

**Carnegie Mellon University
(With Independent Auditors' Reports Thereon)
Uniform Guidance Reports and
Supplementary Schedule of Financial Responsibility Data
Year Ended June 30, 2023**

Carnegie Mellon University

Index

June 30, 2023 and 2022

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Independent Auditors' Report

The Board of Trustees
Carnegie Mellon University:

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Carnegie Mellon University (the University), which comprise the consolidated statements of financial position as of June 30, 2023 and 2022, and the related consolidated statements of activities and cash flows for the years then ended, and the related notes to the consolidated financial statements.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the University as of June 30, 2023 and 2022, and the changes in its net assets and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the University and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the University's ability to continue as a going concern for one year after the date the consolidated financial statements are issued.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.



In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the University's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 13, 2023 on our consideration of the University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control over financial reporting and compliance.

KPMG LLP

Pittsburgh Pennsylvania
October 13, 2023

Carnegie Mellon University
Consolidated Statements of Financial Position
June 30, 2023 and 2022

(dollars in thousands)

	<u>2023</u>	<u>2022</u>
Assets		
Cash and cash equivalents (Note 2)	\$ 981,061	\$ 765,478
Accrued interest and dividends	4,943	2,556
Accounts receivable, net (Note 4)	89,016	94,684
Pledges receivable, net (Note 5)	331,211	238,982
Student loans receivable, net (Note 4)	5,296	6,520
Investments (Notes 6 and 8)	3,966,197	4,004,423
Assets held in trust by others (Note 8)	11,207	11,044
Unexpended bond proceeds (Note 11)	29,952	32,306
Prepaid expenses and other assets (Note 2)	60,274	61,258
Right-of-use assets (Note 9)	60,218	67,593
Land, buildings and equipment, net (Note 10)	1,310,589	1,218,118
Total assets	<u>\$ 6,849,964</u>	<u>\$ 6,502,962</u>
Liabilities		
Accounts payable and other liabilities (Note 2)	\$ 216,789	\$ 227,917
Deferred revenue (Note 4)	164,464	172,066
Federal student loan funds (Note 2)	5,034	6,299
Present value of split interest agreement obligations (Note 2)	14,446	16,624
Lease obligations (Note 9)	61,307	68,247
Debt obligations (Note 11)	830,815	758,313
Total liabilities	<u>\$ 1,292,855</u>	<u>\$ 1,249,466</u>
Net assets		
Without donor restrictions (Note 12)	\$ 2,265,942	\$ 2,140,464
With donor restrictions (Note 12)	3,291,167	3,113,032
Total net assets	<u>\$ 5,557,109</u>	<u>\$ 5,253,496</u>
Total liabilities and net assets	<u>\$ 6,849,964</u>	<u>\$ 6,502,962</u>

The accompanying notes are an integral part of these consolidated financial statements.

Carnegie Mellon University

Consolidated Statement of Activities

Year Ended June 30, 2023

(dollars in thousands)

	<u>Without</u> <u>Donor Restrictions</u>	<u>With</u> <u>Donor Restrictions</u>	<u>Total</u>
Revenue and other support			
Tuition and other educational fees revenue, net of financial aid (Note 4)	\$ 714,396	\$ -	\$ 714,396
Sponsored projects revenue (Note 4)			
Software Engineering Institute	132,751	-	132,751
Advanced Robotics for Manufacturing Institute	24,318	-	24,318
Other grants and contracts	336,953	-	336,953
Investment income	107,284	15,818	123,102
Contributions revenue (Note 5)	26,556	224,720	251,276
Auxiliary services revenue	72,002	-	72,002
Other revenue sources	70,591	-	70,591
Net assets released from donor restrictions	109,774	(109,774)	-
Total revenue and other support	<u>\$ 1,594,625</u>	<u>\$ 130,764</u>	<u>\$ 1,725,389</u>
Expenses (Note 14)			
Salaries	\$ 807,236	\$ -	\$ 807,236
Benefits	174,641	-	174,641
Other operating expenses	388,393	-	388,393
Depreciation and amortization	83,236	-	83,236
Interest expense	22,886	-	22,886
Total expenses	<u>\$ 1,476,392</u>	<u>\$ -</u>	<u>\$ 1,476,392</u>
Increase in net assets before nonoperating activities	\$ 118,233	\$ 130,764	\$ 248,997
Nonoperating activities			
Net realized/unrealized (losses) gains on investments (Note 6)	\$ (8,204)	\$ 53,122	\$ 44,918
Other (Note 2)	5,882	3,360	9,242
Post-retirement plan changes other than net periodic benefit costs (Note 16)	456	-	456
Net assets released from restrictions for capital	9,111	(9,111)	-
Total nonoperating activities	<u>\$ 7,245</u>	<u>\$ 47,371</u>	<u>\$ 54,616</u>
Increase in net assets	\$ 125,478	\$ 178,135	\$ 303,613
Net assets			
Beginning of year	2,140,464	3,113,032	5,253,496
End of year	<u>\$ 2,265,942</u>	<u>\$ 3,291,167</u>	<u>\$ 5,557,109</u>

The accompanying notes are an integral part of these consolidated financial statements.

Carnegie Mellon University
Consolidated Statement of Activities
Year Ended June 30, 2022

(dollars in thousands)

	<u>Without</u> <u>Donor Restrictions</u>	<u>With</u> <u>Donor Restrictions</u>	<u>Total</u>
Revenue and other support			
Tuition and other educational fees revenue, net of financial aid (Note 4)	\$ 663,879	\$ -	\$ 663,879
Sponsored projects revenue (Note 4)			
Software Engineering Institute	129,940	-	129,940
Advanced Robotics for Manufacturing Institute	16,140	-	16,140
Other grants and contracts	319,154	-	319,154
Investment income	60,399	12,714	73,113
Contributions revenue (Note 5)	26,962	252,620	279,582
Auxiliary services revenue	67,687	-	67,687
Other revenue sources (Note 2)	93,229		93,229
Net assets released from donor restrictions	96,611	(96,611)	-
Total revenue and other support	<u>\$ 1,474,001</u>	<u>\$ 168,723</u>	<u>\$ 1,642,724</u>
Expenses (Note 14)			
Salaries	\$ 755,436	\$ -	\$ 755,436
Benefits	162,791	-	162,791
Other operating expenses	333,494	-	333,494
Depreciation and amortization	81,967	-	81,967
Interest expense	13,517	-	13,517
Total expenses	<u>\$ 1,347,205</u>	<u>\$ -</u>	<u>\$ 1,347,205</u>
Increase in net assets before nonoperating activities	\$ 126,796	\$ 168,723	\$ 295,519
Nonoperating activities			
Net realized/unrealized losses on investments (Note 6)	\$ (69,522)	\$ (104,606)	\$ (174,128)
Other (Note 2)	10,489	(4,033)	6,456
Post-retirement plan changes other than net periodic benefit costs (Note 16)	7,078	-	7,078
Net assets released from restrictions for capital	7,217	(7,217)	-
Total nonoperating activities	<u>\$ (44,738)</u>	<u>\$ (115,856)</u>	<u>\$ (160,594)</u>
Increase in net assets	\$ 82,058	\$ 52,867	\$ 134,925
Net assets			
Beginning of year	2,058,406	3,060,165	5,118,571
End of year	<u>\$ 2,140,464</u>	<u>\$ 3,113,032</u>	<u>\$ 5,253,496</u>

The accompanying notes are an integral part of these consolidated financial statements.

Carnegie Mellon University

Consolidated Statements of Cash Flows

Years Ended June 30, 2023 and 2022

(dollars in thousands)

	2023	2022
Cash flows from operating activities		
Increase in net assets	\$ 303,613	\$ 134,925
Adjustments to reconcile increase in net assets to net cash provided by operating activities:		
Realized and unrealized (gains) losses on investments, net	(100,641)	127,511
Depreciation and amortization	83,236	81,967
Amortization of right-of-use assets	14,868	20,775
Amortization of bond premium and bond issuance costs, net	(6,132)	(6,517)
Gifts in kind	(512)	-
Asset dispositions	367	1,300
Contributions for land, buildings and equipment and endowment	(83,572)	(178,139)
Provision for bad debt and other allowances	6,336	(964)
Assets held in trust by others	60	(187)
(Increase)/decrease in assets:		
Accrued interest and dividends	(2,387)	(813)
Accounts receivable, net	4,933	(6,236)
Pledges receivable, net	(97,831)	43,429
Other assets	(907)	(5,083)
Increase/(decrease) in liabilities:		
Accounts payable and other liabilities	(17,009)	(24,035)
Operating Lease obligations	(14,449)	(19,466)
Deferred revenue	(7,603)	(3,010)
Present value of split interest agreements payable	(2,178)	814
Net cash provided by operating activities	<u>\$ 80,192</u>	<u>\$ 166,271</u>
Cash flows from investing activities		
Proceeds from sale and maturity of investments	1,351,296	1,459,525
Purchases of investments	(1,212,653)	(1,709,090)
Purchases of land, buildings and equipment	(169,373)	(129,644)
Federal loan programs	(1,265)	(1,490)
Disbursements of loans to students	(27)	(15)
Repayments of loans from students	1,252	1,586
Net cash used for investing activities	<u>\$ (30,770)</u>	<u>\$ (379,128)</u>
Cash flows from financing activities		
Proceeds from issuance of debt, including bond premium	90,000	190,564
Repayments of debt obligations	(11,365)	(84,215)
Payment of debt issuance costs	-	(692)
Contributions for land, building, and equipment and endowment	85,172	178,669
Net cash provided by financing activities	<u>163,807</u>	<u>284,326</u>
Net increase in cash and cash equivalents, and restricted cash	<u>213,229</u>	<u>71,469</u>
Cash, cash equivalents, and restricted cash at beginning of year	797,784	726,315
Cash, cash equivalents, and restricted cash at end of year	<u>\$ 1,011,013</u>	<u>\$ 797,784</u>
Cash and cash equivalents	<u>\$ 981,061</u>	<u>\$ 765,478</u>
Unexpended bond proceeds (Note 11)	<u>29,952</u>	<u>32,306</u>
Total cash, cash equivalents, and restricted cash	<u>\$ 1,011,013</u>	<u>\$ 797,784</u>
Noncash transactions:		
Non-cash gifts in kind	2,240	896
Increase in accounts payable and accrued liabilities for land, buildings and equipment	5,843	8,521
Non-cash stock contributions	1,200	2,172
Lease obligations arising from obtaining right-of-use assets	7,509	14,863

The accompanying notes are an integral part of these consolidated financial statements.

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

1. Carnegie Mellon

Carnegie Mellon University (“Carnegie Mellon” or “the university”) is a private, not-for-profit educational and research institution. Carnegie Mellon currently enrolls approximately 16,800 students and granted approximately 4,800 bachelor’s, master’s and doctoral degrees in the last academic year. Approximately 76% of undergraduate students are from the United States of America. International students comprise approximately 24% of undergraduate, 68% of master’s, and 54% of Ph.D. students.

2. Summary of Significant Accounting Policies

Basis of Accounting and Reporting

The accompanying consolidated financial statements have been prepared on the accrual basis of accounting in accordance with U.S. generally accepted accounting principles (“GAAP”) and include the accounts of Carnegie Mellon as well as the Software Engineering Institute (“SEI”), and other majority-owned entities. The consolidated entities are Advanced Robotics for Manufacturing Institute (“ARM Institute”), Benjamin Garver Lamme Scholarship Fund, Jack G. Buncher Charitable Fund for Carnegie Mellon, iCarnegie, Inc., and Carnegie Innovations, LLC. All significant inter-entity transactions and balances have been eliminated in consolidation. Carnegie Mellon is a joint sponsor with the University of Pittsburgh in MPC Corporation (“MPC”), a beneficiary of The Dietrich Foundation, and an owner as a tenant in common of the Bellefield Boiler Plant. The activities of MPC, The Dietrich Foundation, and the Bellefield Boiler Plant are not consolidated in Carnegie Mellon’s consolidated financial statements (see Note 17).

The SEI is a federally funded research and development center (FFRDC) sponsored by the U.S. Department of Defense (“DoD”) and operated by the university. The most recent contract provided a five-year initial term ended in June 2020 plus a five-year renewal option, which was exercised in July 2020. In January 2017, the DoD awarded the ARM Institute, a nonprofit venture led by Carnegie Mellon, a seven year contract to launch an advanced robotics manufacturing institute in Pittsburgh.

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

Carnegie Mellon's net assets and revenues, expenses, gains and losses are classified based on the existence or absence of donor imposed restrictions. Accordingly, net assets and changes therein are classified and reported as follows:

Without Donor Restrictions

Net assets that are not subject to donor imposed stipulations.

With Donor Restrictions

Net assets subject to specific donor imposed or legal stipulations that can be fulfilled by actions of Carnegie Mellon pursuant to those stipulations or that expire by the passage of time. Also included in this category are net assets subject to donor imposed stipulations requiring the assets be maintained in perpetuity. Generally, the donors of these assets permit Carnegie Mellon to use all or part of the income earned on the related investments for general or specific purposes. Other restricted items in this category include annuity and life income gifts where the ultimate purpose of the proceeds is donor restricted.

Revenues are reported as increases in net assets without donor restrictions unless use of the related assets is limited by donor imposed restrictions. Expenses are reported as decreases in net assets without donor restrictions. Gains and losses on investments and other assets or liabilities are reported as increases or decreases in net assets without donor restrictions unless their use is restricted by the donor or by law. Expiration or satisfaction of donor restrictions on net assets are reported as net assets released from donor restrictions.

Cash Equivalents

Cash equivalents include highly liquid investments with original maturities of three months or less when purchased. Cash equivalents are recorded at cost, which approximates fair value. These balances are held at the university's custodians, prime brokers, clearing agents, and banking institutions for investment and working capital purposes. Cash equivalents held within investments are held for long term purposes and not considered cash equivalents for purposes of the statements of cash flow.

Investments

All investments held by Carnegie Mellon are reported at fair value. The fair value of marketable debt and equity securities is based on published current market prices in active securities markets. The fair value of certain investments structured as investment companies is based on the net asset value of such investments and generally is estimated by external investment managers.

As a practical expedient, the university is permitted to estimate fair value of an investment in an investment company, at the measurement date, using the reported net asset value (NAV) without further adjustment unless the university expects to sell the investment at a value other than NAV or if the NAV is not calculated in accordance with fair value principles. Investments measured under the net asset value practical expedient primarily consist of the university's

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

ownership in alternative investments (principally limited partnership interests in private equity, real estate, natural resources, and hedge funds) and certain investments in commingled funds.

Carnegie Mellon reviews and evaluates the valuation methods and assumptions used by investment managers in determining fair value NAV. Those estimated fair values may differ significantly from values that would result had a ready market for these securities existed. Note 8 - Fair Value provides additional information about inputs used to determine fair value for investments. Investments received as a gift are reflected as contributions at their fair value at the date of the gift.

Gains and losses, dividends, and interest income from investments are reported in the consolidated statements of activities. Internal and external investment management fees and expenses are netted against investment returns.

Investment securities, in general, are exposed to various risks, such as interest rate, credit and overall market volatility. Due to the level of risk associated with certain investment securities, changes could materially affect the amounts reported in the consolidated statements of financial position.

Endowment

Investment policy for endowment assets is the responsibility of the Investment Committee of the Board of Trustees. Substantially all endowment assets are managed by outside investment managers and overseen by the university's Investment Office.

Endowment net assets without donor restrictions include Carnegie Mellon funds, gifts without restrictions from donors, and any accumulated income, gains, and appreciation thereon, which is intended to remain in the endowment for the long-term support of Carnegie Mellon activities, but may be expended under trustee authorization. Also included is interest and dividend income on donor restricted endowment assets where distribution of such income is not subject to a donor restriction.

Endowment net assets with donor restrictions include gifts and any accumulated income, gains, and appreciation thereon which donor restrictions require to be retained in perpetuity to provide a permanent source of support for the university. Also included are accumulated income, gains, and appreciation on endowment assets where distribution/spending of such returns is restricted by the donor. The Trustees of Carnegie Mellon must annually authorize release of endowment gains according to Pennsylvania law. This classification also includes term endowments and endowment gifts whereby the donor permits distributions of the principal amount of the gift and accumulated appreciation.

All endowment funds participate in a Carnegie Mellon investment pool. The investment pool provides income to its respective participants. Such income is used for the specific purpose prescribed by the donor or, if the purpose was not prescribed by the donor, the income is deemed to be without donor restrictions and used for general purposes. New endowment funds or additions to existing funds are assigned shares in the investment pool based upon the

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

per share market value at the end of the previous month. Income distributions from the investment pool are based upon the number of shares held by each participant and the approved spending rate (see Note 7). Income distributions from the investment pool are based upon the “total return concept”. Component amounts of total return not distributed currently are reinvested in the investment pool and are available for distribution from the endowment assets in future years.

Assets Held in Trust by Others

Assets held in trust by others include the value of Carnegie Mellon’s beneficial interest in perpetual trusts and irrevocable trusts held by outside trustees. The present value of the perpetual trusts’ estimated future cash receipts, which are measured by the fair value of the assets contributed to the trust, are recognized as assets and contribution revenues at the dates the trusts are established. The assets are adjusted periodically for changes in market values.

Various donors have established irrevocable trusts whereby Carnegie Mellon holds a remainder interest in the trust or is entitled to distributions over the life of the trusts. The present value of the portion of the trusts estimated to be distributable to Carnegie Mellon over the life of the trusts or upon the termination of the trusts are recorded as assets and contribution revenues at the dates the trusts are established. The assets are adjusted periodically for changes in market value.

Unexpended Bond Proceeds

Unexpended bond proceeds in the amount of \$30.0 million and \$32.3 million as of June 30, 2023 and 2022, respectively, represent cash proceeds from the issuance of Series 2022 C bonds in February 2022. The unexpended bond proceeds are held by a trustee under the respective bond indenture for capital expenditures. See Note 11 for more information.

Prepaid Expenses and Other Assets

Prepaid expenses represent items such as prepaid insurance, prepaid rentals and other contractual payments made in advance of their use or consumption. Amounts are expensed and amortized over the periods to which the charges relate. Other assets include deferred compensation plan assets, interest rate swap assets and other costs incurred that will result in benefits to future periods.

