OTA TESTIMONY

Statement of

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before the
Subcommittee on Legislative Branch
Senate Appropriations Committee

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OFFICE OF TECHNOLOGY ASSESSMENT
CONGRESS OF THE UNITED STATES
WASHINGTON, DC 20510-8025

Mr. Chairman, Members of the Subcommittee, I appreciate the opportunity to appear before you to report on the accomplishments and tell you about the goals of the Office of Technology Assessment (OTA). First, I will briefly summarize our FY96 budget request and our zero-based conceptual plan. Next, I will share with you some examples of the contributions OTA is already making to the work of the 104th Congress; then I will review our performance in FY94 and submit the details of our FY96 budget request. Moreover, as you may know, we reduced and streamlined OTA's management structure last year, thereby achieving substantial savings in our costs of operation. We also focused our assessments more sharply on technology, in response to this Committee's concerns, and today I shall summarize for you the management innovations aimed at ensuring this focus. Finally, because I am well aware that OTA faces especially sharp scrutiny this year, I shall wrap up my testimony with comments on the value of OTA to the Congress and the Nation.

BRIEF SUMMARY OF OTA's FY96 BUDGET REQUEST

Based on decisions the Technology Assessment Board made in the summer of 1994, OTA submitted an FY96 budget request of $23,195,000. The agency and the Board are well aware, however, that such a request is now unrealistic.

OTA scrapped the $23 million dollar request in its February 23 testimony before the House Subcommittee on Legislative Appropriations. Instead, we submitted a conceptual plan to rebuild our budget from a zero base; we could implement the plan with a 20% cut and could take a further $1,900,000 by moving from our leased space. Thus, we propose to plan for an approximately 30% cut.

In formulating our conceptual plan, we took into account the agendas and interests of the 104th Congress, based largely on many interactions with Members and staff. We propose tasks in six specific areas:

- ☐ Terrorism and Crime
- ☐ Risk Assessment
- ☐ Health
- ☐ Space and Defense
- ☐ Energy and Transportation
- ☐ Telecommunications and Information Technology

We could soon, and in some cases, have already begun to, mobilize resources to begin new work in these areas. I would very much like to talk with you about how OTA can be more responsive, overall, to the needs of the Congress. I will discuss the budget and the plan in more detail later in my testimony.

OTA's CONTRIBUTIONS TO THE WORK OF THE 104TH CONGRESS

Since the start of FY95, OTA has 21 major reports either released, at the printer, or in an advanced stage of production. (**See Attachment 1.**) Several of these have already had legislative impact, as I summarize below; we are confident that others will also contribute directly to the legislative process, and I briefly discuss such examples. But OTA reports typically have a long useful life, and I

will give you several examples of how the 104th Congress is drawing on work OTA delivered years ago.

1. Fifteen years ago, OTA released a report on the use of taggants in explosives as a tool to help solve (and prevent) crimes and acts of terrorism. That report -- and the expertise OTA gained in doing that work and a number of other anti-crime, anti-terrorism and anti-proliferation reports -- is, sadly, relevant today. On May 3, President Clinton transmitted to the Congress the Antiterrorism Amendment Acts of 1995, one section of which requires the inclusion of taggants in explosive device raw materials -- the same technology OTA investigated in 1980. Although OTA has not yet been asked to comment on this legislation, we are ready to do so -- not only on taggants, but on other aspects. I will return to our capabilities in the field of anti-terrorism later in my testimony. OTA's work in this area led to tangible results in airport security and police body armor standards. In the past few months, we have been called on many times to brief and comment on issues related to terrorism.

