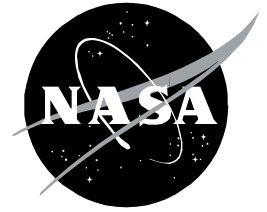


National Aeronautics and
Space Administration

Langley Research Center
Hampton, Virginia 23681-2199

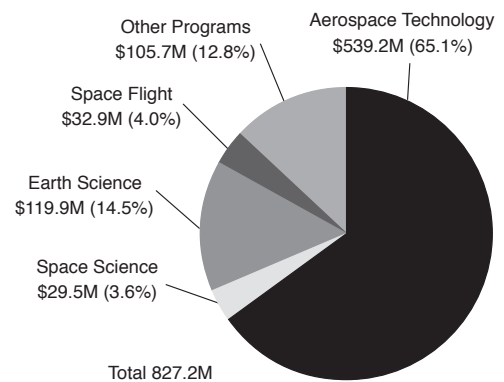


FS-2005-01-88-LaRC

Economic Impact Summary for Fiscal Year 2004

Building on a respected research foundation, Langley supports the NASA missions of exploration systems, aeronautics, science, and space operations. Langley contributes to the exploration of the Moon, Mars and beyond and making aircraft and the national air transportation system safer, more efficient, and more secure. Our science research is learning more about the atmosphere, and how human activities influence it, for a better understanding of global change. The NASA Engineering and Safety Center, which serves as an independent technical resource, is also located at Langley. The Center's influence extends beyond its technology contributions to being a solid financial contributor to the local, state, and national economy. For fiscal year 2004, the total direct and indirect impact was over \$2.61 billion.

Fiscal Year 2004 Research and Development Spending



Annual Budget

Fiscal Year	NASA, \$M	Langley, \$M	
		¹ NASA Center Sources	² All Sources
2000	13,600.0	606.0	630.5
2001	14,253.2	651.0	668.6
2002	14,901.7	720.2	751.0
2003	15,000.0	823.3	864.3
2004	15,378.0	782.3	827.1

¹Includes Langley Research Center programs funded from other Centers.

²Includes Langley Research Center programs funded from NASA HQ, other NASA Centers, industry, and government.

Obligations by Economic Sector

Economic Sector	Awards to—	\$M
National economy	Awards to—	
	Businesses.....	392.7
	Nonprofit institutions.....	62.6
	Educational institutions.....	50.0
Total to the Nation ¹		505.3
Virginia economy	Awards to—	
	Businesses.....	191.8
	Nonprofit institutions.....	48.6
	Educational institutions.....	11.4
Total to Virginia ²		251.8
Hampton Roads economy	Awards to—	
	Businesses.....	142.5
	Nonprofit institutions.....	42.1
	Educational institutions.....	8.9
Total to Hampton Roads.....		193.5

¹Intragovernmental or outside of U.S. obligations not included.

²Intragovernmental obligations not included.

Technology Transfer

Invention disclosures	163
Patent applications	20
Patents issued	17
Licenses executed	10
Space Act agreements	17
Interagency agreements	
Annex work tasks	12
Space Act agreements	13
Interagency agreements	14

Civil Service Skill Mix

Skill	Number of employees
Scientific/Engineering	1218
Administrative	416
Technical/Craft/Production	429
Clerical1	36

Civil Service Educational Mix

Education level	Number of employees
Doctoral	340
Professional Degree	(MD, JD, etc.)9
Master	549
Bachelor	618
Associate	377
Some college	190
High school diploma	112
Less than high school diploma	4

