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(PART II) ON AN ANALYSIS OF THE ALLOCATION OF FEDERAL BUDGET RESOURCES AS AN INDICATOR OF NATIONAL GOALS AND PRIORITIES TO NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Leonard L. Lederman, et al

Battelle Memorial Institute
Columbus, Ohio

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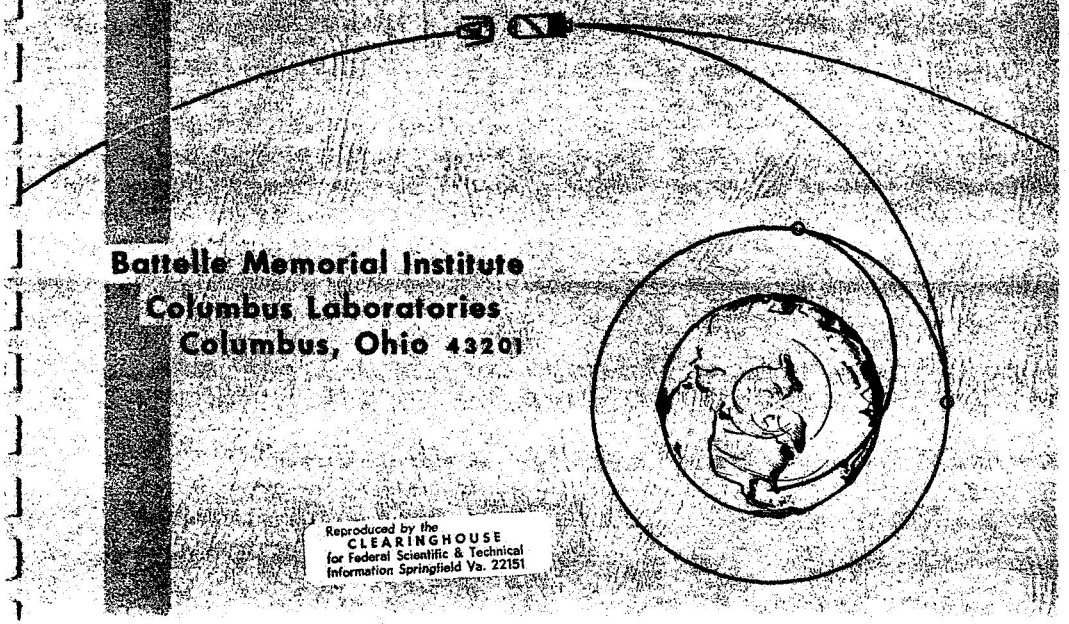

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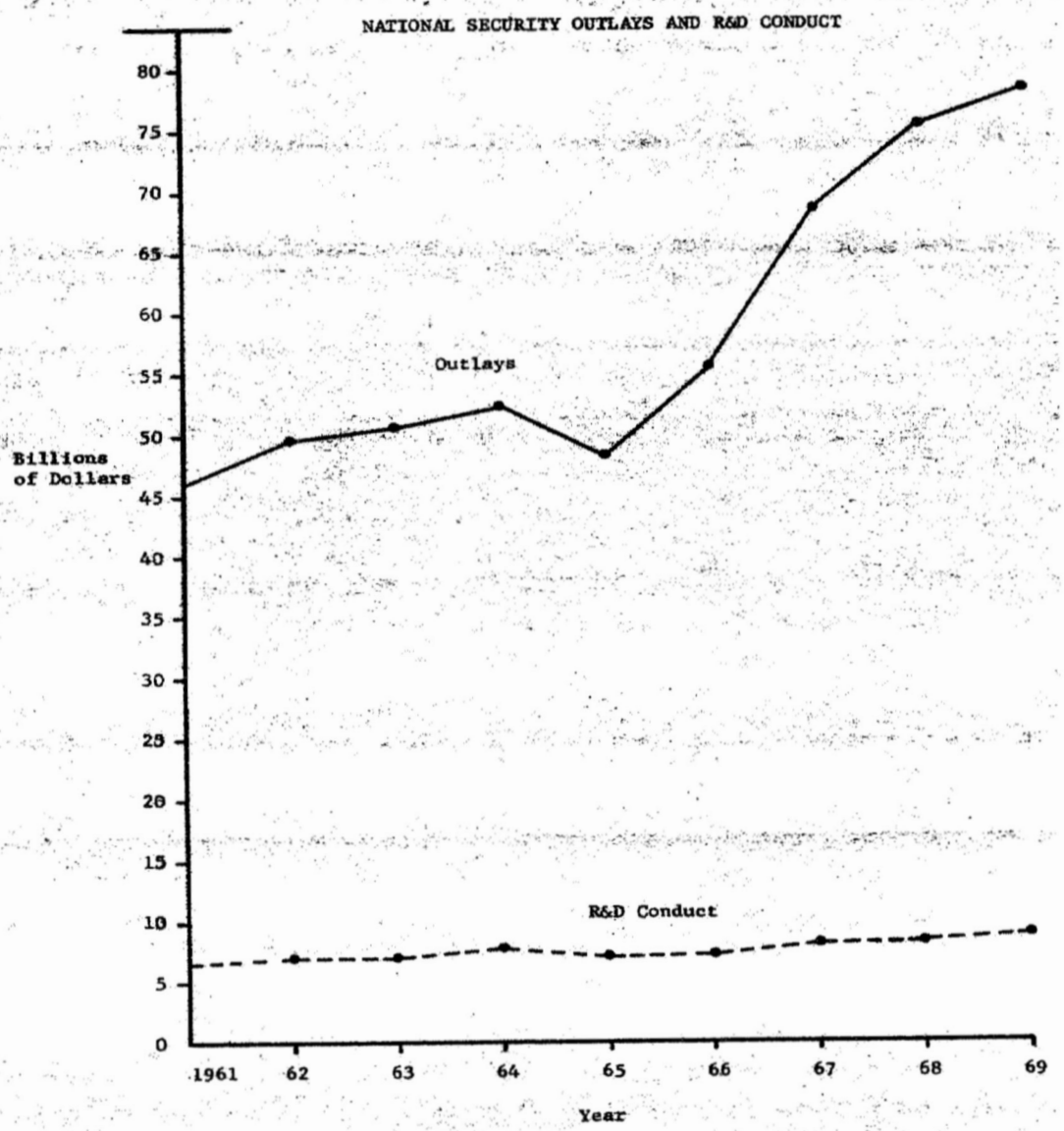
(PART II)
ON
AN ANALYSIS OF
THE ALLOCATION OF FEDERAL BUDGET RESOURCES
AS AN INDICATOR OF NATIONAL GOALS AND PRIORITIES
TO
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
UNDER
CONTRACT NUMBER NASw-1146
BY
LEONARD L. LEDERMAN AND MARGARET L. WINDUS
FEBRUARY 10, 1969

L. L. Lederman - Author

M. L. Windus - Author

Approved by: B. W. Davis
Director
NASA Launch Vehicle Planning Project

BATTELLE MEMORIAL INSTITUTE
Columbus Laboratories
505 King Avenue
Columbus, Ohio 43201



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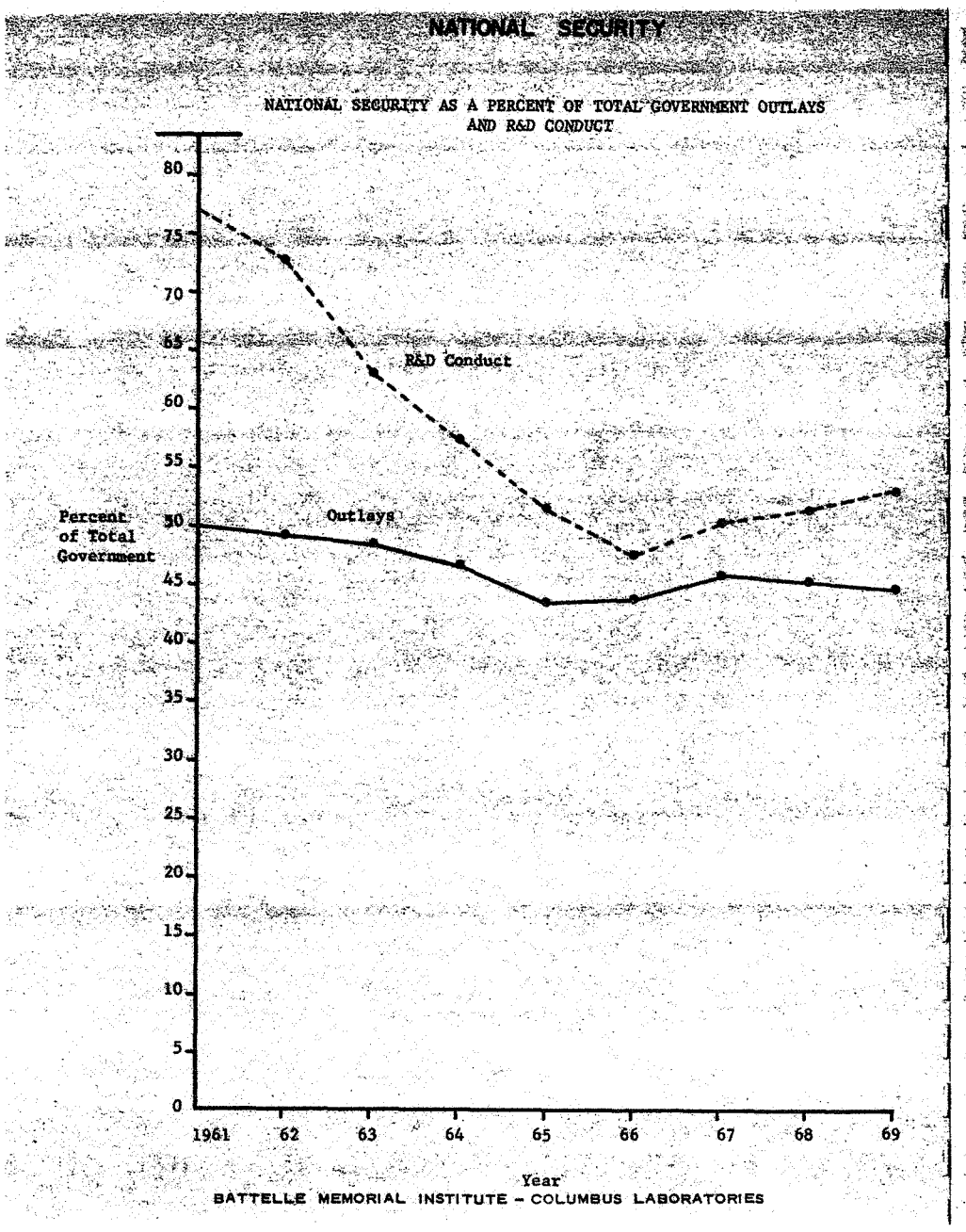

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CHAPTER III. NATIONAL SECURITY FUNCTIONAL FIELD

The Field as a Whole

The functional field of "National Security" or "National Defense" in the Budget includes programs "designed to preserve the freedom and territorial integrity of this Nation and its allies"(1)*. The field encompasses all programs of the Department of Defense (except the Army Corps of Engineers, which is under Natural Resources), including military assistance, atomic energy programs, and other "defense related activities" (e.g., stockpiling of strategic and critical materials, expansion of defense production, selective service systems, and emergency preparedness activities). This categorization has been modified to exclude the nonmilitary and space activities of the Atomic Energy Commission (AEC), which is estimated by AEC to be about one-half of AEC's expenditures(2), and to include the activities of the Arms Control and Disarmament Agency (ACDA). The field has been titled "National Security" here, although it is frequently referred to as "National Defense" or simply "Defense".

Responsibility for protecting and enhancing the national security of the United States was one of the earliest functions ascribed to the Federal Government and was incorporated in the Articles of Confederation and later the Constitution. This functional field is so uniquely a Federal responsibility and so generally accepted as such, that there is no need to dwell upon its historical development here or its contribution to the supergoal of National Security and International Relations. Despite general consensus on the Federal Government's unique role in national security, there have been wide swings in interpretation of how this role should be played, running the gamut from isolation to active international involvement. However, beginning with U.S. entry into World War II and continuing through the cold war, Korean conflict, and the current Vietnam War, the question of isolationism has died, with the focus of attention on how and to what extent to pursue national security interests and involvement.

As would be expected, because of the unique and long historic role of the Government in this field, frequent references are made to U.S. policies, goals, objectives, and programs in this area in Presidential messages, party platforms, and Congress. During the period 1959 to 1968, ten special Presidential messages were delivered to Congress on national security plus numerous other requests, appropriations, and policy pronouncements. In three of these years more than one special Presidential message on national security has been delivered to Congress, and supplemental appropriations, requests, etc., have become the rule rather than the exception. All three Presidents (Eisenhower, Kennedy, Johnson) during this period have sent special messages to the Congress dealing with this field on several occasions. There is little need to stress further the focus of attention all recent administrations, regardless of party, have placed on national security. Although the Presidential messages in this field articulate goals and plans and recommend programs, probably the most complete and definitive unclassified document covering this field is the annual "posture" statement of the Secretary of Defense. The statement by the former Secretary of Defense, Robert S. McNamara, dated January 22, 1968, covered "The Fiscal Years 1969-1973 Defense Program and The 1969 Defense Budget".(3) This statement, The Budget, and the fiscal tables, prepared by OASD (Comptroller), dated January 29, 1968, are the basis for much

*Superscript numbers denote References at the end of this Chapter.

of the material which follows, including the discussion of national security program areas.

Overall Goals and Resources Allocated

At the outset of his statement (page 3), former Secretary of Defense McNamara discussed the stability of the broad U.S. national security goals, despite greatly changed circumstances, as follows:

> "Thus, circumstances for which we must formulate our military policies have changed greatly from those of the early 1960s. But our goals remain the same. Fundamentally, what is at issue today – as it was a decade ago and as it will be a decade from now – is the kind of world in which we and others wish to live. When this Nation made the decision at the end of World War II to base its own security on the principle of collective defense, it was with the hope that there could be created, in accordance with the principles of the United Nations Charter, a world in which even the smallest state could look forward to an independent existence, free to develop in its own way, unmolested by its neighbors, and free of fear of armed attack or political domination by the more powerful nations.
>
> "Some years later, in a world already familiar with the gap between Communist promise and Communist reality – and with Communist aggression as well – we sought to achieve this same high purpose by aligning ourselves with other like-minded nations in a series of multilateral and bilateral mutual defense treaties. By the close of 1955, this system of interlocking alliances had grown to include the Rio Treaty in the Western Hemisphere, NATO in Europe, SEATO and ANZUS in the Far East and the bilateral mutual defense agreements with Korea, Japan, the Republic of China, and the Philippines – a total of some 40-odd sovereign nations bound together in an effort to defend their freedom and prevent the further extension of Communist influence and hegemony.
>
> "Looking back over the history of the last two decades, I believe it is fair to say that this system of alliances has substantially achieved its purpose. Although the record is less than perfect, the outward thrust of Soviet and Red Chinese aggression has been generally contained and the independence of even the smallest member of the alliances has been preserved. Beyond the immediate objective of these alliances, our adherence to a policy of collective defense has helped us to pursue our ultimate goal – the creation of a world order in which all states, small and large, aligned and unaligned, can preserve their independence and live in peace."

In terms of allocation of fiscal resources, National Security is clearly in first place; however, it is now closer to 45% of all Federal outlays compared with 50% in 1961, despite the increasing cost of the Vietnam War. Table II-2 in Chapter II shows outlays for the National Security field from 1961 to 1969, and the percent of total for each year. The highest percent was 50.0% in the first year (1961) with a steady decrease to 43.6% in 1965, a modest rise owing to Vietnam activities in 1967 (46.0%) and 1968 (45.2%), and an estimated 44.9% in the current fiscal year 1969. This decrease of 5.1%

of total Government outlays allocated to National Security from 1961 to 1969 occurred despite a growth in actual expenditures from $46.1 billion to $78.5 billion because of the faster relative growth of other fields.

National Security also ranks first in terms of R&D expenditures for the period of 1961 to 1969, but its relative position is declining. In 1961 National Security R&D expenditures were 77.0% of total Government R&D expenditures compared with a 1969 estimate of 53.1% – a decline of 23.9%. In terms of dollars, National Security R&D has increased from $6.7 billion in 1961 to $8.8 billion in 1969, but the overall increase in Government R&D, because of growth in other fields, has been much greater. Overall Government R&D funding has increased 89.7% between 1961 and 1969, while National Security R&D funding has increased 30.7% and, as a result, National Security R&D is a lower percent of total R&D although it is still more than half of total R&D.

In importance of R&D to its respective functional field, National Security is slightly higher than the Government average, but R&D is of less importance to the field in 1969 than in 1961. On the average, the Government allocated 9.5% of all outlays to R&D expenditures in both 1961 and 1969, but the National Security functional field allocated 14.6% of total outlays to R&D in 1961 and 11.2% in 1969.

Table III-1 presents a more detailed look at overall expenditures for National Security and shows actual 1967 and estimated 1968 and 1969 expenditures as given in the FY 1969 Budget broken down by major areas.

The Department of Defense (OASD Comptroller) has prepared a more detailed table, on a somewhat different basis, of comparative expenditures by function for selected fiscal years 1955-1969. These data are shown in Table III-2.

Table III-3 is a summary of active forces in terms of numbers rather than dollars and shows that the proposed FY 1969 Budget is designed to support a total active force strength of approximately 3.5 million men and women, a decrease of about 13,000 from 1968.

Department of Defense (DOD)

As the figures above show, overall DOD expenditures for military functions are estimated at $76.7 billion for FY 1969 – $3.0 billion more than estimated for 1968 and $9.2 billion more than in 1967. The 1968 and 1969 estimates do not include supplemental appropriations. The President's Budget states that funds requested for 1969 "... will cover all currently anticipated defense requirements for the fiscal year, including the possibility of a continuation of combat in Vietnam beyond this period. However, plans have been made for an orderly decline in defense production whenever combat ends".(4) Despite this statement, events since submission of the President's Budget requests, and the history of the past few years, indicate the likelihood of supplemental requests.

Of the total proposed increase in military expenditures between 1968 and 1969, The Budget states, "$1.3 billion is for special Vietnam support and $1.7 billion is to meet continuing defense requirements. The increase in expenditures, aside from Vietnam, is principally attributable to increases in military and civilian pay, and selective improvements in our strategic and general purpose forces".(4)

TABLE III-1. NATIONAL SECURITY OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Department of Defense – military			
Military personnel			
Present programs	$19,787	$21,800	$22,770
Proposed legislation	--	--	23
Operation and maintenance			
Present programs	19,000	19,800	22,213
Proposed legislation	--	--	47
Procurement	19,012	21,470	23,445
Research, development, test, and evaluation	7,160	7,200	7,800
Military construction	1,536	1,565	1,450
Family housing	482	520	570
Civil defense	100	93	89
Revolving and management funds and other	512	1,402	-1,608
Military trust funds	20	10	7
Subtotal, Department of Defense – military	$67,466	$73,694	$76,658
Military assistance			
Grants and credit sales			
Present programs	873	550	519
Proposed legislation	--	--	6
Trust fund[a]	-8	-25	-70
Atomic energy[a, b]	1,132	1,167	1,273
Defense-related activities			
Stockpiling of strategic and critical materials (GSA)	19	19	23
Expansion of defense production (App. to Pres.)	-102	22	146
Selective Service System (SSS)	58	61	64
Emergency preparedness activities (Exec. Off. and HEW)	11	12	8
ACDA	9	10	9
Interfund and intragovernmental transactions (-)	(-7)	(-7)	(-7)
Applicable receipts from the public[a] (-)	-487	-178	-108
Subtotal, expenditures	$68,973	$75,333	$78,529
Net Lending	-3	-2	-4
Total Outlays	$68,970	$75,330	$78,525

Source: Edited excerpts from The Budget.

(a) Relevant "Interfund and intragovernmental transactions" and "Applicable receipts from the public" have been deducted to arrive at totals.

(b) Includes both Federal funds and Trust funds.

TABLE III-2. DEPARTMENT OF DEFENSE ORDER-OF-MAGNITUDE DATA ON COMPARATIVE EXPENDITURES BY FUNCTIONAL TITLE, SELECTED FISCAL YEARS 1956-1969

Millions of Dollars

Functional Classification	FY 1956	FY 1957	FY 1958	FY 1959	FY 1960	FY 1961	FY 1962	FY 1963	FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969
Military Personnel														
Active Forces	10,643	10,384	10,545	10,651	10,651	11,386	12,682	14,407	17,054	18,850	19,023			
Reserve Forces	341	514	616	648	599	725	755	902	990	905				
Retired Pay	419	511	641	786	1,015	1,384	1,591	1,830	2,060	2,265				
Total	11,403	11,409	11,801	12,085	12,000	14,771	16,763	18,787	21,800	22,793				
Operation and Maintenance	7,931	9,487	10,378	10,611	11,874	12,349	14,710	19,000	19,800	22,260				
Subtotal - Operations	19,334	20,896	22,179	22,696	24,874	27,120	31,463	38,787	41,600	45,053				
Procurement														
Aircraft	8,804	8,647	7,730	5,898	6,399	6,090	6,635	8,411	9,368	8,935				
Missiles	604	1,855	3,337	2,972	3,817	2,096	2,069	1,980	2,124	2,670				
Ships	944	842	1,491	1,801	2,622	1,713	1,479	1,398	1,170	1,651				
Tracked Combat Vehicles	(b)	(b)	(b)	(b)	(b)	236	202	274	494	380				
Ordnance, Vehicles and Related Equipment	1,191	674	399	676	1,665	1,073	1,697	3,978	5,045	6,380				
Electronics and Communications	443	704	720	1,042	1,427	897	983	1,284	1,380	1,392				
Other Procurement	854	767	730	706	891	625	1,273	1,737	1,888	2,036				
Total	12,838	13,488	14,409	13,095	16,632	11,839	14,339	19,012	21,470	23,445				
Research, Development, Test and Evaluation	2,261	2,406	2,866	6,131	6,376	6,236	6,259	7,160	7,200	7,800				
Military Construction	1,715	1,958	1,948	1,605	1,144	1,007	1,334	1,536	1,565	1,450				
Family Housing	--	--	--	--	427	619	647	492	520	570				
Civil Defense	(a)	-1	(a)	(a)	203	93	86	100	93	89				
Special Foreign Currency Program	--	--	--	--	--	--	--	--	2	6				
Working Capital Accounts	-611	-323	-170	-300	-1,401	-741	281	512	1,406	-1,614				
Military Assistance	2,282	2,362	2,340	1,449	1,721	1,229	908	873	550	525				
Receipts and Funds Transactions	(c)	(c)	(c)	(c)	(c)	(c)	(c)	-130	-180	-211				
Total - Department of Defense	37,823	40,788	43,563	44,676	48,973	47,401	55,377	68,331	74,219	77,113				
Department or Agency														
Department of the Army	8,901	9,063	9,457	10,130	11,489	11,000	14,832	20,961	23,988	24,869				
Department of the Navy	9,732	10,397	11,720	12,214	14,005	13,399	16,028	19,246	20,801	22,014				
Department of the Air Force	16,465	18,361	19,083	19,785	20,642	18,216	20,131	22,918	24,582	25,447				
Defense Agencies/OSD	494	616	953	1,098	1,905	2,665	3,335	4,241	4,230	4,169				
Civil Defense	(a)	-1	(a)	(a)	203	93	86	100	93	89				
Military Assistance (d)	2,282	2,352	2,340	1,449	1,721	1,229	908	865	625	455				
Total - Department of Defense	37,823	40,788	43,563	44,676	48,973	47,401	55,377	68,331	74,219	77,113(e)				

Source: Office of the Assistant Secretary of Defense (Comptroller), January 20, 1968.

(a) Less than $500,000.

(b) Amount included in entry for "Ordnance, Vehicles and Related Equipment".

(c) Data for receipts and funds transactions (applied to expenditures in the FY 1969 Budget presentation) have not yet been compiled and reflected in totals for FY 1966 and prior years.

(d) Amounts shown for FY 1967 to 1969 include the applicable portion of "Receipts and Funds Transactions" itemized separately in the functional classification section above.

(e) Includes $70 million for proposed legislation not distributed by Department or Agency.

TABLE III-3. SUMMARY OF ACTIVE FORCES

Description	Actual, June 30, 1967	Estimated June 30, 1968	Estimated June 30, 1969
Military personnel, in thousands			
Army	1,442	1,536	1,508
Navy	752	768	795
Marine Corps	285	302	306
Air Force	897	884	868
Total, Department of Defense	3,376	3,490	3,477
Selected military forces			
Strategic forces			
Intercontinental ballistic missile squadrons			
Minuteman	20	20	20
Titan	6	6	6
Polaris submarines/missiles, in commission	41/656	41/656	41/656
Strategic bomber wings			
B-52	12	11	10
B-58	2	2	2
Manned fighter interceptor squadrons	28	26	19
Bomarc interceptor missile squadrons	6	6	6
Army air defense missile battalions	18	18	18
General purpose forces			
Army divisions	17	19	19
Army maneuver battalions	201	212	212
Army aviation units	183	218	234
Army special forces groups	7	7	7
Warships (in commission)			
Attack carriers	15	15	15
Antisubmarine warfare carriers	8	8	8
Nuclear attack submarines	28	36	44
Other	327	320	309
Amphibious assault ships (in commission)	162	157	166
Carrier air groups (attack and antisubmarine)	27	27	25
Marine Corps divisions/aircraft wings	4/3	4/3	4/3
Air Force tactical forces squadrons	126	136	138
Airlift and sealift forces			
Airlift aircraft squadrons			
C-130 through C-141	44	44	43
C-124 and C-7	16	14	11
Troopships, cargo ships, and tankers	130	130	130
Addenda			
Active aircraft inventory, all programs			
Army	9,490	10,671	11,464
Navy	8,417	8,942	8,606
Air Force[a]	15,017	15,127	15,044
Helicopters included in service aircraft, above	8,902	10,519	12,486
Commissioned ships in fleet, all programs	931	936	960

Source: The Budget, FY 1969, p 84.

(a) Includes aircraft provided for support of allies.

Support of Vietnam

Because of the critical importance of the Vietnam War (expenditures are more than 30% of National Security) to the current allocation of resources to the National Security functional field, it is useful to look at Vietnam data separately. Table III-4 shows the budget expenditures directly attributable to Vietnam activities (including economic assistance expenditures, which are shown here to complete the Vietnam picture, but which are included in the International Relations functional field in this analysis and in The Budget).

TABLE III-4. ESTIMATED EXPENDITURES FOR SPECIAL SUPPORT OF VIETNAM OPERATIONS

Millions of Dollars

Fiscal Year	Defense Expenditures, excluding Vietnam	Special Vietnam Expenditures: Defense	Special Vietnam Expenditures: Economic Assistance	Special Vietnam Expenditures: Total
1965	$46,070	$ 103	$ --	$ 103
1966	48,597	5,812	282	6,094
1967	47,333	20,133	424	20,557
1968	49,163	24,531	458	24,989
1969	50,874	25,784	480	26,264

Source: The Budget, p 83.

Expenditures for special Vietnam support include amounts related to "ammunition and supplies in the theatre of operations, attrition of aircraft and other equipment, the manpower necessary to support the combat effort, and the support of free world forces in Vietnam". (4)

While it is clear from the above figures that there has been a substantial reallocation of defense expenditures toward special Vietnam operations, Table III-5 shows that deployments of military personnel to Southeast Asia "which are now leveling off, have not been achieved at the expense of forces for other missions". (4)

TABLE III-5. TOTAL MILITARY PERSONNEL AND DEPLOYMENTS TO SOUTHEAST ASIA

Thousands of Personnel

Date	Total Military Personnel	Military Personnel in Southeast Asia
June 30, 1964	2,685	21
June 30, 1965	2,653	103
June 30, 1966	3,092	322
June 30, 1967	3,376	529
December 31, 1967, estimate	3,400	568

Source: The Budget, p 83.

Major Mission-Oriented Programs

For planning and allocation purposes the resources of the Department of Defense are summarized and reviewed in terms of "major mission-oriented programs" in The Budget and the annual statement of the Secretary of Defense. This pattern for disaggregating DOD efforts will be followed here as most meaningful, although it differs somewhat in arrangement from the information discussed above. The funding for these major mission-oriented program areas are summarized in Table III-6 in terms of total obligational authority (TOA, which includes the new obligational authority enacted by the Congress each year, plus the obligational authority granted in earlier years and still available). Following Table III-6 is a brief description of each of the major mission-oriented program areas and currently planned efforts. While the broad goals and objectives in National Security have been fairly stable over the last 10 years or so, as discussed earlier, program areas, as would be expected, have varied widely and frequently. The subsections which summarize the elements that make up the National Security functional field concentrate on the most recent period because of limitations of time and space, as well as practicality. This functional field is so responsive to what potential adversaries do or are capable of doing that longer historical reviews of program areas have limited utility.

TABLE III-6. SUMMARY OF THE DEPARTMENT OF DEFENSE BUDGET PROGRAM FOR FISCAL YEARS 1967, 1968, AND 1969

Billions of Dollars

Major Military Programs	Total Obligational Authority 1967 Actual	1968 Estimated	1969 Estimated
Strategic Forces	$ 6.9	$ 7.9	$ 9.6
General Purpose Forces	32.7	32.6	35.2
Intelligence and Communications	5.3	5.7	6.3
Airlift and Sealift	1.9	1.9	1.8
Guard and Reserve Forces	2.7	2.7	3.0
Research and Development	4.8	4.6	5.1
Central Supply and Maintenance	7.1	7.1	7.3
Training, Medical, and Other General Personnel Activities	8.5	9.4	9.8
Administration and Associated Activities	1.5	1.6	1.7
Military Assistance Funded by Department of Defense	1.6	1.6	2.1
Subtotal	$72.9	$75.0	$81.9
Adjustment for Retired Pay Accrual	-0.4	-0.3	-0.1
Total Obligational Authority	$72.5	$74.7	$81.8
Of Which:			
New Obligational Authority	72.3	72.8	79.1
Prior Year Funds	0.1	1.8	2.5
Other Financial Adjustments	0.1	0.1	0.2

Source: The Budget, p 85.

Strategic Forces. Strategic forces are designed to constitute a deterrent to nuclear aggression against the United States and its allies. To accomplish this goal the objective has been the creation and maintenance of varied, reliable, and credible strategic forces capable of withstanding surprise attacks and retaliating with sufficient power to "destroy as a viable society any aggressor or combination of aggressors."(4)

The President's FY 1969 Budget requested total obligational authority of $9.6 billion for this program area as compared with $7.9 billion in 1968. This increase (+22%) is primarily for the deployment of Sentinel and large procurements of Minuteman and Poseidon missiles.

At the end of 1968, strategic forces were estimated (in The Budget, page 85)(4) to include more than 1,050 land-based ICBMs, 41 nuclear submarines capable of carrying 656 missiles, more than 600 manned bombers, 26 fighter interceptor squadrons, 6 Bomarc interceptor missile squadrons, 18 air defense missile battalions, and extensive warning/control systems. Plans to enhance strategic capabilities include:

- Penetration aids and multiple warheads capable of being directed to separate targets for Minuteman and Poseidon systems
- Continued conversion of nuclear submarines from Polaris to Poseidon missiles (increase in payload by factor of 2) and conversion of Minuteman I to improved Minuteman II
- Procure additional FB-111 manned bombers and improved short-range strategic missiles for the FB-111 and some B-52 bombers
- Proceed with procurement of the Sentinel missile defense system "to meet the threat posed by the emerging Chinese nuclear capability"(4)
- Start revamping of the air defense system to eventually include a new airborne warning/control system and an improved interceptor.

General Purpose Forces. General purpose forces are tactical forces designed to deter nonnuclear military threats. Most of the forces in being and about 43.0% of DOD's funding are devoted to this mission. Total obligational authority for FY 1969 is estimated at $35.2 billion compared with $32.6 billion in 1968 – an expected increase of 8.0%. "Funds provided in this budget will further augment firepower, mobility, and readiness of our general purpose forces and replenish the munitions, supplies, and equipment consumed in Vietnam".(4) Active forces are expected to include 19 Army divisions and 4 Marine divisions plus supporting elements and more helicopters to enhance flexibility.

Navy forces in this program area are to be increased by the procurement of a number of new ships and the conversion of others. Procurement actions planned include:

- Long-lead-time items for the third nuclear attack carrier and two nuclear guided missile destroyers
- Two nuclear attack submarines and the first five destroyers of a new type
- A new type multipurpose assault ship for amphibious operations.

Additions to antisubmarine warfare capabilities include more effective sensors and torpedos, modernization of land-based air patrol squadrons, and development of a new carrier-based aircraft. Fleet air defense actions planned include procurement of the more reliable, versatile, and faster reacting Standard missile to replace the Tartar and Terrier missiles.

Replacement of aircraft will be lower than anticipated as a result of "a lower-than-expected"(4) aircraft loss rate in Vietnam. Procurement for tactical air forces will include:

- A-7 attack aircraft and advanced F-111 fighters
- A-6 all weather bomber for the Navy and Marine Corps
- F-4 fighters for Army, Navy, and Air Force
- A-37 attack aircraft for Special Air Warfare
- Forces to react quickly to emerging threats.

Intelligence and Communications. Intelligence and Communications include communications, general space support systems, intelligence, security, weather service, and oceanography. Total obligational authority is estimated in The Budget at $6.3 billion for FY 1969, compared with $5.7 billion in 1968 – an 11.0% increase. The increase is designed to take advantage of improvements in advanced command and communications systems.

Airlift and Sealift. Airlift and Sealift, which include transport and troop carrier aircraft, troop and cargo ships, and stocks of equipment prepositioned overseas, are designed to move large forces rapidly and supply them in sustained combat at great distances. Total obligational authority is estimated at $1.8 billion for FY 1969 compared with $1.9 billion for 1968. Procurement action planned includes:

- Continued acquisition of the giant C-5A air transport
- The first four new fast-deployment logistics ships
- The new C-9A aircraft to enhance medical evacuation operations.

Guard and Reserve Forces. Guard and Reserve Forces are designed to provide trained and equipped units capable of rapidly reinforcing regular forces in an emergency. Total obligational authority is estimated at $3.0 billion for FY 1969 compared with $2.7 billion in 1968 – an 11.0% increase. Planned paid drill training strength is expected to be 660,000 for the Army, 126,000 for the Navy, 132,000 for the Air Force, and 48,000 for the Marines.

Research and Development (R&D). R&D supports research activities and finances the development costs of new systems yet to be approved for operational use. As used by the DOD, this major mission-oriented categorization excludes R&D for systems already approved for procurement and places such activities in the mission-oriented

program (e.g., R&D in connection with the Sentinel system is funded under the Strategic forces program). However, because of the special interest in R&D associated with this analysis, all National Security R&D programs, including those on approved systems, have been reviewed in greater detail and placed in the Appendix. The reader is referred to Appendix III-A for more detailed information and data on R&D programs with the caution that the figures in the Appendix are not comparable to the figures shown in this section.

Total obligational authority for R&D associated with systems not approved for procurement is estimated at $5.1 billion for FY 1969, which is an increase of $0.5 billion over 1968. Major emphasis in 1969 will be on:

- Reducing the vulnerability of retaliatory weapons
- Developing more advanced antiballistic missile and strategic surveillance capabilities
- Designing or developing the next generation of tactical aircraft (e.g., new fighter aircraft and their weapons, an antisubmarine aircraft, a light transport)
- Improvements in air and sea mobility, firepower, surveillance, and command and control in land combat systems, especially those applicable to counterinsurgency
- New capabilities in air defense for ground and sea forces
- Initiation of work on a new class of escort ships
- Continued development of the manned orbiting laboratory (MOL)
- R&D on satellite communications, improved launch vehicles and rocket engines, enhanced capabilities for nuclear test detection, and early warning of missile launches.

Central Supply and Maintenance. Central Supply and Maintenance involves the management of the supply and maintenance of military equipment. Total obligational authority for this program is estimated at $7.3 billion in FY 1969 compared with $7.1 billion in 1968.

Training, Medical, and Other General Personnel Activities. These include the operation of general hospitals, basic and specialized training, travel and transportation for permanent change of station, debt-service payments on family housing, and homeowners assistance. Total obligational authority for these activities is estimated to rise to $9.8 billion in FY 1969 compared with $9.4 billion in 1968, primarily because of increases in pilot and other specialized training, and higher medical costs.

Relatively new and special efforts to expand opportunities of those who serve in the Armed Forces include:

- Elimination of housing discrimination against military personnel and their families
- Extension of "Project 100,000" designed to enable individuals with correctable educational and physical handicaps to become servicemen by providing intensive military instruction, practical training, and medical care
- "Project Transition" has been initiated to permit personnel leaving service to better prepare for civilian life by providing counseling, skill enhancement, education, and job placement.

Military Assistance. This program finances grants and credit sales for military equipment for other countries when it is considered to be in the interest of the United States to do so. Total obligational authority is estimated at $2.1 billion for FY 1969 compared with $1.6 billion in 1968. First priority is being accorded to the "forward defense" countries on the periphery of Communist areas.

Atomic Energy Commission (AEC)

The two AEC program areas relevant to National Security are nuclear materials (also relevant to nonmilitary interests) and military applications. As stated earlier, AEC estimates its military activities account for one-half of total expenditures. On this basis, such activities would account for approximately $1.3 billion of total estimated expenditures in FY 1969.

Nuclear Material

Nuclear material costs for the procurement of raw uranium concentrates are expected to decline further in 1969 as a result of decreased unit costs. Further reductions in plutonium requirements for military purposes resulted in the shutdown of two of the nine operating production reactors in the latter half of FY 1968.

Military Applications

Military applications primarily include AEC's nuclear weapons and naval reactors programs. Largely as a result of the deployment of the Sentinel and antiballistic missile system, expenditures on this program will increase substantially in FY 1969.

Arms Control and Disarmament Agency (ACDA)

ACDA was established in September, 1961, and is responsible for:

- The conduct, support, and coordination of research for arms control disarmament policy formulation

- The preparation for and management of United States participation in international negotiations in the arms control and disarmament field
- The dissemination and coordination of public information concerning arms control and disarmament
- The preparation for, operation of, or, as appropriate, direction of United States participation in such international control systems as agreed to under treaty arrangements.

ACDA's program activities are carried out through four bureaus – International Relations Bureau, Weapons Evaluation and Control Bureau, Science and Technology Bureau, and Economics Bureau. While ACDA could appropriately be classified under the International Relations functional field, the broadening of National Defense to the National Security functional field for this analysis suggests that it more appropriately fits in with National Security although also contributing importantly to International Relations.

Estimated expenditures for ACDA in FY 1969 are expected to be $9.0 million as compared with $10.0 million in 1968. The issue of nuclear nonproliferation, and the treaty under consideration, is expected to continue to receive priority attention in 1969. Attention will also be directed to cutoff of fissionable materials production, conventional arms, Communist China and arms control and nonarmament (e.g., Latin American Nuclear Free Zone Treaty, Antarctic Treaty, Outer Space Treaty, arms control measures for the seabed, chemical and biological weapons, and the impact of reduced defense expenditures).

Party Platforms

Because of the timeliness of the two major party platforms to this discussion of national goals, sections relevant to National Security are reproduced below. Although such platform statements rarely address themselves to priorities when all objectives cannot be met with available resources, they do provide an interesting indication of the interests, similarities, and differences of the two major political parties as of the summer of 1968.

Democratic Platform

Toward a Peaceful World. In the pursuit of our national objectives and in the exercise of American power in the world, we assert that the United States should:

- Continue to accept its world responsibilities – not turn inward and isolate ourselves from the cares and aspirations of mankind;
- Seek a world of diversity and peaceful change, where men can choose their own governments and where each nation can determine its own destiny without outside interference;

- Resist the temptation to try to mold the world, or any part of it, in our own image, or to become the self-appointed policeman of the world;
- Call on other nations, great and small, to contribute a fair share of effort and resources to world peace and development;
- Honor our treaty obligations to our allies;
- Seek always to strengthen and improve the United Nations and other international peacekeeping machinery and arrangements and meet breaches or threateneed breaches of the peace according to our carefully assessed interests and resources;

In pursuing these objectives, we will insure that our policies will be subject to constant review so they reflect our true national interests in a changing world.

National Defense. The tragic events in Czechoslovakia are a shocking reminder that we live in a dangerous and unpredictable world. The Soviet attack on and invasion of a small country that only yesterday was Moscow's peaceful ally, is an ominous reversal of the slow trend toward greater freedom and independence in Eastern Europe. The reimposition of Soviet tyranny raises the spectre of the darkest days of the Stalin era and increases the risk of war in Central Europe, a war that could become a nuclear holocaust.

Against this somber backdrop, whose full portent cannot now be seen, other recent Soviet military moves take on even greater significance. While we have a significant lead in military strength and in all vital areas of military technology, yet Moscow has steadily increased its strategic nuclear arsenal, its missile-firing nuclear submarine fleet, and its anti-missile defenses. Communist China is providing political and military support for so-called wars of national liberation. A growing nuclear power, Peking has disdained all arms control efforts.

We must and will maintain a strong and balanced defense establishment adequate to the task of security and peace. There must be no doubt about our strategic nuclear capability, our capacity to meet limited challenges, and our willingness to act when our vital interests are threatened.

To this end, we pledge a vigorous research and development effort. We will also continue to pursue the highly successful efforts initiated by Democratic administrations to save tax dollars by eliminating waste and duplication.

We face difficult and trying times in Asia and in Europe. We have responsibilities and commitments we cannot escape with honor. But we are not alone. We have friends and allies around the world. We will consult with them and ask them to accept a fair share of the burdens of peace and security.

North Atlantic Community. The North Atlantic Community is strong and free. We must further strengthen our ties and be constantly alert to new challenges and opportunities. We support a substantially larger European contribution to NATO.

Soviet troops have never stepped across the border of a NATO country. By harassment and threat the Kremlin has repeatedly attempted to push the West out of Berlin. But West Berlin is still free. Western Europe is still free. This is a living tribute to the strength and validity of the NATO alliance.

The political differences we have had with some of our allies from time to time should not divert us from our common task of building a secure and prosperous Atlantic community based on the principles of mutual respect and mutual dependence. The NATO alliance has demonstrated that free nations can build a common shield without sacrificing their identity and independence.

Arms Control. We must recognize that vigilance calls for the twin disciplines of defense and arms control. Defense measures and arms-control measures must go hand in hand, each serving national security and the larger interests of peace.

We must also recognize that the Soviet Union and the United States still have a common interest in avoiding nuclear war and preventing the spread of nuclear weapons. We also share a common interest in reducing the cost of national defense. We must continue to work together. We will press for further arms control agreements, insisting on collective safeguards against violations.

For almost a quarter of a century America's pre-eminent military strength, combined with our political restraint, has deterred nuclear war. This great accomplishment has confounded the prophets of doom.

Eight years ago the Democratic Party pledged new efforts to control nuclear weapons. We have fulfilled that pledge. The new Arms Control and Disarmament Agency has undertaken and coordinated important research. The sustained initiatives of President Kennedy and President Johnson have resulted in the "hot line" between the White House and the Kremlin, the limited Nuclear Test Ban Treaty, the Non-Proliferation Treaty, and the treaty barring the orbiting of weapons of mass destruction.

Even in the present tense atmosphere, we strongly support President Johnson's effort to secure an agreement with the Soviet Union under which both states would refrain from deploying anti-missile systems. Such a treaty would result in the saving of billions of dollars and would create a climate for further arms control measures. We support concurrent efforts to freeze the present level of strategic weapons and delivery systems, and to achieve a balanced and verified reduction of all nuclear and conventional arms.

The Middle East. The Middle East remains a powder keg. We must do all in our power to prevent a recurrence of war in this area. A large Soviet fleet has been deployed to the Mediterranean. Preferring short-term political advantage to long-range stability and peace, the Soviet Union has rushed arms to certain Arab states to replace those lost in the Arab-Israeli War of 1967. As long as Israel is threatened by hostile and well-armed neighbors, we will assist her with essential military equipment needed for her defense, including the most advanced types of combat aircraft.

Lasting peace in the Middle East depends upon agreed and secured frontiers, respect for the territorial integrity of all states, the guaranteed right of innocent passage through all international waterways, a humane resettlement of the Arab refugees, and the

establishment of a non-provocative military balance. To achieve these objectives, we support negotiations among the concerned parties. We strongly support efforts to achieve an agreement among states in the area and those states supplying arms to limit the flow of military equipment to the Middle East.

We support efforts to raise the living standards throughout the area, including desalinization and regional irrigation projects which cut across state frontiers.

Vietnam and Asia. Our most urgent task in Southeast Asia is to end the war in Vietnam by an honorable and lasting settlement which respects the rights of all the people of Vietnam. In our pursuit of peace and stability in the vital area of Southeast Asia we have borne a heavy burden in helping South Vietnam to counter aggression and subversion from the North.

We reject as unacceptable a unilateral withdrawal of our forces which would allow that aggression and subversion to succeed. We have never demanded, and do not now demand, unconditional surrender by the Communists.

We strongly support the Paris talks and applaud the initiative of President Johnson which brought North Vietnam to the peace table. We hope that Hanoi will respond positively to this act of statesmanship.

In the quest for peace no solutions are free of risk. But calculated risks are consistent with the responsibility of a great nation to seek a peace of reconciliation.

Recognizing that events in Vietnam and the negotiations in Paris may affect the timing and the actions we recommended, we would support our Government in the following steps:

- Bombing – Stop all bombing of North Vietnam when this action would not endanger the lives of our troops in the field; this action should take into account the response from Hanoi.
- Troop Withdrawal – Negotiate with Hanoi an immediate end or limitation of hostilities and the withdrawal from South Vietnam of all foreign forces – both United States and allied forces, and forces infiltrated from North Vietnam.
- Election of Postwar Government – Encourage all parties and interests to agree that the choice of the postwar government of South Vietnam should be determined by fair and safeguarded elections, open to all major political factions and parties prepared to accept peaceful political processes. We would favor an effective international presence to facilitate the transition from war to peace and to assure the protection of minorities against reprisal.
- Interim Defense and Development Measures – Until the fighting stops, accelerate our efforts to train and equip the South Vietnamese army so that it can defend its own country and carry out cutbacks of U.S. military involvement as the South Vietnamese forces are able to take over their larger responsibilities. We should simultaneously do all in our power to support and encourage further economic, political and social development

and reform in South Vietnam, including an extensive land reform program. We support President Johnson's repeated offer to provide a substantial U.S. contribution to the post-war reconstruction of South Vietnam as well as to the economic development of the entire region, including North Vietnam. Japan and the European industrial states should be urged to join in this post-war effort.

For the future, we will make it clear that U.S. military and economic assistance in Asia will be selective. In addition to considerations of our vital interests and our resources, we will take into account the determination of the nations that request our help to help themselves and their willingness to help each other through regional and multilateral cooperation.

We want no bases in South Vietnam; no continued military presence and no political role in Vietnamese affairs. If and when the Communists understand our basic commitment and limited goals and are willing to take their chances, as we are, on letting the choice of the post-war government of South Vietnam be determined freely and peacefully by all of the South Vietnamese people, then the bloodshed and the tragedy can stop.

Asia. Japan, India, Indonesia, and most of the smaller Asian nations are understandably apprehensive about Red China because of its nuclear weapons, its support of subversive efforts abroad, and its militant rhetoric. They have been appalled by the barbaric behavior of the Red Guards toward the Chinese people, their callous disregard for human life and their mistreatment of foreign diplomats.

The immediate prospects that China will emerge from its self-imposed isolation are dim. But both Asians and Americans will have to coexist with the 750 million Chinese on the mainland. We shall continue to make it clear that we are prepared to cooperate with China whenever it is ready to become a responsible member of the international community. We would actively encourage economic, social and cultural exchange with mainland China as a means of freeing that nation and her people from their unhealthy isolation.

We support continued assistance to help maintain the independence and peaceful development of India and Pakistan.

Recognizing the growing importance of Asia and the Pacific, we will encourage increased cultural and educational efforts, such as those undertaken in multi-racial Hawaii, to facilitate a better understanding of the problems and opportunities of this vast area.

Republican Platform

Our best hope for enduring peace lies in comprehensive international cooperation. We will consult with nations that share our purposes. We will press for their greater participation in man's common concerns and encourage regional approaches to defense, economic development, and peaceful adjustments of disputes.

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No longer will foreign aid activities range free of our foreign policy. Nations hostile to this country will receive no assistance from the United States. We will not provide aid of any kind to countries which aid and abet the war efforts of North Vietnam.

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In the tinderbox of the Middle East we will pursue a stable peace through recognition by all nations of each other's right to assured boundaries, freedom of navigation through international waters, and independent existence free from the threat of aggression. We will seek an end to the arms race through international agreement and the stationing of peace-keeping forces of the United Nations in areas of severe tension, as we encourage peace-table talks among adversaries.

Nevertheless, the Soviets persist in building an imbalance of military forces in this region. The fact of a growing menace to Israel is undeniable. Her forces must be kept at a commensurate strength both for her protection and to help keep the peace of the area. The United States, therefore, will provide countervailing help to Israel, such as supersonic fighters, as necessary for these purposes. To replace the ancient rivalries of this region with new hope and opportunity, we vigorously support a well-conceived plan of regional development, including the bold nuclear desalinization and irrigation proposal of former President Eisenhower.

Our relations with Western Europe, so critical to our own progress and security, have been needlessly and dangerously impaired. They must be restored, and NATO revitalized and strengthened. We continue to pursue the goal of a Germany reunified in freedom.

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We do not intend to conduct foreign policy in such manner as to make the United States a world policeman. However, we will not condone aggression, or so-called "wars of national liberation," or naively discount the continuing threats of Moscow and Peking. Nor can we fail to condemn the Soviet Union for its continuing anti-Semitic actions, its efforts to eradicate all religions, and its oppression of minorities generally. Improved relations with Communist nations can come only when they cease to endanger other states by force or threat. Under existing conditions, we cannot favor recognition of Communist China or its admission to the United Nations.

We encourage international limitations of armaments, provided all major powers are proportionately restrained and trustworthy guarantees are provided against violations.

National Defense. Grave errors, many now irretrievable, have characterized the direction of our nation's defense.

A singular notion – that salvation for America lies in standing still – has pervaded the entire effort. Not retention of American superiority but parity with the Soviet Union has been made the controlling doctrine in many critical areas. We have frittered away superior military capabilities, enabling the Soviets to narrow their defense gap, in some areas to outstrip us, and to move to cancel our lead entirely by the early Seventies. In a host of areas, advanced military research and development have been inhibited and stagnated by inexpert, cost-oriented administrators imbued with a euphoric concept of

Soviet designs. A strange Administration preference for such second-best weaponry as the costly Navy F111-B (TFX) has deprived our armed forces of more advanced weapons systems. Improvements in our submarines have been long delayed as the Soviets have proceeded apace with their own. Our anti-submarine warfare capabilities have been left seriously inadequate, new fighter planes held up, and new strategic weaponry left on the drawing boards.

This mismanagement has dangerously weakened the ability of the United States to meet future crises with great power and decisiveness. All the world was respectful of America's decisive strategic advantage over the Soviets achieved during the Eisenhower Administration. This superiority proved its worth in the Cuban missile crisis six years ago. But now we have had an augury of things to come – a shameful, humiliating episode, the seizure of the USS PUEBLO and its crew, with devastating injury to America's prestige everywhere in the world.

We pledge to include the following in a comprehensive program to restore the preeminence of U.S. military strength:

- Improve our deterrent capability through an ocean strategy which extends the Polaris-Poseidon concept and accelerates submarine technology;
- Redirect and stimulate military research to encourage major innovations rather than merely respond belatedly to Communist advances;
- Strengthen intelligence gathering and evaluation by the various military services;
- Use the defense dollar more effectively through simplification of the cumbersome, overcentralized administration of the Defense Department, expanded competitive bidding on defense contracts, and improved safeguards against excessive profits;
- Reinvigorate the nation's most important security planning organization – the National Security Council – to prevent future haphazard diplomatic and military ventures, integrate the nation's foreign and military policies and programs, and enable our nation once again to anticipate and prevent crises rather than hastily contriving counter-measures after they arise.

Our merchant marine, too, has been allowed to deteriorate. Now there are grave doubts that it is capable of adequate response to emergency security needs.

The United States has drifted down from first place to sixth place in the world in the size of its merchant fleet. By contrast, the Russian fleet has been rapidly expanding and will attain a dominant position by 1970. Deliveries of her ships are now eight to one in Russia's favor.

For reasons of security, as well as of economics, the decline of our merchant marine must be reversed. We therefore pledge a vigorous and realistic ship replacement program to meet the changing pattern of our foreign commerce. We will also expand industry-government maritime research and development, emphasizing nuclear propulsion, and simplify and revise construction and operating subsidy procedures.

Finally, we pledge to assemble the nation's best diplomatic military and scientific minds for an exhaustive reassessment of America's world-wide commitments and military preparedness. We are determined to assure our nation of the strength required in future years to deter war and to prevail should it occur.

Vietnam. The Administration's Vietnam policy has failed - militarily, politically, diplomatically, and with relation to our own people.

We condemn the Administration's breach of faith with the American people respecting our heavy involvement in Vietnam. Every citizen bitterly recalls the Democrat campaign oratory of 1964: "We are not about to send American boys 9-10,000 miles away from home to do what Asian boys ought to be doing for themselves." The Administration's failure to honor its own words has led millions of Americans to question its credibility.

The entire nation has been profoundly concerned by hastily-extemporized, undeclared land wars which embroil massive U.S. Army forces thousands of miles from our shores. It is time to realize that not every international conflict is susceptible of solution by American ground forces.

Militarily, the Administration's piecemeal commitment of men and material has wasted our massive military superiority and frittered away our options. The result has been a prolonged war of attrition. Throughout this period the Administration has been slow in training and equipping South Vietnamese units both for fighting the war and for defending their country after the war is over.

Politically, the Administration has failed to recognize the entirely novel aspects of this war. The overemphasis on its old-style, conventional aspects has blinded the Administration to the fact that the issue is not control of territory but the security and loyalty of the population. The enemy's primary emphasis has been to disrupt orderly government.

The Administration has paid inadequate attention to the political framework on which a successful outcome ultimately depends. Not only has the Administration failed to encourage assumption of responsibility by the Vietnamese, but their sense of responsibility has been in fact undermined by our approach to pacification. An added factor has been a lack of security for the civilian population.

At home, the Administration has failed to share with the people the full implications of our challenge and of our commitments.

To resolve our Vietnam dilemma, America obviously requires new leadership - one capable of thinking and acting anew, not one hostage to the many mistakes of the past. The Republican Party offers such leadership.

We pledge to adopt a strategy relevant to the real problems of the war, concentrating on the security of the population, on developing a greater sense of nationhood, and on strengthening the local forces. It will be a strategy permitting a progressive de-Americanization of the war, both military and civilian.

We will see to it that our gallant American servicemen are fully supported with the highest quality equipment, and will avoid actions that unnecessarily jeopardize their lives.

We will pursue a course that will enable and induce the South Vietnamese to assume increasing responsibility.

The war has been conducted without a coherent program for peace.

We pledge a program for peace in Vietnam - neither peace at any price nor a camouflaged surrender of legitimate United States or allied interests - but a positive program that will offer a fair and equitable settlement to all, based on the principle of self-determination, our national interests and the cause of long-range world peace.

We will sincerely and vigorously pursue peace negotiations as long as they offer any reasonable prospect for a just peace. We pledge to develop a clear and purposeful negotiating position.

We will return to one of the cardinal principles of the last Republican Administration that American interests are best served by cooperative multilateral action with our allies rather than by unilateral U.S. action.

Our pride in the nation's armed forces in Southeast Asia and elsewhere in the world is beyond expression.

In all our history none have fought more bravely or more devotedly than our sons in this unwanted war in Vietnam.

They deserve - and they and their loved ones have - our total support, our encouragement, and our prayers.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 7% as compared with total NBA reductions for all functional fields of 10%. This would indicate that Congress places a somewhat higher priority on this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) as compared with the overall Congressional NBA cut of 10%.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

Selected Programs Reduced < 10%		Selected Programs Reduced > 10%	
Military Personnel	-1.9	DOD Military Procurement	-14.1
Military Operations and Maintenance	-4.3	DOD Civil Defense	-21.2
Department of Defense Research, Development, Test, and Evaluation (DOD RDT&E)	-5.7	DOD Military Construction	-13.4
DOD Military Assistance	-6.3		
Atomic Energy Commission (AEC) Military (estimated at one-half)	-6.7		
Selective Service	0		

Congress exempted defense spending for Vietnam, which exceeded The Budget estimates, from $180 billion overall budget ceiling imposed by Congress.

The Likely Future (The Next Decade)

Looking into the future is always hazardous and judgmental, even though based primarily on data trends as in this report, and knowledgeable people do have honest differences of opinion. The technique used in the other functional fields regarding the likely future is not applicable to the National Security field because in National Security, the U.S., to a large extent, is reacting to threats (real or potential) external in nature. In addition, a large part of the information required even to speculate about future expenditure trends for individual National Security subfunctions or programs is classified and not generally available. Nonetheless, a few general comments about likely total expenditures for National Security can be made, although dealing with detailed subfunctions and programs is beyond the scope of this study.

- There is little chance the National Security field will fall from its long-term number 1 rank among the various functional fields. The cliché that "Defense has a first lien on the Treasury" is likely to continue to be appropriate. Increases in defense dollars will undoubtedly continue, but, relative to other functional fields, they are likely to be below average percent increases, especially in the post-Vietnam period.

- There is much discussion, amply reported elsewhere,(5) about how much of the direct costs of the Vietnam War will continue to be expended for National Security functions in the post-Vietnam period. It is likely that a significant portion will continue to be expended for National Security functions but that some will also be released for other purposes. It is for this reason that we expect increases in funding dollars for National Security to be below average growth rates.

- In terms of R&D, the National Security functional field is likely to continue to rank first and it is probable that the relative decline in percent of total

experienced between 1961-1966 and reversed in the 1966-1969 period will continue in the direction of an increasing percent of total. This would mean a continuation of the above average growth rates of the past few years rather than a recurrence of the below average growth rates experienced in the pre-Vietnam War period.

References

(1) The Budget in Brief, FY 1969, Executive Office of the President, U.S. Government Printing Office, Washington, D.C., p 24.

(2) "The Proliferation of the Peaceful Atom", Glenn T. Seaborg, May 11, 1967, p 2.

(3) "The Fiscal Year 1969-1973 Defense Program and the 1969 Defense Budget" (R. S. McNamara, January 1968).

(4) The Budget, FY 1969, U.S. Government Printing Office, Washington, D.C., pp 82, 83, 85, 86, 87, 89.

(5) See, for example, Gilbert Burck, "How Big a Peace Dividend?" (Fortune, June 1, 1968, p 86+); Walter W. Heller, "Getting Ready for Peace" (Harpers, April 1968, pp 57-62); "Predicament of Peace" (various responses to Heller article) (Harpers, June 1968, pp 86-91); "As I See It", interview with Otto Eckstein (Forbes, May 1, 1968, pp 38-39).

APPENDIX III-A

NATIONAL SECURITY RESEARCH AND DEVELOPMENT

APPENDIX III-A

NATIONAL SECURITY RESEARCH AND DEVELOPMENT

As mentioned in the "Research and Development" section under the major mission-oriented programs discussed in the preceding section, R&D for systems already approved for procurement were included under the category of the system rather than R&D. Because of the special interest in R&D associated with this analysis, this appendix goes into greater detail on all National Security R&D activities (including those for systems approved for procurement). The figures shown here are those commonly referred to as Research, Development, Test, and Evaluation (RDT&E) and data are provided separately for all National Security R&D program areas in each DOD service. The material includes the following:

- Table III-A-1 – This table shows the rank of each of the National Security R&D program areas, the estimated 1969 R&D Conduct and the percent of Total National Security R&D Conduct Expenditures for which each program area accounts. The relative importance of the National Security R&D program areas, as well as the currently estimated allocation of absolute dollars, is shown in this table.

- Table III-A-2 – This table shows changes in dollars, percent, and percent of total for FY 1969 versus 1961, FY 1969 versus 1967, and FY 1969 versus 1968. Thus, the reader can see the change of absolute dollars, the percent change of absolute dollars, and the relative change for each of the program areas for a relatively long time period (1969 versus 1961), the more recent years (1969 versus 1967), and the latest year (1969 versus 1968).

- Table III-A-3 – Next appears the detailed data from 1961 to 1969 and yearly dollar and percent changes for each of the National Security R&D program areas. To provide greater detail, each of the DOD services have been separated; therefore, the reader may review Air Force "Military Astronautics and Related Equipment" R&D conduct expenditures, Army "Missiles and Related Equipment" R&D conduct expenditures, Navy "Ships, Small Craft and Related Equipment" R&D conduct expenditures, etc., and changes over time.

- Finally, this appendix includes a brief "Summary of the Official Program Descriptions" for each of the National Security R&D program areas.

TABLE III-A-1. 1969 NATIONAL SECURITY R&D CONDUCT EXPENDITURES BY PROGRAM AREAS

Rank	Program Areas	$ Millions	Percent of Total
1	Missiles and Related Equipment	2,598.0	29.5
2	Aircraft and Related Equipment	1,133.0	12.8
3	Military Astronautics and Related Equipment	1,129.0	12.8
4	Other Equipment	1,025.0	11.6
5	Military Science	638.0	7.2
6	Special Nuclear Materials (AEC)	596.0	6.8
7	Programwide Management and Support	529.0	6.0
8	Other Defense R&D	393.9	4.5
9	Ships, Small Craft and Related Equipment	376.0	4.3
10	Ordnance, Combat Vehicles	342.0	3.9
11	Emergency Fund	30.0	0.3
12	Other AEC R&D (1/2)	11.0	0.1
13	Civil Defense	10.0	0.1
14	Arms Control & Disarmament Agency	6.7	0.1
15	Office of Emergency Planning	1.0	(a)
	Total	8,818.6	100.0

(a) Less than 0.05%.