2. In the 103rd Congress and early in the 104th, OTA delivered a series of reports on the proliferation of weapons of mass destruction. These reports are directly relevant to the proposed Russian sale of nuclear technology to Iran and to other current issues. Because of this work, OTA has been able to respond quickly to questions on the proposed sale from Committees and Members. Earlier, in the 103rd Congress, The House Armed Services Committee used the findings of one of these reports to urge full funding in the 1995 Defense Appropriations Bill for the Nunn-Lugar programs, which provide assistance for managing nuclear weapons and materials in the former Soviet Union; full funding was provided. (In the 103rd Congress, OTA testified, the report impacted legislation (S.2203), and the work was cited in Committee reports.) The reports are now being used in the 104th Congress by the Subcommittee on Investigations of the Senate Governmental Affairs Committee to help plan the Committee's investigation of Russian organized crime, particularly in relation to smuggling of nuclear materials. Last month, Rep. Weldon (R-PA), Chairman of the R&D Subcommittee of the House National Security Committee, quoted extensively from the OTA work at counterproliferation hearings for the Defense Authorization Act of 1996. Very importantly, this work, coupled with our 1992 counter-terrorism work, has given OTA the expertise to quickly respond to Member and Committee queries on a variety of topics: the sarin attack in the Tokyo subway system, the North Korean nuclear weapons program, the proposed sale of nuclear reactor technology by Russia to Iran, and measures to counter terrorist threats within the United States. (**See Attachment 2**) The reports are now being used by the Senate Banking Committee as it again takes up the reauthorization of the Export Administration Act; the Chemical Weapons Convention Treaty has yet to come before the Senate, and we expect OTA's work to be used when it does, as it was last Congress. The final report in the series, *Nuclear Safeguards and the IAEA* was delivered in time for the Nuclear Non-Proliferation Treaty Review Conference, now in session.

3. Several weeks ago, we released a report on the cost-effectiveness of colorectal cancer screening. Our report, a follow-up to our 1990 report on that subject, found that colorectal screening in average risk adults, beginning at age 50, is a good investment for society. The report assessed a number of previously unevaluated technologies, including radiology and colonoscopy. Legislation has been proposed in the 104th Congress to provide this service to Medicare patients. The colorectal cancer screening report is the most recent in a long line of OTA reports assessing the degree of cost-effectiveness of Medicare coverage for preventive technologies. Earlier OTA studies led to passage of cervical cancer screening and mammography as Medicare benefits. Other OTA studies have pointed out preventive interventions whose benefits are too uncertain or too costly to merit Medicare coverage, including cholesterol screening in the elderly and well-child care mandates under Medicaid's EPSDT program.

4. In April, we released the report *Teachers and Technology: Making the Connection* and testified at a hearing, chaired by Sen. Cochran, of the Labor, Human Relations and Education subcommittee of the Appropriations Committee. Senator Jeffords, who attended the hearing, described it as "the most exciting hearing I have attended", although I suspect much of the excitement came from the technology demonstration of the Mathline Project. But I hope we excited Sen. Jeffords a little. In this most recent report on instructional technologies, OTA continues the work of *Power On!* (1988) and *Linking for Learning* (1989). *Teachers and Technology* stresses that past and current investments in instructional technologies in the schools will not be fully realized until the teachers are trained to use the technology. Moreover, our report shows how investments currently being planned as a result of the October 1994 Technology in Education Act might be wasted because teachers -- the critical link -- are not well trained. Our report also finds that instructional technology itself can help provide an efficient resource for teacher training and support in all subject areas. We foresee that this report will be relevant in considering educational access questions in the revision of the Communications Act of 1934, and for Congressional evaluation of the Department of Education's Long Range Technology Plan, mandated by the Congress, and due in September, 1995.

5. In September, 1994, OTA completed its study of multinational corporations and the U.S. technology base. Multinational enterprises, both foreign and domestic, play a key role in maintaining the Nation's technology leadership. The report was prompted by the concern that some MNEs might be transferring the location of technology development -- and with it future jobs and a high standard of living -- out of the United States. The report provided thorough analysis of the impact of multinational corporate policies on the development of technologies and high technology manufacturing in this country, and the linkage of foreign investment policy and trade balances, particularly in the case of Japan. The Senate Commerce Committee used the report in the 104th Congress, and consulted OTA, in drafting Section 105 of the Telecommunications Competition and Deregulation Act of 1995. A member of that Committee also requested a follow-on analysis of the eligibility of foreign firms to participate in U.S. government funded technology programs. The follow-on analysis will be published later this month.

6. OTA will release the first report in its "Farm Bill Package" within a few weeks. This package was expressly requested and designed to assist the Congress with the reauthorization of the Food, Agriculture, Conservation and Trade Act (the 1995 Farm Bill). The first report in the series provides information on the technologies and policies needed for U.S. agriculture to be competitive in world markets under the new rules established by the North American Free Trade Agreement and the Uruguay Round of the GATT. Continuing the practice of over a decade, OTA is currently working closely with the House and Senate Agriculture Committees, at their request, as they consider the current Farm Bill. We will also soon deliver four other reports geared to various aspects of the Farm Bill; in the interests of brevity I will not discuss those here, but I will be happy to provide more information, if you wish.