Right-of-use Assets and Lease Obligations

Operating lease right-of-use (“ROU”) assets and operating lease obligations are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As the university’s leases generally do not provide an implicit rate, the university’s incremental borrowing rate at commencement date is used to determine the present value of future payments. The operating lease ROU asset also includes any lease payments made and excludes lease incentives and any initial direct costs incurred. The university’s operating lease ROU assets and operating lease obligations are calculated including options to extend the lease when it is reasonably certain that the university will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

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Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

Land, Buildings and Equipment

Land, buildings and equipment are recorded at cost at the date of acquisition or, if acquired by gift, at the fair value as of the date of the gift. Additions to plant assets are capitalized while scheduled maintenance and minor renovations are expensed to operations. Buildings and equipment are reflected net of accumulated depreciation which is calculated on a straight-line basis over the estimated useful lives. Carnegie Mellon capitalizes interest during periods of construction. Carnegie Mellon reviews its land, buildings, equipment and other long-lived assets for impairment whenever events or circumstances indicate that the carrying amount may not be recoverable.

Donated works of art, historical treasures and similar assets have been recognized at their estimated fair value based upon appraisals or similar valuations at the date of acquisition. If purchased, the assets are recognized at cost. The assets are depreciated over 99 years.

Accounts Payable and Other Liabilities

Accounts payable and other liabilities include accounts payable, accrued payroll and benefits, interest rate swap liabilities, and other accrued expenses.

Federal Student Loan Funds

This liability represents Perkins loan funds provided to students by the federal government through Carnegie Mellon. Carnegie Mellon is required to collect the loans on behalf of the federal government. The federal government did not renew the Perkins loan program after September 30, 2017, and did not allow disbursements to be made after June 30, 2018. The university has elected to retain the outstanding loans in lieu of assigning the loans to the federal government. The liability will be repaid over the years that loan repayments are received from student borrowers. During the years ended June 30, 2023 and 2022, \$1.3 million and \$1.5 million was repaid to the federal government, respectively. The amounts due from the students are reported in the consolidated statements of financial position as a component of student loans receivable, net.

Present Value of Split Interest Agreement Obligations

Carnegie Mellon's split interest agreements with donors consist primarily of gift annuities, unitrusts, lead trusts, charitable remainder annuity trusts and life income agreements. Assets held under these agreements are included in investments. Generally, contribution revenues are recognized at the dates the agreements are established, after recording liabilities for the present value of the estimated future payments to be made to the beneficiaries. The liabilities are adjusted during the term of the trusts for changes in the value of the assets, accretion of the discount and other changes in the estimates of future benefits. The discount rates utilized for split interest agreements range from 0.4% to 6.0%. Distributions from the trusts are recorded in accordance with the donor's stipulations as contributions and the carrying value of the assets are adjusted for changes in the fair value of the trust assets.

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

Operating Activities

Carnegie Mellon's measure of operations without donor restrictions includes revenue from tuition, sponsored projects, investment return distributed according to Carnegie Mellon's spending policy, contributions without donor restrictions, contributions for programs, revenues from auxiliary services and other sources, and net assets released from donor restrictions. Operating expenses are reported by natural classification.

Revenue Recognition from Contracts with Customers

Revenue is recognized when control of the promised goods or services is transferred to customers in an amount that reflects the consideration the university expects to be entitled to receive in exchange for those goods and services.

Contributions Revenue

Contributions include gifts, grants and unconditional promises to give that are recognized as revenue, at fair value, in the period such commitments are received. Conditional promises to give may be subject to both a barrier to entitlement and a right of return of unused funds. Such contributions are recognized as revenue when the barrier is satisfied. Unconditional promises to give to be received in future years are discounted, as of the date of the gift, at a rate commensurate with the pledge payment schedule. A discount rate commensurate with fair value is used. The discount rates utilized for contributions receivable range from 0.0% to 4.5%. An allowance is estimated for uncollectible contributions based upon historical patterns and any known uncollectible accounts or accounts in arrears.

Capital Contributions

Donors' contributions to fund construction projects are classified as net assets with donor restrictions and are released from donor restriction through nonoperating activities when the facility is placed in service. \$9.1 million and \$7.2 million of capital contributions were released from donor restrictions during fiscal years 2023 and 2022, respectively.

Nonoperating Activities

Items presented in the consolidated statements of activities as "Nonoperating activities" include unrealized gains and losses and interest expense related to interest rate swap agreements, losses from adjustments of pledges receivable with donor restrictions, and certain other gains and losses.

Income Taxes

Carnegie Mellon is a nonprofit organization as described in Section 501(c)(3) of the Internal Revenue Code (the "Code") and is generally exempt from income taxes on related income pursuant to Section 501(a) of the Code.

The university accounts for uncertainties in income taxes in accordance with authoritative guidance, which prescribes a recognition threshold of more-likely-than-not to be sustained upon examination by the appropriate taxing authority. Measurement of the tax uncertainty occurs if the recognition threshold has been met. Management determined there were no tax uncertainties that met the recognition threshold at June 30, 2023 and 2022.

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Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

The university's Federal Exempt Organization Business Income Tax Returns remain subject to examination by the Internal Revenue Service for the years subsequent to June 30, 2019.

The university's policy is to recognize interest related to unrecognized tax benefits in interest expense and penalties in operating expenses.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported consolidated financial statements and related accompanying footnote disclosures. Actual results could differ from those estimates and these differences could be material.

Adoption of New Accounting Pronouncements

In March 2020 the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting (ASU 2020-04). ASU 2020-04 provides optional guidance for a limited period of time to ease the potential burden in accounting for reference rate reform due to the risk of cessation of the London Interbank Offered rate ("LIBOR"). ASU 2020-04 was amended by ASU 2022-06, Deferral of the Sunset Date of Topic 848, which extended the period of time that ASU 2020-04 could be applied to December 31, 2024. The amendments in ASU 2020-04 are effective for all entities as of March 12, 2020 through December 31, 2024. The university adopted this standard on July 1, 2022, the result of which did not have a material impact on its consolidated financial statements. See Note 11 and Note 13 for more information.

3. Financial Assets and Liquidity Resources

The university continuously monitors liquidity needed to meet its operating activities while prudently investing its available capital. Possible sources of liquidity include cash and cash equivalents, short-term investments, marketable debt and equity securities, two \$50.0 million lines of credit and a \$200.0 million commercial paper program (see Note 11). The university also anticipates converting certain receivables to cash within the next twelve months. As of June 30, 2023 and 2022, financial assets available within one year for general expenditure are as follows (*dollars in thousands*):

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	<u>2023</u>	<u>2022</u>
Cash and cash equivalents	\$ 981,061	\$ 765,478
Accounts receivable, net	89,016	94,684
Pledges receivables restricted for operations	11,738	12,385
Short-term working capital investments	180,892	329,989
Subsequent year's approved endowment distributions	149,059	129,906
Subsequent year's approved long-term working capital distributions	<u>17,286</u>	<u>14,548</u>
Total financial assets available within one year	<u>\$ 1,429,052</u>	<u>\$ 1,346,990</u>

For purposes of analyzing resources available for general expenditures over a 12-month period, the university considers all expenditures related to its ongoing activities of teaching and research, as well as the conduct of services undertaken to support those activities, to be general expenditures. This includes short-term working capital investments available for construction and plant activity. Long-term working capital investments are included within the university's long-term investments pool. While the university does not intend to spend from these long-term working capital investments other than the amounts appropriated for general expenditure as indicated above, the long-term working capital investments could be made available if necessary. However, the long-term investments pool contains investments with lock-up provisions that reduce the total investments that could be made available (see Notes 6 and 8).

4. Revenue from Contracts with Customers and Accounts Receivable

Tuition Revenue: Tuition revenue is recognized within the fiscal year in which educational services are provided. Revenue related to student services crossing fiscal years is recognized on a pro-rata basis based upon the number of instruction days in each period. Tuition, at published prices, from undergraduate students was \$441.4 million and \$416.8 million for the years ended June 30, 2023 and 2022, respectively. Tuition, at published prices, from graduate students was \$422.5 million and \$396.8 million for the years ended June 30, 2023 and 2022, respectively. Other education related revenue was \$49.0 million and \$40.5 million for the years ended June 30, 2023 and 2022, respectively. The transaction price for tuition revenue may be reduced directly by discounts or scholarships from the amount of the standard rates charged. These discounts are considered financial aid and were \$198.5 million and \$190.2 million for the years ended June 30, 2023 and 2022, respectively. Upon withdrawal, a student may be eligible to receive a refund, or a partial refund, the amount of which is dependent on the timing of the withdrawal during the academic term. The amount of refunds paid is not a significant portion of the university's tuition revenue.

Students are billed prior to the start of each academic term based upon the agreements they signed and payment is due prior to the start of the term. Student receivables are not collateralized; however, credit risk is minimized as a result of the diverse nature of the university's student base. The university establishes an allowance for doubtful accounts based on historical trends and other information.

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Sponsored Projects Revenue: The university receives sponsored program funding from various governmental and corporate sources. The funding may represent a reciprocal transaction in exchange for an equivalent benefit in return, or it may be a nonreciprocal transaction in which the resources provided are for the benefit of the university, the funding organization's mission, or the public at large.

Revenues from exchange transactions are recognized as performance obligations are satisfied, which in most cases is as related costs are incurred. Revenue from non-exchange transactions (contributions) may be subject to conditions, in the form of both a barrier to entitlement and a refund of amounts paid (or a release from obligation to make future payments). Revenues from conditional non-exchange transactions are recognized when the barrier is satisfied. In addition, the university has elected the simultaneous release option for conditional contributions that are also subject to purpose restrictions. Under this option, net assets without donor restrictions will include the donor-restricted contributions for which the purpose restrictions are met in the same reporting period as the revenue is recognized.

Amounts recognized as sponsored projects revenue are based upon a signed contract for direct costs along with indirect cost recovery. Indirect sponsored projects revenue is recorded at rates established in advance by Carnegie Mellon through negotiations with the United States government and other sponsors based upon direct costs incurred. The actual federal indirect cost rate is audited by the Defense Contracts Audit Agency (DCAA) and a final fixed rate agreement is signed by the United States government and Carnegie Mellon. The variance between the negotiated fixed and the final audited indirect cost rate results in a carryforward (over or under recovery) that is included in the calculation of negotiated fixed rates in future years.

Sponsored projects revenue is invoiced per the terms of the contractual agreement. Amounts received from sponsors under agreements that require the exchange of assets, rights or other privileges between Carnegie Mellon and the sponsor are recorded as deferred revenue until the contract terms are fulfilled.

Auxiliary Services Revenue: Carnegie Mellon's auxiliaries exist primarily to furnish goods and services to students, faculty and staff. Managed as essentially self-supporting activities, Carnegie Mellon's auxiliaries consist principally of housing and dining services, parking, retail and other external services. Revenue is recognized as the services are provided based upon published prices and rates, net of any discount.

Other revenue sources: Other revenue is comprised of funding received for Carnegie Mellon's international locations, royalty income, licensing revenue, affiliate/membership revenue and other miscellaneous revenues. Other revenue is recognized as services are rendered or over the term of the contract and invoiced based on contractual terms.

The university has elected the practical expedient in ASC 606-10-50-14 to not disclose the information about remaining performance obligations that have original expected durations of one year or less. Federal and other sponsored grants and contracts may include fiscal funding

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clauses or be subject to annual appropriation. These sponsored research agreements typically span less than five years. The university estimates that its conditional awards outstanding as of June 30, 2023 approximate historical annual sponsored program activity.

Accounts receivable at June 30, 2023 and 2022, consist of the following (*dollars in thousands*):

	<u>2023</u>	<u>2022</u>
Sponsored project accounts receivable		
Software Engineering Institute	\$ 82	\$ 158
Other grants and contracts	64,805	57,772
Total sponsored projects accounts receivable	<u>\$ 64,887</u>	<u>\$ 57,930</u>
Student accounts	5,884	4,708
Other	20,302	34,363
Total student accounts and other	<u>\$ 26,186</u>	<u>\$ 39,071</u>
Allowance for doubtful accounts	<u>(2,057)</u>	<u>(2,317)</u>
Net accounts receivable	<u>\$ 89,016</u>	<u>\$ 94,684</u>

Other accounts receivable relates primarily to Carnegie Mellon's international programs, affiliate and membership agreements, license agreements and other miscellaneous revenue sources.

Deferred revenue at June 30, 2023 and 2022 consists of the following (*dollars in thousands*):

	<u>2023</u>	<u>2022</u>
Sponsored projects deferred revenue		
Software Engineering Institute	\$ 11,356	\$ 7,498
Other contracts and conditional grants	60,117	56,052
Total sponsored projects deferred revenue	<u>\$ 71,473</u>	<u>\$ 63,550</u>
Student accounts	25,101	23,689
Other	67,890	84,827
Total deferred revenue	<u>\$ 164,464</u>	<u>\$ 172,066</u>

Student Loans Receivable

Net student loans receivable of approximately \$5.3 million and \$6.5 million, as of June 30, 2023 and 2022, respectively, primarily represent student loans made under the Perkins federal loan program. These loans are reported net of an allowance for doubtful accounts of approximately \$0.5 million as of June 30, 2023 and 2022.

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5. Contributions Revenue and Pledges Receivable

Conditional promises to give, which depend on the satisfaction of identified barriers such as matching gifts from other donors, are recognized as contributions revenue when the conditions are substantially met. Carnegie Mellon had approximately \$7.4 million and \$13.8 million as of June 30, 2023 and 2022 of conditional pledged contributions outstanding primarily related to capital projects. In addition, the university had approximately \$28.0 million and \$23.0 million related to conditional contributions as of June 30, 2023 and 2022, respectively, recorded as deferred revenue in the consolidated statements of financial position. These amounts were not recognized as contributions revenue during the respective fiscal year as the barriers had not been met.

Pledges receivable as of June 30, 2023 and 2022 are due as follows (*dollars in thousands*):

	<u>2023</u>	<u>2022</u>
In one year or less	\$ 72,295	\$ 56,342
Between one year and five years	264,578	150,789
More than five years	<u>48,482</u>	<u>65,523</u>
Pledges receivable, gross	\$ 385,355	\$ 272,654
Unamortized discount	(40,344)	(23,715)
Allowance for unfulfilled pledges	<u>(13,800)</u>	<u>(9,957)</u>
Pledges receivable, net of discount and allowance	<u>\$ 331,211</u>	<u>\$ 238,982</u>

6. Investments

Investments by major class at June 30, 2023 and 2022 are as follows (*dollars in thousands*):

	<u>2023</u>	<u>2022</u>
Cash equivalents	\$ 85,895	\$ 62,800
Short-term fixed income securities	148,569	297,927
Fixed income securities	461,042	470,060
Equity securities	1,013,475	941,440
Alternative investment partnerships	<u>2,257,216</u>	<u>2,232,196</u>
Total investments	<u>\$ 3,966,197</u>	<u>\$ 4,004,423</u>

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Investments are held for the following purposes (*dollars in thousands*):

	<u>2023</u>	<u>2022</u>
Endowment	\$ 3,103,122	\$ 3,016,724
Reserves for working capital and plant - short-term	180,892	329,989
Reserves for working capital and plant - long-term	559,518	536,297
Other	122,665	121,413
Total investments	<u>\$ 3,966,197</u>	<u>\$ 4,004,423</u>

Fixed income securities are United States Treasury and Agency obligations, investment grade corporate debt, short-term commercial paper, and asset backed securities. Equity securities at June 30, 2023 included 52.3% domestic equities and 47.7% international and emerging market equities. Equity securities at June 30, 2022 included approximately 51.7% domestic equities and 48.3% international and emerging market equities. Alternative investment partnerships are largely investments in buyout, venture capital, real estate, natural resources and hedge funds.

The allocation to each major class in the previous table represents the actual allocation of the short-term and long-term reserves, and other miscellaneous investments on a combined basis. Actual allocations on a combined basis should not be interpreted as an investment allocation policy for a particular investment pool.

Operating investment income as reported in the consolidated statements of activities includes dividends and interest earned on funds without donor restrictions as well as accumulated gains without donor restrictions utilized for current operations in the amounts of \$55.7 million and \$46.7 million for the years ended June 30, 2023 and 2022, respectively. The accumulated gains are reclassified from net realized gains to investment income.

Certain of Carnegie Mellon's outside investment managers are authorized to and do purchase and sell derivative instruments in order to create, increase, decrease, or hedge exposures to market position, including to manage risk due to interest rate and foreign currency fluctuations.

Carnegie Mellon's long-term investments are comprised of U.S. domestic and international portfolios. Carnegie Mellon does not hedge international portfolios with respect to foreign currencies. Investment managers of these international portfolios have the discretion to, and certain do, manage foreign currencies through foreign exchange contracts to protect the portfolios from potential foreign currency losses and to benefit from potential gains

Gains or losses from derivative instruments are reported as realized and unrealized gains or losses in the consolidated statements of activities. The fair value of all derivative instruments is included in the fair value of the investments.

Under the terms of certain limited partnership agreements, Carnegie Mellon is obligated to periodically advance additional funding for venture capital, buyout, real estate and natural

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resources fund investments. At June 30, 2023 and 2022, Carnegie Mellon had unfunded commitments of approximately \$836.8 million and \$702.3 million, respectively, for which capital calls had not been exercised. Such commitments generally have fixed expiration dates or other termination clauses. Carnegie Mellon maintains sufficient liquidity in its investment portfolio to cover such calls.

Alternative investments, measured at NAV are less liquid than Carnegie Mellon's other investments. The following tables summarize these investments by strategy type at June 30, 2023 and 2022 (*dollars in thousands*):

	2023		2022	
	Number	Fair	Number	
	of Funds	Value	of Funds	
		Value	Fair	
			Value	
Commingled funds	6	\$ 302,447	6	\$ 278,840
Hedge funds	12	298,614	13	239,194
Natural resources	20	120,043	21	140,369
Private equity (buyout) funds	62	349,694	65	297,554
Real estate	26	162,956	24	148,704
Venture capital	218	1,304,934	203	1,385,667
Other	10	20,975	12	20,708
Total	<u>354</u>	<u>\$ 2,559,663</u>	<u>344</u>	<u>\$ 2,511,036</u>

Commingled funds and hedge fund investments held by the university may be subject to restrictions related to the initial investment that limit the university's ability to redeem capital from such investments during a specified period of time subsequent to the university's investment of capital in such funds, typically known as a lock-up period. Capital available for redemption after the lock-up period has expired may also be subject to limits which restrict the available redemption period to semi-monthly, monthly, quarterly, semi-annually, annually or triennially and require 2 - 180 days prior written notice, potentially limiting the university's ability to respond quickly to changes in market conditions. All commingled funds have passed the initial lock-up period as of June 30, 2023.

Natural resources, private equity, real estate, venture capital and other alternative investments cannot be redeemed upon request. Instead, the nature of these investments is that distributions are received through the liquidation of the underlying assets of the fund. It is estimated that the underlying assets of these funds would be liquidated over approximately four to eight years.