TABLE III-A-2. CHANGES IN NATIONAL SECURITY R&D CONDUCT EXPENDITURES BY PROGRAM AREAS

Program Areas	$ Change, millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969-1961	1969-1967	1969-1968	1969-1961	1969-1967	1969-1968
Total R&D	$+2,070.9	+759.3	+665.4	+30.7	+9.4	+8.2			
Missiles and Related Equipment	-426.5	+96.0	+160.0	-14.1	+3.8	+6.6	-15.3	-1.5	-0.4
Aircraft and Related Equipment	+585.0	+85.0	-76.0	+106.8	+8.1	-6.3	+4.7	-0.2	-2.0
Military Astronautics & Related Equipment	+610.0	+146.0	+113.0	+117.5	+14.9	+11.1	+5.1	+0.6	+0.3
Other Equipment	+464.5	+73.0	+84.0	+82.9	+7.7	+8.9	+3.3	-0.2	+0.1
Military Science	+131.0	+28.0	+62.0	+25.8	+4.6	+10.8	-0.3	-0.4	+0.1
Special Nuclear Materials (AEC)	+356.0	+154.0	+95.0	+148.3	+34.8	+19.0	+3.2	+1.3	+0.7
Programwide Management	-22.0	+103.0	+100.0	-4.0	+24.2	+23.3	-2.2	+0.7	+0.7
Other Defense R&D	+28.9	-34.9	-29.2	+7.9	-8.1	-6.9	-0.9	-0.8	-0.7
Ships, Small Craft	+167.0	+80.0	+100.0	+80.0	+27.0	+36.2	+1.2	+0.6	+0.9
Ordnance, Combat Vehicles	+130.0	-1.0	+29.0	+61.3	-0.3	+9.3	+0.8	-0.4	+0.1
Other Atomic Energy Commission R&D (1/2)	+5.8	+1.0	-2.0	+103.7	+10.0	-15.4	0	0	-0.1
Civil Defense	+4.3	+0.1	-0.4	+75.4	+1.0	-3.8	0	0	0
Arms Control & Disarmament Agency	(a)	-1.1	-0.9	(a)	-14.1	-11.8	(a)	0	0
Office of Emergency Planning	+0.4	+0.2	0	+66.7	+25.0	0	0	0	0

(a) New agency mid-1962.

TABLE III-A-3. NATIONAL SECURITY R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREAS

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Missiles & Related Equipment (Air Force)	1961	1,668.0		
	1962	1,539.3	-128.7	- 7.7
	1963	1,052.4	-486.9	- 31.6
	1964	1,095.5	+ 43.1	+ 4.1
	1965	830.6	-264.9	- 24.2
	1966	715.0	-115.6	- 13.9
	1967	914.0	+199.0	+ 27.8
	1968	931.0	+ 17.0	+ 1.9
	1969	948.0	+ 17.0	+ 1.8
Missiles & Related Equipment (Army)	1961	553.5		
	1962	517.5	- 36.0	- 6.5
	1963	508.6	- 8.9	- 1.7
	1964	567.0	+ 58.4	+ 11.5
	1965	577.6	+ 10.6	+ 1.9
	1966	611.0	+ 33.4	+ 5.8
	1967	752.0	+141.0	+ 23.1
	1968	624.0	-128.0	- 17.0
	1969	769.0	+145.0	+ 23.2
Missiles & Related Equipment (Navy)	1961	803.0		
	1962	721.0	- 82.0	- 10.2
	1963	679.5	- 41.5	- 5.8
	1964	688.9	+ 9.4	+ 1.4
	1965	378.2	-310.7	- 45.1
	1966	348.0	- 30.2	- 8.0
	1967	711.0	+363.0	+104.3
	1968	775.0	+ 64.0	+ 9.0
	1969	774.0	- 1.0	- 0.1
Missiles & Related Equipment (Other DOD)	1961			
	1962			
	1963			
	1964			
	1965	113.8		
	1966	127.0	+ 13.2	+ 11.6
	1967	125.0	- 2.0	- 1.6
	1968	108.0	- 17.0	- 13.6
	1969	107.0	- 1.0	- 0.9

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Aircraft & Related Equipment (Air Force)	1961	432.0		
	1962	494.0	+ 62.0	+ 14.4
	1963	358.0	-136.0	- 27.5
	1964	698.6	+340.6	+ 95.1
	1965	721.7	+ 23.1	+ 3.3
	1966	654.0	- 67.7	- 9.4
	1967	669.0	+ 15.0	+ 2.3
	1968	793.0	+124.0	+ 18.5
	1969	693.0	-100.0	- 12.6
Aircraft & Related Equipment (Army)	1961	26.0		
	1962	41.0	+ 15.0	+ 57.7
	1963	70.0	+ 29.0	+ 70.7
	1964	88.0	+ 18.0	+ 25.7
	1965	69.0	- 19.0	- 21.6
	1966	84.0	+ 15.0	+ 21.7
	1967	120.0	+ 36.0	+ 42.9
	1968	127.0	+ 7.0	+ 5.8
	1969	99.0	- 28.0	- 22.0
Aircraft & Related Equipment (Navy)	1961	90.0		
	1962	89.0	- 1.0	- 1.1
	1963	116.0	+ 27.0	+ 30.3
	1964	152.0	+ 36.0	+ 31.0
	1965	223.2	+ 71.2	+ 46.8
	1966	234.0	+ 10.8	+ 4.8
	1967	242.0	+ 8.0	+ 3.4
	1968	280.0	+ 38.0	+ 15.7
	1969	327.0	+ 47.0	+ 16.8
Aircraft & Related Equipment (Other DOD)	1961			
	1962			
	1963			
	1964			
	1965	3.0		
	1966	4.0	+ 1.0	+ 33.3
	1967	17.0	+ 13.0	+325.0
	1968	9.0	- 8.0	- 47.1
	1969	14.0	+ 5.0	+ 55.6
Military Astronautics & Related Equipment (Air Force)	1961	428.0		
	1962	596.0	+168.0	+ 39.3
	1963	867.0	+271.0	+ 45.5
	1964	1,214.5	+347.5	+ 40.1
	1965	872.5	-342.0	- 28.2
	1966	878.0	+ 5.5	+ 0.6
	1967	935.0	+ 57.0	+ 6.5
	1968	990.0	+ 55.0	+ 5.9
	1969	1,096.0	+106.0	+ 10.7

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Military Astronautics & Related Equipment (Army)	1961	13.0		
	1962	108.0	+ 95.0	+730.8
	1963	38.0	- 70.0	- 64.8
	1964	18.0	- 20.0	- 52.6
	1965	21.0	+ 3.0	+ 16.7
	1966	24.0	+ 3.0	+ 14.3
	1967	22.0	- 2.0	- 8.3
	1968	7.0	- 15.0	- 68.2
	1969	10.0	+ 3.0	+ 42.9
Military Astronautics & Related Equipment (Navy)	1961	14.0		
	1962	36.0	+ 22.0	+157.1
	1963	41.0	+ 5.0	+ 13.9
	1964	51.0	+ 10.0	+ 24.4
	1965	24.0	- 27.0	- 52.9
	1966	25.0	+ 1.0	+ 4.2
	1967	23.0	- 2.0	- 8.0
	1968	16.0	- 7.0	- 30.4
	1969	20.0	+ 4.0	+ 25.0
Military Astronautics & Related Equipment (Other DOD)	1961	64.0		
	1962	8.5	- 55.5	- 86.7
	1963		- 8.5	-100.0
	1964			
	1965	3.0	+ 3.0	
	1966	3.0	0	0
	1967	3.0	0	0
	1968	3.0	0	0
	1969	3.0	0	0
Other Equipment (Air Force)	1961	246.0		
	1962	239.0	- 7.0	- 2.8
	1963	500.0	+261.0	+109.2
	1964	177.0	-323.0	- 64.6
	1965	193.0	+ 16.0	+ 9.0
	1966	233.0	+ 40.0	+ 20.7
	1967	310.0	+ 77.0	+ 33.0
	1968	288.0	- 22.0	- 7.1
	1969	307.0	+ 10.0	+ 6.6
Other Equipment (Army)	1961	253.5		
	1962	200.8	- 52.7	- 20.8
	1963	284.8	+ 84.0	+ 41.8
	1964	215.0	- 69.8	- 24.5
	1965	221.8	+ 6.8	+ 3.2
	1966	235.0	+ 13.2	+ 6.0
	1967	316.0	+ 81.0	+ 34.5
	1968	297.0	- 19.0	- 6.0
	1969	336.0	+ 39.0	+ 13.1

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Other Equipment (Navy)	1961	61.0		
	1962	58.0	- 3.0	- 4.9
	1963	62.0	+ 4.0	+ 6.9
	1964	48.0	- 14.0	- 22.6
	1965	52.0	+ 4.0	+ 8.3
	1966	72.0	+ 20.0	+ 38.5
	1967	81.0	+ 9.0	+ 12.5
	1968	117.0	+ 36.0	+ 44.4
	1969	132.0	+ 15.0	+ 12.8
Other Equipment (Other DOD)	1961			
	1962			
	1963			
	1964			
	1965	236.6		
	1966	245.0	+ 8.4	+ 3.6
	1967	245.0	0	0
	1968	239.0	- 6.0	- 2.4
	1969	250.0	+ 11.0	+ 4.6
Military Sciences (Air Force)	1961	106.0		
	1962	92.0	- 14.0	- 13.2
	1963	121.0	+ 29.0	+ 31.5
	1964	121.0	0	0
	1965	144.0	+ 23.0	+ 19.0
	1966	156.0	+ 12.0	+ 8.3
	1967	154.0	- 2.0	- 1.3
	1968	148.0	- 6.0	- 3.9
	1969	159.0	+ 11.0	+ 7.4
Military Sciences (Army)	1961	154.0		
	1962	213.0	+ 59.0	+ 38.3
	1963	266.0	+ 53.0	+ 24.9
	1964	179.0	- 87.0	- 32.7
	1965	167.0	- 12.0	- 6.7
	1966	177.0	+ 10.0	+ 6.0
	1967	166.0	- 11.0	- 6.2
	1968	144.0	- 22.0	- 13.3
	1969	170.0	+ 26.0	+ 18.1
Military Sciences (Navy)	1961	125.0		
	1962	140.0	+ 15.0	+ 12.0
	1963	160.0	+ 20.0	+ 14.3
	1964	194.0	+ 34.0	+ 21.3
	1965	176.0	- 18.0	- 9.3
	1966	185.0	+ 9.0	+ 5.1
	1967	184.0	- 1.0	- 0.5
	1968	184.0	0	0
	1969	204.0	+ 20.0	+ 10.9

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Military Sciences (Other DOD)	1961	122.0		
	1962	170.6	+ 48.6	+ 39.8
	1963	291.3	+120.7	+ 70.8
	1964	384.0	+ 92.7	+ 31.8
	1965	86.0	-298.0	- 77.6
	1966	102.0	+ 16.0	+ 18.6
	1967	106.0	+ 4.0	+ 3.9
	1968	100.0	- 6.0	- 5.7
	1969	105.0	+ 5.0	+ 5.0
Ordnance, Combat Vehicles & Related Equipment (Air Force)	1961	12.0		
	1962	4.0	- 8.0	- 66.7
	1963	2.0	- 2.9	- 50.0
	1964	1.0	- 1.0	- 50.0
	1965	--		
	1966	--		
	1967	--		
	1968	--		
	1969	--		
Ordnance, Combat Vehicles & Related Equipment (Army)	1961	116.0		
	1962	136.0	+ 20.0	+ 17.2
	1963	119.0	- 17.0	- 12.5
	1964	197.0	+ 78.0	+ 65.5
	1965	203.0	+ 6.0	+ 3.0
	1966	202.0	- 1.0	- 0.5
	1967	180.0	- 22.0	- 10.9
	1968	156.0	- 24.0	- 13.3
	1969	175.0	+ 19.0	+ 12.2
Ordnance, Combat Vehicles & Related Equipment (Navy)	1961	84.0		
	1962	88.0	+ 4.0	+ 4.8
	1963	88.0	0	0
	1964	82.0	- 6.0	- 6.8
	1965	126.0	+ 44.0	+ 53.7
	1966	158.0	+ 32.0	+ 25.4
	1967	163.0	+ 5.0	+ 3.2
	1968	157.0	- 6.0	- 3.7
	1969	167.0	+ 10.0	+ 6.4
Ordnance, Combat Vehicles & Related Equipment (Other DOD)	1961			
	1962			
	1963			
	1964			
	1965	1.0	+ 1.0	
	1966		- 1.0	-100.0
	1967			
	1968			
	1969			

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Programwide Management & Support (Air Force)	1961	408.0		
	1962	529.0	+121.0	+ 29.7
	1963	400.0	-129.0	- 24.4
	1964	414.0	+ 14.0	+ 3.5
	1965	384.0	- 30.0	- 7.2
	1966	312.0	- 72.0	- 18.8
	1967	248.0	- 64.0	- 20.5
	1968	246.0	- 2.0	- 0.8
	1969	297.0	+ 51.0	+ 20.7
Programwide Management & Support (Army)	1961	91.0		
	1962	64.0	- 27.0	- 29.7
	1963	68.0	+ 4.0	+ 6.3
	1964	74.0	+ 6.0	+ 8.8
	1965	85.0	+ 11.0	+ 14.9
	1966	79.0	- 6.0	- 7.1
	1967	78.0	- 1.0	- 1.3
	1968	74.0	- 4.0	- 5.1
	1969	91.0	+ 17.0	+ 23.0
Programwide Management & Support (Navy)	1961	49.0		
	1962	42.0	- 7.0	- 14.3
	1963	64.0	+ 22.0	+ 52.4
	1964	98.0	+ 34.0	+ 53.1
	1965	65.0	- 33.0	- 33.7
	1966	102.0	+ 37.0	+ 56.9
	1967	90.0	- 12.0	- 11.8
	1968	100.0	+ 10.0	+ 11.1
	1969	131.0	+ 31.0	+ 31.0
Programwide Management & Support (Other DOD)	1961	3.0		
	1962	2.0	- 1.0	- 33.3
	1963		- 2.0	-100.0
	1964			
	1965	9.0	+ 9.0	
	1966	10.0	+ 1.0	+ 11.1
	1967	10.0	0	0
	1968	9.0	- 1.0	- 10.0
	1969	11.0	+ 2.0	+ 22.2
Ships, Small Craft & Related Equipment (Navy)	1961	209.0		
	1962	190.3	- 18.7	- 8.9
	1963	218.8	+ 28.5	+ 15.0
	1964	263.9	+ 45.1	+ 20.6
	1965	249.2	- 14.7	- 5.6
	1966	283.0	+ 33.8	+ 13.6
	1967	296.0	+ 13.0	+ 4.6
	1968	276.0	- 20.0	- 6.8
	1969	375.0	+ 99.0	+ 35.9

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Ships, Small Craft & Related Equipment (Army)	1961	--		
	1962	--		
	1963	--		
	1964	--		
	1965	--		
	1966	--		
	1967	(a)		
	1968	(a)		
	1969	1.0		
Civil Defense (Other DOD)	1961	5.7		
	1962	18.0	+ 12.3	+215.8
	1963	11.1	- 6.9	- 38.3
	1964	10.1	- 1.0	- 9.0
	1965	10.4	+ 0.3	+ 3.0
	1966	10.0	- 0.4	- 3.8
	1967	9.9	- 0.1	- 1.0
	1968	10.4	+ 0.5	+ 5.1
	1969	10.0	- 0.4	- 3.8
Emergency Fund (Other DOD)	1961			
	1962			
	1963			
	1964			
	1965			
	1966			
	1967			
	1968			
	1969	30.0		
Other (Air Force)	1961	202.0		
	1962	217.3	+ 15.3	+ 7.6
	1963	203.7	- 13.6	- 6.3
	1964	213.9	+ 10.2	+ 5.0
	1965	214.3	+ 0.4	+ 0.2
	1966	236.4	+ 21.8	+ 10.2
	1967	223.7	- 12.7	- 5.4
	1968	227.7	+ 4.0	+ 1.8
	1969	212.7	- 15.0	- 6.6
Other (Army)	1961	43.0		
	1962	45.7	+ 2.7	+ 6.3
	1963	50.8	+ 5.1	+ 11.2
	1964	53.8	+ 3.0	+ 5.9
	1965	50.2	- 3.6	- 6.7
	1966	56.3	+ 6.1	+ 12.2
	1967	67.4	+ 11.1	+ 19.7
	1968	69.1	+ 1.7	+ 2.5
	1969	68.3	- 0.8	- 1.2

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Other (Navy)	1961	120.0		
	1962	130.0	+ 10.0	+ 8.3
	1963	116.0	- 14.0	- 10.8
	1964	111.3	- 4.7	- 4.1
	1965	124.9	+ 13.6	+ 12.2
	1966	140.0	+ 15.1	+ 12.1
	1967	137.7	- 2.3	- 1.6
	1968	126.3	- 11.4	- 8.3
	1969	112.9	- 13.4	- 10.6
Other (Other DOD)	1961			
	1962			
	1963	0.3		
	1964	0.3	0	0
	1965	0.3	0	0
	1966	1.1	+ 0.8	+266.7
	1967			
	1968			
	1969			
Special Nuclear Materials and Weapons (AEC)	1961	240.0		
	1962	400.6	+160.6	+ 66.9
	1963	351.7	- 48.9	- 12.2
	1964	446.2	+ 94.5	+ 26.9
	1965	453.6	+ 7.4	+ 1.7
	1966	445.1	- 8.5	- 1.9
	1967	442.0	- 3.1	- 0.7
	1968	501.0	+ 59.0	+ 13.3
	1969	596.0	+ 95.0	+ 19.0
AEC Other R&D (One-half under Natural Resources)	1961	5.4		
	1962	7.0	+ 1.6	+ 29.6
	1963	7.9	+ 0.9	+ 12.9
	1964	10.4	+ 2.5	+ 31.6
	1965	9.9	- 0.5	- 4.8
	1966	11.1	+ 1.2	+ 12.1
	1967	10.0	- 1.1	- 9.9
	1968	13.0	+ 3.0	+ 30.0
	1969	11.0	- 2.0	- 15.4
Total R&D Arms Control & Disarmament Agency	1961	(b)		
	1962	0.4		
	1963	0.7	+ 0.3	+ 75.0
	1964	4.0	+ 3.3	+471.4
	1965	4.0	0	0
	1966	6.7	+ 2.7	+ 67.5
	1967	7.8	+ 1.1	+ 16.4
	1968	7.6	- 0.2	- 2.6
	1969	6.7	- 0.9	- 11.8

TABLE III-A-3. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Office of Emergency Planning	1961	0.6(c)		
	1962	0.3(c)	- 0.3	- 50.0
	1963	0.6(c)	+ 0.3	+100.0
	1964	0.1(c)	- 0.5	- 83.3
	1965	0.3	+ 0.2	+200.0
	1966	0.3	0	0
	1967	0.8	+ 0.5	+166.7
	1968	1.0	+ 2.0	+ 25.0
	1969	1.0	0	0

(a) Under $50,000.
(b) New Agency mid-1962, therefore, percentages based on 1961 and half-year 1962 have not been calculated.
(c) Exact program data not available - therefore estimates have been made.

National Security Summary of Official Program Descriptions*

Department of Defense

The purposes of the research, development, test, and evaluation programs of the Department of Defense are to provide scientific and technological capabilities for the development, test, and improvement of advanced weapon systems and related equipment and techniques. In pursuit of this objective a wide spectrum of investigative and engineering activities is performed, including scientific research of military interest, exploratory and applied technology, design and fabrication of weapons and equipment for the future, and testing of these items to determine their military utility. This work is performed in Government laboratories, in universities, by industrial contractors, and by nonprofit organizations.

Missiles and Related Equipment Research. This activity provides for research, development, test and evaluation of missile systems of all types. Development and improvement of the strategic ballistic missile systems, Poseidon and Minuteman, remain high-priority programs. Accelerated development of the Sentinel antiballistic missile system will be pursued to assure maximum effectiveness of the deployed system. Tactical air defense missile systems, both air-to-air and surface-to-air, will receive increased effort to assure air superiority in all combat situations. The quest for greater accuracy in air-to-surface and surface-to-surface missiles will continue.

In addition to funding participation by industry in the missile research and development program, this activity is a major source of funds for the operation of Government facilities, such as the Eastern and Western Test Ranges, the White Sands Missile Range, the Naval Weapons Center at China Lake, and the research and development programs at the Army's Redstone Arsenal.

Aircraft and Related Equipment Research. This activity funds research, development, test, and evaluation related to air frames, engines, and other installed equipment. New programs in 1969 include concept formulation, and engine, avionics, and weapons subsystem design for a new generation of fighter aircraft, entry into full-scale development of VSX carrier-based antisubmarine warfare aircraft, and contract definition of a new intratheater transport. The interceptor, bomber, tactical fighter, and reconnaissance versions of the F-111 high-performance aircraft, the C-5A transport, and the Cheyenne armed helicopter near completion of development in 1969.

In addition, the program includes improvement of existing aircraft, demonstrator engines leading toward new aircraft, V/STOL technology, early warning and electronic warfare systems, airborne antisubmarine detection systems, and better avionics equipment. Research and development centers, such as the laboratories located at Wright-Patterson Air Force Base, are funded here.

*Edited and paraphrased excerpts, primarily from The Budget.

Military Astronautics and Related Equipment Research. This activity provides for programs directed toward the improvement of space technology for military purposes, and the investigation and development of specific military applications of space vehicles. Work will proceed on the manned orbiting laboratory (MOL), the Titan III, military communication satellites and improvements in satellite tracking capabilities. Supporting research and development in such areas as bioastronautics, secondary power sources, and guidance, reentry, and propulsion systems will continue. The Air Force Arnold Engineering Development Center is also supported under this activity.

Other Equipment. This activity provides for research, development, test, and evaluation of equipment not separately provided for under other activities. Examples of the types of equipment developed for the three services are as follows: deep submergence systems for personnel rescue and underwater research, chemical and biological agent detection and protection devices, a new aircraft warning and control system (AWACS), combat clothing, night vision and imaging devices, tactical data processing systems, communication and electronic warfare equipment, improved logistics and materiel handling, mapping and geodetic systems, and oceanographic instrumentation. Much of the support for the research and development effort at the Army Electronic Research and Development Laboratory, the Mitre Corporation, and the Lincoln Laboratories is provided under this activity.

Military Sciences Research. This activity supports research in the physical, mathematical, environmental, engineering, biomedical, behavioral and social sciences, adding to the store of fundamental scientific knowledge and leading to applications of potential military significance. Examples of phenomena of special interest include crystal growth, plasma dynamics, energy conversion, superconductivity, polymer chemistry, information theory, and sensory physiology. Support for the establishment of new centers of scientific excellence contributing to national security is included in this activity.

The principal support for such organizations as the Naval Research Laboratory, the Air Force Cambridge Research Laboratory, and the Rand Corporation is also provided here. In addition to the amounts directly provided for in this activity, basic and applied research is also performed by industrial contractors supported by certain allowable indirect costs which may be allowed under contracts funded by both the research, development, test and evaluation and procurement appropriations.

Ordnance, Combat Vehicles, and Related Equipment Research. This activity provides for the development, and test evaluation of improved artillery, guns, rocket launchers, mortars, small arms, mines, grenades, torpedoes, depth charges, combat vehicles, and landing craft, as well as exploration and evaluation of new fuzes, propellants, explosives, detonators, dispensers, armor, and propulsion. Systems contributing to increased mobility, improved firepower, and counterinfiltration in limited and unconventional warfare in remote areas continue to receive major attention. The principal support for research and development activities at several Army arsenals and for the Naval Ordnance Laboratory at White Oak, Maryland, is funded here.

Ships, Small Craft, and Related Equipment Research. This activity provides for design of new types of ships and development of shipboard equipment. Funds requested in this activity in 1969 will provide for contract definition of several new fleet escort ships, improvement of surface ship and submarine sonars, exploration of advanced surface craft concepts, and development of navigation systems, command and control equipment, nuclear and nonnuclear propulsion plants, and aircraft catapults and arresting gear. Antisubmarine warfare and river patrol systems continue to receive high priority. A significant portion of the effort at the Naval Ships Research and Development Center is funded under this activity.

Civil Defense. This activity provides for studies necessary to develop and maintain an effective and efficient national civil defense system. Major emphasis in 1969 will be directed toward investigations in fallout radiation shielding and low levels of direct effects, development of fire defense systems, and improved bases for emergency operations, and analyses of the consequences of various nuclear attack situations and of the effectiveness of alternative civil defense countermeasures in selected localities.

Programwide Management and Support. For the Army and the Navy this activity provides for those costs of operation, management and maintenance of research, development, and test facilities which are not distributed directly to other budget activities. For the Air Force it provides for certain costs of central administration such as the Air Force systems command headquarters and divisions as well as several large research, development, test, and evaluation installations. Continuing refinement effort similar to that conducted for many years, additional support of research and development previously funded in the procurement and operation and maintenance appropriations is included in the estimates for research, development, test, and evaluation appropriations for 1969.

Other. This category includes pay of military personnel performing R&D, operation and maintenance and procurement. Under the new Budget-reporting concept, these functions are being incorporated into the actual cost of R&D conduct. The changeover has already taken place for Other Defense for the 1967, 1968 and 1969 figures. The Operation and Maintenance portion of "Other" has been incorporated into the Army and Air Force R&D conduct figures for 1967, 1968 and 1969. The changeover should be completed with the 1970 Budget, at which time this category will be eliminated from this report.

Emergency Fund. The emergency fund enables the Secretary of Defense to support the exploitation of new scientific developments and technological breakthroughs and to provide for other unforeseen contingencies in the research, development, test, and evaluation programs. The appropriation for this fund shows only for the next fiscal year and is later allocated in accordance with actual use.

Other Agencies

Special Nuclear Materials and Weapons (AEC). Work will continue on process improvements to assure efficiency and safety of operation, to develop more economical methods of production with increased emphasis in 1969 on the production of enriched uranium, and to permit timely development of new production processes as requirements for new products develop.

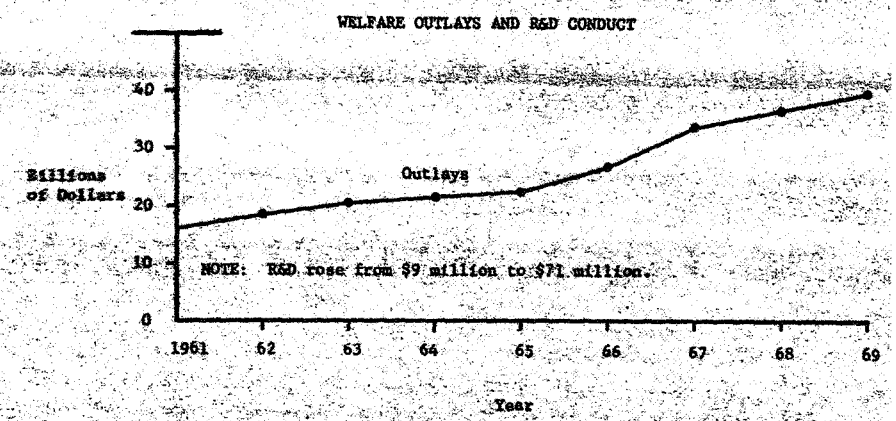
The weapons program encompasses the production of atomic weapons; the maintenance of stockpiled weapons in a state of constant readiness; the design, development, and underground testing of new weapons types, including the use of supplemental test sites; maintenance of a readiness capability to resume atmospheric testing; and participation with the Department of Defense in the development of test detection methods.

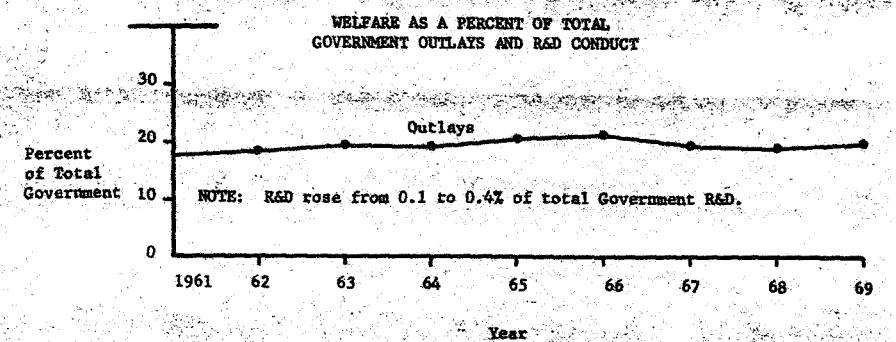
Arms Control and Disarmament Agency (ACDA). The Arms Control and Disarmament Agency advises the President and the State Department on arms control and disarmament policy, conducts negotiations with other countries looking toward international agreements to control, reduce, or eliminate arms, and will direct, as appropriate, U. S. participation in such control systems as may be adopted.

Approximately 53% of the 1969 request will be for research studies conducted through contracts or grants with nongovernmental research organizations and through reimbursement agreements with other U. S. Government departments and agencies. In 1969 the Agency plans to devote particular attention to studies on limiting and reducing armed forces, armaments, and military expenditures.

Office of Emergency Planning. Office of Emergency Planning finances technical studies of emergency preparedness problems which cut across the functional responsibilities of other Federal agencies. Contracts are made with universities and other private organizations when it is not feasible or economical to hire a permanent Office of Emergency Planning staff.

Chapter IV. WELFARE FUNCTIONAL FIELD





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CHAPTER IV

WELFARE FUNCTIONAL FIELD

The Field as a Whole

The functional field of Welfare includes programs that provide income for the individual in certain common situations in which he cannot provide for himself through working. [1]* This category also includes similar expenditures for communities, as in the case of disaster relief. In The Budget, Health, Labor, and Welfare are treated as one field. For this study they have been split, with two of the subfunctions from Health, Labor, and Welfare comprising the Welfare function as follows: Retirement and social insurance, and Public assistance and other welfare. The first subfunction has been modified by transferring unemployment insurance to the functional field of Labor. The second subfunction has been expanded by transferring most activities of the Bureau of Indian Affairs from Natural Resources to this functional field.

The distinction should be noted between the functional field of "Welfare" and the supergoal discussed in Chapter I of "Public Welfare". The functional field of Welfare is fairly narrowly circumscribed by the difinition given in the first sentence above. The supergoal "Public Welfare" is much more broadly defined, and is contributed to by all programs which are directed to helping the individual as an individual, whether it be through education, health, welfare (as defined by this function), or any other programs and functions.

The interest and involvement of the Government in this functional field really took hold only with the Great Depression of the 1930's, when it became clear that economic circumstances in an industrialized economy might result in lack of jobs and income, despite a person's willingness and ability to work. Before the Depression, individual economic well-being was regarded as a personal, or family, responsibility; and, if that failed, then it was usually considered a function of charitable or religious organizations. It was generally accepted that persons or families could provide for themselves. This concept had more validity when the U. S. was primarily an agricultural nation with enough land for everyone to grow food, and when families generally stayed together through many generations; older people were cared for within the extended family grouping. The Great Depression served to highlight the economic and social changes that were taking place as more people depended on factory jobs and as greater mobility resulted in dispersion of families. The first far-reaching result of Governmental attempts to provide some personal economic security was the Social Security Act of 1935. The first line item in Table IV-1 shows the dollar commitment resulting from this program - over $27 billion estimated 1969 outlays.

In total, the 1969 estimated Welfare outlays are $35 billion, second only to National Security in functional field outlays, and accounting for 20% of all outlays. This is an increase of 2.5% from the 1961 percent of total figure of 17.5%, when it was also second only to National Security. In R&D conduct expenditures (all by the HEW Social and Rehabilitation Service), Welfare has risen from $9 million in 1961 to $71 million in 1969, and was ranked 8 (of 13) in R&D in both years. Welfare R&D was well under 1% of all R&D outlays in both years, and also well under 1% of all Welfare outlays in both years.

*Superscript numbers denote References shown at end of this Chapter.

TABLE IV-1. WELFARE OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending		
	1967 Actual	1968 Estimate	1969 Estimate
Retirement and social insurance (trust funds)			
Old-age, survivors, and disability insurance	21,725	23,918	27,372
Civil service retirement and disability	1,965	2,121	2,364
Railroad retirement	1,315	1,415	1,490
Other	-77	-72	-78
Public assistance and other welfare:			
Public assistance (excluding medical assistance)	3,041	3,484	3,605
Vocational rehabilitation	261	363	434
School lunch, special milk, food stamp, and other	522	616	710
Proposed food stamp legislation			15
Proposed juvenile delinquency legislation			20
Bureau of Indian Affairs[a]	289	262	239
Interfund and intragovernmental transactions (-)	-686	-641	-711
Applicable receipts from the public (-)	-46	-4	-2
Subtotal, expenditures	28,309	31,462	35,458
Net Lending	533	4	-526
Total Outlays	28,842	31,466	34,932

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.

Table IV-1 shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget. HEW is the agency of primary responsibility and administers about $30 billion of the $35 billion total. The Civil Service Commission and Railroad Retirement Board manage retirement funds for Federal civil servants and railroad employees, respectively. The Agriculture Department handles most of the nutrition programs, such as the food stamp program, and the Department of Interior has the responsibility for Indian affairs.

Retirement and Social Insurance

All expenditures in this subfunction are made by trust funds, that is, funds which are held in a fiduciary capacity by the Government to be used for specified purposes. Funds are generally obtained by taxes or contributions paid by workers and employers. As has been noted, the largest item in this subfunction is Old-age, Survivors, and Disability insurance, which is designed to provide individuals or families with replacement of some of the income lost because of old-age, disability, retirement, or death. Coverage under this Social Security Act program has been extended to most members of the population, with the major exceptions being those covered under other Federal retirement plans shown in the other line items of this subfunction. Although other programs were established by the Social Security Act (e.g., unemployment insurance, aid to dependent children), the OASDI program is the one generally referred to as "Social Security".

The other two items covered under this subfunction are special retirement and income replacement programs which were established separately from the social security system. The Civil Service Retirement System was set up in 1930, prior to passage of the Social Security Act, and remains separate from it. Private railroad retirement benefits were consolidated into a program to be administered by the Government in 1934. Although the Supreme Court invalidated the initial law, subsequent laws were passed and the system was established at about the same time as Social Security, and is now coordinated with it.

Public Assistance and Other Welfare

A number of programs have been assembed under this subfunction with the largest being public assistance (other than medical assistance). This program was established under the 1935 Social Security Act and is operated through State and local government agencies for the benefit of various groups of people without adequate incomes, which includes the aged, blind or disabled persons, and families with dependent children. As Social Security (OASDI) benefits increase, the number of aged included in the public assistance program will decrease, but costs for the disabled and families with children are increasing. This is probably the most controversial of all the programs provided for under the Social Security Act, and bears the brunt of criticism – both conservative and liberal – of welfare programs. In an attempt to improve the effectiveness of, and alternatives to, such assistance, as well as other welfare programs, a Presidential Commission on Income Maintenance Programs has been appointed and is making a general review of the Nation's welfare programs.

Vocational rehabilitation is part of this subfunction. It is designed to help physically or mentally disabled persons enter the labor market. Initially begun under the Vocational Rehabilitation Act of 1920, the program has been expanded from such services as job training, guidance and counseling, placement, and provision of artificial limbs. It now includes, in addition to the services mentioned above, aspects of actual reduction of disabilities, recovery from psychiatric handicaps, and services for the "disadvantaged" as well as the disabled. The expansion of services to include the disadvantaged was enacted in 1968, with emphasis to be on testing, evaluation, and services to develop behavioral patterns necessary for the labor force, rather than duplication of actual work training programs carried out by other agencies. Close coordination with the training programs is anticipated. Although vocational rehabilitation has been included under the Welfare function, as it was in The Budget, many aspects of its programs suggest that it also be considered as a contribution to the Labor and Manpower functional field.

A number of food programs are included in another line item - school lunch, special milk, and food stamp programs. The first two are designed to provide food for children and the third to increase the purchasing power of poor people by providing them with food stamps, which can be purchased at a subsidized rate and used to buy food.

All activities of The Bureau of Indian Affairs except Indian education are included in this field. Although the Bureau of Indian Affairs supports a variety of programs that might in themselves be parts of other functions, the overall aim of the Bureau is to help Indians toward a better standard of living and participation in the economic and social life of the United States. For this reason, activities were moved from the Natural Resources functional field, where it is probably placed largely because it is part of the Interior Department. The primary functions of the Bureau are to develop programs for complete Indian management of their property and affairs, to provide education for children and adults (included in the Education field), to offer the option of remaining on or leaving reservations (with work skills in either case), and to provide public services (such as welfare) when these are necessary.

Of the two subfunctions under Welfare, Retirement and Social Insurance (trust funds) accounts for $31.1 billion in expenditures, before deductions of receipts from public, or 86.0% of the expenditures total, and Public Assistance and Other Welfare for $5.0 billion, or 14%.

Party Platforms

Relevant sections from the Democratic and Republican 1960 platforms are included as examples of the respective major party statements in the summer of 1968.

Democratic Platform

Older Citizens. A lifetime of work and effort deserves a secure and satisfying retirement.

Benefits, especially minumum benefits , under Old Age, Survivors, and Disability Insurance, should be raised to overcome present inadequacies and thereafter should be adjusted automatically to reflect increases in living costs.

Medical care for the aged should be expanded to include the costs of prescription drugs.

The minimum age for public assistance should be lowered to correspond to the requirements for social security.

America's self-employed citizens should be encouraged by tax incentive legislation to supplement social security benefits for themselves and their employees to the same extent that employees of corporations are encouraged.

In addition to improving social security, we must develop in each community a wide variety of activities to enrich the lives of our older citizens, to enable them to continue to contribute to our society and to permit them to live in dignity. The aged must have access to better housing and opportunities for regular or part-time employment, community volunteer service, and cultural and recreational activities.

People in Need. Every American family whose income is not sufficient to enable them to live in decency should receive assistance free of the indignities and uncertainties that still too often mar our present programs. To support family incomes of the working poor a number of new program proposals have recently been developed. A thorough evaluation of the relative advantages of such proposals deserves the highest priority attention by the next Administration. This we pledge to do.

Income payments and eligibility standards for the aged, the blind, the disabled and dependent children should be determined and financed on a federal basis - in place of the present inequitable, under-financed hodge-podge state plans. This would among other things, assure that needy children of unemployed parents who are still denied assistance in more than half the states as long as the father remains in the home would be made eligible in all states.

Assistance payments should not only be brought to adequate levels but they should be kept adequate by providing for automatic adjustment to reflect increases in living costs.

Congress has temporarily suspended the restrictive amendment of 1967 that placed an arbitrary limit on the number of dependent children who can be aided in each state. We favor permanent repeal of that restriction and of the provision requiring mothers of young children to work.

The new Federal State program we propose should provide for financial incentives and needed services to enable and encourage adults on welfare to seek employment to the extent they are able to do so.

The time has come when we should make a national commitment that no American should have to go hungry or undernourished. The Democratic Party here and now does make that commitment. We will move rapidly to implement it through continued improvement and expansion of our food programs.

The Democratic Congress this year has already enacted legislation to expand and improve the school lunch and commodity distribution programs, and shortly will complete action on legislation now pending to expand the food stamp program. We will enact further legislation and appropriations to assure on a permanent basis that the school lunch program provides free and reduced-price meals to all needy school children.

The American Indian has the oldest claim on our national conscience. We must continue and increase federal help in the Indian's battle against poverty, unemployment, illiteracy, ill health and poor housing. To this end, we pledge a new and equal federal-Indian partnership that will enable Indian communities to provide for themselves many services now furnished by the federal government and federal sponsorship of industrial development programs, owned, managed and run by Indians. We support a quick and fair settlement of land claims of Indians, Eskimo and Aleut citizens of Alaska.

Republican Platform

The Poor. Welfare and poverty programs will be drastically revised to liberate the poor from the debilitating dependence which erodes self-respect and discourages family unity and responsibility. We will modify the rigid welfare requirements that stifle work motivation and support locally operated children's day-care centers to free the parents to accept work.

Burdensome administrative procedures will be simplified, and existing programs will be revised so that they will encourage and protect strong family units.

This nation must not blink the harsh fact - or the special demands it places upon us - that the incidence of poverty is consistently greater among Negroes, Mexican-Americans, Indians and other minority groupings than in the population generally.

An essential element of economic betterment is the opportunity for self-determination - to develop or acquire and manage one's own business enterprise. This opportunity is bleak for most residents of impoverished areas. We endorse the concept of state and community development corporations. These will provide capital, technical assistance and insurance for the establishment and renewal of businesses in depressed urban and rural areas. We favor efforts to enable residents of such areas to become owners and managers of businesses and, through such agencies as a Domestic Development Bank, to exercise economic leadership in their communities.

Additionally, we support action by states, with federal re-insurance, to help provide insurance coverage for homes and small businesses against damage and fire caused by riots.

We favor maximum reliance on community leaders utilizing the regular channels of government to provide needed public services. One approach is the Republican-sponsored Community Service Corps which would augment cooperation and communication between community residents and the police.

In programs for the socially and economically disadvantaged we favor participation by representatives of those to be served. The failure so to encourage creative and responsible participation from among the poor has been the greatest among the host of failures of the War on Poverty.

Recent studies indicate that many Americans suffer from malnutrition despite six separate federal food distribution programs. Here again, fragmentation of federal effort hinders accomplishment. We pledge a unified federal food distribution program, as well as active cooperation with the states and innovative private enterprise, to help provide the hungry poor sufficient food for a balanced diet.

A new Republican Administration will strive for fairness for all consumers, including additional information and protection programs as necessary, state and local consumer education, vigorous enforcement of the numerous protection laws already enacted, and active encouragement of the many consumer-protection initiatives and organizations of private enterprise.

The Elderly. Elderly Americans desire and deserve independence, dignity and the opportunity for continued useful participation. We will strengthen the Social Security system and provide automatic cost of living adjustments under Social Security and the Railroad Retirement Act. An increase in earnings permitted to Social Security recipients without loss of benefits, provision for post-age 65 contributions to Social Security with deferment of benefits, and an increase in benefits to widows will also be provided. The age for universal Social Security coverage will be gradually reduced from 72 to 65 and the former 100 percent income tax deduction will be restored for medical and drug expenses for people over 65. Additionally, we will take steps to help improve and extend private pension plans.

Indian Affairs. The plight of American Indians and Eskimos is a national disgrace. Contradictory government policies have led to intolerable deprivation for these citizens. We dedicate ourselves to the promotion of policies responsive to their needs and desires and will seek the full participation of these people and their leaders in the formulation of such policies.

Inequality of jobs, of education, of housing and of health blight their lives today. We believe the Indian and Eskimo must have an equal opportunity to participate fully in American society. Moreover, the uniqueness and beauty of these native cultures must be recognized and allowed to flourish.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 1% as compared with total NBA reductions for all functional fields of 10%. This would indicate that Congress places a considerably higher priority on this functional field. Congressional NBA actions regarding individual line items in this field differed. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) as compared with the overall Congressional NBA cut of 10%.

* The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

Selected Programs Reduced <10%		Selected Programs Reduced >10%	
HEW Social and Rehabilitation Service	-0.4	Interior Bureau of Indian Affairs	-11.2
Social Security Administration	0		
State Department Cuban Refuge Assistance	0		
Agricultural School Lunch Program	-3.2		
Agricultural Food Stamp Program	0		

In addition to the above actions, Congress exempted from the $180 billion overall spending ceiling the amount by which Social Security trust fund expenditures exceeded The Budget estimates. Up to $560 million in Public Assistance funding (including Medicaid, which appears here under Health) was similarly exempted. Among actions taken, aside from the appropriations or extensions of previous programs, Congress:

- Broadened vocational rehabilitation programs
- Initiated a program of support for needy children in public or private child-care institutions
- Established in the Senate a Select Committee on Nutrition and Human Needs to study hunger in the U. S.

The Likely Future (The Next Decade)

Table IV-2 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- It is likely that total expenditures for the Welfare functional field will continue to grow at above average growth rates for all functional fields and that Welfare will continue to rank second among the 13 fields.
- Priorities within the Welfare field are fairly consistent, with all programs under the two subfunctions likely to continue to grow at above average rates except for the Bureau of Indian Affairs, which is likely to continue at below average growth rates (especially in view of recent Congressional appropriation cuts).
- While Welfare R&D is likely to grow at above average rates, its importance to the Welfare function is likely to continue to be minor (well under 1% of all Welfare expenditures in 1961 and 1969) and remain under 1% of total Government R&D.

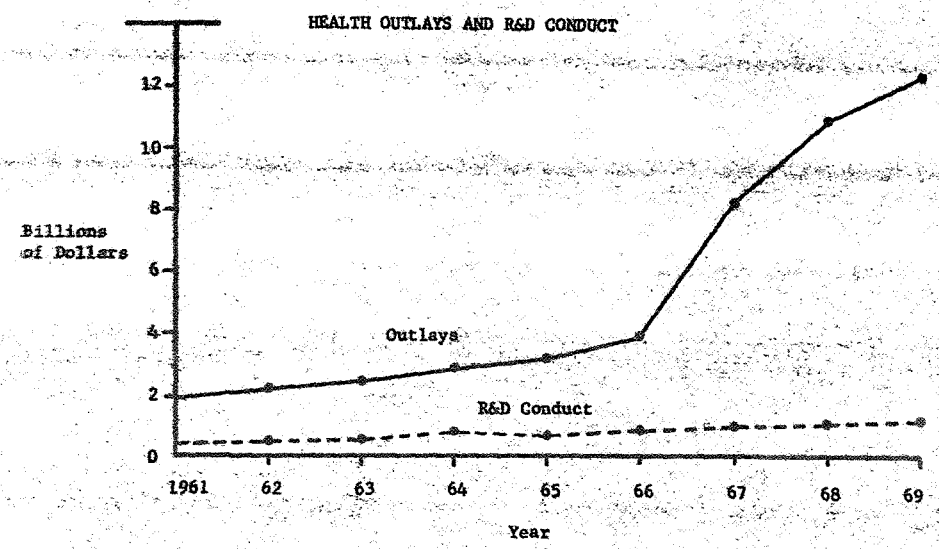
* The likely future relative growth concept, as well as other notes pertinent to this discussion, appears as the beginning of "The Likely Future" section in Chapter II.

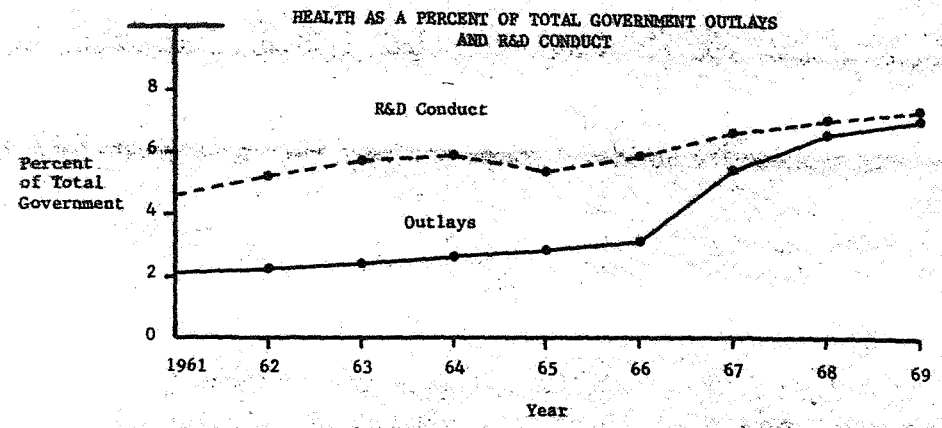
TABLE IV-2. WELFARE – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, % 1967 to 1969	Growth Relative To Average: 1967 to 1969	Growth Relative To Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, % 1967 to 1969	Growth Relative To Average: 1967 to 1969	Growth Relative To Average: Likely Future	Comments
Retirement and Social Insurance	31,148	86.1	+25	Above	Above						
Old-age, Survivors, and Disability Insurance	27,372	75.7	+26	Above	Above						
Other	3,776	10.4	+18	About	About						
Public Assistance and Other Welfare	5,023	13.9	+22	Above	Above						
Public Assistance	3,605	10.0	+19	About	About						
Lunch, Milk, Food, Stamp, etc.	710	2.0	+36	Well Above	Well Above						
Vocational Rehabilitation	434	1.2	+66	Well Above	Well Above	71	100.0	+72	Well Above	Well Above	
Bureau of Indian Affairs	239	0.7	-17	Well Below	Well Below						
Other	35	0.1	See Comments								Proposed new juvenile delinquency and food stamp legislation.
Total	36,171	100.0	+25	Above	Above	71	100.0	+72	Well Above	Well Above	
Total Federal Government			+17					+4			

References

(1) Congress and the Nation, 1945 – 1964, (Congressional Quarterly Service, Washington, D. C., 1965, page 1225).





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CHAPTER V

HEALTH FUNCTIONAL FIELD

The Field as a Whole

The functional field of Health includes programs designed to improve the prevention, and methods of diagnosis and treatment, of adverse health conditions. Although The Budget has one overall functional field encompassing Health, Labor, and Welfare, these have been divided into three separate functional fields and the areas of coverage have been somewhat modified. Included under Health, for purposes of this discussion, is the subfunction entitled "Health Services and Research" from the functional field of Health, Labor, and Welfare in The Budget, and the subfunction entitled "Hospital and Medical Care" from the Veterans functional field in The Budget. Although parts of the PHS (Public Health Service) Bureau of Disease Prevention and Environmental Control contribute importantly to the functional field of Natural Resources and Environmental, it has been included here because the major part of its activities are more directly related to Health, such as chronic and communicable diseases.

Concern of the Federal Government for health problems emerged as early as 1798 with establishment of the United States Marine Hospital Service to care for sick and injured seamen. This concern was less related to interest in an individual's health than it was to a desire to keep our merchant marine strong, both for economic and military purposes. A 1963 publication of the Public Health Service[1]* states that "...since that time, the concept has prevailed that where national health needs are not being met elsewhere – because of the complexity of the problems, or the insistence of the need, or the magnitude of the resources required – the Federal Government has an obligation to help." Some might have questioned this statement, and some might still do so, even after the multitude of recent legislative actions with respect to health. It is, in 1969, certainly a more widely accepted concept of the Government's role than it was 10 or 20 years ago.

Of the three supergoals discussed in Chapter I, the Health field contributes primarily to Public Welfare. It has indirect connections with Economic Growth (a person with good health is a more productive person) and National Security (the origins of PHS in caring for merchant marine seamen is a good example), but better health is predominantly related to benefiting individuals. Partly because of this and partly because of a strong tradition of individual or family responsibility in caring for the health of its members, the Federal role in health activities has been surrounded by controversy. A look at the record of legislation in this field indicates that a major change in the assumption of an expanded role by the Federal Government came in the 1960's, with implications of greatly expanding costs and responsibilities in the future. After the inauguration of President Kennedy, there was at least one special message to Congress on "Health" each year of the 1960's. The previous administration had won the election in 1952 on a platform which "oppose[d] Federal compulsory health insurance with its crushing cost, wasteful inefficiency, bureaucratic dead weight, and debased standards of medical care".[2] A measure of the change in this philosophy can be seen in the 1968 Republican platform, which, while stressing the "traditional patient-doctor relationship", also states that "...no American should be denied adequate medical treatment".[3]

The change in our concept of the Government's role in the field of health is reflected quite clearly in the data of Table II-2 in Chapter II. In percent of total Government outlays over the 1961 to 1969 period, Health grew from 2.1% to 7.0% of total, a jump of

*Superscript numbers denote References which are shown at the end of this Chapter.

almost 5%, and by far the largest percentage increase for any field. This increase in percent of total was the result of an outlay increase from just under $2 billion in 1961 to just over $12 billion in 1969. Indications are already evident that the 1969 estimate is low. A glance at Table II-2 shows the big point of departure to be between 1966 and 1967, when the full effect of the Medicare and Medicaid programs began to be felt, and outlays were doubled in 1 year. In relative priorities with other functional fields, Health ranked ninth (of 12) in 1961, and third in 1969. It was one of three fields that grew more than $10 billion during the period (National Security and Welfare were the others), and one of three that grew more than 500% (Space and Housing were the others).

The R&D conduct expenditure data show that health research in 1961 was not in the same controversial position as health care. R&D expenditures for Health placed the field in fourth position in 1961, and third in 1969. Health R&D accounted for 4.6% of all R&D expenditures in 1961 and grew to 7.3% in 1969, which reflected a growth in funds from $400 million to $1.2 billion. Because health research was accepted before health care as being a proper Federal function, R&D was a high percent of the field's outlays in 1961 (20%) and a large part of the remainder included care for Veterans, a group for whom the Government felt a special responsibility because of wartime service. By 1969, because of the spectacular rise in outlays for health care, R&D funds accounted for a lower percent (10%) of total Health functional field outlays.

A more detailed look at overall outlays for Health appears in Table V-1, which shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget,

TABLE V-1. HEALTH OUTLAY DETAILS FOR FY 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Health services and research (HEW)			
Medical research	$1,014	$ 1,065	$ 1,079
Facilities and medical manpower	445	554	577
Organization and delivery of health services	43	111	126
Medicare (trust funds)	3,396	5,064	5,785
Medicaid and other financing	1,366	1,997	2,398
Direct health care	158	177	194
Prevention and control of health problems and other	351	486	521
Hospital and medical care (VA)			
Medical care and hospital services	1,272	1,336	1,413
Construction of hospital and nursing home facilities	60	60	69
Medical administration, research, and other	58	61	65
Applicable receipts from the public	-12	-1	-1
Subtotal, expenditures	8,151	10,910	12,226
Net lending	15	0	-15
Total outlays	$8,166	$10,910	$12,211

Source: Edited excerpts from The Budget.

divided into activities administered by HEW (87% of total) and those administered by the Veterans Administration (13% of total). Other agencies contribute to Health, such as the Defense Department (e.g., malaria control), but such activities have been left in the functional field to which the broader program area contributes. Breaking down the 1969 line items in Table V-1 in another way, approximately $9,790 million, or 80%, is for actual health care; $646 million, or 5%, for increasing facilities and manpower; and $1,791 million, or 15%, for activities which are primarily directed toward increasing knowledge.

HEW Health Services and Research

This subfunction includes all health programs handled by the Department of Health, Education, and Welfare.

Medical Research ($1,079 million, 1969 expenditures)

The importance of research in the field of Health has been discussed previously, based on the data presented in Chapter II. More complete data are presented in Tables V-2 and V-3 which follow, and detailed information on R&D programs is contained in the Appendix to this chapter. Note that these tables include Health R&D funded by the Veterans Administration, as well as by HEW, although HEW predominates with 88.5% of Health R&D. The AEC Biology and Medicine program has also been included in Health R&D. It has been noted that Health R&D as a percent of total Health outlays is a much lower percent in 1969 than in 1961. This happened because other activities grew at a faster rate than R&D, not because R&D did not grow. Table V-3 shows that R&D conduct expenditures grew 200% over the 1961 to 1969 period, although it decreased slightly as a

TABLE V-2. 1969 HEALTH R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Areas	Expenditures, $ Millions	Percent of Total
1	NIH (HEW)	926.4	76.2
2	Bureau of Disease Prevention and Environmental Control (HEW)	114.0	9.4
3	Biology and Medicine (AEC)	92.0	7.6
4	Medical Research (VA)	46.5	3.8
5	Other Public Health Service (HEW)	24.9	2.0
6	FDA (HEW)	11.2	0.9
7	Prosthetic Research (VA)	1.5	0.1
	Total	1,216.5	100.0

TABLE V-3. CHANGES IN HEALTH R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ Millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D	+816.7	+172.2	+109.0	+204.2	+16.5	+9.8			
National Institutes of Health (HEW)	+616.7	+104.9	+66.1	+199.1	+12.8	+7.7	-1.3	-2.5	-1.5
Disease Prevention and Environmental Control (HEW)	+108.3	+46.2	+31.5	+1,380.5	+68.1	+38.2	+7.7	+2.9	+2.0
Biology and Medicine (AEC)	+41.8	+6.0	+4.0	+83.3	+7.0	+4.5	-5.0	-0.6	-0.3
Medical Research (VA)	+28.6	+4.0	+2.9	+159.8	+9.4	+6.7	-0.7	-0.3	-0.1
Other Public Health Service (HEW)	+14.3	+9.9	+4.1	+134.9	+66.0	+19.7	-0.7	+0.6	+0.1
Food and Drug Administration (HEW)	+8.1	+1.1	+0.3	+261.3	+10.9	+2.8	+0.1	-0.1	-0.1
Prosthetic Research (VA)	+0.9	+0.1	+0.1	+150.0	+7.1	+7.1	-0.1	0	0

percent of all Health R&D. The Bureau of Disease Prevention and Environmental Control, which funded only $8 million of R&D in 1961, increased its R&D by over $100 million and now is almost 10% of all Health R&D. The other two program areas of Health R&D funded by HEW – Other Public Health Service and Food and Drug Administration – have both grown over 100% during the 1961 to 1969 period, although they are still relatively small parts of Health research. The strong increase in percent of total noted for R&D of the Bureau of Disease Prevention and Environmental Control was balanced by the decrease of the Biology and Medicine program of AEC, which, though growing over the period, was the only Health R&D program area to grow less than 100% and, as a result, dropped 5% of the total Health R&D expenditures.

R&D growth trends over the past year or two show that the Bureau of Disease Prevention and Environmental Control is growing much faster than other programs, and it and other PHS are the only two program areas growing faster than the average for Health R&D in this most recent period. But, all areas of Health research are scheduled to grow in the latest year, despite the tight budget situation, and the Health R&D field overall is scheduled to grow at almost 10% in the FY 1969 Budget submitted in January, 1968. NIH, though growing less than the Health R&D field as a whole, still accounts for 76% of all Health R&D conduct expenditures.

Facilities and Medical Manpower ($577 million, 1969 expenditures)

Medical facilities, as educational facilities, were an accepted part of Government funding before many other elements of the Health or Education fields. Legislation to support hospital construction was passed just after World War II (the Hill-Burton Act), and has been extended and expanded since then to include special health facilities other than hospitals and to authorize the making of loans, as well as grants. Grants for health research facilities were authorized by the 1956 Health Research Facilities Act. An advisory commission is presently considering the health facilities and Federal support needed in the future.

Great attention has been focused lately on the lack of adequate numbers of trained medical manpower, from doctors to nurses' aids. Public health and nurse traineeship programs were authorized in 1956 and extended in 1959, and a $1 million annual subsidy to public health schools was instituted in 1958. But it was not until the 1960's that aid for medical manpower expanded greatly. In 1963 Congress authorized aid for medical schools and students and in 1964 passed the Nurse Training Act. The Allied Health Professions Act of 1966 was designed to provide improved training for allied health professions personnel, such as medical technicians, and to encourage medical people to practice in low-income rural areas by forgiving loans. Under a 1966 reorganization plan for the Public Health Service, a separate Bureau of Health Manpower was established to develop and coordinate programs aimed at providing more and better health services personnel.

Organization and Delivery of Health Services ($126 million, 1969 expenditures)

The demand for health services has risen as the population has grown and as incomes have increased. Coupled with this has been increasing demand for, and more

general acceptance of, the philosophy that every citizen, regardless of income, should have access to adequate medical care. The Government has been under pressure, in addition, to "pass on the benefits" of the large research programs to the general public in the form of better health care. The data in Table V-1 show that expenditures under this line item have risen almost 200% in the last 2 years. Three major programs are included in this category:

- National Center for Health Services R&D (to use resources more effectively
- Partnership for Health (grants to States for health planning and services)
- Regional Medical Program (to strengthen health resources in a region).

Medicare (1969 expenditures, $5,785 million)

Medicare is clearly the largest component of Health outlays, making up nearly 50% of 1969 outlays, and is responsible for the major increases that have taken place in Health outlays over the 1961 to 1969 period. Established in 1965, Medicare was the culmination of a debate that has been waged ever since World War II over a Government health insurance program. As authorized, the bill provided for two health insurance programs for those 65 and over: one compulsory and financed under the Social Security system by means of payroll deductions to cover hospital and nursing home care; and the second a voluntary one which included payment of doctors' bills, to be financed partly by monthly premiums for those joining and partly from general revenues.

Medicaid and Other Financing (1969 expenditures, $2,398 million)

Second in expenditures after Medicare, the Medicaid program provides matching grants to States for medical assistance to the poor, no matter what their age. Medicaid originated in the Social Security Amendments Act of 1965 (which established Medicare), and combined some provisions of the Social Security Act while adding the provision that not only older people would be covered but also people of any age covered by public assistance programs for the blind, disabled, and dependent children. An additional category was added for the medically needy who were not quite poor enough to qualify for public assistance.

Also included in this line item is maternal and child health and welfare ($269 million in 1969), which originated in the Social Security Act of 1935 and provides matching grants to States to fund services for pregnant women and for children. Recent emphasis has been on family planning, comprehensive health services for mothers and children, and attempts to improve diagnosis and treatment of childhood illnesses.

Direct Health Care (1969 expenditures, $194 million)

Direct health care is provided by the Government for a few special groups of the population such as Indians and merchant seamen.

