University of Colorado financial statements.

### Additional Key Findings

- **Education** – With education as a core element of this mission, the University of Colorado enrolled **66,363 students** in the Fall of 2022 and awarded **18,096 degrees** in FY2022.
- **Alumni** – Nearly **305,000 alumni** reside in the state, contributing to Colorado’s economic and social fabric. Evidence of the university’s educational impact can be found in the leadership of private businesses, teachers in classrooms, health care professionals, and policymakers. These alumni are an integral part of the Colorado labor force, particularly in the high-tech workforce, and contribute to the state’s rank as second in the nation for educational attainment.
- **Operations** – The university operated on **\$4.1 billion in noncapital revenues** in FY2021-22. A significant portion of this leveraged funding was related to sponsored programs and other restricted fund activity, primarily associated with research activity.
- **Research Awards** – **Sponsored program awards and CU Foundation gifts, totaling \$1.45 billion in FY2020-21**, were concentrated on the CU Anschutz and the CU Boulder campuses. More than 97% of activity was recorded at CU Boulder and CU Anschutz.
- **Technology Transfer** – Administered by Venture Partners at CU Boulder and CU Innovations, technology transfer is the conduit for technology commercialization. Venture Partners’ startup portfolio in FY2021-22 disclosed **130 inventions**, recorded **65 license and option agreements**, and had **20 startups** spun out of university technology. CU Innovations’ 2020 annual report stated the startup portfolio raised **\$170 million in funding, raised \$50 million for a venture fund**, completed over 50 industry deals, and engaged in outreach and education with over 1,700 individuals.
- **Student and visitor spending** – A survey of students found their spending totaled **\$994 million** in FY2021-22. Spending estimates are based on students who indicated they would not be in Colorado if they were not enrolled at CU. Visitor spending in Colorado related to the campuses was an estimated **\$46.7 million** FY2021-22.
- **Research** – The University of Colorado collaborates in a research triangle that includes universities, businesses, and federal laboratories. From direct expenditures and spinoff technologies to collaborative research and an educated workforce, the University of Colorado strengthens Colorado’s economy. Research expenditure activities alone had a \$2.9 billion impact.

## METHODOLOGY

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### ***Economic Contribution and Impact***

Economic contributions on Colorado were estimated by examining operating expenditures and capital expenditures, including employee salaries and benefits. This approach accounted for the leakage that occurs when research grants lead to a portion of purchases made outside the state.

Furthermore, this study estimated the multiplicative impacts of direct expenditures on other industries in the economy through input-output modeling by using IMPLAN, a widely used economic modeling software. Additional estimates were made for student and visitor expenditures. Benefits such as community service, outreach, and fundraisers are described to illustrate additional community benefits derived from the university's presence but were not directly quantified when determining the overall economic contribution. The study also compared CU to peer institutions through a review of comparable studies. This study did not estimate the economic contributions of alumni working in Colorado, nor did it estimate the economic impacts of spinoff companies or technologies beyond the licensing agreements.

### ***Data***

Data requests were made to the University of Colorado System to obtain information on employment, salaries, expenditures, construction, research, and student spending for all campuses. Additional information was sourced from publicly available data on the University of Colorado website.

Employment and salary data were provided by ZIP code and by campus, allowing for the allocation of employee spending to the counties in which they reside. Employees spend their earnings on a broad range of goods and services, including housing, energy, food, clothes, etc. Employment counts and employee residence data are based on a point in time in fall for the fiscal year.

Expenditure data were provided by vendor ZIP code in order to identify (1) the in-state versus out-of-state spending (i.e., leakage), and (2) the counties/metropolitan statistical areas (MSAs) where spending occurred. The procurement service center (PSC) report contained all expenditures, including construction- and research-related expenditures, but excluded purchasing card transactions made by employees. Purchasing card and travel card transactions were not provided, but card purchases account for a relatively small overall portion of spending. These purchases were assumed to follow the geographic profile of PSC data.

Given the absence of a public education category in the input-output model, operating expenditures were assigned as Private Education in the IMPLAN model, or in the industries representing purchasing vendors.

Construction projects were identified by campus. The construction expenditures were included in the vendor report with accompanying ZIP codes, and the university identified specific projects and quantified the value of current construction by campus. Estimated construction expenditures were assigned as Nonresidential Building in the IMPLAN model.

To the extent possible, research expenditures were identified, and the resulting economic contribution was calculated for each campus and for the overall system. This was accomplished by identifying research expenditures by funding type, and apportioning research faculty and staff salaries to research functions. For full, associate, and assistant professors, 40% of salaries were assigned to research in this study; 100% of other research faculty and staff were assigned to research in this study. Research funding and employment were identified by campus, and expenditures were included in the vendor report with accompanying ZIP codes.

For student expenditures and visitation data, the research team relied on a survey conducted by the university in 2016, with the values adjusted to FY2020 and FY2021 based on inflation and enrollment. This survey captured student spending habits and identified the source of funds (in-state versus out-of-state). Expenditures were calculated for students who would not be in Colorado if they were not enrolled at the university. Similarly, survey data estimated Colorado visitation due to students. This information does not include visitation related to visiting professors and researchers, conventions,

athletics, or collaborative research visits; thus, this a conservative estimate of visitation impacts. These expenditures were assigned by spending activity in the IMPLAN model.

This study provides an estimate of economic contributions using ZIP codes of vendors and employees in procurement and human resource databases. The research team believes this conservatively estimates the economic contribution of the University of Colorado since some vendors are located in the state, but the parent company's accounting office, where the check is mailed, is located in another state. Likewise, some faculty, staff, and students have a home of record in another state, but they are actually living and working in Colorado. Additional research could be conducted to reclassify these expenditures and residences. Furthermore, contract vendor activity was not captured in this study (e.g., football game vendors, basketball game vendors, etc.), nor did this study estimate the economic contributions of alumni living and working in the state of Colorado.

## DEFINITIONS

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**Gross Domestic Product (GDP):** A measure of economic activity, GDP is the total value added by resident producers of final goods and services.

**Gross Output (Output):** The total value of production is gross output. Unlike GDP, gross output includes intermediate goods and services.

**Value Added:** The contribution of an industry or region to total GDP, value added equals gross output, net of intermediate input costs.

**Colorado Springs Metropolitan Statistical Area (MSA):** El Paso County and Teller County.

**Boulder MSA:** Boulder County.

**Denver MSA:** Adams, Arapahoe, Broomfield, Denver, Douglas, Jefferson, Clear Creek, Gilpin, Park, and Elbert counties.

**CU Boulder:** University of Colorado Boulder.

**CU Denver:** University of Colorado Denver.

**UCCS:** University of Colorado Colorado Springs.

**CU Anschutz:** Anschutz Medical Campus.

**University of Colorado System:** President's Office and administration.

**System:** The four university campuses and the President's Office and administration.

**Fiscal Year:** July 1–June 30



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## LITERATURE REVIEW

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By their nature, universities have a profound impact on their respective communities, regions, and states, both in terms of economic contributions and in the area's cultural and social fabric. Economically, direct and indirect spending by the institution, employees, students, and visitors can often total in the billions. A review of recently conducted economic impact studies of peer universities reveals a range of impacts. Although the studies used different methodologies, thus making direct comparisons difficult, the exercise highlights the important role universities play as an economic driver. For a more detailed look at each report, see Appendix 1.

The impact of Pac-12 member universities on their state and local economies was examined through various economic impact studies. The total impact of each university includes both direct and indirect/induced impact. During the 2018–19 fiscal year, the University of California System (ten campuses including UCLA, UC Berkeley, UCH) contributed over \$82 billion in total output, while supporting over 529,000 jobs and \$37.6 billion in salary and benefits. UCLA had a total economic impact of over \$8.4 billion while supporting nearly 56,000 jobs. The University of California, Berkeley (UC Berkeley) generated an estimated \$6.3 billion in economic impact during the 2018-19 fiscal year, of which almost \$4.6 billion was in value added, and supported over 37,000 jobs. The University of Southern California (USC) was responsible for over \$8.1 billion in total output during the 2015–16 fiscal year and directly employed 30,900 people. Stanford had an economic impact of \$2.1 billion in Santa Clara and San Mateo Counties in 2006, with students and visitors spending a combined \$348 million in the surrounding communities.

The four Pac-12 universities located in the Pacific Northwest (Washington, Washington State, Oregon, Oregon State) all had a substantial impact on their respective state and local economies. The University of Washington (UW) generated \$15.7 billion in economic activity during the 2018 fiscal year, including a direct impact of \$7.8 billion. UW's economic impact supported or sustained 1 out of every 37 jobs in Washington. During FY2014, Washington State University (WSU) generated almost \$19 for every dollar the state invested in the university. WSU generated a total economic impact of \$3.4 billion within the state of Washington in the 2014 fiscal year and employed almost 18,000 workers. The University of Oregon (UO) supported over 26,000 employees in 2019–20, while contributing \$2.6 billion to the state economy. Oregon State University's (OSU) impact to the state economy was over \$2.3 billion in 2017 and around 30,000 jobs. Of OSU's total impact, \$989 million was direct, \$155 million was indirect, and \$1.2 billion was induced.

Universities located in the Mountain/Southwest region (Arizona, Arizona State, and Utah; excluding Colorado) create substantial output. In the 2017 fiscal year, the University of Arizona (UA) accounted for \$11.1 billion in economic impact and \$451.7 million in state and local tax revenue. Arizona State University (ASU) supported nearly 54,000 jobs, approximately 19,200 of which were directly employed by the university in the 2021 fiscal year. ASU's total economic impact in 2021 was estimated at \$4.5 billion in state GDP. The University of Utah had a total economic contribution of \$11 billion in 2019, supporting 83,100 jobs and generating \$4.6 billion in earnings.