7. Endowments

The following tables outline the endowment net asset composition by type of fund as of June 30, 2023 and 2022 (*dollars in thousands*):

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	2023		
	Without Donor Restrictions	With Donor Restrictions	Total
Donor-restricted endowment funds	\$ -	\$ 2,575,888	\$ 2,575,888
Board-designated funds	542,852		542,852
Total funds	\$ 542,852	\$ 2,575,888	\$ 3,118,740

	2022		
	Without Donor Restrictions	With Donor Restrictions	Total
Donor-restricted endowment funds	\$ -	\$ 2,525,149	\$ 2,525,149
Board-designated funds	507,759	-	507,759
Total funds	\$ 507,759	\$ 2,525,149	\$ 3,032,908

The following tables provide a summary of the changes in value of the endowment net assets excluding endowment pledges for the years ended June 30, 2023 and 2022 (dollars in thousands):

	2023		
	Without Donor Restrictions	With Donor Restrictions	Total
Endowment net assets, beginning of year	\$ 507,759	\$ 2,525,149	\$ 3,032,908
Gifts and other additions	\$ 67,513	\$ 65,779	\$ 133,292
Investment income			
Interest and dividends	\$ 7,997	\$ 12,156	\$ 20,153
Net realized gains on sale of securities	2,135	10,619	12,754
Net unrealized gains	9,385	41,140	50,525
Total investment income	\$ 19,517	\$ 63,915	\$ 83,432
Income distributed			
Cash and accrued interest and dividends	\$ (7,997)	\$ (12,156)	\$ (20,153)
Accumulated realized investment gains	(43,940)	(66,799)	(110,739)
Total income distributed	\$ (51,937)	\$ (78,955)	\$ (130,892)
Endowment net assets, end of year	\$ 542,852	\$ 2,575,888	\$ 3,118,740 ⁽¹⁾

⁽¹⁾Includes \$15.6 million of endowment gifts and other transfers pending investment and other accruals.

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	2022		
	Without Donor Restrictions	With Donor Restrictions	Total
Endowment net assets, beginning of year	\$ 567,500	\$ 2,524,564	\$ 3,092,064
Gifts and other additions	\$ 20	\$ 156,635	\$ 156,655
Investment income			
Interest and dividends	\$ 7,565	\$ 11,111	\$ 18,676
Net realized gains on sale of securities	28,374	126,223	154,597
Net unrealized losses	(50,160)	(226,496)	(276,656)
Total investment income	<u>\$ (14,221)</u>	<u>\$ (89,162)</u>	<u>\$ (103,383)</u>
Income distributed			
Cash and accrued interest and dividends	\$ (7,565)	\$ (11,111)	\$ (18,676)
Accumulated realized investment gains	(37,975)	(55,777)	(93,752)
Total income distributed	<u>\$ (45,540)</u>	<u>\$ (66,888)</u>	<u>\$ (112,428)</u>
Endowment net assets, end of year	<u>\$ 507,759</u>	<u>\$ 2,525,149</u>	<u>\$ 3,032,908</u> ⁽¹⁾

⁽¹⁾Includes \$16.2 million of endowment gifts and other transfers pending investment and other accruals.

Unless the donor specifies that only a certain amount of the endowment may be spent, Pennsylvania Act 141 ("Act 141") allows organizations to choose a total return spending policy strategy, whereby the Board of Trustees may annually elect to spend between 2.0% and 7.0% of the fair market value of the endowment. On July 23, 2020, Pennsylvania 2020 Act 71 ("Act 71") was signed into law. Act 71 modifies Act 141 in that it permits the university's Board of Trustees to spend up to 10% during calendar years 2020, 2021 and 2022, or for the corporation's fiscal years that end during those calendar years. Carnegie Mellon maintains a total return spending policy. Endowment income distributions can consist of dividend and interest income and a withdrawal of accumulated capital gains, when necessary. The main objective of the total return spending policy is to separate spending policy from investment policy. This approach permits asset allocation decisions to be made independently of the need for current income. Carnegie Mellon targets a diversified asset allocation to achieve its long-term objectives with prudent risk constraints. The endowment spending rate is determined annually pursuant to a smoothing formula whereby an approved spending rate percentage is applied to the trailing 36 month average of endowment market values at December 31. For fiscal years 2023 and 2022, the approved spending rate was set at 5.0%. As a result of the spending rate formula, the effective spending rate (defined as the endowment draw totals for the fiscal years 2023 and 2022 divided by the June 30 endowment market values for the those fiscal years) was 4.2% for June 30, 2023 and 3.7% for June 30, 2022.

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8. Fair Value

ASC Topic 820, *Fair Value Measurement*, establishes a hierarchy to prioritize valuation inputs based on the extent to which the inputs are observable in the marketplace. Observable inputs reflect market data obtained from sources independent of the reporting entity and unobservable inputs reflect the entity's own assumptions about how market participants would value an asset or liability based on the best information available.

The following is a description of the university's valuation methodologies for assets and liabilities measured at fair value:

Level 1

Based upon quoted or published prices in active markets that the university has the ability to access for identical assets and liabilities. Market price data is generally obtained from exchange or dealer markets. The university does not adjust the quoted price for such assets and liabilities, which include active listed equities, mutual funds, government supported obligations and cash equivalents.

Level 2

Based on quoted or published prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active or assets subject to transfer restrictions. Inputs are obtained from various sources including market participants, dealers and brokers.

Level 3

Based on valuation techniques that use significant inputs that are unobservable as they trade infrequently or not at all.

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The following tables present the financial instruments carried at fair value as of June 30, 2023 and 2022 by caption in the consolidated statements of financial position by the valuation hierarchy defined above (*dollars in thousands*).

	2023			Total
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investments				
Cash equivalents ^(a)	\$ 62,478	\$ 23,417	\$ -	\$ 85,895
Equity securities		-		
U.S. - equity funds and common stocks ^(a)	520,317	-	9,845	530,162
Mutual funds - international developed	27,081	-	-	27,081
Mutual funds - international emerging	153,785	-	-	153,785
Short-term fixed income	-	148,569	-	148,569
Fixed income funds & securities ^(a)	461,042	-	-	461,042
	<u>\$ 1,224,703</u>	<u>\$ 171,986</u>	<u>\$ 9,845</u>	<u>\$ 1,406,534</u>
Investments measured under the NAV practical expedient ^(b)				2,559,663
Total investments				<u>\$ 3,966,197</u>
Assets held in trust by others				
Beneficial interests held by third party	\$ -	\$ -	\$ 2,746	\$ 2,746
Perpetual trusts held by third party	-	-	8,461	8,461
Total assets held in trust by others	<u>-</u>	<u>-</u>	<u>11,207</u>	<u>11,207</u>
Unexpended bond proceeds	\$ 29,952	\$ -	\$ -	\$ 29,952
Prepaid expenses and other assets				
Deferred compensation plan assets	\$ 20,537	\$ 7,875	\$ 3,490	\$ 31,902
Total prepaid expenses and other assets	<u>\$ 20,537</u>	<u>\$ 7,875</u>	<u>\$ 3,490</u>	<u>\$ 31,902</u>
Total assets at fair value	<u>\$ 1,275,192</u>	<u>\$ 179,861</u>	<u>\$ 24,542</u>	<u>\$ 4,039,258</u>
Liabilities				
Interest rate swaps payable	-	6,917	-	6,917
Total liabilities at fair value	<u>\$ -</u>	<u>\$ 6,917</u>	<u>\$ -</u>	<u>\$ 6,917</u>

(a) *Presentation as a single class is appropriate based on the nature and risks of these investments.*

(b) *In accordance with ASC Subtopic 820-10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated statements*

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of financial position. This includes commingled funds of \$302.4 million, and hedge and private equity funds of \$2,257.2 million as of June 30, 2023.

	2022			Total
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investments				
Cash equivalents ^(a)	\$ 40,121	\$ 22,679	\$ -	\$ 62,800
Equity investments				
U.S. - equity funds and common stocks ^(a)	476,322	-	9,637	485,959
Mutual funds - international developed	29,709	-	-	29,709
Mutual funds - international emerging	146,932	-	-	146,932
Short-term fixed income	-	297,927	-	297,927
Fixed income funds & securities ^(a)	470,060	-	-	470,060
	\$ 1,163,144	\$ 320,606	\$ 9,637	\$ 1,493,387
Investments measured under the NAV practical expedient ^(b)				2,511,036
Total investments				\$ 4,004,423
Assets held in trust by others				
Beneficial interests held by third party	\$ -	\$ -	\$ 2,806	\$ 2,806
Perpetual trusts held by third party	-	-	8,238	8,238
Total assets held in trust by others	-	-	11,044	11,044
Unexpended bond proceeds	\$ 32,306	\$ -	\$ -	\$ 32,306
Prepaid expenses and other assets				
Deferred compensation plan assets	\$ 17,881	\$ 6,515	\$ 3,526	\$ 27,922
Total prepaid expenses and other assets	\$ 17,881	\$ 6,515	\$ 3,526	\$ 27,922
Total assets at fair value	\$ 1,213,331	\$ 327,121	\$ 24,207	\$ 4,075,695
Liabilities				
Interest rate swaps payable	-	14,138	-	14,138
Total liabilities at fair value	\$ -	\$ 14,138	\$ -	\$ 14,138

(a) Presentation as a single class is appropriate based on the nature and risks of these investments.

(b) In accordance with ASC Subtopic 820-10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified

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in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated statements of financial position. This includes commingled funds of \$278.9 million, and hedge and private equity funds of \$2,232.1 million as of June 30, 2022.

Deferred compensation plan assets are valued using market quotations or prices obtained from independent pricing services (Level 1), market quotations or prices obtained from independent pricing sources who may employ various pricing methods (Level 2), and at contract value (Level 3), which approximates fair value.

Beneficial remainder and lead trusts held by third parties are valued at the present value of the future distributions expected to be received upon termination of the trust or over the term of the trust agreement and approximate fair value. Perpetual trusts are valued based upon the university's percentage interest in the fair value of the underlying trust assets.

Interest rate swaps are valued using observable inputs, such as quotations received from the counterparty, dealers or brokers, whenever available and considered reliable. The valuation methods described above may produce fair value calculations that may not be indicative of net realizable value or reflective of future fair values.

The following table includes a roll forward of the consolidated statements of financial position amounts for financial instruments classified by the university within Level 3 of the fair value hierarchy (*dollars in thousands*):

	Deferred Compensation	Common Stock	Trusts Held by Others	Total
Fair value, June 30, 2021	\$ 3,187	\$ 58,785	\$ 12,450	\$ 74,422
Unrealized gains / (losses)	99	242	(1,406)	(1,065)
Purchases	153	610	-	763
Transfers in	87	-	-	87
Transfers out	-	(50,000)	-	(50,000)
Fair value, June 30, 2022	<u>\$ 3,526</u>	<u>\$ 9,637</u>	<u>\$ 11,044</u>	<u>\$ 24,207</u>
Unrealized gains / (losses)	135	-	163	298
Purchases	159	208	-	367
Transfers in	-	-	-	-
Transfers out	(330)	-	-	(330)
Fair value, June 30, 2023	<u>\$ 3,490</u>	<u>\$ 9,845</u>	<u>\$ 11,207</u>	<u>\$ 24,542</u>

During the fiscal year ended June 30, 2021, the university recognized \$50.0 million in unrealized gains from the university's investment in Duolingo, Inc., a mobile global learning platform. The university holds this equity investment as a result of a technology license agreement. The unrealized gain reflects the fair value of the university's shares based upon historical data for private offerings of Duolingo's common stock. On July 28, 2021, Duolingo completed an initial

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public offering (IPO) at a price per share of \$102. As a result of the IPO, the investment in Duolingo is no longer within Level 3 of the fair value hierarchy and is considered a Level 1 instrument.

9. Lease Arrangements

The university has operating leases primarily for campus facilities, student housing, and office space. Variable lease payments based on an index or rate, such as the consumer price index, are initially measured using the index or rate in effect at lease commencement. The university has elected the short-term lease exception under Topic 842 for all leases and, as such, leases with an initial term of 12 months or less are not recorded on the consolidated statements of financial position. The university recognizes lease expense for short-term leases on a straight-line basis over the lease term.

The components of lease cost for the fiscal years ended June 30, 2023 and 2022, respectively, included operating lease costs of \$17.0 million and \$21.7 million and short-term lease costs of \$6.3 million and \$3.7 million. Cash payments for operating leases were \$16.6 million and \$21.3 million for the year ended June 30, 2023 and 2022, respectively. Subsequent to year end, in August 2023, the university commenced a new fifteen year leasing agreement for an apartment building to provide student housing. At inception, the present value of the right of use liability was approximately \$74.0 million.

The following table displays the undiscounted cash flows due to operating leases as of June 30, 2023 along with a reconciliation to the discounted amount recorded on the June 30, 2023 consolidated statements of financial position (*dollars in thousands*):

2024	\$	14,124
2025		13,229
2026		7,475
2027		6,630
2028		6,615
Thereafter		<u>16,529</u>
Total undiscounted cash flows (weighted average term 7.7 years)	\$	64,602
Impact of present value discount (weighted average discount rate 1.8%)		<u>(3,295)</u>
Amount reported on consolidated statements of financial position	\$	<u><u>61,307</u></u>

Carnegie Mellon University
Notes to Consolidated Financial Statements
Years Ended June 30, 2023 and 2022

10. Land, Buildings and Equipment

Land, buildings and equipment at June 30, 2023 and 2022 consist of the following (*dollars in thousands*):

	<u>Useful Lives</u>	<u>2023</u>	<u>2022</u>
Buildings	35-50 years	\$ 1,735,451	\$ 1,654,513
Moveable equipment	5-20 years	310,057	293,560
Utilities and building-related assets	20 years	129,052	123,726
Land improvements	15 years	19,841	19,841
Software costs	5-10 years	54,615	54,698
Leasehold improvements	2-20 years	37,526	37,203
Subtotal		<u>\$ 2,286,542</u>	<u>\$ 2,183,541</u>
Accumulated depreciation		<u>(1,225,596)</u>	<u>(1,147,583)</u>
Subtotal		<u>\$ 1,060,946</u>	<u>\$ 1,035,958</u>
Land		57,776	56,256
Construction and equipment in progress		<u>191,867</u>	<u>125,904</u>
Land, buildings and equipment, net		<u><u>\$ 1,310,589</u></u>	<u><u>\$ 1,218,118</u></u>

Carnegie Mellon acquired \$8.1 million and \$13.3 million in equipment through grants for the years ended June 30, 2023 and 2022, respectively.

Carnegie Mellon University
Notes to Consolidated Financial Statements
Years Ended June 30, 2023 and 2022

11. Debt Obligations

Debt obligations consist of the following as of June 30, 2023 and 2022 (*dollars in thousands*):

	<u>Maturity</u>	<u>Interest %</u>	<u>2023</u>	<u>2022</u>
Allegheny County Higher Education Building Authority Revenue Bonds				
Fixed Rate				
Series 2013	03/01/43	4.0-5.0%	42,250	42,250
Premium, net of debt issuance costs			1,748	2,089
Series 2017	08/01/29	5.0%	62,165	62,165
Premium, net of debt issuance costs			7,066	8,447
Series 2019 A	08/01/27	5.0%	49,600	49,600
Premium, net of debt issuance costs			5,088	6,309
Series 2020 A	02/01/30	5.0%	45,565	45,565
Premium, net of debt issuance costs			9,855	11,352
Series 2022 B	08/01/27	5.0%	27,240	27,240
Premium, net of debt issuance costs			4,128	5,139
Series 2022 C	02/01/32	5.0%	25,000	25,000
Premium, net of debt issuance costs			6,277	7,008
Variable Rate				
Series 2008 A	12/01/37	2.27%	120,820	120,820
Debt issuance costs			(241)	(257)
Series 2019 B	02/01/42	3.47%	60,140	60,140
Debt issuance costs			(113)	(119)
Series 2022 A	02/01/33	2.94%	50,230	50,230
Debt issuance costs			(191)	(210)
Taxable Series 2022	02/01/52	3.2%	75,000	75,000
Debt issuance costs			(222)	(230)
Collaborative Innovation Center Tax				
Increment Financing	11/01/22	8.5%	-	285
Collaborative Innovation Center Mortgage	03/01/25	6.78%	9,410	10,490
Taxable Senior Notes	02/01/47	3.6%	70,000	70,000
Taxable Senior Notes	02/01/50	3.2%	70,000	70,000
Taxable Senior Notes	11/15/52	5.15%	70,000	-
Taxable Commercial Paper	Rolling, up to 270 days	5.15%	20,000	10,000
Total debt obligations			<u>\$ 830,815</u>	<u>\$ 758,313</u>

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

The university borrows its tax-exempt debt through public conduit issuers. As of June 30, 2023, all of Carnegie Mellon's tax-exempt debt was issued by the Allegheny County Higher Education Building Authority (ACHEBA). The tax-exempt debt represents a general unsecured obligation of the university. Although ACHEBA is the issuer, the university is responsible for the debt service of these bonds.

On September 30, 2014, Carnegie Mellon acquired the Collaborative Innovation Center (CIC) from the Regional Industrial Asset District (RIDC) when Carnegie Mellon and RIDC agreed to terminate the long-term ground lease for the land on which the CIC building was built. The CIC building was originally built and owned by RIDC on land owned and leased by Carnegie Mellon to RIDC pursuant to a long-term ground lease. Prior to the termination of the ground lease, the CIC was recorded as a capital lease by Carnegie Mellon.

As part of the agreement to terminate the ground lease, Carnegie Mellon assumed a \$16.8 million mortgage note. The mortgage note requires monthly principal and interest payments, bears interest at a fixed rate of 6.78% and matures on March 1, 2025. The mortgage note is secured by the CIC building (carrying value of \$23.6 million), the land where CIC is located, and rents derived from the operation of CIC.

On November 1, 2022 the Tax Increment Financing (TIF) agreement, in which Carnegie Mellon assumed the sole responsibility to make semi-annual payments of any shortfall between the amount of real estate and parking taxes collected and pledged under the TIF agreement and the debt service and annual cost of the TIF, was satisfied in full. The balance of the outstanding TIF note was \$0 and \$0.3 million at June 30, 2023 and 2022, respectively. The TIF note bore interest at a rate of 8.5% through maturity.

In November 2022, Carnegie Mellon issued a senior note in the amount of \$70.0 million to a life insurance company. The note bears interest at 5.15% payable semi-annually with principal due on November 15, 2052. Proceeds from the issuance of the note may be used to refund outstanding debt, to finance capital projects, and to otherwise support general operations.