Center Property Information

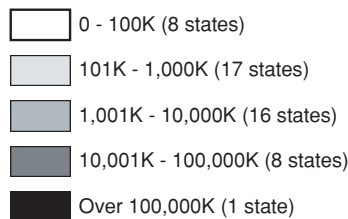
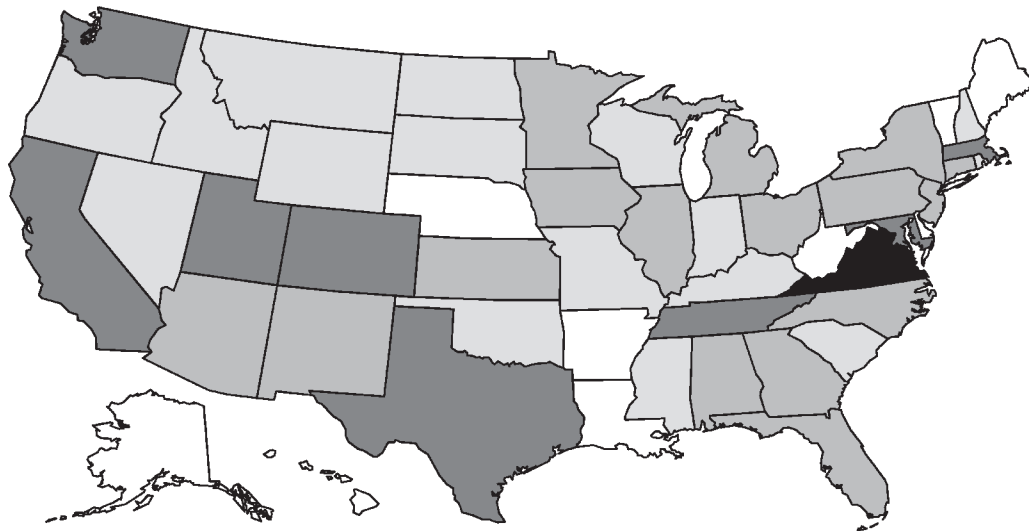
Area	808 acres ¹
Buildings	220
Original investment value	\$733,000,000
Current replacement value	\$4,153,000,000

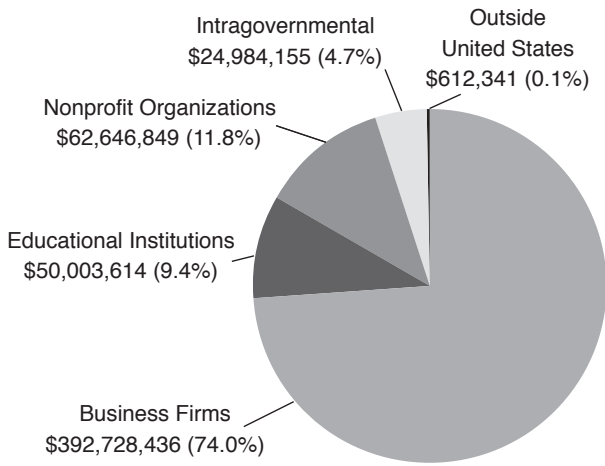
¹Includes 20 acres permitted by Langley Air Force Base.

Civil Service Residential Distribution

Locality	Number of employees
Yorktown area	587
Hampton	472
Newport News	360
Poquoson	229
Williamsburg area	168
Gloucester	93
Norfolk	58
Virginia Beach	36
Chesapeake	43
Suffolk	34
Portsmouth	14
Other	105

Distribution Summary of Obligations





Obligations per State

State	Dollars
Alabama	1,386,153
Alaska	0
Arizona	8,728,080
Arkansas	0
California	19,466,912
Colorado	13,196,239
Connecticut	2,505,067
Delaware	285,711
District of Columbia	3,018,078
Florida	3,740,151
Georgia	5,048,578
Hawaii	0
Idaho	206,463
Illinois	1,779,894
Indiana	544,861
Iowa	1,047,509
Kansas	3,247,029
Kentucky	303,173
Louisiana	29,497
Maine	4,280
Maryland	60,106,243
Massachusetts	16,242,153
Michigan	2,411,627
Minnesota	2,403,621
Mississippi	151,819
Missouri	418,211
Montana	811,249
Nebraska	5,770
Nevada	230,430
New Hampshire	532,813
New Jersey	7,577,536
New Mexico	1,403,584
New York	3,470,827
North Carolina	9,645,731
North Dakota	190,804
Ohio	4,208,709
Oklahoma	493,109
Oregon	649,373
Pennsylvania	8,110,232
Rhode Island	412,630
South Carolina	452,219
South Dakota	103,119
Tennessee	47,180,034
Texas	14,763,511
Utah	14,388,214