Prevention and Control of Health Problems and Other (1969 expenditures, $521 million)

Largely the responsibility of the Bureau of Disease Prevention and Environmental Control, these programs are designed to prevent or control communicable diseases, chronic illnesses, accidents, and environmental health hazards. Implementation of the Air Quality Act of 1967 will be funded from this item. The Food and Drug Administration is another large component, and is responsible for the safety, purity, effectiveness, and labeling of various consumer products.

Veterans Administration Hospital and Medical Care

Over 90% of 1969 expenditures for this subfunction are for medical care and hospital services to veterans in VA hospitals and clinics. This care is available to all veterans with service-connected disabilities and to those with non-service-connected disabilities when they cannot afford other care, and when room is available in VA hospitals. The remaining 1969 expenditures are divided fairly evenly between facility construction and medical administration, research, and other. The research program is described in the Appendix to this chapter, and expenditure data are summarized in Table V-2 and V-3.

Party Platforms

The Health sections from the two 1968 party platforms are included as indications of approach and emphasis of the two major parties.

Democratic

Health. The best of modern medical care should be made available to every American. We support efforts to overcome the remaining barriers of distance, poverty, ignorance, and discrimination that separate persons from adequate medical services.

During the last eight years of Democratic administrations, this nation has taken giant steps forward in assuring life and health for its citizens. In the years ahead, we Democrats are determined to take those final steps that are necessary to make certain that every American, regardless of economic status, shall live out his years without fear of the high costs of sickness.

Through a partnership of government and private enterprise we must develop new coordinated approaches to stem the rise in medical and drug costs without lowering the quality or availability of medical care. Out-of-hospital care, comprehensive group practice arrangements, increased availability of neighborhood health centers, and the greater use of sub-professional aides can all contribute to the lowering of medical costs.

We will raise the level of research in all fields of health, with special programs for development of the artificial heart and the heart transplant technique, development of drugs to treat and prevent the recurrence of heart diseases, expansion of current task forces in cancer research and the creation of new ones including cancer of the lung, determination of the factors in mental retardation and reduction of infant mortality, development of drugs to reduce the incidence of suicide and construction of health research facilities and hospitals.

We must build new medical, dental and medical service schools, and increase the capacity of existing ones, to train more doctors, dentists, nurses, and medical technicians.

Medical care should be extended to disabled beneficiaries under the Old Age, Survivors and Disability Insurance Act to the same extent and under the same system that such care is available to the aged.

Thousands of children die, or are handicapped for life, because their mothers did not receive proper pre-natal medical attention or because the infants were unattended in the critical first days of life. Maternal and child health centers, located and designed to serve the needs of the poor, and voluntary family planning information centers should be established throughout the country. Medicaid programs administered by the states should have uniform standards so that no mother or child is denied necessary health services. Finally, we urge consideration of a program comparable to Medicare to finance pre-natal care for mothers and post-natal care for children during the first year of life.

Republican

Health. The inflation produced by the Johnson-Humphrey Administration has struck hardest in the area of health care. Hospital costs are rising 16 percent a year - four times the national average of price increases.

We pledge to encourage the broadening of private health insurance plans, many of which cover hospital care only, and to review the operation of government hospital care programs in order to encourage more patients to utilize non-hospital facilities. Expansion of the number of doctors, nurses, and supporting staff to relieve shortages and spread the availability of health care services will have our support. We will foster the construction of additional hospitals and encourage regional hospital and health planning for the maximum development of facilities for medical and nursing care. We will also press for enactment of Republican-sponsored programs for financing of hospital modernization. New diagnostic methods and also preventive care to assure early detection of physical impairments, thus fostering good health and avoiding illnesses requiring hospitalization, will have our support.

Additionally, we will work with states and local communities to help assure improved services to the mentally ill within a community setting and will intensify research to develop better treatment methods. We will encourage extension of private health insurance to cover mental illness.

While believing no American should be denied adequate medical treatment, we will be diligent in protecting the traditional patient-doctor relationship and the integrity of the medical practitioner.

We are especially concerned with the difficult circumstances of thousands of handicapped citizens who daily encounter architectural barriers which they are physically unable to surmount. We will support programs to reduce and where possible to eliminate such barriers in the construction of federal building.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 2.7% compared with total NBA reductions for all functional fields of 10%. This would indicate that Congress places considerably higher priority on this functional field. The following indicates the Congressional decisions regarding the most important line items (>$50 million, 1969 appropriations) compared with the overall Congressional NBA reduction of 10%.

Selected Program Reduced <10.0%		Selected Programs Reduced >10.0%
HEW Social and Rehabilitation Service	-1.3	None
HEW Social Security Administration	0	
HEW Indian Health Activities	-6.3	
HEW Public Health Service	-5.3	
Veterans Administration-Health Activities	-1.8	

Congress exempted up to $560 million in Public Assistance payments (including medicaid) from the $180 billion budget ceiling. Public Assistance payments other than medicaid would fall under the Welfare functional field. Among actions, aside from appropriations and extensions of previous programs, Congress expanded health manpower laws for training, education, and research facilities.

The Likely Future (The Next Decade)

Table V-4 summarizes an estimate of the likely future relative growth** for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

**The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

(1) The following points summarize the likely future for the total functional field:

- There is every reason to expect the Health functional field to continue growing at well above average rates. Relative increases in the recent past have been extraordinary - from 2.1 to 7.0% of total Government outlays and from a rank of 9 in 1961 to rank of 3 (out of 13) in 1969. This functional field is one of the fastest growing and there is no reason to doubt its continued rapid growth in the near future.

- The above applies to both health services and health R&D with the only minor exception being the subfunction of Veterans Hospital and Medical care, which is below average growth in total expenditures.

- Medicare and Medicaid and Other Financing of medical services is about two-thirds of total gross expenditures in this functional field, and all indications point to even larger future increases in expenditures.

References

(1) The Public Health Service, Background Material Concerning the Mission and Organization of the Public Health Service, United States Government Printing Office, Washington, D. C., 1963, p 13.

(2) Republican Party Platform, 1952.

(3) See "Party Platforms", in this Chapter.

TABLE V-4. HEALTH - IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures 1969 $ Millions	Total Gross Expenditures 1969 Percent of Total	Total Gross Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Total R&D Conduct Expenditures 1969 $ Millions	Total R&D Conduct Expenditures 1969 Percent of Total	Total R&D Conduct Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Comments
Health Services and Research (HEW)	10,680	87.3	+38	Well Above	Well Above	1,077	89	+18	Well Above	Well Above	
Medicare	5,785	47.3	+70	Well Above	Well Above						
Medicaid and Other Financing	2,398	19.6	+76	Well Above	Well Above						
Medical Research	1,079	8.8	+6	Well Below	About Average	926	76	+13	Well Above	Well Above	Total expenditures (including facilities and training) have grown at well below average rates in the past few years but are likely to grow at average rates in the future owing to increased priority (especially post-Vietnam).
Facilities and Manpower	577	4.7	+30	Above	Above						
Prevention and Control and Other	521	4.3	+48	Well Above	Well Above	125	10	+61	Well Above	Well Above	
Direct Health Care	194	1.6	+23	Above	Above						
Organization and Delivery	126	1.0	+103	Well Above	Well Above						
Other HEW Health R&D	--	--	--	--	--	25	2	+66	Well Above	Well Above	Other PHS R&D.

TABLE V-4. (CONTINUED)

Subfunction	Total Gross Expenditures 1969 $ Millions	Total Gross Expenditures Percent of Total	Total Gross Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Total R&D Conduct Expenditures 1969 $ Millions	Total R&D Conduct Expenditures Percent of Total	Total R&D Conduct Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Comments
Hospital and Medical Care (VA)	1,547	12.7	+11	Below	Below	48	4	+9	Above	Above	
Medical Care and Hospital Services	1,413	11.6	+11	Below	Below						
Construction	69	0.6	+15	About Average	About Average						
Medical Administration, Research, Other	65	0.5	+12	Below	Below	48	4	+9	Above	Above	
Multiple/Other R&D	--	--	--	--	--	92	8	+7	Above	Above	AEC Biology and Medicine R&D. Total expenditures included under National Security and Natural Resources and Environmental.
Total	12,227	100.0	+50	Well Above	Well Above	1,217	100.0	+16	Well Above	Well Above	
Total Federal Government			+17					+4			

TABLE V-A-1. HEALTH R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Biology and Medicine (AEC)	1961	50.2		
	1962	58.3	+8.1	+16.1
	1963	65.1	+6.8	+11.7
	1964	71.0	+5.9	+9.1
	1965	77.2	+6.2	+8.7
	1966	82.4	+5.2	+6.7
	1967	86.0	+3.6	+4.4
	1968	88.0	+2.0	+2.3
	1969	92.0	+4.0	+4.5
Public Health Service (HEW) National Institutes of Health	1961	309.7[a]		
	1962	401.0[a]	+91.3	+29.5
	1963	506.8	+105.8	+26.4
	1964	634.3	+127.5	+26.2
	1965	555.4[b]	-78.9	-12.4
	1966	689.9	+134.5	+24.2
	1967	821.5	+131.6	+19.1
	1968	860.3	+38.8	+4.7
	1969	926.4	+66.1	+7.7
Bureau of Disease Prevention and Environmental Control	1961	7.7		
	1962	15.1	+7.4	+96.0
	1963	19.8	+4.7	+31.1
	1964	27.0	+7.2	+36.4
	1965	25.8[b]	-1.2	-4.4
	1966	34.0	+8.2	+31.8
	1967	67.8	+33.8	+99.4
	1968	82.5	+14.7	+21.7
	1969	114.0	+31.5	+38.2
Other Public Health	1961	10.6[a]		
	1962	13.8[a]	+3.2	+30.2
	1963	17.9	+4.1	+29.7
	1964	37.9	+20.0	+111.7
	1965	33.8[b]	-4.1	-10.8
	1966	15.1	-18.7	-55.3
	1967	15.0	-0.1	-0.7
	1968	20.8	+5.8	+38.7
	1969	24.9	+4.1	+19.7
Medical Research (VA)	1961	17.9[a]		
	1962	21.9[a]	+4.0	+22.3
	1963	28.9[a]	+7.0	+32.0
	1964	31.3[a]	+2.4	+8.3
	1965	35.4[a]	+4.1	+13.1
	1966	37.3[a]	+1.9	+5.4

TABLE V-A-1. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Medical Research (VA) (Continued)	1967	42.5	+5.2	+13.9
	1968	43.6	+1.1	+2.6
	1969	46.5	+2.9	+6.7
Prosthetic Research (VA)	1961	0.6[a]		
	1962	0.7[a]	+0.1	+16.7
	1963	1.0[a]	+0.3	+42.9
	1964	1.0[a]	0	0
	1965	1.2[a]	+0.2	+20.0
	1966	1.2[a]	0	0
	1967	1.4	+0.2	+16.7
	1968	1.4	0	0
	1969	1.5	+0.1	+7.1
Food and Drug Administration	1961	3.1		
	1962	3.0	-0.1	-3.2
	1963	3.6	+0.6	+20.0
	1964	5.9	+2.3	+63.9
	1965	6.6	+0.7	+11.9
	1966	9.4	+2.8	+42.4
	1967	10.1	+0.7	+7.4
	1968	10.9	+0.8	+7.9
	1969	11.2	+0.3	+2.8

(a) Estimate. For Public Health Service, data for NIH was not reported separately from PHS prior to 1963. For Veterans Administration, exact program area data were not available.

(b) Decrease in the 1965 figures for the National Institutes of Health, Other Public Health, and the Bureau of Disease Prevention and Environmental Control is attributable to a change in the payment procedure for grant recipients. This caused substantial expenditures that would have been made in 1965 under the former procedure to be made in 1966. In addition, the 1965 figures for Other Public Health are $15 million higher than shown in The Budget as a result of discussions with HEW budget personnel which indicated an error in The Budget figures.

Health: Summary of Official Program Descriptions

Veterans Administration. The VA medical research program is devoted to patient care and improved diagnostic and treatment procedures. Research projects are conducted in Veterans Administration laboratories or other institutions on a contract basis, whichever is more advantageous or economical. Prosthetic research develops and tests prosthetic, orthopedic and sensory aids, for the purpose of improving care and rehabilitation of disabled veterans, including amputees, paraplegics, and the blind.

Biology and Medicine (AEC). Research is conducted on the effects of radiation on living organisms and on the environment, protection against the injurious effects of radiation, and development of methods for utilizing radioactive materials in the diagnosis, treatment, and understanding of human diseases, such as cancer. The program

includes the measurement and effects of radioactivity (including fallout) in the atmosphere, soils, and surface waters for the establishment of standards to insure that AEC activities are conducted safely. The program recognizes the responsibilities of other Government agencies conducting programs in biomedical research.

The major portion of the research is conducted by 20 laboratories which are owned by or operated for the Commission, and the remainder is supported in more than 235 universities, colleges, hospitals, and independent laboratories. In addition, research is conducted in Japan to determine the long-term effects of atomic bomb radiation on the affected population.

Public Health Service (HEW). HEW conducts and supports research in the medical, environmental and related sciences, principally (1) the National Institutes of Health, and (2) the Bureau of Disease Prevention and Environmental Control.

The National Institutes of Health consist of the following Institutes: National Institute of Allergy and Infectious Diseases; National Institute of Arthritis and Metabolic Diseases; National Cancer Institute; National Institute of Dental Research; National Heart Institute; National Institute of Neurological Diseases and Blindness; National Institute of Child Health and Human Development; National Institute of General Medical Sciences and the National Institute of Mental Health.

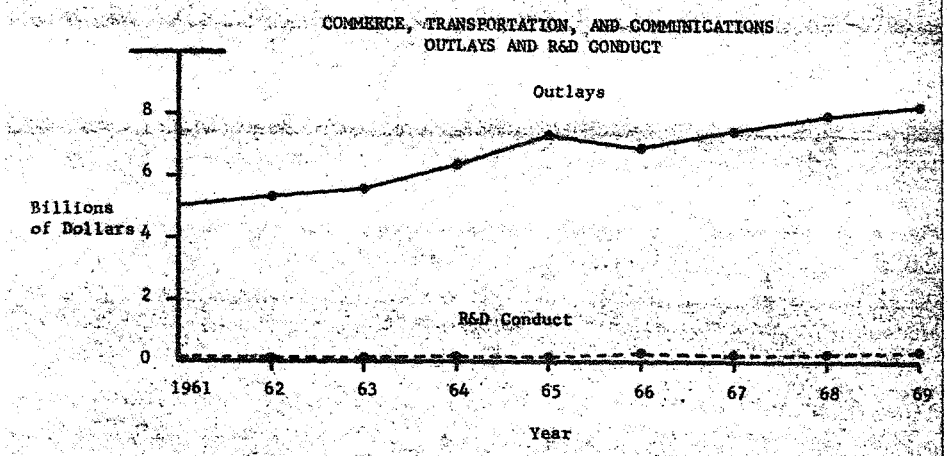
The Bureau of Disease Prevention and Environmental Control consists of Centers dealing with Air Pollution, Communicable Diseases, Chronic Diseases, Radiological Health and Urban and Industrial Health.

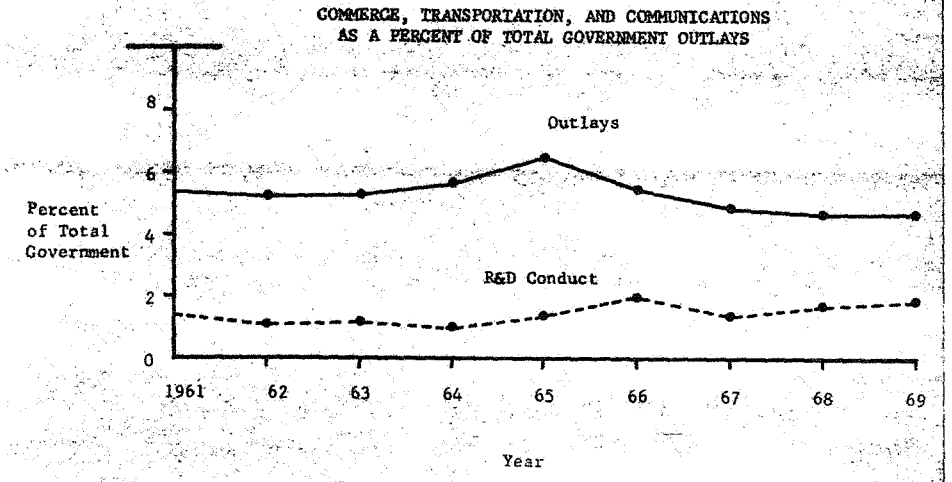
Other Public Health consists of, among others, Health Education loans, Health Manpower, and Community Health Services.

Food and Drug Administration (HEW). HEW conducts broad and long range research concerning foods, drugs, pesticides, and cosmetics, and on related hazardous substances.

Regulations are developed and promulgated for pesticide tolerances and exemptions, food additives, color additives, and food standards. Scientific evaluations are made on the subjects of the regulations and the labeling of hazardous substances. Methods and bases for evaluation of petitions and tolerances are developed and studied. Scientific activities of the agency are coordinated. A National Center for Drug Analysis has enabled FDA to expand the drug surveillance program by providing for the rapid analysis of drug samples taken from the market.

Chapter VI. COMMERCE, TRANSPORTATION, AND COMMUNICATIONS FUNCTIONAL FIELD





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CHAPTER VI

COMMERCE, TRANSPORTATION, AND COMMUNICATIONS FUNCTIONAL FIELD

The Field as a Whole

The functional field of Commerce, Transportation, and Communications includes programs designed to "improve transportation and communication services, assist business, develop depressed areas, and assure effective competition and fair business practices".[1]* The Budget categorization has been used for this field with a few exceptions. The Environmental Science Services Administration has been transferred to the Natural Resources and Environmental field. Aircraft technology from NASA, which The Budget includes under Space, has been brought to this field under the subfunction of Air Transportation. Urban Mass Transit, which has been transferred by Executive Order from HUD (Housing and Urban Development) to the Transportation Department, is included here under the subfunction Ground Transportation. The only other change is one of retitling: the word "communications" has been added to the title so that it is now "Commerce, Transportation, and Communications", although it is generally referred to by the short form "Commerce".

The necessity for some control over commerce was one of the reasons the Constitution of the United States was written. Under the Articles of Confederation, which served as Federal law between 1781 and 1789, each state was really an independent and sovereign entity, and the Confederation was largely a "league of friendship"[2] with no real authority to collect revenues or regulate trade. This presented practical difficulties, and a convention of states was proposed by Virginia in 1786 to "consider how far a uniform system in their commercial relations may be necessary to their common interests and their permanent harmony".[2] Because of lack of authority of the delegations, the main result of this meeting was a report, written by Alexander Hamilton, which suggested another convention with enlarged powers because the "power of regulating trade is of such comprehensive extent, and will enter so far into the general System of the federal government, that to give it efficacy, and to obviate questions and doubts concerning its precise nature and limits, may require a corresponding adjustment of other parts of the Federal System".[2] The resulting meeting was the Convention of 1787, which produced the Constitution. After taxation, the power to regulate interstate and foreign commerce was probably the next most important new power granted in this document. In specifying the Government's historical interest in commerce, then, it was found that the interest of the various states in regulating commerce was one of the catalysts which served to create the Government.

In its contribution to the supergoals discussed in Chapter I, the field of Commerce contributes primarily to the supergoal of Economic Development. Areas would be slowed down in their development if it were not possible to trade with other areas, and this necessitates a transport and communications network as well as a means for providing and regulating it. Functions relating to this requirement are primarily handled by the Department of Transportation and independent regulatory agencies. The Department of Commerce has major responsibility for the subfunction entitled "Advancement of Business", which includes such programs as export promotion, assisting business, setting physical standards, promoting technology, and collecting statistics. It also has

*Superscript numbers denote References shown at the end of this Chapter.

assumed responsibility more recently for more generalized help to business through area and regional development. The Commerce field is also related to the supergoals of National Security and Public Welfare. Its contribution to National Security has been the basis for many Government programs in support of the field.

The allocation of Government funds to this functional field over the 1961 to 1969 period shows that it is relatively high in rank by comparison with most other fields, but that its percent of total outlays has gone down over the 1961 to 1969 period, despite a rise in the first half of the period. In 1961, Commerce outlays were 5.4% of total Government outlays, as shown in Table II-2 in Chapter II. In 1965, this figure was up to 6.5%, but fell quickly thereafter and for 1969 is estimated to be 4.7% of total, or a 0.7 reduction in percent of total over the 9 years. This occurred despite a fairly steady rise (with the exception of one year) in actual dollar outlays and is a result of much larger growth in other fields. In comparison with other fields, Commerce ranked fourth (of 13) in both 1961 and 1969.

In expenditures for research and development, Commerce ranks a *little lower* – just straddling the midpoint in 1961 rank between 6 and 7 and just above that point in 1969 with a rank of 6. Commerce R&D is still, however, less than 2% of all Government R&D expenditures. In importance to the field of Commerce, R&D was 2.4% of total Commerce outlays in 1961 and up to 3.8% in 1969 – still relatively low.

A more detailed look at overall outlays for Commerce appears in Table VI-1, which shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down into subfunctions and line items under these subfunctions. Because it is somewhat difficult to tell from this table just what Departments have responsibility for the line items shown, the estimated 1969 expenditures are shown below by department (Table VI-2). The Transportation Department has primary responsibility for expenditures in this field, with 68% of 1969 expenditures. Commerce is second with 16%, and the Post Office third with 9%. The remainder, less than 10%, is allocated among a multitude of agencies and groups, including the independent regulatory agencies.

The following subsections will treat the elements that make up the Commerce field more fully in terms of objectives, policy, and programs. To keep some perspective on the relative importance of each subfunction within the field, the following table (VI-3) summarizes the expenditure line items on Table VI-1 by subfunctions for 1969.

Because the transportation activities shown are divided into three separate subfunctions, it may be useful in this overall section to provide some more general information on transportation policies and programs, since the three subfunctions of Air, Water, and Ground Transportation make up such a large portion (82%) of the field's outlays. In addition, part of the subfunction "Regulation of Business" pertains to transportation. The Federal Government is deeply involved with the nation's transport systems, and exercises its powers and influence through promotional and regulatory activities. The Governmental role that has evolved in the area of transportation, though greatly changed and expanded over time, derives from the Constitutional provision, discussed earlier, giving the Federal Government authority to regulate interstate commerce. More recent promotional activities have often been associated with, at least in theory, national defense needs, and also economic development and general welfare.

In many ways the usual classification by mode, or by air, water, and ground, as is done in The Budget, is a necessary approach, because transportation policies and programs have not, to date, been treated on a comprehensive basis but are largely an

TABLE VI-1. COMMERCE, TRANSPORTATION, AND COMMUNICATIONS OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Advancement of business			
Export promotion[a]	$ 18	$ 20	$ 29
Small business assistance	75	60	43
Physical standards	38	31	29
Promotion of technology[a]	54	57	59
Economic and demographic statistics[a]	32	46	48
Federal Deposit Insurance Corporation (trust funds)	-239	-261	-274
Other aids to business[a]	33	39	40
Area and regional development			
Department of Commerce: Economic development assistance	52	153	186
Appalachia and other	86	159	239
Air transportation			
Federal Aviation Administration	883	892	1,228
Civil Aeronautics Board subsidies	62	58	54
Aircraft technology (NASA)	89	113	120
Water transportation			
Maritime Administration[a]	302	364	380
Coast Guard[a]	497	486	608
Other	-7	5	12
Ground transportation			
Highways[a]			
Present programs	4,041	4,363	4,340
Proposed legislation	--	--	51
Urban mass transit	42	100	150
Other	10	21	28
Postal service	1,141	1,087	767
Regulation of business	101	100	107
Interfund and intragovernmental transactions (-)	-1	-24	-8
Applicable receipts from the public (-)	-47	-132	-149
Subtotal, expenditures	$7,263	$7,740	$8,089
Net Lending			
Advancement of business: Small business assistance	101	114	67
Area and regional development: Department of Commerce: Economic development assistance	29	53	65
Other	8	-8	-8
Subtotal, net lending	$138	$158	$125
Total Outlays	$7,401	$7,898	$8,214

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.

TABLE VI-2. 1969 COMMERCE, TRANSPORTATION, AND COMMUNICATIONS OUTLAYS BY AGENCY

Agency		$ Millions	Percent of Total
Transportation		5,821	68.3
Commerce		1,375	16.1
Post Office (net after receipts)		767	9.0
Funds to President (Appalachian Development)		236	2.8
NASA		120	1.4
Civil Aeronautics Board		64	0.8
Small Business Administration		52	0.6
Interstate Commerce Commission		24	0.3
Federal Communications Commission		21	0.2
Securities and Exchange Commission		18	0.2
Federal Trade Commission		15	0.2
Other		11	0.1
		8,524	100.0
FDIC[a]	-274		
Adjustments	-157		
	-431	-431	
Net Expenditures		8,093	
Net Lending		125	
Total Outlays		8,218	

(a) FDIC, because it had negative expenditures, is not included in the percent distribution.

TABLE VI-3. 1969 COMMERCE, TRANSPORTATION, AND COMMUNICATIONS OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions	Percent of Total
Expenditures		
Ground Transportation	4,569	53.6
Air Transportation	1,402	16.5
Water Transportation	1,000	11.7
Postal Service (net)	767	9.0
Area and Regional Development	425	5.0
Advancement of Business[a]	248	2.9
Regulation of Business	107	1.3
	8,518	100.0
FDIC[a]	-274	
	8,244	
Adjustment	-157	
Subtotal, expenditures	8,089	
Net Lending		
Advancement of Business	67	
Area and Regional Development	65	
Other	-8	
Subtotal, net lending	125	
Total Outlays	8,214	

(a) Because FDIC (Federal Deposit Insurance Corporation) was such a large negative expenditure (larger than all other expenditures in its subfunction), it was excluded from total expenditures for purposes of taking percents.

accumulation of individual policies and programs. President Kennedy in 1962 characterized transportation policy as "a chaotic patchwork of inconsistent and often obsolete legislation and regulation [which] has evolved from a history of specific actions addressed to specific problems of specific industries at specific times".(3) This is still generally true, despite the expressed desire to develop a more coordinated national transportation policy that would be competitive among modes, fair in its treatment of various modes, and in the public interest. The above quote was from a message on transportation transmitted to the Congress by President Kennedy in 1962, which was a major attempt to outline his ideas on transportation policy. This message expressed the basic objective of the U.S. transportation system as assuring

> "...the availability of the fast, safe, and economic transportation services needed in a growing and changing economy to move people and goods, without waste or discrimination, in response to private and public demands at the lowest cost consistent with health, convenience, national security and other broad public objectives".(3)

Some Federal policy expressions of this objective suggested in this speech were:

- Less Federal regulation and subsidization "is in the long run a prime prerequisite"
- Equal competitive opportunity
- Free regulated common carriers from outmoded Federal rules that put them at a disadvantage vis-à-vis private and exempt carriers
- The common carrier should remain as "the core of our transport system"
- No mode should be at a competitive disadvantage with other modes because of Government subsidies or regulation.

Although President Kennedy did not, in this message, mention establishing a Cabinet-level Department of Transportation (DOT), the proposal had been made in the 1961 Doyle Report(4) and in 1966 such a department was created. Although this was regarded as a step toward the possibility of a more coordinated and rational Federal approach to transport policy, it has been criticized as not vesting enough authority in the Secretary, and also omits many aspects of Federal interest in transportation from DOT's purview, such as the regulatory functions and the Maritime Administration. Nonetheless, the creation of a Transportation Department has focused attention on the need to think of transportation policies in a more interdependent way.

The three subfunctions that deal exclusively with transportation – air, water, and ground – are discussed below, with the four smaller subfunctions (Advancement of Business, Area and Regional Development, Postal Service, and Regulation of Business) after transportation. Regulatory activities relating to transportation are included under "Regulation of Business".

Air Transportation

Air transportation is largely the responsibility of the Federal Aviation Administration, which is part of DOT. In contrast to its projected 1969 outlays of $1,228 million, the two other components of this subfunction are estimated to spend only $174 million (NASA $120 million and Civil Aeronautics Board $54 million).

The Federal Aviation Administration works under the following policy guides, as expressed in the FAA Act of 1958:

> "1. The regulation of air commerce in such manner as to best promote its development and safety and fulfill the requirements of national defense.
> 2. The promotion, encouragement, and development of civil aeronautics.
> 3. The control of the use of the navigable airspace of the United States and the regulation of both civil and military operations in such airspace in the interest of the safety and efficiency of both.
> 4. The consolidation of research and development with respect to air navigation facilities, as well as the installation and operation thereof.
>
> 5. The development and operation of a common system of air traffic control and navigation for both military and civil aircraft."(5)

FAA has been involved, over the last few years, in a Government supported program to develop and build a civil supersonic transport. Because the development costs were regarded as too heavy an investment for a private firm to be willing to undertake, the Government is sharing by contributing 90% of prototype development costs, under a plan which calls for later repayment from sales.

The aspects of the Civil Aeronautics Board which are included in this subfunction (see others under "Regulation of business") are the carrier payments (subsidies) which are required by "public convenience and necessity."

NASA's responsibilities in air transportation are predominantly in research and development (as is true of other NASA functions) aimed at "extending the national capability" in aeronautics and supporting other Government agencies having interests in this area. In the latter respect NASA coordinates its R&D with FAA on the civilian side and with DOD on the military side. Because of its primary contribution to National Security, transportation activities of DOD have been included in that functional field.

Water Transportation

Activities under this subfunction are divided about 60-40, with the Transportation Department predominant because it has responsibility for the Coast Guard; however, the Commerce Department also has major activities because the Maritime Administration was not transferred to DOT when it was created in 1966.

The Coast Guard is considered a branch of the United States Armed Forces and serves as part of the Navy under Presidential directive or in time of war. The Coast Guard is expected to maintain a state of military readiness, even when not serving under

the Navy. The principal functions of the Coast Guard, other than military readiness, are search and rescue services, merchant marine safety programs, aids to navigation for both military and civilian commerce, and port security and law enforcement in United States waters or on the high seas. The Coast Guard provides oceanographic data as part of its other activities and as part of the overall Government program to further knowledge of the seas.

The Maritime Administration is responsible for the growth and development of the United States merchant marine so that it will be

> "(a) adequate to carry the Nation's domestic waterborne commerce and a substantial portion of its foreign commerce during peacetime; (b) capable of serving as a naval and military auxiliary in time of war or national emergency; (c) owned and operated under U.S. flag by citizens of the United States, so far as may be practicable; and (d) composed of the best equipped, safest, and most suitable types of ships manned by a trained and efficient citizen personnel."[5]

To meet these objectives, long-standing Government policy has been to subsidize these commercial vessels to keep them competitive with vessels of other nations. Both construction and operating costs for foreign vessels are well below those of the United States. In addition, the Government pays the full cost of certain defense features which are added to enable conversion to military use. Because of the lack of competitive capabilities of our merchant marine and the question of its potential usefulness in modern warfare, some Congressmen are now challenging the necessity of Government support, while others are challenging its adequacy.

Other activities included in this subfunction are the St. Lawrence Seaway Development Corporation, in DOT, and the Atlantic-Pacific Interoceanic Canal Study Commission. The former is responsible for construction of the United States' part of the Seaway, encouragement of use, and working with Canada in areas that require joint cooperation, such as operation and control. The Interoceanic Canal Study Commission is investigating alternative routes for a possible new sea-level canal across the Central American isthmus.

Ground Transportation

This subfunction expends over half of the total outlays for the Commerce functional field, and is almost exclusively the responsibility of the Federal Highway Administration in DOT, with $4,391 million estimated 1969 outlays. Two other smaller components of this subfunction are Mass Transportation ($150 million 1969) and the Federal Railroad Administration ($28 million 1969), both in DOT.

The Federal Highway Administration administers programs of Federally aided highway construction, construction of roads on Federal lands, and research and safety functions. The programs of Federally aided highway construction comprise the major expenditures, are funded through a trust fund made up of user charges, and are the responsibility of the Bureau of Public Roads. The trust fund is used to finance 90% of State programs involved in the 41,000-mile interstate and defense highway system, and 50% of improvements to other approved roads. Estimated 1969 expenditures from this

trust fund make up over 50% of the total estimated 1969 outlays for the entire Commerce functional field. The Federal Highway Administration also includes the National Highway Safety Bureau and the Bureau of Motor Carrier Safety.

The Urban Mass Transportation program was transferred recently from HUD to DOT, and is described in the Appendix to this chapter. Studies for the design of a mass transportation research program are nearing completion, and the program itself will begin in 1969. Other expenditures under mass transportation in 1969 will be for construction and acquisition of equipment, planning of systems, and training of system managers.

The Federal Railroad Administration administers programs and policies regarding rail transportation, and the High-Speed Ground Transportation program.

Advancement of Business

The Department of Commerce has major responsibility for the advancement of business (1969 outlays $183 million), together with the Small Business Administration (1969 outlays of $154 million, of which $52 million is expenditures and $102 million net lending). A variety of offices and bureaus in the Commerce Department participate in these activities, such as:

- Bureau of the Census, which conducts a decennial census of the United States, as provided in the Constitution. This, along with other data collection activities, provides basic statistics about the United States for use by the Government and by private organizations or people.
- Patent Office, which was established to administer patent laws passed by Congress as called for in the Constitution. It also administers trademark laws.
- National Bureau of Standards, which was established in 1901, to see that science and engineering contribute to the advancement of technology. Its activities consist of work in measurements and standards (basic, materials, and technological) and in technology transfer.
- Promotional activities, which are primarily international activities to encourage exports.

The Small Business Administration was established in 1953 to aid and assist small business concerns. It does this through such activities as making loans, guaranteeing rent, improving management skills of small business managers, and seeing that such businesses get a "fair" portion of Government contracts.

The other major entity under the advancement to business subfunction is the Federal Deposit Insurance Corporation, which was created in 1933 to insure bank deposits and to prevent unsound or illegal banking practices. Because premium receipts and interest on investments exceed claims and expenses, the FDIC shows a substantial negative expenditure level in 1969, as it did in the 2 previous years.

Area and Regional Development

The subfunction of area and regional development is aimed at reducing unemployment and improving incomes in areas of the country that are well behind other sections in terms of economic development. This subfunction is closely tied to the "community development" parts of the Housing and Community Development function. The interests here are largely economic, while "community development" is often thought of as including broader activities, both economic and social. Community development is often more directly people-oriented, whereas economic development is more often directed toward business and physical infrastructure, and indirectly, through this means, provides jobs and income for people. Activities under this subfunction are divided between the Appalachian Regional Development Program, administered by the Appalachian Regional Commission, and the Economic Development Administration of the Commerce Department. Established in 1965, the Appalachian Commission focuses exclusively on the large multistate Appalachian region. It develops plans and coordinates programs for regional economic development including highway system construction, health projects, land programs, water resources survey, facility construction, and research. The Economic Development Administration activities cover the entire United States. Outlays are made for public-works grants and loans, industrial or commercial facility loans, working capital loan guarantees, and technical, planning, and research assistance.

Postal Service

The Post Office Department expends all funds under this subfunction. The postal service dates to pre-Constitutional times and has been a Cabinet-level department since 1872. Under the Postal Policy Act of 1958, the purpose of the Post Office Department is "to unite more closely the American people, to promote the general welfare, and to advance the national economy".(5) Most activities of the Department are covered by revenues obtained from charges for its services, and its operating budget is much larger than that shown on Table VI-4. The following table shows the Post Office Department total program.

TABLE VI-4. SUMMARY OF POST OFFICE DEPARTMENT PROGRAM FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Item	1967 Actual	1968 Estimate	1969 Estimate
Obligations by major program			
Direct services to mailers	$ 589	$ 650	$ 679
Processing of mail	1,636	1,829	1,965
Delivery services	2,665	2,960	3,134
Transportation	989	1,123	1,215
Auxiliary services	109	121	124
Enforcing postal laws	29	35	44
Research and development	12	16	29
General postal support	255	260	307
Total obligations	$6,284	$6,994	$7,497
Financing			
Revenues and reimbursements	5,113	5,820	6,577
New obligational authority used	1,171	1,174	920
Total financing	$6,284	$6,994	$7,497

Source: The Budget of the United States, FY 1969, page 122.

Regulation of Business

Included in this subfunction are a variety of activities handled for the most part by a number of independent Federal regulatory agencies which, despite their total outlays of only 1.3% of the Commerce function, have great influence in the field.

- The Commerce Department has a continuing program of export control of strategic commodities. A program of controls to restrict direct United States investment abroad to help in reducing the balance of payments deficit is to begin in FY 1969.

- The Justice Department Antitrust Division is responsible for enforcing the Federal antitrust and trade regulation laws which seek to maintain competitive enterprise. The Division also represents the United States in proceedings to review decisions of many of the regulatory agencies.

- The Civil Aeronautics Board, in its regulatory activities, controls civil aviation in the United States and between the United States and foreign countries. It does this by granting authorizations to carriers for routes, authorizing rates, and regulating relations among carriers.

- The Federal Communications Commission was created to regulate communication "by wire and radio" in interstate and foreign commerce to provide "rapid, efficient, nationwide and worldwide... communication service with adequate facilities at reasonable charges...".(5) Its responsibilities have expanded as means of communication have expanded, and now include satellite communications.

- The Federal Maritime Commission regulates foreign and domestic offshore shipping.

- The Federal Trade Commission is responsible for seeing that competition in trade is free and fair, and, along with the Justice Department, enforces antitrust and trade regulation laws.

- The Interstate Commerce Commission regulates common carriers specified by legislation and engaged in transportation in interstate commerce.

- The Securities and Exchange Commission administers laws designed to protect against malpractice in the securities and financial markets.

This summary of the regulatory agencies gives no indication of their power, or of the sometimes conflicting or outdated laws under which they operate. The regulatory agencies have an important influence on the overall commerce, transportation, and communications network of the United States and have a tendency to be a force against rather than for change. Technological developments are oftentimes far in advance of the laws and practices under which these regulatory agencies operate, which tend to stress past precedent.

Research and Development

As noted earlier, R&D in the Commerce functional field ranks about in the middle for all Government R&D expenditures by functional field. In 1969, R&D is estimated to be 3.8% of total outlays in the Commerce field, a rather low percent. Table VI-5 shows which specific program areas of R&D make up the total R&D expenditures for 1969 and Table VI-6 shows trends over time for these areas. Further details and program descriptions appear in the Appendix to this chapter.

TABLE VI-5. 1969 COMMERCE, TRANSPORTATION, AND COMMUNICATIONS R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Areas	$ Millions	Percent of Total
1	Aircraft Technology (NASA)	113.9	36.6
2	Federal Highway Administration (DOT)	45.5	14.6
3	Federal Aviation Administration (DOT)	39.8	12.8
4	National Bureau of Standards (Commerce)	27.3	8.8
5	Post Office Department	21.2	6.8
6	Other Commerce R&D	19.4	6.2
7	Coast Guard (DOT)	15.8	5.1
8	Railroad Administration (DOT)	12.4	4.0
9	Maritime Administration (Commerce)	8.2	2.6
10	Other DOT R&D	6.5	2.1
11	Federal Communications Commission (FCC)	1.0	0.3
12	Small Business Administration	0.2	0.1
		311.2	100.0

If the program areas are grouped by subfunction, the breakdown is as shown in Table VI-7.

Because of differences in relative importance of R&D to each subfunction, this distribution is very different from the total expenditure distribution by subfunction in Table VI-3. Air transportation, for example, which is about half of all Commerce functional field R&D, is only 16.5% of total expenditures. Ground transportation, which is more than half of total expenditures, is only 18.6% of R&D expenditures.

TABLE VI-6. CHANGES IN COMMERCE, TRANSPORTATION, AND COMMUNICATIONS R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ Millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D	+191.7	+85.0	+38.3	+160.4	+37.6	+14.0			
Aircraft Technology	+71.6	+27.5	+13.8	+169.3	+31.8	+13.9	+1.2	-1.5	-0.1
Federal Highway Administration	(a)	+22.6	+5.1	--	+97.8	+12.6	(a)	+4.4	-0.2
Federal Aviation Administration	-10.0	-5.8	-3.9	-20.1	-12.7	-8.9	-28.9	-7.4	-3.2
National Bureau of Standards	+14.6	+1.6	+2.0	+115.0	+6.2	+7.9	-1.8	-2.6	-0.5
Post Office Department	+14.9	+9.0	+6.1	+236.5	+73.8	+40.4	+1.5	+1.4	+1.3
Other Commerce R&D	+18.0	+7.1	+1.4	+1,285.7	+57.7	+7.8	+5.0	+0.8	-0.4
Coast Guard	(a)	+8.3	+7.7	--	+110.7	+95.1	(a)	+1.8	+2.1
Railroad Administration (DOT)	(a)	+7.9	+3.7	--	+175.6	+42.5	(a)	+2.0	+0.8
Maritime Administration (DOT)	+3.7	+2.0	-0.7	+82.2	+82.3	-7.9	-1.2	-0.1	-0.7
Other DOT R&D	(a)	+4.1	+2.4	--	+170.8	+58.5	(a)	+1.0	+0.6
Federal Communications Commission	+0.4	+0.6	+0.6	+66.7	+150.0	+150.0	-0.2	+0.1	+0.2
Small Business Administration	-1.1	+0.2	+0.1	-84.6	+100.0	+100.0	-1.0	+0.1	+0.1
Federal Trade Commission	-0.6	--	--	-100.0	--	--	-0.5	--	--

(a) Not available for 1961-1966.

TABLE VI-7. 1969 COMMERCE, TRANSPORTATION, AND COMMUNICATIONS R&D CONDUCT EXPENDITURES, BY SUBFUNCTION

Subfunction	Percent of Total
Air Transportation	49.4
Ground Transportation	18.6
Advancement of Business, Area and Regional Development	15.1
Water Transportation	7.7
Postal Service	6.8
Multiple (Other DOT R&D)	2.1
Regulation of Business	0.3
	100.0

Party Platforms

Relevant sections of the Democratic and Republican 1968 platforms are included as examples of the respective major party statements.

Democratic

Transportation. America is a nation on the move. To meet the challenge of transportation, we propose a dynamic partnership between industry and government at all levels.

Of utmost urgency is the need to solve congestion in air traffic, especially in airports and between major metropolitan centers. We pledge intensified efforts to devise equitable methods of financing new and improved airport and airway facilities.

Urban and inter-urban transportation facilities are heavily overburdened. We support expanded programs of assistance to mass transit in order to avoid increasing congestion and decay of center cities and to link residential and work areas.

Despite the tremendous progress of our interstate highway program, still more super-highways are needed for safe and rapid motor transport. We need to establish local road networks to meet regional requirements.

Productivity on our railroads has improved greatly but there is need for further strengthening of the nation's railroads so that they can contribute more fully to the

nation's transport requirements. In particular, we will press forward with the effort to develop high-speed passenger trains to serve major urban areas.

To assume our proper place as a leading maritime nation, we must launch an aggressive and balanced program to replace and augment our obsolete merchant ships with modern vessels built in American shipyards. We will assist U.S. flag operators to overcome the competitive disparity between American and foreign operating costs.

We support modernization of the Panama Canal. We will continue to foster development of harbors, ports, and inland waterways, particularly regional waterways systems, the St. Lawrence Seaway, and modernization of the Panama Canal to accommodate our expanded water-borne commerce.

We pledge a greater investment in transportation research and development to enhance safety and increase speed and economy; to implement the acts that have been passed to control noxious vehicle exhausts; and to reduce aircraft noise.

Small Business. Small business plays a vital role in a dynamic, competitive economy; it helps maintain a strong social fabric in communities across the land; it builds concerned community leadership deriving from ownership of small enterprises; and it maintains the challenge and competition essential to a free enterprise system.

To assure a continuing healthy environment for small business, the Democratic Party pledges to:

- Assure adequate credit at reasonable costs;
- Assure small business a fair share of government contracts and procurement;
- Encourage investment in research and development of special benefit to small enterprise;
- Assist small business in taking advantage of technological innovations;
- Provide centers of information on government procurement needs and foreign sales opportunities.

The Democratic Party is pledged to develop programs that will enable members of minority groups to obtain the financing and technical management assistance needed to succeed in launching and operating new enterprises.

Communications. America has the most efficient and comprehensive communications system in the world. But a healthy society depends more on the quality of what is communicated than either the volume or form of communication.

Public broadcasting has already proven that it can be a valuable supplement to formal education and a direct medium for non-formal education. We pledge our continuing support for the prompt enactment of a long-range financing plan that will help ensure the vigor and independence of this potentially vital but still underdeveloped new force in American life.

We deplore the all too frequent practice of exploiting violence in television programming and urge the Federal Communications Commission, through the use of its power to revoke and renew broadcast licenses, to end this practice.

In 1962 the Democratic Party sensed the great potential of space communication and quickly translated this awareness into the Communications Satellite Act. In a creative partnership between government and business, this revolutionary idea soon became a living reality. Six years later we helped establish a consortium of 61 nations devoted to the development of a global satellite network.

We will continue to develop new technology and utilize communications to promote world-wide understanding as an essential pre-condition of world peace. But, in view of rapidly changing technology, the entire federal regulatory system dealing with telecommunication should be thoroughly appraised.

Republican

Transportation. Healthy economic growth demands a balanced, competitive transportation system in which each mode of transportation – train, truck, barge, bus and aircraft – is efficiently utilized. The Administration's failure to evolve a coordinated transportation policy now results in outrageous delays at major airports and in glacial progress in developing high-speed train transportation linking our major population centers.

The nation's air transport system performs excellently, but under increasingly adverse conditions. Airways and airport congestion has become acute. New and additional equipment, modern facilities including the use of computers, and additional personnel must be provided without further delay. We pledge expert evaluation of these matters in developing a national air transportation system.

We will make the Department of Transportation the agency Congress intended it to be – effective in promoting coordination and preserving competition among carriers. We promise equitable treatment of all modes of transportation in order to assure the public better service, greater safety, and the most modern facilities. We will also explore a trust fund approach to transportation, similar to the fund developed for the Eisenhower interstate highway system, and perhaps in this way speed the development of modern mass transportation systems and additional airports.

Our metropolitan transportation systems – the lifelines of our cities – have become tangled webs of congestion which not only create vast citizen inconvenience, discontent and economic inefficiency, but also tend to barricade inner city people against job opportunities in suburban areas. We will encourage priority attention by private enterprise and all levels of government to sound planning and the rapid development of improved mass transportation systems. Additionally, in the location of federal buildings and installations and the awarding of federal contracts account will be taken of such factors as traffic congestion, housing, and the effect on community development.

We are particularly concerned over the huge and mounting postal deficit and the evidence, recently stressed by the President's Commission on Postal Organization, of costly and inefficient practices in the postal establishment. We pledge full consideration

of the Commission's recommendations for improvements in the nation's postal service. We believe the Post Office Department must attract and retain the best qualified and most capable employees and offer them improved opportunities for advancement and better working conditions and incentives. We favor extension of the merit principle to postmasters and rural carriers.

A new Republican Administration will undertake an intensive program to aid small business, including economic incentives and technical assistance, with increased emphasis in rural and urban poverty areas.

In addition to vigorous enforcement of the antitrust statutes, we pledge a thorough analysis of the structure and operation of these laws at home and abroad in the light of changes in the economy, in order to update our antitrust policy and enable it to serve us well in the future.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field about 18% as compared to total NBA reductions for all functional fields of 10%. This would indicate that Congress places a lower priority on this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) in comparison to the overall Congressional NBA cut of 10%.

Selected Programs Reduced < 10.0%	
Commerce Department	-8.0

Selected Programs Reduced > 10.0%	
Post Office Department	-18.4
Transportation Department	-15.4
Appalachian Regional Development	-18.7
Small Business Administration	-92.0

Among other actions in this field in 1968, Congress:

- Extended the Interstate Highway System for 2 years, authorized more new road miles and authorized $12 billion for other road programs.
- Provided for more air traffic controllers.
- Authorized FAA to set aircraft noise and sonic boom standards.
- Authorized a DOT study of automobile insurance.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

The Likely Future (The Next Decade)

Table VI-8 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- Although the likely future of the field of Commerce, Transportation, and Communications is more uncertain than most fields because priority decisions are still to be made regarding the highway construction and mass transit programs, there is little chance that it will rise from its present rank of 4 (out of 13) and it is probable that its present 5% of total outlays will fall further.

- However, within this heterogeneous field the subfunctions of air transportation, mass transit portion of ground transportation, and area and regional development show promise of better than average future growth rates.

- In terms of R&D interest, this functional field is less R&D oriented than average, devoting 3.8% of total outlays in 1969 to R&D. But, this is up considerably from the 2.4% in 1961, and although less than 2% of total Government R&D, all subfunctions have well above average likely future growth in R&D expenditures. Continued and increased interest in advanced communications technology (including satellite communications) and advanced transportation technology (including aircraft, highway safety, traffic control, urban transit, navigation, and high-speed ground transportation) is likely.

References

(1) The Budget in Brief, FY 1969, p 37.

(2) U.S. Constitution Sesquicentennial Commission, History of the Formation of the Union under the Constitution, with Liberty Documents and Report of the Commission, Sol Bloom, Director General, Washington, D.C., U.S. Government Printing Office, 1941, pp 12, 14, 15.

(3) John F. Kennedy Transportation Message, page 1 of Press Release dated April 4, 1962.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

(4) Doyle, John P., National Transportation Policy, Report of the Commerce Committee, U.S. Senate, 87th Congress, 2nd session, S. Rept. 445, Washington, D.C., U.S. Government Printing Office, 1961.

(5) United States Government Organization Manual, 1968-1969, pp 231, 315, 407, 443.

TABLE VI-8. COMMERCE, TRANSPORTATION, AND COMMUNICATIONS – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures			Growth Relative to Average		Total R&D Conduct Expenditures			Growth Relative to Average		Comments
	1969 $ Millions	Percent of Total	Change, %, 1967 to 1969	1967 to 1969	Likely Future	1969 $ Millions	Percent of Total	Change, %, 1967 to 1969	1967 to 1969	Likely Future	
Ground Transportation	4,569	53.6	+12	Below	See comments	58	18.6	+111	Well above	Well above	Likely future of total gross expenditures uncertain and dependent mostly upon changes in highway and mass transit programs
Air Transportation	1,402	16.5	+36	Well above	Well above	154	49.4	+16	Well above	Well above	Division of responsibility for nonmilitary aeronautics R&D between FAA (DOT) and NASA still uncertain. VSTOL aircraft likely to be of increased interest.
Water Transportation	1,000	11.7	+26	Above	Above	24	7.7	+75	Well above	Well above	
Postal Service	767	9.0	-33	Well below	Well below	21	6.8	+74	Well above	Well above	
Area and Regional Development	425	5.0	+208	Well above	Well above	See comments					R&D included in "Advancement of Business" subfunction along with Other Commerce Department R&D.
Regulation of Business	107	1.3	+6	Well below	Well below	1	(a)	+150	Well above	Well above	
Advancement of Business[b] (Other Commerce R&D)	248	2.9	-1	Well below	Well below	47	15.1	+25	Well above	Well above	"Other Commerce" R&D includes: EDA (not including technical assistance), Appalachian Assistance, BDSA, OBE, Census, Patent Office.
Multiple/Other R&D[b]	--	--	--	--	--	7	2.1	+171	Well above	Well above	"Other DOT" R&D includes: St. Lawrence Seaway Development Corporation, National Transportation Safety Board.
Total Less FDIC	8,518	100.0	-13	Below	Below	311	100.0	+38	Well above	Well above	Total gross expenditures could grow at average or even above average rates in the *future*, depending upon what happens to "Ground Transportation" subfunction (see comments above), which is 53% of total.
FDIC[b]	-274	--	--	--	--	--	--	--	--	--	
TOTAL	8,244	--	--	--	--	311	100.0	+38			
Total Federal Government			+17					+4			

(a) Less than 0.05%.
(b) *Because FDIC (Federal Deposit Insurance Corporation) was such a large negative expenditure (larger than all other expenditures in its subfunction), it was excluded from total expenditures for purposes of assessing the likely future.*

APPENDIX VI-A

COMMERCE, TRANSPORTATION, AND COMMUNICATIONS RESEARCH AND DEVELOPMENT

BATTELLE MEMORIAL INSTITUTE – COLUMBUS LABORATORIES

TABLE VI-A-1. COMMERCE, TRANSPORTATION, AND COMMUNICATIONS R&D CONDUCT EXPENDITURE DETAILS, BY PROGRAM AREA, 1961-1969

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Aircraft Technology (NASA)	1961	42.3		
	1962	28.5	-13.8	-32.6
	1963	34.0	+5.5	+19.3
	1964	38.8	+4.8	+14.1
	1965	57.6	+18.8	+48.5
	1966	71.1	+13.5	+23.4
	1967	86.4	+15.3	+21.5
	1968	100.1	+13.7	+15.9
	1969	113.9	+13.8	+13.8
National Bureau of Standards (Commerce)	1961	12.7		
	1962	14.8	+2.1	+16.5
	1963	19.4	+4.6	+31.1
	1964	19.4	0	0
	1965	18.4	-1.0	-5.2
	1966	31.9	+13.5	+73.4
	1967	25.7	-6.2	-19.4
	1968	25.3	-0.4	-1.6
	1969	27.3	+2.0	+7.9
Maritime Administration (Commerce)	1961	4.5		
	1962	5.1	+0.6	+13.3
	1963	8.0	+2.9	+56.9
	1964	7.8	-0.2	-2.5
	1965	5.3	-2.5	-32.1
	1966	8.9	+3.6	+67.9
	1967	6.2	-2.7	-30.3
	1968	8.9	+2.7	+43.5
	1969	8.2	-0.7	-7.9
Other R&D (Commerce)	1961	1.4		
	1962	3.4	+2.0	+142.9
	1963	4.2	+0.8	+23.5
	1964	3.8	-0.4	-9.5
	1965	5.2	+1.4	+36.8
	1966	2.3	-2.9	-55.8
	1967	12.3	+10.0	+434.8
	1968	18.0	+5.7	+46.3
	1969	19.4	+1.4	+7.8
Federal Communications Commission	1961	0.6[a]		
	1962	0.3[a]	-0.3	-50.0
	1963	0.6[a]	+0.3	-100.0
	1964	0.1[a]	-0.5	-83.3
	1965	0.3	+0.2	+200.0
	1966	--	-0.3	-100.0
	1967	0.4	+0.4	
	1968	0.4	0	
	1969	1.0	+0.6	+150.0

TABLE VI-A-1. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	%
Federal Trade Commission	1961	0.6[a]		
	1962	0.3[a]	-0.3	-50.0
	1963	0.6[a]	+0.3	+100.0
	1964	0.1[a]	-0.5	-83.3
	1965	0.3	+0.2	+200.0
	1966	--	-0.3	-100.0
	1967	--		
	1968	--		
	1969	--		
Small Business Administration	1961	1.3[a]		
	1962	0.3[a]	-1.0	-76.9
	1963	1.1[a]	+0.8	+266.7
	1964	0.2[a]	-0.9	-81.8
	1965	0.6	+0.4	+200.0
	1966	(b)	-0.6	-98.3
	1967	--		
	1968	0.1	+0.1	
	1969	0.2	+0.1	+100.0
Federal Highway Administration (DOT)[c]	1967	23.0		
	1968	40.4	+17.4	+75.7
	1969	45.5	+5.1	+12.6
FAA (DOT)[c]	1967	45.6		
	1968	43.7	-1.9	-4.2
	1969	39.8	-3.9	-8.9
Coast Guard (DOT)[c]	1967	7.5		
	1968	8.1	+0.6	+8.0
	1969	15.8	+7.7	+95.1
Railroad Administration (DOT)[c]	1967	4.5		
	1968	8.7	+4.2	+93.3
	1969	12.4	+3.7	+42.5
Other R&D (DOT)[c]	1967	2.4		
	1968	4.1	+1.7	+70.8
	1969	6.5	+2.4	+58.5
Total R&D Post Office Research Development[d]	1961	6.3		
	1962	7.2	+0.9	+14.3
	1963	6.9	-0.3	-4.2
	1964	7.1	+0.2	+2.9
	1965	8.3	+1.2	+16.9
	1966	8.2	-0.1	-1.2
	1967	12.2	+4.0	+48.8
	1968	15.1	+2.9	+23.8
	1969	21.2	+6.1	+40.4

Footnotes appear on the following page.

Footnotes for Table VI-A-1

(a) Exact program area data not available - therefore estimates have been made.

(b) Less than 0.05 million.

(c) These program areas follow the structure created after the establishment of the Department of Transportation in late 1966 (calendar year). Therefore, percentages based on FY 1966-1967 have not been calculated, and data for years prior to 1967 are not shown because they are not comparable. Prior year figures for FAA are comparable and are: 1961, $49.8; 1962, $43.1; 1963, $63.3; 1964, $63.4; 1965, $93.2; 1966, $140.1.

(d) No program area information available in The Budget; some information on Post Office Research and Engineering expenditures by subject appears in the House Subcommittee on Appropriation Hearings for Treasury and Post Office.

Commerce, Transportation, and Communications, Summary of Official Program Description*

Department of Transportation

This department was created in late calendar year 1966 to consolidate and coordinate the various Federal programs relating to transportation. The Department now consists of the Federal Aviation Administration (formerly Federal Aviation Agency), Federal Highway Administration, Coast Guard (formerly under Treasury), Federal Railroad Administration (many of the activities listed under this administration were under Commerce), Transportation Research and Development (formerly under Commerce), and various other activities as defined below. General transportation research includes technical, economic, and other studies in the field of transportation research.

Federal Highway Administration. The Federal Highway Administration (Bureau of Public Roads, National Highway Safety Bureau) will conduct and direct contract research and development relating mainly to traffic operations, new construction techniques, and the social and economic aspects of highways. With respect to Traffic and Highway Safety, the FHA will conduct comprehensive traffic safety research, initiate training and education programs, and initiate demonstration projects that will speed the implementation of new safety techniques into practice.

Federal Aviation Administration. The FAA carries out a program to improve and modernize the national system of aviation facilities through the development of new systems, procedures, and devices. The agency also carries out a program of medical research to aid in the development of rules and regulations governing the certification of airmen and to assure aviation safety. Research and development is conducted through contracts with qualified firms, universities, and individuals, or by agency staff or other Government agencies.

Coast Guard. The Coast Guard conducts basic and applied scientific research, development, test and evaluation with maintenance, rehabilitation, lease, and operation of facilities and equipment. Areas of investigation include aids to navigation, ships and boats, aircraft, and rescue equipment. The National Data Buoy System program initiates the developmental phase of a national system to collect oceanographic and environmental data through a worldwide system of buoys. The overall program in 1969 will be monitored by the Marine Sciences Council. Oceanography, meteorology, and polar operations will be conducted with support of the National Oceanographic Data Center.

Federal Railroad Administration. High-speed Ground Transportation R&D includes materials, aerodynamics, vehicle propulsion, vehicle control, communications, guideways, and research testing on new systems, components, and techniques. Activities provide for conducting demonstrations to determine the contributions that high-speed ground transportation can make to more efficient and economical intercity transportation systems. Demonstrations of improved services will be conducted to measure and

*Edited excerpts, primarily from The Budget.

evaluate public reaction and acceptance of such services. Travel needs and preferences will be analyzed and performance and costs compared.

Other DOT. Other DOT includes St. Lawrence Seaway Development Corporation, National Transportation Safety Board.

Urban Mass Transportation Administration. On February 26, 1968, the President submitted his second reorganization plan of 1968, creating the Urban Mass Transportation Administration within DOT. This new Administration will incorporate all the urban mass transportation programs formerly under the cognizance of the Department of Housing and Urban Development. However, HUD's responsibilities with respect to cities is not to be diminished and adequate authority has been reserved to HUD to enable it to join with the Department of Transportation to assure that urban transportation develops as an integral component of the broader development of growing urban areas.

Other Agencies

Federal Communications Commission. The FCC regulates interstate and foreign commerce in communications by wire and radio. The FCC is required by the Communications Act to attain and maintain maximum benefits for the people of the U.S. in the use of the radio spectrum and regulate the rates and services of communications common carriers. The FCC conducts small amounts of research in connection with its overall objectives.

Federal Trade Commission. The FTC has the duty of preserving free competitive enterprise through prevention of monopolistic and unfair trade. Its research is principally economic and statistical studies of market concentrations of a general nature and in support of legal action.

Aircraft Technology (NASA). The objective of this activity is to extend the national capability in aeronautics, and to support other Government agencies having aeronautical interests and responsibilities such as the Departments of Defense and Transportation. In 1969, aeronautical research will continue in V/STOL, subsonic, supersonic, and hypersonic technology in support of civilian and military aircraft development. Increased emphasis will be placed on research in noise reduction and alleviation.

National Bureau of Standards. The NBS will strengthen its program principally with regard to the National Standard Reference Data System, automatic data processing, the central core of the physical measurement system, building technology, research on the physical properties of materials, and research on the flammability of fabrics.

Invention and innovation include programs related to the Bureau's broad mission which serve either to encourage invention and innovation or to encourage the greater use of technology by Government and industry. No increase is budgeted for this activity.

The research program financed by this appropriation provides a capability and competence for many services performed by the National Bureau of Standards for the Government, science, industry, and commerce including, for example, publication of scientific information; calibration of measuring instruments; tests of materials, products or systems; production and sale of standard reference materials; consultation and advice on scientific or technical problems; and specialized research on specific technical problems of other Federal agencies.

Technological standards include research and development of test methods and standards of performance which serve as a basis for specifications, standards, and codes pertaining to materials, products, and systems used in industry and commerce; participation in technical committees for standardizing bodies such as the United States of American Standards Institute; administration of procedures for voluntary industrial standardization; participation in international standardization activities; and provision of information services pertaining to standardizing activities.