7. In late 1993, OTA was asked by the House Committee on Appropriations to conduct an accelerated review of the Social Security Administration's (SSA) massive computer procurement strategy (known as IWS/LAN for Intelligent Work Stations/Local Area Networks). The Committee asked that OTA complete the review in time for consideration of the SSA's FY95 budget request. In essence, our report noted that SSA had not yet developed the plans for improving service delivery that are essential to use the computer and telecommunications technology to good effect. The Committee used our results in reducing SSA's FY95 automation request, in rescinding $80 million from SSA's FY94 appropriations for automation, and in providing guidance to the SSA in its Committee report. Recently, in the 104th Congress, the Senate Appropriations staff asked OTA to review SSA's response to its concerns about its computer strategy. OTA provided a staff memo to the Subcommittee on Labor, HHS, and Education analyzing the latest SSA budget request for IWS/LAN automation; the memo raised several questions pertinent to the FY95 recissions and the FY96 budget that were forwarded by the Committee to the SSA for response. So far, the OTA work has contributed to congressional decisions to defer over 360 million dollars in SSA purchases until the Congress is assured that the money will be spent wisely.

8. From 1992 through 1994, OTA delivered a series of reports to the Congress on various aspects of space systems. In addition, we recently completed two reports *U.S.-Russian Cooperation in Space* and *U.S. Space Transportation Policy: Issues for Congress*. Our work impacted legislation in the 102nd and 103d Congresses (P.L.102-555; the NASA FY94 Authorization; Congressional testimony). In the 104th Congress, OTA is working closely with two subcommittees of the House Science Committee on issues important to the FY96 authorizations of NASA and NOAA. OTA is assisting the Subcommittee on Space and Aeronautics on three elements of the NASA FY96 authorization by: (1) analyzing the risks and benefits from the Russian contributions to the Space Station; (2) critiquing the Administration's space transportation policy, and helping the Subcommittee with the NASA budget for launch technologies, including questions of reducing overlap with DoD and transferring costs to the private sector; and (3) helping the Subcommittee find economies in NASA's Mission to Planet Earth. In addition, through a special workshop and other activities, OTA is helping the Subcommittee on Energy understand how the costs of collecting meteorological data from the NOAA satellite program could be reduced.

9. On May 16, OTA testified before the House Science Technology Subcommittee on its report *Federal Research and Technology for Aviation*, specifically on R&D for the air traffic control system (ATC), and on longer term research issues such as aviation safety. For several months, OTA has been working closely with the Subcommittee, at their request, attending meetings with them and the FAA, and helping the Subcommittee set up the hearings. Findings from OTA provided the framework for the hearing charter. One key message OTA brings is that improving ATC research and acquisition does <u>not</u> hinge on more funding; rather it requires an R&D process that avoids technology push, and is instead pulled by the operational requirements of the air transportation system as a whole. OTA also recently assisted the Aviation Subcommittee of the House Transportation and Infrastructure Committee in setting up hearings on ATC privatization. The 1994 aviation R&D report is the most recent of a line of work that started in the early 1980s. For example, *Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment* (1988) was instrumental (as evidenced by citations in the Committee Report) in Congress's decision to include in the Aviation Safety Research Act of 1988 provisions directing the FAA to set up a human factors research program. I anticipate that our latest aviation R&D report will be used in the FY97 FAA R&D reauthorization; beyond that, our report will define the path that Congress must direct the FAA to take if the aviation system is to reap the full benefits of new technologies, such as digital communications and satellite communications and positioning. We note that the FAA has, in the past several years, catalyzed in part by the work of the 1994 report, started to make the systemic changes in its R&D that OTA urged in its work as far back as 1982.

OTA's CONTRIBUTIONS TO THE WORK OF THE 103rd CONGRESS

During FY 1994, OTA delivered 51 publications to Congress, including 22 assessment reports, 27 background papers, and 2 administrative documents. We testified 38 times before congressional committees; in addition, we provided numerous special briefings and expert advice. As of September 30, 1994, 44 studies approved by the Technology Assessment Board (TAB) and 9 special responses were in progress. (TAB is comprised of six representatives and six senators, equally divided by party.)