In March 2023, the University amended its Series 2019B Bonds to modify the interest rate determination provisions in anticipation of the LIBOR phaseout, which resulted in the Series 2019B Bonds being based on SOFR rather than LIBOR. Utilizing the optional expedient under ASC 848 this amendment is accounted for as a continuation of the existing contract as the modifications are not substantial.

Subsequent to June 30, 2023 Carnegie Mellon issued ACHEBA Carnegie Mellon University Revenue Bonds, Series 2023, in the amount of \$44.0 million bearing interest of 5.0% and maturing on August 1, 2033. The bonds include an original issue premium of \$8.3 million. A portion of the proceeds from the issuance of these notes was used to pay down outstanding commercial paper, while the remainder of the proceeds will be used to redeem the outstanding 2013 bonds on October 17, 2023.

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

The university maintains a taxable commercial paper program which allows the university to issue in aggregate up to \$200.0 million in commercial paper notes. Proceeds of the notes may be used to refund outstanding debt, finance capital projects, support operations and for any other lawful activity of the university. The notes are sold at a discount to par. The maturities of individual notes cannot exceed 270 days. The university had \$20.0 million in notes outstanding at June 30, 2023.

The university has two \$50.0 million unsecured line of credit agreements that expire October 19, 2023 and May 3, 2026, respectively. No advances were outstanding on either line at June 30, 2023. Advances accrue at a rate based on SOFR.

Interest Expense

Cash paid for interest on debt obligations for the fiscal years ended June 30, 2023 and 2022 totaled \$28.9 million and \$17.8 million, respectively. The university utilizes interest rate swaps to synthetically adjust its exposure to variable rates. Including the swap expense, cash paid for interest for the fiscal years ended June 30, 2023 and 2022 was \$30.4 million and \$22.1 million, respectively. For the fiscal years ended June 30, 2023 and 2022, interest costs of \$0.3 million and \$0.5 million were capitalized related to construction in progress.

Aggregate Maturities

Aggregate maturities of bonds and other debt instruments, for each of the next five years ending June 30, are as follows (*dollars in thousands*):

2024	\$ 1,156
2025	8,254
2026	-
2027	5,125
2028	118,785
Thereafter	<u>644,100</u>
Total	<u>\$ 777,420</u>

Debt obligations are reflected in the table above based on stated final maturity dates. The outstanding Series 2008 A bonds are variable rate demand bonds that are subject to daily optional tender by the bondholders. In the event that a bondholder tenders these variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds to a new investor. However, in the event that none of the bonds could be remarketed, Carnegie Mellon has entered into a Standby Bond Purchase Agreement (SBPA) with a financial institution that will purchase the Series 2008 A Bonds at the amount of the bonds outstanding plus related interest. The bonds would then become bank bonds, payable to the liquidity provider per the terms of the agreement. This SBPA was renewed in January 2021 for a three-year term ending January 12, 2024.

Carnegie Mellon University
Notes to Consolidated Financial Statements
Years Ended June 30, 2023 and 2022

12. Net Assets

Net assets consists of gifts and other unexpended revenues and gains and are available for the following purposes supporting the university's educational and research mission as of June 30, 2023 (*dollars in thousands*):

	2023		
	Without Donor Restrictions	With Donor Restrictions	Total
Board-designated endowment funds	\$ 542,852	\$ -	\$ 542,852
Reserves for working capital and plant- long-term	559,518	-	559,518
Donor-restricted endowment funds	-	1,370,119	1,370,119
Unexpended endowment gains	-	1,205,769	1,205,769
Capital and other designations	1,161,101	346,311	1,507,412
Pledges and assets held in trust by others	-	342,418	342,418
Split-interest agreements and other donor designations	-	12,301	12,301
Term endowments	-	11,589	11,589
Loan funds	2,471	2,660	5,131
Total Net assets	\$ 2,265,942	\$ 3,291,167	\$5,557,109

Net assets consists of gifts and other unexpended revenues and gains and are available for the following purposes supporting the university's educational and research mission as of June 30, 2022 (*dollars in thousands*):

	2022		
	Without Donor Restrictions	With Donor Restrictions	Total
Board-designated endowment funds	\$ 507,759	\$ -	\$ 507,759
Reserves for working capital and plant- long-term	536,297	-	536,297
Donor-restricted endowment funds	-	1,304,343	1,304,343
Unexpended endowment gains	-	1,220,806	1,220,806
Capital and other designations	1,093,931	316,697	1,410,628
Pledges and assets held in trust by others	-	250,026	250,026
Split-interest agreements and other donor designations	-	9,420	9,420
Term endowments	-	9,321	9,321
Loan funds	2,477	2,419	4,896
Total Net assets	\$ 2,140,464	\$ 3,113,032	\$5,253,496

Carnegie Mellon University
Notes to Consolidated Financial Statements
Years Ended June 30, 2023 and 2022

13. Derivative Instruments and Hedging Activities

Carnegie Mellon has entered into the following interest rate swap agreements to adjust the exposure to variable interest rates on long-term debt (*dollars in thousands*):

<u>Swap Agreement</u>	<u>Effective Date</u>	<u>Notional Amount</u>	<u>Rate paid by CMU</u>	<u>Interest Received</u>	<u>Term (in years)</u>	<u>Termination Date</u>	<u>Cancellation Option</u>
Apr 2006	Dec 2006	\$ 100,000	3.4%	67% of 1M LIBOR	22	Dec 2028	Dec 2016
May 2007	Jun 2007	\$ 5,125	3.8%	67% of 1M LIBOR	20	Mar 2027	N/A
May 2007	Mar 2012	\$ 40,325	3.8%	67% of 1M LIBOR	20	Mar 2032	N/A
Feb 2012	Mar 2012	\$ 38,000	SIFMA	1.92%	12	Mar 2024	N/A

For the years ended June 30, 2023 and 2022 the interest received rate for Swap agreements based on LIBOR was 67% of the one month LIBOR rate as indicated in the table above. Effective July 1, 2023 the interest received rate for these Swap agreements will be based on SOFR as a result of reference rate reform in accordance with protocols established by the International Swaps and Derivatives Association, Inc. (ISDA). Utilizing the optional expedient under ASC 848, this update is considered to be a continuation of the existing contract as the modifications are not substantial.

The following fair values of the swap agreements were recorded as accounts payable and other liabilities in the consolidated statements of financial position as of June 30, 2022 and 2021 (*dollars in thousands*):

<u>Date of Swap Agreement</u>	<u>Derivatives Reported as (Liabilities)/Assets</u>	
	<u>2023</u>	<u>2022</u>
Apr 2006	\$ (3,559)	\$ (8,508)
May 2007	(158)	(407)
May 2007	(2,761)	(4,972)
Feb 2012	(439)	(251)
Total	<u>\$ (6,917)</u>	<u>\$ (14,138)</u>

The fair value of these agreements is estimated to be an amount that Carnegie Mellon would receive or pay (liability) to voluntarily terminate the agreement. Based upon the university's credit rating, the university is required to post collateral equal to the amount by which the liability value exceeds \$30.0 million for each of its counterparties. No collateral was required as of June 30, 2023 and June 30, 2022.

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Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

The following interest expense and fair value gains/(losses) were recorded as other sources under nonoperating activities in the consolidated statements of activities for the years ended June 30, 2023 and 2022 (*dollars in thousands*):

Date of Swap Agreement	Interest (Expense) Income		Fair Value (Loss) Gain		Total (Loss) Gain	
	2023	2022	2023	2022	2023	2022
Interest rate swaps:						
Apr 2006	(817)	(3,243)	4,949	10,495	4,132	7,252
May 2007	(61)	(184)	249	483	188	299
May 2007	(483)	(1,447)	2,211	4,794	1,728	3,347
Feb 2012	(231)	641	(188)	(1,882)	(419)	(1,241)
Total	\$ (1,592)	\$ (4,233)	\$ 7,221	\$ 13,890	\$ 5,629	\$ 9,657

Carnegie Mellon utilizes energy forward contracts, which are physically settled, to hedge against the future changes in the cost of electricity and natural gas. These contracts limit Carnegie Mellon's exposure to higher rates; however, they could also limit the benefit of decreases in rates. These contracts qualify for normal purchases and sales exemptions and are not required to be recognized on the statements of financial position at fair value because Carnegie Mellon takes physical delivery of the electricity and natural gas and the gains and losses are already recognized in the cost.

14. Expenses by Functional Category

Operating expenses by functional category for the year ended June 30, 2023 are as follows (*dollars in thousands*):

	Instruction & Dpt Research	Sponsored Research	SEI/ARM Activities	Admin & Instl Support	Academic Support	Student Services	Auxiliary	Total
Salaries	\$ 348,334	\$ 166,005	\$ 87,993	\$ 87,954	\$ 81,255	\$32,994	\$ 2,701	\$ 807,236
Benefits	76,456	23,222	22,231	19,750	22,941	9,284	757	174,641
Other Operating Expenses	93,788	77,031	44,229	52,069	56,877	22,089	42,310	388,393
Depreciation and Amortization	30,268	14,893	5,355	5,191	9,877	7,982	9,670	83,236
Interest	7,509	3,695	1,328	1,288	2,451	1,980	4,635	22,886
Total	\$ 556,355	\$ 284,846	\$ 161,136	\$ 166,252	\$173,401	\$74,329	\$60,073	\$1,476,392

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Notes to Consolidated Financial Statements
Years Ended June 30, 2023 and 2022

Operating expenses by functional category for the year ended June 30, 2022 are as follows (*dollars in thousands*):

	<u>Instruction & Dpt Research</u>	<u>Sponsored Research</u>	<u>SEI/ARM Activities</u>	<u>Admin & Instl Support</u>	<u>Academic Support</u>	<u>Student Services</u>	<u>Auxiliary</u>	<u>Total</u>
Salaries	\$ 320,817	\$ 156,897	\$ 83,651	\$ 83,981	\$ 76,687	\$30,949	\$ 2,454	\$ 755,436
Benefits	67,818	19,682	20,251	24,340	21,810	8,233	657	162,791
Other Operating Expenses	71,795	68,771	34,610	49,746	52,320	16,439	39,813	333,494
Depreciation and Amortization	29,558	14,498	5,519	5,162	9,952	7,923	9,355	81,967
Interest	3,665	1,798	684	640	1,235	982	4,513	13,517
Total	<u>\$ 493,653</u>	<u>\$ 261,646</u>	<u>\$ 144,715</u>	<u>\$ 163,869</u>	<u>\$162,004</u>	<u>\$64,526</u>	<u>\$56,792</u>	<u>\$ 1,347,205</u>

Natural expenses attributable to more than one functional expense category are allocated using a variety of cost allocations such as square footage, time, and effort.

Total fundraising expense of \$32.1 million and \$28.7 million (\$28.7 million and \$25.6 million in administration and institutional support) is included above for the years ended June 30, 2023 and 2022, respectively.

15. Commitments and Contingencies

Carnegie Mellon is a defendant in a number of legal actions seeking damages and other relief. While the final outcome of each action cannot be determined at this time, management records a reserve in operating activities for those cases in which the loss is both probable and estimable. For the other legal actions that are not reserved, legal counsel and management are of the opinion that the liability, if any, will not have a material effect on Carnegie Mellon's consolidated financial statements.

Carnegie Mellon receives significant financial assistance from the federal government, including the sponsorship of federal research projects. Research grants and contracts normally provide for the recovery of direct and indirect costs. Entitlement to the recovery of the applicable direct and related indirect costs is generally conditional upon compliance with the terms and conditions of the grant agreements and applicable federal regulations, including the expenditure of the resources for eligible purposes. Substantially all grants and Carnegie Mellon's indirect cost rate are subject to financial and compliance reviews and audits by the grantors. In management's opinion, the likelihood of an adverse material outcome upon its financial position from those reviews and audits is remote.

Alternative investment partnership commitments totaled \$836.8 million at June 30, 2023. These funds may be drawn down at the request of the general partners over the course of the next several years. Carnegie Mellon expects to finance these commitments through available cash and expected proceeds from the sales of securities.

Carnegie Mellon University

Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

At June 30, 2023 and 2022 Carnegie Mellon had contractual obligations of approximately \$65.6 million and \$119.8 million, respectively, in connection with major construction projects.

16. Retirement Plans and Other Post-Employment Benefits

Carnegie Mellon sponsors two defined contribution retirement plans for eligible faculty and staff, healthcare plans for retirees, and participates in a multi-employer pension fund for union staff. Retirement plan expense for the years ended June 30, 2023 and 2022 totaled \$45.1 million and \$41.6 million, respectively. Carnegie Mellon contributed \$1.0 million and \$0.9 million to the Central Pension Fund of the International Union of Operating Engineers, a multi-employer plan in fiscal years 2023 and 2022, respectively. See below for a discussion of the assets held in trust to fund post-retirement healthcare and other post-employment benefits.

Carnegie Mellon provides certain health care benefits for eligible retired employees. The liability for post-retirement benefit obligations is recorded in the consolidated statements of financial position in accounts payable and other liabilities.

Net periodic benefit costs recognized in the consolidated statements of activities totaled \$1.0 million and \$1.8 million for the years ended June 30, 2023 and 2022, respectively. Other gains/(losses) in benefit obligations recognized in non-operating activities totaled (\$0.5 million) and (\$7.1 million) for the years ended June 30, 2023 and 2022, respectively. Cumulative net actuarial gains of \$18.3 million and \$17.9 million have been recognized as of June 30, 2023 and 2022, respectively.

During fiscal year 2023, amortization of \$1.1 million actuarial gain is expected to be recognized as components of net periodic benefit cost. The discount rate used in determining the net periodic benefit cost was 4.9% and 3.1% for the years ended June 30, 2023 and 2022, respectively.

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Years Ended June 30, 2023 and 2022

The reconciliation of the accumulated benefit obligation and funded status at June 30 2023 is as follows (*dollars in thousands*):

	<u>2023</u>	<u>2022</u>
Benefit obligation, beginning of year	\$ 20,151	\$ 25,879
Service cost	1,071	1,531
Interest cost	1,030	843
Assumption changes and actuarial gain/loss	(1,592)	(7,663)
Benefit payments	<u>(482)</u>	<u>(439)</u>
Benefit obligation, end of year	<u>\$ 20,178</u>	<u>\$ 20,151</u>
Fair value of plans' assets	<u>-</u>	<u>-</u>
Funded status	<u>\$ 20,178</u>	<u>\$ 20,151</u>

The assumed discount rate used for calculating the benefit obligation for the fiscal years ended June 30, 2023 and 2022 was 5.3% and 4.9%, respectively. An annual rate of increase in the per capita cost of covered health care benefits for the fiscal years ended June 30, 2023 and 2022 of 6.4% and 7.0%, respectively, was assumed. For the fiscal years ended June 30, 2023 and 2022, the rate was assumed to decrease gradually to 5.25% by 2026 and remain at 5.0% thereafter.

Expected benefits to be paid in future fiscal years are as follows (*dollars in thousands*):

<u>June 30</u>	<u>Retiree Contributions</u>	<u>Employer Payments</u>	<u>Total Expected Benefit Payments</u>
2024	824	488	\$ 1,312
2025	1,188	709	1,897
2026	1,544	913	2,457
2027	1,846	1,058	2,904
2028	2,085	1,144	3,229
2029-2032	13,423	6,442	19,865

In conjunction with an agreement made with the federal government, Carnegie Mellon has established a separate trust, which is available to general creditors only in the event of insolvency. Assets in the trust to fund post-retirement health care and other post-employment benefits are \$23.4 million and \$22.7 million as of June 30, 2023 and 2022, respectively. These assets are reflected as investments in the accompanying consolidated statements of financial position.

17. Related Party Transactions

Sponsored projects revenue for fiscal years 2023 and 2022 includes \$0.7 million and \$3.7 million respectively, received from MPC, a nonprofit related entity of Carnegie Mellon and the University of Pittsburgh. The revenue primarily represents federal funding from various contracts received by MPC, for which MPC has subcontracted to Carnegie Mellon for support of a supercomputer and related activities.

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Notes to Consolidated Financial Statements

Years Ended June 30, 2023 and 2022

Carnegie Mellon is an owner as a tenant in common of the Bellefield Boiler Plant (“Bellefield”) for the purpose of sharing of the steam produced by the plant. Bellefield operates such that all of the operating costs of the plant are passed to the owners in the form of steam prices. Carnegie Mellon is obligated for a percent of liabilities based upon use of steam produced by Bellefield. As of June 30, 2023 and 2022, Carnegie Mellon’s percentage obligation was 15.2%. Included in other assets is \$0.4 million and \$0.6 million of advances at June 30, 2023 and 2022, respectively resulting primarily from historical operating surpluses. Included in occupancy and related expenses is \$4.7 million and \$3.9 million for steam costs paid to Bellefield for the years ended June 30, 2023 and 2022, respectively.

Carnegie Mellon is one of fifteen designated institutions of higher learning and other charitable organizations named as beneficiaries of The Dietrich Foundation (the “Foundation”) created by William S. Dietrich II pursuant to an Amended and Restated Declaration of Trust dated August 23, 2011. The Foundation came into existence as a Pennsylvania charitable trust on October 6, 2011 and was granted exemption from Federal income tax under section 501(c)(3) of the Internal Revenue Code, specifically as a Type I charitable supporting organization under section 509(a)(3). The Foundation’s primary mission is to provide ongoing and increasing financial support to a number of educational institutions, largely in the greater Pittsburgh area, including Carnegie Mellon. The Foundation is governed by a Board of nine Trustees, of which two are appointed by Carnegie Mellon.

The Foundation is expected to make annual distributions that will be allocated among the pre-specified supported organizations. As of June 30, 2023, Carnegie Mellon’s distribution share remained at 53.5%.

The distributions to Carnegie Mellon have been recorded as contribution revenue with donor restrictions as received and held in endowment net assets with donor restrictions designated as Dietrich Foundation Endowment Funds. The endowed funds will be managed in accordance with Carnegie Mellon’s generally applicable investment and disbursement policies in effect for its other permanently restricted endowments. Distributions made from the endowed funds will be used for the purposes authorized by the Foundation’s Trustees. Distributions of \$27.7 million and \$22.8 million were received in fiscal years 2023 and 2022, respectively.

18. Guarantees

In the ordinary course of business, Carnegie Mellon engages in transactions with third parties involving the provision of goods and/or services. The contracts for these transactions may require Carnegie Mellon to indemnify the third party or others under certain circumstances. The terms of indemnity vary from contract to contract. The amount of the liability associated with such indemnification obligations, if any, is not expected to be material.