Additional CU peer institutions are found within the University of Massachusetts System (UMass) and University of Texas System (UTS). The University of Massachusetts System generated \$7.5 billion in economic activity and supported 49,315 jobs (17,622 direct) in the state in FY2018. UMass-Boston, a selected peer of CU Denver and UCCS, calculated its impact at \$1.2 billion, and UMass-Lowell, a CU Denver peer, calculated its impact at \$1.2 billion. The University of Texas System comprises nine academic and six health-related institutions within the state of Texas, and its 2005 study estimates its annual impact at \$12.8 billion on the Texas economy and supports 215,715 jobs. CU peer institutions at UTS include the University of Texas-El Paso (UCCS), The University of Texas Health Science Center at San Antonio (CU Anschutz), and The University of Texas Health Science Center at Houston (CU Anschutz). Looking within the state of Colorado, the Colorado State University System supported around 22,785 jobs and \$237.7 million in income and sales tax revenue in FY2019-20.

## THE UNIVERSITY OF COLORADO OVERVIEW

The University of Colorado is a research university that educates students, conducts research, commercializes technology, and creates companies. This section provides an overview of the university’s contributions.

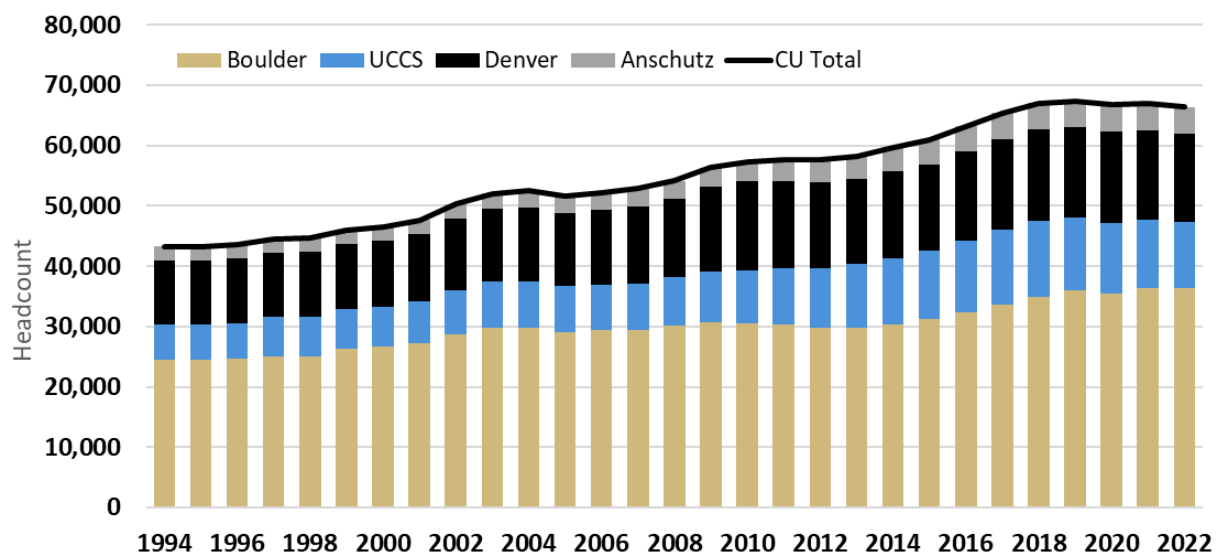
### STUDENTS

The University of Colorado enrollment increased 0.3% from 2020 to 2021 to total 67,069 students. Enrollment decreased 1.1% from 2021 to 2022 to 66,363 students. This headcount of students is 1.5% higher than five years ago (2017). An alternative measure of enrollment is the full-time equivalent (FTE). On a FTE basis, the university enrollment was 59,652 for FY2021, falling 1.5% (904 students) year-over-year to 58,747. FTE enrollment in FY2022 was up 3.9% from FY2017.

The FTE data were published for FY2021-22. Based on the FTE data, CU Boulder recorded the largest enrollment in FY2021-22 (31,934 students, 54.4% of the total), followed by CU Denver (19.5%), UCCS (15.8%), and CU Anschutz (10.4%). On a full-time basis, 76.2% of students were undergrads, while 23.8% were graduate students. More than 68% of the student body was Colorado residents. The ratio of nonresident students is limited by Colorado statute.<sup>1</sup>

In FY2020-21, the University of Colorado awarded 18,174 degrees (including double majors) to 17,554 recipients (12,421 bachelor’s degrees, 4,343 master’s and specialist degrees, 52 graduate certificates, and 1,358 doctorate and professional degrees). CU Boulder accounted for over half of awarded degrees, followed by CU Denver, UCCS, and CU Anschutz. Awarded degrees decreased 0.4% to 18,096 in FY2021-22 (12,087 bachelor’s degrees, 4,529 master’s and specialist degrees, 51 graduate certificates, and 1,429 doctorate and professional degrees).

**Figure 3: Total Enrollment by Campus, Fall 1994–Fall 2022**



Source: University of Colorado, Budget and Finance Office.

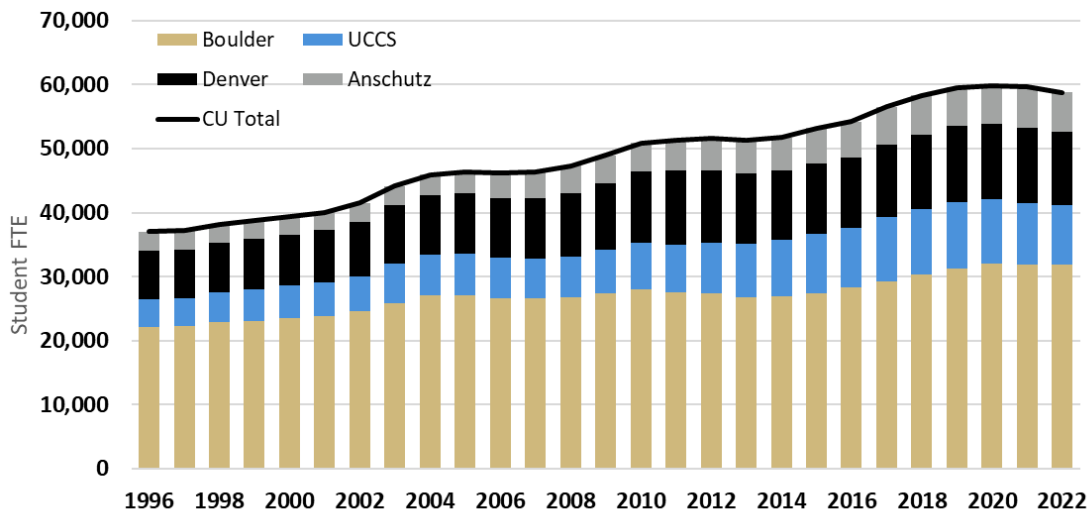
<sup>1</sup>According to statute 23-1-113.5, nonresident students are limited to 45% of total enrollment. “The percentage of students enrolled at each campus of the university of Colorado system, at Colorado state university, at the university of northern Colorado, or at the Colorado school of mines who are in-state students is not less than fifty-five percent of the total student enrollment at each campus of the university of Colorado system, at Colorado state university, at the university of northern Colorado, or at the Colorado school of mines, respectively, including undergraduate and graduate students, calculated on a three-year rolling average and excluding foreign students and students enrolled solely in online courses.” <http://leg.colorado.gov/sites/default/files/images/olls/crs2018-title-23.pdf> (page 44), accessed September 9, 2022.

**Table 2: Enrollment by Campus, Fall 2021 and Fall 2022**

Campus	CU Boulder		UCCS		CU Denver		CU Anschutz		Total	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Undergraduate - resident	16,850	16,834	8,080	7,793	8,725	8,480	408	442	34,063	33,549
Undergraduate - nonresident	12,963	12,983	1,387	1,354	1,447	1,450	35	43	15,832	15,830
Graduate - resident	3,855	3,728	1,625	1,551	3,827	3,496	3,069	3,011	12,376	11,786
Graduate - nonresident	2,621	2,885	293	251	885	1,083	999	979	4,798	5,198
<b>Total</b>	<b>36,289</b>	<b>36,430</b>	<b>11,385</b>	<b>10,949</b>	<b>14,884</b>	<b>14,509</b>	<b>4,511</b>	<b>4,475</b>	<b>67,069</b>	<b>66,363</b>

Source: University of Colorado, Budget and Finance Office, Student Headcount Enrollment.

**Figure 4: Total FTE Students by Campus, FY1995-96–FY2021-22**



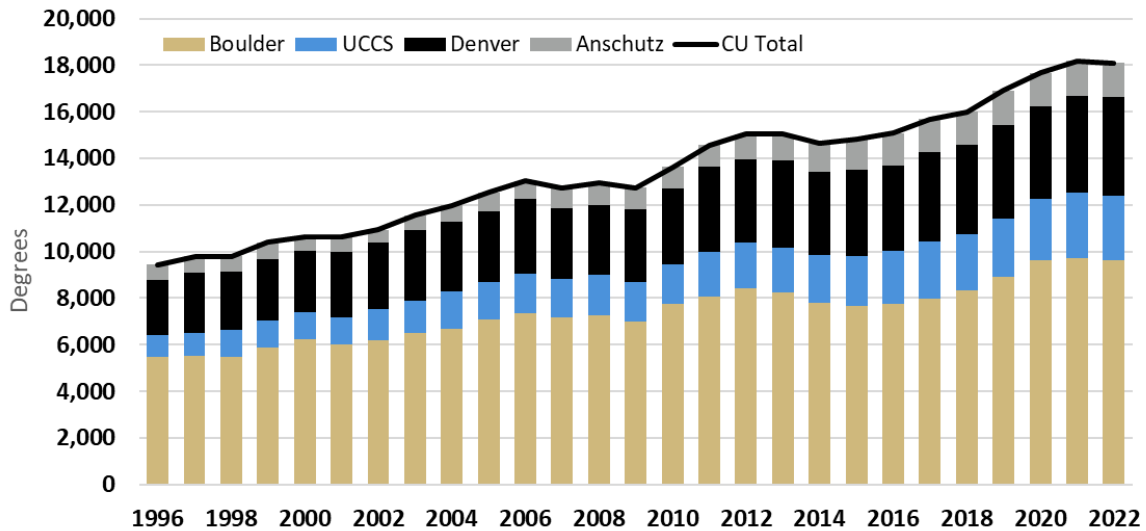
Source: University of Colorado, Budget and Finance Office.