I know that this Subcommittee is particularly interested in the legislative impact of our reports. We have prepared a summary of our legislative impact over the past few years. (**See Attachment 3.**) The summary shows that the Committees have frequently drawn upon OTA report findings and policy options both in writing legislation and in deciding not to write legislation, as well as upon OTA expertise in oversight, in preparing hearings, in getting up to speed on contentious technical issues, and even, in the case of defense conversion, in helping their constituents understand how better to cope with wrenching adjustments.

I will very briefly illustrate the contributions OTA has made to the legislative process in the past few years with a few examples; I selected the examples to give you an idea of the diversity of issues on which OTA helps the Congress. The Legislative Impact Summary (**Attachment 3**) gives many, many other examples.

1. *Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base* described the negative effects of current acquisition laws; these findings helped to form the basis of the Federal Acquisition Streamlining Act of 1994

2. *Information Systems Related to Technology Transfer* caused H.R.3550 to be modified; the bill originally would have created a large, governmentally funded program to promote technology transfer from federal labs, but the modified bill, following the OTA findings, stressed improving what already exists in technology transfer, and eliminating redundancy.

3. *Federal Energy Efficiency: Government by Good Example?* influenced the development of S.1040, S.1220, S.2166 and H.R. 776. Then Representative, now Senator, Olympia Snowe cited OTA's estimates of savings from federal energy efficiency measures in her statement in support of H.R. 776. The report influenced EPACT, the Energy Policy Act of 1992 (P.L. 102-486).

PLANS FOR FY96 AND BEYOND

In this portion of my testimony, I will discuss three topics:

(1) A sharper technology focus
(2) Restructuring and management savings
(3) Zero based budget for FY96

(1) A sharper technology focus: In 1994 the legislative subcommittees of the House and Senate Appropriations Committees instructed OTA to focus its work for Congressional committees more sharply on science and technology. The management and staff of OTA took these instructions to heart, with the support of our Board. We analyzed OTA's enabling statute, P.L. 92-484, and we drafted a plan to ensure that the agency's work would clearly focus on science and technology, and would include analysis of the impacts of technology, which are required by our statute. In addition, we designed the plan to avoid duplicating the work of other Congressional support agencies, and to take full advantage of the unique (to the Congress) resource embodied in our staff, which has advanced education and experience across the entire range of science and technology.

The Board approved the plan on June 23, 1994. We also invited staff of the Appropriations Committees to familiarize themselves with the approval process for OTA studies by attending Board staff and formal Board meetings, which they did.

The plan specified that all future proposals to the Board for assessments would begin with a one page "Technology Index", which is an annotated list of the specific technologies the project will analyze.

The Index is a forcing mechanism that requires us to ask, at every stage of developing an assessment: "Is this really a technology project?" Technology Indexes for all projects approved by TAB after approval of the plan are included in OTA's Justification of Estimates on pp. 135-145.

Finally, we prepared a description of OTA's role and function and a page on frequently asked questions about OTA to use in describing the agency to requesters. Copies of these documents are submitted with this testimony (**Attachment 4**).

2. Restructuring and management savings: OTA implemented a sweeping restructuring of the agency during FY 1994. We did this with due deliberation, with the consent of our Board, and taking advice and review from all levels of the Agency, and from knowledgeable outsiders. We described the initial steps of this process in the FY 1995 Justification of Estimates.

Restructuring allowed OTA to take a FY95 cutback (in real terms) without reductions in output, and, more importantly, we can now absorb further economies in a reasonably flexible way.

The restructured OTA has two research divisions instead of three, and nine research programs have been merged to six, without sacrificing any research areas. In addition, support offices are no longer in a separate management line with separate senior managers; instead many report to one of the two research division directors. This not only streamlines management, but makes it easier for the support staff and the research staff to understand each other's goals, problems and contributions, and to work together as a team, with ensuing productivity dividends.

The final result of the restructuring are:

- a 40% cut in senior management positions
- savings of about $1.3 million annually
- restoration of some previously lost research contracting capability

I'd like to emphasize that OTA's output did not shrink during FY 1994, despite massive restructuring. The esprit de corps of OTA was, and remains, very high. I commend OTA's dedicated, extremely capable and hard-working staff to you.