Carnegie Mellon has contractually agreed to indemnify its trustees and officers, and in some cases its employees and agents, against certain liabilities incurred as a result of their service on behalf of or at the request of Carnegie Mellon and also advances, on behalf of those indemnified, the costs incurred by them in defending certain claims. Carnegie Mellon carries insurance that limits its exposure for this indemnification obligation. The amount of the liability

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associated with any known pending or threatened claims covered by this indemnification obligation, if any, is not expected to be material.

Carnegie Mellon has contractually agreed to indemnify specified parties in connection with bond offerings in which it has been involved. The indemnification obligation covers losses, claims, damages, liabilities and other expenses incurred by the underwriters as a result of any untrue statements or material omissions made by Carnegie Mellon in connection with the bond offerings. The amount of the liability associated with any known pending or threatened claims covered by this indemnification obligation, if any, is not expected to be material.

19. COVID-19 Pandemic

In March 2020, the World Health Organization declared the novel coronavirus (“COVID-19”) a pandemic. During fiscal 2021, the university operated under a modified campus posture, utilizing a hybrid education model, de-densified residence and dining facilities, and on-campus core campus based activities. Beginning July 1, 2021, the university operated under a transitional campus posture, with instruction predominately in person, increased residence and dining facility density, and the transition of other campus-based activities to on campus with flexible arrangements. The university provided emergency financial aid to students under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) totaling \$9.9 million during the year ended June 30, 2022. The university recognized revenue from federal and other governmental funding related to the COVID-19 pandemic totaling \$12.2 million during the year ended June 30, 2022, which is included in other revenue sources on the consolidated statement of activities. The World Health Organization declared an end to the COVID-19 pandemic in May 2023.

20. Subsequent Events

The university has performed an evaluation of subsequent events through October 13, 2023, the date on which the consolidated financial statements were issued.

Supplementary Schedule of Expenditures of Federal Awards

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
STUDENT FINANCIAL ASSISTANCE CLUSTER							
US DEPARTMENT of EDUCATION							
Office of Federal Student Aid							
Federal Supplemental Educational Opportunity Grants (FSEOG)	84.007	\$ 2,542,676		-		\$ 2,542,676	-
Federal Work-Study Program (FWS)	84.033	556,271		-		556,271	-
Federal Perkins Loan Program	84.038	5,727,073		-		5,727,073	-
Federal Pell Grant Program (Pell)	84.063	6,101,198		-		6,101,198	-
Federal Direct Student Loans (Direct Loan)	84.268	46,275,525		-		46,275,525	-
Total Student Financial Assistance Cluster		61,202,743		-		61,202,743	-
RESEARCH and DEVELOPMENT CLUSTER							
US DEPARTMENT OF AGRICULTURE							
National Institute of Food and Agriculture							
Specialty Crop Research Initiative	10.309	-	F1005072602002	3,064	Purdue University	3,064	-
Agriculture and Food Research Initiative (AFRI)	10.310	936,488		-		936,488	61,080
Agriculture and Food Research Initiative (AFRI)	10.310	-	024408B	1,476,951	Iowa State University	1,476,951	-
Agriculture and Food Research Initiative (AFRI)	10.310	-	139743SPC003086	700	Washington State University	700	-
Total US Department of Agriculture		936,488		1,480,715		2,417,203	61,080
US DEPARTMENT OF COMMERCE							
Acquisition And Benchmarking Of A Perkin Elmer Labchip Chitouch Protein Characterization System	11.RD	-	UDR0000045PC51007	(595)	University Of Delaware	(595)	-
Machine-Guided Rapid Decision-Making On Quality Of Viruses As Products	11.RD	-	PC52129UDR0000304	160,253	University Of Delaware	160,253	-
National Oceanic and Atmospheric Administration							
Ocean Exploration	11.011	61,690		-		61,690	4,652
Climate and Atmospheric Research	11.431	24,063		-		24,063	-
Climate and Atmospheric Research	11.431	-	SCON00000443	65,581	Rand Corporation	65,581	-
National Institute of Standards and Technology (NIST)							
Measurement and Engineering Research Standards	11.609	333,505		-		333,505	46,299
Measurement and Engineering Research Standards	11.609	-	022284A	94,239	Iowa State University	94,239	-
Arrangements for Interdisciplinary Research Infrastructure	11.619	-	ARP7UDR0000099	60,135	University Of Delaware	60,135	-
Arrangements for Interdisciplinary Research Infrastructure	11.619	-	PC2210957684	(2,840)	University Of Delaware	(2,840)	-
Arrangements for Interdisciplinary Research Infrastructure	11.619	-	POUDR0000112	232,582	University Of Delaware	232,582	-
Economic Development Administration							
Build to Scale	11.024	-	OSP00008570	20,562	Innovate Works	20,562	-
Economic Adjustment Assistance for State Governments	11.307	-	PO00004055CATALYST1542	46,127	Catalyst Connection	46,127	-
Economic Adjustment Assistance for State Governments	11.307	-	OSP00007953	58,974	InnovatePgh Partnership	58,974	-
ADVANCED ROBOTICS FOR MANUFACTURING INSTITUTE - ARM							
Economic Adjustment Assistance for State Governments	11.307	875,634		-		875,634	-
Arrangements for Interdisciplinary Research Infrastructure	11.619	3,051,377		-		3,051,377	-
Total US Department of Commerce		4,346,269		735,018		5,081,287	50,951
US DEPARTMENT OF DEFENSE							
US DEPARTMENT OF THE NAVY							
Navy Federal Executive Fellowship	12.FP00006557MANUEL	(717)		-		(717)	-
IPA - Samuel Weber	12.N0001421PR01318	270,747		-		270,747	-
Navy Federal Executive Fellowship	12.OSP00001733WOODRUFF	25,361		-		25,361	-
Built-In Adaptive Systems Testing (BAST)	12.N0042121C0002	894,687		-		894,687	-
Sharpfocus: Attaining Sub-Millimeter and Millisecond Resolution for Noninvasive Stimulation and Sensing	12.N6523619C8017	2,741,261		-		2,741,261	-
CUES: Cyber-Mediated Usable Emotional Sensors	12.RD	-	OSP00001721	132,654	Carley Technologies Inc	132,654	-
Glow II	12.RD	-	SC1719002	(148)	Charles River Analytics Inc	(148)	-
Navy Real Time Knowledge Sharing (RKS)	12.RD	-	OSP00007893	43,819	Mari LLC	43,819	-
Real-Time Intelligent Planning And Control System (RIPACS)	12.RD	-	1990783	33,412	Perceptronics Solutions Inc	33,412	-
An Informatics Paradigm For Predicting Organic Chemical Stability	12.RD	-	13001029023	319,097	Purdue University	319,097	-
Codes:Compositional DSLS For Enhancing Software	12.RD	-	OSA00000016P22031043	390,952	Vanderbilt University	390,952	-
Basic and Applied Scientific Research	12.300	13,709,116		-		13,709,116	2,790,788
Basic and Applied Scientific Research	12.300	-	AWD102969G1	89,790	Georgia Institute Of Technology	89,790	-
Basic and Applied Scientific Research	12.300	-	2005845047	75,687	Johns Hopkins University	75,687	-
Basic and Applied Scientific Research	12.300	-	60053155CMU	62,674	Northwestern University	62,674	-
Basic and Applied Scientific Research	12.300	-	S000296ONR	40,227	Pennsylvania State University	40,227	-
Basic and Applied Scientific Research	12.300	-	S003857ONR	79,207	Pennsylvania State University	79,207	-
Basic and Applied Scientific Research	12.300	-	00010919	127,596	The Regents Of The University Of California	127,596	-
Basic and Applied Scientific Research	12.300	-	00011180POBB01671245	137,047	The Regents Of The University Of California	137,047	-
Basic and Applied Scientific Research	12.300	-	SCON00003373	93,689	University Of Southern California	93,689	-
Basic and Applied Scientific Research	12.300	-	XOBO52	44,517	University Of St Andrews	44,517	-
Basic and Applied Scientific Research	12.300	-	R1A841	46,227	William Marsh Rice University	46,227	-

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Science, Technology, Engineering & Mathematics (STEM) Education, Outreach and Workforce Program	12.330	154		-		154	-
Research and Technology Development	12.910		00010216	630,383	The Regents Of The University Of CA	630,383	-
ADVANCED ROBOTICS FOR MANUFACTURING INSTITUTE - ARM							
Basic and Applied Scientific Research	12.300	147,757		-		147,757	-
Total US Department of the Navy		17,788,366		2,346,830		20,135,196	2,790,788
US DEPARTMENT OF THE ARMY							
US Army War College Fellows W/Institute for Politics and Strategy	12.AWD00001256	19,769		-		19,769	-
US Army War College Fellows W/Institute for Politics and Strategy	12.FP00000184CURTIS	(3,519)		-		(3,519)	-
Army War College Fellowships AY2021-2022 to AY2025-2026	12.FP00006939CALINGO	19,565		-		19,565	-
Army War College Fellowships AY2021-2022 to AY2025-2026	12.FP00006939FLEISCHMA						
	NN	19,565		-		19,565	-
Mission Centric Drone Autonomy for Urban Reconnaissance	12.W519TC23C0003	248,767		-		248,767	-
US Army Usage, Humphreys Engr Ctr SPT Activity	12.W912HQ23C0042	24,075		-		24,075	-
Autonomous Delivery of Trauma Care In The Field	12.W81XWH19C0083	1,132,414		-		1,132,414	518,758
Enabling Enhanced Situational Awareness and Human Augmentation Through Efficient AI for Cybersecurity	12.W911QX20D0008	5,257,969		-		5,257,969	-
Robortch Modular Automation	12.W911NF20D0002	20,569,473		-		20,569,473	2,486,308
Hydraulic, Chemical, And Microbiological Effects On The Performance Of In-Situ Activated Carbon Sorptive Barrier For Pfas Remediation In Coastal Sites	12.RD	-	DCSS19020PO230610	1,788,593	DCS Corporation	1,788,593	-
Fixtureless Robotic Assembly And Manufacturing Environment (FRAME)	12.RD	-	22SC09PO1000239421	127,422	George Washington University	127,422	-
Rapid Welding Of Thermoplastic Composite Structures	12.RD	-	PO4105881134	122,070	Lockheed Martin Corp	122,070	-
	12.RD	-	1043193	23,585	Raytheon BBN Technologies Corp	23,585	-
CMOS Mems High-Stability Accelerometer Through Machine Learning	12.RD	-	FT1921P208	(7,119)	Semiconductor Equipment And Materials International	(7,119)	-
Informing Decarbonization Through Machine Learning MI; A Geospatial MI Pipeline For Estimating Heating Loads	12.RD	-	UA230031POP0564576	32,135	University Of Alaska Fairbanks	32,135	-
Trauma Care In A Ruckshack (TRACIR)	12.RD	-	AWD000003811	266,580	University Of Pittsburgh	266,580	-
Military Medical Research and Development	12.420	2,080,380		-		2,080,380	997,193
Military Medical Research and Development	12.420	-	4500002827	(2,778)	Boston University	(2,778)	-
Military Medical Research and Development	12.420	-	AWD000029514170191	16,118	University Of Pittsburgh	16,118	-
Military Medical Research and Development	12.420	-	AWD000052454186921	33,268	University Of Pittsburgh	33,268	-
Military Medical Research and Development	12.420	-	AWD000064904196952	5,324	University Of Pittsburgh	5,324	-
Basic Scientific Research	12.431	8,641,121		-		8,641,121	785,705
Basic Scientific Research	12.431	-	S429044	140,007	California Institute Of Technology	140,007	-
Basic Scientific Research	12.431	-	313000039	27,370	Duke University	27,370	-
Basic Scientific Research	12.431	-	3131034	40,129	Duke University	40,129	-
Basic Scientific Research	12.431	-	AWD000053154186651	118,037	University Of Pittsburgh	118,037	-
Basic Scientific Research	12.431	-	AWD000053154186671	118,037	University Of Pittsburgh	118,037	-
Basic Scientific Research	12.431	-	92688877SCON00001536	314,478	University Of Southern California	314,478	-
Basic Scientific Research	12.431	-	G207324	210,077	University Of Sydney	210,077	-
Basic Scientific Research	12.431	-	1806008	211,780	University Of Texas Dallas	211,780	-
Basic Scientific Research	12.431	-	0000001468	444,262	University Of Wisconsin-Madison	444,262	-
Basic Scientific Research	12.431	-	0000002828	20,939	University Of Wisconsin-Madison	20,939	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	814,224		-		814,224	324,099
Basic, Applied, and Advanced Research in Science and Engineering	12.630	-	R1621	140,895	Dartmouth College	140,895	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	-	940018POU0249595	169,089	Drexel University	169,089	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	-	4938CMUARMY0045	405,152	Pennsylvania State University	405,152	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	-	23403PO9707161866	100,000	Siemens Corporate Research Inc	100,000	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	-	08883118409	28,524	University Of Illinois At Urbana-Champaign	28,524	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	-	581208PO4601904	133,271	University Of Pennsylvania	133,271	-
Research and Technology Development	12.910	654,118		-		654,118	-
Research and Technology Development	12.910	-	86179Z9448202	43,299	University Of Maryland	43,299	-
Research and Technology Development	12.910	-	CNVA000584714139331	3,246	University Of Pittsburgh	3,246	-
ADVANCED ROBOTICS FOR MANUFACTURING INSTITUTE - ARM							
Community Investment	12.600	192,213		-		192,213	-
Basic, Applied, and Advanced Research in Science and Engineering	12.630	19,086,937		-		19,086,937	-
Total US Department of the Army		58,757,071		5,073,790		63,830,861	5,112,063
US DEPARTMENT OF THE AIR FORCE							
SEI 2015 Contract	12.FA870215D0002	132,624,270		-		132,624,270	2,138,387
IPA-019 Shull	12.IPA-019	11,533		-		11,533	-
IPA-021 Mattson	12.IPA-021	59,717		-		59,717	-
IPA-021 Fritz	12.IPA-021	82,414		-		82,414	-
Behavioral Models, Methods & Metrics For Trust Establishment, Maintenance, And Repair In Human Machine Co-Training Pitch Day For Trusted AI	12.RD	-	15742239	147,651	Aptima Inc	147,651	-
Multi-Domain Adaptive Request Service (MARS)	12.RD	-	1038072	491,935	Bae Systems	491,935	-
Information Maneuver Games And Bots	12.RD	-	11076CMU	(900)	Wright State Applied Research Corp	(900)	-
Materials & Manufacturing - Research On Two Dimensional (2D) Materials And Manufacturing	12.RD	-	CMU2110460	219,103	Clarkson Aerospace Corporation	219,103	-
Machine Learned Guided Discovery Of 3D Printed Elastomers	12.RD	-	OSP00007638	141,738	Eccalon LLC	141,738	-
Deep Neural Networks For Speech Recognition	12.RD	-	PO7000509480PO7100509480	101,324	Massachusetts Institute Of Technology	101,324	-

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Sense And Avoid Autonomy Capabilities For Orbs Phase 2	12.RD	-	FA864922P075901	251,877	Near Earth Autonomy	251,877	-
Ising Machine Platform Using Autonomous Logic And Superconductors (IMPALAS)	12.RD	-	90283PO4202708347	81,832	Raytheon BBN Technologies Corp	81,832	-
Automated Field Data Prediction	12.RD	-	S111068002	5,631	UES Inc	5,631	-
Basic and Applied Scientific Research	12.300	312,542	-	-	-	312,542	127,656
Basic and Applied Scientific Research	12.300	-	3131041	61,495	Duke University	61,495	-
Air Force Defense Research Science Program	12.800	5,612,169	-	-	-	5,612,169	413,200
Air Force Defense Research Science Program	12.800	-	OSP00001816	222,674	Arieca Inc	222,674	-
Air Force Defense Research Science Program	12.800	-	6810985075414837	288,044	California Institute Of Technology	288,044	-
Air Force Defense Research Science Program	12.800	-	S421546	(16,196)	California Institute Of Technology	(16,196)	-
Air Force Defense Research Science Program	12.800	-	OSP00002288	77,486	Lifeware Labs LLC	77,486	-
Air Force Defense Research Science Program	12.800	-	2019213301	23,267	North Carolina State University	23,267	-
Air Force Defense Research Science Program	12.800	-	S003018AFOSR	120,080	Pennsylvania State University	120,080	-
Air Force Defense Research Science Program	12.800	-	00010867POBB01548277	14,897	The Regents Of The University Of CA	14,897	-
Air Force Defense Research Science Program	12.800	-	CNVA00617584144221	(15,515)	University Of Pittsburgh	(15,515)	-
Air Force Defense Research Science Program	12.800	-	A210038S001	465,945	University Of San Diego	465,945	-
Air Force Defense Research Science Program	12.800	-	A210038S002	336,395	University Of San Diego	336,395	-
Air Force Defense Research Science Program	12.800	-	UTA20001226	28,238	University Of Texas At Austin	28,238	-
Air Force Defense Research Science Program	12.800	-	226030265A	149,713	University Of Texas At El Paso	149,713	-
Air Force Defense Research Science Program	12.800	-	UWSC11380	310,058	University Of Washington	310,058	-
Research and Technology Development	12.910	2,476,233	-	-	-	2,476,233	-
Research and Technology Development	12.910	-	SUBK00009959PO3005523666	85,818	University Of Michigan	85,818	-
Research and Technology Development	12.910	-	UWSC13112	177,272	University Of Washington	177,272	-
ADVANCED ROBOTICS FOR MANUFACTURING INSTITUTE - ARM Technology Investment Agreement							
Air Force Defense Research Science Program	12.800	298,776	-	-	-	298,776	-
Total US Department of the Air Force		141,477,654		3,769,862		145,247,516	2,679,243
DEFENSE ADVANCED RESEARCH PROJECT AGENCY (DARPA)							
IPA Agreement	12.A023514	54,804	-	-	-	54,804	-
IPA - Christopher J Bettinger	12.OSP00005828	212,997	-	-	-	212,997	-
A Robust and Adaptive Agent That Supports High Performance Teams	12.HR001120C0036	1,574,151	-	-	-	1,574,151	311,125
Differentiable Everything for Autonomous Driving Fast: Dead Fast	12.HR001121C0189	4,759,958	-	-	-	4,759,958	256,686
Brainstorms - Brain System To Transmit Or Receive Magnetolectric Signals	12.RD	-	US0010000807814	48,726	Battelle Memorial Institute	48,726	-
Assured Micropatching (AMP) Technical Area: Assured Recompile	12.RD	-	SC0010000001354	38,805	Charles Stark Draper Laboratory Inc	38,805	-
NTTX Powered by Spiral: Bridging Palisade to Laws	12.RD	-	OSP00001052	445,856	Duality Technology Inc	445,856	246,014
Predicting Effective Performance In Teams	12.RD	-	HR001120C00371	144,389	Florida Institute For Human & Machine Cognition	144,389	-
Assured Autonomy - Concurrency & LE-CPS	12.RD	-	17090181689USPOLINE15	126,505	HRL Laboratories LLC	126,505	-
Assured Autonomy - Dynamic Assurance	12.RD	-	17090181689USPOLINE18	341	HRL Laboratories LLC	341	-
Assured Autonomy - Efficient Runtime Monitoring	12.RD	-	17090181689USPOLINE16	8,856	HRL Laboratories LLC	8,856	-
Assured Autonomy - Learning Safety Constraints	12.RD	-	17090181689USPOLINE17	142,293	HRL Laboratories LLC	142,293	-
Assured Autonomy - LE-CPS Modeling & Verification	12.RD	-	17090181689USPOLINE13	83,884	HRL Laboratories LLC	83,884	-
Assured Autonomy: CPS Behavior Modeling & Control	12.RD	-	17090181689USPOLINE14	74,426	HRL Laboratories LLC	74,426	-
Cognitive Aid For Vulnerability Analysis	12.RD	-	190462X2165US	61,139	HRL Laboratories LLC	61,139	-
Uprecise - Microelectromechanical Precision Clocks Using Intelligent Software Engines	12.RD	-	CW2085883	22,062	Intel Federal LLC	22,062	-
End-To-End Machinery For Proving Highly Sensitive Application-Oriented Statements In Zero-Knowledge (Emphasize)	12.RD	-	53978	258,251	SRI International	258,251	-
Nscore: Neuro-Symbolic Co-Designer Using Oracle-Guided Synthesis & Reinforcement Learning	12.RD	-	61446	41,026	SRI International	41,026	-
Code Synthesis For The Prism Architecture	12.RD	-	706048	6,840	University Of Southern California	6,840	-
Basic and Applied Scientific Research	12.300	-	FA87501720130	493,396	Air Force Research Laboratory Rome NY	493,396	-
Scientific Research - Combating Weapons of Mass Destruction	12.351	58,239	-	-	-	58,239	-
Research and Technology Development	12.910	3,070,312	-	-	-	3,070,312	528,299
Research and Technology Development	12.910	304,850	-	-	-	304,850	-
Research and Technology Development	12.910	-	F140005POIB00667192	1,200	New York University	1,200	-
Research and Technology Development	12.910	-	60059016CMU	1,145,820	Northwestern University	1,145,820	-
Research and Technology Development	12.910	-	S002733DARPA	40,491	Pennsylvania State University	40,491	-
Research and Technology Development	12.910	-	2018JU2779	4,406,833	Semiconductor Research Corp	4,406,833	2,370,742
Research and Technology Development	12.910	-	0145GYA173	219,141	The Regents Of The University Of California	219,141	-
Research and Technology Development	12.910	-	T00311601	134,446	Toyota Technological Institute At Chicago	134,446	-
Research and Technology Development	12.910	-	AWD000015934160525	(22,510)	University Of Pittsburgh	(22,510)	-
Research and Technology Development	12.910	-	AWD000015934160525A	8,111	University Of Pittsburgh	8,111	-
Research and Technology Development	12.910	-	AWD000015934160525B	160,463	University Of Pittsburgh	160,463	-
Research and Technology Development	12.910	-	AWD000015934194475	402,849	University Of Pittsburgh	402,849	-
Research and Technology Development	12.910	-	AWD000015934194475A	7,283	University Of Pittsburgh	7,283	-
Total DARPA		10,035,311		8,500,923		18,536,234	3,712,866
US MARINE CORPS							
Scientific Research - Combating Weapons of Mass Destruction	12.351	787,138	-	-	-	787,138	345,553
Basic, Applied and Advanced Research in Science and Engineering	12.630	261,439	-	-	-	261,439	-
Total US Marine Corps		1,048,577		-		1,048,577	345,553
US DEPARTMENT OF DEFENSE - OTHER							
CMU Science of Security Label: Taking on the Hard Problems	12.H9823018D0008	558,249	-	-	-	558,249	98,898