Vermont	24,607
Virginia	255,213,981
Washington	10,941,331
West Virginia	61,949
Wisconsin	677,115
Wyoming	103,815
Total	529,924,041

Top Obligations to Educational and Nonprofit Institutions

Institutions	Dollars
National Institute of Aerospace Associates	124,399,516
National Consortium for Aviation Mobility	113,737,235
Utah State University	13,535,990
Research Triangle Institute	16,197,841
Old Dominion University Research Foundation ¹	3,954,104
Hampton University	3,482,066
City of Hampton	13,389,152
Wichita State University	2,840,000
Texas A & M University	2,755,560
Georgia Tech Research Corporation	12,448,140
Princeton University	2,074,000
Harvard University	2,067,196
Christopher Newport University	1,941,456
Iowa State University	1,860,000
Norfolk State University	1,642,827
University of Virginia	1,443,614
MCNC	1,238,809
Georgia Tech Applied Research	11,196,888
Virginia Tech	1,054,079
George Washington University	953,603

¹Nonprofit institution

Top Obligations to Business Contractors

Business	Dollars
Science Applications Intl. Corp.	57,573,612
Sverdrup Technology	39,806,128
Swales Aerospace	34,568,406
Raytheon STX	27,207,628
Lockheed Martin Government Services	16,089,770
Dominion Virginia Power	13,165,998
Tessada and Associates	11,934,437
Unisys Corp.	7,966,421
Johnson Controls World Services	7,574,727
ASRC Aerospace	6,705,509
Ball Aerospace and Tech.	6,456,394
Applied Aerospace	6,440,731
Boeing Commercial Airplane Group	5,282,772
Evergreen Air Center	4,853,242
Analytical Mechanics Associates	4,841,373
Dyncorp Technical	4,537,103
Wyle Laboratories	4,479,052
Materials Research and Design	3,935,564
Boeing Company	2,632,020
Modern Machine and Tool	2,541,589
Dresser-Rand Product Services	2,532,740
Valador VA	2,495,191
Mainthia Technologies	2,378,648
Hernandez Engineering	2,063,201
Dyncorp Systems and Solutions	2,014,235

Economic Impact Study and Analysis for Fiscal Year 2004¹

Economic impact studies measure direct and indirect effects on an area's economy. Direct impact refers to an agency's spending on goods and services, its various sources of income, and employment level. Indirect impact is the effect of the agency's spending and employment level on other sectors of the economy through the multiplied impact of spending and job creation. The indirect impact is an estimate of the impact of various businesses and industries that depend on the respending of income and other expenditures generated

by an organization. NASA Langley is a very large economic generator. Its direct impact can therefore best be analyzed by evaluating its employment level, payroll budget, contract and grant spending, and research and development. The total economic impact is the combined effect of both direct and indirect effects on the local area in terms of total output, earnings, employment, and general economic growth.

As the table indicates, NASA Langley's total direct outlay of \$797,865,085 increases economic output in the region by a total of \$1,813,119,812 for a combined impact of over \$2.61 billion.

Output Spending Impact for Fiscal Year 2004

Category	Direct spending, \$K ²	Indirect impact, \$K
Engineering and business services	346,646	790,354
Payroll	242,144	561,775
Construction, new, repair, and maintenance	67,064	151,566
Colleges, universities, and schools	60,275	132,605
Equipment	41,860	95,022
Utilities 17,009	32,317	
Transportation (travel)	9,146	21,035
Health services	1,066	2,504
Miscellaneous services	12,655	25,943
Total	797,865	1,813,120
Total impact	2,610,984,897	

¹Prepared for NASA Langley Research Center by Dr. Marshall Booker, professor emeritus, Christopher Newport University, Newport News, VA.

²Funds from research partners included.