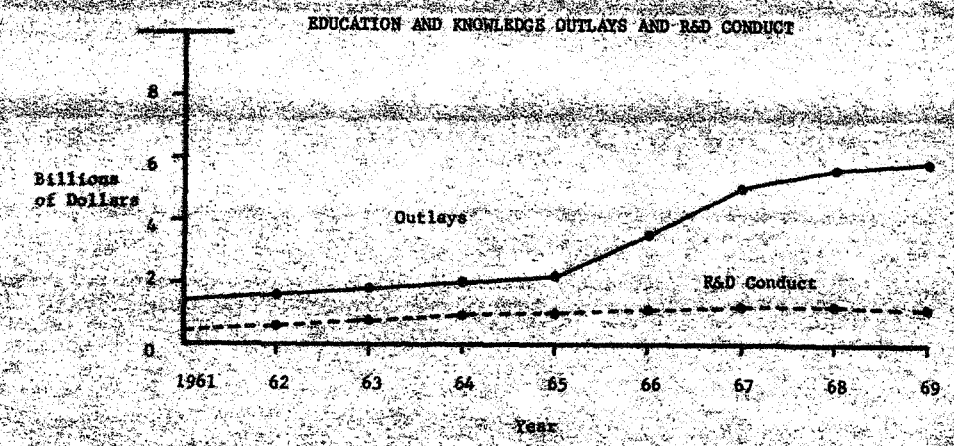
Maritime Administration. This activity is directed at the adaptation of known concepts of technology existing in related industries toward use in the maritime industry, in areas such as specific improvements in shipyard construction, ship design and construction, ship operations, port and terminal operations and maritime transportation systems, based on pre-established goals and time schedules.

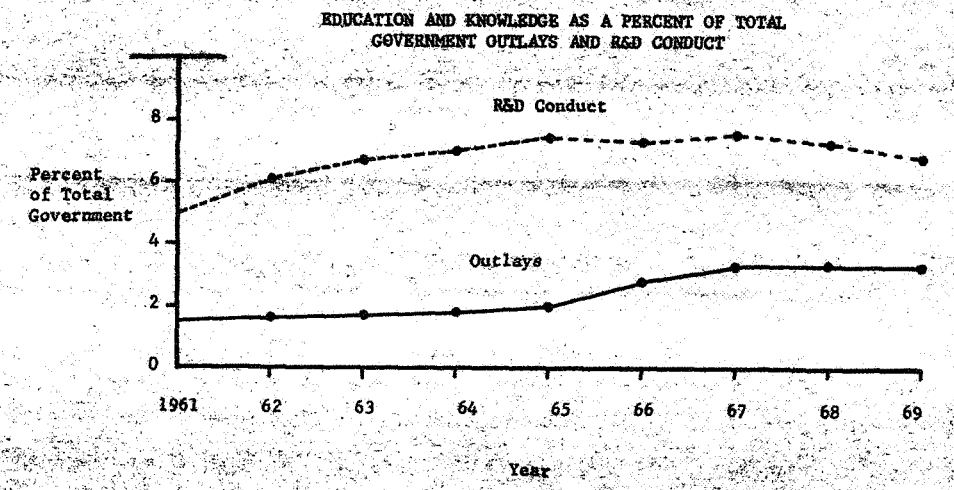
Advanced concepts activity provides for long-range research directed toward new merchant marine concepts and developments to meet future needs.

Other Commerce Research Programs. These programs include The Economic Development Administration (but excludes EDA's technical assistance program which is many times larger than its research program and is carried out principally through contracts), Appalachian Assistance Program, Business and Defense Services Administration, Office of Business Economics, Bureau of the Census, and the Patent Office.

Post Office Contract Research and Development. This activity includes funds for the design, development, test, and evaluation of new postal equipment, materials, and techniques required to reduce costs, improve services, and improve employee working conditions. The work is primarily performed by private industry under contract or by other Government agencies. Work is being conducted on optical character recognition, automatic detection of stamps, mechanical sorting devices for letter mail, Parcel Post and sack mail, bulk mail transport equipment (i.e., conveyor systems, overhead monorail systems). Funds are also included for supplies and material used in testing and evaluating equipment at the postal laboratory.

Work performed under most research and development contracts runs over a period of more than 1 year and, because of its nature, is generally done on cost-plus-fixed-fee basis. At times the scope is of such magnitude as to require several years for completion. Therefore, obligations incurred in any one year are not necessarily indicative of the level of work actually performed. In order to provide flexibility required in programing research projects, funds in this appropriation are available until expended.





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CHAPTER VII

EDUCATION AND KNOWLEDGE FUNCTIONAL FIELD

The Field as a Whole

The functional field of Education and Knowledge includes programs designed to improve instruction at academic institutions or to enable individuals to take advantage of such instruction. Another major part of this category is programs designed to generate fundamental knowledge. The functional field called "Education" in The Budget has been changed in the title here to include "Knowledge" (although the NSF basic research programs which this is designed to cover were already included in the Education Field in The Budget), and a few elements from other functional fields in The Budget have been moved here. "Scientific investigations in space" has been placed in this category because its objectives are to increase fundamental knowledge of earth, interplanetary space, moon, sun, the solar system, other stars and galaxies, and the effects of the space environment on living organisms. A second item included here is "Education and training" from the Veterans Administration, which The Budget included under the Veterans functional field. There are other programs which have not been included in this functional field which nonetheless have a significant educational component (e.g., OEO Community Action; DOD Projects Transition and 100,000; NASA university programs, manpower training and on-the-job training programs of OEO and Labor; and agricultural extension services of the Department of Agriculture). These programs, however, generally are using education as a vehicle for achieving aims more properly a part of another functional field, and are therefore included in the field to which they are more directly related, or are a part of a broader program area included in the functional field toward which they are principally directed.

Although the Federal role in education has at times been a topic of acrimonious debate since World War II, the interest of the Federal Government in this area of public concern goes back even before the Constitution was adopted. In the Northwest Ordinance of 1787 it was declared that: "Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged".(1)* In 1862 the Morrill Act provided land grants to the states for colleges specializing in agriculture and mechanical arts. In 1890 a second Morrill Act provided grants for the operation of these colleges. A Federal Office of Education was established by Congress in 1867 ". . . for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several states and territories, and of diffusing such information respecting the organization and management of schools and school systems, and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of efficient school systems, and otherwise promote the cause of education throughout the country." (1) Other landmarks in education were Federal grants-in-aid for vocational education under the Smith-Hughes Act of 1917, emergency aid during the depression, aid to areas "impacted" by tax-free Federal military installations beginning in World War II, and the GI Bill of Rights of 1944 (and subsequent extensions) providing benefits for veterans which greatly expanded the Government's expenditures for education.

These measures were taken against a backdrop of strong and fairly universal agreement that education was, and should be, largely a matter of state and local concern and control. Events in this century, and especially since World War II, have

*Numbers in parentheses denote References at end of this Chapter.

served to blunt this feeling somewhat, at least with respect to the question of "concern". It became evident during the draft calls of both World War I and World War II that the public education system, as then constituted, was not providing minimally acceptable education for many people, as evidenced by the high rejection rate because of illiteracy. World War II was also a turning point in the realization of the importance of new knowledge, engendered by research, to the national security of the United States. In addition to strong growth of Research and Development (R&D) in the Defense Department, the National Science Foundation was established in 1950 to promote scientific research, coordinate Government research activities and policies, disseminate information, and improve science teaching. The influence of national security requirements on the Federal role in education is clear, although it should be noted that a bill such as the GI Bill of Rights was passed not to provide educated manpower for the War but to help in the transition of veterans back into the economy and to compensate them for wartime service. In 1958, national security and international competition once again influenced the Government to undertake additional programs in education; this time through passage of the National Defense Education Act, a response to the 1957 orbiting by the USSR of an earth satellite. Although the 1950's saw increasing aid to education, the Eisenhower Administration was wary of going too far in this field and felt that education was a state and local responsibility.

Two issues of national policy, which came to a head in the field of education and slowed Federal involvement – even as new programs were being advocated – were the issues of racial segregation and of separation of church and state. The 1954 Supreme Court decision that separate schools were inherently unequal was a signal of future tumult over education. The question of public aid to private (especially parochial) schools was also a topic of strong debate, with fear for the traditional separation of church and state principle being set against feelings of discrimination on the part of many Catholics, whose schools provided over 10% of public elementary education and who, in addition, supported public schools through their taxes. These two issues gradually diminished as "absolutes", and both integration and some aid to nonpublic schools are now accepted principles of the Federal Government in its aid-to-education programs, although still the subject of much controversy.

Major breakthroughs in Federal aid-to-education came in 1965, with passage of the Higher Education Act of 1965 and the Elementary-Secondary Education Act of 1965, termed by many as the first real "general aids" to education. These two acts and other more recent legislation and programs will be discussed in individual subsections later in this chapter.

Of the major national purposes or supergoals reviewed in Chapter I, the functional field of Education and Knowledge contributes most directly to Public Welfare and Economic Development. This is true, despite the influence of national security needs in stimulating an increased Federal role during and after World War II. The contribution of Education and Knowledge to the public welfare is expressed in the statement quoted earlier from the Northwest Ordinance of 1787 as "...necessary to good government and the happiness of mankind..."[1] An educated populace is one of the underlying assumptions of a form of government which is based on citizen participation and control. Education has also been recognized more recently as a prime factor in economic growth and social progress in a highly industrialized – or post-industrialized – society. A highly technological society requires a well-educated population, and as science and technology make industry both more complicated and less in need of unskilled labor, education must provide a basis for adaptability to

changing roles and occupations and for occupations less based on manual skills and more on analytical, service and managerial skills. Thus, education has an important role in economic growth. National Security, as mentioned above, has sometimes been the catalyst for Federal participation in education and for obtaining new knowledge. Education and knowledge clearly supports this national purpose.

In his 1968 message to Congress on education, President Lyndon B. Johnson proposed an Educational Opportunity Act of 1968, to set as a national goal "...that in America there must be no economic or racial barrier to higher education; that every qualified young person must have all the education he wants and can absorb".[2] Even though this seems to counsel perfection, the increasing attention being given to education at all levels and the Federal legislation and action of the last 4 years do actually show movement in the direction of this ideal. The figures below on resource allocations will show this movement.

Table I-2 in Chapter I shows Federal outlays for Education and Knowledge from 1961 to 1969, and the percent of total for each year. The highest percent is 3.4% in 1968, and the movement has been fairly consistently upward from the 1.5% of 1961, with the largest break coming in 1966 and 1967 as the two major acts of 1965 took effect. The increase between 1961 and 1969 was 1.8% of total Government outlays. In comparison with other fields, Education and Knowledge ranked eleventh in 1961 with $1.4 billion and rose to fifth in 1969, with $5.8 billion, or a growth of more than 300% during the period.

From the standpoint of R&D, the field of Education and Knowledge is also in a strong position relative to many other fields, being fourth in rank in 1969. The difference here is that it has been consistently strong in the time period covered (it ranked third in 1961) in contrast to the overall field which grew in relative importance from a very low priority position. This is due to the fact that the R&D in this field is for the most part more directly related to "Knowledge" than "Education", and acceptance of large-scale Federal funding for knowledge was achieved before acceptance of large-scale funding for education, with the exception of the post-World War II GI Bill, whose major effect was in an earlier period. A corollary of the increase in aid to education, largely of a nonresearch nature, has been a decrease in the importance of R&D to the field of Education and Knowledge (as measured by percent of total outlays). R&D was 30.8% of all outlays in this field in 1961 and was down to 19.6% in 1969. Despite this change, R&D is still of greater importance to this field than to most other fields, ranking third and outranked only by Space and Natural Resources. This comparison, and the dollar growth of R&D over the 9 years, are probably more useful in assessing the importance of R&D than the percent R&D is of total field outlays. The contrast does, however, indicate that the major growth has come in areas other than R&D. More detailed discussion of the make-up of R&D in the functional field of Education and Knowledge is contained in a later section.

A more detailed look at total expenditures in this field appears in Table VII-1, which shows the actual 1967, and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down according to subfunctions and line items under these subfunctions. This table shows that the Department of Health, Education, and Welfare (through the Office of Education) has responsibility for well over half of the line items appearing on this table. Although they come nowhere near HEW in expenditures, NASA, NSF, and the Veterans Administration also have important responsibilities in this field, and a few other Government entities, such as Interior in Indian education, have lesser roles.

TABLE VII-1. EDUCATION AND KNOWLEDGE OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Elementary and secondary education (HEW)			
Children from low income families	1,057	1,010	1,073
Other education of the disadvantaged	67	70	109
Special school projects	75	155	169
School books, equipment, counseling, and strengthening State education agencies	218	237	155
Assistance to schools in federally impacted areas	447	372	416
Other (teacher training)		26	9
Higher education (HEW & some HUD)			
Aid for undergraduate and graduate students	421	597	673
Academic facility grants	193	308	213
Other aids to higher education	92	153	179
Proposed legislation	-	-	-
Science education and basic research			
National Science Foundation			
Basic research and specialized research facilities	209	226	230
Grants for institutional science programs	49	72	70
Science education	118	115	120
Other science activities	39	43	52
NASA - Space Sciences	674	563	498
Other aids to education			
Training of education manpower (HEW)	41	13	57
Vocational education(HEW)			
Present program	250	271	247
Proposed legislation	-	-	7
Educational research and development (HEW)	57	76	99
Grants for libraries and community services (HEW)	57	100	141
Indian education services (Interior)	112	116	153
Library of Congress and Smithsonian Institution[a]	62	83	98
National Foundation on the Arts and Humanities[a]	10	15	23
Education and Training (YA)	280	502	604
Other			
Present programs	37	55	61
Proposed legislation for public broadcasting	-	-	20
Applicable receipts from the public (-)	- 11	- 15	- 16
Subtotal, expenditures	4,556	5,222	5,466
Net Lending			
Elementary and secondary education (HEW)	- 2	(b)	1
Higher education (HEW)	447	383	331
Subtotal, net lending	445	384	335
Total Outlays	5,001	5,616	5,801

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.

(b) Less than $500 thousand.

Total outlays for 1969 by major agency are presented in Table VII-2 below. Net lending is also significant in this field and is carried out by HEW, almost exclusively for higher education.

TABLE VII-2. 1969 EDUCATION AND KNOWLEDGE OUTLAYS BY AGENCY

Agency	$ Millions	Percent of Total
HEW (Office of Education)	3,556	64.8
Veterans	604	11.0
NASA	498	9.1
NSF	480	8.8
Interior	153	2.8
HUD	72	1.3
Smithsonian	54	1.0
Legislative Branch (Library of Congress)	44	0.8
National Foundation on Arts & Humanities	23	0.4
	5,484	100.0
Applicable Receipts from Public	-16	
Total Expenditures	5,468	
Net Lending	335	
Total Outlays	5,803	

The sections which follow will go into greater detail in discussing legislation and policy under the subfunctions listed in Table VII-1, that is Elementary and Secondary Education, Higher Education, Science Education and Basic Research, and Other Aids to Education.

Elementary and Secondary Education

The Elementary and Secondary Education Act of 1965 was the first legislation providing general aid to schools at this level, and concentrated on aid on the basis of number of children from low-income families, rather than to schools as such. Because of this indirect approach, and loosening up in the public/private school controversy, the bill passed. The bill had five titles providing for five major programs:

Title I: Provided for a 3-year program to help children from low-income families. School districts could spend funds in any way agreed upon by state and federal educational agencies, taking into account needs for nonpublic school education.

Title II: Provided for a 5-year program for acquisition of various printed instructional materials such as library books and textbooks, which were to be available for loan to private schools.

Title III: Provided for a 5-year program for supplementary educational centers and services to provide services not provided by individual schools.

Title IV: Amended Cooperative Research Act of 1954 by providing for a 5-year program of grants for research, surveys, demonstrations in education and for dissemination of information. Provided also for training in educational research. Provided for construction and operation of regional education research centers.

Title V: Provided for a 5-year program to assist states in strengthening their educational agencies.

In 1966 a new Title VI was added, providing for educational programs for handicapped children. Amendments also were passed to liberalize requirements for receiving impacted-area aid (opposed by the administration), and to weaken some of the Commissioner of Education's actions to overcome segregation (this latter power was again weakened in 1967).

Also included under this subfunction of elementary and secondary education is the Teacher Corps, designed to improve elementary teaching in low-income areas through the use of experienced teachers and intern teams. This program was authorized in 1965 but not funded until late in FY 1966 and has had continuing appropriation problems, never being funded near the amount requested. Amendments designed to ensure local control have quieted some opposition.

The program of aid to schools in Federally impacted areas goes back to the Lanham Act of 1940 providing aid for areas affected by defense installations or plants. Later legislation has broadened the concept of Federally impacted areas and Congress has been consistently more liberal in funding this program than the various Presidents have wished.

Higher Education

Also passed in 1965 was the Higher Education Act of 1965, involving the Federal Government in major new aid programs to institutions of higher education and to students. Undergraduate scholarships and Federally insured loans were made available for the first time, in addition to the already instituted aid for constructing facilities. The eight titles of the Act provided for:

Title I: Community service programs by colleges and universities, with emphasis on urban and suburban problems. Authorized a Council on Continuing Education.

Title II: Grants to improve library resources at institutions of higher education, and for training of librarians and information specialists.

Title III: Funds to raise academic quality of developing institutions. Authorized "national teaching fellowships" to bring teachers to these institutions.

Title IV: Authorized federal scholarships, federally insured loans, and interest subsidies for college students. Work-study

programs were transferred from OEO to the Office of Education.

Title V: Established a National Teacher Corps (discussed above) and teacher fellowships.

Title VI: Grants to improve classroom instruction; providing funds for educational laboratory and media equipment, and for instructional workshops.

Title VII: Increased funds and liberalized requirements for college and university facilities grants under Higher Education Facilities Act of 1963.

Title VIII: General provisions covering definitions, exclusions, and the issue of federal control.

Science Education and Basic Research

This subfunction includes the "Space sciences" activities of NASA and the activities of the National Science Foundation (NSF). These activities are of a somewhat different character from most of the activities discussed in the previous two sections, being more in the "Knowledge" part of this field, and have not been so involved in the policy questions surrounding the question of Federal aid to education since World War II.

The National Science Foundation was, in large part, an outgrowth of the World War II realization of the crucial contributions of science to national security and the need for supporting continuing R&D. There was a desire to have the Government support research through a civilian agency as well as through the Defense Department, and in 1950 Congress established NSF to promote basic scientific research and science education, and to establish and coordinate national science policies. NSF was authorized to:

- Make grants and loans for basic research in science and engineering
- Award scholarships and fellowships for science education
- Perform certain information services and gather information
- Coordinate its research program and other research programs.

NSF actually did little in the field of policy formulation and coordination and, in 1962, this function was transferred to the Office of Science and Technology. With passage of the National Sea Grant College and Program Act of 1966, NSF was authorized to establish programs of research and training in marine resources at institutions of higher education. The first major revisions in the role of NSF came in 1968, with passage of a law broadening the scope and nature of Foundation activities. The law reaffirms the Foundation's responsibilities for basic research and education, making explicit the

implied consent to fund social science activities. A major change is the expansion of support to applied as well as basic research. Other changes include greater participation in international scientific activities, expansion of data collection and analysis functions, and various administrative modifications. The research activities of NSF are covered in detail in the Appendix.

The objectives of the "Space sciences" activities of NASA were described earlier and the details of this research program appear in the Appendix. Detailed discussion of the background and aims of NASA is covered in another study covering "Space Goals and Objectives". (See Appendix A to Part I of this study).

Other Aids to Education

This subfunction contains a rather diverse group of aids to education, other than those discussed above, including such programs as training of education manpower, vocational education, educational R&D, Indian education, and the Smithsonian Institution. These activities in 1969 comprise over a quarter of total expenditures in this field and are summarized by line items as shown in Table VII-1.

Training of Education Manpower

Training of Education Manpower has been expanded through passage, in 1967, of the Education Professions Development Act (new name for Title V of Higher Education Act of 1965), which established four new teacher training programs effective in FY 1969, as well as extending the Teacher Corps and a teacher fellowship program of the Higher Education Act of 1965. The four new programs were:

- Assistance to local education agencies to attract teachers where shortages existed
- Grants for preservice and in-service training of persons in elementary and secondary education
- Fellowships and training for faculty and administrators in institutions of higher education
- Grants to attract qualified people into education.

Vocational Education

Vocational Education was first supported by the Federal Government in 1917 under the Smith-Hughes Act, which became the basis for Government activity in this area until after World War II. Activities included were limited to the areas of agriculture, home economics, trade and industrial subjects. The first substantial revision, in 1956, included training of practical nurses and training in the fisheries trades (the latter was not funded until 1963). In 1958 the National Defense Education Act expanded the programs to include training in technical and scientific fields. The 1960's saw further changes in the character and scope of work-related education programs through a variety of new laws:

- 1961 Area Redevelopment Act (ARA), providing job training in economically depressed areas
- 1962 Manpower Development and Training Act (MDTA), providing training for workers with outdated skills
- 1962 Trade Expansion Act, providing training for workers who lose jobs because of foreign competition
- 1962 Public Welfare Amendments, providing training for people on relief.

These new programs were aimed at specific groups in the population who were adversely affected by economic and technological conditions, whereas previous vocational education had been aimed at the general population. In 1963 further expansion of vocational education emphasized work-study and residential vocational school programs. In 1965 Congress passed a bill for loan insurance and interest subsidies for vocational education comparable to these programs in the Higher Education bill.

Educational Research and Development

Educational Research and Development was given its first major impetus in 1954 with authorization for the Office of Education to enter into cooperative arrangements with colleges and universities for joint studies of educational problems. Title IV of the Elementary and Secondary Education Act of 1965 expanded educational R&D and authorized grants, included dissemination of information and demonstration projects, and expanded grant and contract recipients beyond colleges and universities. A description of the research program is contained in the Appendix.

Grants for Libraries and Community Services

Grants for Libraries and Community Services refers to funding under various titles of the 1965 Acts mentioned earlier.

Indian Education Services

Indian Education Services is a responsibility of the Interior Department through the Bureau of Indian Affairs and is designed to improve Indian participation in the U. S. economy.

Library of Congress and Smithsonian Institution

The Library of Congress is the national library of the United States, initially established for the Congress but now also available for general use. The Smithsonian Institution was created in 1846 for the "increase and diffusion of knowledge among men". Its activities include research, exploration, and exhibition of scientific and cultural interest.

The National Foundation on the Arts and Humanities

The National Foundation on the Arts and Humanities was created in 1965 to encourage and support national progress in the humanities and the arts. Its program is carried out through grants, consultative services, and stimulation of private support.

Veterans Education and Training

Veterans Education and Training originated with the World War II GI Bill of Rights which was started as a program to help veterans readjust to civilian life and prevent a sudden influx of inadequately trained or educated people into the labor market. The Veterans Administration paid for tuition and living expenses for up to 4 years of formal schooling. Korean War veterans could receive similar benefits for 3 years. In 1966 Congress passed a Cold War GI Bill establishing a permanent program of aid for educational and vocational training and established a loan program for men who had served since the termination of the Korean War bill. Expenditures under this item are the largest under the subfunction "Other aids to education" shown on page VII-8. Such expenditures in the years after the Second World War made up almost the entire field of Federal aid to education, amounting to billions of dollars.

This completes description of some of the policy, legislation, and programs in the Education and Knowledge functional field. Estimated 1969 outlays, for the subfunctions discussed, are shown in Table VII-3.

TABLE VII-3. 1969 EDUCATION AND KNOWLEDGE OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions	Percent of Total
Expenditures		
Elementary and Secondary Education	1,931	35.2
Higher Education	1,065	19.4
Science Education and Basic Research	978	17.8
Other Aids to Education	1,510	27.5
	5,484	100.0
Adjustments	-16	
Subtotal, expenditures	5,466	
Net Lending		
Higher Education	334	
Elementary and Secondary Education	1	
Subtotal, net lending	335	
Total Outlays	5,801	

Research and Development

Research and Development is an important component of this functional field, predominantly in the "Knowledge" rather than "Education" parts. R&D comprised 31% of all 1961 expenditures for this functional field but was down to 20% in 1969, reflecting the increase in aids to education under the 1965 Elementary and Secondary Act, and the Higher Education Act. This field is outranked only by Space and Natural Resources in percentage of R&D. The place of R&D in this field and vis-à-vis other fields was reviewed earlier. The following list shows which specific program areas of R&D make up the total R&D expenditures for 1969. One program area is included in Table VII-4, which is not a part of outlays shown in Table VII-1. This is the physical research program of AEC, which is aimed primarily at increasing knowledge.

TABLE VII-4. 1969 EDUCATION AND KNOWLEDGE R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Areas	Agency	$ Millions	Percent of Total
1	Scientific Investigations in Space	NASA	492.2	43.2
2	Physical Research	AEC	280.0	24.6
3	Basic Research Grants	NSF	167.3	14.7
4	Office of Education	HEW	91.3	8.0
5	Institutional Science Programs	NSF	34.2	3.0
6	National Research Centers	NSF	19.8	1.7
7	Smithsonian Institution		17.8	1.6
8	National Research Programs	NSF	15.8	1.4
9	Program Development and Management	NSF	8.6	0.8
10	Science Information Activities	NSF	8.0	0.7
11	National Sea Grant Program	NSF	2.0	0.2
12	Planning & Policy Studies	NSF	1.3	0.1
	Total		1,138.3	100.0

Detailed expenditure information on these program areas from 1961 to 1969 and research program descriptions for each of them appear in an Appendix to this study. Changes over time are shown in Table VII-5.

TABLE VII-5. CHANGES IN EDUCATION AND KNOWLEDGE R&D CONDUCT

Program Area	Agency	Expenditures by Program Area: Change, $ Millions 1969-1961	1969-1967	1969-1968	Change, % 1969/1961	1969/1967	1969/1968	Percent of Total Change 1969-1961	1969-1967	1969-1968
Total R&D		+704.4	-60.5	-17.1	+162.5	-5.0	-1.5			
Scientific Investigations in Space	NASA	+283.4	-167.6	-60.2	+135.7	-25.4	-10.9	-4.9	-11.8	-4.6
Physical Research	AEC	+137.8	+27.0	+15.0	+96.9	+10.7	+5.7	-8.2	+3.5	+1.7
Basic Research Grants	NSF	+117.3	+25.5	+10.3	+234.6	+18.0	+6.6	+3.2	+2.9	+1.1
Office of Education	HEW	+80.2	+25.4	+8.5	+722.6	+33.5	+10.3	+5.4	+2.5	+0.8
Institutional Science Programs	NSF	+33.5	+20.5	+4.9	+4785.7	+149.6	+16.7	+2.8	+1.9	+0.5
National Research Centers	NSF	+17.3	+3.7	+1.0	+692.0	+22.9	+5.3	+1.1	+0.4	+0.1
Smithsonian Institution		+16.5	+4.6	+2.6	+1269.2	+34.8	+17.1	+1.3	+0.5	+0.3
National Research Programs	NSF	+9.4	-1.4	-1.9	+146.9	-8.1	-10.7	-0.1	0	-0.1
Program Development and Management	NSF	+3.4	-1.0	+0.5	+65.4	-10.4	+6.2	-0.4	0	+0.1
Science Information Activities	NSF	+3.7	+0.7	+0.4	+85.7	+9.6	+5.3	-0.3	+0.1	0
National Sea Grant Program	NSF	+2.0	+2.0	+1.8	(a)	(a)	+900.0	+0.2	+0.2	+0.2
Planning and Policy Studies	NSF	-0.1	+0.1	0	-7.1	+8.3	0	-0.1	0	0

(a) New program as of 1968.

If the program areas are grouped by subfunction (including AEC Physical Research under "Science Education and Basic Research"), the subfunctional breakdown is as follows:

TABLE VII-6. 1969 EDUCATION AND KNOWLEDGE R&D CONDUCT EXPENDITURES BY SUBFUNCTION

Subfunction	Percent of Total
Elementary and Secondary Education	--
Higher Education	--
Science Education and Basic Research	90.4
Other Aids to Education	9.6

This is a highly skewed distribution, but indicates once again the predominance of R&D in the "Knowledge" part of this field. The 9.6% listed under the last category actually includes R&D relevant to the first two categories but is included there because all R&D connected with Health, Education, and Welfare (HEW) programs in education is the responsibility of the Bureau of Research in the Office of Education, which is listed under "Other Aids to Education".

Party Platforms

Of interest are the attitudes of the two major political parties. Following are excerpts from the most recent (1968) party platforms.

Democratic

Education. Education is the chief instrument for making good the American promise. It is indispensable to every man's chance to achieve his full potential. We will seek to open education to all Americans.

We will assure equal opportunity to education and equal access to high-quality education. Our aim is to maintain state-local control over the nation's educational system, with federal financial assistance and help in stimulating changes through demonstration and technical assistance. New concepts of education and training employing new communications technology must be developed to educate children and adults.

Every citizen has a basic right to as much education and training as he desires and can master - from preschool through graduate studies – even if his family cannot pay for this education.

We will marshal our national resources to help develop and finance new and effective methods of dealing with the educationally disadvantaged – including expanded preschool programs to prepare all young children for full participation in formal

education, improved teacher recruitment and training programs for inner city and rural schools, the Teacher Corps assistance to community controlled schools to encourage pursuit of innovative practices, university participation in research and operation of school programs, a vocational education system that will provide imaginative new ties between school and the world of work, and improved and more widespread adult education programs.

We will fully fund Title I of the Elementary and Secondary Education Act of 1965, which provides federal funds for improving education in schools serving large numbers of students from low income families.

The financial burden of education continues to grow as enrollments spiral and costs increase. The home owner's property tax burden must be eased by increased levels of financial aid by both the states and the Federal government.

Our rapidly expanding educational frontiers require a redoubling of efforts to insure the vitality of a diverse higher education system – public and private, large and small, community and junior colleges and great universities. We also pledge support for high quality graduate and medical education.

We will enlarge the federal scholarship program to remove the remaining financial barriers to post-secondary education for low income youths, and increase assistance to students in the form of repayable loans out of future income.

We will encourage support for the arts and the humanities, through the national foundations established by a Democratic Congress to provide incentives for those endowed with extraordinary talent, enhance the quality of our life, and make productive leisure available to all our people.

We recommend greater stress on the arts and humanities in elementary and secondary curricula to ensure a proper educational balance.

Republican

Education. The birthplace of American opportunity has been in the classrooms of our schools and colleges. From early childhood through the college years, American schools must offer programs of education sufficiently flexible to meet the needs of all Americans – the advantaged, the average, the disadvantaged and the handicapped alike. To help our educators meet this need we will establish a National Commission to study the Quality and Relevance of American Education.

To treat the special problems of children from impoverished families, we advocate expanded, better programs for pre-school children. We will encourage state, local or private programs of teacher training. The development and increased use of better teaching methods and modern instruction techniques such as educational television and voluntary bilingual education will continue to have our support.

To help assure excellence and equality of educational opportunity, we will urge the states to present plans for federal assistance which would include state distribution of such aid to non-public school children and include non-public school representatives

in the planning process. Where state conditions prevent use of funds for non-public school children, a public agency should be designated to administer federal funds.

Greater vocational education in high school and post-high school years are required for a new technological and service-oriented economy. Young people need expansion of post-high school technical institutes to enable them to acquire satisfactory skills for meaningful employment. For youths unable to obtain such training, we propose an industry youth porgram, coupled with a flexible approach to minimum wage laws for young entry-level workers during their training periods.

The rapidly mounting enrollments and costs of colleges and universities deprive many qualified young people of the opportunity to obtain a quality college education. To help colleges and universities provide this opportunity, we favor grant and loan programs for expansion of their facilities. We will also support a flexible student aid program of grants, loans and work opportunities, provided by federal and state governments and private organizations. We continue to favor tax credits for those burdened with the costs of higher education, and also tax deductions to encourage savings for this purpose. No young American should be denied a quality education because he cannot afford it or find work to meet its costs.

[Although neither platform has a section addressed to "Knowledge" as defined here, the following sections are closely related and give some indication of attitude and approach.]

Democratic

Science and Technology. We lead the world in science and technology. This has produced a dramatic effect on the daily lives of all of us. To maintain our undisputed national leadership in science and further its manifold applications for the betterment of mankind, the Federal Government has a clear obligation to foster and support creative men and women in the research community, both public and private.

Our pioneering space program has helped mankind on earth in countless ways. The benefits from improved weather forecasting which can soon be available thanks to satellite observations and communications will by themselves make the space efforts worthwhile.

Observation by satellite of crops and other major earth resources will for the first time enable man to see all that is available to him on earth, and therefore to take maximum advantage of it. High-endurance metals developed for spacecraft help make commercial planes safer; similarly, micro-electronics are now found in consumer appliances. Novel space food-preservation techniques are employed in the tropical climates of underdeveloped countries. We will move ahead in aerospace research and development for its unimagined promise for man on earth as well as its vital importance to national defense.

We shall continue to work for our goal of leadership in space. To this end we will maximize the effectiveness and efficiency of our space programs through utilization of the best program, planning and budgeting systems.

To maintain our leadership in the application of energy, we will push forward with research and development to assure a balanced program for the supply of energy

for electric power, both public and private. This effort should go hand in hand with the development of "breeder" reactors and large-scale nuclear desalting plants that can provide pure water economically from the sea for domestic use and agricultural and industrial development in arid regions, and with broadened medical and biological applications of atomic energy.

In addition to the physical sciences, the social sciences will be encouraged and assisted to identify and deal with the problem areas of society.

Republican

Science. In science and technology the nation must maintain leadership against increasingly challenging competition from abroad. Crucial to this leadership is growth in the supply of gifted, skilled scientists and engineers. Government encouragement in this critical area should be stable and related to a more rational and selective scheme of priorities.

Vigorous effort must be directed toward increasing the application of science and technology, including the social sciences, to the solution of such pressing human problems as housing, transportation, education, environmental pollution, law enforcement, and job training. We support a strong program of research in the sciences with protection for the independence and integrity of participating individuals and institutions. An increase in the number of centers of scientific creativity and excellence, geographically dispersed, and active cooperation with other nations in meaningful scientific undertakings will also have our support.

We regret that the Administration's budgetary mismanagement has forced sharp reductions in the space program. The Republican Party shares the sense of urgency manifested by the scientific community concerning the exploration of outer space. We recognize that the peaceful applications of space probes in communications, health, weather, and technological advances have been beneficial to every citizen. We regard the ability to launch and deploy advanced spacecraft as a military necessity. We deplore the failure of the Johnson-Humphrey Administration to emphasize the military uses of space for America's defense.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 6% as compared to total NBA reductions for all functional fields of 10%. This would indicate that Congress places a somewhat higher priority on this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (> $50 million 1969 appropriations) in comparison to the overall Congressional NBA reduction of 10%.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

Selected Programs Reduced <10.0%		Selected Programs Reduced >10.0%	
Office of Education	-4.4	National Science Foundation	-20.0
Veterans	-0.9		

Congress exempted $91 million in impacted area school aid from the $180 billion overall budget limit. Congress also added a "protection" for about $3.5 billion in education funds, protecting them from cuts that later would have to be made by the President to bring overall spending within the legislated $180 billion limit.

In other actions in the field of education, Congress passed a major higher education bill (S3769), which extended present programs and added new ones.

- Expanded vocational education programs
- Broadened activities of the National Science Foundation.

The Likely Future (The Next Decade)

Table VII-7 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- There is little reason to doubt that past trends will continue and result in higher than average increases in funding for the Education and Knowledge functional field (especially post-Vietnam). Increased priority for this field is likely to make it one of the fastest growing fields of Federal activity.
- If the functional field is considered in terms of its two major component parts, there is good reason to expect the Education portion to grow rapidly and the Knowledge portion (primarily NSF and NASA) to show below average growth.
- In terms of R&D interest, this functional field is likely to continue to be more R&D oriented than most (R&D accounting for 20% of all expenditures in 1969). However, major growth is likely to come in other education activities with R&D growth modest and close to average growth rates.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE VII-7. EDUCATION AND KNOWLEDGE, IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, % 1967-1969	Growth Relative To Average: 1967-1969	Growth Relative To Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, % 1967-1969	Growth Relative To Average: 1967-1969	Growth Relative To Average: Likely Future	Comments
Elementary and Secondary Education	1,931	35.2	+4	Well Below	Above	(a)	(a)	(a)	(a)	(a)	Likely to grow more rapidly in the future (especially post Vietnam) than past because of increased priority (Congressional and Administration) and recently expanded legislative responsibility.
Higher Education	1,065	19.4	+50	Well Above	Well Above	(a)	(a)	(a)	(a)	(a)	
Science Education and Basic Research	978	17.8	-10			1,029	90.4	-8			
NASA	498	9.1	-26	Well Below	Well Below	492	43.2	-25	Well Below	Well Below	While future is likely to continue well below average it will probably not continue at strong net reductions. Virtually all expenditures R&D.
National Science Foundation (NSF)	480	8.8	+16	About Average	About Average	257	22.6	+24	Well Above	Well Above	R&D more than 50 percent of total expenditures.
AEC Physical Research	-	-	-	-	-	280	24.6	+11	Well Above	Well Above	Total expenditures included in National Security and Natural Resources fields.
Other Aids to Education	1,510	27.5	+67	Well Above	Well Above	109	9.6	+38	Well Above	Well Above	
HEW	632	11.5	+43	Well Above	Well Above	91	8.0	+39	Well Above	Well Above	Interest in educational TV and satellite applications likely to increase but major problems relate to curriculum development and programming rather than sending and receiving technology.

BATTELLE MEMORIAL INSTITUTE - COLUMBUS LABORATORIES

TABLE 7. (Continued)

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, % 1967-1969	Growth Relative To Average: 1967-1969	Growth Relative To Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, % 1967-1969	Growth Relative To Average: 1967-1969	Growth Relative To Average: Likely Future	Comments
Veterans	604	11.0	+116	Well Above	Well Above	-	-	-	-	Well Above	
Interior	153	2.8	+37	Well Above	Well Above	-	-	-	-	Well Above	Indian Education Services.
Other Agencies	121	2.2	+68	Well Above	Well Above	18	1.6	+35	Well Above	Well Above	Includes: Library of Congress, Smithsonian, Arts and Humanities. R&D is Smithsonian only.
Total	5,484	100.0	+20	About Average	Above	1,138	100.0	-5	Well Below	Below	Increased priority for education likely to increase growth (especially post-Vietnam).
Total Federal Government			+17					+4			

(a) All Office of Education R&D is included under the "Other Aids to Education" subfunction.

BATTELLE MEMORIAL INSTITUTE - COLUMBUS LABORATORIES

References

(1) Education in the United States of America, U. S. Department of Health, Education, and Welfare, Office of Education, U. S. Government Printing Office, Washington, D. C., 1960, No. OE-10006, p 8.

(2) Lyndon B. Johnson, Education Message, Feb. 5, 1968.

APPENDIX VII-A

EDUCATION AND KNOWLEDGE RESEARCH AND DEVELOPMENT

TABLE VII-A-1. EDUCATION AND KNOWLEDGE R&D CONDUCT EXPENDITURE DETAILS, BY PROGRAM AREA, 1961-1969

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Physical Research (AEC)	1961	142.2		
	1962	159.6	+17.4	+12.2
	1963	182.8	+23.2	+14.5
	1964	195.8	+13.0	+7.1
	1965	212.6	+16.8	+8.6
	1966	234.5	+21.9	+10.3
	1967	253.0	+18.5	+7.9
	1968	265.0	+12.0	+4.7
	1969	280.0	+15.0	+5.7
Basic Research Grants (NSF)	1961	50.0		
	1962	59.7	+9.7	+19.4
	1963	68.4	+8.7	+14.6
	1964	98.7	+30.3	+44.3
	1965	98.7	0	0
	1966	125.9	+27.2	+27.6
	1967	141.8	+15.9	+12.6
	1968	157.0	+15.2	+10.7
	1969	167.3	+10.3	+6.6
Institutional Science Programs (NSF)	1961	0.7		
	1962	0.8	+0.1	+14.3
	1963	0.6	-0.2	-25.0
	1964	5.5	+4.9	+816.7
	1965	5.5	0	0
	1966	5.4	-0.1	-1.8
	1967	13.7	+8.3	+153.7
	1968	29.3	+15.6	+113.9
	1969	34.2	+4.9	+16.7
National Research Centers (NSF)	1961	2.5		
	1962	3.0	+0.5	+20.0
	1963	5.5	+2.5	+83.3
	1964	9.0	+3.5	+63.6
	1965	11.1	+2.1	+23.3
	1966	14.2	+3.1	+27.9
	1967	16.1	+1.9	+13.4
	1968	18.8	+2.7	+16.8
	1969	19.8	+1.0	+5.3
National Research Programs (NSF)	1961	6.4		
	1962	7.7	+1.3	+20.3
	1963	11.0	+3.3	+42.9
	1964	17.4	+6.4	+58.2
	1965	17.4	0	0
	1966	15.6	-1.8	-10.3
	1967	17.2	+1.6	+10.3
	1968	17.7	+0.5	+2.9
	1969	15.8	-1.9	-10.7

TABLE VII-A-1. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	%
Program Development and Management (NSF)	1961	5.2		
	1962	6.2	+1.0	+19.2
	1963	6.4	+0.2	+3.2
	1964	6.6	+0.2	+3.1
	1965	4.8	-1.8	-27.3
	1966	8.7	+3.9	+81.3
	1967	9.6	+0.9	+10.3
	1968	8.1	-1.5	-15.6
	1969	8.6	+0.5	+6.2
Science Information Activities (Including International Information Exchanges) (NSF)	1961	4.3		
	1962	5.1	+0.8	+18.6
	1963	6.7	+1.6	+31.4
	1964	8.3	+1.6	+23.9
	1965	8.3	0	0
	1966	6.1	-2.2	-26.5
	1967	7.3	+1.2	+19.7
	1968	7.6	+0.3	+4.1
	1969	8.0	+0.4	+5.3
Planning & Policy Studies (NSF)	1961	1.4		
	1962	1.7	+0.3	+21.4
	1963	1.0	-0.7	-41.2
	1964	1.0	0	0
	1965	1.0	0	0
	1966	0.4	-0.6	-60.0
	1967	1.2	+0.8	+200.0
	1968	1.3	+0.1	+8.3
	1969	1.3	0	0
National Sea Grant Program[a] (NSF)	1968	0.2		
	1969	2.0	+1.8	+900.0
Smithsonian Institution[b]	1961	1.3		
	1962	3.7	+2.4	+184.6
	1963	4.4	+0.7	+18.9
	1964	5.9	+1.5	+34.1
	1965	5.9	0	0
	1966	7.7	+1.8	+30.5
	1967	13.2	+5.5	+71.4
	1968	15.2	+2.0	+15.2
	1969	17.8	+2.6	+17.1
Scientific Investigations In Space (NASA)	1961	208.8		
	1962	339.6	+130.8	+62.6
	1963	460.1	+120.5	+35.5
	1964	602.9	+142.8	+31.0
	1965	638.7	+35.8	+5.9
	1966	642.6	+3.9	+0.6
	1967	659.8	+17.2	+2.7
	1968	552.4	-107.4	-16.3
	1969	492.2	-60.2	-10.9

TABLE VII-A-1. (Continued)

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	%
Office of Education (HEW)	1961	11.1		
	1962	10.8	-0.3	-2.7
	1963	11.5	+0.7	+6.5
	1964	12.7	+1.2	+10.4
	1965	19.0	+6.3	+49.6
	1966	37.5	+18.5	+97.4
	1967	65.9	+28.4	+75.7
	1968	82.8	+16.9	+25.6
	1969	91.3	+8.5	+10.3

(a) New program begun FY 1968.
(b) R&D program area not available.

EDUCATION AND KNOWLEDGE, SUMMARY OF OFFICIAL PROGRAM DESCRIPTION*

National Science Foundation

The foundation supports basic scientific research and science education, principally at colleges and universities. Grants and contracts are made for the conduct of basic research and for the construction of research facilities; the development and improvement of the institutional aspects of science programs, scientific information services and for various national research programs. Increased funds are included for expansion of basic research project support primarily for physics and disciplines such as chemistry, oceanography and the atmospheric and social sciences that contribute to the solution of problems in environmental areas such as air and water pollution, weather control, and development of marine resources. The 1969 budget also provides substantial support for the development and improvement of science and engineering at undergraduate and graduate educational institutions, for improving the quality of science instruction in secondary schools, and for the further development of discipline based science information systems.

Basic Research and Supporting Facilities. The budget provides for the award of grants and contracts in the various activities as follows:

(1) Basic Research Project Grants. Grants for basic research in the sciences are awarded on the basis of merit to investigators at more than 450 institutions, principally colleges and universities.

(2) National Research Programs. The Foundation supports broad national programs of scientific research including the Antarctic research program; the Weather Modification program and an Ocean sediment coring program.

(3) National Research Centers. The development and operation of national centers for optical and radio astronomy and the atmospheric sciences are budgeted in this category.

Institutional Support of Science. Includes the University Science Development Program, Departmental Science Development Program and College Science Improvement Program. Support is provided to assist in the development and improvement of the science programs of colleges and universities. Included are matching grants for the construction, renovation, and equipping of research laboratories, comprehensive grants to assist developing institutions in achieving a higher level of competence in the sciences and engineering, and grants for graduate and undergraduate education improvements.

*Edited excerpts, primarily from The Budget.

Science Information Services. The Foundation supports the collection, translation, and dissemination of information on the results of research and the development of improved methods for the exchange of scientific information. The funding and management of the Science Information Exchange is also the responsibility of the Foundation. The increase proposed for this activity in 1969 will support the development and improvement of discipline-based science information systems.

Planning and Policy Studies. This activity supports surveys and analytical studies of research and development within the various sectors of the economy and the current and projected status of scientific manpower and other resources required for the conduct of scientific activities. These studies are related to the formulation of long-range national policies concerning science.

National Sea Grant Program. This program supports grants and contracts primarily at academic institutions for training, research, and advisory services to exploit marine resources.

Other Agencies

Physical Research (AEC). This program comprises basic and applied research in the physical sciences. The Commission serves as the executive agent for the Nation's high energy physics programs. Research costs are expected to increase in 1969 for activities associated with the use of high quality beams from six major accelerators. In addition support of university accelerator user groups will increase slightly. The increase in medium energy physics is for support of new cyclotron facilities on university campuses. Increases in low energy physics will permit operation of new research tools authorized in prior years such as the Oak Ridge electron linear accelerator, the Tandem Van de Graaff at Brookhaven Laboratory, and university accelerators. Chemistry and metallurgical research are aimed at advancing basic knowledge related to practical operations of the atomic energy program. The objective of thermonuclear plasma research is to determine whether the energy released by thermonuclear reactions can be controlled and made useful. This research is expected to expand in 1969 to continue with the fabrication of large new experimental devices needed to test recent concepts for improved plasma confinement.

The Office of Education. The Office of Education supports a broad range of efforts to improve education through research and demonstration. Included is support for (1) educational laboratories which bring together the resources of institutions of higher education, States, private enterprise, and the talents of scholars, experts, artists and other specialists to develop improved curricula and methods of instruction for use in the Nation's classrooms, and to disseminate these through demonstrations and other techniques; (2) the research and development centers which concentrate on such specific questions as education of the disadvantaged, individualized instruction, early childhood learning, teacher education, and development of institutions of higher education; and (3) project grants which are awarded to institutions for improvement of school curricula and inquiries into education and its effects. In 1969, stress will be placed on the development of prototype programs for improved instruction and administration

including a model school using the District of Columbia. These programs will be based in part on the results of prior research. The existing research base will be extended with greater stress on the problems of low-income, urban and migrant children. A variety of research projects will involve joint efforts with the National Science Foundation, the National Institutes of Health, the Department of Housing and Urban Development, the Department of Labor, and the Office of Economic Opportunity. In addition, significantly greater attention will be given to evaluation of the educational process.

Smithsonian. Besides maintaining public exhibits, the Smithsonian is undertaking an intensive program of classification and study of marine organisms collect in connection with the Government's expanded oceanographic program. Areas of research in the natural sciences include anthropology, biology, geology, solar radiations, and astrophysics.

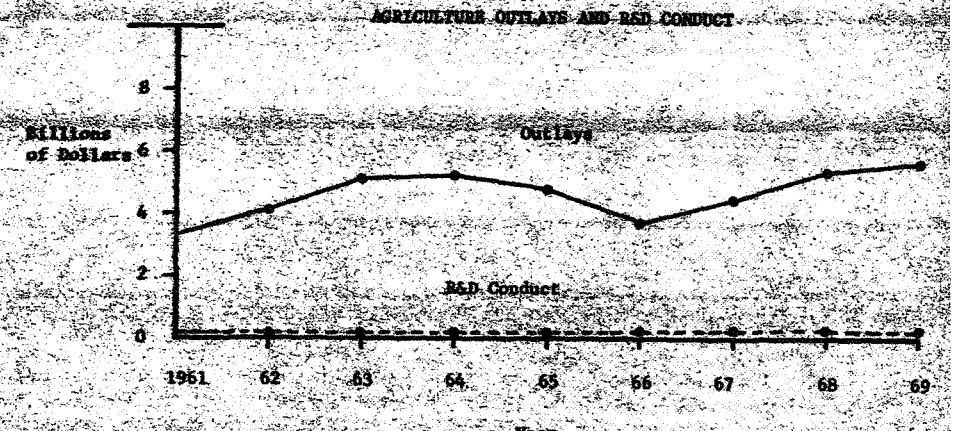
Scientific Investigations in Space (NASA). The objectives are to increase our knowledge of the earth, interplanetary space, the moon, the sun, the solar system, other stars and galaxies, and the effects of the space environment on living organisms. The flight systems used are sounding rocket earth probes, earth and lunar orbiting and landing spacecraft, and spacecraft designed for planetary and interplanetary missions.

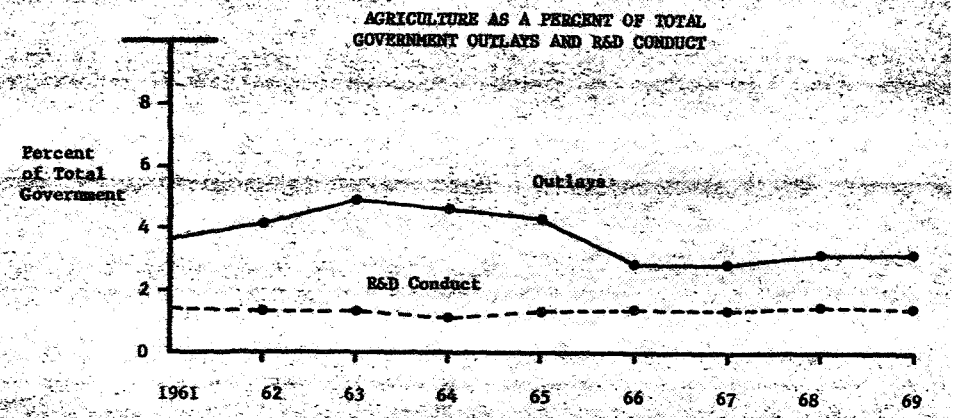
- Physics and Astronomy. This program is composed of projects which have been designed to explore space near the earth, to improve understanding of the sun-earth-interplanetary relationships, and to make observations of the stars and nebulae. The scientific instrumentation is carried on sounding rockets; on small Explorer-type satellites; on larger, more complex observatory satellites; on interplanetary probes in heliocentric orbit; and on manned spacecraft.

- Lunar and Planetary Exploration. A Mariner Spacecraft flight to Mars in 1969 is planned to yield high resolution topographic information about the Martian surface, to provide atmospheric profile measurements, and to identify certain atmospheric constituents. A Mars orbiter with probe is planned for 1971. This spacecraft will attempt to measure the atmospheric profile in terms of pressure, temperature, density, and composition by means of an entry probe. Development will begin in 1969 on a new Mars spacecraft to be launched in 1973 on a Titan III vehicle to further extend investigation of Mars.

- Bioscience. This program will continue to investigate the effects of weightlessness, radiation, and other space phenomena on animals, plants, and other biological organisms. This information is vital to determine the effects of the space environment on living organisms during extended manned flights. Flight experiments are planned to be carried on biosatellite spacecraft and on manned flights.

- Launch Vehicle Development. This program consists of studies of future launch vehicle requirements and alternatives, and product improvements on existing launch vehicles.





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CHAPTER VIII.

AGRICULTURE FUNCTIONAL FIELD

The Field as a Whole

This functional field includes programs designed to support and assist the farm and rural sector of our Nation's economy. The line items used here are the same as those included under this functional field in The Budget. The individual line items are included under the subfunctions of

- Farm income stabilization
- Financing rural electrification and rural telephones
- Agricultural land and water resources
- Financing farming and rural housing, and
- Research and other agricultural services.

Programs concerned primarily with helping other countries with their agricultural problems are included under the International Relations functional field.

Federal agricultural policies are strongly influenced by our heritage of respect for and dependence on the land as the provider of food for our population and of employment. Despite the radical changes in agricultural production because of expanding technology, the family farm is still looked on, publicly at least, as a backbone of our national strength. This belief is rooted less in the vital contribution that agricultural production makes to the economy, than in a somewhat nostalgic view of farming and farmers as being "close to the earth" in a way that connotes a goodness and pureness of life not attainable in an urban atmosphere. The stream of farmers migrating to the cities since World War II has somewhat shaken this belief, and the growth of large, commercial farms has left only 7% of the population on farms.

In his 1968 message to Congress on Agriculture, President Johnson restated the goals set forth by Franklin D. Roosevelt 30 years earlier: "...to assure agriculture a fair share of an increasing national income, to provide consumers with abundant supplies of food and fiber, to stop waste of soil, and to reduce the gap between huge surpluses and disastrous shortages."(1)* Basic to our national agricultural policies has been the desire to provide an adequate supply of food to feed our own population – an aim which could be fairly easily related to all three supergoals of Public Welfare, National Security, and Economic Growth. A country with an inadequate supply of food would obviously not be caring for the welfare of its citizens. It would be dependent on allies for food supplies and in a precarious position regarding its enemies. It would be less able to divert to industrial growth the capital and manpower necessary to increase the food supply. Although many of the less developed countries are faced quite starkly with the problem of providing an adequate supply of food for their people, the situation in the United States

*Superscript numbers denote References shown at the end of the Chapter.

has been just the opposite – one of overabundance. The second goal of Franklin D. Roosevelt has been met to overflowing. It is the first goal that has caused a great deal of trouble – that of assuring agriculture a fair share of an increasing national income. The policy designed to accomplish this has been the concept of "parity", given legal status in the Agricultural Adjustment Act of 1938. This became the basis of price supports and was designed to provide farmers with a "fair" return for their products, based on receipts that, in the past, had been deemed fair. If what a farmer purchases has gone up in price a certain percentage since the established base period, he would be at 100% of parity if the products he sells have also gone up by that percent. Otherwise, the Government would subsidize him for at least part of the difference under various price support programs. The methods devised to carry out these policies will be discussed in more detail in the individual sections which follow.

Before discussing the specific agricultural programs, the following figures will show where Agriculture stands vis-à-vis other functional fields of Government activity. As Table II-2 in Chapter II shows, the dollar amounts allocated to this field and the percent of total of all outlays over the 1961 to 1969 period have varied considerably in response to crop yields. Starting with 1961, when outlays were $3.3 billion, they rose to $5.2 billion in 1964, were back down to $3.7 billion in 1966, and up again to an estimated $5.6 billion in 1969. These outlays reflected percentages of the total budget ranging from a low of 2.9% in 1966 and 1967 to a high of 4.9% in 1963. Over the 9-year period, the percent of total has decreased slightly by 0.4%. The ranking of Agricultural outlays has remained approximately in the middle of all functional fields, moving from seventh to sixth place over the 1961-69 period, as shown in Table II-1 in Chapter II.

In R&D expenditures, Agriculture was also ranked just about in the middle in both 1961 and 1969. Its R&D expenditures amount to 1.4% of all Government R&D expenditures in both years. As a percent of total Agriculture outlays, R&D was 3.6% in 1961 and 4.2% in 1969, once again ranked about in the middle with some fields having a much higher R&D content and others much lower. For more details on R&D in this field, see the separate research and services section and the Appendix.

Overall outlays for Agriculture appear in Table VIII-1, which shows the details of actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down according to subfunctions. These outlays are almost exclusively the responsibility of the Department of Agriculture, with a few minor exceptions in farm housing.

Farm Income Stabilization

This subfunction accounts for a majority of Agriculture outlays and is the area on which most division can be found as to its appropriateness as an instrument of policy.

Price Support and Related Programs

The concept of parity, mentioned before, is the backbone of the policy of farm income stabilization. The Agricultural Adjustment Act of 1938 is the basic law which set forth price supports and related quotas and acreage allotments. The Commodity Credit Corporation, through the Agricultural Stabilization and Conservation Service, handles the price support and production stabilization programs. Policies have varied for different commodities, including some commodities with no production controls and some

TABLE VIII-1. AGRICULTURE OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

In Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Farm income stabilization			
Price support and related programs	$1,652	$2,703	$2,775
Conservation reserve, cropland conversion, and cropland adjustment programs	196	211	200
Removal of surplus agricultural commodities	145	175	178
National Wool Act	35	64	63
Sugar Act	82	86	87
Other[a]	157	190	156
Subtotal, farm income stabilization	2,267	3,428	3,459
Financing rural electrification and rural telephones	12	13	13
Agricultural land and water resources:			
Soil Conservation Service – conservation operations[a]	111	115	117
Agricultural conservation program payments (including CCC loans)	216	217	203
Other	26	30	30
Financing farming and rural housing			
Farm Credit Administration[a]	-21	-48	-64
Farmers Home Administration and other[a]	11	74	96
Research and other agricultural services:			
Present programs[a]	570	623	675
Proposed legislation for inspection fees			-13
Interfund and intragovernmental transactions (-)	-5	-5	-6
Applicable receipts from the public (-)	-32	-34	-36
Subtotal, expenditures	3,156	4,412	4,474
Net Lending			
Farm income stabilization	262	-29	24
Financing rural electrification and rural telephones[b]	232	279	360
Financing farming and rural housing:			
Farm Credit Administration (trust funds)	671	749	771
Farmers Home Administration and other[a]	56	-100	-20
Subtotal, net lending	1,221	899	1,135
Total Outlays	$4,377	$5,311	$5,609

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.

(b) Figures for 1968 and 1969 reflect legislative proposals to establish a cooperative telephone bank, and revolving funds for the electric and telephone programs of REA.

with minimum acreage allotments which were well above the amount the market could absorb, thus still creating large surpluses. Also, acreage controls do not necessarily control production as marginal land is eliminated and as farmers use better fertilizer nations, are usually near the top. When crop yields are such as to depress the market price below what the Government has set as that year's price support, surplus commodities are purchased at the price by the Government, thus elevating the market price near the agreed upon level. When acreage allotments still produce excessive supplies, marketing quotas may also be used if two-thirds of the producers agree on such quotas.

Conservation Reserve, Cropland Conversion, and Cropland Adjustment Programs

These three programs are designed to reduce excess production by changing land-use patterns away from agriculture. Under the Conservation Reserve Program (under the Soil Bank Act of 1956), farmers retired cropland for conservation uses for a stipulated period of time. Contract authority for this program ended in 1960 and all contracts are scheduled to expire by 1972. Under the Cropland Conversion Program (under the Food and Agriculture Act of 1962), cropland better suited to other purposes was to be permanently changed and croplands not presently needed were to be temporarily changed. Under the Cropland Adjustment Program (Food and Agriculture Act of 1965), cropland was to be converted to develop and conserve various other resources such as water and wildlife.

Removal of Surplus Agricultural Commodities

The Consumer and Marketing Service of the Agriculture Department is responsible for outlays under this line item, and attempts to expand the demand for products through payments to exporters and payments to divert surplus commodities to new uses and markets. Surplus commodities are also distributed to school lunch programs and to welfare programs.

National Wool Act

The National Wool Act of 1954 has resulted generally in wool producers selling their product on the open market for whatever they could get and then receiving a direct payment from the Government for the difference between this price and a higher support price, thus benefiting both producer and user. This was designed to encourage domestic production of wool.

Sugar Act

Quotas have been a custom – both domestic and foreign – to assure United States producers of a substantial portion of the United States sugar market despite lower-priced competition from abroad. Payments are also made to domestic producers.

Other

This line item consists of salaries for personnel in the Agricultural Stabilization and Conservation Service and a small amount for administrative and operating expenses of the Federal Crop Insurance Corporation which insures against unavoidable losses.

The above line items, all falling under the subfunction "Farm Income Stabilization", make up well over half of all Agriculture outlays, and, in a sense, contribute to the welfare function since they were designed as income sustaining programs for those whose incomes would otherwise not provide an adequate standard of living. In actual practice, much of the subsidy does not go to the family farmer but to larger commercial farmers.

Financing Rural Electrification and Rural Telephones

The Rural Electrification Administration, created in 1935, makes loans for rural electrification and telephone service on an area basis. The expenditures listed are for administrative expenses of the program; the major portion of outlays is shown at the bottom of Table VIII-1 under Net Lending.

Agricultural Land and Water Resources

Activities under this subfunction are aimed primarily at conservation of land and water as a long-term policy for the resources involved rather than primarily as a means of affecting the market price of crops that otherwise would have been grown on the lands. The two major conservation programs are those of the Soil Conservation Service, which also handles the price support program.

The Soil Conservation Service, established in 1935, carries out a program of soil and water conservation involving erosion control and sediment reduction, flood prevention, land-use planning in rural areas, recreation, and water development. Technical help is given to local soil conservation districts and soil surveys are conducted as a basis for planning. Activities concerned primarily with watershed planning and flood control are included under the Natural Resources field.