**Table 3: FTE Enrollment by Campus, FY2020-21 and FY2021-22**

Campus	CU Boulder		UCCS		CU Denver		CU Anschutz		Total	
	FY2020-21	FY2021-22	FY2020-21	FY2021-22	FY2020-21	FY2021-22	FY2020-21	FY2021-22	FY2020-21	FY2021-22
Undergraduate - resident	16,181	15,544	7,332	6,944	7,804	7,331	500	489	31,816	30,308
Undergraduate - nonresident	11,435	11,982	1,074	1,165	1,204	1,253	42	52	13,755	14,451
Graduate - resident	2,619	2,555	1,016	1,001	2,436	2,321	4,225	3,849	10,297	9,725
Graduate - nonresident	1,584	1,854	164	161	444	554	1,592	1,695	3,784	4,264
<b>Total</b>	<b>31,820</b>	<b>31,934</b>	<b>9,586</b>	<b>9,270</b>	<b>11,889</b>	<b>11,458</b>	<b>6,358</b>	<b>6,085</b>	<b>59,652</b>	<b>58,747</b>

Source: University of Colorado, Budget and Finance Office, Student FTE Enrollment. Note: Totals may not sum due to FTE rounding.

**Figure 5: Total Degrees Awarded by Campus, FY1996–FY2022**



Source: University of Colorado, Budget and Finance Office.

## ALUMNI

The university has a long history of educating students and preparing them to be actively engaged, contributing members of society. Alumni records indicate that nearly 305,000 graduates reside in the state of Colorado, including business leaders, policymakers, educators, health care workers, engineers, and many others. CU Boulder has the largest number of in-state alumni, totaling more than 153,000, followed by CU Denver (80,000), UCCS (39,000), and CU Anschutz (31,000).

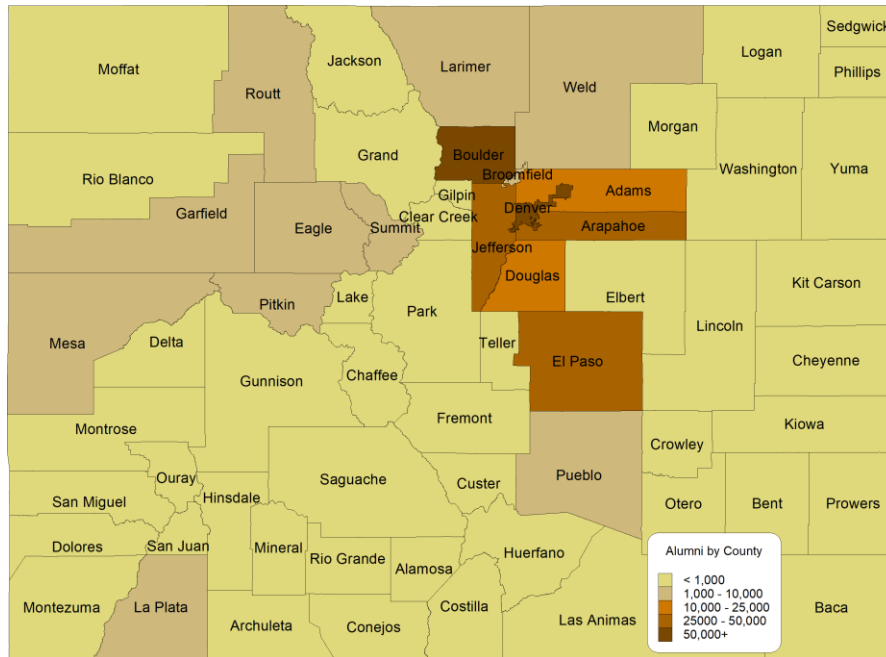
**TABLE 4: ALUMNI BY CAMPUS AND LOCATION, FY2021-22**

Campus	CU Boulder	UCCS	CU Denver	CU Anschutz	Total
Boulder MSA	48,784	494	4,270	1,942	55,655
Denver MSA	77,395	6,508	67,307	23,612	175,698
Colorado Springs MSA	6,042	27,979	1,965	1,328	37,366
Rest of Colorado	21,058	3,611	6,425	4,570	35,827
<b>State Total</b>	<b>153,279</b>	<b>38,592</b>	<b>79,967</b>	<b>31,453</b>	<b>304,546</b>

Source: University of Colorado, Office of Advancement.

Note: Total includes CU System and Foundation alumni; only represents known addresses.

**Figure 6: University of Colorado Alumni by County, FY2021-22**



### NONEDUCATION SPENDING AND VISITATION

Student spending is similar in nature to offsite employee spending, with expenditures ranging from food and rent to clothing and entertainment. However, student spending habits tend to vary from employee spending as well as sources of funds. The University of Colorado System conducts student spending surveys in order to quantify spending habits. The results are for students who would not be in Colorado if they were not enrolled at the university; thus, this is spending that otherwise would not have occurred in the state nor in the metropolitan areas. Statewide, student spending was estimated at \$994 million in FY2021-22. In FY2021-22, CU Boulder accounted for 68% of the total; CU Denver, 15%; CU Anschutz, 8%; and UCCS, 10%.<sup>2</sup> Nearly 47% of the spending was identified as housing expenditures, followed by groceries (12%) and books (9%).

Visitors bring substantial ancillary benefit to university communities. In a survey of students, the university gained insight into the number of visitors and amount of spending related to students (e.g., parents' weekend). Visitor spending in Colorado related to the four campuses was an estimated \$46.7 million in FY2021-22. Most of the visitor spending was related to CU Boulder (71%), followed by CU Denver (13%), UCCS (8%), and CU Anschutz (8%).<sup>3</sup> Other visitor impacts, including those from visiting professors and researchers, have not been quantified in this study, thus, visitor impacts are conservative at best.

<sup>2</sup> Campus student spending does not sum to 100% due to rounding.

<sup>3</sup> Campus visitor spending does not sum to 100% due to rounding.

**Table 5: Visitor Spending and Student Spending (in millions) for students attracted and retained by CU<sup>a</sup>, FY2021-22**

Spending	CU Boulder	UCCS	CU Denver	CU Anschutz	Total
Students <sup>a</sup>					
Housing	\$323.3	\$45.2	\$65.4	\$29.3	\$463.3
Utilities	\$41.4	\$7.5	\$11.1	\$5.8	\$65.8
Groceries	\$80.9	\$9.0	\$16.9	\$11.3	\$118.2
Restaurants	\$50.3	\$6.0	\$10.0	\$5.9	\$72.1
Personal Goods	\$28.9	\$4.3	\$7.5	\$4.2	\$44.9
Personal Services	\$14.0	\$2.3	\$3.6	\$2.3	\$22.2
Transportation	\$20.4	\$5.1	\$5.8	\$4.3	\$35.6
Entertainment & Luxury Items	\$24.2	\$3.2	\$4.7	\$2.7	\$34.7
Medical Expenses	\$12.7	\$1.9	\$3.2	\$2.2	\$20.0
Hotels	\$2.9	\$0.4	\$1.0	\$0.5	\$4.9
Recreation	\$10.9	\$1.2	\$1.5	\$1.4	\$15.0
Books	\$58.3	\$9.1	\$11.5	\$6.0	\$84.9
Childcare	\$5.6	\$1.9	\$1.9	\$3.4	\$12.8
<b>Total Student Expenditures</b>	<b>\$673.7</b>	<b>\$97.1</b>	<b>\$144.2</b>	<b>\$79.3</b>	<b>\$994.3</b>
Visitors <sup>b</sup>					
Hotels	\$11.8	\$1.4	\$2.0	\$1.3	\$16.6
Recreation	\$10.4	\$1.3	\$1.9	\$1.3	\$14.8
Restaurants	\$11.1	\$1.2	\$2.0	\$1.1	\$15.3
<b>Total Visitor Expenditures</b>	<b>\$33.3</b>	<b>\$3.9</b>	<b>\$5.9</b>	<b>\$3.7</b>	<b>\$46.7</b>

Note: Conferences, events, and athletics not included. FY2020 values grossed up for inflation and enrollment based on 2016 survey by the University of Colorado System. <sup>a</sup>Includes nonresidents and resident students who indicated that they would have left Colorado had they not attended CU (based on survey responses).

<sup>b</sup>Includes only students' visitors.

## EMPLOYMENT

In FY2021-22, the University of Colorado was among the five largest employers in the state of Colorado,<sup>4</sup> and is among the largest employers in each county of operations. Differentiating between employee work location and residence is important for assigning employee spending to home MSAs.

Together, the faculty and staff of the University of Colorado form a collaborative community that supports CU's pillars of excellence and impact—learning and teaching, discovery and innovation, community and culture, and health and wellness. A wide range of employees with a variety of skills is needed to support these pillars, including faculty researchers, scientists, and instructors; administrators; and support staff. Inherent in this range is an array of educational attainment. Most tenured/tenure-track faculty hold a doctorate or other terminal degree.