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
CMU Science of Security Label: Composability and Usability	12.H9823014C0140	(1,652)		-		(1,652)	-
Acacia Subcontract: Robust Speech Recognition	12.RD	-	140468PO2005707297	141,325	Johns Hopkins University	141,325	-
Acacia Subcontract: Robust Speech Recognition - Modification #1	12.RD	-	ACACIACMU2021OY101	129,048	Probitry Inc	129,048	-
National Defense Education Program	12.006	-	AWD000046634182911	592,772	University Of Pittsburgh	592,772	-
Information Security Grants	12.902	116,794		-		116,794	-
GenCyber Grants Program	12.903	84,345		-		84,345	-
Community Investment	12.600	-	PO00003899CATALYST21011	29,388	Catalyst Connection	29,388	-
Community Investment	12.600	-	PO00004043CATALYST21011	71,982	Catalyst Connection	71,982	-
Community Investment	12.600	-	PO00004044CATALYST21011	148,505	Catalyst Connection	148,505	-
Economic Adjustment Assistance for State Governments	12.617	-	POU00032858510061007CMU	54,935	University Of Utah	54,935	-
Basic, Applied and Advanced Research in Science and Engineering	12.630	-	10407118530	171,018	University Of Illinois At Urbana-Champaign	171,018	-
Total US Department of Defense - Other		757,736		1,338,973		2,096,709	98,898
TOTAL - US DEPARTMENT OF DEFENSE		229,864,715		21,030,378		250,895,093	14,739,411
INTELLIGENCE ADVANCED RESEARCH PROJECTS ACTIVITY (IARPA)							
Train Deploy and Adapt Elastic Deep Learning Models for Biometric Recognition	99.2022211	388,024		-		388,024	33,464
Deep Intermodel Video Analytics (DIVA)	99.RD	-	D17PC00340	(7,666)	Department Of The Interior	(7,666)	-
Hidden Activity Signal And Trajectory Anomaly Characterization (HAYSTAC)	99.RD	-	1990874	10,531	Novateur Research Solutions LLC	10,531	-
Total IARPA		388,024		2,865		390,889	33,464

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
US DEPARTMENT OF EDUCATION							
Graduate Assistance in Areas of National Need	84.200	164,897		-		164,897	-
Education Research, Development and Dissemination	84.305	411,690		-		411,690	1,076
Education Research, Development and Dissemination	84.305	-	5372077773	(59)	Middle Tennessee State University	(59)	-
Total US Department of Education		576,587		(59)		576,528	1,076
US DEPARTMENT OF ENERGY (DOE)							
ORISE IC Postdoctoral Research Fellowship-Nick Byrd	81.A025717	2,082		-		2,082	-
IPA Anna Siefken	81.1070271	218,916		-		218,916	-
Post Doc in Rationally Resolving Disagreements About Complex Issues	81.OSP00006765	15,401		-		15,401	-
ENHANCINGTRUST OF AI WITH HUMAN-IN-THE-LOOP VISUAL EXPLANATIONS	81.RD	-	412846	152,366	Brookhaven National Laboratory	152,366	-
Robust Extreme-Scale Multimodal Structural Learning from Spatio-Temporal Data	81.RD	-	384608	189,789	Brookhaven National Laboratory	189,789	-
High Luminosity LHC CNS Detector Upgrade project Endcap Calorimeter	81.RD	-	654027	187,962	Fermi National Laboratory	187,962	-
Computational Support For Organics - Project 705139	81.RD	-	N000446489	60,000	Honeywell Federal Manufacturing & Technologies LLC	60,000	-
CCSI2 Modeling Support	81.RD	-	PO5000016016	60,228	Keylogic	60,228	-
Computational Support For Capture	81.RD	-	PO0032005004	37,626	Keylogic	37,626	-
Dynamic Optimization For Hydrogen And Power Production Systems	81.RD	-	PO0032005005	40,632	Keylogic	40,632	-
Dynamic Optimization For Hydrogen And Power Production Systems	81.RD	-	PO5000016013	56,036	Keylogic	56,036	-
Idaes-Core / Expansion Planning	81.RD	-	PO0032005006	64,418	Keylogic	64,418	-
Idaes-Core Modeling Support	81.RD	-	PO5000016015	37,000	Keylogic	37,000	-
Idaes-Core Modeling Support - Expansion Planning	81.RD	-	PO5000016014	38,500	Keylogic	38,500	-
Iecm Maintenance	81.RD	-	PO5000016002	(3,166)	Keylogic	(3,166)	-
Marginal Cost Of Co2 Storage Curves	81.RD	-	PO5000016011	60,000	Keylogic	60,000	-
Multi-Enterprise Ree/Cm Network Optimization	81.RD	-	PO5000016017	90,514	Keylogic	90,514	-
Optimal Approaches For Rapid Design And Deployment Of Processes For Industrial Decarbonization	81.RD	-	PO0032005007	35,479	Keylogic	35,479	-
Produced Water Optimization	81.RD	-	PO5000016012	41,520	Keylogic	41,520	-
Prommis / Optimization Of Design And Operations And Usability	81.RD	-	PO0032005008	20,745	Keylogic	20,745	-
Research On Reduced Complexity Modeling Of The Electricity System In The US	81.RD	-	PO5000016009	52,903	Keylogic	52,903	-
Technical Risk Reduction: Uncertainty Quantification, Robust Optimization, And Sequential Design Of Experiments	81.RD	-	PO0032005009	7,770	Keylogic	7,770	-
Design Of Flexible Dynamic Energy Systems	81.RD	-	7590404	40,756	Lawrence Berkeley National Laboratory	40,756	-
Dynamics And Control Of Flexible Dynamic Energy Systems	81.RD	-	7591022	6,656	Lawrence Berkeley National Laboratory	6,656	-
Expert Review Of Nexant National Interruption Cost Survey Roadmap	81.RD	-	7436048	292	Lawrence Berkeley National Laboratory	292	-
FFTX: A Co-Design Project For Fast Fourier Transforms	81.RD	-	7421006	384,785	Lawrence Berkeley National Laboratory	384,785	-
Integrated Energy Systems For Power And Blue Hydrogen Co-Production	81.RD	-	7591064	20,856	Lawrence Berkeley National Laboratory	20,856	-
Machine Learning And Artificial Intelligence	81.RD	-	7585823	23,389	Lawrence Berkeley National Laboratory	23,389	-
Machine Learning (ML) Component Of The Ernie System - Ernie 3	81.RD	-	B649543	(488)	Lawrence Livermore National Laboratory	(488)	-
Study Of The Machine Learning (ML) Component For Context Constrained Radiation	81.RD	-	B656450	8,358	Lawrence Livermore National Laboratory	8,358	-
Study Of The ML Component Of The Eml-Raptor System	81.RD	-	B649585	90,133	Lawrence Livermore National Laboratory	90,133	-
Systems-To-Atoms (S2A): Hydrogen For Climate Security	81.RD	-	B656941	4,312	Lawrence Livermore National Laboratory	4,312	-
Topology Optimization Of Packing Structures For Carbon Capture Applications	81.RD	-	B652488	50,000	Lawrence Livermore National Laboratory	50,000	-
Topology Optimization Of Packing Structures For Carbon Capture Applications	81.RD	-	B652488	78,315	Lawrence Livermore National Laboratory	78,315	-
3D Reconstructions Of The Cathode And Anode Of Solid Oxide Fuel Cells	81.RD	-	TASK15P010220961	27,446	Leidos Inc	27,446	-
Advanced Reactor Manufacturing	81.RD	-	TASK1P010220961	92,761	Leidos Inc	92,761	-
Cfd Modeling For Blended Rubbery Membranes	81.RD	-	TASK20P010220961	83,948	Leidos Inc	83,948	-
Co2 Geochemical Monitoring: Signal Modeling And Application	81.RD	-	TASK6P010220961	(2,021)	Leidos Inc	(2,021)	-
Computational Fluid Dynamics Modeling For Memcsea Hollow Fiber Membranes	81.RD	-	TASK13P010220961	3,932	Leidos Inc	3,932	-
Decarbonized Direct Reduced Iron Process Enhanced By Chemical Looping Applications	81.RD	-	TASK17P010220961	83,327	Leidos Inc	83,327	-
Electrochemical Carbon Conversion Research	81.RD	-	TASK21P010220961	7,134	Leidos Inc	7,134	-
Electrode Structural Evaluation	81.RD	-	TASK3P010220961	100,200	Leidos Inc	100,200	-
Geochemical Monitoring	81.RD	-	TASK18P010220961	2,674	Leidos Inc	2,674	-
High Performance Computing Of Electrode Subvolume Performances	81.RD	-	TASK4P010220961	86,167	Leidos Inc	86,167	-
Reducing Fgd Effluent Selenium Anions Into Elemental Nanoparticles	81.RD	-	TASK16P010220961	128,597	Leidos Inc	128,597	-
Solid Oxide Fuel Cells	81.RD	-	TASK11P010220961	101,388	Leidos Inc	101,388	-
Statistical Modeling	81.RD	-	TASK19P010220961	25,115	Leidos Inc	25,115	-
Netsketch	81.RD	-	C2415POEP70944	190,668	Los Alamos National Laboratory	190,668	-
Versatile Data Management Services For Future DOE Science	81.RD	-	520262	52,079	Los Alamos National Laboratory	52,079	-
Fuel Cells For Heavy Duty Vehicles	81.RD	-	OSP00002214PO0004098	68,387	Nikola Motor Company LLC	68,387	-
Get It Moving: Rapid Development Of Hard-To-Control Robots With Optimality Tradeoffs	81.RD	-	SAWDWD00850	(6,533)	Oak Ridge Institute For Science And Education	(6,533)	-
Additive Manufacturing Process Data Fusion For Defect Prediction With Deep Learning	81.RD	-	2158554PO2446195	62,186	Sandia National Laboratories	62,186	-
Innovative Calibration Methods To Provide Accurate And Confident Parameter Estimates	81.RD	-	2158554PO2460452	26,802	Sandia National Laboratories	26,802	-
Machine Learning And The Scattering Transformation To Solve The 1D Burgers Equation And The 2D Navier-Stokes Equation	81.RD	-	2158554PO2311498	(4,368)	Sandia National Laboratories	(4,368)	-
Modeling Shock Propagation At Nanoscale Interfaces In Polyurea	81.RD	-	2158554PO2474054	15,690	Sandia National Laboratories	15,690	-
Radiation Hardened By Design (RHBD) Testing	81.RD	-	2295183	561,051	Sandia National Laboratories	561,051	-
Scalable Solutions For National Security Applications	81.RD	-	2158554PO2368320	173,362	Sandia National Laboratories	173,362	-
Development Of Methods Of Advanced Experiments at the LCLS and LCLS-II Facilities	81.RD	-	218189	82,879	SLAC National Accelerator Laboratory - Stanford	82,879	-
Study Of Visibility In Unified Model	81.RD	-	40001842214000192833	18,071	UT-Battelle	18,071	-
Office of Science Financial Assistance Program	81.049	5,374,010		-		5,374,010	792,127

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Office of Science Financial Assistance Program	81.049	-	00001295	16,803	Brown University	16,803	-
Office of Science Financial Assistance Program	81.049	-	8598911163	73,531	Cornell University	73,531	-
Office of Science Financial Assistance Program	81.049	-	5923CMUDOE9200	25,370	Pennsylvania State University	25,370	-
Office of Science Financial Assistance Program	81.049	-	S000066USDOE	19,621	Pennsylvania State University	19,621	-
Office of Science Financial Assistance Program	81.049	-	S003579USDOE	110,157	Pennsylvania State University	110,157	-
Office of Science Financial Assistance Program	81.049	-	KK2230	141,830	The Regents Of The University Of California	141,830	-
Office of Science Financial Assistance Program	81.049	-	A007230202	156,974	University Of Minnesota	156,974	-
Office of Science Financial Assistance Program	81.049	-	CNVA000019794014243	253,544	University Of Pittsburgh	253,544	-
University Coal Research	81.057	187,184	-	-	-	187,184	-
Conservation Research and Development	81.086	1,130,753	-	-	-	1,130,753	485,868
Conservation Research and Development	81.086	-	24201641	296,558	Los Angeles Cleantech Incubator	296,558	-
Conservation Research and Development	81.086	-	A009546501	112,243	University Of Minnesota	112,243	-
Renewable Energy Research and Development	81.087	-	A192112S001	233,727	The Regents Of The University Of CA	233,727	-
Renewable Energy Research and Development	81.087	-	A221852S004	18,890	The Regents Of The University Of CA	18,890	-
Renewable Energy Research and Development	81.087	-	FY2019077	(8,341)	University Of Kansas	(8,341)	-
Fossil Energy Research and Development	81.089	10,936	-	-	-	10,936	-
Fossil Energy Research and Development	81.089	-	S000663DOE	68,070	Pennsylvania State University	68,070	-
Environmental Remediation and Waste Processing and Disposal	81.104	134,419	-	-	-	134,419	-
Defense Nuclear Nonproliferation Research	81.113	105,317	-	-	-	105,317	-
Nuclear Energy Research, Development and Demonstration	81.121	122,861	-	-	-	122,861	-
Nuclear Energy Research, Development and Demonstration	81.121	-	ASUB00000449	25,911	Arizona State University	25,911	-
Advanced Research Projects Agency - Energy	81.135	1,390,488	-	-	-	1,390,488	500,927
Advanced Research Projects Agency - Energy	81.135	-	AR3550714	185,272	24M Technologies Inc	185,272	-
Advanced Research Projects Agency - Energy	81.135	-	14116721532	78,389	Cornell University	78,389	-
Advanced Research Projects Agency - Energy	81.135	-	DEAR0000995	13,047	Form Energy Inc	13,047	-
Advanced Research Projects Agency - Energy	81.135	-	S5453PO734652	37,352	Massachusetts Institute Of Technology	37,352	-
Total US DOE		8,692,367		5,777,576		14,469,943	1,778,922
ENVIRONMENTAL PROTECTION AGENCY (EPA)							
Science to Achieve Results (STAR) Research Program	66.509	260,336	-	-	-	260,336	249,689
Total EPA		260,336				260,336	249,689
US DEPARTMENT OF HEALTH AND HUMAN SERVICES							
FOOD AND DRUG ADMINISTRATION							
Food and Drug Administration Research	93.103	1,021	-	-	-	1,021	-
ADMINISTRATION FOR COMMUNITY LIVING							
ACL National Institute on Disability, Independent Living, and Rehabilitation Research	93.433	1,270,104	-	-	-	1,270,104	316,062
CENTERS FOR DISEASE CONTROL AND PREVENTION							
Characterization Of Submicron-/Nano-Scale Coal Dusts And Their Effects On Miners' Pneumoconiosis And Lung Cancer For Underground Coal Mines	93.RD	-	S000444NIOSH	(8,390)	Pennsylvania State University	(8,390)	-
Injury Prevention and Control Research and State and Community Based Programs	93.136	-	AWD000020774163591	32,873	University of Pittsburgh	32,873	-
Immunization Research, Demonstration, Public Information and Education Training and Clinical Skills Improvement Projects	93.185	1,580,105	-	-	-	1,580,105	(21,281)
Immunization Research, Demonstration, Public Information and Education Training and Clinical Skills Improvement Projects	93.185	-	AWD000026471350651	135,515	University Of Pittsburgh	135,515	-
Immunization Research, Demonstration, Public Information and Education Training and Clinical Skills Improvement Projects	93.185	-	AWD000026471386141	94,501	University Of Pittsburgh	94,501	-
Total Centers for Disease Control and Prevention		1,580,105		254,499		1,834,604	(21,281)
NATIONAL INSTITUTES OF HEALTH							
Flexible Hybrid Cloud Infrastructure for Seamless Integration and Use of Human Biomolecular Data and Reference Maps	93.1OT2OD03375901	3,158,876	-	-	-	3,158,876	1,551,214
Computational Tools for Uniform Processing of Human Reference Atlas Data	93.OT2OD03376101	530,336	-	-	-	530,336	38,648
Environmental Health	93.113	-	AWD000005221359901	33,691	University of Pittsburgh	33,691	-
Environmental Health	93.113	-	AWD0000023711373661	(1,813)	University of Pittsburgh	(1,813)	-
Environmental Health	93.113	-	AWD0000023711389771	404	University of Pittsburgh	404	-
Oral Diseases and Disorder Research	93.121	171,162	-	-	-	171,162	102,643
NIEHS Superfund Research Program	93.143	-	M2101248	49,524	Texas A&M University System	49,524	-
NIEHS Superfund Research Program	93.143	-	M2300988	43,382	Texas A&M University System	43,382	-
Human Genome Research	93.172	1,529,271	-	-	-	1,529,271	334,478
Human Genome Research	93.172	-	8029CMUPO0173652	30,915	Indiana University	30,915	-
Human Genome Research	93.172	-	POST00008854WU230038	91,714	Washington University	91,714	-
Human Genome Research	93.172	-	WU220122	15,869	Washington University	15,869	-
Research Related to Deafness and Communication Disorders	93.173	941,637	-	-	-	941,637	243,633
Research Related to Deafness and Communication Disorders	93.173	-	AWD000038091360941	29,969	University Of Pittsburgh	29,969	-
Research Related to Deafness and Communication Disorders	93.173	-	AWD000058041378791	48,552	University Of Pittsburgh	48,552	-
Research Related to Deafness and Communication Disorders	93.173	-	SUB00000018	147,148	University Of Texas At Austin	147,148	-
Research Related to Deafness and Communication Disorders	93.173	-	VUMC70291	101,519	Vanderbilt University Medical Center	101,519	-
Research and Training in Complementary and Integrative Health	93.213	26,297	-	-	-	26,297	-