The conservation activities of the Agricultural Stabilization and Conservation Service have been in existence since 1936, and involve a program of cost-sharing whereby the Government assumes part of the cost of soil and water conservation practices which would not otherwise be done by the owners involved. Conservation practices include providing and protecting vegetative cover for lands, protection from wind and water erosion, wildlife protection, and water conservation. Disaster conservation measures are also supported.

Financing Farming and Rural Housing

Activities of the Farm Credit Administration and the Farmers Home Administration come under this subfunction, and consist primarily of lending operations, as indicated in Table VIII-1. The Farm Credit Administration (not a part of the Department of Agriculture) provides credit to farmers for cooperative activities such as marketing and purchasing, and accounts for the major part of net lending under the Agriculture function. The Farmers Home Administration (part of the Department of Agriculture) administers three major loan programs: (1) to improve farm income, (2) to provide rural housing, and (3) to provide rural public facilities.

Research and Other Agricultural Services

This subfunction is the second largest on the expenditure side, although not nearly as large as the Farm Income Stabilization Programs. Discussion will be divided into the categories of research and service. The majority of research activities are carried out by the Agricultural Research Service, the Cooperative State Research Service, and the Economic Research Service. Detailed descriptions of these programs are presented in the Appendix to this chapter. Expenditures for these three programs in FY 1969 make up about half of the expenditures listed under this subfunction of "Research and Other Agricultural Services", although the R&D figures shown in Chapter II are lower because they include only R&D conduct expenditures. As noted earlier, R&D in Agriculture ranks about in the middle in importance of R&D to the Government as compared with other functional fields, with 14.% of R&D expenditures in 1969. R&D has grown by just under 100% since 1961 – a little over $100 million, which places it slightly below the middle in growth. R&D has grown slightly in its percent of all Agriculture outlays, but is still only 4.2% of these outlays, as contrasted with 3.6% in 1961. This places it well below the five functional fields in which R&D is at least 10% of outlays, but also well above the five functional fields in which R&D is less than 1% of outlays.

Detailed data on R&D programs included in this function (including a few small TVA programs) appear in Tables VIII-2 and VIII-3 which follow, and in the Appendix to this chapter.

The "services" part of this subfunction includes such programs as the Extension Service, Statistical Reporting Service, parts of the Consumer and Marketing Service, and the Foreign Agricultural Service. The objectives of these programs are generally to provide information, technical assistance, and various other services in order to help both producers and consumers.

This completes description of the activities, programs, and policy in the Agriculture functional field. Estimated 1969 outlays for the subfunctions discussed are shown in Table VIII-4.

TABLE VIII-2. 1969 AGRICULTURE R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Areas	$ Millions	Percent of Total
1	Agriculture Research Service (Agriculture)	152.3	64.3
2	Cooperative State Research Service (Agriculture)	61.7	26.0
3	Economic Research Service (Agriculture)	13.8	5.8
4	Fertilizer R&D (TVA)	4.5	1.9
5	Other Agriculture R&D (Agriculture)	4.3	1.8
6	Special Agricultural Investigations (TVA)	0.4	0.2
	Total	237.0	100.0

TABLE VIII-3. CHANGES IN AGRICULTURE R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ Millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969-1961	1969-1967	1969-1968	1969-1961	1969-1967	1969-1968
Total R&D	+116.9	+16.9	+3.4	+97.3	+7.7	+1.5			
Agricultural Research Service	+68.6	+7.1	-3.8	+82.0	+4.9	-2.4	-5.4	-1.7	-2.5
Cooperative State Research Service	+29.0	+6.5	+5.2	+88.7	+11.8	+9.2	-1.2	+0.9	+1.8
Economic Research Service	(a)	+1.7	+1.2	(a)	+14.0	+9.5	+5.8	+0.3	+0.4
Fertilizer R&D (TVA)	+2.8	+0.4	+0.2	+164.7	+9.8	+4.7	+0.5	0	+0.1
Other Agriculture R&D	+3.4	+1.5	+0.6	+377.8	+53.6	+16.2	+1.1	+0.5	+0.2
Special Agricultural Investigations (TVA)	+0.2	0	0	+100.0	0	0	0	0	0

(a) Comparable 1961 data not available.

TABLE VIII-4. 1969 AGRICULTURE OUTLAYS BY SUBFUNCTIONS

Subfunction	$ Millions	Percent of Total
Expenditures		
Farm Income Stabilization	3,459	76.6
Research and Other Agricultural Services	662	14.7
Agricultural Land and Water Resources	350	7.8
Financing Farming and Rural Housing	32	0.7
Financing Rural Electrification and Telephones	13	0.3
	4,516	100.0
Adjustments	-42	
Subtotal, expenditures	4,474	
Net Lending		
Financing Farming and Rural Housing	751	
Financing Rural Electrification and Telephones	360	
Farm Income Stabilization	24	
Subtotal, net lending	1,135	
Total Outlays	5,609	

Party Platforms

The sections on Agriculture from the two 1968 party platforms are included as indications of approach and emphasis of the two major parties.

Democratic

Agriculture. Twice in this century the Republican Party has brought disaster to the American farmer – in the thirties and in the fifties. Each time the American farmer's prosperity was restored by the Democratic Party, but the job is not yet completed.

Farmers must continue to be heard in the councils of government where decisions affecting agriculture are taken. The productivity of our farmers – already the world's most productive – must continue to rise, making American agriculture more competitive abroad and more prosperous at home.

A strong agriculture requires fair income to farmers for an expanding output. Family farmers must be protected from the squeeze between rising production costs and low prices for their products. Farm income should grow with productivity just as industrial wages rise with productivity. At the same time, market prices should continue

to reflect supply and demand conditions and American farm products must continue to compete effectively in world markets. In this way, markets at home and abroad will continue to expand beyond the record high levels of recent years.

To these ends, we shall:

- Take positive action to raise farm income to full parity level in order to preserve the efficient, full-time family farm. This can be done through present farm programs when these programs are properly funded, but these programs will be constantly scrutinized with a view to improvement.
- Actively seek out and develop foreign commercial markets, since international trade in agricultural products is a major favorable factor in the nation's balance of payments. In expanding our trade, we shall strive to ensure that farmers get adequate compensation for their production going into export.
- Expand our food assistance programs to America's poor and our Food for Peace program to help feed the world's hungry.
- Establish a Strategic Food and Feed Reserve Plan whereby essential commodities such as wheat, corn and other feed grains, soybeans, storable meat and other products will be stockpiled as a safeguard against crop failures, to assist our nation and other nations in time of famine or disaster, and to ensure adequate supplies for export markets, as well as to protect our own farm industry. This reserve should be insulated from the market.
- Support the right of farmers to bargain collectively in the market place on a commodity-by-commodity basis. Labor and industry have long enjoyed this right to bargain collectively under existing legislation. Protective legislation for bargaining should be extended to agriculture.
- Continue to support and encourage agricultural co-operatives by expanded and liberal credit, and to protect them from punitive taxation.
- Support private or public credit on reasonable terms to young farmers to enable them to purchase farms on long-term, low-interest loans.
- Support the present federal crop insurance program.

Reaffirm our support of the rural electrification program, recognizing that rural America cannot be revitalized without adequate low-cost electric power. We pledge continued support of programs to assure financing to meet the growing generating and distributing power needs of rural areas. We support the rural telephone program.

Support a thorough study of the effect of unlimited payments to farmers. If necessary, we suggest graduated open-end limitations of payments to extremely large corporate farms that participate in government programs.

Take a positive approach to the public interest in issue of health and tobacco at all levels of the tobacco economy. We recommend a cooperative effort in health and tobacco research by government, industry and qualified scientific bodies, to ascertain relationships between human health and tobacco growth, curing, storage and manufacturing techniques, as well as specific medical aspects of tobacco smoke constituents.

Republican

Agriculture. During seven and a half years of Democrat Administrations and Democrat Congresses the farmer has been the forgotten man in our nation's economy. The cost-price squeeze has steadily worsened, driving more than four and a half million people from the farms, many to already congested urban areas. Over eight hundred thousand individual farm units have gone out of existence.

During the eight years of the Eisenhower Administration, the farm parity ratio averaged 85. Under Democratic rule, the parity ratio has consistently been under 80 and averaged only 74 for all of 1967. It has now fallen to 73. Actions by the Administration, in line with its apparent cheap food policy, have held down prices received by farmers. Government payments to farmers, from taxes paid by consumers, have far from offset this loss.

Inflationary policies of the Administration and its Congress have contributed greatly to increased costs of production. Using 1958 as a base year with an index of 100, prices paid by farmers in 1967 had risen to a weighted index of 117, whereas the prices they received were at a weighted index of only 104. From the 1958 index of 100, interest was up to 259, taxes 178, labor costs 146, and farm machinery 130.

The cost-price squeeze has been accompanied by a dangerous increase in farm debt - up nearly $24 billion in the last seven years. In 1967 alone, net debt per farm increased $1,337 while net income per farm went down $605. While net farm equity has increased, it is due mainly to inflated land values. Without adequate net income to pay off indebtedness, the farm owner has no choice but to liquidate some of his equity or go out of business. Farm tenants are even worse off, since they have no comparable investment for inflation to increase in value as their indebtedness increases.

The Republican Party is committed to the concept that a sound agricultural economy is imperative to the national interest. Prosperity, opportunity, abundance, and efficiency in agriculture benefit every American. To promote the development of American agriculture, we pledge:

Farm policies and programs which will enable producers to receive fair prices in relation to the prices they must pay for other products;

Sympathetic consideration of proposals to encourage farmers, especially small producers, to develop their bargaining position;

Sound economic policies which will brake inflation and reduce the high interest rates;

A truly two-way export-import policy which protects American agriculture from unfair foreign competition while increasing our overseas commodity dollar sales to the rapidly expanding world population;

Recorganization of the management of the Commodity Credit Corporation's inventory operations so that the Corporation will no longer compete with the marketings of farmers;

Improved programs for distribution of food and milk to schools and low-income citizens;

A strengthened program to export our food and farm technology in keeping with the Republican-initiated Food for Peace program;

Assistance to farm cooperatives including rural electric and telephone cooperatives, consistent with prudent development of our nation's resources and rural needs;

Greater emphasis on research for industrial uses of agricultural products, new markets, and new methods for cost-cutting in production and marketing techniques;

Revitalization of rural America through programs emphasizing vocational training, economic incentives for industrial development, and the development of human resources;

Improvement of credit programs to help finance the heavy capital needs of modern farming, recognizing the severe credit problems of young farm families seeking to enter into successful farming;

A more direct voice for the American farmer in shaping his own destiny.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* Congress reduced the NBA for this functional field by 14.4% as compared with total NBA reductions for all functional fields of 10%. This would indicate that Congress places a somewhat lower priority on this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) in comparison to the overall Congressional NBA cut of 10%.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

Programs Increased, %

Agricultural Stabilization and Conservation Service	+17.2
Rural Electrification Administration	+5.7
Soil Conservation Service	+0.7

Selected Programs Reduced <10%		Selected Programs Reduced > 10%	
Agricultural Research Service	-7.3	Farmers Home Loan Association	-82.3
Cooperative State Research Service	-4.9	Commodity Credit Corporation	-14.0
Extension Service	-0.7		
Consumer and Marketing Service	-2.9		

Congress exempted from the 1969 spending ceiling for the entire budget $900 million in Commodity Credit Corporation farm subsidy payments. Aside from appropriations in this field, other Congressional action primarily took the form of extending past legislation, such as Food for Freedom and the Food and Agriculture Act of 1965.

The Likely Future (The Next Decade)

Table VIII-5 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- Agriculture functional field dollar allocations vary much more than most of the other functional fields because the Farm Income Stabilization subfunction accounts for about 75% of the total and is dependent upon the level of crop yields for supported commodities in any given year. Nonetheless, it is likely that future relative growth in total expenditures will continue to be well above average although the Agriculture functional field will remain approximately in the middle of all functional fields ranking sixth or seventh out of 13.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE VIII-5. AGRICULTURE – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, % 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, % 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Comments
Farm Income Stabilization	3,459	76.6	+63	Well Above	Well Above						
Price Support and Related Programs	2,775	61.4	+68	Well Above	Well Above						
Other Farm Income Stabilization	684	15.1	+11	Below	Below						
Research and Other Agricultural Services	662	14.7	+16	About Average	About Average	228	96.1	+7	Above	Above	
Agricultural Land and Water Resource	350	7.8	-1	Well Below	Well Below						
Financing Farming and Rural Housing	32	0.7	See Comments								$161 million net lending comprises main activity of this subfunction.
Financing Rural Electrification and Telephones	13	0.3	See Comments								$130 million net lending comprises main activity of this subfunction
Multiple/Other R&D	--	--	--	--	--	9	3.9	+26	Well Above	Well Above	Includes small Agricultural Department R&D for Agricultural Library, Farmer Coop. Services, Statistical Reporting Services, Soil Conservation Services, Consumer and Marketing Services. Also includes TVA Fertilizer R&D, and TVA Special Agricultural Investigations.
TOTAL	4,516	100.0	+41	Well Above	Well Above	237	100.0	+8	Above	Above	
Total Federal Government			+17					+4			

- Within the total functional field, the Farm Income Stabilization subfunction is likely to continue at well above average relative growth; Research and Other Agricultural Services subfunction about average and Agricultural Land and Water Resources below average.

- R&D Expenditures in the Agriculture Functional Field are likely to continue at above average relative growth.

References

(1) Franklin D. Roosevelt, 1938, as quoted in Lyndon B. Johnson's message on Agriculture, February 27, 1968.

APPENDIX VIII-A

AGRICULTURE RESEARCH AND DEVELOPMENT

APPENDIX VIII-A

AGRICULTURE RESEARCH AND DEVELOPMENT

TABLE VIII-A-1. AGRICULTURE R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA, 1961-1969

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Agricultural Research Service	1961	83.7		
	1962	84.2	+0.5	+0.6
	1963	90.4	+6.2	+7.4
	1964	99.0	+8.6	+9.5
	1965	111.0	+12.0	+12.1
	1966	132.1	+21.1	+19.0
	1967	145.2	+13.1	+9.9
	1968	156.1	+10.9	+7.5
	1969	152.3	-3.8	-2.4
Cooperative State Research Service	1961	32.7		
	1962	35.7	+3.0	+9.2
	1963	38.0	+2.3	+6.4
	1964	41.6	+3.6	+9.5
	1965	46.6	+5.0	+12.0
	1966	51.8	+5.2	+11.2
	1967	55.2	+3.4	+6.6
	1968	56.5	+1.3	+2.4
	1969	61.7	+5.2	+9.2
Economic Research Service	1961	(a)		
	1962	8.2		
	1963	9.7	+1.5	+18.3
	1964	10.0	+0.3	+3.1
	1965	10.1	+0.1	+1.0
	1966	11.0	+0.9	+8.9
	1967	12.1	+1.1	+10.0
	1968	12.6	+0.5	+4.1
	1969	13.8	+1.2	+9.5
Other Agriculture	1961	0.9		
	1962	1.6	+0.7	+77.8
	1963	1.9	+0.3	+18.8
	1964	2.6	+0.7	+36.8
	1965	5.2	+2.6	+100.0
	1966	10.8	+5.6	+107.7
	1967	2.8	-8.0	-74.1
	1968	3.7	+0.9	+32.1
	1969	4.3	+0.6	+16.2

TABLE VIII-A-1. (Continued

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Fertilizer Research and Development (TVA)	1961	1.7(b)		
	1962	1.9(b)	+0.2	+11.8
	1963	2.1(b)	+0.2	+10.5
	1964	2.9(b)	+0.8	+38.1
	1965	3.2(b)	+0.3	+10.3
	1966	3.6(b)	+0.4	+12.5
	1967	4.1	+0.5	+13.9
	1968	4.3	+0.2	+4.9
	1969	4.5	+0.2	+4.7
Special Agricultural Investigations (TVA)	1961	0.2(b)		
	1962	0.2(b)	0	0
	1963	0.2(b)	0	0
	1964	0.3(b)	+0.1	+50.0
	1965	0.3(b)	0	0
	1966	0.4(b)	+0.1	+33.3
	1967	0.4	0	0
	1968	0.4	0	0
	1969	0.4	0	0
National Commission on Food Marketing	1961	0.9(b)		
	1962	0.4(b)	-0.5	-55.0
	1963	0.7(b)	+0.3	+75.0
	1964	0.2(b)	-0.5	-71.4
	1965	0.4	+0.2	+100.0
	1966	1.3	+0.9	+225.0
	1967	0.3	-1.0	+76.9

(a) Comparable 1961 data not available.
(b) Exact program area data not available – therefore estimates have been made.

Agriculture, Summary of Official Program Description

Department of Agriculture

Agricultural Research Service. Conducts basic and applied research relating to the production, utilization, and marketing of agricultural products, research on nutrition and consumer use, and carries out those control and regulatory programs of the Department which involve enforcement of plant and animal quarantines, the control of diseases and pests of animals and plants, and related work.

Research:

- Farm research. Improved breeding, feeding, and management practices, including management of animal wastes, are developed for farm livestock, poultry, and domestic fur animals. Practical methods are sought for control of diseases and parasites and insect pests affecting them, and to protect them from toxic chemical poisons and other hazards.

  Investigations are conducted to improve varieties of food, feed, fiber and other plants and to develop new crops; to improve crop-production practices, including methods to control plant diseases and nematodes, and reduce cost of production; and to develop safe chemical, biological, and other methods for control of harmful pests affecting farm production.

  Investigations are conducted to improve the management of natural resources, including investigations to improve soil and water management (including salinity and saline soils), irrigation, and conservation practices; to study hydrologic problems of agricultural watersheds: to determine the relation of soil and water to plants, animals, and human nutrition, and to apply engineering principles to improve efficiency and reduce costs of agricultural production.

  The research is aimed at the profitable production of an adequate supply of food, feed, fiber, and other agricultural products of desired quality at minimum costs. Attention continues to be given to the production of agricultural products having industrial uses. Increased attention has been given to studies to protect plants, animals, and natural resources from harmful effects of soil, water, and air pollution. Research conducted is also concerned with the application of remote sensing techniques in meeting agricultural problems. The proportion of farm research funds going into basic research is currently estimated at 45% of the total funds for research. This basic research is fundamental to and strengthens the other research efforts.

*Edited excerpts, primarily from The Budget.

A net increase is proposed for 1969 which would provide for (1) partial elimination of 1968 program cutbacks under Public Law 90-218, and (2) increases for staffing, equipping, and operating new and expanded research laboratories and watershed research centers. The staffing increases would cover the following areas of research: reducing the cost of producing cotton, engineering research on poultry production and equipment, development of cereal rust resistant varieties, water pollution control on agricultural lands, and technology of watershed conservation and management.

- Utilization research and development. Chemical, physical, and biological research is conducted to develop increased industrial uses of farm products, and new and improved foods, feeds, and fabrics; and to develop improved methods for processing agricultural commodities.

  The research aim is to expand the demand for farm products by developing new and improved products and economical processes tailored to the requirements of the domestic and foreign markets. The research conducted includes studies to protect food and feed products from harmful microorganisms and naturally occurring toxins and studies of health-related problems of tobacco. Increased effort is being given to the processing of agricultural commodities to minimize waste formation and to utilize waste products to avoid pollution. A net increase is proposed for 1969 which would provide for (1) partial elimination of 1968 program cutbacks under Public Law 90-218 and (2) increases for research on short staple cotton and for additional staffing, equipping, and operating of the new South Eastern Regional Laboratory at Athens, Georgia. The staffing increase would cover the following areas of research: developing detection and processing methods to protect food and feed products from harmful contamination; minimizing poultry, meat, and fruit and vegetable plant processing wastes; improving processed feed products from forages; developing improved poultry, egg, and animal food products; and developing improved fruit and vegetable products.

- Nutrition and consumer use research. Studies are made of human nutritional requirements, composition and nutritive values of foods, consumer and food economics, and problems in household use of textiles and clothing.

  The research aim is to determine nutrient requirements and how foods can supply these to best assure nutritional well-being of people throughout their lifespan, to provide up-to-date information about food consumption and nutrition of the population, and to develop improved procedures for household preparation, care and preservation of foods which will preserve their nutritional, sanitary, and wholesome quality. The increase proposed for 1969 would be used for initial staffing and equipping the North Central Human Nutrition Research Laboratory at Grand Forks, North Dakota, to expand research on food and nutrition problems.

- Marketing research. Practical answers to problems encountered in moving products from farm to consumer are sought through research. For farm products as they pass through marketing channels, efforts are made to develop safe methods to protect against insect attack, find objective methods to determine quality, reduce losses from waste and spoilage, and improve efficiency in physical handling.

  The work includes research at each stage of marketing, such as assembly points and storage facilities, and of transportation, at terminal or central markets and at wholesale and retail markets. Research is also concerned with mycotoxins in agricultural products in relation to off-farm handling, conditioning, and storage. A net increase is proposed for 1969 which would provide for (1) partial elimination of 1968 program cutbacks under Public Law 90-218, and (2) increases for research on mechanical classing methods for cotton and partial staffing, equipping and operating the new Tree-Fruit and Nut Research Laboratory at Byron, Georgia, the Peanut Marketing Laboratory at Dawson, Georgia, and the Stored Products Insects Laboratory at Savannah, Georgia. The staffing increases would cover the following areas of research: improving marketing efficiency, investigations on mycotoxins (peanuts), and maintaining quality of agricultural commodities in marketing channels.

- Coordination of departmental and interdepartmental activities related to pests and their control. The 1969 estimate continues the availability of $225 thousand for the use of the Secretary of Agriculture in collaborating with the Department of Health, Education and Welfare, the Department of Interior, and other agencies of the Federal Government on problems related to the use of pesticides. The project provides for coordination in development of measures to protect the public health, producers, and resources.

Cooperative State Research Service. This service administers funds for payments and grants to State agricultural experiment stations, and other eligible institutions for the support of research in agriculture, the rural home, the rural community and forestry. This administration involves supervision of the funds, and close advisory relations with the State agricultural experiment stations, schools of forestry and other institutions eligible to receive funds. This agency participates in planning and coordination of research programs among the States and between the States and the U. S. Department of Agriculture.

Contracts and grants for scientific research are for the support of grants on specific research problems at nonprofit institutions of higher education or nonprofit organizations whose primary purpose is the conduct of such research. Funding is on a competitive basis. Every research proposal selected for funding must be evaluated and classified as outstanding and appropriate to the needs of the designated problem area.

Economic Research Service. This service conducts research to measure, appraise, and analyze on a continuing basis, economic changes that occur in farming and in the use of human and natural rural resources and to indicate needed adjustments.

Research on the economics of farm production includes the economics of organization and management of farms; adjustments in production to prospective demands, and changing technologies: appraisals of costs and returns on farms representative of important types, sizes and locations, and the appraisal of costs of producing important commodities; development of measures of farm output and productivity; problems of farm size and capital requirements; financing of farm enterprises; and appraisal of alternative agricultural production policies and programs.

Natural resources economics is concerned with the economics of use, conservation, development, management and control of natural resources and their relationship to economic activity. It includes economic analysis of land and water resources, resource institutions, and the economic and social conditions affecting use of resources.

Economic development is focused upon the well-being and opportunities of rural people. It includes a broad research program on economic development of rural areas, opportunities and employment of rural people and factors affecting them, including local governments and other organizations. Special attention is given to the poor who are found in heavy concentrations among rural people.

The increase requested for 1969 would permit: (1) studies of labor and capital problems in farming; (2) analysis of relationships between the land resource base and economic development; (3) economic studies of water quality management and use in agriculture; and (4) development of economic indicators of changes in the rural economy.

Other Agriculture. Other agriculture research activities not listed above include small programs of the National Agricultural Library, Farmer Cooperative Service, Statistical Reporting Service, Soil Conservation Service, and Consumer and Marketing Service.

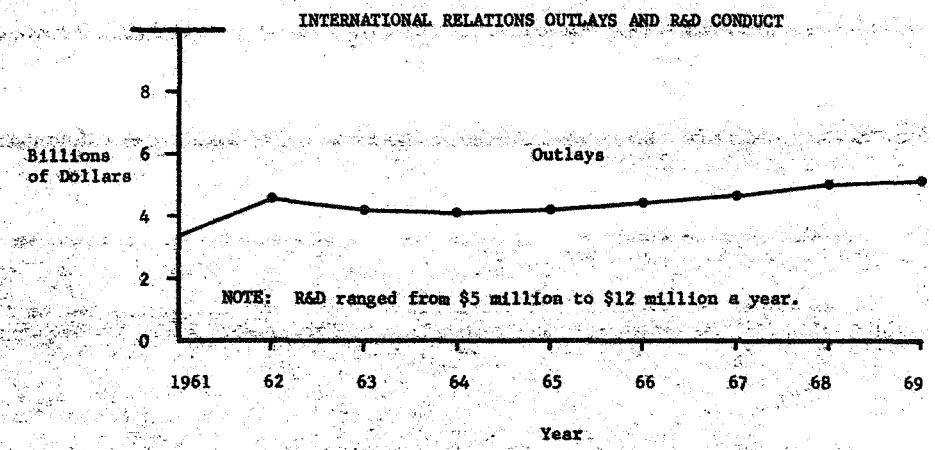
Other Agencies

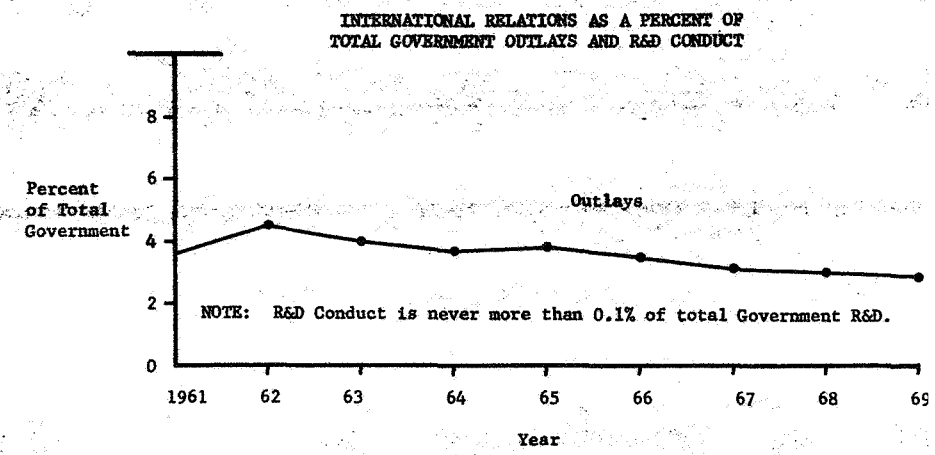
Tennessee Valley Authority. The TVA conducts scientific research and development activities under its responsibilities to aid in the unified development of the resources of the region, to develop and test new or improved chemical fertilizers, and to improve the efficiency of its operations.

Agronomic research is undertaken to evaluate new TVA fertilizer materials, by greenhouse and field plot tests, as to availability of plant food to plants, reactions with the soil, and use practices. Small-scale chemical laboratory research and pilot-plant experimentation are conducted in the development of new or improved fertilizer products and processes, and technological studies of plant operations are conducted. Economic analyses of Valley agriculture are made for program planning and evaluation purposes and the examination of special regional farm problems.

Information is collected to determine the extent and character of the forest resource and to guide its conservation and use. Studies are made in support of tributary area development, fish and wildlife development, the disposal of solid wastes as soil amendments, and the recovery of sulfur from stack gases. Research is conducted in support of TVA program responsibilities for regional water quality management. TVA also conducts research directly related to its own operations, such as hydraulic research, studies of the effects and control of gaseous effluents from steam plants and chemical plants, and the development of methods for control of reservoir ecology.

Chapter IX. INTERNATIONAL RELATIONS FUNCTIONAL FIELD





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CHAPTER IX

INTERNATIONAL RELATIONS FUNCTION FIELD

The Field as a Whole

The functional field of International Relations includes programs designed "to promote a peaceful world community in which all peoples can progress toward more satisfying lives".[1]* As presented in The Budget, the functional field includes the following subfunctions: Conduct of Foreign Affairs, Economic and Financial Programs, Food for Freedom, and Foreign Information and Exchange Activities. The only way in which this functional field has been modified for this study is that the Arms Control and Disarmament Agency (ACDA) has been placed in the National Security functional field rather than here as The Budget does.

Responsibility for handling the conduct of foreign affairs is one of the functions which defines an independent state, and as such has always been a permanent responsibility of the U. S. Government. This may be considered in a fairly restricted sense, as was Washington's desire in his dictum against entangling alliances. Or, it may be looked on more broadly, as the United States has done since World War II, to include a multitude of economic, political, and military relationships such as alliances and aid programs.

Of the supergoals noted in Chapter I, the functional field of International Relations is directly and almost exclusively related to the goal of National Security and International Relations. Its connection with the goal of Economic Development (United States, that is) can be made with the proposition that our economic health is, in many ways, closely related to the economic health of other countries in the total world economy. Foreign countries provide both raw materials for our own industrial production (and many manufactured goods as well) and provide markets for our products. United States relations with other countries are very influential in this country's trade patterns. But, the importance of this functional field to the supergoal of Economic Growth is small in comparison with its fundamental contribution to the supergoal of National Security and International Relations. The supergoal of Public Welfare is related only indirectly in the sense that national security is a necessary condition for the other goals to be effective.

The amount of attention paid to aspects of this field in Presidential messages is far greater than its relative outlays would indicate. Whereas in many fields there may be one message – say the President's 1965 message on Agriculture, it is not unusual for many messages in a year to deal with matters that fall within the International Relations functional field. In 1967, for example, there were messages on Foreign Aid, Food for India, the Asian Development Bank, and the Latin American Summit Meeting.[2] Other messages in the last few years have dealt with such topics as World Health and Education, United Nations Charter Revision, and Immigration. Many of these issues are not "expenditure" oriented – it costs little to modify immigration laws. Other issues are almost limitless in terms of potential expenditures (e.g., world health, education, and foreign aid) but, are not a legal responsibility of our Government and continue only at the sufferance of an increasingly restive Congress and, ultimately, the United States public.

The allocation of Government funds to the functional field of International Relations has ranged from 3.6% of total outlays in 1961 to a high of 4.5% in 1962, and a low of

*Superscript numbers denote References which appear at the end of this Chapter.

TABLE IX-1. INTERNATIONAL RELATIONS OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Conduct of foreign affairs			
Department of State[a]	$ 321	$ 337	$ 355
Tariff Commission	3	4	4
Foreign Claims Settlement Commission[a, b]	21	200	1
Department of Justice (trust funds)	2	4	53
Treasury Department (trust funds)	8	5	6
Economic and financial programs			
Agency for International Development			
Development loans	662	625	670
Technical cooperation[a]	224	203	216
Alliance for Progress	511	465	516
Supporting assistance	587	602	621
Contingencies and other	334	313	310
Applicable receipts from the public(-)[b]	-51	-63	-69
Subtotal, Agency for International Development[a, b]	2,263	2,135	2,264
International financial institutions			
Present programs	170	223	200
Proposed legislation	--	--	10
Export-Import Bank	-104	-144	-110
Peace Corps[a, b]	112	108	110
Other[a]	20	21	20
Food for Freedom (Ag)	1,452	1,315	1,444
Foreign information and exchange activities			
United States Information Agency[a, b]	185	187	194
Department of State and other[a]	59	68	61
Applicable receipts from the public (-)[b]	-417	-153	-144
Subtotal, expenditures	4,100	4,321	4,468
Net Lending: Economic and financial programs			
Export-Import Bank			
Present programs	540	716	660
Proposed legislation	--	--	15
Subtotal, net lending	540	716	675
Total Outlays	$4,640	$5,037	$5,143

Source: Edited excerpts from The Budget.
(a) Includes both Federal funds and Trust funds.
(b) Relevant "Interfund and intragovernmental transactions" and "Applicable receipts from the public" have been deducted to arrive at totals.

2.9% in 1969, as shown in Table II-2 in Chapter II. This was a drop of 0.7 in percent of total, over the 1961 to 1969 period, despite an increase of dollar outlays from $3.4 billion to $5.1 billion. Whether the $5.1 billion estimated outlays for 1969 will survive, given the Congressional cutback in foreign aid appropriations, is questionable. International Relations ranked seventh (of 13) fields in 1969, and sixth in 1961 – or just about in the middle in both years (Table II-4, Chapter II).

From the standpoint of research and development, the field ranked twelfth in 1969 (with R&D expenditures of $11 million), down from ninth in 1961 (with $5 million). R&D as a percent of the International Relations field is only 0.2% in 1969 and was 0.1% in 1961. Its rank was low in this respect also. The minor importance of R&D in this field's outlays should not obscure a related fact – that technical assistance, which in essence conveys to others the results of our R&D and technical expertise in other fields, is an important element of our foreign aid program.

A more detailed view of overall outlays for International Relations appears in Table IX-1, which shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down according to subfunctions and areas within these subfunctions. The outlays shown in this table are distributed among a number of agencies, with the Department of State (including AID) and the Department of Agriculture responsible for most of the funds. The breakdown is shown in Table IX-2.

TABLE IX-2. 1969 INTERNATIONAL RELATIONS OUTLAYS BY AGENCY

	$ Millions	Percent of Total
State (including AID)	2,671[a]	50.5
Agriculture	1,444	27.3
Eximbank	566	10.7
International financial institutions	210[a]	4.0
USIA	194	3.7
Peace Corps	110[a]	2.1
Justice	53	1.0
Other	39	0.7
	5,287	100.0
– Applicable Receipts from Public	-144	
Total Outlays	5,143	

(a) Mostly appropriated to President.

The following sections treat the elements that make up the International Relations functional field in greater depth in terms of goals, objectives, policies, and programs.

Conduct of Foreign Affairs

The conduct of foreign affairs was noted above as a responsibility without which a nation cannot truly call itself independent. Expenditures under this subfunction provide

for this activity, and are largely expended by the Department of State, for administration and also for participation in, and contributions to, international organizations. Other expenditures under this subfunction include a small amount for the Tariff Commission, which conducts investigations and makes reports on various matters concerned with foreign trade and tariffs; and expenditures by the Departments of Justice and Treasury, and the Foreign Claims Settlement Commission, concerning claims made by foreign countries or nationals against the United States, largely stemming from World War II take-over of properties.

Economic and Financial Programs

Agency for International Development

The bulk of expenditures under this subfunction are for programs carried out by the Agency for International Development (AID). Foreign aid (used here to mean economic, not military, aid) achieved major backing as an instrument of foreign policy after the Second World War with the Truman Doctrine of aid to Greece and Turkey and the Marshall Plan aid for European economic recovery. Under Truman's Point IV program enunciated in 1949, the fourth point was:

> "Fourth, we must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas... I believe that we should make available to peace-loving peoples the benefits of our store of technical knowledge in order to help them realize their aspirations for a better life. And, in cooperation with other nations, we should foster capital investment in areas needing development."(3)

The rationale and objectives of our foreign aid programs have been multiple, and perhaps even difficult to ascertain. There have really been a multiplicity of objectives, and questions are frequently raised as to the efficacy of foreign aid in achieving some of these objectives. The basic objective of the Marshall Plan was to bring about European economic recovery and, thereby, avert Communist take-overs stemming from dissatisfaction of the populations. This program has generally been regarded as a very successful one. Later, our economic aid programs began to focus on the underdeveloped countries, with the principal rationale being that as countries developed economically and socially, and as their populations achieved higher per capita incomes, they would be more stable, more concerned with individual aspirations and, therefore, more democratic, and more peaceful and responsible in the world community. It was thought that the country providing aid would, in addition to achieving indirect benefits from these outcomes, achieve other more direct benefits such as maintaining a friendly government, receiving popular gratitude and receiving support in world public opinion. It was also hoped that we might be able to influence the recipient government in some of its policies, and perhaps receive political advantages or favors in exchange for aid. Finally, foreign aid has been justified as a morally necessary act by a very wealthy country in support of less favored or underdeveloped countries. The multiplicity of our goals in foreign aid; their possible conflicting nature (Does altruism require political advantage as a return?, does development contribute to stability? etc.); the difficulty of measuring their achievement; and our own internal and external problems (the crisis of the cities, balance of

payments; etc.) have put foreign aid development programs in a rather beleaguered position. Although all of our Presidents since the Second World War have supported foreign aid programs as being in our national interest, Congress has at times questioned this assumption. The following quotes illustrate some Presidential and Congressional attitudes.

Eisenhower, 1960

> "To remain secure and prosperous themselves, wealthy nations must extend the kind of cooperation to the less fortunate members that will inspire hope, confidence, and progress."(4)

Kennedy, 1961

> "The 1960's can be – must be – the crucial 'Decade of Development' – the period when many less-developed nations make the transition into self-sustained growth – the period in which an enlarged community of free, stable, and self-reliant nations can reduce world tensions and insecurity."(5)

> "Our role is essential and unavoidable in the construction of a sound and expanding economy for the entire non-communist world, helping other nations build the strength to meet their own problems, to satisfy their own aspirations – to surmount their own dangers."(6)

Johnson, 1967 and 1968

> "Greater opportunities and security for our own citizens will be possible only if other peoples also share in progress toward a better and more secure life."(7)

> "The foreign aid program for fiscal 1969 is designed to foster our fundamental American purpose: To help root out the causes of conflict and, thus, ensure our own security in a peaceful community of nations."(8)

Some Comments from Congressmen, 1968

> Zablocki (Wisconsin): "While I applaud the action of the Committee on Foreign Affairs in reducing the administration's foreign aid request by 20 percent, which is certainly a step in the right direction, I personally feel that even a moratorium on new authorizations for 1 year would not seriously jeopardize any essential foreign relationships of this country."(9)

> Mailliard (California): "We simply have not done enough to inform the public that it is an essential security investment instead of a handout or soft loan by a wealthy nation to its less fortunate neighbors."(10)

One of the results of the conflict in 1968 was the smallest foreign aid bill ever passed (including both military and economic assistance). Almost one-third was cut from what was submitted as a "bare-bones" request. The bill said that research should be emphasized that would lead to better understanding of how development assistance could support "democratic social and political trends" in other countries. AID personnel were

to receive training in the political and social aspects of development. The bill also requested that the President make a thorough review of our foreign aid programs, and set up a management system including definition of objectives, resources, expenditures, results, and budget projections of foreign aid programs.

Table IX-1 shows the various line item expenditures that make up the AID program. The types of AID expenditures are as follows:

- Development loans are made to assist in development through long-range plans in less-developed friendly countries. They are repayable in dollars.
- Technical cooperation programs are aimed largely at creating necessary human and institutional resources necessary for development, and are largely on a grant basis.
- The Alliance for Progress was established by President Kennedy to promote economic and social development in Latin America by assisting in long-range plans which incorporate certain features thought necessary for economic or social reform and development, by self-help contributions, and by more regional cooperation.
- Supporting Assistance, a more short term form of aid, is provided to help maintain political and economic stability in countries which are contributing to various security programs in which we have an interest (largely Vietnam now).
- Contingencies and Other largely covers situations that require action not foreseen at the time the budget was developed.

Other Economic and Financial Programs

The above AID programs account for over two-thirds of all expenditures under the subfunction "Economic and financial programs". Other expenditures are accounted for by:

- International Financial Institutions, which promote economic development and are funded and administered on a multinational basis. They include the Inter-American Development Bank, the Asian Development Bank, and the International Development Association (associated with the World Bank).
- The Export-Import Bank, which is designed to promote the growth of United States exports through loan, insurance, and guarantee programs. Outlays listed as expenditures (with 1969 receipts exceeding expenditures because of interest on loans), include guarantees and insurance to protect exports for commercial or political risk. Loans are made to finance the sale of United States exports.
- The Peace Corps, which was established by President Kennedy to "promote world peace and friendship" by providing volunteer service to other countries to help in the manpower needs for economic and social development and to promote better understanding between peoples.

Food for Freedom

The third subfunction shown in Table IX-1, "Food for Freedom", is expected to have outlays in 1969 equivalent to about half of the outlays for "Economic and financial programs". This program consolidated both agricultural and foreign policy aims in 1954 with passage of the Agricultural Trade Development and Assistance Act of 1954 (Public Law 480). It combined (1) a desire to reduce the food surpluses produced in the United States with (2) a desire to satisfy some of the needs of many less-developed countries who did not produce adequate supplies of food for their own populations. The basic means of doing this was by selling products to foreign countries payable in their own currencies, and then spending these currencies largely in the foreign countries, either for such United States expenses as military bases, or for economic development aid. Other aspects of PL 480 involve donations rather than sales. Emphasis has been placed recently on combining PL 480 and development aid so that both may be most effective, and on self-help commitments by recipient countries. The percentage of payments being made in dollars or in currencies convertible to dollars has been increasing.

Foreign Information and Exchange Activities

The fourth and last subfunction includes expenditures by the United States Information Agency (USIA) and education exchange programs of the State Department. The USIA represents the official voice of our Government in presenting news on current events and United States policies and programs to people in other nations. Its purpose is to influence public opinion in a way favorable to the United States and to counteract Communist or other propaganda. It also has the responsibility of advising the United States Government of implications of our policies and actions on foreign public opinion. Although there has been disagreement over the appropriateness of an "official" information agency and over some of its methods of operation, the influence of communications media on public opinion and the importance of public opinion in world affairs has led to fairly general acceptance of the need for "explaining" ourselves abroad.

TABLE IX-3. 1969 INTERNATIONAL RELATIONS OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions	Percent of Total
Expenditures		
Economic and Financial Programs	2,494	54.1
Food for Freedom	1,444	31.3
Conduct of Foreign Affairs	419	9.1
Foreign Information and Exchange Activities	255	5.5
	4,612	100.0
Adjustments	-144	
Subtotal, expenditures	4,468	
Net Lending		
Economic and Financial Programs	675	
Subtotal, net lending	675	
Total Outlays	5,143	

The educational exchange programs under the State Department send United States students and teachers abroad and bring foreign nationals to the United States to promote cultural understanding and mutual educational benefit.

This completes presentation of the International Relations subfunctions, which add to the 1969 outlays shown in Table IX-3.

Research and Development

The minor importance of R&D in International Relations (in dollar terms) to either the overall field, or R&D in general, was noted earlier. Its rank to R&D in other fields was 12 (of 13), and it was only 0.2% of all International Relations outlays. The figures are shown in Tables IX-4 and IX-5 and additional data and information on these R&D programs appears in the Appendix to this chapter.

TABLE IX-4. 1969 INTERNATIONAL RELATIONS R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Area	$ Millions	Percent of Total
1	AID	8.7	82.1
2	Other State R&D	1.1	10.4
3	Peace Corps	0.4	3.8
4	USIA	0.4	3.8
	Total	10.6	100.0

Party Platforms

The sections dealing with international relations from the two 1968 party platforms are included as indications of approach and emphasis of the two major parties.

Democratic

The Developing World. The American people share the aspirations for a better life in the developing world. But we are committed to peaceful change. We believe basic political rights in most states can be more effectively achieved and maintained by peaceful action than by violence.

In their struggle for political and economic development, most Asian, African, and Latin American states are confronted by grinding poverty, illiteracy, and a stubborn resistance to constructive change. The aspirations and frustrations of the people are frequently exploited by self-serving revolutionaries who employ illegal and violent means.

TABLE IX-5. CHANGES IN INTERNATIONAL RELATIONS R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ Millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D	+6.0	+0.4	-0.3	+1.3%	+3.9	-2.8	--	--	--
AID	+6.5	+0.2	-0.3	+295.5	+2.4	-3.3	+34.3	-1.2	-0.5
Other State R&D	--	0	0	(a)	0	0	(a)	-0.4	+0.3
Peace Corps	-0.5	-0.1	0	-66.6	-20.0	0	-15.8	-1.1	+0.1
United States Information Agency	-1.1	+0.3	0	-73.3	+300.0	0	-28.8	+2.8	+0.1

(a) R&D conduct funding not available prior to 1966.

Since World War II, America's unprecedented program of foreign economic assistance for reconstruction and development has made a profound contribution to peace, security, and a better life for millions of people everywhere. Many nations and economies all over the world which have been dependent upon American aid are now viable and stable as a result of this aid.

We support a strengthened U. S. and U. N. development aid program that is responsive to changing circumstances and is based on the recognition, as President Johnson put it, that "self help is the lifeblood of economic development." Grant aid and government loans for long-term projects are part of a larger transfer of resources between the developed and underdeveloped states, which includes international trade and private capital investment as important components.

Like the burden of keeping the peace, the responsibility for assisting the developing world must be shared by Japan and the Western European states, once the recipients of U. S. aid and now donor states.

Development aid should be coordinated among both donors and recipients. The World Bank group, the International Development Association, the United Nations and the U. N. Development Program, and Asian, African, and Latin American agencies for investment and development should be fully utilized. We should encourage regional cooperation by the recipients for the most efficient use of resources and markets.

We should press for additional international agreements that will stimulate mutually beneficial trade and encourage a growing volume of private investment in the developing states. World-wide commodity agreements that stabilize prices for particular products and other devices to stabilize export earnings will also spur development.

We believe priority attention should be given to agricultural production and population control. Technical assistance which emphasizes manpower training is also of paramount importance. We support the Peace Corps which has sent thousands of ambassadors of good will to three continents.

Cultural and historic ties and a common quest for peace with freedom and justice have made Latin America an area of special concern and interest to the United States. We support a vigorous Alliance for Progress program based upon the Charter of Punta del Este which affirms that "free men working through the institutions for representative democracy can best satisfy man's aspirations."

We support the objective of Latin American economic integration endorsed by the presidents of the American Republics in April 1967, and urge further efforts in the areas of tax reform, land reform, educational reform, and economic development to fulfill the promise of Punta del Este.

United Nations. Since the birth of the United States, the United States has pursued the quest for peace, security and human dignity through United Nations channels more vigorously than any other member state. Our dedication to its purpose and its work remains undiminished.

The United States contributed to dampening the fires of conflict in Kashmir, the Middle East, Cyprus and the Congo. The agencies of the United Nations have made a significant contribution to health, education and economic well-being in Asia, Africa, and Latin America. These efforts deserve continued and expanded support. We pledge that support.

Since we recognize that the United Nations can be only as effective as the support of its members, we call upon other states to join with us in a renewed commitment to use its facilities in the great tasks of economic development, the nonmilitary use of atomic energy, arms control and peacekeeping. It is only with member nations working together that the organization can make its full contribution to the growth of a world community of peace under law, rather than by threat or use of military force.

We are profoundly concerned about the continuing repression of Jews and other minorities in the Soviet Union and elsewhere, and look forward to the end of this repression. We also look forward to the day when the full light of liberty and freedom shall be extended to all countries and all peoples.

Foreign Trade and Financial Policy. World trade is essential to economic stability. The growing interdependence of nations, particularly in economic affairs, is an established fact of contemporary life. It also spells an opportunity for constructive international cooperation that will bring greater well-being for all and improve the prospects for international peace and security.

We shall build upon the Trade Expansion Act of 1962 and the Kennedy round of trade negotiations, in order to achieve greater trade cooperation and progress toward freer international trade. In future negotiations, which will require careful preparation, we shall: (1) seek continued reciprocal reduction and elimination of tariff barriers, based on the most-favored-nation principle; (2) negotiate the reciprocal removal of nontariff barriers to international trade on all products, including agriculture; (3) give special attention to the needs of the developing countries for increased export earnings; and (4) develop and improve the rules governing fair international competition affecting both foreign commerce and investment.

To lessen the hardships suffered by industries and workers as the result of trade liberalization, we support improvements in the adjustment assistance provisions of present law. Provision of law to remedy unfair and destructive import competition should be reviewed and strengthened, and negotiated international agreements to achieve this purpose should be employed where appropriate.

The United States has experienced balance-of-payments deficits for over a decade, owing in large measure to the need to discharge our obligations to peace and security in the free world. Faced with these deficits, we have behaved responsibly by avoiding both economic deflation at home and severe and unilateral restrictive measures on international transactions, which would have weakened the international economy and international cooperation.

We shall continue to take the path of constructive measures by relying on steps to increase our exports and by the development of further cooperative arrangements with

the other countries. We intend, as soon as possible, to dismantle the restrictions placed on foreign investment and finance, so that American free enterprise can play its full part as the agent of economic development. We will continue to encourage persons from other lands to see America.

Steps of historical importance have already been taken to improve the functioning of the international monetary system, most notably the new special drawing rights under the international monetary fund. We shall continue to work for the further improvement of the international monetary system so as to reduce its vulnerability to monetary crises.

Republican

Our nation urgently needs a foreign policy that realistically leads toward peace. This policy can come only from resolute, new leadership - a leadership that can and will think anew and act anew - a leadership not bound by mistakes of the past.

Our best hope for enduring peace lies in comprehensive international cooperation. We will consult with nations that share our purposes. We will press for their greater participation in man's common concerns and encourage regional approaches to defense, economic development, and peaceful adjustments of disputes.

We will seek to develop law among nations and strengthen agencies to effectuate that law and cooperatively solve common problems. We will assist the United Nations to become the keystone of such agencies, and its members will be pressed to honor all charter obligations, including specifically its financial provisions. World-wide resort to the International Court of Justice as a final arbiter of legal disputes among nations will have our vigorous encouragement, subject to limitations imposed by the U. S. Senate in accepting the Court's jurisdiction.

The world abounds with problems susceptible of cooperative solution - poverty, hunger, denial of human rights, economic development, scientific and technological backwardness. The world-wide population explosion in particular, with its attendant grave problems, looms as a menace to all mankind and will have our priority attention. In all such areas we pledge to expand and strengthen international cooperation.

A more selective use of our economic strength has become imperative. We believe foreign aid is a necessary ingredient in the betterment of less developed countries. Our aid, however, must be positioned realistically in our national priorities. Only those nations which urgently require America's help and clearly evince a desire to help themselves will receive such assistance as can be diverted from our own pressing needs. In providing aid, more emphasis will be given to technical assistance. We will encourage multilateral agencies so that other nations will help share the burden. The administration of all aid programs will be revised and improved to prevent waste, inefficiency and corruption. We will vigorously encourage maximum participation by private enterprise.

No longer will foreign aid activities range free of our foreign policy. Nations hostile to this country will receive no assistance from the United States. We will not provide aid of any kind to countries which aid and abet the war efforts of North Vietnam.

Only when Communist nations prove by actual deeds that they genuinely seek world peace and will live in harmony with the rest of the world, will we support expansion of East-West trade. We will strictly administer the Export Control Act, taking special care to deny export licenses for strategic goods.

In the development and execution of the nation's foreign policy our career Foreign Service officers play a critical role. We strongly support the Foreign Service and will strengthen it by improving its efficiency and administration and providing adequate allowances for its personnel.

The principles of the 1965 Immigration Act - non-discrimination against national origins, reunification of families, and selective support for the American labor market - have our unreserved backing. We will refine this new law to make our immigration policy still more equitable and non-discriminatory.

The Republican Party abhors the activities of those who have violated passport regulations contrary to the best interests of our nation and also the present policy of re-issuing passports to such violators. We pledge to tighten passport administration so as to bar such violators from passport privileges.

The balance of payments crisis must be ended, and the international position of the dollar strengthened. We propose to do this, not by peremptory efforts to limit American travel abroad or by self-defeating restraints on overseas investments, but by restraint in Federal spending and realistic monetary policies, by adjusting overseas commitments, by stimulating exports, by encouraging more foreign travel to the United States and, as specific conditions require, by extending tax treatment to our own exports and imports comparable to such treatment applied by foreign countries. Ending inflation is the first step toward solving the payments crisis.

It remains the policy of the Republican Party to work toward freer trade among all nations of the free world. But artificial obstacles to such trade are a serious concern. We promise hardheaded bargaining to lower the non-tariff barriers against American exports and to develop a code of fair competition, including international fair labor standards, between the United States and its principal trading partners.

A sudden influx of imports can endanger many industries. These problems, differing in each industry, must be considered case by case. Our guideline will be fairness for both producers and workers, without foreclosing imports.

Thousands of jobs have been lost to foreign producers because of discriminatory and unfair trade practices.

The State Department must give closest attention to the development of agreements with exporting nations to bring about fair competition. Imports should not be permitted to capture excessive portions of the American market but should, through international agreements, be able to participate in the growth of consumption.

Should such efforts fail, specific counter-measures will have to be applied until fair competition is re-established. Tax reforms will also be required to preserve the competitiveness of American goods.

The basis for determining the value of imports and exports must be modified to reflect true dollar value.

Not the least important aspect of this problem is the relative obsolescence of machinery in this country. An equitable tax write-off is necessary to strengthen our industrial competitiveness in the world.

We also favor the broadening of governmental assistance to industries, producers and workers seriously affected by imports – assistance denied by the Johnson-Humphrey Administration's excessively stringent application of the Trade Expansion Act of 1962.

Ties of history and geography link us closely to Latin America. Closer economic and cultural cooperation of the United States and the Latin American countries is imperative in a broad attack on the chronic problems of poverty, inadequate economic growth and consequent poor education throughout the hemisphere. We will encourage in Latin America the progress of economic integration to improve opportunity for industrialization and economic diversification.

The principles of the Monroe Doctrine, affirmed at Caracas 14 years ago by all the independent nations of this hemisphere, have been discarded by Democrat Administrations. We hold that they should be reaffirmed and should guide the collective policy of the Americas. Nor have we forgotten in this context, the Cuban people who still cruelly suffer under Communist tyranny.

In cooperation with other nations, we will encourage the less developed nations of Asia and Africa peacefully to improve their standards of living, working with stronger regional organizations where indicated and desired.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by about 40% as compared to total NBA reductions for all functional fields of 10%. This would indicate that Congress places a considerably lower priority on this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) in comparison to the overall Congressional NBA reduction of 10%.

Selected Programs Reduced <10.0%		Selected Programs Reduced >10.0%	
Peace Corps	-9.6	Economic Assistance	-44.8
Administration of Foreign Affairs	-2.5	Agriculture PL480 Funds	-67.3
International Organizations and Conferences	-0.2		
USIA	-3.2		

The above authorization and appropriation legislation was the major international relations legislation passed by Congress in 1968.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

The Likely Future (The Next Decade)

Table IX-6 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- It is likely that relative growth in expenditures for the International Relations functional field will continue to be well below average and that the field will slip further in rank from the seventh place in 1969.
- All subfunctions are likely to experience well below average relative growth except the Conduct of Foreign Affairs which will probably maintain average growth in expenditures.
- R&D expenditures are likely to continue average relative growth rates but are only 0.2% of total expenditures in this field. Technical assistance funding is not included in R&D and amounts to much larger than 5% of total expenditures. Interest in satellite communications and especially satellite educational TV is likely to continue but reductions in funding (especially by Congress) may leave little room for the support of new technological endeavors.

References

(1) The Budget in Brief, FY 1969, p. 28.

(2) See 1967 messages as listed in Congressional Quarterly Almanac, 1967.

(3) Harry S. Truman inaugural address, Jan. 20, 1949.

(4) Dwight D. Eisenhower State of the Union Message, Jan. 7, 1960.

(5) John F. Kennedy Foreign Aid Message, March 22, 1961.

(6) John F. Kennedy State of the Union Message, Jan. 30, 1961.

(7) Lyndon B. Johnson Budget Message, Jan. 24, 1967.

(8) Lyndon B. Johnson Foreign Aid Message, Feb. 8, 1968.

(9) Clement J. Zablocki, as published in Congressional Record, July 16, 1968.

(10) William S. Mailliard, as published in Congressional Record, July 16, 1968.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE IX-6. INTERNATIONAL RELATIONS, IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, % 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, % 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Comments
Economic and Financial Programs	2,494	54.1	+1	Well Below	Well Below	9	85.8	+1	Below	Below	
AID Technical Cooperation	216	4.7	-4	Well Below	Well Below	--	--	--	--	--	
AID - Other	2,048	44.4	*	Well Below	Well Below	9	82.1	+2	Below	Below	
Other Than AID	230	5.0	+16	About Average	About Average	**	3.8	-20	Well Below	Well Below	Includes Eximbank, which in 1969 is estimated to lend $675 million. R&D is Peace Corps.
Food for Freedom	1,444	31.3	-1	Well Below	Well Below	--	--	--	--	--	
Conduct of Foreign Affairs	419	9.1	+18	About Average	About Average	1	10.4	0	Below	Below	
Foreign Information and Exchange Activities	255	5.5	+5	Well Below	Well Below	**	3.8	+300	Well Above	Well Above	
TOTAL	4,612	100.0	+2	Well Below	Well Below	11	100.0	+4	About Average	About Average	
Total Federal Government			+17					+4			

*Less than 0.5%.
**Less than .5 million.

INTERNATIONAL RELATIONS RESEARCH AND DEVELOPMENT

APPENDIX IX-A

TABLE IX-A-1. INTERNATIONAL RELATIONS R&D CONDUCT EXPENDITURES DETAILS, 1961-1969

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Agency for International Development	1961	2.2		
	1962	5.6	+3.4	+154.5
	1963	10.0	+4.4	+78.6
	1964	4.8	-5.2	-52.0
	1965	5.7	+0.9	+18.8
	1966	6.5	+1.7	+29.8
	1967	8.5	+2.0	+30.8
	1968	9.0	+0.5	+5.9
	1969	8.7	-0.3	-3.3
Other Department of State	1961	(a)		
	1962			
	1963			
	1964			
	1965			
	1966	0.6		
	1967	1.1	+0.5	+83.3
	1968	1.1	0	0
	1969	1.1	0	0
Peace Corps	1961	0.9[b]		
	1962	0.4[b]	-0.5	-55.6
	1963	0.7[b]	+0.3	+75.0
	1964	0.2[b]	-0.5	-71.4
	1965	0.4	+0.2	+100.0
	1966	0.5	+0.1	+25.0
	1967	0.5	0	0
	1968	0.4	-0.1	-20.0
	1969	0.4	0	0
U. S. Information Agency	1961	1.5[b]		
	1962	0.7[b]	+0.8	+53.3
	1963	1.3[b]	+0.6	+85.7
	1964	0.3[b]	-1.0	-76.9
	1965	0.7	+0.4	+133.3
	1966	0.2	-0.5	-71.4
	1967	0.1	-0.1	-50.0
	1968	0.4	+0.3	+300.0
	1969	0.4	0	0

(a) Program data not available prior to 1966.
(b) Exact program area data not available – therefore estimates have been made.

International Relations, Summary of Official Program Descriptions

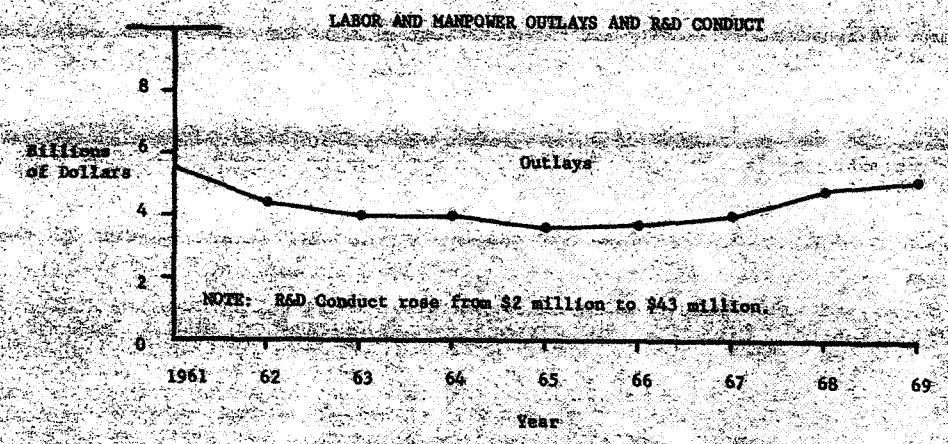
AID. The Agency for International Development's (AID) research unit conducts programs on: (a) techniques for developing both the human and natural resources of the less developed countries; (b) the adaptation of available technology to the conditions in those countries; and (c) the nature of the relationship between economic and social change. These figures exclude AID's technical assistance program which is many times larger than the research program and is principally carried out through contracts.

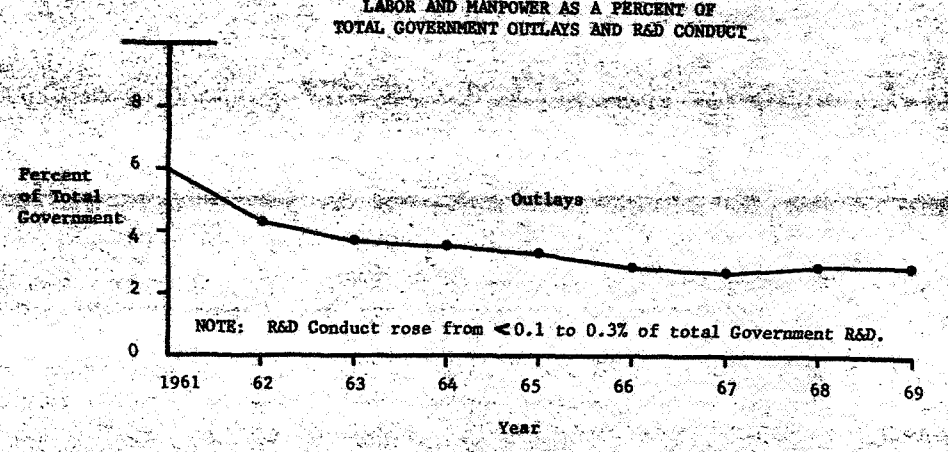
Other State. The Department of State is responsible for the representation of the U. S. and its citizens abroad, political and economic negotiations and reporting, consular operations, representation on international commissions. The Department of State will conduct preliminary investigations to determine the need for and feasibility of projects for the solution of international problems arising along the U. S. borders. The proposed program for 1969 includes the following investigations: (a) settlement of boundary disputes, (b) Colorado River salinity problems, (c) Lower Colorado River groundwater problem, and (d) general investigations. The major portion of the R&D Conduct Expenditures listed in this section under Department of State go to the Agency for International Development. (In The Budget these funds are listed as "Funds Appropriated to the President".)