Based on a comprehensive snapshot of employment, there were 34,551 faculty and staff in FY2021-22 and 12,962 student workers, with salaries and wages of more than \$2.4 billion (excluding benefits), increasing 5.2% over the prior year. *This is a count of individuals (not full-time equivalent jobs)*. Excluding student workers, average earnings were \$65,782 in FY2021-22. Including student workers, the simple average wage was \$49,907. CU Anschutz and CU Boulder recorded the largest number of employees and the highest total and average wages (excluding student workers). Fringe benefits are an additional cost of labor above the salaries paid.<sup>5</sup> Fringe benefit rates depend on the employee type (e.g., 29% for full-time regular faculty, 37.3% for full staff and research faculty)<sup>6</sup>.

<sup>4</sup>Excludes student and temporary workers.

<sup>5</sup>Fringe benefits include dental insurance, disability insurance, FICA contribution, health insurance, life insurance, Medicare, other retirement plans, PERA, EcoPass, annuities insurance, unemployment compensation claims, workers' compensation insurance, and termination annual and sick leave.

<sup>6</sup><https://www.colorado.edu/controller/resources/fringe-benefit-rates-history>

**Table 6: Total Employment, FY2021-22**

Campus	Faculty and Staff	Student Workers	Total Employment
CU Boulder	13,831	8,492	22,323
UCCS	2,349	1,520	3,870
CU Denver	3,560	1,860	5,420
CU Anschutz	14,040	1,067	15,107
System	771	22	793
<b>Total</b>	<b>34,551</b>	<b>12,962</b>	<b>47,513</b>

Source: Based on a September HCM snapshot. Note: Includes student workers, temporary workers, officer/exempt professional, classified staff, retirees, student other, research faculty, clinical faculty, other faculty, and regular faculty.

**Table 7: University of Colorado Faculty and Staff, Fall 2021**

Occupation	Full-Time	Part-Time	Total
<b>Faculty</b>			
Instructional Faculty	6,873	1,951	8,824
Tenured/Tenure Track	4,179	64	4,243
Full Professor	1,290	19	1,309
Associate Professor	1,350	17	1,367
Assistant Professor	1,539	28	1,567
Non-Tenure Track	2,694	1,887	4,581
Instructor/Sr. Instructor	2,452	38	2,490
Other	242	1,849	2,091
<u>Research Faculty</u>	<u>1,953</u>	<u>266</u>	<u>2,219</u>
Total Faculty	8,826	2,217	11,043
<b>Staff</b>			
Officers	145	4	149
Management/Other Professionals/Support Staff	<u>12,625</u>	<u>847</u>	<u>13,472</u>
Total Staff	12,770	851	13,621
<b>Total Faculty and Staff</b>	<b>21,596</b>	<b>3,068</b>	<b>24,664</b>

Note: Excludes temporary workers and student employees.

Source: University of Colorado, Budget and Finance Office, Faculty and Staff Headcount, Fall 2021 (IPEDS HR survey).

## RESIDENT COMMUNITIES

Employees have incredible economic impacts on their local communities. Aside from where they reside—own their home or pay rents—they spend a great deal of their disposable income close to their place of residence. These purchases range from regular spending on fuel and groceries to less frequent spending on clothing, at restaurants, and on vehicles. Their activity supports local business, employment, and wages. It also funds public activities ranging from police and fire protection to schools and infrastructure through the payment of property taxes, sales taxes, income taxes, and fees.

Additionally, employees make important community contributions through volunteerism and charitable giving. They are generally economic and societal stewards who positively impact the communities in which they reside and in which they work. The university’s employees are dispersed across the state but concentrated in the metropolitan areas where they work. The CU System provided employee counts by ZIP code in Colorado in order to assign off-site economic benefits to their respective metropolitan areas. Excluding student workers, 55% of CU employees live in the Denver Metro region, 26% reside in the Boulder MSA, and 7% live in the Colorado Springs MSA.

Most University of Colorado employees (excluding students) lived in the same metropolitan area in which they work (73%) in FY2021-22; however, given the proximity and integration of communities and economies within the state, 27% live and work in two different places. Of the Colorado-based employees, most University of Colorado employees (55%) live in the

Denver MSA, and 26% live in the Boulder MSA. Salaries, like employment, were concentrated in the metropolitan areas where the university has a presence. Of the \$2.4 billion in salaries, an estimated \$1.5 billion in salaries were paid to employees living in the Denver MSA, \$540 million to workers residing in the Boulder MSA, and \$131 million to employees in the Colorado Springs MSA.

**Table 8: Residence of Employees (incl. students), FY2021-22**

Campus	Boulder MSA	Colorado Springs MSA	Denver MSA	All Other	Total
CU Boulder	12,651	238	5,522	3,912	22,323
UCCS	11	3,017	353	488	3,870
CU Denver	353	102	4,297	667	5,420
CU Anschutz	498	279	13,079	1,250	15,107
System	167	12	481	134	793
<b>Total</b>	<b>13,680</b>	<b>3,649</b>	<b>23,733</b>	<b>6,451</b>	<b>47,513</b>

Notes: Number of employees based on based on a September HCM snapshot. Some "All Other" home of record addresses, notably for students, refer to an out-of-state residence.

**Table 9: Total Salaries by MSA, FY2021-22 (In Millions)**

Campus	Boulder MSA	Colorado Springs MSA	Denver MSA	All Other	Total
CU Boulder	\$478.2	\$2.4	\$186.1	\$98.2	\$764.9
UCCS	\$0.2	\$90.5	\$6.3	\$5.8	\$102.8
CU Denver	\$11.8	\$1.8	\$144.7	\$12.6	\$170.9
CU Anschutz	\$41.4	\$35.6	\$1,143.2	\$58.7	\$1,278.9
System	\$8.4	\$1.2	\$36.9	\$7.3	\$53.8
<b>Total</b>	<b>\$539.9</b>	<b>\$131.5</b>	<b>\$1,517.3</b>	<b>\$182.6</b>	<b>\$2,371.2</b>

Note: Excludes benefits.

## CONSTRUCTION

As of June 30, 2022, the University of Colorado continued progress on construction projects valued at \$333 million. Just under 49% of this activity was related to CU Boulder, 32% was for projects at the CU Denver and CU Anschutz campuses, and 19% at UCCS. The two largest projects systemwide included the Hellems and Rippon renovation at CU Boulder and the Engineering Building at UCD. Capital outlays (performed by in-state and out-of-state companies) were estimated at \$44 million in FY2021-22. Capital spending is nested in the vendor procurement data.



**Table 10: Current Construction Projects as of June 30, 2022 (in Thousands)**

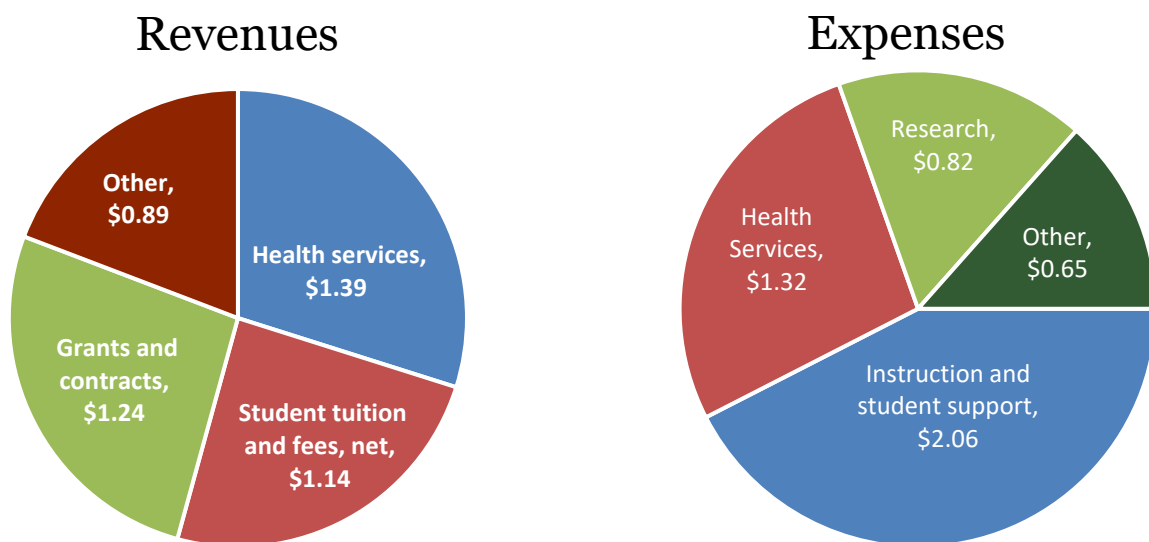
Campus/Project Description	Financing Sources	Value <sup>a</sup>
<b>University of Colorado Boulder</b>		
Sustainability, Electrical, Environmental Labs (SEEL), Room 356A	Campus cash resources	\$7,500
1135 Broadway renovation	Campus cash resources	\$6,000
Engineering Center Aerospace Wing and North Tower	Campus cash resources and debt	\$30,874
Hellems & Rippon renovation	Campus cash resources, Federal, and State funding	\$105,157
Fleming Tower renovation and system upgrades	Campus cash resources and debt	\$13,719
<b>University of Colorado Denver and the Anschutz Medical Campus</b>		
Campus Safety and Emergency Preparedness Building	Campus cash resources	\$15,395
Fitzsimmons Building 1 West, 2 West, Ground West, and Ground North renovation	Campus cash resources	\$9,979
Engineering Building	Campus cash resources	\$80,912
<b>University of Colorado Colorado Springs</b>		
Engineering Annex	Campus cash resources	\$16,704
Engineering remodel	Campus cash resources	47,097

Sources: University of Colorado 2021 Annual Financial Report (page 21) and the CU System Office of the Vice President for Budget and Finance.  
<sup>a</sup>Value represents budgeted costs for project in thousands.

**OPERATIONS**

The University of Colorado recorded operating revenue totaling \$4.7 billion in FY2021-22. More than 79.7% of these noncapital revenues are generated from health services (29.9%), grants and contracts (26.5%), and tuition and fees (24.4%). State base funding totaled \$241.4 million in FY2021-22.<sup>7</sup> The university recorded \$4.8 billion in operating expenditures in FY2021-22, though some of this included noncash activity (e.g., depreciation) or activities related to health care enterprises.