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Research and Training in Complementary and Integrative Health	93.213	-	025553244609	(2,475)	University of Delaware	(2,475)	-
Mental Health Research Grants	93.242	3,791,314	-	-	-	3,791,314	244,884
Mental Health Research Grants	93.242	-	025553244609	38,068	Icahn School Of Medicine At Mount Sinai	38,068	-
Mental Health Research Grants	93.242	-	241821	16,895	Massachusetts General Hospital	16,895	-
Mental Health Research Grants	93.242	-	401454	(915)	Mclean Hospital	(915)	-
Mental Health Research Grants	93.242	-	401780	191,695	Mclean Hospital	191,695	-
Mental Health Research Grants	93.242	-	281450C	(5,003)	University Of Oregon	(5,003)	-
Mental Health Research Grants	93.242	-	AWD000010561345991	284	University Of Pittsburgh	284	-
Mental Health Research Grants	93.242	-	AWD000010561361651	215,333	University Of Pittsburgh	215,333	-
Mental Health Research Grants	93.242	-	AWD000038111359261	43,706	University Of Pittsburgh	43,706	-
Mental Health Research Grants	93.242	-	AWD000044781366281	48,445	University Of Pittsburgh	48,445	-
Mental Health Research Grants	93.242	-	AWD000071161391102	16,565	University Of Pittsburgh	16,565	-
Mental Health Research Grants	93.242	-	CNVA000526871294091	64,171	University Of Pittsburgh	64,171	-
Mental Health Research Grants	93.242	-	CNVA00052681301381	18,596	University Of Pittsburgh	18,596	-
Mental Health Research Grants	93.242	-	CNVA000584561359471	1,004	University Of Pittsburgh	1,004	-
Mental Health Research Grants	93.242	-	CNVA000584561359472	690	University Of Pittsburgh	690	-
Mental Health Research Grants	93.242	-	CNVA000593501306731	261,639	University Of Pittsburgh	261,639	-
Mental Health Research Grants	93.242	-	CNVA000594601312001	289,413	University Of Pittsburgh	289,413	-
Mental Health Research Grants	93.242	-	1GG01716601	175,414	Columbia University	175,414	-
Alcohol Research Programs	93.273	366,561	-	-	-	366,561	7,435
Alcohol Research Programs	93.273	-	AWD000022011344623PO00501191	65,751	University of Pittsburgh	65,751	-
Drug Abuse and Addiction Research Programs	93.279	809,430	-	-	-	809,430	71,825
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	2,192,712	-	-	-	2,192,712	226,597
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	-	49425109	52,709	Allegheny Singer Research Institute	52,709	-
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	-	1520GYA165	97,959	The Regents Of The University Of CA	97,959	-
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	-	AWD101558SUB00000355	6,051	University Of Chicago	6,051	-
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	-	AWD000008131362531	2,061	University Of Pittsburgh	2,061	-
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	-	0000001090	114,773	University Of Wisconsin-Madison	114,773	-
Minority Health and Health Disparities Research	93.307	7,698	-	-	-	7,698	-
Trans-NIH Research Support	93.310	3,952,184	-	-	-	3,952,184	2,362,916
Trans-NIH Research Support	93.310	-	07774315598	(189)	University Of Illinois At Urbana-Champaign	(189)	-
Trans-NIH Research Support	93.310	-	AWD000008891367311	35,025	University Of Pittsburgh	35,025	-
Trans-NIH Research Support	93.310	-	AWD000048141368771	86,825	University Of Pittsburgh	86,825	-
Trans-NIH Research Support	93.310	-	AWD000048141368772	543,541	University Of Pittsburgh	543,541	-
Trans-NIH Research Support	93.310	-	AWD000048141385291	710,498	University Of Pittsburgh	710,498	-
Trans-NIH Research Support	93.310	-	AWD000048241371303	57,764	University Of Pittsburgh	57,764	-
Trans-NIH Research Support	93.310	-	AWD000048241381533	127,251	University Of Pittsburgh	127,251	-
National Center for Advancing Translational Sciences	93.350	-	AWD000048001368741	31,269	University Of Pittsburgh	31,269	-
Research Infrastructure Programs	93.351	(26,510)	-	-	-	(26,510)	10,590
Nursing Research	93.361	399,002	-	-	-	399,002	60,823
Nursing Research	93.361	-	AWD000054411373541	190,798	University Of Pittsburgh	190,798	-
Cancer Cause and Prevention Research	93.393	361,000	-	-	-	361,000	76,325
Cancer Detection and Diagnosis Research	93.394	799,525	-	-	-	799,525	204,361
Cancer Treatment Research	93.395	-	CMUCA257114	(1,406)	Spectragenetics Inc	(1,406)	-
Cancer Biology Research	93.396	233,063	-	-	-	233,063	39,641
Cancer Biology Research	93.396	-	00001918	77,334	Brown University	77,334	-
Cancer Biology Research	93.396	-	1047289	5,144	Sylvatica Biotech Inc	5,144	-
Cardiovascular Diseases Research	93.837	824,066	-	-	-	824,066	200,231
Cardiovascular Diseases Research	93.837	-	OSP00002109	32,408	Fluidform Inc	32,408	-
Cardiovascular Diseases Research	93.837	-	1520GWC325441315MC31010	279,746	The Regents Of The University Of CA	279,746	-
Cardiovascular Diseases Research	93.837	-	CNVA00059241319771	221,045	University Of Pittsburgh	221,045	-
Cardiovascular Diseases Research	93.837	-	CNVA000002321328521	152,831	University Of Pittsburgh	152,831	-
Lung Diseases Research	93.838	119,860	-	-	-	119,860	56,925
Lung Diseases Research	93.838	-	SUB00003476	120,796	University Of Florida	120,796	-
Lung Diseases Research	93.838	-	AWD000044521364471	(3,152)	University Of Pittsburgh	(3,152)	-
Lung Diseases Research	93.838	-	AWD000046701370751	16,598	University Of Pittsburgh	16,598	-
Lung Diseases Research	93.838	-	AWD000046701387601	27,983	University Of Pittsburgh	27,983	-
Lung Diseases Research	93.838	-	CNVA000625381371491	62,870	University Of Pittsburgh	62,870	-
Lung Diseases Research	93.838	-	CNVA000625381389491	18,407	University Of Pittsburgh	18,407	-
Lung Diseases Research	93.838	-	VUMC67476	8,363	Vanderbilt University	8,363	-
Blood Diseases and Resources Research	93.839	833,100	-	-	-	833,100	174,217
Blood Diseases and Resources Research	93.839	-	3373731	11,455	Board Of Regents Of The University System Of Georgia	11,455	-
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	487,544	-	-	-	487,544	98,088
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	-	41088609	5,192	Allegheny Singer Research Institute	5,192	-
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	-	AWD000064731388261	14,005	University Of Pittsburgh	14,005	-
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	1,154,227	-	-	-	1,154,227	160,008

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	-	OSP0007066	89,895	Sylvatica Biotech Inc	89,895	-
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	-	AWD000048528004661	103,682	University Of Pittsburgh	103,682	-
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	-	1005584127CMU	15,516	University Of Utah	15,516	-
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	-	128038	123,434	The Brigham And Women's Hospital Inc	123,434	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	5,299,455	-	-	-	5,299,455	2,062,782
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	1047357	105,337	Actuated Medical Inc	105,337	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	312111PO925726	109,914	Albert Einstein College Of Medicine	109,914	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	1GG01355401	221,812	Columbia University	221,812	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	237602	40,185	Massachusetts General Hospital	40,185	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000040051360471	147,104	University Of Pittsburgh	147,104	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000040051360491	65,581	University Of Pittsburgh	65,581	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000046851368781	24,030	University Of Pittsburgh	24,030	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000046851386001	28,371	University Of Pittsburgh	28,371	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000046871367771	200,243	University Of Pittsburgh	200,243	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000052591372481	56,470	University Of Pittsburgh	56,470	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000054471375461	23,251	University Of Pittsburgh	23,251	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000056201374901	184,353	University Of Pittsburgh	184,353	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000060811381891	22,542	University Of Pittsburgh	22,542	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000063881388021	147,031	University Of Pittsburgh	147,031	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000064101388331	71,317	University Of Pittsburgh	71,317	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	AWD000065061388782	27,776	University Of Pittsburgh	27,776	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	CNVA000567631355352	(14,438)	University Of Pittsburgh	(14,438)	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	CNVA000567631374582	226,809	University Of Pittsburgh	226,809	-
Extramural Research Programs in the Neurosciences & Neurological Disorders	93.853	-	405121	32,286	Van Andel Research Institute	32,286	-
Allergy and Infectious Diseases Research	93.855	1,323,300	-	-	-	1,323,300	249,272
Allergy and Infectious Diseases Research	93.855	-	SUB00002375	23,023	Board Of Regents Of The University System Of Georgia	23,023	-
Allergy and Infectious Diseases Research	93.855	-	4692	(12,576)	Magee Womens Research Institute & Foundation	(12,576)	-
Allergy and Infectious Diseases Research	93.855	-	R1277574	69,327	State University Of New York At Buffalo	69,327	-
Allergy and Infectious Diseases Research	93.855	-	1047324	27,754	Sylvatica Biotech Inc	27,754	-
Allergy and Infectious Diseases Research	93.855	-	AWD000002011325141	17,917	University Of Pittsburgh	17,917	-
Allergy and Infectious Diseases Research	93.855	-	AWD000038761359021	74,332	University Of Pittsburgh	74,332	-
Allergy and Infectious Diseases Research	93.855	-	AWD000042881363171	136,350	University Of Pittsburgh	136,350	-
Allergy and Infectious Diseases Research	93.855	-	CNVA000559511299041	(211)	University Of Pittsburgh	(211)	-
Allergy and Infectious Diseases Research	93.855	-	CON80003696GR116542	126,499	Yale University	126,499	-
Biomedical Research and Research Training	93.859	5,194,726	-	-	-	5,194,726	261,877
Biomedical Research and Research Training	93.859	-	2017314201	121,040	North Carolina State University	121,040	-
Biomedical Research and Research Training	93.859	-	53831	(4,552)	University Of Delaware	(4,552)	-
Biomedical Research and Research Training	93.859	-	10939019131	25,278	University Of Illinois At Urbana-Champaign	25,278	-
Biomedical Research and Research Training	93.859	-	AWD000024651363421	704	University Of Pittsburgh	704	-
Biomedical Research and Research Training	93.859	-	AWD000059931378921	108,454	University Of Pittsburgh	108,454	-
Biomedical Research and Research Training	93.859	-	CNVA000509461364521	21,690	University Of Pittsburgh	21,690	-
Biomedical Research and Research Training	93.859	-	CNVA000540571362171	23,452	University Of Pittsburgh	23,452	-
Biomedical Research and Research Training	93.859	-	CNVA000540571362181	7,085	University Of Pittsburgh	7,085	-
Biomedical Research and Research Training	93.859	-	CNVA000540571362191	428	University Of Pittsburgh	428	-
Biomedical Research and Research Training	93.859	-	CNVA000540571362201	3,489	University Of Pittsburgh	3,489	-
Biomedical Research and Research Training	93.859	-	CNVA000540571362211	59,246	University Of Pittsburgh	59,246	-
Biomedical Research and Research Training	93.859	-	CNVA000540571362221	5,478	University Of Pittsburgh	5,478	-
Biomedical Research and Research Training	93.859	-	CNVA000595151315531	27,368	University Of Pittsburgh	27,368	-
Biomedical Research and Research Training	93.859	-	CNVA000597611316701	165,634	University Of Pittsburgh	165,634	-
Biomedical Research and Research Training	93.859	-	CNVA000624511324201	46,622	University Of Pittsburgh	46,622	-
Child Health and Human Development Extramural Research	93.865	2,395,048	-	-	-	2,395,048	221,522
Child Health and Human Development Extramural Research	93.865	-	13721220911	107,863	Cornell University	107,863	-
Child Health and Human Development Extramural Research	93.865	-	0255C4314609	46,505	Icahn School Of Medicine At Mount Sinai	46,505	-
Child Health and Human Development Extramural Research	93.865	-	6238	20,167	Magee Womens Research Institute & Foundation	20,167	-
Child Health and Human Development Extramural Research	93.865	-	60047828CMU	134,422	Northwestern University	134,422	-
Child Health and Human Development Extramural Research	93.865	-	AWD000010881334101	(1,554)	University Of Pittsburgh	(1,554)	-
Child Health and Human Development Extramural Research	93.865	-	CNVA0005463112950811313711	9,267	University Of Pittsburgh	9,267	-
Aging Research	93.866	24,617	-	-	-	24,617	-
Aging Research	93.866	-	00001360	45,752	Brown University	45,752	-
Aging Research	93.866	-	582311PO4800137	(20,666)	University Of Pennsylvania	(20,666)	-
Aging Research	93.866	-	AWD000008891333351	85,016	University Of Pittsburgh	85,016	-
Aging Research	93.866	-	AWD000039581359721	10,694	University Of Pittsburgh	10,694	-
Aging Research	93.866	-	AWD000059071378871	81,285	University Of Pittsburgh	81,285	-
Aging Research	93.866	-	AWD000029761351481	90,276	University Of Pittsburgh	90,276	-
Aging Research	93.866	-	CNVA000521861286171	(2,356)	University Of Pittsburgh	(2,356)	-
Aging Research	93.866	-	GR105474CON80001680	20,466	Yale University	20,466	-
Vision Research	93.867	1,589,909	-	-	-	1,589,909	140,160
Vision Research	93.867	-	AWD000003511375151	46,769	University Of Pittsburgh	46,769	-
Vision Research	93.867	-	AWD000028511351661	(4,941)	University Of Pittsburgh	(4,941)	-
Medical Library Assistance	93.879	443,024	-	-	-	443,024	215,286
Medical Library Assistance	93.879	-	583383PO4761419PO5011120	170,019	University Of Pennsylvania	170,019	-
Medical Library Assistance	93.879	-	AWD0000392113588710	53	University Of Pittsburgh	53	-