Peace Corps has the purpose of providing trained Americans to interested countries in need of middle-level manpower and to promote understanding between the people of the U. S. and the peoples served. The Peace Corps conducts small amounts of research in connection with its overall objectives.

United States Information Agency conducts research and development in engineering development, equipment design, and radio propagation techniques with special emphasis on problems applying to the Voice of America.

*Edited excerpts primarily from The Budget.





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CHAPTER X

LABOR AND MANPOWER FUNCTIONAL FIELD

The Field as a Whole

The functional field of "Labor and Manpower" includes programs designed to contribute to full employment and a job opportunity for everyone willing to work. Health, Labor, and Welfare were grouped as a single functional field by The Budget, and line items have been taken from various subfunctions to make up the functional field of Labor. The OEO manpower programs have been added to the "Labor and Manpower" grouping in The Budget. As a separate item, unemployment insurance, transferred from Welfare, some unemployment compensation from "Labor and Manpower" have been included as a separate line item. There are programs in other fields that some might prefer to include here, such as the HEW rehabilitation programs, or vocational education, which have been left (as did The Budget) in the Welfare or Education fields.

The 1968 Manpower Report of the President lists the aims of manpower policies and programs as follows: "to assure every American who is willing to work the right to earn a living; to strengthen the economy's productive capacity and resist inflationary forces, to insure satisfying working lives for our Nation's people".[1]* It also suggests that a broader view is taken now of the goals and concerns of manpower policy (than in 1963--not so long ago) to include not just increases in employment and decreases in unemployment, but on overcoming barriers to employment of the disadvantaged and to job quality as well as quantity.[1] Manpower program objectives are discussed under such headings as joblessness and underemployment, adequacy of earnings, income maintenance, quality of employment, equality of opportunity, and meeting manpower requirements of the economy and society. Prior to the 1960's, labor and manpower activities dealt largely with unemployment compensation (Social Security Act of 1935); labor-management relations (Wagner Act of 1935, Taft-Hartley Act of 1947); and wage and hour legislation (e.g., Fair Labor Standards Act of 1938). The latter two areas are regulatory in nature, and the first is compensatory. Although the Employment Act of 1946 established the goal quoted above of a job for everyone willing to work, this was interpreted primarily in the sense of assuring economic conditions such that jobs were available, with little emphasis on the match between jobs and the labor available. As fears increased in the 1950's over the effects of automation and other types of labor displacement, greater interest grew in matching jobs and people. In the 1960's, which began with high unemployment at the same time that job openings existed, the Government began to take a much more active role in education and training of those who did not qualify for available job openings. Large numbers of people were so poorly educated or lacking in skills that they could not fill the requirements of entry level jobs. A large part of this was attributable to the great influx of relatively undereducated and unskilled people during the 1950's from areas of rural farming. With the beginning of the "Great Society" and "War on Poverty", a series of active manpower training programs have been initiated, under both the Labor Department and the Office of Economic Opportunity. These programs are described later in this section.

Of the supergoals described in the Introduction, the Labor and Manpower functional field contributes primarily to the supergoals of Public Welfare and Economic

*Superscript numbers denote References listed at end of this Chapter.

Development. The relationship is fairly straightforward in that a labor force is necessary for economic development and jobs are a contribution to the welfare of the nation. This functional field is also related to National Security in that trained manpower is needed both on active military duty and to produce defense materiel. Although manpower training programs carried out by the Defense Department have been left in the National Security functional field because of their direct relationship to defense needs, the more general manpower programs contribute indirectly. In a 1968 speech, President Johnson expressed the thought that "... the demand for more jobs is central to the expression of all our concerns and our aspirations – about cities, poverty, civil rights, and the improvement of men's lives". (2)

Table II-2 in Chapter II shows Federal outlays for Labor and Manpower from 1961 to 1969, and the percent of total for each year. The very high 1961 figure of $5.5 billion was caused by high unemployment compensation payments in that year. Figures turned down after that and were still below $4.0 billion in 1967. Estimated outlays for FY 1968 and FY 1969 are $4.8 and $5.0 billion. Because of the trend of unemployment compensation, the overall figures for this field do not seem to reflect the above discussion of increasingly active programs – the percent of total outlays is down from 6.0% in 1961 to 2.9% in 1969, and the rank among all 13 fields is down from third to eighth. But, a look at the OEO and Labor Department manpower training programs alone would show the increasing interest (and outlays) in this area. OEO programs rose from a start in 1965 of $100 million to an estimated 1969 figure of $1 billion. Manpower development and training (MDTA) outlays of the Labor Department are estimated to rise from less than $275 million in 1967 to $430 million in 1969.

In R&D, this field has been near the bottom relative to other fields – tenth in rank in both 1961 and 1969, despite a rise from $2 million to $43 million, and only 0.3% of total R&D in 1969. In neither year is R&D 1% of total Labor and Manpower outlays, although it has grown from less than 0.1% to almost 1%. Details of the R&D programs appear in a separate section.

A more detailed look at total outlays in this field appears on Table X-1, which shows the actual 1967, and estimated 1968 and 1969, outlays as given in the FY 1969 Budget. The Department of Labor is predominant in the field because of its responsibilities for the unemployment insurance program. OEO, although it comes nowhere near the Labor Department in total outlays in this field, equals Labor Department outlays in manpower training. Other Government entities have lesser roles, as shown in Table X-2.

Unemployment Insurance

The unemployment insurance program was one part of the Social Security Act of 1935. The program was designed as a counter-cyclic measure to keep buying power up during times of recession or high unemployment, and also as an aid to individual worker security. A Federal payroll tax of 3% was assessed on all employers covered under the act, but if a state program were established, the employer would pay only 0.3% to the Federal Government plus whatever tax the state levied. This left very little choice to the States about whether to establish a program, but gave them discretion as to its level and form. It put pressure on them (from employers) to keep rates low, since the employer paid only the 0.3% tax to the Federal Government as long as a State program existed, even if the State tax were only 1%. Suggestions have long been made to cover

TABLE X-1. LABOR AND MANPOWER OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending		
	1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Unemployment Insurance[a]	2,825	3,254	3,295
Manpower Programs and Other[a]	1,162	1,563	1,758
Applicable Receipts From the Public	-3	--	--
Subtotal, expenditures	3,984	4,817	5,053
Net Lending	--	--	--
Total Outlays	3,984	4,817	5,053

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.

TABLE X-2. 1969 LABOR AND MANPOWER OUTLAYS BY AGENCY

Agency	$ Millions	Percent of Total
Labor	3,861	76.4
Office of Economic Opportunity (OEO)	1,003	19.8
HEW	119	2.4
National Labor Relations Board	35	0.7
Equal Employment Opportunity Commission	13	0.3
Interior	12	0.2
Federal Medication and Conciliation Service	8	0.2
National Mediation Board	2	<0.1
Total Outlays	5,053	100.0

more workers, standardize benefits, and establish them at a certain percentage of lost salary, but at this time no major moves in this direction have been implemented. Also included in this line item are a few Federally funded unemployment compensation programs for some Federal workers, railroad employees, and ex-servicemen.

Manpower and Other Labor Programs

The recent active interest and participation of the Government in manpower training is evidenced by the numerous programs sponsored by the Labor Department and by OEO – so numerous, in fact, that many groups have called for consolidation to reduce overlap. The major program was established by the Manpower Development and Training Act of 1962, which authorized vocational and on-the-job training in local MDTA centers, focusing on youth, unemployed head of families, and people who had lost their jobs because of technological change. Later changes placed emphasis on training illiterates and school dropouts who are unemployed.

The next big step came with the Economic Opportunity Act of 1964, which established OEO and provided for broader manpower programs, which would include basic educational components and health and counseling services. Three programs were established in three different agencies – the Job Corps in OEO, the Neighborhood Youth Corps in Labor, and work-experience programs in HEW. The Job Corps set up special training centers removed from the ghetto areas for youth from 16 to 21, most of whom had not completed high school. The Job Corps has been criticized for high costs, discipline problems, and for the basic concept of establishing centers away from the areas where the participants live.

The Neighborhood Youth Corps provided work experience and training in the local areas where the participants lived, and was designed to reach poor people 16 to 21 who were still in school, on summer vacation, or unemployed dropouts.

The work-experience program was to enable heads of families receiving aid-to-dependent-children (ADC) payments to be trained and employed. This program was superseded by the work incentive program authorized by the Social Security Amendments Act of 1967 which required adult recipients of ADC payments to participate in work training programs and provided a monthly incentive payment.

Other smaller programs were aimed at employing local residents in slum rehabilitation projects, training aids in service fields such as health and education, and using the unemployed in beautification projects. In an attempt to coordinate the various manpower programs, the Concentrated Employment Program (CEP) was begun in 1967 to coordinate all programs in an area and to recruit, test, and place the unemployed in one of the available programs.

A possibly major change of emphasis was initiated in 1967 with a few pilot programs to enlist the help of private business in training of the "hard-core unemployed", a term with a fairly loose definition, but which presupposes that many such people are employable with some additional training. The program became full-blown in 1968 with creation of the National Alliance of Businessmen to spearhead a program of business participation in training called Job Opportunities in the Business Sectors (JOBS). Local alliances were established in major cities to identify and recruit the hard-core

unemployed and to obtain hiring and training pledges from local organizations. The objective was to have 100,000 such people working by June, 1969, and 500,000 by June, 1971. The Federal Government would assume the burden of training and associated costs above a normal training cost. The hope was that industry would be able to train people for actual positions, which they then would fill. An undetermined question was whether industry would stand to benefit from such a program in terms of worker productivity and profits, and whether, in the absence of such incentives, the "social conscience" motive was one that could be sustained over time. Many have also suggested that tax credits would be more acceptable to industry and create less red tape than the present reimbursement plan.

Some other smaller programs under the "Manpower and Other Labor Programs" line item include:

- Bureau of Labor Standards, Bureau of Employees' Compensation, and Women's Bureau (Labor), all concerned with wage and labor standards
- Bureau of Labor Statistics (Labor), which gathers factual data in the field of labor economics
- Labor-Management Services Administration (Labor), which is responsible for activities related to labor-management relations
- Bureau of Mines (Interior) health and safety program to improve conditions in the mineral industry
- National Labor Relations Board hears charges of unfair labor practices and conducts secret ballots to determine employee representation
- Federal Mediation and Conciliation Service helps settle labor-management disputes through conciliation and mediation
- National Mediation Board mediates labor-management disputes in railways and airlines, and settles employee representation disputes
- Equal Employment Opportunity Commission attempts to end discrimination in employment practices and promotes programs of equal opportunity in jobs.

Research and Development

As noted earlier, R&D in the Labor and Manpower functional field is relatively small by comparison with other fields and as a percent of total outlays for Labor and Manpower – below 1% in both instances. But, it has grown from $2 million in 1961 to $43 million in 1969, which indicates that it is of growing importance in a field where total outlays have fallen. The following Table X-3 shows which specific program areas of R&D make up the total R&D expenditures for 1969. Recent changes in the funding of these programs appear in Table X-4.

Detailed expenditure information on these program areas from 1961 to 1969 and research program descriptions for each of them appear in the Appendix to this chapter.

TABLE X-3. 1969 LABOR AND MANPOWER R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Areas	$ Millions	Percent of Total
1	OEO (1/2 of Total OEO R&D)	29.0	67.3
2	Office of Manpower Policy Evaluation and Research (Labor)	6.3	14.6
3	Labor Statistics (Labor)	3.9	9.0
4	Employment Security (Labor)	1.8	4.2
5	Wage, Hour, and Public Contract Division (Labor)	1.5	3.5
6	Other Labor R&D (Labor)	0.6	1.4
	Total	43.1	100.0

TABLE X-4. CHANGES IN LABOR AND MANPOWER R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D	+40.8	+13.5	+4.7	+1,773.9	+45.6	+12.2	--	--	--
Office of Economic Opportunity (1/2 of Total)	(a)	+11.5	+3.0	(a)	+65.7	+11.5	(a)	+8.2	-0.4
OMPER	+5.6	+1.2	+1.1	+800.0	+23.5	+21.2	-15.8	-2.6	+1.1
Labor Statistics	+3.1	+0.5	+0.4	+387.5	+14.7	+11.4	-25.8	-2.5	-0.1
Employment Security	+1.4	+0.2	+0.2	+350.0	+12.5	+12.5	-13.2	-1.2	0
Wage, Hour, and Public Contracts	+1.2	+0.2	0	+400.0	+15.4	0	-9.5	-0.9	-0.4
Other Labor R&D	+0.5	-0.1	0	+500.0	-14.3	0	-2.9	-1.0	-0.2

(a) New agency created in 1965.

Party Platforms

Relevant sections from the 1968 party platforms are included as indications of approach and emphasis of the two major parties.

Democratic

Labor-Management Relations. Private collective bargaining and a strong and independent labor movement are essential to our system of free enterprise and economic democracy. Their development has been fostered under each Democratic Administration in this century.

We will thoroughly review and update the National Labor Relations Act to assure an effective opportunity to all workers to exercise the right to organize and to bargain collectively, including such amendments as:

- Repeal of the provision permitting states to enact compulsory open-shop laws;
- Extension of the Act's protection to farm workers, employees of private non-profit organizations, and other employees not now covered;
- Removal of unreasonable restrictions upon the right of peaceful picketing, including situs picketing;
- Speedier decisions in unfair labor practice cases and representation proceedings;
- Greater equality between the remedies available under the Act to labor and those available to management;
- Effective opportunities for unions as well as employers to communicate with employees, without coercion by either side or by anyone acting in their behalf.

The Federal Government will continue to set an example as an employer to private business and to state and local governments. The Government will not do business with firms that repeatedly violate Federal statutes prohibiting discrimination against employees who are union members or refuse to bargain with duly authorized union representatives.

By all these means, we will sustain the right of workers to organize in unions of their own choosing and will foster truly effective collective bargaining to provide the maximum opportunity for just and fair agreements between management and labor.

Jobs and Training. Every American in need of work should have opportunity not only for meaningful employment, but also for the education, training, counselling, and other services that enable him to take advantage of available jobs.

To the maximum possible extent, our national goal of full employment should be realized through creation of jobs in the private economy, where six of every seven Americans now work. We will continue the Job Opportunities in the Business Sector (JOBS) program, which for the first time has mobilized the energies of business and industry on a nationwide scale to provide training and employment to the hard-core unemployed. We will develop whatever additional incentives may be necessary to maximize the opportunities in the private sector for hard-core unemployed.

We will continue also to finance the operation by local communities of a wide range of training programs for youth and retraining for older workers whose skills have become obsolete, coupled with related services necessary to enable people to undertake training and accept jobs - including improved recruitment and placement services, day-care centers, and transportation between work and home.

For those who can work but cannot find jobs, we pledge to expand public job and job-training programs, including the Neighborhood Youth Corps, to provide meaningful employment in state and local government and nonprofit institutions.

For those who cannot obtain other employment, the federal government will be the employer of last resort, either through federal assistance to state and local governments or through federally sponsored projects.

Republican

Labor. Organized labor has contributed greatly to the economic strength of our country and the well-being of its members. The Republican Party vigorously endorses its key role in our national life.

We support an equitable minimum wage for American workers – one providing fair wages without unduly increasing unemployment among those on the lowest rung of the economic ladder – and will improve the Fair Labor Standards Act, with its important protections for employees.

The forty-hour week adopted 30 years ago needs re-examination to determine whether or not a shorter work week, without loss of wages, would produce more jobs, increase productivity, and stabilize prices.

We strongly believe that the protection of individual liberty is the cornerstone of sound labor policy. Today, basic rights of some workers, guaranteed by law, are inadequately guarded against abuse. We will assure these rights through vigorous enforcement of present laws, including the Taft-Hartley Act and the Landrum-Griffin Act, and the addition of new protections where needed. We will be vigilant to prevent any administrative agency entrusted with labor-law enforcement from defying the letter and spirit of these laws.

Healthy private enterprise demands responsibility – by government, management, and labor – to avoid the imposition of excessive costs or prices and to share with the consumer the benefits of increased productivity. It also demands responsibility in free collective bargaining, not only by labor and management, but also by those in government concerned with these sensitive relationships.

We will bar government-coerced strike settlements that cynically disregard the public interest and accelerate inflation. We will again reduce government intervention in labor-management disputes to a minimum, keep government participation in channels defined by the Congress, and prevent back-door intervention in the administration of labor laws.

Repeated Administration promises to recommend legislation dealing with crippling economic strikes have never been honored. Instead, settlements forced or influenced by government and overriding the interests of the parties and the public have shattered the Administration's own wage and price guidelines and contributed to inflation.

Effective methods for dealing with labor disputes involving the national interest must be developed. Permanent, long-range solutions of the problems of national

emergency disputes, public employee strikes, and crippling work stoppages are imperative. These solutions cannot be wisely formulated in the heat of emergency. We pledge an intensive effort to develop practical, acceptable solutions that conform fully to the public interest.

Jobs. The nation must look to an expanding free enterprise system to provide jobs. Republican policies and programs will encourage this expansion.

To qualify for jobs with permanence and promise, many disadvantaged citizens need special assistance and job training. We will enact the Republican-proposed Human Investment Act, offering tax credits to employers, to encourage such training and upgrading.

A complete overhaul of the nation's job programs is urgent. There are some 70 federally funded job training programs, with some cities having as many as 30 operating side by side. Some of these programs are ineffective and should be eliminated. We will simplify the federal effort and also encourage states and localities to establish single-headed manpower systems, to correlate all such federal activities and gear them to local conditions and needs. Local business advisory boards will assist in the design of such programs to fit training to employment needs. To help the unemployed find work we will also inaugurate a national Job Opportunity Data Bank to report the number, nature, and location of unfilled jobs and to match the individuals with the jobs.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 9% as compared to total NBA reductions for all functional fields of 10%. This would indicate that Congress places about the same relative priority on this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) in comparison to the overall Congressional NBA reduction of 10%.

Selected Programs Reduction < 10.0%		Selected Programs Reduction > 10.0%	
Labor and Manpower Administration	-5.8	HEW Work Incentive Programs	-13.0
Labor Wage and Labor Standards	-0.9	OEO Manpower and Training	-10.6

Passage of the above appropriations constituted the major Congressional action with regard to Labor in 1968. The HEW work incentive program is a new program of training for persons on welfare, and includes funds for day-care centers for children of mothers who are being trained.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

The Likely Future (The Next Decade)

Table X-5 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the functional field:

- Growth in expenditures for the Labor functional field is likely to continue at above average rates and the field will probably rise from its present rank of 8 (of 13) in 1969.
- Of the subfunctions in this field, manpower programs are likely to continue to grow at well above average rates with unemployment insurance varying with unemployment rates.
- Growth in R&D expenditures in this field is likely to continue at well above average rates, but is a small proportion of the field's total efforts (less than 1%) and less than 1% of total Government R&D.

References

(1) Manpower Report of the President, United States Printing Office, Washington, D. C., 1968, pp 3, 10.

(2) Lyndon B. Johnson, June 23, 1968, Message on Manpower, Occupational Health, and Safety.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE X-5. LABOR AND MANPOWER – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures 1969 $ Millions	Total Gross Expenditures Percent Change, % of Total 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Total R&D Conduct Expenditures 1969 $ Millions	Total R&D Conduct Expenditures Percent Change, % of Total 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Comments
Unemployment Insurance	3,295	65.2	+17	About average					
Manpower Programs and Other	1,738	34.8	+51	Well above	43	100.0	+46	Well above	Well above	Work and training programs, such as Job Corps.
Office of Economic Opportunity	1,003	19.8	+16	Well above	29	67.3	+66	Well above	Well above	
Labor Department	566	11.2	+53	Well above	14	32.7	+17	Well above	Well above	New program, work incentives.
Health, Education, and Welfare (HEW)	119	2.4	See Comments							
Other Agencies	70	1.4	+30	Above						Mediation groups, National Labor Relations Board (NLRB); Equal Employment Opportunity Commission.
Total	5,053	100.0	+27	Above	43	100.0	+46	Well above	Well above	
Total Federal Government			+17				+4		

APPENDIX X-A

LABOR AND MANPOWER RESEARCH AND DEVELOPMENT

TABLE X-A-1. LABOR AND MANPOWER R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA, 1961-1969

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Office of Manpower Policy, Evaluation, & Research	1961	0.7[a]	--	--
	1962	0.9[a]	+0.2	+28.6
	1963	1.8[a]	+0.9	+100.0
	1964	2.0[a]	+0.2	+11.1
	1965	2.1[a]	+0.1	+5.0
	1966	2.3	+0.2	+9.5
	1967	5.1	+2.8	+121.7
	1968	5.2	+0.1	+2.0
	1969	6.3	+1.1	+21.2
Bureau of Labor Statistics (Labor)	1961	0.8[a]	--	--
	1962	1.1[a]	+0.3	+37.5
	1963	2.2[a]	+0.1	+9.1
	1964	2.5[a]	+0.3	+13.6
	1965	2.6[a]	+0.1	+4.0
	1966	2.9	+0.3	+11.5
	1967	3.4	+0.5	+17.2
	1968	3.5	+0.1	+2.9
	1969	3.9	+0.4	+11.4
Bureau of Employment Security (Labor)	1961	0.4[a]	--	--
	1962	0.6[a]	+0.2	+50.0
	1963	1.1[a]	+0.5	+83.3
	1964	1.3[a]	+0.2	+18.2
	1965	1.4[a]	+0.1	+7.7
	1966	1.5	+0.1	+7.1
	1967	1.6	+0.1	+6.7
	1968	1.6	0	0
	1969	1.8	+0.2	+12.5
Wage and Hour and Public Contracts Division (Labor)	1961	0.3[a]	--	--
	1962	0.4[a]	+0.1	+33.3
	1963	0.8[a]	+0.4	+100.0
	1964	1.0[a]	+0.2	+25.0
	1965	1.0[a]	0	0
	1966	1.1	+0.1	+10.0
	1967	1.3	+0.2	+18.2
	1968	1.5	+0.2	+15.4
	1969	1.5	0	0
Other Labor R&D	1961	0.1[a]	--	--
	1962	0.2[a]	+0.1	+100.0
	1963	0.4[a]	+0.2	+100.0
	1964	0.4[a]	0	0
	1965	0.5[a]	+0.1	+25.0
	1966	0.5	0	0
	1967	0.7	+0.2	+40.0
	1968	0.6	-0.1	-14.3
	1969	0.6	0	0
Office of Economic Opportunity[b] [One-half under Housing and Community Development]	1965	2.1	--	--
	1966	8.3	--	--
	1967	17.5	+9.2	+110.8
	1968	26.0	+8	+48.6
	1969	29.0	+3.0	+11.5

(a) Exact program area data not available – therefore estimates have been made.
(b) Agency created in 1965.

Labor and Manpower, Summary of Official Program Description*

Department of Labor

The research program of the Department of Labor includes studies of current and prospective manpower requirements and resources, skill requirements and supply, job opportunities and occupational outlook, factors which tend to impede labor mobility, manpower utilization, and occupational training problems of youth. This activity also funds manpower research contracts and administers a program of experimental and demonstration training projects.

Office of Manpower Policy, Evaluation and Research. This Office provides for contractural program costs for experimental and demonstration and manpower research programs authorized under title I of the Manpower Development and Training Act, as amended. Experimental, demonstration, developmental, and pilot projects are conducted by means of contracts and/or grants with public or private nonprofit organizations for the purpose of improving techniques and demonstrating the effectiveness of specialized methods in meeting the manpower, employment, and training problems of worker groups such as the long-term unemployed, disadvantaged youth, displaced older workers, the handicapped, members of minority groups, and other similar groups.

A comprehensive manpower research program also is conducted to appraise manpower requirements and resources, problems of unemployment resulting from automation and technological change, mobility of workers, adequacy of manpower development efforts, utilization of manpower resources, and such research and investigations which give promise of furthering the Manpower Development and Training Act.

Bureau of Labor Statistics. Annual indexes of output per man-hour and analyses of productivity trends are provided. Studies are conducted on developments in automation and other technological changes with analysis of adjustments to such changes. Studies are made of labor requirements for selected types of construction. Research is conducted into problems of economic growth.

Bureau of Employment Security. This program comprises, among other activities, the Unemployment Insurance Service, the U. S. Employment Service, farm labor contractor registration activities and admission and employment of immigrant aliens. In 1969 the program will provide the nationwide direction and coordination of implementation of a management information system, and employment security cost accounting systems, and a uniform automatic data processing system of affiliated State agencies. These systems are intended to improve the capability of local, State and Federal offices to manage and evaluate the operations of the Employment Security System.

Wage and Hour and Public Contracts Division. Research is conducted on the effects of the wage, hour, equal pay, and child labor provisions of the FLSA, the MOSCA, and the PCA, and statistical data are developed and analyzed. Eight studies were published

*Edited excerpts from The Budget.

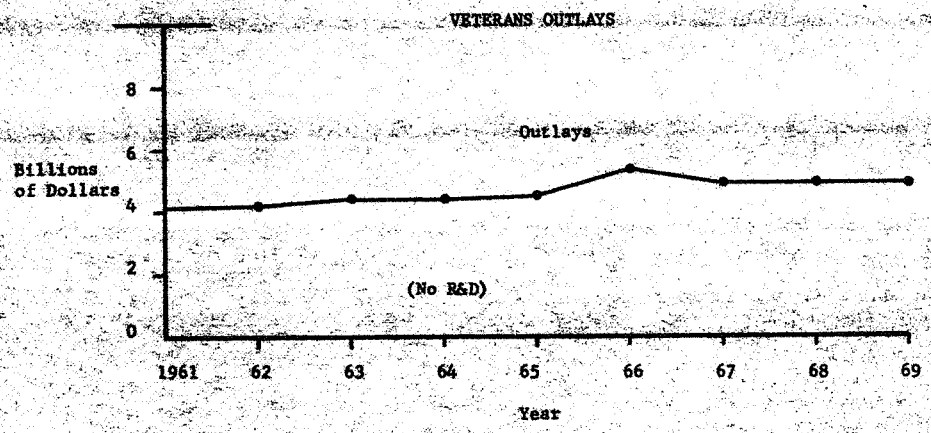
or substantially completed in 1967 dealing with the areas of new coverage under the 1966 FLSA amendments or with proposed areas of new legislative activity. Data are also collected and analyzed in the development of administrative policies and in the support of litigation activities. Efforts are currently being directed toward discovering the best ways to utilize the acts to help the disadvantaged.

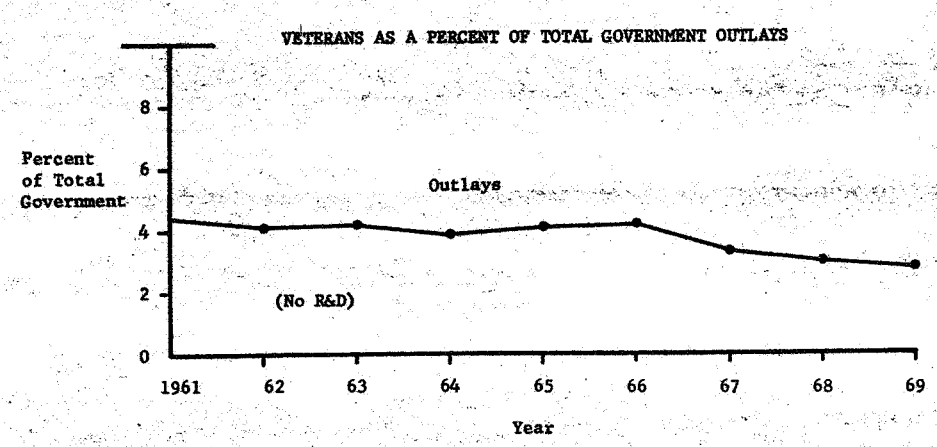
Other. These activities comprise, among others, Apprenticeship, Labor Management activities, and the Bureau of International Labor Affairs.

Other Agencies

OEO (One-half of total). In addition to planning and action grants, OEO is provided with funds to support research, training and demonstration programs. The appropriation finances research into the cause of poverty and the regional and local variations in the patterns of poverty. In 1969 research and demonstration funds will be used to demonstrate new techniques for attacking poverty, to evaluate existing programs and to study the causes of poverty. In addition in 1968 and 1969, the Job Corps will redirect resources to start small inner-city demonstration centers, allowing young men to be trained away from home while remaining in an urban environment.

Chapter XI. VETERANS FUNCTIONAL FIELD





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CHAPTER XI. VETERANS FUNCTIONAL FIELD

The Field as a Whole

The Veterans functional field in The Budget includes programs designed to provide "special benefits and services to veterans of the Nation's wars or their survivors". The Budget classification veterans (which in essence put all Veterans Administration programs in this category) has been considerably modified to exclude those aspects of the VA programs which were directly related to other functions. The entire subfunction of "Hospital and Medical Care" was transferred to Health. Almost the entire subfunction of "Readjustment Benefits" was transferred elsewhere, with housing programs going to Housing and Community Development, and education programs going to Education and Knowledge. The field as it remains is made up of compensation, pensions, and life insurance – all programs that are basically transfers of money for unspecified uses.

Benefits for veterans go back to the Revolutionary War and are almost as much a firm commitment of the Government as is the National Security function which produces veterans. Programs treated under this function are almost exclusively the responsibility of the Veterans Administration (VA), which was created in 1930 to administer the various programs. Because this functional field includes expenditures that are largely nonspecified in their use (i.e., general support or compensation payments), the discussion need not be extensive.

In its contribution to the supergoals described in Chapter I, the Veterans functional field contributes primarily to the goal of Public Welfare by its programs for the general welfare of a specific group in the population. There is a relation to National Security in the sense that National Security needs create this function, but Veterans payments, because they are "after the fact", do not themselves contribute directly to National Security.

In allocation of Government funds, Veterans outlays have decreased from 4.4% of total in 1961 to 2.8% in 1969 – a decrease of 1.6%. This occurred because outlays rose only from $4.1 billion to $4.9 billion, whereas many other functions were rising at a much faster rate. In allocation by fields, Veterans ranked ninth (of 13) in 1969, down from fifth in 1961. There are no R&D expenditures related to the Veterans functional field as we have construed it, making it the only function with no R&D. However, there is R&D connected with Veterans Hospital and Medical Care as discussed in the Health Functional Field.

Table XI-1 lists the Veterans outlays by the three major subfunctions remaining after the medical and most readjustment subfunctions were transferred.

The breakdown of outlays for 1968 by subfunction is shown in Table XI-2.

TABLE XI-1. VETERANS OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Service-connected compensation	2,310	2,435	2,461
Non-service-connected pensions	1,893	2,063	2,101
Readjustment benefits: Other	-3	12	3
Other veterans benefits and services			
Life insurance benefits[a]	702	528	602
Veterans Administration general operating expenses	176	190	199
Other[a]	120	147	124
Proposed legislation	--	--	-18
Interfund and intragovernmental transactions (-)	-6	-5	-5
Applicable receipts from the public (-)	-502	-497	-489
Subtotal, expenditures	4,690	4,875	4,978
Lending			
Other veterans benefits and services[a]	219	58	-94
Subtotal, net lending	219	58	-94
Total Outlays	4,909	4,931	4,884

Source: Edited excerpt from The Budget.

(a) Includes both Federal funds and Trust funds.

TABLE XI-2. 1969 VETERANS OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions	Percent of Total
Expenditures		
Service-Connected Compensation	2,461	45.0
Non-Service-Connected Pensions	2,101	38.4
Other	910	16.6
	5,472	100.0
Adjustments	-494	
Subtotal, expenditures	4,978	
Net lending		
Other	-94	
Total Outlays	4,884	

Service-Connected Compensation

This subfunction is related to outlays for injuries, diseases, and deaths attributable to military service. Payments are related to degree of disability and effect on earning power. Payments are made whether the injury or death occurred in wartime or peacetime, with wartime-related injuries having higher compensation rates. Payments in this subfunction include more veterans from Vietnam each year, but veterans from previous wars are declining.

Non-Service-Connected Pensions

The distinction between compensation and pensions was established to separate service-connected hardship from non-service-connected hardship. Thus, pensions may be paid in medical or economic situations similar to the above subfunction, but in these cases the situation is not directly related to an injury incurred during military service. To qualify for benefits under this category, a person must have served during wartime.

Other Veterans Benefits and Services

Outlays in this subfunction are largely for the various life insurance programs operated by VA. Also included here are one-time death payments which are listed in The Budget as compensation. General operating expenses of the VA are the third line item.

Party Platforms

Relevant sections from the 1968 party platforms follow:

Democratic

Veterans. American veterans deserve our enduring gratitude for their distinguished service to the nation.

In 1968 some 750,000 returning servicemen will continue their education with increased benefits under the new G.I. Bill passed by an education-minded Democratic Congress. Two million disabled veterans and survivors of those killed in action are receiving larger pensions and higher disability payments.

Guided by the Report of the Veterans Advisory Commission, established by the Democratic Administration, we will:

- Continue a strong one-stop agency vested with sole responsibility for all veterans programs;
- Sustain and upgrade veteran medical services, expand medical training in VA hospitals;
- Maintain compensation for disabled veterans and for widows and dependents of veterans who die of service-connected causes, in line with the rise in earnings and living standards;
- Assure every veteran the right of burial in a national cemetary.
- Provide incentives for veterans to aid their communities by serving in police, fire departments, educational systems and other public endeavors.
- Make veterans and their widows eligible for pension benefits at the same age at which Social Security beneficiaries may receive old age benefits.

Republican

Veterans. The Republican Party pledges vigorous efforts to assure jobs for returning Vietnam war veterans, as well as other assistance to enable them and their families to establish living conditions befitting their brave service. We pledge a rehabilitation allowance for paraplegics to afford them the means to live outside a hospital environment. Adequate medical and hospital care will be maintained for all veterans with service-connected disabilities and veterans in need, and timely revisions of compensation programs will be enacted for service-connected death and disability to help assure an adequate standard of living for all disabled veterans and their survivors. We will see that every veteran is accorded the right to be interred in a national cemetery as near as possible to his home, and we pledge to maintain all veterans programs in an independent Veterans Administration.

The 90th Congress

Congress appropriated all of the money requested for veterans compensation, pensions, insurance and indemnities which accounts for over 90% of the expenditures in this functional field.* Only VA general operating expenses were reduced by the Congress and the reduction was less than 2%. This would indicate that Congress placed considerably higher priority on this functional field than on total NBA, which was cut 10%.

Veterans benefit payments which exceeded The Budget estimates were excluded by Congress from the $180 billion ceiling for the overall Budget. Congress also passed a bill increasing payments to disabled veterans.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

The Likely Future (The Next Decade)

Table XI-3 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- It is likely that total expenditures for the Veterans functional field will continue to show well below average growth. As noted earlier in this chapter the reduction in disability compensation costs to World War II veterans largely offsets the increase in such compensation to Vietnam veterans. It is probable that the Veterans functional field will slip further from its present rank of ninth out of 13.
- This does not mean that total expenditures for veterans are below average in growth, because education and health benefits are included under those functional fields.
- There are no R&D expenditures related to the Veterans functional field as used here. However, there is R&D connected with veterans hospital and medical care as discussed under the Health functional field.

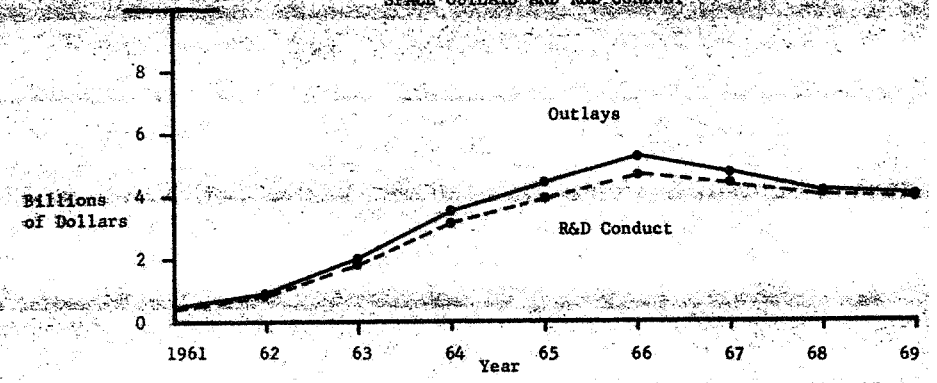
*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE XI-3. VETERANS - IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

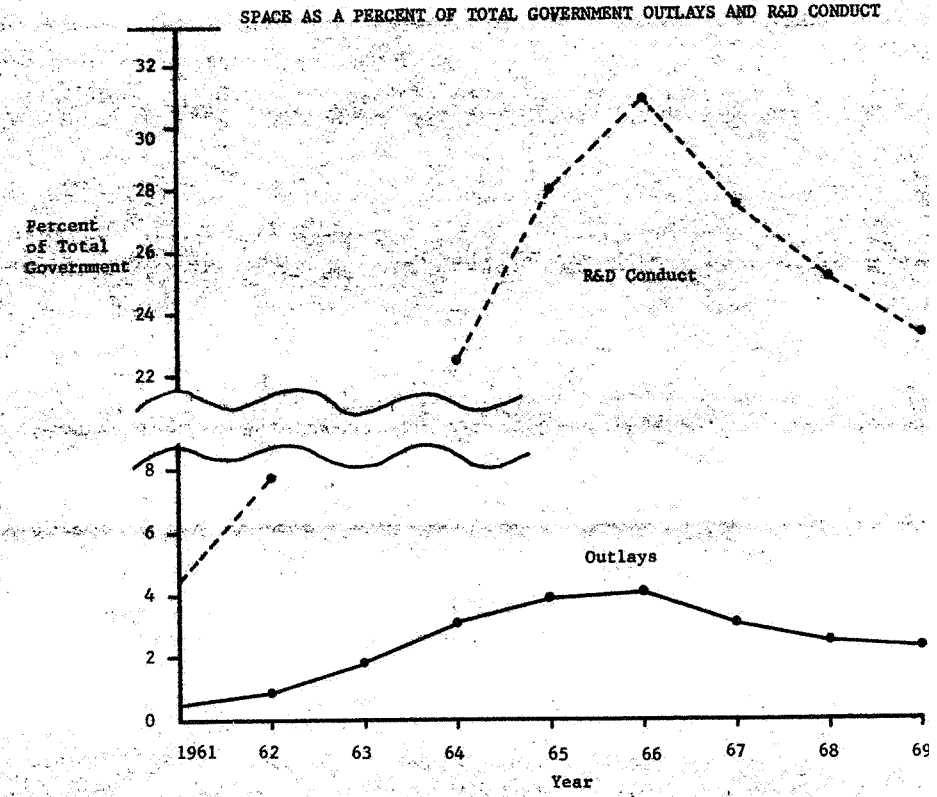
Subfunction	Total Gross Expenditures 1969 $ Millions	Total Gross Expenditures 1969 Percent of Total	Total Gross Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Total R&D Conduct Expenditures 1969 $ Millions	Total R&D Conduct Expenditures 1969 Percent of Total	Total R&D Conduct Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Comments
Service-Connected Compensation	2,461	45.0	+ 7	Well Below	Well Below						
Non-Service-Connected Pensions	2,101	38.4	+11	Below	Below						
Other	910	16.6	- 9	Well Below	Well Below						Includes Life Insurance Benefits, General VA operating expenses and miscellaneous other activities.
Total	5,472	100.0	+ 5	Well Below	Well Below						
Total Federal Government			+17					+ 4			

BATTELLE MEMORIAL INSTITUTE - COLUMBUS LABORATORIES

SPACE OUTLAYS AND R&D CONDUCT



SPACE AS A PERCENT OF TOTAL GOVERNMENT OUTLAYS AND R&D CONDUCT



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CHAPTER XII. SPACE FUNCTIONAL FIELD

The Field as a Whole

The functional field Space, as described in The Budget, includes programs designed "to improve our ability to operate in the space environment, advance man's knowledge of the universe, and use the experience gained for man's benefit".[1]* The Budget includes all of NASA's expenditures in this field, and only those of NASA. In keeping with the goal-oriented conceptual framework, this categorization has been modified to exclude two areas of NASA work which seem to fit more appropriately into other functional fields. Thus, space science has been transferred to the Education and Knowledge field, and aircraft technology has been transferred to the functional field of Commerce, Transportation, and Communications. The field of Space remaining includes NASA's programs of manned space flight, space applications, space technology, and supporting activities.

The development of the various space applications technologies is considered to support the Space functional field. However, as operational space applications systems evolve in other fields such as Natural Resources and Environmental; Agriculture; and Commerce, Transportation and Communications; consideration should be given to including such budget outlays under the functional field of use. This is consistent with The Budget treatment of the Environmental Science Services Administration's operational meteorological satellite systems which are included in its Commerce, Transportation, and Communications functional field.

There is a significant amount of space work being carried out by the Defense Department, but the direct reason for this work is the furtherance of our national security and, therefore, this element is included under the National Security functional field. Space activities of a few other agencies (e.g., Environmental Science Services Administration) are included in the field of use (i.e., Natural Resources and Environmental).

Although a small amount of space research was being pursued through Department of Defense's (DOD) Vanguard project prior to the fall of 1957, it was not until the launching of Sputnik by the U.S.S.R. on October 4, 1957, that a real impetus was given to exploration of space by the United States. The worldwide reaction seemed to mark it in the public's eyes as a spectacular achievement (even beyond its technological value), and to many people in the United States it signified that we were "second best". The reaction to this possible situation resulted in a questioning of our capabilities as a nation, our system of science education, and our position in the eyes of the world. Although there was no immediate military use for a Sputnik, there were fears that Russia was surpassing us in rocketry and other areas of science and technology leading potentially to military advantage. During the next half year various spokesmen in the Government (Executive and Congressional), as well as scientists and engineers outside the Government, presented their views on how best to meet the Russian challenge to our supremacy. This period of early space policy activity has been documented elsewhere[2], and will not be discussed further here.

*Superscript numbers denote References shown at the end of this Chapter.

The end result was the establishment of a civilian space agency – the National Aeronautics and Space Administration – to pursue peaceful activities in space, while activities primarily concerned with defense were to be the responsibility of the Department of Defense. The objectives of space activities were set out in Section 102. (c) of the enabling legislation:

> (c) The aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives:
>
> (1) The expansion of human knowledge of phenomena in the atmosphere and space;
>
> (2) The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles;
>
> (3) The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space;
>
> (4) The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes;
>
> (5) The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere;
>
> (6) The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value or significance to that agency;
>
> (7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof; and
>
> (8) The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment. (3)

In its relation to the supergoals identified in Chapter I, the field of Space most clearly and directly relates to the supergoal of National Security and International Relations. Even though the aspects of direct concern to defense are handled by DOD, the international prestige and competition element that was so important in the establishment of NASA falls under the same supergoal. Although the work of NASA has contributed importantly to the functional field of Education and Knowledge and, thereby,

indirectly to the supergoals of Economic Development and Public Welfare, these goals are overshadowed by the ultimate aim of "the preservation of the role of the United States as a leader...". (3)

President Kennedy, in 1961, stated his belief that "this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth."(4) He indicated that efforts in space were not merely a race: "Space is open to us now; and our eagerness to share its meaning is not governed by the efforts of others. We go into space because whatever mankind must undertake, free men must fully share."(4) Although the United States took up the gauntlet and has worked to achieve the goal of reaching the moon, the image of space activities seems to have lost some of the luster it had at the time of President Kennedy's message in 1961.

In President Johnson's 1968 Budget message, space achievements were spoken of largely in the past tense. (5) Although in another message he spoke forcefully of the worldwide educational potential of space communication and satellite television, (6) The Budget message was sober in tone, stressing under the space section that "to meet our most urgent national needs in some areas requires us to reduce spending in others."(5)

The allocation of Government funds to this functional field (as shown on Table II-2 in Chapter II) shows outlays rising from less than half a billion dollars in 1961 to a high of $5.2 billion in 1966, and falling in subsequent years to an estimated $4.0 billion in 1969. Actions by Congress have made this estimate high and the actual 1969 outlays will probably be closer to $3.5 billion. Using the figures in Table II-2 (including the original outlay estimate for 1969), Space has risen from 0.5% of Government outlays in 1961 to a high of 4.1% in 1966, and is down to 2.3% in 1969. In allocation by fields, Space ranked tenth (of 13) in 1969, up from last place in 1961, but down from fifth place in 1966.

The R&D picture in Space is very different, because almost all work funded by NASA is classified as R&D. In research and development expenditures, Space ranked fifth (of 13) in 1961, despite its last place overall outlays, and rose to second place in R&D in 1962 and has remained in second place since. Its R&D expenditures were 4.5% of all Government R&D expenditures in 1961, and this percentage had risen to 23.4% by 1969. This makes it one of the two most important in R&D funding (together with DOD), for no other functional field funds as much as 10% of total R&D expenditures.

In importance of R&D to its respective functional field, Space is unique in having R&D comprise almost all of its total outlays – 86% in 1961 and 98% in 1969. Though this definition may be questioned as not being an accurate reflection of the work performed, these are the figures as derived from The Budget. This, of course, puts Space in the lead in terms of importance of R&D to the field, with Natural Resources second at 22%.

A more detailed look at overall outlays for Space appears in Table XII-1, which shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down by line items included. As was noted earlier, NASA is the only agency having control of outlays under this functional field as defined here.

The following subsections will treat the elements that make up the Space field in terms of programs and objectives. The areas discussed will be Manned Space Flight, Space Applications, Space Technology, and Supporting Activities. Because 98% of 1969 outlays are for R&D, The Budget descriptions appended to other chapters will make up the bulk of the material presented below. The Appendix contains the detailed R&D Conduct Budget data only.

TABLE XII-1. SPACE OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

	Expenditures		
	1967 Actual	1968 Estimate	1969 Estimate
Manned space flight			
Manned lunar landing	$3,587	$3,028	$2,571
Extended manned flight	62	138	422
Space applications	122	135	147
Space technology	440	420	425
Supporting activities(a)	452	411	394
Applicable receipts from the public (-)	-2	-4	-3
Total	$4,660	$4,127	$3,955

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.

Manned Space Flight

The largest element of the Space field is manned space flight, which is estimated in 1969 to account for 76% of Space outlays as defined in this functional field. The dominance of this part of the Space field is a result of the goal (quoted above) which was set in the State of the Union Message delivered by President Kennedy to Congress in May, 1961. This objective of a manned lunar landing, though questioned by some at the time, was overwhelmingly accepted as the foremost space goal, and has, since 1961, been the dominant articulated aim of our efforts in space.

The objective set forth by President Kennedy has emerged as the Apollo program (following completion of Mercury and Gemini programs), which was set back early in 1967 by the spacecraft fire but which recovered momentum in late 1968 as the result of the successful manned Earth orbital flights and with the spectacular manned orbit of the Moon during late December, 1968. There are still plans for landing men on the Moon and returning them safely during calendar year 1969. One of the difficulties of having such a specific and overriding goal arises from questions concerning the next steps to follow achievement of that goal. Although the enabling legislation sets out eight objectives for space activities, it has proved to be difficult to fall back on these generalized objectives after the publicity and exertion that have gone into the "hot pursuit" of the single objective that galvanized the country for most of a decade.

Parts of The Budget description of NASA programs in manned space flight are given below:

The estimates for this activity include the Apollo, Apollo Applications, and advanced mission studies programs. Funding provides for all NASA manned space flight missions and the development of the required space vehicles and the study of advanced manned missions. The basic objective of the manned space flight program is to develop

and provide a national capability for manned operations in space which will achieve and maintain a position of leadership for the United States and to demonstrate this capability by landing men on the moon and returning them safely to earth before the end of this decade.

Apollo

The Apollo program is developing the capability to carry out major manned operations in space, including the national goal of landing men on the moon and returning them safely to earth within this decade.

In calendar year 1969, five manned flights of the Saturn V are planned. Plans call for all of these flights to be conducted with complete lunar landing systems. The mission plans for the first four will be primarily aimed at development and operational testing. It is planned that the lunar landing will be made using a Saturn V in calendar year 1969.

Apollo Applications

The objective of this program is to extend our manned space flight capabilities through engineering, medical, scientific, and technological experiments in space, building upon the Apollo program. The planned experiments, together with the advances in operational techniques, will exploit our manned flight capability for scientific, technological, and other fields of space activity. During 1968 and 1969, emphasis will be placed on the development and integration of experiments and systems, procurement of launch vehicles, and establishment of mission operations requirements. The payloads used in the early missions will be stored in orbit for later reuse to minimize the cost of the program. Initial launch of an orbital workshop, using a Saturn IB, is planned for 1970. It will be revisited in 1970 and 1971, and used as a platform for a large, man-operated solar telescope. A second orbital workshop, launched on a Saturn V, is planned for future years. Lunar exploration flights after the first landing are also planned in this program.

Advanced Mission Studies

The objective of the advanced missions program is to examine advanced manned space flight mission concepts and to develop technical information and cost data upon which future program decisions can be based.

Space Applications

Outlays for space applications in 1969 are estimated to be 3.7% of the space outlays shown earlier. This program is designed to use the knowledge and resources gained from the space program for projects of economic benefit in more "Earthbound" areas of national interest such as geodesy, Earth resources, communications, and weather forecasting. The many areas of potential space application will be detailed in another part of this study, and will not be discussed here (see Appendix A to Part I). The following paragraphs include The Budget description of this area.

The objectives of this activity include development of meteorological, technological, and geodetic satellites, and studies of communication and natural resources satellite systems. Specific objectives are to improve satellite and instrumentation technology; to provide data for atmospheric and earth resources research; to participate in design and development of operational satellite systems as required; and to study advanced satellite systems. Flight experiments and activities related to these objectives will be carried out with the Tiros, Nimbus, Geodetic, and Applications Technology Satellites, and sounding rockets. An earth-resources survey project begun in 1968 will develop the technology for surveying the earth's resources from space. This development will involve the selection and testing of appropriate observational procedures, instruments, and interpretive techniques. The major areas of interest are: agriculture/forestry, geology/mineralogy, hydrology/oceanography, and geography/cartography. In 1968 and 1969, emphasis will be placed on use of aircraft for sensor tests and data acquisition. In 1969, studies will be undertaken to define a satellite program for Earth resources.

Space Technology

Advanced research and technology of use to future space flight is funded under this program area, which accounts for 11% of Space outlays in 1969. Work is done on spacecraft, launch vehicles, nuclear and other propulsion systems, and electronics. The Budget describes this area, as follows:

This activity comprises research and development effort relating to space vehicle systems and operations and equipment and components for space missions. Emphasis is placed on space vehicle and propulsion systems, and support technology. Development of a flight-type NERVA I nuclear engine having a thrust of from 65,000 to 75,000 pounds, to provide basic propulsion capability to augment the Saturn V, will be initiated. The improvement of electronic systems for control, data acquisition, and communications will be continued. Much of this research is conducted in laboratories and special ground-based test facilities located at the various NASA centers.

Supporting Activities

Supporting activities comprise 10% of 1969 Space outlays, and are described by The Budget as:

The three program areas grouped in this activity provide general support for the attainment of NASA mission objectives.

- Tracking and Data Acquisition. Operation and equipment of stations of the NASA tracking and data acquisition networks are provided for here, as well as research and development to increase the capability of the specialized ground equipment.

- Sustaining University Program. This program includes training grants awarded to graduate studies in specialized engineering and other fields and research grants to universities.

- Technology Utilization. The objective of this program is to accelerate the transfer into the non-space-related economy of new advances in technology generated by NASA and NASA contractors.

Party Platforms

Relevant sections from the Democratic and Republican 1968 platforms are included as examples of the respective major party statements on Space in the summer of 1968.

Democratic

Our pioneering space program has helped mankind on earth in countless ways. The benefits from improved weather forecasting which can soon be available thanks to satellite observations and communications will by themselves make the space efforts worthwhile.

Observation by satellite of crops and other major earth resources will for the first time enable man to see all that is available to him on earth, and therefore to take maximum advantage of it. High-endurance metals developed for spacecraft help make commercial planes safer; similarly, micro-electronics are now found in consumer appliances. Novel space food-preservation techniques are employed in the tropical climates of underdeveloped countries. We will move ahead in aerospace research and development for its unimagined promise for man on earth as well as its vital importance to national defense.

We shall continue to work for our goal of leadership in space. To this end we will maximize the effectiveness and efficiency of our space programs through utilization of the best program, planning and budgeting systems.

Republican

We regret that the Administration's budgetary mismanagement has forced sharp reductions in the space program. The Republican Party shares the sense of urgency manifested by the scientific community concerning the exploration of outer space. We recognize that the peaceful applications of space probes in communications, health, weather, and technological advances have been beneficial to every citizen. We regard the ability to launch and deploy advanced spacecraft as a military necessity. We deplore the failure of the Johnson-Humphrey Administration to emphasize the military uses of space for America's defense.

The 90th Congress

Congressional action in the 90th Congress on the NASA appropriations is less indicative of priority because the Administration's budget had already reduced NASA

funding.* In 1968 Congress approved $4.59 billion budget authority for NASA. The President requested $4.37 billion for 1969 NASA budget authority – over $200 million less than 1968. Congress approved $4.0 billion for an additional 8.6% reduction. In total, NASA's 1969 budget authority is 13% less than that for 1968.

Congressional space actions primarily dealt with appropriations and authorizations, where the Apollo Applications program was the most severely reduced area.

The Likely Future (The Next Decade)

Table XII-2 summarizes an estimate of the likely future relative growth** for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- The data in both this chapter and in Chapter II indicate that there is little likelihood that the Space functional field will increase from its present rank of 10 (out of 13). Space is the only field that has suffered a significant decline in funding dollars in recent years. In fact, these data indicate that Space is likely to continue to show well below average relative growth and may slip in rank to 11 or 12.

- Only the Space Applications subfunction within this field has been able to hold its own, with Manned Space Flight, Space Technology, and Supporting Activities subfunctions showing well below average growth in the immediate past and present.

- Since virtually all Space expenditures are classed as R&D, there is no difference in total expenditure and R&D expenditure trends. However, it is important to note that, despite declines in absolute dollar funding, the Space field is still second to National Security in R&D expenditures and more R&D oriented than any other field.

- In view of various studies, including other elements of which this study is a segment (see Chapter I and Appendix A in Part I), it appears likely that funding for activities under Space Applications would evolve to other functional fields as the developing technologies mature and become operational. Examples of past evolutionary developments of this nature include communications satellites (operated by Comsat – outside the Government), and meteorology satellites (operated by Environment Science Services Administration in the Commerce Department but included herein in the Natural Resources and Environmental field).

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

**The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE XII-2. SPACE – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, %, 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, %, 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Comments
Manned Space Flight	2,993	75.6	-18	Well below	Well below	2,957	76.0	-15	Well below	Well below	Much of this activity may be reclassified to other functional fields as contributions are more clearly defined.
Space Applications	147	3.7	+20	About average	About average	147	3.8	+21	Well above	Well above	
Space Technology	425	10.7	-3	Well below	Well below	414	10.6	+1	Below	Below	
Supporting Activities	394	10.0	-13	Well below	Well below	371	9.5	-2	Well below	Well below	
Total	3,959	100.0	-15	Well below	Well below	3,889	100.0	-11	Well below	Well below	Expenditures are virtually all R&D (98%).
Total Federal Government			+17					+4			

Other services have been and will be provided to the Department of Defense with geodetic and navigation satellites. Various satellite programs now under consideration would be directed toward solving agricultural, transportation, commerce, and other problems which are associated with other functional fields considered in this report. Thus, it is apparent that this evolutionary process will lead to adjustments which may lead to increased space activities but decreased outlays under the Space functional field.

References

(1) The Budget in Brief, FY 1969, U.S. Government Printing Office, Washington, D.C., 1968, p 31.

(2) See, for example, Enid Curtis Bok, Making American Space Policy, (1) The Establishment of NASA (MIT, Cambridge, Massachusetts, 1963).

(3) Public Law 85-568, 85th Congress, H.R. 12575, July 29, 1958, as quoted in the First Semiannual Report to the Congress of the National Aeronautics and Space Administration, 86th Congress, 1st Session, 1959, pp 50-51.

(4) John F. Kennedy, State of the Union Message, May, 1961.

(5) Lyndon B. Johnson, Budget Message, January 29, 1968.

(6) Lyndon B. Johnson, State of the Union Message, January 17, 1968.

APPENDIX XII-A

SPACE RESEARCH AND DEVELOPMENT

TABLE XII-A-1. CHANGES IN SPACE R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ Millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D	+3,493.9	-494.9	-96.6	+884.5	-11.3	-2.4			
Manned Space Flight	+2,683.7	-519.8	-136.9	+980.9	-14.9	-4.4	+6.7	-3.3	-1.6
Space Technology	+340.6	+6.0	+25.7	+465.9	+1.5	+6.6	-7.9	+1.3	+0.9
Supporting Activities	+339.7	-6.2	+3.4	+1,075.0	-1.6	+0.9	-4.2	-4.8	-5.4
Space Applications	+129.9	+25.1	+11.2	+777.8	+20.7	+8.3	+5.3	+6.7	+6.1

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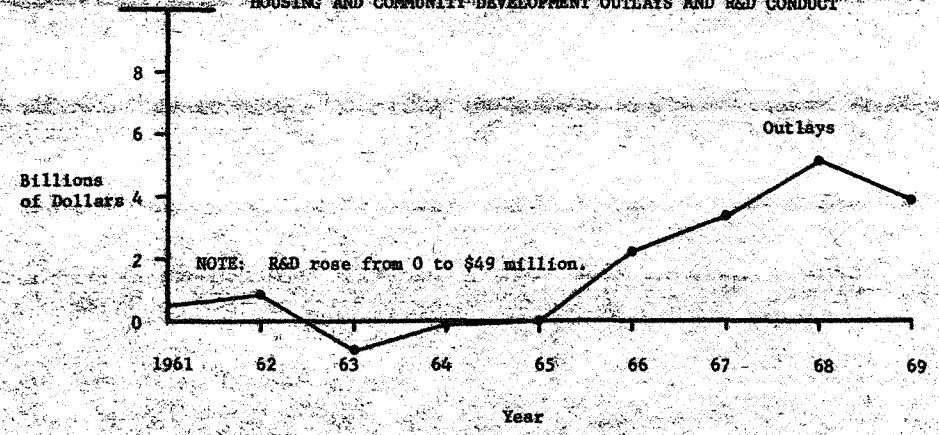
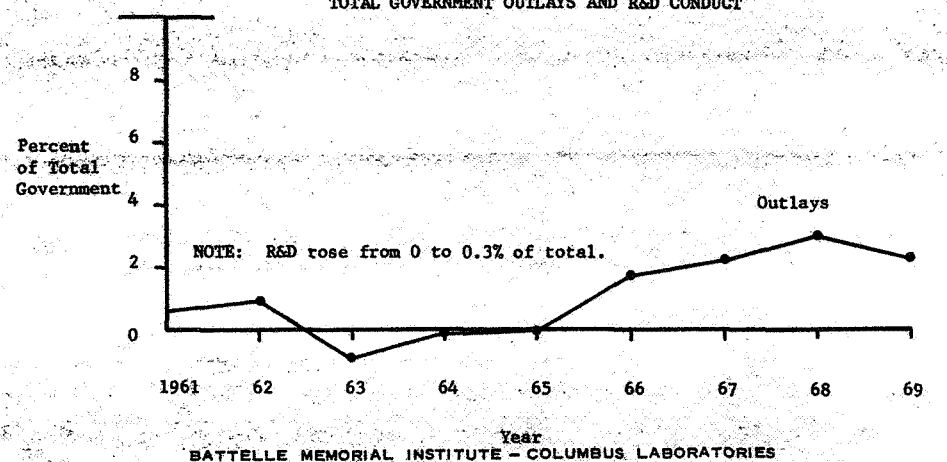
TABLE XII-A-2. SPACE – R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA, 1961-1969

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Manned Space Flight	1961	273.6		
	1962	508.5	+234.9	+85.9
	1963	1,356.9	+848.4	+166.8
	1964	2,436.1	+1,079.2	+79.5
	1965	3,137.5	+701.4	+28.8
	1966	3,818.8	+681.3	+21.7
	1967	3,477.1	-341.7	-8.9
	1968	3,094.2	-382.9	-11.0
	1969	2,957.3	-136.9	-4.4
Space Technology	1961	73.1		
	1962	136.5	+63.4	+86.7
	1963	278.5	+142.0	+104.0
	1964	382.1	+103.6	+37.2
	1965	431.2	+49.1	+12.9
	1966	395.2	-36.0	-8.3
	1967	407.7	+12.5	+3.2
	1968	388.0	-19.7	-4.8
	1969	413.7	+25.7	+6.6
Space Applications	1961	16.7		
	1962	60.7	+44.0	+263.5
	1963	92.4	+31.7	+52.2
	1964	111.1	+18.7	+20.2
	1965	87.0	-24.1	-21.7
	1966	112.0	+25.0	+28.7
	1967	121.5	+9.5	+8.5
	1968	135.4	+13.9	+11.4
	1969	146.6	+11.2	+8.3
Supporting Activities	1961	31.6		
	1962	68.9	+37.3	+118.0
	1963	105.4	+36.5	+53.0
	1964	162.3	+56.9	+54.0
	1965	203.2	+40.9	+25.2
	1966	310.4	+107.2	+52.8
	1967	377.5	+67.1	+21.6
	1968	367.9	-9.6	-2.5
	1969	371.3	+3.4	+0.9

HOUSING AND COMMUNITY DEVELOPMENT OUTLAYS AND R&D CONDUCT



HOUSING AND COMMUNITY DEVELOPMENT AS A PERCENT OF TOTAL GOVERNMENT OUTLAYS AND R&D CONDUCT



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CHAPTER XIII

HOUSING AND COMMUNITY DEVELOPMENT FUNCTIONAL FIELD

The Field as a Whole

The functional field of Housing and Community Development includes programs designed to move toward "...a decent home and a suitable living environment for every American family".[1]* Programs are aimed at improving the viability of urban communities by stimulating the economy, helping combat slums, and assisting special groups through grants, loans, and insurance to state and local governments, and to individuals and organizations. The basic content of this functional field is the same as is presented in The Budget, with a few modifications. The urban mass transit program has been placed with the Transportation field in accordance with the transfer of this program from HUD (Housing and Urban Development) to DOT (Department of Transportation). The Community Action Programs (CAP) of the Office of Economic Opportunity (OEO) have been included here as being basically a contribution to community development, although some of its individual programs contribute importantly to other functional fields. For example, Head Start, Follow Through, and Upward Bound are all educational programs funded as a part of CAP. The final change made to The Budget's functional field was the inclusion of the various Veterans housing programs here, rather than in the Veterans functional field.