**Figure 7: Operating Revenues and Expenses by Type, FY2021-22**



<sup>7</sup> Joint Budget Committee. *Appropriations Report, Fiscal Year 2021-22*. [https://leg.colorado.gov/sites/default/files/fy21-22apprept\\_0.pdf](https://leg.colorado.gov/sites/default/files/fy21-22apprept_0.pdf) (page 215), accessed September 19, 2022.

**Table 11: Operating and Nonoperating Revenues (Excluding Capital), FY2021-22 (in Thousands)**

Revenues (in thousands)	FY2021-22
<b>Operating Revenues</b>	
Student tuition and fees, net	1,135,953
Fee-for-service contracts	176,265
Grants and contracts	1,236,401
Sales and services of educational departments	273,866
Auxiliary enterprises, net	277,453
Health services	1,392,075
<u>Other operating</u>	<u>166,853</u>
<b>Total Operating Revenues</b>	<b>4,658,866</b>
<b>Nonoperating Revenues</b>	
Federal Pell Grant	54,032
State appropriations	23,476
State support for PERA pension	7,603
COVID Aid	126,449
Gifts	243,195
Investment income, net	-397,382
<u>Other nonoperating, net</u>	<u>-95,749</u>
<b>Total Nonoperating Revenues</b>	<b>-38,376</b>
<b>Total Noncapital Revenues</b>	<b>\$4,620,490</b>

Source: University of Colorado Annual Financial Report.

**Table 12: Expense Program Categories, FY2021-22 (in Thousands)**

Expenses (in thousands)	FY2021-22
<b>Operating Expenses</b>	
Education and general	
Instruction	1,198,488
Research	823,147
Public service	163,798
Academic, institutional, and plant support	665,736
Student aid and other services	197,459
<b>Total Education and General Expenses</b>	<b>3,048,628</b>
Depreciation	254,452
Auxiliary enterprises	\$234,108
Health services	\$1,316,856
<b>Total Operating Expenses</b>	<b>4,854,044</b>

Source: University of Colorado Annual Financial Report.

The university's nonlabor expenditures occur primarily through vendor purchases and through university travel and procurement cards. Combined, nonlabor PSC expenditures totaled \$1.5 billion in FY2021-22. Nearly 33% of expenditures were in-state purchases in FY2021-22. While this leakage includes the purchase of some supplies and equipment out-of-state, it also includes payments to partnering research institutions that contribute unique capabilities to research projects—collaboration that runs both directions in research. Without these collaborations, many of the grants would otherwise not be awarded to the University of Colorado.<sup>8</sup>

<sup>8</sup>Excludes procurement card and travel card purchases. Procurement card purchases are made by university staff, faculty, and students to purchase items up to \$5,000.

CU Boulder accounted for 43% of nonlabor expenditures in FY2021-22, totaling \$643.2 million. CU Anschutz vendor spending accounted for 42%, followed by CU Denver, UCCS, and the CU System.

**Table 13: Total PSC Expenditures, FY2021-22 (In Millions)**

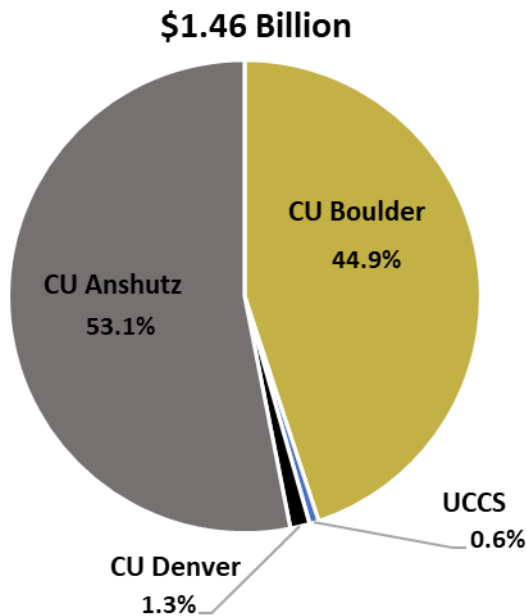
Campus	Boulder	Colorado	Denver	All	CO	Total
	MSA	Springs MSA	MSA	Other	Total	
CU Boulder	\$49.6	\$1.8	\$145.7	\$12.5	\$209.6	\$643.2
UCCS	\$0.3	\$12.3	\$19.3	\$0.9	\$32.8	\$62.6
CU Denver	\$0.9	\$0.3	\$64.8	\$1.6	\$67.6	\$112.6
CU Anschutz	\$3.0	\$1.1	\$137.4	\$18.6	\$160.1	\$622.3
System	\$1.2	\$0.2	\$13.6	\$0.7	\$15.7	\$56.1
<b>Total</b>	<b>\$54.9</b>	<b>\$15.6</b>	<b>\$380.9</b>	<b>\$34.3</b>	<b>\$485.8</b>	<b>\$1,496.8</b>

**SPONSORED PROGRAMS**

Each campus has an office that reviews, negotiates, and administers externally funded sponsored research for its respective campus. Responsibilities also include ensuring campus, university, and sponsor policies are being followed; providing award management assistance; preparing subcontracts; and managing government property. These services are provided by the Office of Contracts and Grants for CU Boulder, by the Office of Grants and Contracts for CU Denver and CU Anschutz, and by the Office of Sponsored Programs for UCCS.

In FY2021-22, of the \$1.46 billion in sponsored research, 98% of sponsored research was conducted on two University of Colorado campuses: CU Anschutz and CU Boulder. Excluding the CU Foundation research funding, sponsored research increased 4% across the System in FY2021-22, and 30% from FY2017-FY2022.

**Figure 8: Sponsored Research, by Campus, FY2021-22**



Source: University of Colorado, <http://www.cu.edu/sponsored-research>.

**Table 14: University of Colorado Sponsored Research, By Campus, in Millions, 2000-2022**

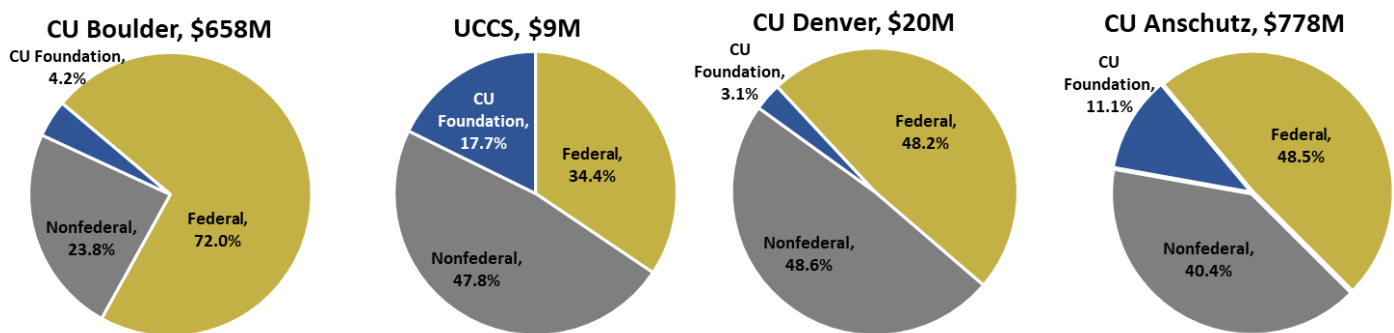
Fiscal Year	CU Boulder	UCCS	CU Denver	CU Anschutz	Total
2000	\$214.2	\$3.0	\$18.7	\$224.0	\$459.9
2001	\$219.0	\$2.8	\$16.7	\$260.1	\$498.6
2002	\$229.0	\$1.9	\$20.3	\$294.6	\$545.9
2003	\$250.4	\$5.2	\$19.1	\$286.1	\$560.9
2004	\$259.7	\$6.3	\$22.9	\$299.8	\$588.7
2005	\$257.6	\$8.7	\$18.6	\$332.2	\$617.0
2006	\$256.5	\$10.3	\$23.5	\$349.8	\$640.0
2007	\$266.1	\$7.9	\$19.8	\$343.6	\$637.4
2008	\$280.0	\$9.2	\$17.9	\$353.6	\$660.7
2009	\$339.7	\$8.7	\$22.8	\$342.4	\$713.5
2010	\$454.4	\$8.3	\$22.2	\$399.2	\$884.1
2011	\$359.1	\$12.4	\$21.8	\$400.1	\$793.5
2012	\$380.7	\$5.0	\$22.4	\$411.7	\$819.8
2013	\$351.9	\$7.8	\$20.1	\$390.8	\$770.5
2014	\$412.1	\$9.4	\$18.5	\$423.3	\$863.3
2015	\$425.6	\$10.3	\$22.2	\$420.3	\$878.3
2016	\$436.8	\$8.0	\$25.0	\$454.1	\$923.9
2017	\$507.9	\$10.2	\$25.9	\$490.3	\$1,034.3
2018	\$511.1	\$6.9	\$18.8	\$516.2	\$1,053.1
2019 <sup>a</sup>	\$630.9	\$8.0	\$23.4	\$805.7	\$1,468.1
2020 <sup>a</sup>	\$613.9	\$18.3	\$18.0	\$762.2	\$1,412.5
2021 <sup>a</sup>	\$634.4	\$15.9	\$24.9	\$769.8	\$1,445.0
2022 <sup>a</sup>	\$658.0	\$9.3	\$19.5	\$777.8	\$1,464.6

Source: University of Colorado, <http://www.cu.edu/sponsored-research> and the Office of the Vice President for Budget and Finance.

Note: Values are in nominal dollars and are not adjusted for inflation.