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Medical Library Assistance	93.879	-	AWD0000392113588711	845	University Of Pittsburgh	845	-
Total National Institutes of Health		38,932,434		9,102,318		48,034,752	9,416,381
TOTAL - US DEPARTMENT OF HEALTH AND HUMAN SERVICES		41,783,664		9,356,817		51,140,481	9,711,162
NATIONAL AERONAUTICS and SPACE ADMINISTRATION (NASA)							
Visual AI for Controlled Agricultural Environment	43.RD	-	1043118	3,057	Bloomfield Robotics	3,057	-
Robust Visual Perception Techniques for Intelligent & Adaptive Space Robotics	43.RD	-	1694458	5,993	Jet Propulsion Lab	5,993	-
Proprioceptive Gait Control for The Exobiology Extant Life Surveyor	43.RD	-	1671496	201,065	Jet Propulsion Lab	201,065	-
Wide Binary Stars in Nearby Dwarf Galaxies: A Novel Probe of Dark Matter on Subgalactic Scales	43.RD	-	HSTAR16639001A	100,040	Space Telescope Science Institute	100,040	-
WFIRST Infrared Nearby Galaxy Survey	43.RD	-	JWSTAR02352001A	24,423	Space Telescope Science Institute	24,423	-
Science	43.001	2,405,934				2,405,934	935,800
Science	43.001	-	CMU211159	36,500	Bermuda Institute Of Ocean Sciences	36,500	-
Science	43.001	-	1523CARNEGIEEMELLON	121,562	Planetary Science Institute	121,562	-
Science	43.001	-	214248	18,635	University Of South Carolina	18,635	-
Aeronautics	43.002	-	ASUB00000537	(193)	Arizona State University	(193)	-
Aeronautics	43.002	-	2116145736CMU2022	16,962	San Jose State University Research Foundation	16,962	-
Aeronautics	43.002	-	AWD000037054174912	60,587	University Of Pittsburgh	60,587	-
Office of Stem Engagement (OSTEM)	43.008	-	S000754NASA	24,318	Pennsylvania State University	24,318	-
Office of Stem Engagement (OSTEM)	43.008	-	S002818NASA	(2,151)	Pennsylvania State University	(2,151)	-
Space Technology	43.012	1,172,760				1,172,760	124,983
Space Technology	43.012	-	A192477S003	647,738	The Regents Of The University Of CA	647,738	-
Total NASA		3,578,694		1,258,536		4,837,230	1,060,783
NATIONAL SCIENCE FOUNDATION (NSF)							
IPA Agreement - Dr. Jeanne Vanbriesen	47.CBET2146033	263,317		-		263,317	-
Materials Research Project Report	47.040	126,672		-		126,672	-
Engineering	47.041	10,045,973		-		10,045,973	773,223
Engineering	47.041	-	SCON000000548	5,212	Rand Corporation	5,212	-
Engineering	47.041	-	1047361	88,615	Raydiant Oximetry Inc	88,615	-
Engineering	47.041	-	S001488	91,966	The Regents Of The University Of CA	91,966	-
Engineering	47.041	-	104757Z3822209	147,925	University Of Maryland	147,925	-
Engineering	47.041	-	SUBK00014871PO3007250316	40,766	University Of Michigan	40,766	-
Engineering	47.041	-	A008985702	154,346	University Of Minnesota	154,346	-
Engineering	47.041	-	AWD000045730127061	9,078	University Of Pittsburgh	9,078	-
Engineering	47.041	-	UWSC13720BPO66242	70,958	University Of Washington	70,958	-
Mathematical and Physical Sciences	47.049	7,545,028		-		7,545,028	129,973
Mathematical and Physical Sciences	47.049	-	4021355801	78,826	Colorado School Of Mines	78,826	-
Mathematical and Physical Sciences	47.049	-	G25320W7952	21,681	Montana State University	21,681	-
Mathematical and Physical Sciences	47.049	-	60062823CMU	41,016	Northwestern University	41,016	-
Mathematical and Physical Sciences	47.049	-	60077667SPC1000004121	61,486	The Ohio State University	61,486	-
Mathematical and Physical Sciences	47.049	-	204512CMU	292,730	University Of Notre Dame	292,730	-
Geosciences	47.050	798,681		-		798,681	-
Geosciences	47.050	-	AWD002863G5PO5204751	26,167	Georgia Institute Of Technology	26,167	-
Computer and Information Science and Engineering	47.070	32,490,990		-		32,490,990	1,228,380
Computer and Information Science and Engineering	47.070	-	2021CIFCARNEGIEEMELLON02	129,071	Computing Research Association	129,071	-
Computer and Information Science and Engineering	47.070	-	2021CIFCARNEGIEEMELLON33	127,373	Computing Research Association	127,373	-
Computer and Information Science and Engineering	47.070	-	CIF2020CMU62	21,111	Computing Research Association	21,111	-
Computer and Information Science and Engineering	47.070	-	8154421670	54,078	Cornell University	54,078	-
Computer and Information Science and Engineering	47.070	-	PO5196156AWD002623G1	1,201,807	Georgia Institute Of Technology	1,201,807	-
Computer and Information Science and Engineering	47.070	-	8141PO0093723	29,795	Indiana University	29,795	-
Computer and Information Science and Engineering	47.070	-	BL4812537CMUPO0085770	53,618	Indiana University	53,618	-
Computer and Information Science and Engineering	47.070	-	17011	706,288	MPC	706,288	-
Computer and Information Science and Engineering	47.070	-	50265378050	(1,753)	Northeastern University	(1,753)	-
Computer and Information Science and Engineering	47.070	-	SUB0000587	91,311	Princeton University	91,311	-
Computer and Information Science and Engineering	47.070	-	10001954009	32,708	Purdue University	32,708	-
Computer and Information Science and Engineering	47.070	-	R1045972	7	State University Of New York At Buffalo	7	-
Computer and Information Science and Engineering	47.070	-	SPC1000005448GR124624	216,982	The Ohio State University	216,982	-
Computer and Information Science and Engineering	47.070	-	118620157MPINVS9002365	35,608	University Of California - San Diego	35,608	-
Computer and Information Science and Engineering	47.070	-	AWD064198SUB00000576	81,749	University Of Chicago	81,749	-
Computer and Information Science and Engineering	47.070	-	1563318	95,178	University Of Colorado	95,178	-
Computer and Information Science and Engineering	47.070	-	10143418861	13,796	University Of Illinois At Urbana-Champaign	13,796	-
Computer and Information Science and Engineering	47.070	-	10882218933	652,643	University Of Illinois At Urbana-Champaign	652,643	-
Computer and Information Science and Engineering	47.070	-	11055019164	309,101	University Of Illinois At Urbana-Champaign	309,101	-
Computer and Information Science and Engineering	47.070	-	9392423497201	28,998	University Of Maryland	28,998	-
Computer and Information Science and Engineering	47.070	-	578035PO4886193	17,081	University Of Pennsylvania	17,081	-
Computer and Information Science and Engineering	47.070	-	580447PO4616470	17,063	University Of Pennsylvania	17,063	-
Computer and Information Science and Engineering	47.070	-	115070153	14,783	University Of Southern California	14,783	-
Computer and Information Science and Engineering	47.070	-	UTAUSUB00000550	41,145	University Of Texas At Austin	41,145	-
Computer and Information Science and Engineering	47.070	-	WU18422POST00000033	39,807	Washington University	39,807	-
Biological Sciences	47.074	1,245,132		-		1,245,132	1,102

Federal Program	Assistance Listing Number	Direct	Pass-Through Entity Sponsor Number	Pass-Through	Pass-Through Entity	Federal Expenditures	Passed to Subrecipient
Biological Sciences	47.074	-	RES515695POZDG2100230	220,589	Case Western Reserve University	220,589	-
Biological Sciences	47.074	-	UTA19001225	4,424	University Of Texas At Austin	4,424	-
Biological Sciences	47.074	-	UTA20000951	96,134	University Of Texas At Austin	96,134	-
Biological Sciences	47.074	-	19001	11,266	Wake Forest University	11,266	-
Social, Behavioral, and Economic Sciences	47.075	2,970,325		-		2,970,325	187,243
Social, Behavioral, and Economic Sciences	47.075	-	ASUB00000609	16,336	Arizona State University	16,336	-
Social, Behavioral, and Economic Sciences	47.075	-	20220170101	53,390	Florida Institute For Human & Machine Cognition	53,390	-
Social, Behavioral, and Economic Sciences	47.075	-	162571995	152,269	University Of Connecticut	152,269	-
STEM Education	47.076	9,298,882		-		9,298,882	652,271
STEM Education	47.076	-	3392002	184,684	The Concord Consortium	184,684	-
STEM Education	47.076	-	20211566	224,801	The Regents Of The University Of CA	224,801	-
Polar Programs	47.078	29,410		-		29,410	-
Office of International Science and Engineering	47.079	433,258		-		433,258	-
Office of International Science and Engineering	47.079	-	CNVA000554450120582	258,174	University Of Pittsburgh	258,174	-
Integrative Activities	47.083	379,358		-		379,358	161,427
Integrative Activities	47.083	-	A221500S001	187,792	University Of California - Davis	187,792	-
NSF Technology, Innovation, and Partnerships	47.084	2,009,024		-		2,009,024	432,230
ADVANCED ROBOTICS FOR MANUFACTURING INSTITUTE - ARM							
STEM Education	47.076	2,681		-		2,681	-
Total NSF		67,638,731		6,549,979		74,188,710	3,565,849
US DEPARTMENT OF TRANSPORTATION							
Predictive Real-Time Traffic Management in Large-Scale Networks Using Model-Based AI	20.693JJ321C000013	240,326		-		240,326	31,271
Ensuring Safety in an AI-Enhanced PTC System	20.693JJ620C000025	229,974		-		229,974	67,621
Highway Research and Development Program	20.200	-	CMUADS2021	380,877	Pennsylvania Department of Transportation	380,877	-
Highway Training and Education	20.215	4,975		-		4,975	-
University Transportation Centers Program	20.701	3,663,624		-		3,663,624	639,415
Total US Department of Transportation		4,138,899		380,877		4,519,776	738,307
US DEPARTMENT OF HOMELAND SECURITY							
Coast Guard Federal Fellowship Program	97.FP00006219BERTSCH	(156)		-		(156)	-
Coast Guard Federal Fellowship Program	97.OSP00001421CULPEPPER	25,361		-		25,361	-
Homeland Security Research, Development, Testing, Evaluation and Demonstration of Technologies Related to Countering Weapons of Mass Destruction	97.077	428,384		-		428,384	-
Total US Department of Homeland Security		453,589		-		453,589	-
OTHER FEDERAL AGENCIES							
US DEPARTMENT OF THE INTERIOR							
Natural Resource Stewardship	15.944	17,359		-		17,359	-
US DEPARTMENT OF JUSTICE							
National Institute of Justice Research, Evaluation, and Development Project Grants	16.560	-	119852Z9012301	39,237	University Of Maryland	39,237	-
US DEPARTMENT OF LABOR							
ADVANCED ROBOTICS FOR MANUFACTURING INSTITUTE - ARM							
WIOA National Dislocated Worker Grants / WIA National Emergency Grants	17.277	667,371		-		667,371	-
DEPARTMENT OF STATE							
Economic Statecraft	19.322	1,057,375		-		1,057,375	-
NATIONAL ENDOWMENT FOR THE ARTS							
Promotion of the Arts Grants to Organizations and Individuals	45.024	17,694		-		17,694	-
NATIONAL ENDOWMENT FOR THE HUMANITIES							
Promotion of the Humanities Division of Preservation and Access	45.149	-	E2054841	11,862	George Mason University	11,862	-
Promotion of the Humanities Public Programs	45.164	46,756		-		46,756	-
Promotion of the Humanities Office of Digital Humanities	45.169	60,668		-		60,668	-
Promotion of the Humanities Office of Digital Humanities	45.169	-	SUB0000602	50,781	Princeton University	50,781	-
OTHER							
Subrahmanian Assignment to National Institute of Standards and Technology	99.IP2004	151,725		-		151,725	-
IPA with Office of Evaluation Services (OES) - S. PERMUT	99.OX0003341	101,453		-		101,453	-
Research to Enable Building Ventilation as a Public Health Strategy	99.47HAA022C0006	90,672		-		90,672	-
Sonichepherd	99.RD	-	136953PO2005348035	(419)	Johns Hopkins University	(419)	-
GSA Energy Savings Research, Phase Three	99.RD	-	SB2000034	159,754	LMI Consulting LLC	159,754	-
Correct Computing On Untrusted Processors (CCOUP)	99.RD	-	2022017	200,000	Galois Inc	200,000	-
Advanced Micro-Electronics And Semiconductors (AMES) Technologies	99.RD	-	OSP00006398	633,663	Defensewex	633,663	-
Expended Pathways to New Economy Careers	99.RD	-	221531615	3,595	Southwestern Pennsylvania Corporation	3,595	-
Statistical Innovations for Clustered Observational Studies	99.RD	-	581807PO5045246	102,116	University Of Pennsylvania	102,116	-
REPAIR: Regenerative Electronic Patch Through Advanced Intelligent Regulation	99.RD	-	AWD000015934194475B	287,630	University Of Pittsburgh	287,630	-
Total Other Federal Agencies		2,211,073		1,488,219		3,699,292	-
Total Research and Development Cluster		364,869,436		48,060,921		412,930,357	31,990,694
Total Federal Award Expenditures		\$ 426,072,179		\$ 48,060,921		\$ 474,133,100	\$ 31,990,694

Carnegie Mellon University

Notes to Supplementary Schedule of Expenditures of Federal Awards

Year Ended June 30, 2023

1. Basis of Presentation

The accompanying Supplementary Schedule of Expenditures of Federal Awards (the Schedule) includes the federal contracts and grants expenditures of Carnegie Mellon University (Carnegie Mellon or the university) for the year ended June 30, 2023 and is presented on the accrual basis of accounting. The information in the Schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance)*. Therefore, some amounts presented in the Schedule may differ from amounts presented in, or used in the preparation of the consolidated financial statements. Negative amounts represent adjustment in the normal course of business to amounts reported in a prior year.

For purposes of the Schedule, federal awards include all grants, contracts, and similar agreements entered into directly between the university and agencies and departments of the federal government and all subawards to the university by nonfederal organizations.

2. Summary of Significant Accounting Policies for Federal Award Expenditures

Expenditures for federal student financial aid programs are recognized as incurred. For purposes of major program determination, these costs include Federal Pell Grant program grants to students, Federal Perkins loans, the federal share of students' Federal Supplemental Educational Opportunity Grants (FSEOG) program grants and the federal share of Federal Work Study (FWS) program earnings, Federal direct Student Loan disbursements, and administrative cost allowances, where applicable. Expenditures for federal awards are determined using the cost principles set forth in the Uniform Guidance (2 CFR, Part 220). Under these costs principles, certain types of expenditures are not allowable or are limited to reimbursement. Direct costs are recognized as incurred using the accrual method of accounting.

3. Assistance Listing Numbers

Assistance Listing Numbers and pass-through numbers are presented for those programs for which such numbers are available. In instances where no Assistance Listing Number is available, the federal agency and the federal award number is included as well as the grantor or pass-through agency.

4. SEI Contracts

Amounts included in the Research and Development Cluster, Air Force section of the Schedule, reflect one contract award to the university, including funding received from other federal agencies related to and included with the Software Engineering Institute (SEI) Department of the Air Force contract (CFDA 12.FA870115D0002) through project work plans (PWP) as required by their Air Force sponsoring agreement.

The SEI is a federally funded research and development center (FFRDC) sponsored by the U.S. Department of Defense (DoD) and operated by the university. When federal agencies other

Carnegie Mellon University
Notes to Supplementary Schedule of Expenditures of Federal Awards
Year Ended June 30, 2023

than the primary sponsor contribute funds directly to the SEI's basic effort, the work is administered using a PWP.

5. Federal Student Loan Programs

The Federal Perkins Loan Program (CFDA No. 84.038) is administered directly by the university and the balances and transactions are included in the university's basic consolidated financial statements. The amount of Federal Perkins loans outstanding at June 30, 2023 totaled \$4,624,548. Loans outstanding at the beginning of the year are included in the federal expenditures presented in the Schedule. Under federal law, the authority for schools to make new Perkins Loans ended in September 30, 2017, and final disbursements were permitted through June 30, 2018. As a result, students can no longer receive Perkins Loans.

Carnegie Mellon participates in the Federal Direct Loan Program (CFDA No. 84.268) which includes subsidized and unsubsidized student loans, Direct Parent Loan for Undergraduate Student (PLUS) Loans, and direct GRAD PLUS Loans. Loan disbursements under the Federal Direct Loan Program for the year ended June 30, 2023 totaled \$46,275,525. These loans are not made by the university but are received by its students.

6. Facilities and Administrative Costs

For research and development awards, the university applies its fixed approved facilities and administrative rate when charging indirect costs to federal awards rather than the 10% de minimis cost rate as described in Section 200.414 of the Uniform Guidance. The fixed rates for capped and uncapped awards for the year ended June 30, 2023 are as follows:

	Capped	Uncapped
On-campus	52.20%	59.40%
Off-campus	26.00%	N/A
National Robotics Engineering Center	25.80%	36.30%
Silicon Valley	26.00%	N/A
Software Engineering Institute	11.90%	N/A

The capped rate applies to all Department of Defense (DoD) contracts and subcontracts awarded or issued before November 30, 1993, all Non-DoD instruments, and all DoD grants.

The uncapped rate applies to all DoD contracts awarded or issued on or after November 30, 1993 in accordance with and under the authority of DFARS 231.303(l).



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Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

The Board of Trustees
Carnegie Mellon University:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the consolidated financial statements of Carnegie Mellon University (the University), which comprise the University's consolidated statement of financial position as of June 30, 2023, and the related consolidated statements of activities and cash flows for the year then ended, and the related notes to the consolidated financial statements, and have issued our report thereon dated October 13, 2023.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the consolidated financial statements, we considered the University's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's consolidated financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.



Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

KPMG LLP

Pittsburgh, Pennsylvania
October 13, 2023



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**Independent Auditors' Report on Compliance for Each Major Federal Program;
Report on Internal Control Over Compliance; and Report on Supplementary
Schedule of Expenditures of Federal Awards Required by the Uniform Guidance**

The Board of Trustees
Carnegie Mellon University:

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited Carnegie Mellon University and its subsidiaries' (the University's) compliance with the types of compliance requirements identified as subject to audit in the *OMB Compliance Supplement* that could have a direct and material effect on each of the University's major federal programs for the year ended June 30, 2023. The University's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, the University complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2023.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the University and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the University's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the University's federal programs.



Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the University's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the University's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the University's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the University's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on Internal Control Over Compliance

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.



Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on Supplementary Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the consolidated financial statements of the University as of and for the year ended June 30, 2023, and have issued our report thereon dated October 13, 2023, which contained an unmodified opinion on those consolidated financial statements. Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying supplementary schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary schedule of expenditures of federal awards is fairly stated, in all material respects, in relation to the consolidated financial statements as a whole.

KPMG LLP

Pittsburgh, Pennsylvania
October 13, 2023

Carnegie Mellon University
Schedule of Findings and Questioned Costs
Year Ended June 30, 2023

1. Summary of Auditors' Results

- a. Type of report issued on whether the consolidated financial statements were prepared in accordance with U.S. generally accepted accounting principles: **Unmodified**
- b. Internal control deficiencies over financial reporting disclosed by the audit of the consolidated financial statements:
 - Material weaknesses: **No**
Significant deficiencies: **None reported**
- c. Noncompliance material to the consolidated financial statements: **No**
- d. Internal control deficiencies over major programs disclosed by the audit:
 - Material weaknesses: **No**
Significant deficiencies: **None reported**
- e. Type of report issued on compliance for major programs: **Unmodified**
- f. Audit findings that are required to be reported in accordance with 2 CFR 200.516(a): **No**
- g. Major programs:
 - Research and Development Cluster – various CFDA numbers
 - Student Financial Assistance Cluster- 84.007, 84.033, 84.038, 84.063, 84.268
- h. Dollar threshold used to distinguish between Type A and Type B programs: **\$3,000,000**
- i. Auditee qualified as a low-risk auditee: **Yes**

2. Findings Relating to the Consolidated Financial Statements Reported in Accordance with Government Auditing Standards

None

3. Findings and Questioned Costs Relating to Federal Awards

None