The Federal Government's interest in housing began, as so many Government programs have, in recognition of a defense-related need: housing for employees of industries involved in military production during World War I.** The Government built a number of housing projects for wartime employees, but sold these to private owners and got out of the housing field after the war. The Depression was the next event causing the Government once again to become involved in the housing field, in an attempt to shore up the economy and save homeowners from defaulting on their mortgages. A U. S. Housing Authority was set up in 1937 to provide loans for low-income housing and slum clearance. Gradually, the Government's interest in housing began to be focused more toward the public welfare aspects as it sought to help special groups in the population such as the poor or Veterans. Although the original impetus for the Government's involvement was defense related, the field of Housing and Community Development (hereafter referred to as Housing) contributes only in an indirect way to this goal. There are some expenditures for military housing, which have been included in the National Security functional field. The Housing field does contribute quite directly to two other supergoals - those of Public Welfare and Economic Growth. This was recognized with the strong involvement begun during the Depression and expanded after the Second World War. The Government's role has been continually surrounded by controversy, with many preferring that the Government stay basically out of the field, and there has been constant criticism of the various programs, especially those having to do with

*Superscript numbers denote References shown at the end of this Chapter.

**In the most general sense, Federal interest in community development was present earlier, with the Homestead Act of 1877 and other laws designed to develop the country westward. These laws were in the nature of incentives to encourage others to develop the lands and settle there. Participation of the Federal Government in housing and community development began in a direct way during World War I.

deteriorating areas and housing for the poor and for minority groups. This controversy over the Government's role has slowed down action even after it was authorized in various legislative acts and has, many critics charge, resulted in a housing program which has largely benefited the middle class and has done little for poor people, who live mostly in city slums. Innovations and many recent suggestions are being made in an attempt to remedy whatever truth may be contained in this criticism, but the country has a long way to go to implement the policy declared in the Housing Act of 1949, parts of which have become the byword for our housing aims:

> "The Congress hereby declares that the general welfare and security of the Nation and the health and living standards of its people require housing production and related community development sufficient to remedy the serious housing shortage, the elimination of substandard and other inadequate housing through the clearance of slums and blighted areas, and the realization as soon as feasible of the goal of a decent home and suitable living environment for every American family, thus contributing to the development and redevelopment of communities and to the advancement of the growth, wealth, and security of the Nation."
>
> Housing Act of 1949

A review of Presidential messages in 1960 (Eisenhower's last year of office), 1961 (Kennedy's first year), 1965 (Johnson's first year), and 1968 (latest year) offers some examples of the attitude and approach of different administrations, as the following quotes will show:

1960: "In meeting (urban problems) we must, if we value our historic freedoms, keep within the traditional framework of our Federal system with powers divided between the national and state governments... I do not doubt that our urban and other perplexing problems can be solved in the traditional American method. In doing so, we must realize that nothing is really solved and ruinous tendencies are set in motion by yielding to the deceptive bait of the 'easy' Federal tax dollar."(2)

1961: "Our policy for housing and community development must be directed toward the accomplishment of three basic national objectives:

First, to renew our cities and assure growth of our rapidly expanding metropolitan areas.

Second, to provide decent housing for all of our people.

Third, to encourage a prosperous and efficient construction industry as an essential component of general economic prosperity and growth."(3)

1965: "(The Federal Government) must help to meet the most urgent national needs; in housing, in education, in health and many other areas. It must also be sure that its efforts serve as a catalyst and as a lever to help and guide state and local governments toward meeting their problems."

> "Our goal... is nothing less than to improve the quality of life for every American. In this quest, the future of the American city will play the most vital role."(4)

1968: "Surely, a nation that can go to the moon can place a decent home within the reach of its families."(5)

> "Our goal is to eliminate substandard housing in ten years."(6)

Because of the preponderance of loan, or loan guarantee, programs in the past as the Government's principal method of operation in the field of Housing and Community Development, the data over the 1961 to 1969 period shown in Table II-2 in Chapter II are a rather distorted view of the Government's interest. First, the nature of such operations leads to possible distortions in data for an individual year; and second, the impact of an operation is not necessarily reflected by a "net lending" figure. Since the Second World War, about one-fourth of all private nonfarm housing units started have been assisted by Federal insurance or guarantees. The data in Table II-2 show relatively low (and in a few cases minus) figures up to 1966. The minus figures result when repayments for loans and/or sales of mortgages exceed disbursements. Starting with 1966 the figures begin to pick up, reflecting the addition of actual expenditure programs in this field, and in 1969 the outlays are 2.3% of total Government outlays, a growth of +1.7% in percent of total over 1961. This placed Housing in eleventh rather than twelfth rank (of 13) in 1969 over 1961; however, in percent growth over the 9 years, this field was second only to Space. Because of the difficulties in the yearly figures for this field as a whole, and the problems of comparing the net outlays between years, the figures for the last 3 years (which are available in comparable terms by individual Budget items) are reviewed below in more detail than for other fields. The data in Table XIII-1 summarize, and Table XIII-2 gives the details of subfunctional outlays for 1967 to 1969.

Of the total outlays over the past 3 years, expenditures accounted for 39%, 29%, and 58% from 1967 through 1969, and net lending for 61%, 71%, and 42%. It is the extremely variable nature of the net lending figures from year to year that makes comparisons over time somewhat hazardous. The figures that are most susceptible to analysis over time are the expenditure figures, or the expenditure figures minus the negative "Aids to private housing" expenditures, which are tied to the lending programs and show minus figures because of the premiums received on insured mortgages and savings and loan accounts, which generally are in excess of monies paid out for foreclosures. The resulting adjusted expenditure figures in Table XIII-1 are $1,527 million for 1967; $2,083 million for 1968; and $2,776 million for 1969. This shows clear growth in expenditure programs – 36% between 1967 and 1968, and 33% between 1968 and 1969 (despite the budget squeeze). When these figures are broken down by subfunction, Table XIII-1 shows the predominance of Urban renewal and community facilities, with 79% to 82% of the total each year.

A review of the last 3 years using Table XIII-1 as a basis, shows a little more clearly than the total outlays of Table II-2 in Chapter II the types of interest and funding of the Government. Because comparable figures for previous years are not available except as total outlays, two important points should be emphasized: (1) because of lending operations, yearly figures can be distorted, and net figures in any case will not reflect the impact of the Government's mortgage support programs, and (2) despite the

TABLE XIII-1. 1967 TO 1969 HOUSING AND COMMUNITY DEVELOPMENT OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions 1967	1968	1969	Percent of Total 1967	1968	1969
Expenditures						
Urban Renewal and Community Facilities	1,209	1,692	2,276	79.2	81.2	82.0
Public Housing Programs	251	297	350	16.4	14.3	12.6
National Capital Region	66	90	104	4.3	4.3	3.7
Aids to Private Housing [a]	1	4	32	0.1	0.2	1.2
Proposed Legislation	--	--	14	--	--	0.5
	1,527	2,083	2,776	100.0	100.0	100.0
Aids to Private Housing[a]	-220	-577	-485			
	1,307	1,506	2,291			
Adjustments	-19	-15	-14			
Subtotal, expenditures	1,288	1,491	2,277			
Net Lending						
Aids to Private Housing	1,874	3,488	1,550			
National Capital Region	19	16	65			
Urban Renewal and Community Facilities	138	59	64			
Public Housing Programs	14	22	-16			
Subtotal, net lending	2,045	3,585	1,663			
Total Outlays	3,333	5,076	3,940			

(a) Because most Aids to Private Housing expenditure figures are negative (i.e., income from loan guarantee premiums), these figures have not been included in the subtotal for purposes of percentaging. The figures included are positive supplements to the private market such as rent supplements. Most outlays for this subfunction are lending operations rather than expenditures.

difficulty in making comparisons using these yearly totals, it is clear that a major increase has taken place in the very recent past and is planned to continue in FY 1969 in Government expenditures (as distinct from net lending) in this field.

These tables may help clarify some of the discussion of individual subfunctions which follows. R&D expenditures will be treated in a separate section of this Chapter.

In terms of agency involvement and interest, most of the subfunctions and programs described below are the responsibility of the Department of Housing and Urban Development, which was established in the Housing Act of 1965 and pulled together various Government entities which had been in existence for many years. The Declaration of Purpose in this act was that "...the general welfare and security of the Nation and the health and living standards of our people require, as a matter of national purpose, sound development of the Nation's communities and metropolitan areas in which the vast majority of its people live and work". Items in Table XIII-2 which are not the responsibility of HUD are the Federal Savings & Loan Insurance Corporation, Veteran Administration housing programs, OEO Community Action Programs, and the National Capital region.

TABLE XIII-2. HOUSING AND COMMUNITY DEVELOPMENT OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Public housing programs (HUD)	$ 251	$ 297	$ 350
Aids to private housing			
Department of Housing and Urban Development:			
Supplements to the private market:			
Rent supplement program	1	4	16
Other	-17	-21	16
Support of the private market: Federal Housing Administration and other[a]	-7	-138	-110
Federal Savings and Loan Insurance Corporation	-201	-384	-378
VA Housing Programs	5	-34	3
Urban renewal and community facilities			
Model Cities (HUD)	1	25	250
Aids to improved land use (HUD)			
Urban renewal	370	499	699
Open space land grants	19	60	60
Urban planning assistance and other	22	31	46
Proposed metropolitan development legislation			3
Assistance for public facilities (HUD)			
Basic water and sewer facility grants	6	90	130
Neighborhood facility grants and other	12	22	39
Research and other (HUD)	32	39	55
Community action programs and other (OEO)	747	926	994
Proposed legislation			14
National Capital region[a]	66	90	104
Interfund and intragovernmental transactions (-)	-19	-15	-14
Applicable receipts from the public (-)	(b)	(b)	(b)
Subtotal, expenditures	1,288	1,491	2,277
Net Lending			
Public housing programs	14	22	-16
Aids to private housing			
Department of Housing and Urban Development			
Supplements to the private market	248	744	456
Support of the private market	1,269	2,440	809
Federal Savings and Loan Insurance Corporation	44	-8	-20
VA Readjustment Benefits			
Direct Housing Loans	53	66	82
Housing Loan Guarantee programs and other	260	246	223
Urban renewal and community facilities	138	59	64
National Capital region	19	16	65
Subtotal, net lending	2,045	3,585	1,663
Total Outlays	$3,333	$5,076	$3,940

Source: Edited excerpts from The Budget.
(a) Includes both Federal funds and Trust funds.
(b) Less than $500 thousand.

Public Housing Programs

Government participation in low-rent public housing began with passage of the United States Housing Act of 1937. Under this program Local Housing Authorities are set up to handle public housing in a specified area, obtain loans from the Public Housing Administration for planning purposes, and receive annual subsidies for operations to make up the difference between their obligations (on bonds sold to the public, for maintenance, etc.) and the income received from rents, which are set at a low level to serve tenants within specified low-income levels. Public housing programs have never filled the need for low-rental housing, and have been criticized from all directions – from those who feel the private market should take care of housing or those who dislike public housing being used as a vehicle for other objectives such as integration, to those who feel public housing has been inadequate in quantity and at the same time has contributed to "ghettoizing" rather than dispersion of low-income residents throughout an area. New techniques have been instituted in the past few years in an attempt to meet some of these criticisms. Existing housing may be leased by Local Housing Authorities (LHA) in an attempt to expand the supply more quickly and to disperse low-income residents. The "turnkey" construction method is being tried whereby private builders are responsible for planning and building and sell the housing to LHA's after it is completed. Private organizations are also beginning to participate in management of low-income housing, and in many instances tenants are participating in some decisions affecting the projects.

Aids to Private Housing

This subfunction is oriented toward loan operations, and outlays are largely in the net lending rather than expenditure category. As Table XIII-1 indicates, expenditures over the 3 fiscal years shown are negative, and net lending figures vary widely. Functions consist primarily of insuring and guaranteeing mortgages and savings and loan accounts. Premiums are charged to do this – thus, the negative figures under expenditures, as these are receipts. The decrease shown in net lending for this subfunction is anticipated because the ceiling on interest rates for Government insured and guaranteed mortgages has been raised. In addition, the secondary market operations of the Federal National Mortgage Association (Fannie May), which buys Federally insured or guaranteed mortgages when money is scarce, are expected to be transferred to private ownership.

Government aids to private housing were started during the Depression to stabilize the market and to make mortgages more available to potential homeowners by insuring or guaranteeing that 80% of the money borrowed would be returned to lenders, even if the owner defaulted on his payments. In order to protect their own investment, the Government charged a premium to insure loans, and set certain standards for houses funded by Government insured loans. The GI Bill of 1944 established a similar system for veterans under the Veterans Administration.

Direct loans are also an element of this subfunction, and are aimed at special groups, such as veterans who live in smaller communities, or the elderly, who are often unable to obtain conventional loans. Another recent program innovation has been the rent supplement program, under which the Government pays certain private housing groups the difference between the regular market rental value and the rental paid by the tenant, which is set at a certain percent of his income. The purpose of this program is to provide

decent housing for families who often cannot themselves purchase such housing except at rates far in excess of 25% of their income, the generally accepted proportion of income that should be spent on housing. This program has run into trouble each year since it was authorized (1965), in part because of its potential for promoting racial and economic integration.

Urban Renewal and Community Facilities

The largest portion of expenditures (rather than lending) in the Housing field (at least 80% of expenditures in 1967 through 1969) falls under this subfunction, which includes most of the newer housing and community development programs.

Model Cities

A second program, in addition to rent supplements, which has been the subject of controversy is the Model Cities program, a major instrument of President Johnson's Great Society legislation. This was a key element in the 1966 Housing Act, and provided for planning and later action grants for cities to establish areas of their jurisdiction in which an all-out attempt was to be made to rehabilitate blighted areas, coordinating activities in health, education, welfare, manpower, recreation, transportation, physical rehabilitation, and to develop the area as a system rather than through piecemeal approaches.

Aids to Improved Land Use

Urban renewal was authorized under the Housing Act of 1949 as a slum clearance program. Expenditures under this program have been substantial over the years but have come under attack as being used to remove low-income (mainly Negro) inhabitants of central cities and replacing their former homes with high- and middle-income housing or with commercial buildings. Cities are often caught in the dilemma of wanting to bring more revenue-producing elements into the city but having a responsibility not merely to force low-income residents into another developing slum area. 1968 legislation has authorized "neighborhood development programs", which are designed to speed up urban renewal and which require that at least 20% of housing units in an urban renewal area be for low-income tenants and at least 50% for low- and moderate-income tenants combined.

Open space land grants provide grants for comprehensive community planning of an urban area with respect to parkland, open spaces, and beautification.

Urban planning assistance provides money for State, local, or area planning agencies.

Assistance for Public Facilities

Included here are grants for basic water and sewer facilities, and for neighborhood centers to coordinate social services for disadvantaged residents in urban areas. Comprehensive planning is stressed in making these grants.

Research and Other

It is difficult to identify from The Budget just what is included under this line item, which totals over $50 million in 1969, but the majority of it is not research. Expenditures for urban research and technology (not including the low-income housing demonstration programs, which are funded under "Aids to private housing"), amounted to less than $1 million in 1967, and are estimated as $3 million for 1968 and $7.3 million for 1969. See the discussion of R&D in a later separate section entitled "Research and Development".

Community Action Programs and Other (OEO)

This is the final and largest item included under the subfunction "Urban Renewal and Community Facilities". Estimated expenditures are just under a billion dollars for 1968 and for 1969. Community Action Programs (and other) make up about half of the total expenditures of the Office of Economic Opportunity, a major instrument in the "War On Poverty". Established by the Economic Opportunity Act of 1964, OEO, through its Community Action Programs, provides help for rural and urban communities to alleviate poverty by organizing and mobilizing their resources. Emphasis is placed on direct participation by the poor people who are expected to benefit from the various projects which range from literacy programs and vocational rehabilitation to legal and health services. OEO, through Community Action Agencies, will participate in the neighborhood centers, mentioned earlier, in conjunction with HUD and other Government agencies. Although many Community Action programs are directly related to other functional fields, such as the Head Start and Follow Through educational programs for young children, the CAP concept is aimed at general community development (which quite naturally involves many approaches) and was, therefore, included in the Housing and Community Development field. Other programs than CAP which are included in this line item are programs to combat poverty in rural areas, such as loans for cooperatives and assistance for the special needs of migrant farm workers, and the VISTA program, sometimes known as the "domestic Peace Corps".

National Capital Region

Because of the special relationship between the Federal Government and the District of Columbia, the Government has had primary responsibility and control over the local District of Columbia government, though home rule has been an issue for many years. At the present, District of Columbia funds come largely from local taxes, a Federal contribution (in lieu of taxes on Federal property), and Federal loans, but Congress must approve all District of Columbia budget funds before any money can be spent. The outlays listed under this subfunction are the Federal payment (under expenditures) and the Federal loans (under net lending).

This completes discussion of the items shown on Tables XIII-1 and XIII-2. Because of the timeliness of major legislation passed in 1968 with respect to housing, some of the features of the new legislation will be discussed.

Housing and Urban Development Act of 1968

This legislation has been referred to as the most far-reaching legislation since the Housing Act of 1949 which began the urban renewal program. This Act sets forth an objective to fulfill the long-standing goal of "a decent home and suitable living environment for every American family" within the next 10 years. This is to be accomplished through the construction or rehabilitation of 26 million units (6 million for low- and moderate-income families) over this period. The bill authorized a $5.3 billion program for the next 3 years to provide 1.7 million units for low-income families. The President is to present to Congress on January 15, 1969, a 10-year plan and legislative recommendations to meet housing needs. Annual reports comparing progress made during each year with that year's stated goals are then to be presented to Congress. This is a rather clear demonstration of a desire both to set goals and to measure their achievement.

Some major provisions of the 1968 Act are:

- Home-ownership assistance for low- and moderate-income families through interest rate subsidies so that families pay only 20% of their income on loan retirement (but this must be at least the equivalent of paying a 1% interest rate).
- Expands FHA activity for low-income housing in areas such as insuring mortgages for families who normally would not qualify but are certified by HUD; insuring loans for housing purchases by agencies which will resell as low or moderate income housing.
- New subsidies for construction or rehabilitation of low-income housing by non-profit organizations.
- Guarantee of obligations issued by private developers of new towns or communities, and assistance with their water, sewer, and open-space projects.
- Speeding up of urban renewal through neighborhood development programs on an annual basis, and percentage requirements for low- and moderate-income housing.
- Transfer of "Fannie May" to private ownership under general regulation of HUD, and establishment of GNMA (Government National Mortgage Association) for special assistance and management functions.
- Establishment of a National Housing Partnership for federally chartered, privately funded corporations to provide low- and moderate-income housing.
- Provides Government reinsurance for companies insuring buildings in riot areas, accompanied by a FAIR (fair access to insurance requirements) program to assure that businesses can obtain insurance from those insurance companies the Government has reinsured.

- A joint Federal – private venture to provide flood insurance for homeowners.

- Continued authorization of rent supplement and Model Cities programs.

This 1968 Housing Act is indicative of heightened interest of the Government in housing and community development as an important element in stability and growth of cities, and of the importance of providing adequate housing for low-income families, not only through the public housing program but also by providing incentives to the private market to stimulate their entry into low-income housing. Stress has also been placed, in this bill, on providing jobs for local citizens and contracts for local businesses in the areas where construction or rehabilitation is to take place. Although some mention is made of encouraging the use of new technologies in building, the new Housing Act does not refer to R&D, which, in the total field of Housing and Community Development, occupies a very minor position.

Research and Development

Table II-3 in Chapter II shows no R&D reported in the field of Housing and Community Development in 1961, placing this field, together with Veterans, in last place. In 1969, R&D expenditures had risen to $49 million, as shown in Table XIII-3. This

TABLE XIII-3. 1969 HOUSING AND COMMUNITY DEVELOPMENT R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Areas	$ Millions	Percent of Total
1	Office of Economic Opportunity (1/2 of Total)	29.0	59.2
2	Other HUD R&D	8.9	18.2
3	Urban Research and Technology (HUD)	7.3	14.9
4	Low Income Housing (HUD)	3.8	7.8
	Total	49.0	100.0

placed R&D in this field ninth in rank (of 13) in 1969, and amounted to 0.3% of all Government R&D outlays. As a percent of the Housing and Community Development field, R&D is only 1.2%, although recent growth has shown some increase of interest in such R&D. Table XIII-4 shows the changes in R&D over the last 9 years. Detailed data and descriptions of the program areas of Housing R&D appear in the Appendix to this Chapter.

TABLE XIII-4. CHANGES IN HOUSING AND COMMUNITY DEVELOPMENT R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Areas	Change, $ Millions			Change, %			Percent of Total Change		
	1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D		+24.5	+11.0		+100.0	+28.9			
Office of Economic Opportunity	(a)	+11.5	+3.0	(a)	+ 65.7	+11.5	(a)	-12.2	-9.2
Other Housing and Urban Development R&D	(b)	+5.0	+1.7	(b)	+128.2	+23.6	(b)	+2.3	-0.7
Urban Research and Technology (HUD)	(b)	+6.6	+4.3	(b)	+942.9	+143.3	(b)	+12.0	+7.0
Low Income Housing (HUD)	(b)	+1.4	+2.0	(b)	+58.3	+111.1	(b)	-2.0	+3.1

(a) New agency created in 1965.
(b) Program data not available for 1961.

Party Platforms

The sections on housing and community development from the two 1968 party platforms are included as indications of approach and emphasis of the two major parties.

Democratic

Housing. For the first time in history, a nation is able to rebuild or replace all of its substandard housing, even while providing housing for millions of new families.

This means rebuilding or replacing 4.5 million dwelling units in our urban areas and 3.9 million in rural areas, most in conditions of such dilapidation that they are too often dens of despair for millions of Americans.

Yet this performance is possible in the next decade because of goals and programs fashioned by Democratic Presidents and Democratic Congresses in close partnership with private business.

The goal is clear and pressing – "a decent home and a suitable living environment for every American family," as set forth in the 1949 Housing Act by a Democratic Congress and Administration.

To achieve this goal in the next ten years:

- We will assist private enterprise to double its volume of homebuilding, to an annual rate of 2.6 million units a year – a ten-year total of 26 million units. This is the specific target of the history-making Housing and Urban Development Act of 1968.
- We will give the highest priority to Federally assisted homebuilding for low-income families, with special attention given to ghetto dwellers, the elderly, the physically handicapped, and families in neglected areas of rural America, Indian reservations, territories of the United States and migratory worker camps. All federal subsidy programs – whether in the form of public housing, interest rates at 1% rent supplements, or direct loans – will be administered to favor these disadvantaged families.
- We will cooperate with private home builders to experiment boldly with new production technology, with financial institutions to marshall capital for housing where it is most needed, and with unions to expand the labor force needed for a doubling of production.
- Above all, we will work toward the greatest possible freedom of choice – the opportunity for every family, regardless of race, color, religion, or income, to choose home ownership or rental, high-rise or low-rise, cooperatives or condominiums, detached or town house, and city, suburban or country living.

- We urge local governments to shape their zoning laws and building codes to favor consumers and hold down costs.
- Rigid enforcement of State and local health and building codes is imperative to alleviate conditions of squalor and despair in deteriorating neighborhoods.

Democrats are proud of their housing record. But we are also painfully aware of how much more needs to be done to reach the final goal of decent shelter for all Americans and we pledge a steadfast pursuit of that goal.

The Inner City. In the decaying slums of our larger cities, where so many of our poor are concentrated, the attack on poverty must embrace many interrelated aspects of development – economic development, the rehabilitation or replacement of dilapidated and unsafe housing, job training and placement, and the improvement of education, health, recreation, crime control, welfare, and other public services.

As the framework of such an effort, we will continue to support the Model Cities program under which communities themselves are planning and carrying out the most comprehensive plans ever put together for converting their worst slum areas into model neighborhoods – with full participation and leadership by the neighborhood residents themselves. The Model Cities program will be steadily extended to more cities and more neighborhoods and adequately financed.

The resources and leadership of private enterprise must be marshalled in the attack on slums and poverty, and such incentives as may be essential for that purpose we will develop and enact.

Some of the most urgent jobs in the revival of the inner city remain undone because the hazards are too great and the rewards too limited to attract sufficient private capital. To meet this problem, we will charter a new federal banking structure to provide capital and investment guarantees for urban projects planned and implemented through local initiative – neighborhood development corporations, minority programs for self-employment, housing development corporations, and other urban construction and planning operations. We will also enact legislation providing tax incentives for new business and industrial enterprises in the inner city. Our experience with aid to small business demonstrates the importance of increased local ownership of business enterprises in the inner city.

We shall aid the universities to concentrate their resources more fully upon the problems of the cities and facilitate their cooperation with municipal agencies and local organizations in finding solutions to urban problems.

. . .

The resources of private enterprise – not only its economic power but its leadership and ingenuity – must be mobilized. We must marshal the power that comes from people working together in communities – the neighborhood communities of the poor and the larger communities of the city, the town, the village, the region.

We support community action agencies and their programs, such as Head Start, that will prevent the children of the poor from becoming the poor of the next generation.

We support the extension of neighborhood centers. We are committed to the principle of meaningful participation of the poor in policy-making and administration of community action and related programs.

Republican

Crisis of the Cities. For today and tomorrow, there must be – and we pledge – a vigorous effort, nation-wide, to transform the blighted areas of cities into centers of opportunity and progress, culture and talent.

For tomorrow, new cities must be developed – and smaller cities with room to grow, expanded – to house and serve another 100 million Americans by the turn of the century.

The need is critical. Millions of our people are suffering cruelly from expanding metropolitan blight – congestion, crime, polluted air and water, poor housing, inadequate educational, economic and recreational opportunities. This continuing decay of urban centers – the deepening misery and limited opportunity of citizens living there – are intolerable in America. We promise effective, sustainable action enlising new energies by the private sector and by governments at all levels. We pledge:

- Presidential leadership which will buttress state and local government;
- Vigorous federal support to innovative state programs using new policy techniques such as urban development corporations, to help rebuild our cities;
- Energetic positive leadership to enforce statutory and constitutional protections to eliminate discrimination;
- Concern for the unique problems of citizens long disadvantaged in our total society by race, color, national origin, creed, or sex;
- A greater involvement of vast private enterprise resources in the improvement of urban life, induced by tax and other incentives;
- New technological and administrative approaches through flexible federal programs enabling and encouraging communities to solve their own problems;
- A complete overhaul and restructuring of the competing and overlapping jumble of federal programs to enable state and local governments to focus on priority objectives.

These principles as urgently apply to rural poverty and decay. There must be a marked improvement of economic and educational opportunities to relieve widespread distress. Success with urban problems in fact requires acceleration of rural development in order to stem the flow of people from the countryside to the city.

Air and water pollution, already acute in many areas, requires vigorous state and federal action, regional planning, and maximum cooperation among neighboring cities,

counties and states. We will encourage this planning and cooperation and also spur industrial participation by means of economic incentives.

Skyrocketing building costs and interest rates have crippled home building and threaten a housing crisis in the nation, endangering the prospect of a decent home and a suitable living environment for every family. We will vigorously implement the Republican-conceived homeownership program for lower income families and also the Republican-sponsored rent certificate program. Economic incentives will be developed to attract private industry and capital to the low-cost housing market. By reducing interest rates through responsible fiscal and monetary policy we will lower the costs of homeownership and new technologies and programs will be developed to stimulate low-cost methods of housing rehabilitation. Local communities will be encouraged to adopt uniform, modern building codes, research in cost-cutting technology through private enterprise will be accelerated, and innovative state and local programs will be supported. We will also stimulate the investment of "sweat equity" by homeowners.

The inability of the poor to cope meaningfully with their environment is compounded by problems which blunt opportunity – inadequate income, inferior education, inadequate health care, slum housing, limited job opportunities, discrimination, and crime.

Full opportunity requires a coordinated attack on the total problem through community human development programs. Federal revenus sharing would help provide the resources to develop such coordinated programs.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 28% as compared to total NBA reductions for all functional fields of 10%. This reduction still left appropriations for this field substantially above the previous year, and therefore primarily reflected a difference between Congress and the Administration on how much of an increase was appropriate. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) compared with the overall Congressional NBA reduction of 10%.

Programs Increased, %	
Metropolitan Development	+1.0

Selected Programs Reduced >10.0%	
HUD Renewal and Housing Assistance	-35.8
HUD Demonstrations and Intergovernmental Relations	-38.0
OEO Community Action Programs	-10.6
District of Columbia	-15.9

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

In addition, Congress refused to authorize the sale of almost $1.6 billion of participation certificates requested by the Administration. Congressional action in this field, other than appropriations, centered on the Housing and Urban Development Act of 1968, one of the few major pieces of new legislation passed in 1968. This Act is discussed in detail earlier in this chapter.

The Likely Future (The Next Decade)

Table XIII-5 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- It is likely that expenditures for the Housing and Community Development functional field will continue to grow at well above average rates and that the field will rise in rank from 11 (out of 13) in 1969, although recent Congressional appropriations actions raise some doubt in this regard.
- All subfunctions in this field are likely to continue to grow at well above average rates. Within the Urban Renewal and Community Facilities subfunction (82.0% of the total field) the Community Action Programs (under OEO) is the only program with just above average growth and all other programs are well above average.
- Growth in R&D associated with this field is also likely to be at well above average rates; but R&D is a very small part of total expenditures.

References

(1) Housing Act of 1949, as quoted in The Budget in Brief, FY 1969, p. 40.

(2) Dwight D. Eisenhower, State of the Union Message, January 7, 1960.

(3) John F. Kennedy, Housing and Community Development Message, March 9, 1961.

(4) Lyndon B. Johnson, Housing and Urban Development Message, March 2, 1965.

(5) Lyndon B. Johnson, State of the Union Message, January 17, 1968.

(6) Lyndon B. Johnson, Economic Report, February 1, 1968.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE XIII-5. HOUSING AND COMMUNITY DEVELOPMENT – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total	Total Gross Expenditures: Change, % 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total	Total R&D Conduct Expenditures: Change, % 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Comments
Urban Renewal and Community Facilities	2,276	82.0	+88	Well Above	Well Above	45	92.3	+105	Well Above	Well Above	
HUD Urban Renewal	699	25.2	+89	Well Above	Well Above						
HUD Model Cities	250	9.0	See Comments								New program.
Other HUD	333	12.0	+266	Well Above	Well Above	16	33.1	+252	Well Above	Well Above	Open space, Urban planning, Public facilities, Research and Technology.
Community Action Programs (OEO)	994	35.8	+33	Above	Above	29	59.2	+66	Well Above	Well Above	
Public Housing Programs	350	12.6	+39	well Above	Well Above						
National Capital Region	104	3.7	+58	Well Above	Well Above						
Aids to Private Housing[a]	32	1.2	See Comments			4	7.8	+58	Well Above	Well Above	Includes rent supplements, a new program.
Proposed Legislation	14	0.5	See Comments								Additional funds for multiple programs.
Subtotal	2,776	100.0	+84	Well Above	Well Above	49	100.0	+100	Well Above	Well Above	
Aids to Private Housing[a]	-485										
Total	2,291										
Total Federal Government			+17					+4			

(a) Because most Aids to Private Housing expenditure figures are negative (i.e., income from loan guarantee premiums), these figures have not been included in the Subtotal for purposes of percentaging. The figures included are supplements to the private market, such as rent supplements.

APPENDIX XIII-A

HOUSING AND COMMUNITY DEVELOPMENT
RESEARCH AND DEVELOPMENT

APPENDIX XIII-A

HOUSING AND COMMUNITY DEVELOPMENT
RESEARCH AND DEVELOPMENT

TABLE XIII-A-1. HOUSING AND COMMUNITY DEVELOPMENT R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA

Program Areas	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Urban Research and Technology Program (Formerly Urban Studies and Housing Research)	1966	0.3		
	1967	0.7	+ 0.4	+ 133.3
	1968	3.0	+ 2.3	+ 328.6
	1969	7.3	+ 4.3	+ 143.3
Low Income Housing Administration[a]	1966	0.2		
	1967	2.4	+ 2.2	+ 1,100.0
	1968	1.8	- 0.6	- 25.0
	1969	3.8	+ 2.0	+ 111.1
Other (Urban Renewal, Urban Planning, Open Spaces)[a]	1966	--		
	1967	3.9		
	1968	7.2	+ 3.3	+ 84.6
	1969	8.9	+ 1.7	+ 23.6
Office of Economic Opportunity[b] (One-half of Total)	1965	2.1		
	1966	8.4		
	1967	17.5	+ 9.1	+ 108.3
	1968	26.0	+ 8.5	+ 48.6
	1969	29.0	+ 3.0	+ 11.5

(a) Program data not available prior to 1966.
(b) New agency created in 1965.

Housing and Community Development, Summary of Official Program Descriptions*

The Department of Housing and Urban Development

This department was created in November, 1965, from the Housing and Home Finance Agency, which first reported R&D in 1962. This new cabinet level department was established to coordinate all executive departments and all Federal agency functions or activities directly affecting urban-suburban problems and to assure planning for the sound development of metropolitan areas. Directly administered programs include community disposition activities, urban studies and housing research, low-income housing demonstrations, and community development training programs, a study of housing and building codes, zoning, tax policies and development standards and study of natural disaster assistance as provided in the Southeast Hurricane Disaster Relief Act of 1965. In addition the Department participates in community facilities programs, and urban transportation programs.

Urban Research and Technology. The research program includes studies designed to accelerate the application of technological innovations to housing and urban development. The objective is to test and demonstrate innovations which promise cost reductions and more systematic ways of solving problems of housing and community development, as well as to encourage and promote the acceptance and application of new and improved techniques and methods of constructing, rehabilitating, and maintaining housing and advancing the state of urban technology.

The program for such studies and research is carried out primarily through contracts with other Federal agencies, educational institutions, nonprofit private research organizations, and private corporations.

This appropriation also finances the cost of administration of the research activities described herein. Also included are the costs of administration of related research activities such as the low-income housing demonstration grant program, urban renewal demonstrations, urban planning research and demonstrations, surveys of public works planning, and studies and publications under the open space land programs.

Low Income Housing Demonstration Programs. Grants to public or private bodies or agencies to develop and demonstrate new or improved means of providing housing for low income persons and families, including handicapped families, are authorized by the Housing Act of 1961 (42 U.S.C. 1436), as amended. Demonstration projects under this program test new approaches in construction design and methods to lower construction costs, new or improved ways of rehabilitating and upgrading sound but deficient structures, means of facilitating home ownership by low-income families, and ways of providing technical advice and packaging assistance to nonprofit sponsors of low and moderate income housing.

Urban Mass Transportation Program. On February 26, 1968, President Johnson submitted his second reorganization plan of 1968 transferring urban mass transportation

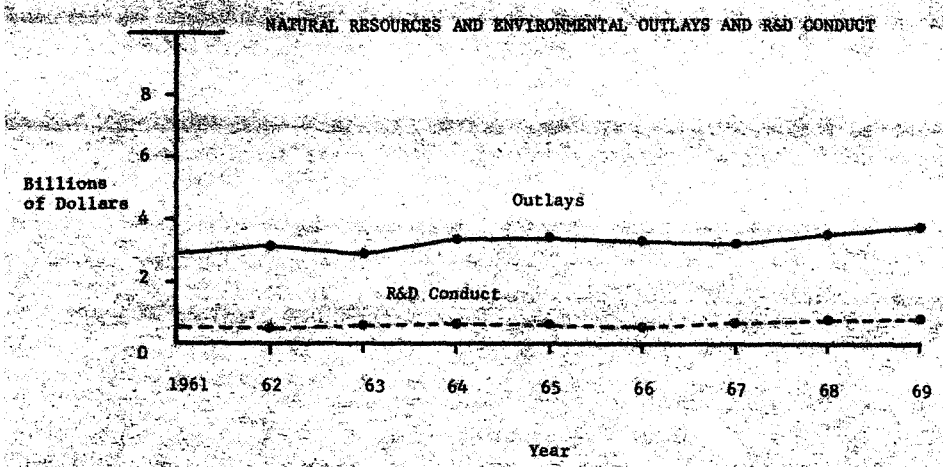
*Edited excerpts from The Budget.

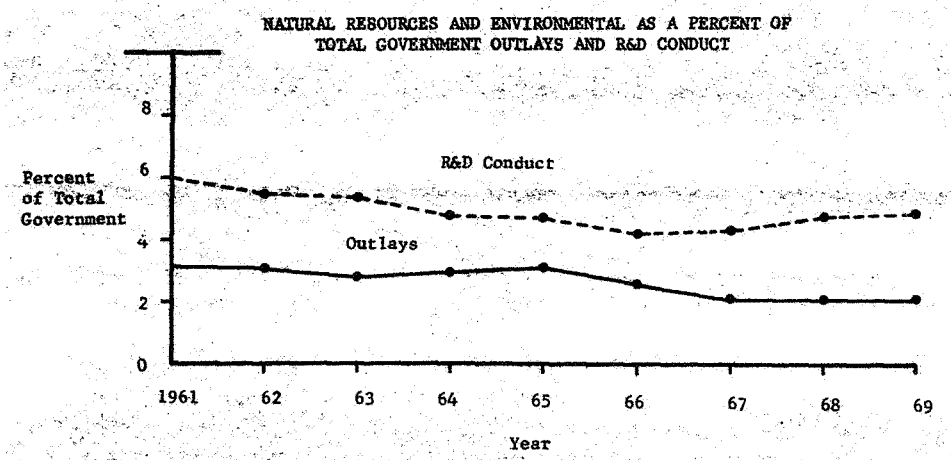
programs. Under this new organization, an Urban Mass Transportation Administration would be established within the Department of Transportation, and would incorporate the Urban Mass Transportation programs formerly under the cognizance of the Department of Housing and Urban Development. However, the reorganization provides that HUD will provide assistance on problems and planning in connection with transportation research insofar as these have significant impact on urban development. The overall responsibilities of HUD with respect to cities is not to be diminished. Adequate authority has been reserved to HUD to enable it to join with the Department of Transportation to assure that urban transportation develops as an integral component of the broader development of growing urban areas. Unless Congress specifically disapproves this proposed reorganization, the new Urban Mass Transportation Administration will come into existence on June 30, 1968.

Other Agencies

Office of Economic Opportunity (One-Half of OEO Total). In addition to planning and action grants, OEO is provided with funds to support research, training and demonstration programs. The appropriation finances research into the cause of poverty and the regional and local variations in the patterns of poverty. In 1969 research and demonstration funds will be used to demonstrate new techniques for attacking poverty, to evaluate existing programs and to study the causes of poverty.

Chapter XIV. NATURAL RESOURCES AND ENVIRONMENTAL FUNCTIONAL FIELD





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CHAPTER XIV. NATURAL RESOURCES AND ENVIRONMENTAL FUNCTIONAL FIELD

The Field as a Whole

The functional field of Natural Resources in The Budget includes programs for the conservation, development, and improvement of mineral and other land resources, water quality and supply, forests, fish and wildlife, and recreational areas. This categorization has been modified to include the nonmilitary/space work performed by the Atomic Energy Commission (AEC), and to include Environmental Science Services Administration (ESSA), which seeks knowledge about the atmosphere, the oceans, and the earth. ESSA includes activities of the Weather Bureau, the Coast and Geodetic Survey, and the Radio Propagation Laboratory. The field has also been retitled as "Natural Resources and Environmental". One area which The Budget includes under Natural Resources, but which, it would appear, belongs more properly in the Welfare functional field, is activities related to American Indians.

The area of natural resources has been an area of long-standing concern to the Federal Government in its desire, originally, to encourage expansion of settlement across the continent, and, more recently, to conserve resources and to exercise some control over the adverse environmental effects of the increased use of our natural resources, which is indicated above by adding "environmental" to the field title. In its contribution to the three major national goals set forth in Chapter I, the field of Natural Resources and Environmental (hereafter referred to simply as Natural Resources) contributes primarily to the supergoal of Economic Development, as, for example, in provision of energy supplies vital to almost every industry in our economy, or to water supply necessary for irrigation and industry. It also contributes secondarily, but in crucial respects, to National Security, as evidenced by the periodic concern over strategic stockpiles to reduce dependence on foreign supplies of various raw materials vital to our defense materiel. The relationship of this field to the third supergoal of Public Welfare is less direct but is linked to the field of health by the increasing concern over dangers to health from various forms of pollution.

As would be expected because of the historical role of the Government in this field and because of its contribution to our national goals of Economic Development, National Security, and Public Welfare, frequent references are made to this area in Presidential messages and in party platforms. During the 1959 to 1968 period, eight Presidential messages were delivered to Congress in the field of Natural Resources – four of these in the last two years of the period. In covering Presidential messages during the first year of each President's period of tenure (i.e., Eisenhower, 1953; Kennedy, 1961; Johnson, 1965), it was found that Natural Resources was one of the areas to which all three incoming Presidents addressed themselves in special messages to Congress. Although goals as articulated in Presidential messages tend to be very generalized and utopian, these do often recommend programs which are later passed by Congress. Discussion of these programs will be included in the individual sections by subfunction.

The allocation of Government funds to this functional field shows, however, that relative to other areas of Government interest, Natural Resources has not been among

TABLE XIV-1. NATURAL RESOURCES AND ENVIRONMENTAL OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, AND 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1968 Estimate
Expenditures			
Land and water resources			
Corps of Engineers[a] (Army)	1,301	1,341	1,313
Department of the Interior:			
Bureau of Reclamation[a]	300	291	299
Power marketing agencies[a]	133	147	153
Federal Water Pollution Control Admin.	130	190	248
Office of Saline Water[a]	17	31	41
Office of Water Resources Research	6	9	11
Bureau of Land Management[a]	87	83	76
Tennessee Valley Authority	102	109	150
Department of Agriculture			
Soil Conservation Service-watershed projects	108	106	93
International Boundary & Water Commission	27	22	15
Federal Power Commission and other[a]	17	22	25
Forest resources			
Forest Service[a] (Agriculture)	461	495	470
Bureau of Land Management (Interior)	21	22	22
Recreational resources			
Bureau of Outdoor Recreation[a] (Interior)	68	105	160
National Park Service & other[a] (Interior)	126	140	148
Fish & wildlife resources[a] (mostly interior)	136	153	158
Mineral resources			
Bureau of Land Management (Interior)	48	50	50
Bureau of Mines and other[a] (Interior)	73	83	80
General resource surveys & administration[a] (Interior)	93	102	112
Nuclear energy (AEC)	1,132	1,167	1,273
Environmental:ESSA (Commerce)	176	168	177
Interfund and intragovernmental transactions(-)	-22	(b)	-1
Applicable receipts from the public (-)	-1,410	-1,348	-1,381
Subtotal, expenditures	3,133	3,490	3,694
Net Lending			
Land and water resources	18	15	6
Other	--	--	1
Subtotal, net lending	18	15	7
Total outlays	3,151	3,505	3,701

Source: Edited excerpts from The Budget.

(a) Includes both Federal funds and Trust funds.
(b) Less than $500 thousand.

the most favored fields in the 1960's. Table II-2 in Chapter II shows outlays for the Natural Resources field from 1961 to 1969, and the percent of total for each year. The highest percent was 3.1%, and since 1965 there has been a decrease to 2.1% – a decrease of 1.0%. This occurred, despite a growth in actual outlays from $2.9 billion to $3.7 billion, because other fields were growing much faster. In allocation by fields, Natural Resources ranked twelfth (of 13) in 1969, down from eighth in 1961.

From the standpoint of research and development, Natural Resources presents a much different picture. When R&D conduct expenditures are examined, Natural Resources is in a stronger relative position in absolute rank of R&D monies and in importance to the field. For example, although only twelfth in rank for the whole field among other fields, Natural Resources ranks fifth in importance (1969) in R&D – down, however, from second in 1961. Natural Resources R&D, then, is still among the more important fields for R&D funds, though its position relative to other fields has slipped, as it has in total outlays.

In importance of R&D to its respective functional field, Natural Resources also ranks high – and R&D has been of increasing importance to the field over the 1961 to 1969 period. In 1961, R&D conduct expenditures accounted for 18.3% of all Natural Resources expenditures, which placed it fourth in terms of importance of R&D to the field. In 1969, estimated R&D conduct expenditures comprise 22.2% of all Natural Resources expenditures, placing it second in importance of R&D to the field.

A more detailed look at overall outlays for Natural Resources appears in Table XIV-1 which shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down by subfunctions and by areas under these subfunctions. A glance at this Table shows that the Interior Department has the widest interest in the Natural Resources field, with responsibility for most of the line items appearing in the Table. But, in outlays, the Army (Corps of Engineers) and AEC (Nuclear Energy) are not far behind, though their interests are not as diverse as those of the Interior Department. The Agriculture Department (Forest Service and Soil Conservation Service), Commerce Department (ESSA), and Tennessee Valley Authority also have important responsibilities in this field.

Total outlays for 1969, by major agency, for Natural Resources are indicated below in Table XIV-2:

TABLE XIV-2. 1969 NATURAL RESOURCES AND ENVIRONMENTAL OUTLAYS BY AGENCY

Agency	$ Millions	Percent of Total
Interior	1,556	30.7
Army	1,313	25.9
AEC	1,273	25.1
Agriculture	563	11.1
Commerce	177	3.5
TVA	150	3.0
Other	42	0.8
Total Gross Expenditures	5,074	100.0
- Applicable receipts from public	-1,381	
	3,693	
+ Net Lending	7	
Total Outlays	3,700	

The following sections will treat the elements that make up the Natural Resources field more fully in terms of objectives, policy, and programs. The areas discussed will be Land and Water Resources, Forest Resources, Recreational Resources, Fish and Wildlife Resources, Mineral Resources, General Resource Surveys, Nuclear Energy, and Environment.

Land and Water Resources

The largest area in the Natural Resources field is land and water resources, which involves a number of activities in the Interior Department, the Army Corps of Engineers, TVA, Soil Conservation Service of Agriculture, and a few others. The Federal Government is interested in water for irrigation, industrial and general public use, and as a source of power. It has financed water projects and extensive construction to satisfy these needs. Increasing competition among various user groups for fresh water has changed water from its prior status as a "free" good and has increased emphasis on multiple-purpose projects and more comprehensive management of our water supply. Research has been an important element in attempts to make better use of our water supplies, both in overcoming problems of pollution and in creating new sources of supply through conversion of salt water, or brackish water, to fresh water.

Whereas the Eisenhower Administration placed emphasis on local, rather than Federal, action in water resource and power problems, and particularly, in the construction of water and power projects, the Kennedy Administration moved toward a much more active Federal role in such projects and more public power systems and nonprofit rural electric cooperatives. Increased emphasis was placed on multipurpose projects and development of comprehensive plans for major river systems. In 1964, the Water Resources Research Act was passed to help in using existing supplies to best advantage. But, in both 1966 and 1967, final action was delayed on a bill to establish a non-federal National Water Commission to review U.S. water resource problems, including more efficient use of water, reduction of pollution, desalinization, weather modification, and economic and social consequences of water resource development. This bill was passed in 1968.

The first Federal anti-water-pollution bill was passed in 1948, and was administered by the Public Health Service. It provided for grants to states to plan and loans to construct sewage and waste-treatment works, and for research by states and by the Federal Government. This 1948 Act was later amended to provide grants for construction of plants. It was not until 1965 that the next major amendments were made, creating a Federal Water Pollution Control Administration (originally in PHS-HEW and later transferred to Interior) to administer anti-pollution activities, to provide grants to states for demonstration projects, and to recommend (or set, in the absence of state action) water quality standards for interstate waters.

The saline water program was started in 1952, with expansions to the research program being added in 1955 and 1961. In 1958, legislation was enacted authorizing the construction of five Federal demonstration plants, two to convert brackish water and three to convert sea water. Each plant was to use a different method of conversion. In 1967 Congress authorized the Interior Department to participate, along with the AEC and a few private utilities, in construction of a nuclear power and water desalting plant in California. The Office of Science and Technology in 1964 predicted that, with a strong

R&D program, it would be possible, by about 1975, to build combined nuclear energy power – saline water conversion plants at a cost low enough to make saline water conversion an economic possibility for use as municipal water supply.

The Federal interest in oceanography has increased substantially in the 1960's, with the realization of the new strategic importance and potential economic value of the oceans. As the frontiers of space began to open up, the frontiers of the oceans occurred to many as the next logical step. Discussion was stimulated by, and often focused on, recommendations made by the National Academy of Sciences Committee on Oceanography in their 1959 report, "Oceanography – 1960 to 1970".[1]* Interior and ESSA have major interests in this area and it is therefore discussed here in the Natural Resources functional field, but the largest expenditures are actually in connection with National Security – especially anti-submarine warfare – and appear under that functional field. Although funding increased substantially and coordination of the various agency programs improved somewhat, basic policy and legislation for oceanography was still in a state of flux in 1968. An Interagency Committee on Oceanography of the Federal Council for Science and Technology was created in 1959 in an attempt to reduce overlapping programs. Controversy continued on how best to coordinate various oceanography programs, and in 1966 Congress passed the Marine Resources and Engineering Development Act, setting forth policy in this area "to develop, encourage, and maintain a coordinated, comprehensive, and long-range national program in marine science for the benefit of mankind to assist in:

> Protection of health and property
>
> Enhancement of commerce, transportation, and national security
>
> Rehabilitation of our commercial fisheries, and
>
> Increased utilization of these and other resources."

This bill also set up a temporary National Council on Marine Resources to coordinate activities and a temporary Commission to advise on an overall program and appropriate structure. A second bill, the National Sea Grant College and Program Act of 1966, authorized grants to colleges and universities. The National Council in 1967 issued a report[2] recommending nine broad areas (not agency programs) for immediate priority or increased emphasis: international cooperation, food from the sea, sea grant programs, data systems study, estuary study, surveys of mineral resources, ocean observation and prediction, deep ocean technology, and subpolar oceanographic research. The temporary Commission's report (as distinguished from the Council's) is to be issued by January, 1969. A second report was published in 1967, by the National Academy of Sciences, "reasserting or extending" recommendations made in their 1959 report, and recommending that the United States adopt a comprehensive national ocean policy to increase understanding and use "at as rapid a rate as is consistent with other national goals," and providing programs and funding to pursue the national policy.[3] More clarity may emerge in Federal policy and structure in oceanography after the Commission issues its report, but, whether it does or not, oceanography is likely to be of continually increasing concern to the Government, both in the fields of Natural Resources and of National Security.

*Superscript numbers denote References at the end of this Chapter.

The Tennessee Valley Authority (TVA), established amid controversy in 1933, has remained in controversy, especially in relation to its function in the electrical power field. TVA had been established in 1933 to help improve the economy of the region by supplying low-cost electricity, improving farming and forestry, and controlling floods. Controversy has continued, as TVA has expanded its generating facilities, as to whether TVA or privately owned public utilities should meet new power requirements of the area. Although TVA has been a favorite object of attack by some Congressmen, the objective of carrying out a comprehensive development program for the area continues.

About 280 million acres of federally owned land are set aside for special uses such as national parks and forests, and military bases. Other federally owned lands, about 490 million acres largely located in the West and in Alaska, are considered as "the public lands", administered by the Bureau of Land Management. Although federal policy once emphasized disposal of these lands to individuals or to state and local governments, present policy emphasizes retention for public needs and use, multiple-use where possible, and management of resources on these lands to sustain or increase their yields. In 1964, Congress set up a Public Land Law Review Commission to recommend national policy on public land management and disposal. In 1967, Congress extended the life of the Commission to the end of 1970 to enable it to complete its studies.

The above discussion, in an attempt to summarize the elements of land and water resources, may make them seem of equal importance in funding. As Table XIV-1 shows, expenditures by the Army Corps of Engineers, largely for construction projects, make up over half of the 1969 expenditures for this subfunction.

Forest Resources

Expenditures under this subfunction are largely those by the Forest Service of the Department of Agriculture, which is responsible for management and use of the 187 million acres of national forests and grasslands, for forestry research, and for advice and help toward good management and use of privately owned forest resources. Policy, as with many other natural resources, centers on multiple-use and sustained yield.

Recreational Resources

The National Park Service and the Bureau of Outdoor Recreation, both in Interior, make up this subfunction. The National Park System, consisting of more than 25 million acres of land, has the objectives of preserving areas of special natural beauty or interest, of historical importance, or for outdoor recreation. Since the creation of Yellowstone in 1872, it has been a principle of park management that commercial exploitation is generally excluded from the park system. The Bureau of Outdoor Recreation was established by law in 1963 in recognition of the need for planning of future recreational needs and resources. It has the responsibility of formulating and maintaining a comprehensive plan for outdoor recreation development by all levels of government. In response to the growing population and rising pressures on available outdoor recreational facilities, the Government has further developed the policy of multiple-use of Government lands to include recreation, and has attempted to acquire undeveloped areas for preservation for the future.

Fish and Wildlife Resources

Two bureaus in Interior (i.e., the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife) administer most of the funds under this subfunction. The function of the Bureau of Commercial Fisheries is to strengthen the fishing industry and conserve fishery resources. The Bureau of Sport Fisheries and Wildlife is responsible for conserving these resources and developing a national program for their use. Problems requiring legislative action since World War II have included threats to fishery resources from pollution and pesticides and from water project construction, and competitive decline of the U.S. fishing fleet. Research has grown in its contribution to the solution of many of the problems involved.

Mineral Resources

Although expenditures in this subfunction (by the Bureau of Mines and the Bureau of Land Management) are less than those of the other subfunctions already discussed, this is largely because the Federal Government has less direct responsibility for development of these resources, which are nonrenewable and are exploited by private industry. The importance of mineral resources to the national economy and security, however, is far greater than these relative expenditures would indicate, and the Government has a large stake in their development and utilization. One of the major objectives with regard to mineral resources (including fuels - oil, coal, gas - metals, and other nonfuel minerals) is maintenance of an adequate supply that is economically feasible to exploit. This objective has been pursued through research and exploration, subsidies, stock-piling, market control, and management practices on Federal lands.

Concern over "using up" our mineral resources has existed for many years, partly allayed by availability of foreign supplies, discovery of new supplies, better techniques for extraction and use, substitutability of other minerals or materials, and more efficient processes. But, with growing population and expanding industrial needs, the maintenance of adequate supplies at reasonable cost is a continuing concern of the Government over the long-term. In the short-term, a recent problem has been just the reverse - oversupply of many minerals, especially as overseas supplies were developed, creating difficult market conditions for our domestic suppliers. This has created policy conflicts because of the desire to maintain a strong domestic minerals industry but also the desire to lower trade barriers, and conserve our own supplies.

On the fuels side of mineral resources, the major policy problem has been to find a suitable role for the Government in this very competitive field. The Government is interested in maintaining multiple sources for energy, without directly intervening in the market. This has placed it in a difficult position between the various fuel industries, first as oil and gas began to overtake coal as a source of energy, and more recently as nuclear energy, developed largely with Government R&D funds, promises to take a major share of future facilities.

General Resource Surveys and Administration

These expenditures are made largely by the Geological Survey, which was established in 1879 to provide for the "classification of the public lands and the examination of the geological structure, mineral resources, and products of the national domain".(4) In 1962 this was expanded to allow investigations outside the national domain.

Nuclear Energy

After World War II the Army Manhattan District began studies on nuclear reactors for nonweapons use. This work was extended by the AEC after its creation in 1946 and has continued ever since, with a hallmark being the Atomic Energy Act of 1954, which enabled private industry, under AEC licenses, to build and operate nuclear power plants, designed ultimately to foster the development of commercially competitive electricity using nuclear reactors. In 1955 the Cooperative Power Demonstration Reactor Program was initiated, providing Federal aid for such demonstration plants by private industry. A 12-year development program was announced by AEC in 1962. The aim was to make nuclear electric power commercially feasible in high-cost power areas by 1968 and in most areas during the 1970's, and use of breeder reactors in the 1980's. The thought was that, by the year 2000, nuclear power would supply about half the country's needs for electricity, at the same time that increasing demands would still keep conventional fuels commercially competitive. Because conventional sources of fuel are ultimately of limited quantity and nuclear fuels almost unlimited, the Government has moved ahead since World War II to develop this resource. But, in the short run, it may create serious problems of adjustment in the other fuel industries. This has led to continuing debate and rancor over the Government's role. As nuclear energy has moved toward commercial feasibility, various steps have been taken or are contemplated to reduce dependence on Government support. In 1964, legislation was passed requiring nuclear-electric power plants to purchase nuclear fuels at a fair market rate rather than leasing them at low rates from the AEC. Legislation is currently under consideration that would end reactor building under R&D licenses and require that all licenses come under commercial rules, which would subject them to antitrust review and to the "preference clause" in the 1954 legislation whereby a license would go to a public power body if two applications are in competition in the same high-cost area. This change is supported by both the AEC and the Joint Committee on Atomic Energy but is causing major concern in the nuclear and private power industries.

Environmental

A reorganization plan in 1965 combined the Weather Bureau, the Coast and Geodetic Survey and the Radio Propagation Laboratory into the present Environmental Science Services Administration. ESSA seeks to improve understanding of the atmosphere, the oceans, and the earth to provide weather forecasts and warnings, flood warnings, earth and marine descriptions and maps, and information on atmospheric conditions that affect man or materials in space. R&D is of considerable and growing importance to ESSA, including the use of weather satellites.

This completes description of some of the activities, legislation, and policy in the Natural Resources functional field. Estimated 1969 expenditures for the subfunctions discussed, before exclusion of adjustments, are shown in Table XIV-3.

TABLE XIV-3. 1969 NATURAL RESOURCES AND ENVIRONMENTAL OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions	Percent of Total
Expenditures		
Land and water resources	2,424	47.8
Nuclear energy	1,273	25.1
Forest resources	492	9.7
Recreational resources	308	6.1
Environmental (ESSA)	177	3.5
Fish & wildlife resources	158	3.1
Mineral resources	130	2.6
General resource surveys & admin.	112	2.2
	5,074	100.0
Adjustments	-1,382	
Subtotal, expenditures	3,694	
Net lending		
Land and water resources	6	
Other	1	
Subtotal, Net lending	7	
Total Outlays	3,701	

Research and Development

As noted in the beginning of this chapter, R&D has been in a stronger relative position in this field vis-à-vis other fields than has the overall field. In R&D, Natural Resources ranks fifth in importance, as opposed to twelfth for the field as a whole. However, the relative position of each has fallen since 1961. It was also noted earlier that R&D ranks high in importance in terms of percent of total outlays in the field of Natural Resources, comprising over 20% of all expenditures in 1969, second in importance only to Space. Table XIV-4 shows the various program areas of R&D in Natural Resources and their estimated 1969 R&D conduct expenditures and percent of total.

Detailed expenditure information on these program areas from 1961 to 1969 and research program descriptions for each of them appear in the appendix to this chapter. Table XIV-4 shows the clear predominance of the AEC civilian reactor development program in Natural Resources research and development, with 62% of total 1969 funds.

If the R&D program areas in Table XIV-4 are combined according to the subfunctions shown in Table XIV-1, the relationship shown in Table XIV-5 emerges.

TABLE XIV-4. 1969 NATURAL RESOURCES AND ENVIRONMENTAL R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Rank	Program Area	Agency	$ Millions	Percent of Total
1	Reactor Development	AEC	510.0	62.0
2	Fish and Wildlife	Interior	50.4	6.1
3	Forest Service	Agriculture	42.2	5.1
4	Federal Water Pollution Control Administration (FWPCA)	Interior	39.8	4.8
5	Geological Survey	Interior	36.4	4.4
6	Bureau of Mines	Interior	34.6	4.2
7	Office of Saline Water	Interior	27.4	3.3
8	Environmental Science Services Administration (ESSA)	Commerce	23.3	2.8
9	Other Interior R&D	Interior	16.7	2.0
10	Civil Functions	Other Defense	12.6	1.5
11	Other AEC R&D	AEC	11.0	1.3
12	Office of Water Resources Research	Interior	11.0	1.3
13	Office of Coal Research	Interior	2.8	0.3
14	Other TVA R&D	TVA	2.0	0.2
15	Regional Water Quality Management	TVA	1.3	0.2
16	Air Pollution Studies	TVA	0.6	0.1
	TOTAL		822.1	100.0

TABLE XIV-5. 1969 NATURAL RESOURCES AND ENVIRONMENTAL R&D CONDUCT EXPENDITURES BY SUBFUNCTION

Subfunction	Percent of Total
Land and Water Resources	13.4
Forest Resources	5.1
Recreational Resources	--
Fish and Wildlife Resources	6.1
Mineral Resources	4.5
General Resource Surveys	4.4
Nuclear Energy	63.3
Environmental	2.8

Because of differences in relative importance of R&D to each subfunction, this distribution is very different from the total outlay distribution by subfunction in Table XIV-3. Obvious examples of the differences are the large portion of R&D in the nuclear energy program and, by contrast, the large portion of construction and maintenance outlays in the land and water resources programs. Additional R&D data are given in Table XIV-6.