<sup>a</sup>2019-2022 figures include foundation funding. Anschutz foundation research, while included here, is not included in other published sponsored research totals. Beginning in FY2019, CU Foundation gifts supporting research were added to this summary. Gifts supporting research prior to FY2019 are not included.

**Figure 9: Sponsored Research, By Source and Campus, FY2021-22**



Source: University of Colorado, <http://www.cu.edu/sponsored-research> and the Office of the Vice President for Budget and Finance.

## TECHNOLOGY TRANSFER

Technology transfer works to assist with the commercialization of university technology. University of Colorado commercialization activity is decentralized between Venture Partners, the commercialization arm of CU Boulder and UCCS, and CU Innovations, an intellectual property management service at the Anschutz Medical Campus.<sup>9</sup>

The services provided on campus from Venture Partners and CU Innovations include:

- Advises faculty on intellectual property issues
- Supports intellectual property management and commercialization planning for major federal grant proposals
- Advises campus researchers about the technology transfer process through a variety of means including seminars, newsletters, and special events
- Solicits and analyzes invention disclosures from faculty, students, and staff
- Engages students and commercialization partners in market assessment
- Prepares and manages the transfer of “tangible research property” such as biological materials
- Licenses patents and copyrights for commercial use and manages those licenses

To illustrate impact, according to Venture Partners at CU Boulder, in FY2020-21, Venture Partners’ startup portfolio disclosed 130 inventions, recorded 65 license and option agreements, and had 20 startups spun out of university technology.<sup>10</sup> In FY2020, CU Innovations’ startup portfolio raised \$170 million in funding, raised \$50 million for a venture fund, completed over 50 industry deals, and engaged in outreach and education with over 1,700 individuals.<sup>11</sup>

## CU FOUNDATION

Created in 1967 by volunteers and community leaders, the University of Colorado Foundation raises, manages, and invests private support for the benefit of the university. Fundraising efforts supplement state funding, tuition, and other revenue sources by funding student scholarships, faculty support, academic programs, and building improvements. In FY2020-21, the University of Colorado Foundation recorded \$371.2 million in gifts from 29,793 donors: \$53 million for scholarships; \$127 million for research; \$28 million for faculty; and \$201 million for health care.<sup>12</sup> The impact of these gifts touches all four campuses in the areas of learning and teaching, discovery and innovation, community and culture, and health and wellness. As of June 30, 2021, the Foundation managed more than \$3 billion in assets with endowments valued at \$2.1 billion. In 2021, 130 new endowments were created, \$76.4 million was given in new endowment support, and 3,159 total endowments have an enduring impact. The CU Foundation transferred \$211.8 million in FY2020-21 to support people, places, and programs on CU campuses.

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<sup>9</sup> Venture Partners at CU Boulder includes all CU Boulder innovations, all CU Colorado Springs innovations non-medical CU Denver innovations; CU innovations includes Anschutz Medical Campus innovations and Medical CU Denver innovations.

<sup>10</sup> [https://www.colorado.edu/venturepartners/sites/default/files/attached-files/cuventures\\_annualreport\\_final.pdf](https://www.colorado.edu/venturepartners/sites/default/files/attached-files/cuventures_annualreport_final.pdf), retrieved September 24, 2022.

<sup>11</sup> <https://www.cuanschutz.edu/cu-innovations/cu-innovations/annual-report/2020-annual-report>, retrieved September 24, 2022.

<sup>12</sup> <https://essential.cu.edu/impact-reports/joy/financials>, retrieved September 24, 2022.

## ECONOMIC CONTRIBUTION

The University of Colorado's direct expenditures led to \$8.7 billion in economic activity in the state of Colorado in FY2021-22, resulting from the work of 34,551 regular faculty and staff. These faculty and staff participate in activities ranging from teaching and research to administrative and support, operating one of the largest institutions in the state of Colorado. The majority of economic activity is, in fact, driven by employee compensation (salaries and benefits).

Sliced by function, sponsored programs expenditures (i.e., research) accounted for more than \$2.9 billion in total economic activity (\$1.7 billion in direct activity) in Colorado, excluding the long-term benefits of scientific discoveries and technology commercialization via licenses, patents, and spinoff companies.

**Table 15: University of Colorado Economic Contribution, FY2021-22**

Impact	Employment	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
Direct Effect	34,551	\$3.1	\$3.1	\$4.6
Indirect Effect	4,018	\$0.3	\$0.4	\$0.8
Induced Effect	19,847	\$1.0	\$2.1	\$3.3
<b>Total Effect</b>	<b>58,416</b>	<b>\$4.3</b>	<b>\$5.6</b>	<b>\$8.7</b>

**Table 16: Summary of Research Expenditure Contributions, FY2021-22**

Impact	Employment	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
Direct Effect	8,154	\$1.0	\$1.0	\$1.7
Indirect Effect	1,606	\$0.1	\$0.2	\$0.3
Induced Effect	4,709	\$0.3	\$0.5	\$0.8
<b>Total Effect</b>	<b>14,468</b>	<b>\$1.4</b>	<b>\$1.7</b>	<b>\$2.9</b>

## CONCLUSION

The University of Colorado remains an economic engine in the state of Colorado through educational, research, operational, and ancillary activities. Students enroll at the university to earn an education, many of whom will enter the Colorado workforce. This labor force not only fills local employment and entrepreneurial needs, but also becomes a draw for businesses looking to locate in Colorado. Likewise, while research is driven off the interests and expertise of faculty, it also provides competitive economic attributes that differentiate Colorado from other states—as seen in such industry concentrations as the Professional, Scientific, and Technical Services Sector; the Information Sector; and in aerospace, cleantech, and biotechnology clusters. This research activity exists in a collaborative triangle of universities, businesses, and federal research facilities in the state, occasionally resulting in the creation of companies and the licensing of technologies from the university.

The economic impacts of the university are ultimately driven by the education and research missions of the university, which result in both operating and capital expenditures in the state of Colorado. The \$4.6 billion in direct spending related to the university operations and capital projects, in addition to student spending, resulted in economic activity of \$8.7 billion. Comparatively, state funding for the university topped \$241.4 million in FY2021-22, lending to the substantial economic activity generated by the university. This is not to say that additional dollars invested by the state will result in similar returns on investment. While state funding is often a match for federal dollars, the amount of additional federal funding is limited, and may even decline in coming years.

This operating and capital spending occurs primarily with private companies in the state, ranging from utilities to food suppliers. The 34,600 faculty and staff and the 13,000 student workers supported more than 58,000 jobs in the state related to the supplier companies and household spending of employees.

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## APPENDIX 1: LITERATURE REVIEW OF UNIVERSITY ECONOMIC IMPACT STUDIES

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### **Arizona State University** (*Center for Competitiveness and Prosperity Research 2021*)

Arizona State University (ASU) directly employed 19,199 faculty, students, and staff in FY2021 and accounted for a total of 54,000 Arizona jobs. The university also generated nearly \$3.1 billion in labor income. ASU accounted for \$4.5 billion in state GDP, with \$1.7 billion attributed to university payroll and employment and \$1.1 billion attributed to student spending.

### **Oregon State University** (*Oregon State Leadership 2018*)

Oregon State University (OSU) economic impact in the state of Oregon in 2017 was over \$2.3 billion and 30,452 jobs. OSU directly accounted for \$989 million to the Oregon economy as well as \$155 million in indirect and \$1.2 billion in induced impacts. The economic impact for Benton and Linn counties was \$1.6 billion and 20,691 jobs. The university accounted for \$281.8 million and 3,884 jobs in Portland alone.

### **Stanford** (*The Pacific Partners Consulting Group, Inc. 2008*)

Stanford University, which consists of seven schools, employed 1,807 faculty and over 20,000 total employees in 2006, making it the largest employer in the region. The university also brought in revenue of \$4.5 billion and spent more than \$1.6 billion the local area in 2006 according to the economic impact study conducted in 2008. The study estimated that Stanford employees spent \$1.2 billion in the surrounding communities. Stanford University contributed \$2.1 billion in direct expenditures to Santa Clara and San Mateo counties, \$609 million of which was from Stanford hospitals. Students and visitors spent a combined \$348 million in the surrounding communities as well.

### **University of Arizona** (*Elliot D. Pollack & Company and The Maguire Company 2019*)

The University of Arizona (UA) accounted for a total economic output of \$11.1 billion through its employees, students, and visitors according to a study based on FY2017. The university employed 36,725 people, and it is estimated that the university created an additional 47,630 jobs in the Arizona economy. A total of \$4.6 billion in labor income and \$6.0 billion in value added was generated by the university. It is also estimated that the Arizona Public University Enterprise provides \$180.8 million in primary fiscal impacts and \$270.8 million in secondary fiscal impacts. This amounts to a total of \$451.7 million in state, county, city, and other local taxes from these primary and secondary sources.

### **University of California System** (*Beacon Economics 2021*)

The University of California System had a total impact of \$82 billion on the California economy during the 2018-2019 fiscal year according to a study conducted in 2021 by Beacon Economics. UC's output is composed of \$41.7 billion in direct effects and \$40.3 billion in indirect and induced effects. 529,000 full-time jobs are supported throughout California as a result of UC spending, and over 310,000 people are employed directly by the university system. UC was the third largest employer in Los Angeles County in 2020.

### **University of Massachusetts** (*UMass Donahue Institute Economic and Public Policy Research 2020*)

The University of Massachusetts System generated \$7.5 billion in economic activity and supported 49,315 jobs (17,622 direct) in the state in FY2018. UMass-Boston, a selected peer of CU Denver and UCCS, calculated its impact at \$1.2 billion, and UMass-Lowell, a CU Denver peer, calculated its impact at \$1.2 billion. The UMass system consists of UMass Amherst, UMass Boston, UMass Dartmouth, UMass Lowell, and UMass Medical School. UMass System revenues are 72% operating revenues and 28% state revenues.

### **University of Oregon** (*Duy 2020*)

The University of Oregon (UO) contributed \$2.6 billion to Oregon's economy in 2019–20 according to a study conducted by UO economics professor, Tim Duy. A total of \$1.2 billion of this amount was new economic activity that would not have happened without the university. In 2021, UO directly employed approximately 9,300 employees, and the university's direct and indirect spending supported nearly 26,000 jobs in Oregon. The total amount of spending associated with the university grew by 16.9% since FY2019. In 2014, household earnings generated from the UO's payroll and spending generated \$42.7 million in tax revenue.

**University of Southern California** (*Beacon Economies 2016*)

The University of Southern California (USC) was responsible for about \$8.1 billion in total output in California in the 2015-2016 fiscal year. Direct effects amounted to \$4.2 billion, \$1.9 billion were indirect effects, and \$2.0 billion were induced effects. USC also generated \$455 million in tax revenues for local and state governments according to the economic impact study conducted in 2016 by Beacon Economies. The university employed 30,907 people directly, equating to \$2.9 billion in payroll. A total of 53,425 jobs are supported through USC. Direct spending in the state of California provided by USC totaled over \$3.7 billion in the 2015-2016 fiscal year.

**University of Texas** (*Institute for Economic Development 2005*)

The University of Texas System (UTS) comprises nine academic and six health-related institutions within the state of Texas. In the 2004 fiscal year, UTS had a total economic impact of \$12.8 billion, consisting of \$8.7 billion in direct spending and \$4.1 billion in indirect spending. UTS accounts for total student enrollment of 177,676, and 88,035 faculty and staff. Through its total economic activity, UTS supports 215,715 total jobs, and for every on-campus job, and additional 1.5 jobs are added.

**University of Utah** (*Kem C. Gardner Policy Institute 2020*)

The University of Utah directly and indirectly supported \$6.3 billion in state GDP, supported 83,100 jobs, and generated \$4.6 billion in earnings in 2019. The University is the state’s largest employer, with 39,300 employees and accounting for 0.9% of state employment – the most among public PAC-12 Universities. In terms of total economic impact, Operations accounted for \$10.3 billion in output, 79,000 jobs, and \$4.4 billion in earnings; construction accounted for \$607 million in output, 3,500 jobs, and \$189 million in earnings; and nonresident student spending accounted for \$79 million in output, 600 jobs, and \$22 million in earnings.

**University of Washington** (*Parker Philips and University of Washington 2019*)

The University of Washington (UW) generated \$15.7 billion in FY2018 according to an economic impact study conducted by Parker Philips. The direct impact of UW in the state of Washington was \$7.8 billion while the indirect/induced impact was \$7.9 billion. The university directly employed 43,536 people, making UW the fifth-largest employer in the state. Overall, UW was responsible for supporting 100,520 jobs across the state, or roughly 2.7% of total jobs in Washington, which equates to 1 of every 37 jobs in the state. UW accounted for \$249.4 million in direct tax revenue and \$503.3 million in indirect/induced tax revenue to state and local governments.

**Washington State University** (*CAI Community Attributes 2015*)

In FY2014, Washington State University (WSU) employed 17,970 workers, with an average annual employment of 11,900 direct jobs. There are economic impacts through all major sectors of Washington’s economy. Producer and transport services received the largest labor income impact, and consumer services was impacted mainly through employment. In FY2014, WSU employee compensation totaled \$598 million, including both wage and salary, and employer contributions to benefits. Through indirect impacts, the university supported an additional 8,700 jobs and \$101 million in labor income. Another \$311 million was generated in induced effects. WSU generated almost \$19 for every \$1 the state invested in the university. WSU generated a total economic impact of \$3.4 billion within the state of Washington in FY2014.

**Colorado State University** (*Economic and Fiscal Impact Study: Colorado State University System 2021*)

The Colorado State University System supported nearly 23,000 jobs and more than \$237.7 million in state income and sales tax revenue in FY2019-20. The Fort Collins area receives more than \$36 million in local sales and use tax revenues from CSU related operations, and more than 17,300 jobs are supported in the city a year.

## APPENDIX 2: UNIVERSITY OF COLORADO BOULDER IMPACT

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The Boulder Metropolitan Statistical Area (MSA) recorded 204,900 employees in August 2022 (7.1% of Colorado’s total) and \$29.7 billion in total nominal GDP in 2020 (7.6% of Colorado’s total). Funding for university operations and capital spending is largely nonlocal, resulting in an infusion of investment into the local economy.

### ***Enrollment***

In Fall 2022, CU Boulder enrolled 36,430 students (headcount), 56.4% of whom were Colorado residents and 81.8% of whom were undergraduate students. On a full-time equivalent (FTE) basis, CU Boulder enrolled 31,934 students in FY2021-22.

### ***Alumni***

CU Boulder accounts for at least 153,300 alumni living in the state of Colorado, including business leaders, policymakers, educators, health care workers, engineers, and others. Nearly 55,700 alumni from University of Colorado campuses live in the Boulder MSA.

### ***Employment and Wages***

CU Boulder employed 22,323 faculty, staff, and students in FY2021-22. Based on employment records, nearly 90% of these employees live in Colorado, with some of the nonresident employment attributable to student workers citing their parents’ out-of-state home address. CU Boulder employees living and working in the Boulder MSA totaled 12,651 in FY2021-22, with an additional 1,029 individuals living in the Boulder MSA but working on other campuses. Excluding the number of student workers (e.g., work-study recipients), CU Boulder was estimated to employ 13,831 individuals in FY2021-22. Gross wages and benefits paid to faculty, staff, and students totaled \$994.3 million in FY2021-22.

### ***Total Operating and Capital Spending***

Direct spending by the University of Colorado Boulder totaled an estimated \$1.6 billion in FY2021-22. Budgeted costs for construction projects as of the end of FY2021 for CU Boulder were estimated at \$231.6 million—these projects may span several years.

### ***Student Spending and Visitors***

Based on a survey of students, CU Boulder recorded \$707 million in 2022 in nonlocal student and visitor spending in Colorado. This includes nonresident and resident students who indicated that they would have left Colorado had they not attended CU, as well as students’ visitors. Spending included rents, groceries, transportation, childcare, recreation, health care, and other.

### ***Research***

Research draws federal, state, and private funding. University research leads to immeasurable scientific discoveries and societal benefits that range from medicine and energy to space and weather. To understand just a slice of the benefits, one could look to licensed technologies in the Venture Partners portfolio, or to the spinoff companies that dot the Colorado landscape. However, by the nature of the work, research begets research, and is thus a perpetual building block of knowledge that propels the next scientific discovery. CU Boulder research expenditures (including equipment, construction, operations, and labor) were estimated at \$634 million in FY2021-22. The economic contribution of these research activities totaled \$1 billion on the Colorado economy in FY2021-22.

### ***Economic Contribution***

CU Boulder had the largest economic contribution on the Boulder MSA, but businesses in the metropolitan area also supply goods and services to the other University of Colorado campuses. Additionally, some employees live in the Boulder MSA but work on another campus, which creates an economic boost from their household spending. The economic contribution of CU Boulder on the state of Colorado totaled \$3.3 billion in FY2021-22.

**Table 17: CU Boulder, Impact on Colorado, FY2021-22**

<b>Impact</b>	<b>Employment</b>	<b>Labor Income (In Billions)</b>	<b>Value Added (In Billions)</b>	<b>Output (In Billions)</b>
Direct Effect	13,831	\$1.0	\$1.0	\$1.6
Indirect Effect	1,955	\$0.1	\$0.2	\$0.4
Induced Effect	7,997	\$0.4	\$0.8	\$1.3
<b>Total Effect</b>	<b>23,783</b>	<b>\$1.5</b>	<b>\$2.0</b>	<b>\$3.3</b>

**Table 18: CU Boulder Research, Impact on Colorado, FY2021-22**

<b>Impact</b>	<b>Employment</b>	<b>Labor Income (In Billions)</b>	<b>Value Added (In Billions)</b>	<b>Output (In Billions)</b>
Direct Effect	3,231	\$0.3	\$0.3	\$0.6
Indirect Effect	686	\$0.1	\$0.1	\$0.1
Induced Effect	1,245	\$0.1	\$0.1	\$0.2
<b>Total Effect</b>	<b>5,161</b>	<b>\$0.4</b>	<b>\$0.5</b>	<b>\$1.0</b>

### APPENDIX 3: UNIVERSITY OF COLORADO IMPACT ON THE COLORADO SPRINGS MSA

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The Colorado Springs Metropolitan Statistical Area (MSA) recorded 311,800 employees in August 2022 (10.8% of Colorado's total) and \$39.5 billion in total nominal GDP in 2020 (10.1% of Colorado's total). Funding for university operations and capital spending is by and large nonlocal, resulting in an infusion of investment into the local economy.

#### ***Enrollment***

In Fall 2022, UCCS enrolled 10,949 students (headcount), 85.3% of whom were Colorado residents and 83.5% of whom were undergraduate students. On a full-time equivalent (FTE) basis, UCCS enrolled 9,270 students in FY2021-22.

#### ***Alumni***

UCCS accounts for at least 38,600 alumni living in the state of Colorado, including business leaders, policymakers, educators, health care workers, engineers, and others. Approximately 37,400 alumni from University of Colorado campuses live in the Colorado Springs MSA.

#### ***Employment and Wages***

UCCS employed 3,870 faculty, staff, and students in FY2021-22. Based on employment records, 3,570 (92%) of these employees live in Colorado, with some of the nonresident employment attributable to student workers citing their parents' out-of-state home address. UCCS employees living and working in the Colorado Springs MSA totaled 3,017 in FY2021-22; an additional 632 individuals lived in the Colorado Springs MSA, but worked on other campuses. Excluding the number of student workers (e.g., work-study recipients), UCCS was estimated to employ 2,349 individuals in FY2021-22. Gross wages and benefits paid to faculty, staff, and students totaled \$133.6 million in FY2021-22.