Party Platforms

Because of the timeliness of the two major party platforms in this discussion of national goals, relevant sections of these platforms are reproduced below. Although they provide little guidance in priorities if all the promises cannot be kept, they are an indication of the interests of the two major political parties in the summer of 1968.

Democratic

Environment, Conservation, Resources. These United States have undergone 200 years of continuous change and dramatic development resulting in the most technologically advanced nation in the World. But with rapid industrialization, the nation's air and water resources have been degraded, the public health and welfare endangered, and the landscape scarred and littered, and the very quality of our national life jeopardized.

We must assure the availability of a decent environment for living, working, and relaxation.

To these ends we pledge our efforts:

- To accelerate programs for the enhancement of the quality of the nation's waters for the protection of all legitimate water uses, with special emphasis on public water supplies, recreation, fish, and wild life;
- To extend the national emission control program to all moving sources of air pollution;
- To work for programs for the effective disposal of wastes of our modern industrial society;
- To support the efforts on national, state, and local levels to preserve the historic monuments and sites of our heritage;
- To assist in planning energy production and transportation to fit into the landscape, to assure safety, and to avoid interference with more desirable uses of land for recreation and other public purposes;
- To continue to work toward abating the visual pollution that plagues our land;

TABLE XIV-6. CHANGES IN NATURAL RESOURCES AND ENVIRONMENTAL R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Area	Agency	Change, $ Millions			Change, %			Percent of Total Change		
		1969-1961	1969-1967	1969-1968	1969/1961	1969/1967	1969/1968	1969-1961	1969-1967	1969-1968
Total R&D		+295.9	+134.1	+56.9	+55.2	+19.5	+7.4			
Reactor Development	AEC	+110.1	+55.0	+28.0	+27.5	+12.1	+5.8	-14.0	-4.1	-1.0
Fish & Wildlife Service	Interior	+31.2	+9.9	+4.5	+162.5	+24.4	+9.8	+2.5	+0.2	+0.1
Forest Service	Agriculture	+24.7	+4.2	+3.5	+141.1	+11.1	+9.0	+1.8	-0.4	0
Federal Water Pollution Control Administration	Interior	+38.1	+24.2	+10.7	+2241.2	+165.1	+36.8	+4.5	+2.5	+1.0
Geological Survey	Interior	-5.8	+4.5	+2.4	-13.7	+14.1	+7.1	-3.6	-0.2	0
Bureau of Mines	Interior	+10.8	+4.5	+0.4	+45.4	+15.0	+1.2	-0.3	-0.2	-0.3
Office of Saline Water	Interior	+25.5	+15.4	+3.0	+1342.1	+128.3	+12.3	+3.1	+1.6	+0.1
Environmental Science Services Administration	Commerce	+14.5	+0.9	0	+164.8	+4.0	0	+1.1	-0.5	-0.2
Other Interior R&D	Interior	+14.4	+2.8	+0.5	+626.1	+20.1	+3.1	+1.6	0	-0.1
Civil Functions	DOD	+10.2	+4.6	+3.3	+425.0	+57.5	+35.5	+1.0	+0.3	-0.3
Other AEC R&D	AEC	+11.3	+2.0	-4.0	+105.6	+10.0	-15.4	+0.3	-0.2	-0.4
Office of Water Resources Research	Interior	(a)	+4.8	+1.6	(a)	+77.4	+17.0	(a)	+0.4	+0.1
Office of Coal Research	Interior	(b)	+1.1	+0.7	(b)	+64.7	+33.3	(b)	+0.1	0
Other TVA R&D	TVA	+1.4	+0.6	+0.2	+233.3	+42.9	+11.1	+0.1	0	0
Regional Water Quality Management	TVA	+0.9	+0.4	+0.1	+225.0	+44.4	+8.3	+0.1	+0.1	0
Air Pollution Studies	TVA	+0.4	+0.2	0	+200.0	+50.0	0	+0.1	0	0

(a) New division authorized in 1964, began operations in 1966.

(b) Compare 1961 data not available.

- To focus on the outdoor recreation needs of those who live in congested metropolitan areas;
- To continue to work toward strong measures for the reclamation of mined and depleted lands and the conservation of soil, to ensure the orderly use and development of mineral resources of federal lands, and to take steps to revise century-old mining laws which invite misuse of public lands while hampering vital mineral development.

Public Domain. We pledge continued support of the Public Land Law Review which is reviewing public land laws and policies to assure maximum opportunity for all beneficial uses of the public lands, including lands under the sea, and leading to development of a national land use policy.

We support sustained yield management of our forests, and expanded research for control of forest insects, disease, and fires.

We plan to examine the productivity of the public lands in goods, services, and local community prosperity, with a view to increasing such productivity.

We shall enforce existing federal statutes governing federal timber.

Recreation. We will continue to require vigorous expansion of the public recreational domain to meet tomorrow's increasing needs. We will add national parks, recreation areas and seashores, and create national systems of scenic and wild rivers and of trails and scenic roads. We will support a growing wilderness preservation of our redwood forests, and conservation of marshland and estuarine areas.

Recognizing that the bulk of the task of acquisition and development must be accomplished at the state and local levels, we shall foster federal assistance to encourage such action, as well as recreational expansion by the private sector. To this end, we shall build upon the landmark Land and Water Conservation Fund Act, which has assured a foundation of a recreational heritage for future generations. We will assist communities to rehabilitate and expand inadequate and deteriorating urban park systems, and to develop open space, waterways, and waterfront renovation facilities.

Resources of the Oceans. In and beneath the seas are resources of untold dimension for the benefit of mankind. Recognizing and protecting the paramount public interest in the seas, Congress, under Democratic leadership, enacted the Sea Grant College Act of 1965 and the Marine Resources and Engineering Development Act of 1966, which established for the first time a comprehensive long-range policy and program for the marine sciences. We pledge to pursue vigorously the goals of that Act. Specifically, we will:

- Foster marine application of new technology spacecraft, buoys, data networks, advanced navigation systems and develop an engineering capability to work on and under the sea at any depth;
- Encourage development of underseas resources by intensified research, better weather forecasting, and with recognition to the coastal, insular and other litoral states of their unique interest and responsibility;

- Foster an extensive program of oceanologic research and development, financed by a portion of the mineral-royalty receipts from the outer continental shelf;

- Accelerate public and private programs for development of food and other marine resources to meet world-wide malnutrition, to create new industries, and to utilize under-employed manpower living near the waterfront;

- Promote our fisheries by providing incentives for private investment enforcing our 12-mile fishing zone, and discouraging other nations from excessive territorial and fishery claims;

- Continue our leadership in the United Nations, and conclude an appropriate Ocean Space Treaty to secure rules and agreements that will facilitate investment by the public and private sectors, guarantee security of investment and encourage efficient and orderly development of the seas' resources.

Republican

Natural Resources. In the tradition of Theodore Roosevelt, the Republican Party promises sound conservation and development of natural resources in cooperative government and private programs.

An expanding population and increasing material wealth require new public concern for the quality of our environment. Our nation must pursue its activities in harmony with the environment. As we develop our natural resources we must be mindful of our priceless heritage of natural beauty.

A national minerals and fuels policy is essential to maintain production needed for our nation's economy and security. Present economic incentives, including depletion allowances, to encourage the discovery and development of vital minerals and fuels must be continued. We must recognize the increasing demand for minerals and fuels by our economy, help ensure an economically stable industry, maintain a favorable balance of trade and balance of payments, and encourage research to promote the wise use of these resources.

Federal laws applicable to public lands and related resources will be updated and a public land-use policy formulated. We will manage such lands to ensure their multiple use as economic resources and recreational areas. Additionally, we will work in cooperation with cities and states in acquiring and developing green space - convenient outdoor recreation and conservation areas. We support the creation of additional national parks, wilderness areas, monuments and outdoor recreation areas at appropriate sites, as well as their continuing improvement, to make them of maximum utility and enjoyment to the public.

Improved forestry practices, including protection and improvement of watershed lands, will have our vigorous support. We will also improve water resource information, including an acceleration of river basin commission inventory studies. The reclaiming of land by irrigation and the development of flood control programs will have high priority in these studies. We will support additional multi-purpose water projects for reclamation, flood control, and recreation based on accurate cost-benefit estimates.

We also support efforts to increase our total fresh water supply by further research in weather modification, and in better methods of desalinization of salt and brackish waters.

The United States has dropped to sixth among the fishing nations of the world. We pledge a reversal of present policies and the adoption of a progressive national fisheries policy, which will make it possible for the first time to utilize fully the vast ocean reservoir of protein. We pledge a more energetic control of pollution, encouragement of an increase in fishery resources, and will also press for international agreements assuring multi-national conservation.

We pledge a far more vigorous and systematic program to expand knowledge about the unexplored storehouses of the sea and polar regions. We must undertake a comprehensive polar plan and an oceanographic program to develop these abundant resources for the continued strength of the United States and the betterment of all mankind.

The 90th Congress

Congressional NBA appropriations have been allocated to the functional field concept used in this report.* The Congress reduced the NBA for this functional field by 6% as compared to total NBA reductions for all functional fields of 10%. This would indicate that Congress places somewhat higher priority for this functional field. Congressional NBA actions regarding individual line items in this field were highly variable. The following indicates the Congressional decisions regarding the most important line items (>$50 million in 1969 appropriations) in comparison to the overall Congressional NBA cut of 10%.

Programs Increased

Soil Conservation: Watershed programs + 60.4%

Selected Programs Cut <10%		Selected Programs Cut > 10%	
Bureau of Land Management	- 3.0	Bureau of Outdoor Recreation	- 30.0
Bureau of Mines	- 6.4	National Park Service	- 13.1
Geological Survey	- 6.4		
Fish and Wildlife Service	- 3.1		
Corps of Engineers	- 4.7		
Bureau of Reclamation	- 5.2		
Federal Water Pollution Control Administration	- 7.2		
Tennessee Valley Authority	0		
Atomic Energy Commission	- 6.7		
Environmental Science Services Administration	- 8.6		
Forest Service	- 2.4		

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

Aside from appropriations for this functional field, Congressional actions included:

- A bill authorizing water development projects in the Colorado River Basin at a cost of $1.3 billion.
- Established a National Water Commission to study water resources problems.
- Various bills designed to preserve parklands, rivers and scenic trails.

The Likely Future (The Next Decade)

Table XIV-7 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- There is little chance that the Natural Resources and Environmental Functional Field will rise to its 1961 rank of 8 from its present rank of 12 (out of 13 functional fields). Modest increases in funding dollars are likely to continue, but relative to other functional fields they are likely to be below average percent increases.
- However, if the functional field is considered in terms of its two major component parts, there is good reason to expect the Environmental portion to increase in importance and show above average increases and the Natural Resources portion to continue to decrease in importance and show below average increases.
- In terms of R&D interest, this functional field is likely to continue to be more R&D oriented than most (R&D accounting for 22% of all expenditures in 1969). Thus Natural Resources and Environmental R&D ranks 5th in 1969 while total outlays rank 12th. However, it is important to note that this ranking is substantially down from the 2nd place held in 1961. Because of the likely increased interest in the Environmental portion of this functional field and R&D associated with it, the downward movement in relative R&D rank is likely to stabilize in the future (especially post-Vietnam) and Environmental R&D is a major growth area.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE XIV-7. NATURAL RESOURCES AND ENVIRONMENT – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures: 1969 $ Millions	Total Gross Expenditures: Percent of Total Field	Total Gross Expenditures: Change, %, 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Total R&D Conduct Expenditures: 1969 $ Millions	Total R&D Conduct Expenditures: Percent of Total Field	Total R&D Conduct Expenditures: Change, %, 1967 to 1969	Growth Relative to Average: 1967 to 1969	Growth Relative to Average: Likely Future	Comments
Land and Water Resources	2,424	47.8	+9	Below	About average	95	11.5	+113	Well above	Well above	Likely future growth in total expenditures higher than past owing to increased priority for water pollution, water resources, watershed, and saline water activities.
Nuclear Energy	1,273	25.1	+12	Below	Below	521	63.4	+12	Well above	Well above	R&D over 40% of expenditures. Joint nuclear power and water conversion plants likely to continue to be of increased interest.
Forest Resources	492	9.7	+2	Well below	Well below	42	5.1	+11	Well above	Well above	Forest fire fighting and survey activities interest high and use of satellites for such applications could be of interest, but R&D funds small and other uses may have higher priority.
Recreational Resources	308	6.1	+59	Well above	Well above	(a)	(a)	(a)			
Environment (ESSA)	177	3.5	+1	Well below	Above	23	2.8	+4	About average	Well above	Likely future growth higher than past due to increased priority for weather and oceanography activities. Increased use of satellites likely, but data reduction and use rather than data gathering and hardware activities may be a major problem. Small R&D budget may limit satellite use.
Fish and Wildlife Resources	158	3.1	+16	About average	About average	50	6.1	+24	Well above	Well above	R&D one-third of expenditures.
Mineral Resources	130	2.6	+7	Well below	Well below	37	4.5	+18	Well above	Well above	Earth resources satellite applications are of interest, but R&D funds small and other uses may have higher priority.
General Resources Surveys and Administration	112	2.2	+20	About average	About average	36	4.4	+14	Well above	Well above	R&D one-third of expenditures. Use of earth resources satellites could be of interest but small R&D budget may limit.
Multiple/Other R&D	--	--	--	--	--	17	2.0	+20	Well above	Well above	Includes R&D of Bonneville Power Administration, Bureau of Land Management, Bureau of Outdoor Recreation, National Parks Service, and Bureau of Reclamation.
Total	5,074	100.0	+11	Below	Below	822	100.0	+20	Well above	Well above	
Total Federal Government			+1					+4			

(a) R&D included in "Multiple/Other R&D".

References

(1) Committee on Oceanography, National Academy of Sciences – National Research Council, Oceanography 1960 to 1970, NAS-NRC, Washington, D. C., 1959.

(2) National Council on Marine Resources and Engineering Development, Marine Science Affairs – A Year of Transition, U. S. Government Printing Office, Washington, D. C., February, 1967, pp 31-34.

(3) Committee on Oceanography, National Academy of Sciences – National Research Council, Oceanography 1966, Achievements and Opportunities, NAS-NRC, Washington, D. C., 1967.

(4) Act establishing the Geological Survey (20 Stat. 394; 43 U.S.C. 31) of March 3, 1879, as quoted in the United States Government Organization Manual, 1968-1969, U. S. Government Printing Office, Washington, D. C., 1968, p 257.

APPENDIX XIV-A

NATURAL RESOURCES AND ENVIRONMENTAL RESEARCH AND DEVELOPMENT

TABLE XIV-A-1. NATURAL RESOURCES AND ENVIRONMENTAL R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA, 1961-1969

Program Area	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Reactor Development (AEC)	1961	399.9		
	1962	396.7	-3.2	-0.8
	1963	462.4	+65.7	+16.6
	1964	502.3	+39.9	+8.6
	1965	477.6	-24.7	-4.9
	1966	428.6	-49.0	-10.3
	1967	455.0	+26.4	+6.2
	1968	482.0	+27.0	+5.9
	1969	510.0	+28.0	+5.8
Environmental Science Services Administration (Commerce)	1961	8.8		
	1962	12.0	+3.2	+36.4
	1963	14.3	+2.3	+19.2
	1964	16.2	+1.9	+13.3
	1965	16.5	+0.3	+1.9
	1966	12.6	-3.9	-23.6
	1967	22.4	+9.8	+77.8
	1968	23.3	+0.9	+4.0
	1969	23.3	0	0
Fish and Wildlife Service (Interior)	1961	19.2		
	1962	23.4	+4.2	+21.9
	1963	26.8	+3.4	+14.5
	1964	30.1	+3.3	+12.3
	1965	34.5	+4.4	+14.6
	1966	41.3	+6.8	+19.7
	1967	40.5	-0.8	-1.9
	1968	45.9	+5.4	+13.3
	1969	50.4	+4.5	+9.8
Federal Water Pollution Control Administration (Interior)	1961	1.7		
	1962	4.3	+2.6	+152.9
	1963	6.1	+1.8	+41.9
	1964	7.6	+1.5	+24.6
	1965	9.5	+1.9	+25.0
	1966	8.1	-1.4	-14.7
	1967	15.6	+7.5	+92.6
	1968	29.1	+13.5	+86.5
	1969	39.8	+10.7	+36.8
Geological Survey (Interior)	1961	42.2		
	1962	23.0	-19.2	-45.5
	1963	26.7	+3.7	+16.1
	1964	21.9	-4.8	-18.0
	1965	24.0	+2.1	+9.6
	1966	27.2	+3.2	+13.3
	1967	31.9	+4.7	+17.3
	1968	34.0	+2.1	+6.6
	1969	36.4	+2.4	+7.1

TABLE XIV-A-1. (Continued)

Program Area	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Bureau of Mines (Interior)	1961	23.8		
	1962	24.1	+0.3	+1.3
	1963	28.9	+4.8	+19.9
	1964	22.6	-6.3	-21.8
	1965	24.0	+1.4	+6.2
	1966	27.3	+3.3	+13.8
	1967	30.1	+2.8	+10.3
	1968	34.2	+4.1	+13.6
	1969	34.6	+0.4	+1.2
Office of Saline Water (Interior)	1961	1.9		
	1962	2.0	+0.1	+5.3
	1963	5.4	+3.4	+170.0
	1964	8.3	+2.9	+53.7
	1965	10.7	+2.4	+28.9
	1966	12.7	+2.0	+18.7
	1967	12.0	-0.7	-5.5
	1968	24.4	+12.4	+103.3
	1969	27.4	+3.0	+12.3
Office of Water Resources Research (Interior)	1965	(a)		
	1966	5.8		
	1967	6.2	+0.4	+6.9
	1968	9.4	+3.2	+51.6
	1969	11.0	+1.6	+17.0
Office of Coal Research (Interior)	1961	(b)		
	1962	0.4		
	1963	1.5	+1.1	+275.0
	1964	2.6	+1.1	+73.3
	1965	2.6	0	0
	1966	3.4	+0.8	+30.8
	1967	1.7	-1.7	-50.0
	1968	2.1	+0.4	+23.5
	1969	2.8	+0.7	+33.3
Other R&D (Interior)	1961	2.3		
	1962	4.6	+2.3	+100.0
	1963	3.2	-1.4	-30.4
	1964	3.4	+0.2	+6.3
	1965	8.2	+4.8	+141.2
	1966	6.2	-2.0	-24.4
	1967	13.9	+7.7	+124.2
	1968	16.2	+2.3	+16.5
	1969	16.7	+0.5	+3.1

TABLE XIV-A-1. (Continued)

Program Area	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Regional Water Quality Management (TVA)	1961	0.4(c)		
	1962	0.4(c)	0	0
	1963	0.5(c)	+0.1	+25.0
	1964	0.6(c)	+0.1	+20.0
	1965	0.7(c)	+0.1	+16.7
	1966	0.8(c)	+0.1	+14.3
	1967	0.9	+0.1	+12.5
	1968	1.2	+0.3	+33.3
	1969	1.3	+0.1	+8.3
Air Pollution Studies (TVA)	1961	0.2(c)		
	1962	0.2(c)	0	0
	1963	0.2(c)	0	0
	1964	0.3(c)	+0.1	+50.0
	1965	0.3(c)	0	0
	1966	0.4(c)	+0.1	+33.3
	1967	0.4	0	0
	1968	0.6	+0.2	+50.0
	1969	0.6	0	0
Other R&D (TVA)	1961	0.6(c)		
	1962	0.6(c)	0	0
	1963	0.7(c)	+0.1	+16.7
	1964	1.0(c)	+0.3	+42.9
	1965	1.1(c)	+0.1	+10.0
	1966	1.2(c)	+0.1	+9.1
	1967	1.4	+0.2	+16.7
	1968	1.8	+0.4	+28.6
	1969	2.0	+0.2	+11.1
Civil Functions (Army Corps of Engineers mainly), Other Defense	1961	2.4		
	1962	2.3	-0.1	-4.2
	1963	2.7	+0.4	+17.4
	1964	3.4	+0.7	+25.9
	1965	4.6	+1.2	+35.3
	1966	5.1	+0.5	+10.9
	1967	8.0	+2.9	+56.9
	1968	9.3	+1.3	+16.3
	1969	12.6	+3.3	+35.5
Forest Service (Agriculture)	1961	17.5		
	1962	20.6	+3.1	+17.7
	1963	22.3	+1.7	+8.3
	1964	24.2	+1.9	+8.5
	1965	28.3	+4.1	+16.9
	1966	37.6	+9.3	+32.9
	1967	38.0	+0.4	+1.1
	1968	38.7	+0.7	+1.8
	1969	42.2	+3.5	+9.0

TABLE XIV-A-1. (Continued)

Program Area	Fiscal Year	$ Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Other R&D – AEC (1/2 under National Security)	1961	5.3		
	1962	7.0	+1.7	+32.1
	1963	7.8	+0.8	+11.4
	1964	10.3	+2.5	+32.0
	1965	9.9	-0.4	-3.9
	1966	11.0	+1.1	+11.1
	1967	10.0	-1.0	-9.1
	1968	13.0	+3.0	+30.0
	1969	11.0	-2.0	-15.4

(a) New division authorized in 1964, began operations in 1965.
(b) Comparable 1961 data not available.
(c) Exact program area data not available; estimates have been made.

Natural Resources and Environmental R&D Summary of Official Program Descriptions*

Department of Interior

Geological Survey. The U.S.G.S. research program is directed toward better understanding and interpretation of the configuration, composition, and properties of the earth's crust through topographical survey and mapping, resources survey and mapping, marine geology and hydrology, water resources investigation, soil and moisture conservation, conservation of land and minerals, and other information necessary for the intelligent exploration for and utilization of our natural resources.

Bureau of Mines. Provision is made for conserving, evaluating, and developing mineral resources.

Research:

- Coal. Scientific research is carried out on the chemical and physical properties of coal and lignite, and their preparation, combustion, carbonization, and gasification. Research is emphasized on the development of methods for reducing or eliminating industrial air pollution caused by sulfur oxides released to the atmosphere during combustion of fossil fuels.

- Petroleum. Research is conducted to conserve petroleum and natural gas resources by improving the processes of recovery and utilization and to promote improved efficiency in processing and use of raw materials produced from these resources. Research will be continued on fuel combustion and utilization as related to air pollution by automotive emissions. The work is carried out in cooperation with Federal and State agencies and with industry associations and is partially supported financially by many of these agencies and associations.

- Oil shale. Research is carried out on oil shale to determine the composition of the various products obtainable, to test the applicability of those products to different uses, and to determine the basic chemistry and physics essential to the development and evaluation of new retorting concepts. The 1969 estimate provides for the development of techniques that will allow in-place retorting of the thick, deeply buried sections of the Green River formation that are not now economically recoverable by present conventional mining and retorting methods.

- Metallurgy. Research is carried out seeking improved processes for extracting metals and nonmetals from their ores. Multidiscipline investigations develop better methods to recover metals by physical, chemical, and electrical techniques and find means to produce super-pure materials. A parallel effort integrates the structure of metals, alloys, and ceramic compounds with optimum preparation and utilization. Basic to all investigations is fundamental research to delineate the physical and thermodynamic

*Edited excerpts, primarily from The Budget.

properties of materials and to analyze the rates and mechanics of high-temperature chemical and metallurgical reactions.

- Mining. Research effort applies physics and mining engineering principles to all phases of mineral mining. Fundamental studies range from the physical nature of rock structures through the application of rock mechanics to exploration, development, and operational problems of mining. Highly specialized research is conducted on the mechanisms of penetrating and breaking rock. The problem of ground control which is attacked by developing methods of stabilizing underground openings and techniques for designing efficient open-pit slopes is of prime importance. Work will continue on extension of applied rock mechanics studies into coal mines to develop engineering principles required for safe economic physical design of modern coal mining systems, engineering application of results of previous studies in underground metal mines, and studies of nature and behavior of rock and rock masses in relation to the mining processes.

- Marine mineral mining. Research is devoted to the conception, development, testing, and evaluation of instruments and hardware of undersea mining. Investigations are concerned with the nature and extent of oceanic deposits and the mining and processing of materials recoverable from such deposits.

- Explosives. Research is conducted to provide information and guidance to industry, other Federal agencies, and State and local governments on safe handling and use of commercial explosives and blasting agents; the safety characteristics of explosives certified for use in underground coal mines; the hazards of gas and vapor explosives from flammable liquids and/or gases; and the means of controlling fires in mineral fuels and their products.

Office of Saline Water. This office finances research on and development of low-cost processes for converting saline water to fresh water in quality suitable for municipal, industrial, and agricultural use. Work is accomplished by means of contracts or grants to other Federal or non-Federal agencies, institutions, commercial organizations, and consultants.

Office of Water Resources Research. This office provides for grants and contracts and matching or other arrangements with educational institutions, private foundations, or other institutions, with private firms and individuals to undertake research into any aspects of water problems related to the mission of the Department of the Interior which are deemed desirable and which are not otherwise being studied.

The Office of Coal Research. This office develops, through research, new and more efficient methods of mining, preparing, and utilizing coal and contracts for sponsors and cosponsors, and promotes the coordination of research with recognized interested groups (including, but not limited to, coal trade associations, educational institutions, and agencies of States and political subdivisions).

Other Research. Other research projects are conducted by the Bonneville Power Administration, Bureau of Land Management, Bureau of Outdoor Recreation, National Park Service, and the Bureau of Reclamation.

Atomic Energy Commission (AEC)

Reactor Development. This program includes the development of nuclear power reactors for central station applications and the development of power and propulsion reactors for a variety of military, civilian, and space applications, together with research and development on advanced reactor systems, nuclear safety, and general reactor technology.

The emphasis of the civilian power reactor category is now directed to the development of the fast breeder reactor, which promises to produce more fissionable nuclear fuel than is consumed in the process of producing power. Research and development on advanced converter and thermal breeder power reactors and on the application of nuclear power to desalting will also be continued.

Costs of $27.7 million will be incurred for the cooperative power reactor demonstration category in which AEC provides financial aid principally for development and construction of civilian power reactor prototypes of advanced design.

Other AEC.

- Isotopes development. This program supports the development of a variety of new uses of radioisotopes and high-level radiation. Particular emphasis is given to development of heat sources for a variety of applications, to development of isotopic measuring and diagnostic systems, and to development of technology for radiation pasteurization of foods. Emphasis is also given to advancing the technology of isotope production and source development. The program is designed to promote and encourage industrial participation and cooperation.

- Civilian applications of nuclear explosions. This program provides for the investigation and development of peaceful uses for nuclear explosives. The 1969 estimates provide for research and development aimed at a fundamental understanding of nuclear explosive design and explosion phenomenology and the development and testing of cleaner devices for use in nuclear excavation projects; a cratering experiment to extend the development of excavation technology; work on special nuclear explosives for producing transuranium elements; and development of nuclear technology capable of being used in the recovery of natural resources.

Other Agencies

The Tennessee Valley Authority. The TVA conducts scientific research and development activities under its responsibilities to aid in the unified development of the

resources of the region, to develop and test new or improved chemical fertilizers, and to improve the efficiency of its operations.

Agronomic research is undertaken to evaluate new TVA fertilizer materials, by greenhouse and field plot tests, as to availability of plant food to plants, reactions with the soil, and use practices. Small-scale chemical laboratory research and pilot-plant experimentation are conducted in the development of new or improved fertilizer products and processes, and technological studies of plant operations are conducted. Economic analyses of Valley agriculture are made for program planning and evaluation purposes and the examination of special regional farm problems.

Information is collected to determine the extent and character of the forest resource and to guide its conservation and use. Studies are made in support of tributary area development, fish and wildlife development, the disposal of solid wastes as soil amendments, and the recovery of sulfur from stack gases. Research is conducted in support of TVA program responsibilities for regional water quality management. TVA also conducts research directly related to its own operations, such as hydraulic research, studies of the effects and control of gaseous effluents from steam plants and chemical plants, and the development of methods for control of reservoir ecology.

Civil Functions (Dept. of Defense). Coastal engineering research and development studies deal with physical phenomena, techniques, basic principles, and remedial or control measures related to shore protection and improvement. The results of these studies are disseminated to interested Federal, State, and local agencies and individuals.

Hydrologic studies include investigations of storms, rainfall, streamflow, sedimentation, and other phenomena to provide basic data used in the design, construction, and operation of water control structures.

Civil works investigations are made to improve procedures for analysis of hydrologic and engineering data, refine design methods, develop better materials and practices for the construction and maintenance of hydraulic structures, and improve procedures used in formulating plans for water resources development.

Studies are being carried out on the Mississippi River basin model to improve operation of the reservoir system in the basin and to study potential flood levels on the lower river. Maintenance of the model will be continued.

Nuclear explosive studies for civil construction are carried out as part of a joint research program with the Atomic Energy Commission. The objective is to develop an engineering capability to use nuclear explosives in construction of public works projects. The Corps of Engineers has primary responsibility for chemical explosive experiments and development of engineering, construction, and cost data.

Environmental Science Services Administration (Dept. of Commerce). ESSA includes the U.S. Weather Bureau, the Coast and Geodetic Survey, and the Central Radio Propagation Laboratory in Boulder, Colorado. This activity consists of meteorological research and development designed to improve the weather forecasting and warning services of Environmental Science Services Administration by gaining a fuller understanding of the composition and dynamics of the atmosphere and its circulation and by

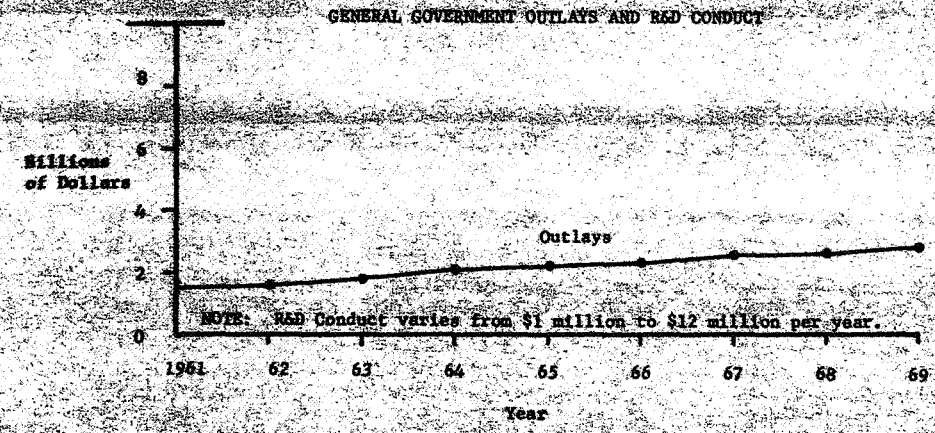
developing better instrumentation and techniques for weather observing and forecasting. The 1969 program provides for extension of forecasting and data gathering programs to a worldwide scale, weather modification research, and improvement of systems and techniques for forecasting hurricanes and tornadoes.

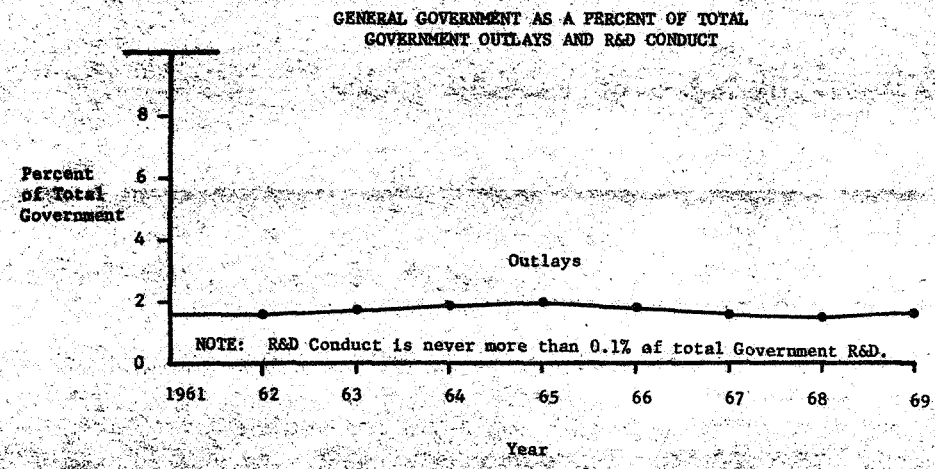
River and flood forecasts and warnings include research and development for further improvements in the river and flood forecasting services and development of specialized equipment related to forecasts and water resources services, and in 1969 provides for data acquisition system studies.

Earth description, mapping, and charting include research directed toward understanding the intricate processes and phenomena of the solid earth, such as geomagnetic observations, seismological studies, preparation of warnings of seismological events, determining the size and shape of the earth, and improvement in the aeronautical charting program. The 1969 program provides for the expansion of archiving systems to include geophysical data.

Forest Service (Dept. of Agriculture). Forest service research programs include: forest and range management studies, forest fire protection – methods and control, pest and disease control, forest products and engineering (mechanization of operations), and forest resource economics.

Chapter XV. GENERAL GOVERNMENT FUNCTIONAL FIELD





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CHAPTER XV

GENERAL GOVERNMENT FUNCTIONAL FIELD

The Field as a Whole

The functional field entitled "General Government", as described in The Budget, includes programs providing for "Government-wide service activities, for executive direction and financial management, for programs of law enforcement and criminal justice, and for the costs of the Congress and the Federal Court system."(1)* No changes have been made in the field for this study.

Without the elements of Government included in this functional field, the work of other functional fields would eventually grind to a halt; laws would not be passed, the Budget Bureau would not prepare and monitor the Budget, taxes would not be collected, and the President would be without a staff and, in fact, without a salary himself. Government activities in this functional field provide the basic structure or framework for initiating, interpreting, and carrying out the "will of the people". The three traditional arms of the Government are found here - Executive, Legislative, and Judicial. Although this field contains many of the more mundane aspects of Government (such as printing the Congressional Record each night and delivering copies to the Congressmen each morning), it also contains some of the more controversial aspects of the Government (such as law enforcement and civil rights activities, the Supreme Court, hearings by Congressional Committees).

The General Government functional field is essentially synonymous with the fourth supergoal discussed in the Introduction, also entitled "General Government". Although, in a sense, the general operations of the Government ultimately contribute to the other supergoals (National Security, Public Welfare, Economic Development) the goal of maintaining a functioning government is basic enough to stand alone. Because this country has been able to achieve a functioning government with relative ease (the Civil War being the major exception), we sometimes forget how vital it is in order to achieve other major goals. Increasing tensions in our society during the past few years have reawakened concern for the attainment and maintenance of this goal and made us realize that no country is immune to the kinds of internal disorders that can potentially disrupt a society and its Government.

It is interesting to see (Table II-2, Chapter II) that the proportion of Federal funds devoted to this field in 1969 is just what it was in 1961: 1.6%. It rose as high as 2% only in 1965. Outlays have shown a slow but steady rise from $1.5 billion in 1961 to $2.8 billion in 1969. This $2.8 billion makes the General Government field last in rank of all functional fields in 1969 (thirteenth of 13), down from 10th in 1961.

Although R&D expenditures are small ($1 million in 1961; $12 million in 1969), the 1969 figure places this field ahead of Veterans and International Affairs with a resulting rank in R&D of 11. It held the same rank in 1961, despite only $1 million in outlays. R&D in this field was only 0.1% of total Government R&D expenditures in 1969, and was only 0.4% of total General Government functional field outlays.

*Superscript numbers denote References which are shown at the end of this Chapter.

A more detailed look at overall expenditures for General Government appears in Table XV-1, which shows the actual 1967 and estimated 1968 and 1969 outlays as given in the FY 1969 Budget, broken down according to subfunctions and areas under these subfunctions.

TABLE XV-1. GENERAL GOVERNMENT OUTLAY DETAILS FOR FISCAL YEARS 1967, 1968, and 1969

Millions of Dollars

Program or Agency	Outlays: Expenditures and Net Lending 1967 Actual	1968 Estimate	1969 Estimate
Expenditures			
Legislative functions[a]	$167	$185	$198
Judicial functions	87	95	102
Executive direction and management	25	31	35
Central fiscal operations			
Treasury Department			
Internal Revenue Service	662	688	760
Other[a]	253	260	280
Other agencies[a]	53	59	63
General property and records management			
General Services Administration			
Public Buildings Service			
Construction, sites, and planning	184	152	106
Operation, maintenance, and other[a]	347	367	379
Other[a]	88	110	164
Central Intelligence Agency building	1	(b)	--
Central personnel management			
Civil Service Commission			
Present programs	129	150	153
Proposed legislation	--	--	12
Department of Labor and other[a]	61	62	53
Law enforcement and justice			
Department of Justice			
Present programs[a]	401	425	458
Proposed legislation	--	10	39
Other	25	27	32
Other general government			
Territories and possessions	157	187	198
Treasury - claims	49	8	6
Other[a]	7	8	1
Interfund and intragovernmental transactions (-)	-85	-92	-94
Applicable receipts from the public (-)	-161	-116	-117
Subtotal, expenditures	2,452	2,618	2,827
Net Lending	-2	-40	-37
Total Outlays	2,454	2,578	2,790

Source: Edited excerpts from The Budget.
(a) Includes both Federal funds and Trust funds.
(b) Less than $500 thousand.

A wide variety of Government bodies (and many very small and often temporary bodies) account for outlays in this field, with the Treasury Department accounting for more than $1 billion of the $2.8 billion total. Total outlays for 1969, by agency or body, are indicated in Table XV-2.

TABLE XV-2. 1969 GENERAL GOVERNMENT OUTLAYS BY AGENCY

Agency	$ Millions	Percent of Total
Treasury Department	1,142	38.0
General Services Administration	607	20.2
Justice Department	497	16.6
Legislative Branch	256	8.5
Civil Service Commission	165	5.5
Federal Judiciary	101	3.4
Interior Department	71	2.4
Defense Department	65	2.2
Labor Department	53	1.8
Executive Office of the President	30	1.0
Other	16	0.5
	3,003	
Adjustments	-212	
Total Outlays	2,790	100.0

The following sections sketch the responsibilities of the subfunctions of the General Government field shown in Table XV-1. Because many of these areas are well known, they need not be described in detail.

Legislative Functions

Outlays for legislative functions cover essentially all expenses associated with the Congress, expenses such as salaries of the members of Congress and their staffs, expenses for investigations and other committee work, building construction and upkeep, and printing and binding done by the Government Printing Office. A few aspects of the Legislative branch which are not included in this subfunction are the Library of Congress (included in the Education and Knowledge functional field), and expenses of the General Accounting Office (included below under the subfunction "Central Fiscal Operations").

Judicial Functions

Outlays of the Federal Judiciary comprise this subfunction - that is, outlays by the Supreme Court, primarily for salaries; and outlays for other Federal Courts and judicial services, such as Courts of Appeals, District Courts, and referees. A Federal

Judicial Center, authorized by Congress in December, 1967, is included here, and will focus on ways to improve operation of the Federal judicial system.

Executive Direction and Management

Smallest in outlays of all the General Government subfunctions, this category provides for the executive operations which are closest to the President and are generally called his "Executive Office". The salaries of the President and his White House staff are included here. A number of groups that provide executive advice and/or management are included also, such as the following:

- Bureau of the Budget, which prepares and reviews the annual Budget, supervises its administration once passed, tries to improve Government management, and serves in other important capacities as a general source of advice and supervision for the President.
- Council of Economic Advisors, established by the Employment Act of 1946 to advise the President on the state of the economy and on economic programs and policies of the Federal Government.
- National Security Council, established in 1947 to advise the President on all national policies which relate to national security.
- National Aeronautics and Space Council, established in 1958 to "advise and assist the President regarding policies, plans, and programs; to fix the responsibilities of the United States agencies engaged in aeronautical and space activities and to develop a comprehensive program of such activities."(2)
- Office of Emergency Planning, which sets and coordinates policies relating to emergency preparedness activities such as civil defense, determination of necessary strategic materials, plans for resource use in emergencies, and plans for Government organization in emergencies.
- Office of Science and Technology, established in 1962 to advise the President on policies and programs in science and technology.
- National Council on Marine Resources and Engineering Development, established in 1966 to advise the President on a long-range national program in marine science and technology.

Central Fiscal Operations

Most outlays for this subfunction are handled by the Treasury Department, and central fiscal operations account for most Treasury Department outlays other than interest on the national debt (which is not included in this functional field analysis). The Treasury Department was created in 1789 to manage the Nation's finances. Some of the bureaus who make outlays for this subfunction are the Bureau of Accounts, the Bureau of Customs, Bureau of the Mint, Bureau of Public Debt, and the Internal Revenue

Service. Outlays by the Internal Revenue Service for collecting and processing taxes make up the bulk of outlays. Its outlays alone are greater than the total outlays for any other General Government subfunction. Outlays by groups other than the Treasury Department are for the General Accounting Office and the Renegotiation Board.

General Property and Records Management

The General Services Administration accounts for outlays under this heading. It is responsible for managing the property and records of the Government, including such aspects as construction and operation of buildings, keeping of records, and procurement and distribution of supplies.

Central Personnel Management

Outlays by the Civil Service Commission for its own operation make up most of this subfunction, with some outlays by the Bureau of Employees' Compensation of the Labor Department. This latter Bureau provides compensation for Federal workers who are injured on the job. The Civil Service Commission is responsible for hiring most Federal employees under a merit system.

Law Enforcement and Justice

Termed by many as a major issue of the 1968 Presidential campaign, law enforcement and justice has been of great concern to the Federal Government in the last few years and is likely to be more so for the near future. Most activities of the Justice Department are covered by this subfunction (excluding antitrust activities and the Alien Property Trust Fund) and include The Budget headings of Legal Activities and General Administration, FBI, Immigration and Naturalization Service, Federal Prison System, and Control of Crime. Although "Control of Crime" is the smallest of these areas in projected 1969 outlays, it is the newest and fastest growing area, and will receive increased attention with passage of the Safe Streets and Crime Control Act of 1968. Although the Administration had proposed legislation in this area, the Act as passed was termed by one commentator as "a major defeat for the Administration and Congressional liberals".(3) A number of the bill's provisions were thought undesirable by the Administration – e.g., bloc grants to States rather than direct grants to local communities, wiretapping permitted by various law enforcement agencies, police interrogation procedures at variance with recent Supreme Court decisions, and relatively weak gun controls. Nonetheless, the President felt that the bill contained more good than bad and signed it into law.

The law provides for a variety of grants to states – for planning, law enforcement assistance, and for training and research. These grants are to be administered by a Law Enforcement Administration (LEA) in the Justice Department. Also established within the Justice Department was a National Institute of Law Enforcement and Criminal Justice to fund research and demonstrations in law enforcement methods. Although the

Federal Government is still unlikely to participate directly in local law enforcement, it is clear that Federal money can be used indirectly to affect law enforcement on the local level.

It should be remembered that, in addition to having responsibilities for crime control, the Justice Department has major responsibilities for enforcement of the various Civil Rights bills which have been passed in the 1960's.

Other General Government

Outlays for this subfunction are primarily for payments to various geographical entities under the jurisdiction of the United States: Puerto Rico, Virgin Islands, Panama Canal, and various Pacific territories such as Guam and the Trust Territory of the Pacific. Outlays are made by the Departments of Defense, Interior, and Treasury.

This completes discussion of the subfunctions under General Government and shows the wide range of activities included in this function. Total estimated 1969 outlays by subfunction are summarized in Table XV-3.

TABLE XV-3. 1969 GENERAL GOVERNMENT OUTLAYS BY SUBFUNCTION

Subfunction	$ Millions	Percent of Total
Expenditures		
Central Fiscal Operations	1,103	36.3
General Property and Records Mng.	649	21.4
Law Enforcement and Justice	529	17.4
Central Personnel Mng.	218	7.2
Legislative Functions	198	6.5
Judicial Functions	102	3.4
Executive Direction and Mng.	35	1.2
Other General Government	205	6.7
	3,039	100.0
Adjustments	-211	
Subtotal, expenditures	2,827	
Net Lending	-37	
Total Outlays	2,790	

Research and Development

As noted earlier, R&D expenditures in this field are a very small part of all R&D expenditures or of all outlays in this General Government function. Estimated 1969 R&D expenditures are shown in Table XV-4.

TABLE XV-4. 1969 GENERAL GOVERNMENT R&D CONDUCT EXPENDITURES BY PROGRAM AREA

Program Area	$ Millions	Percent of Total
Department of Justice (Law Enforcement Adm.)	11	92
Treasury Department	1	8
Total	12	100

Detailed expenditure information on these program areas from 1961 to 1969 and research program descriptions for each of them are shown in the Appendix.

Party Platforms

Relevant sections from the two major party platforms are included as indications of approach and emphasis.

Democratic

Toward a Single Society. We acknowledge with concern the findings of the report of the bi-partisan National Advisory Commission on Civil Disorders and we commit ourselves to implement its recommendations and to wipe out, once and for all, the stain of racial and other discrimination from our national life.

"The major goal," the Commission wrote, "is the creation of a true union – a single society and a single American identity." A single society, however, does not mean social or cultural uniformity. We are a nation of many social, ethnic and national groups. Each has brought richness and strength to America.

The Civil Rights Act of 1964 and 1968 and the Voting Rights Act of 1965, all adopted under the vigorous leadership of President Johnson, are basic to America's long march toward full equality under the law.

We will not permit these great gains to be chipped away by opponents or eroded by administrative neglect. We pledge effective and impartial enforcement of these laws. If they prove inadequate, or if their compliance provisions fail to serve their purposes, we will propose new laws. In particular, the enforcement provisions of the legislation prohibiting discrimination in employment should be strengthened. This will be done as a matter of first priority.

Justice and Law. We are firm in our commitment that equal justice under law shall be denied to no one. The duty of government at every level is the safety and security of its people. Yet the fact and fear of crime are uppermost in the minds of Americans

today. The entire nation is united in its concern over crime, in all forms and wherever it occurs. America must move aggressively to reduce crime and its causes.

Democratic Presidents, governors and local government officials are dedicated to the principle that equal justice under law shall remain the American creed. Those who take the law into their own hands undermine that creed. Anyone who breaks the law must be held accountable. Organized crime cannot be accepted as a way of life, nor can individual crime or acts of violence be permitted.

As stated by the Report of the National Advisory Commission on Civil Disorders, the two fundamental questions confronting the American people are:

"How can we as a people end the resort to violence while we build a better society?

"How can the nation realize the promise of a single society - one nation indivisible - which yet remains unfulfilled?"

This platform commits the Democratic Party to seek resolution of these questions.

We pledge a vigorous and sustained campaign against lawlessness in all its forms - organized crime, white collar crime, rioting, and other violations of the rights and liberties of others. We will further this campaign by attack on the root causes of crime and disorder.

Under the recent enactments of a Democratic Congress we will continue and increase federal financial support and technical assistance to our cities and states and their local governments to:

- Increase the numbers, raise the pay, and improve the training of local police officers;
- Reduce delays and congestion in our criminal courts;
- Rehabilitate and supervise convicted offenders, to return offenders to useful, decent lives, and to protect the public against habitual criminals;
- Develop and deploy the most advanced and effective techniques and equipment for the public safety;
- Assure the availability in every metropolitan area of quick, balanced, coordinated control forces, with ample manpower, thoroughly trained and properly equipped, to suppress rioting;
- Encourage responsible and competent civic associations, and business and labor groups to cooperate with the law enforcement agencies in new efforts to combat organized crime, to build community support for police work, and assist in rehabilitating convicted offenders; and for the attainment of these ends, encourage our police to cooperate with any such groups and to establish links of communication with every element of the public it serves, building confidence and respect;

- Establish and maintain open and responsive channels of communication between the public and the police through creative police-community relations programs;
- Develop innovative programs to reduce the incidence of juvenile delinquency.
- Promote the passage and enforcement of effective federal, state and local gun control legislation.

In all these efforts, our aim is to strengthen state and local law enforcement agencies so that they can do their jobs. In addition, the federal government has a clear responsibility for national action. We have accepted that responsibility and will continue to accept it with these specific objectives:

- Prompt and effective federal support, upon request of appropriate authorities, to suppress rioting: improvement of the capabilities of all agencies of law enforcement and justice - the police, the military, the courts - to handle more effectively problems attending riots;
- A concentrated campaign by the Federal government to wipe out organized crime by employment of additional Federal investigators and prosecutors; by computerizing the present system of collecting information; by enlarging the program of technical assistance teams to work with the states and local governments that request assistance in this fight; by launching a nationwide program for the country's business and labor leaders to alert them to the problems of organized crime;
- Intensified enforcement, research, and education to protect the public from narcotics and other damaging drugs by review of federal narcotics laws for loopholes and difficulties of enforcement; by increased surveillance of the entire drug traffic; through negotiations with those foreign nations which grow and manufacture the bulk of drug derivatives;
- Vigorous federal leadership to assist and coordinate state and local enforcement efforts, and to ensure that all communities benefit from the resources and knowledge essential to the fight on crime;
- Further implementation of the recommendations of the President's crime commission;
- Creating in the District of Columbia a model system of criminal justice, an example of the best methods of preventing crime and handling offenders;
- Federal research and development to bring to the problems of law enforcement and the administration of justice the full potential of the scientific revolution.

In fighting crime we must not foster injustice. Lawlessness cannot be ended by curtailing the hard-won liberties of all Americans. The right of privacy must be safeguarded. Court procedures must be expedited. Justice delayed is justice denied.

A respect for civil peace requires also a proper respect for the legitimate means of expressing dissent. A democratic society welcomes criticism within the limits of the law. Freedom of speech, press, assembly and association, together with free exercise of the franchise, are among the legitimate means to achieve change in a democratic society. But when the dissenter resorts to violence, he erodes the institutions and values which are the underpinnings of our democratic society. We must not and will not tolerate violence.

As President Johnson has stated, "Our test is to rise above the debate between the rights of the individual and the rights of society by securing the rights of both."

We freely admit that the years we live in are years of turbulence. But the wisdom of history has something hopeful to say about times like these. It tells us that the giant American nation, on the move with giant strides, has never moved - and can never move - in silence.

We are an acting, doing, feeling people. We are a people whose deepest emotions are the source of the creative noise we make - precisely because of our ardent desire for unity, our wish for peace, our longing for concord, our demand for justice, our hope for material well being, our impulse to move always toward a more perfect union.

In that never-ending quest, we are all partners together - the industrialist and the banker, the workman and the storekeeper, the farmer and the scientist, the clerk and the engineer, the teacher and the student, the clergyman and the writer, the men of all colors and of all the different generations.

The American dream is not the exclusive property of any political party. But we submit that the Democratic Party has been the chief instrument of orderly progress in our time. As heirs to the longest tradition of any political party on earth, we Democrats have been trained over the generations to be a party of builders. And that experience has taught us that America builds best when it is called upon to build greatly.

We sound that call anew. With the active consent of the American people, we will prove anew that freedom is best secured by a government that is responsive and compassionate and committed to justice and the rule of law.

Republican

Americans are acutely aware that none of these objectives can be achieved unless order through law and justice is maintained in our cities. Fire and looting, causing millions of dollars of property damage, have brought great suffering to home owners and small businessmen, particularly in black communities least able to absorb catastrophic losses. The Republican Party strongly advocates measures to alleviate and remove the frustrations that contribute to riots. We simultaneously support decisive action to quell civil disorder, relying primarily on state and local governments to deal with these conditions.

America has adequate peaceful and lawful means for achieving even fundamental social change if the people wish it. We will not tolerate violence!

Crime. Lawlessness is crumbling the foundations of American society.

Republicans believe that respect for the law is the cornerstone of a free and well-ordered society. We pledge vigorous and even-handed administration of justice and enforcement of the law. We must re-establish the principle that men are accountable for what they do, that criminals are responsible for their crimes, that while the youth's environment may help to explain the man's crime, it does not excuse that crime.

We call on public officials at the federal, state, and local levels to enforce our laws with firmness and fairness. We recognize that respect for law and order flows naturally from a just society; while demanding protection of the public peace and safety, we pledge a relentless attack on economic and social injustice in every form.

The present Administration has:

- Ignored the danger signals of our rising crime rates until very recently and even now has proposed only narrow measures hopelessly inadequate to the need;
- Failed to implement most of the recommendations of the President's own Crime Commission;
- Opposed legislative measures that would assist law enforcement officials in bringing law-breakers to justice;
- Refused to sanction the use of either the court-supervised wiretapping authority to combat organized crime or the revised rules of evidence, both made available by Congress.
- Failed to deal effectively with threats to the nation's internal security by not prosecuting identified subversives.

By contrast, Republican leadership in Congress has:

- Provided funds for programs administered by state and local governments to control juvenile delinquency and crime;
- Created a National Institute of Law Enforcement and Criminal Justice to conduct crime research and facilitate the expansion of police training programs;
- Secured enactment of laws enabling law enforcement officials to obtain and use evidence needed to prosecute criminals, while at the same time protecting the rights and privacy of all citizens;
- Secured new laws aimed at "loan-sharking," the intimidation of witnesses, and obstruction of investigations;
- Established disability as well as survivorship benefits for local police officers wounded or killed in pursuit of federal lawbreakers.

For the future, we pledge an all-out, federal-state-local crusade against crime, including:

- Leadership by an Attorney General who will restore stature and respect to that office;
- Continued support of legislation to strengthen state and local law enforcement and preserve the primacy of state responsibility in this area;
- Full support of the F.B.I. and all law enforcement agencies of the federal government;
- Improved federal cooperation with state and local law enforcement agencies;
- Better coordination of the federal law enforcement, crime control, and criminal justice systems;
- A vigorous nation-wide drive against trafficking in narcotics and dangerous drugs, including special emphasis on the first steps toward addiction – the use of marijuana and such drugs as LSD;
- Total commitment to a federal program to deter, apprehend, prosecute, convict and punish the overlords of organized crime in America, including full implementation of the Congressional mandate that court-supervised wiretapping and electronic surveillance tools be used against the mobsters and racketeers;
- Increased public protection against racketeer infiltration into legitimate business;
- Increased research into the causes and prevention of crime, juvenile delinquency, and drug addiction;
- Creation of a Federal Corrections Service to consolidate the fragmented and overlapping federal efforts and to assist state and local corrections systems;
- A new approach to the problem of chronic offenders, including adequate staffing of the corrections system and improvement of rehabilitative techniques;
- Modernization of the federal judicial system to promote swift, sure justice;
- Enactment of legislation to control indiscriminate availability of firearms, safeguarding the right of responsible citizens to collect, own and use firearms for legitimate purposes, retaining primary responsibility at the state level, with such federal laws as necessary to better enable the states to meet their responsibilities.

The 90th Congress

Congressional NBA appropriations have been allocated according to the functional field concept used in this report*. The Congress reduced the NBA for this functional field by about 3.5% as compared to total NBA reductions for all functional fields of 10%. This would indicate that Congress places a higher priority for this functional field. The following indicates the Congressional decisions regarding the most important line items (>$50 million 1969 appropriations) in comparison to the overall Congressional NBA cut of 10%.

Selected Programs Reduced <10%		Selected Programs Reduced >10%
Justice Department	-7.7	None
Judiciary	-4.4	
Legislative	-3.6	
Civil Service Commission	-1.4	
General Services Administration	-2.0	
Treasury (excluding interest on debt)	-0.9	

Among legislative activity in this field aside from appropriations were the following actions:

- A major civil rights bill including open housing provisions;
- Federal jury reform, requiring that juries be selected from "a fair cross section of the community";
- The Crime Control and Safe Streets Act of 1968, discussed earlier;
- A program to prevent juvenile delinquency and rehabilitate young offenders;
- A Truth-in-Lending bill to provide customers with the true annual interest rate on loans;
- Fire Research and Safety Act;
- Poultry inspection;
- Gas pipeline safety.

For the most part these laws are regulatory and do not involve large expenditures.

*The first two paragraphs of "The 90th Congress" section in Chapter II are applicable here.

The Likely Future (The Next Decade)

Table XV-5 summarizes an estimate of the likely future relative growth* for each of the field's subfunctions in terms of total gross expenditures (left side of table), and R&D conduct expenditures (right side of table). The subfunctions are listed in descending order of 1969 total gross expenditures; and 1969 expenditures and percent of total field are shown to indicate the absolute dollar and relative importance to the field for each of the subfunctions.

The following points summarize the likely future for the total functional field:

- Growth in expenditures for the General Government functional field is likely to be about average (slightly higher than in the recent past), and the field is likely to remain in last place among the 13 functional fields. Despite the fair amount of legislative action in this field in 1968, likely expenditures under these new laws are not large, with the possible exception of the Crime Act.
- Within the functional field the subfunction of Law Enforcement and Justice is likely to grow at well above rates due to substantially increased priority.
- R&D in this functional field is very small but almost entirely in relation to the Law Enforcement and Justice subfunction and therefore can be expected to increase at well above average growth rates.

References

(1) The Budget in Brief, FY 1969, U. S. Government Printing Office, Washington, D. C., 1968.

(2) United States Government Organization Manual, 1968-1969, U. S. Government Printing Office, Washington, D. C., 1968, p 60.

(3) Congressional Quarterly, June 7, 1968, p 1433.

*The likely future relative growth concept, as well as other notes pertinent to this discussion, appears at the beginning of "The Likely Future" section in Chapter II.

TABLE XV-5. GENERAL GOVERNMENT – IMMEDIATE PAST AND LIKELY FUTURE RELATIVE GROWTH

Subfunction	Total Gross Expenditures 1969 $ Millions	Total Gross Expenditures 1969 Percent of Total	Total Gross Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Total R&D Conduct Expenditures 1969 $ Millions	Total R&D Conduct Expenditures 1969 Percent of Total	Total R&D Conduct Expenditures Change, % 1967 to 1969	Growth Relative to Average 1967 to 1969	Growth Relative to Average Likely Future	Comments
Central Fiscal Operations	1,103	36.3	+14	About Average	About Average	1	4.3	-17	Well Below	Well Below	
General Property and Records Management	649	21.4	+5	Well Below	Well Below						
Law Enforcement and Justice	529	17.4	+24	Above	Well Above	11	95.7	+267	Well Above	Well Above	Increased priority should result in well above average growth rates.
Central Personnel Management	218	7.2	+15	About Average	About Average						
Legislative Functions	198	6.5	+19	About Average	About Average						
Judicial Functions	102	3.4	+17	About Average	About Average						
Executive Direction and Management	35	1.2	+40	Well Above	Well Above						
Other General Government	205	6.7	-4	Well Below	Well Below						
TOTAL	3,039	100.0	+13	Below	About Average	12	100.0	+219	Well Above	Well Above	Increased priority for Law Enforcement and Justice should raise growth rate of total field to average or above.
Total Federal Government			+17					+4			

APPENDIX XV-A

GENERAL GOVERNMENT RESEARCH AND DEVELOPMENT

APPENDIX XV-A

GENERAL GOVERNMENT RESEARCH AND DEVELOPMENT EXPENDITURES

TABLE XV-A-1. GENERAL GOVERNMENT R&D CONDUCT EXPENDITURE DETAILS BY PROGRAM AREA (1961-1969)

Program Areas	Fiscal Year	Millions	Year-to-Year Changes $ Millions	Year-to-Year Changes %
Department of Justice (Law Enforcement Admn)	1967	3.0		
	1968	6.0	+ 3.0	+ 100.0
	1969	11.0	+ 5.0	+ 83.3
Department of Treasury	1961	1.0		
	1962	1.6	+ 0.6	+ 60.0
	1963	1.5	- 0.1	- 6.3
	1964	1.6	+ 0.1	+ 6.7
	1965	2.7	+ 1.1	+ 68.7
	1966	0.4	- 2.3	- 85.2
	1967	0.6	+ 0.2	+ 50.0
	1968	0.6	0	0
	1969	0.5	- 0.1	- 16.7

General Government R&D, Summary of Official Program Descriptions*

The Department of Justice. This department is responsible for legal matters pertaining to the United States, such as representing the Government before the Supreme Court; civil suits and matters relating to use of Federal land and natural resources, including civil litigation involving Indians and Indian affairs in which the U. S. is interested; internal security of the U. S.; civil rights matters and the activities of the Federal Bureau of Investigation.

Under the Law Enforcement Assistance Act of 1965 (LEAA), funds are awarded to public or private nonprofit agencies and institutions for (i) improving or enlarging programs and facilities to provide professional training and related education to State and local law enforcement, correctional, and crime control personnel, and (ii) projects designed to improve the capabilities, techniques, and practices of State and local agencies engaged in law enforcement, the administration of criminal justice, the correction of offenders, and the prevention and control of crime.

*Edited excerpts, primarily from The Budget.

The review, processing, and monitoring of grant and contract awards made for the above purposes constitute the major part of the Department's activities under the above legislation. However, the act also contemplates that special studies will be made concerning law enforcement organization, techniques, and practices, or the prevention and control of crime, and that technical assistance will be rendered to State and local agencies in these matters. Information and materials relating to such studies and to the results and findings of projects supported under the act are also collected, evaluated, published, and disseminated for use by interested agencies.

Department of the Treasury (Bureau of Engraving and Printing). This department designs, manufactures and supplies almost all major evidences of a financial character issued by the United States. It designs, develops and drafts specifications for machinery and equipment; develops electronic methods for production activities; conducts chemical, metallurgical and engineering studies; plans and conducts continuous laboratory research, both experimental and developmental, in the fields of chemistry and physics, including studies in spectrography, spectrophotometry, microscopy, photomicrography, photography, and rheology incident to the improvement of equipment and materials.