#### ***Nonlabor Operating and Capital Spending***

Direct spending by the University of Colorado Colorado Springs totaled an estimated \$62.6 million in FY2021-22. Budgeted costs for construction projects as of the end of FY2021 for UCCS were estimated at \$2.4 million—these projects may span several years.

#### ***Student Spending and Visitors***

Based on a survey of students, UCCS recorded \$101 million in 2021 in nonlocal student and visitor spending in Colorado. This includes nonresident and resident students who indicated that they would have left Colorado had they not attended CU, as well as students' visitors. Spending included rents, groceries, transportation, childcare, recreation, health care, and other.

#### ***Research***

Research draws federal, state, and private funding. University research leads to immeasurable scientific discoveries and societal benefits that range from medicine and energy to space and weather. To understand just a slice of the benefits, one could look to licensed technologies in the Venture Partners portfolio, or to the spinoff companies that dot the Colorado landscape. However, by the nature of the work, research begets research, and is thus a perpetual building block of knowledge that propels the next scientific discovery. Research expenditures (including equipment, construction, operations, and labor) at UCCS were estimated at \$43.5 million in FY2021-22. The economic contribution of these research activities totaled \$79.8 million on the Colorado economy in FY2021-22.

#### ***Economic Contribution***

UCCS had the largest economic contribution on the Colorado Springs MSA, but businesses in the metropolitan area also supply goods and services to the other University of Colorado campuses. Additionally, some employees live in the Colorado Springs MSA but work on another campus, which creates an economic boost from their household spending. The economic contribution of UCCS on the state of Colorado totaled \$440 million in FY2021-22.

**Table 19: UCCS, Impact on Colorado, FY2021-22**

<b>Impact</b>	<b>Employment</b>	<b>Labor Income (In Millions)</b>	<b>Value Added (In Millions)</b>	<b>Output (In Millions)</b>
Direct Effect	2,349	\$133.6	\$133.6	\$196.1
Indirect Effect	290	\$16.2	\$27.0	\$54.6
Induced Effect	1,262	\$49.7	\$123.6	\$189.5
<b>Total Effect</b>	<b>3,902</b>	<b>\$199.5</b>	<b>\$284.2</b>	<b>\$440.2</b>

**Table 20: UCCS Research, Impact on Colorado, FY2021-22**

<b>Impact</b>	<b>Employment</b>	<b>Labor Income (In Millions)</b>	<b>Value Added (In Millions)</b>	<b>Output (In Millions)</b>
Direct Effect	247	\$26.6	\$26.6	\$43.4
Indirect Effect	70	\$5.2	\$7.7	\$14.0
Induced Effect	143	\$6.8	\$13.1	\$22.4
<b>Total Effect</b>	<b>460</b>	<b>\$38.7</b>	<b>\$47.4</b>	<b>\$79.8</b>

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## APPENDIX 4: UNIVERSITY OF COLORADO IMPACT ON THE DENVER MSA

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The Denver Metropolitan Statistical Area (MSA) recorded 1.6 million employees in August 2022 (54.9% of Colorado's total) and \$223.1 billion in total nominal GDP in 2020 (57% of Colorado's total). Funding for university operations and capital spending is by and large nonlocal, resulting in an infusion of investment into the local economy.

### ***Enrollment***

In Fall 2022, CU Denver enrolled 14,509 students (headcount), 82.5% of whom were Colorado residents and 68.4% of whom were undergraduate students. On a full-time equivalent (FTE) basis, CU Denver enrolled 11,458 students. CU Anschutz enrolled 4,475 students (headcount), 77.2% of whom were Colorado residents and 10.8% of whom were undergraduate students. On an FTE basis, CU Anschutz enrolled 6,085 students.

### ***Alumni***

CU Denver (80,000) and CU Anschutz (31,500) accounted for at least 111,500 alumni living in the state of Colorado, including business leaders, policymakers, educators, health care workers, engineers, and others. Nearly 175,700 alumni from University of Colorado campuses live in the Denver MSA.

### ***Employment and Wages***

CU Denver, CU Anschutz, and the system administration employed 21,320 faculty, staff, and students in FY2021-22. CU Denver had 5,420 employees, CU Anschutz had 15,107 employees, and the system offices accounted for 793 workers. Based on employment records, 94% of these employees live in Colorado, with some of the nonresident employment attributable to student workers citing their parents' out-of-state home address. CU Denver, CU Anschutz, and System employees living and working in the Denver MSA totaled 17,857 in FY2021-22, with an additional 5,875 individuals living in the Denver MSA, but working on other campuses. Excluding the number of student workers (e.g., work-study recipients), CU Denver, CU Anschutz, and system administration were estimated to employ 18,371 individuals in FY2021-22. Gross wages and benefits paid to faculty, staff, and students totaled \$1.95 billion in FY2021-22 (CU Denver, \$222 million; CU Anschutz, \$1.7 billion; and the system offices, \$70 million).

### ***Nonlabor Operating and Capital Spending***

Direct spending (including construction) by CU Anschutz, CU Denver, and the System office totaled \$791 million in FY2021-22. Budgeted costs for construction projects as of the end of FY2021 for the Denver campuses were estimated at \$359.7 million—these projects may span several years. The Denver MSA benefits from regional construction spending by the other campuses.

### ***Student Spending and Visitors***

Based on a survey of students, CU Denver and CU Anschutz recorded \$150 million and \$83 million, respectively, in nonlocal student and visitor spending in Colorado in 2022. This includes nonresident and resident students who indicated that they would have left Colorado had they not attended CU, as well as students' visitors. Spending included rents, groceries, transportation, childcare, recreation, health care, and other.

### ***Research***

Research draws federal, state, and private funding. University research leads to immeasurable scientific discoveries and societal benefits that range from medicine and energy to space and weather. To understand just a slice of the benefits, one could look to licensed technologies in the CU Innovations and Venture Partners portfolios, or to the spinoff companies that dot the Colorado landscape. Research expenditures, including labor, by CU Anschutz, CU Denver, and the System totaled an estimated \$1.1 billion in FY2021-22. The economic contribution of these activities on the Colorado economy totaled \$1.6 billion and \$182 million, respectively, from CU Anschutz and CU Denver.

### ***Economic Contribution***

CU Denver and the Anschutz Medical Campus had the largest economic contribution on the Denver MSA, but businesses in the metropolitan area also supply goods and services to the other University of Colorado campuses. Additionally, some

employees live in the Denver MSA but work on another campus, which creates an economic boost from their household spending. Through research, teaching, operations, construction, student spending, and visitation, the economic contribution of CU Denver on the state of Colorado totaled \$0.8 billion in FY2021-22, and CU Anschutz's calculated impact was \$3.9 billion. The University System offices contributed an additional \$195 million to the state economy.

**Table 21: CU Denver, Impact on Colorado, FY2021-22**

Impact	Employment	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
Direct Effect	3,560	\$222.1	\$222.1	\$334.7
Indirect Effect	579	\$39.5	\$63.9	\$120.8
Induced Effect	1,935	\$99.2	\$225.3	\$342.6
<b>Total Effect</b>	<b>6,074</b>	<b>\$360.8</b>	<b>\$511.4</b>	<b>\$798.1</b>

**Table 22: CU Denver Research, Impact on Colorado, FY2021-22**

Impact	Employment	Labor Income (In Millions)	Value Added (In Millions)	Output (In Millions)
Direct Effect	389	\$44.8	\$44.8	\$86.5
Indirect Effect	233	\$17.8	\$26.3	\$47.0
Induced Effect	281	\$15.9	\$29.0	\$48.5
<b>Total Effect</b>	<b>903</b>	<b>\$78.5</b>	<b>\$100.1</b>	<b>\$182.0</b>

**Table 23: CU Anschutz, Impact on Colorado, FY2021-22**

Impact	Employment	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
Direct Effect	14,040	\$1.7	\$1.7	\$2.3
Indirect Effect	1,097	\$0.1	\$0.1	\$0.2
Induced Effect	8,365	\$0.5	\$0.9	\$1.4
<b>Total Effect</b>	<b>23,501</b>	<b>\$2.2</b>	<b>\$2.6</b>	<b>\$3.9</b>

**Table 24: CU Anschutz Research, Impact on Colorado, FY2021-22**

Impact	Employment	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
Direct Effect	4,287	\$0.6	\$0.6	\$1.0
Indirect Effect	607	\$0.0	\$0.1	\$0.1
Induced Effect	3,037	\$0.2	\$0.3	\$0.5
<b>Total Effect</b>	<b>7,931</b>	<b>\$0.8</b>	<b>\$1.0</b>	<b>\$1.6</b>

#### ***Additional Economic Impacts from the Anschutz Medical Campus***

University of Colorado Medicine (CU Medicine) provides administrative and business operations support for clinical healthcare providers at the University of Colorado School of Medicine. The Anschutz Medical Campus is also the location of University of Colorado Hospital (UCH) and Children's Hospital Colorado (CHCO) with CU Anschutz faculty providing patient care at these facilities. While operations are concentrated on the Anschutz Medical Campus, the economic contribution extends well beyond the Denver MSA and across Colorado. These hospitals on the CU Anschutz Campus collectively reported \$2.7 billion in direct economic activity in the state, nearly 21,000 employees, and \$1.3 billion in salaries. The economic contribution of these entities is estimated at \$4.6 billion to the Colorado economy in FY2021-22.

**Table 25: UCH AND CHCO Impact on Colorado (Direct, Indirect, and Induced), FY2021-22**

Impact	Employment (Direct and Supported)	Labor Income (In Billions)	Value Added (In Billions)	Output (In Billions)
<b>Anschutz Campus Hospitals Impact</b>	<b>31,475</b>	<b>\$2.0</b>	<b>\$2.4</b>	<b>\$4.6</b>