We have shown that we can work with the Congress to increase productivity under conditions of decreasing resources. We are coupling increased use of information technologies with more effective use of staff in a modified matrix management in a flatter organization to achieve even greater productivity gains and more flexible response to the Congress. Information technologies are linking our staff together, are making it easier to get more information from more sources faster, and are making production and dissemination of our products faster and cheaper. Our more flexible organization helps us to put together the best team for a given project, unhampered by Program or Division boundaries.

Moreover, we know that the Congress wants OTA to be able to respond more quickly, and to schedule and deliver work more in synch with the legislative "rhythm" of the Congress. Although our record, as I noted earlier, has been marked by real contributions to the legislative process, we certainly can improve, and will improve. We have some ideas on how to accomplish this, without sacrificing accuracy, quality or the comprehensive review that leads to credibility; the topic will be high on the agenda of the Technology Assessment Board when it first meets officially in the 104th Congress. I would be happy to talk with you about ways that OTA can be more responsive to the needs of the Congress.

3. A zero-based budget for FY96: Based on decisions the Technology Assessment Board made in the summer of 1994, OTA submitted a FY 1996 budget request of $23,195,000. The agency and the Board are well aware, however, that the leaders in both houses of Congress are determined to effect economies in the Legislative Branch beyond those they have already implemented.

OTA scrapped the $23 million dollar request in its February 23 testimony before the House Subcommittee on Legislative Appropriations. Instead, we submitted a conceptual plan to rebuild our budget from a zero base; we could implement the plan with a 20% cut in our current budget of $21,970,000, and could take a further reduction by moving from our leased space, which currently costs approximately $1,900,000 per year, into government owned space. [1]

In formulating our conceptual plan, we took into account the agendas and interests of the 104th Congress, based largely on many interactions with Members and staff. Naturally, taking on work is subject to the receipt of requests, availability of resources and the approval of our Board. We propose tasks in six specific areas:

1) **Terrorism and Crime**
Violent crime is rising to the top of voters' and Members' concerns. Moreover, we have seen that appalling acts of terrorism can happen here. OTA can provide the Congress with analyses of anti-crime, counter-terrorism, and counter-proliferation technologies and systems, based on over 15 years of experience in these areas. Our capabilities derive from work on taggants in explosives, aviation security and explosives detection, forensic DNA technology, drug interdiction, the efficacy of polygraph testing, juvenile delinquency, chemical, nuclear and biological warfare and safeguards, the causes of substance abuse and addiction, and police body armor. We also have extensive experience analyzing how information technologies can be used both by criminals and

[1]On instructions from the House Appropriations Committee, I sent letters earlier this year to the Senate Committee on Rules and Administration, and House Office Building Commission, the Librarian of Congress and the Architect of the Capitol requesting their assistance in locating space for OTA within government owned buildings as quickly as possible. As soon as relocation has been accomplished, recapture of the lease expenditure will allow for the reduction in OTA's appropriation described above.

by law enforcement agencies. Currently, we have projects on improving computer network security, electronic surveillance, and using information technologies to combat money laundering. See Attachment 2 for a complete list of OTA's recent and current work in technology and law enforcement and in the proliferation of weapons of mass destruction.

2) **Risk Assessment**

OTA could help Congress review risk assessments that may soon be required for major federal regulations. OTA's relevant experience is considerable, beginning with a ground-breaking study of "Cancer Risks from the Environment" almost 15 years ago. Before the 1990 Clean Air Act Amendments, OTA's estimates of the cost of achieving the urban ozone standard -- today's most expensive air pollution control program -- dramatically differed from EPA's, and OTA provided the only quantitative estimate of the benefits. Thus, OTA could, in selected priority cases, look at examples of particular concern to the Committees. We could also undertake two specific projects, if requested: (1) a review of the EPA dioxin reassessment; and (2) an analysis of commonly used scientific standards in risk assessment. In sum, OTA's experience and skill conducting risk and cost analyses of highly technical environmental and safety regulatory programs prepare us to quickly and independently review the work of the executive branch.

3) **Health**

OTA is prepared to continue assisting Congress in health care deliberations, particularly in regard to: (1) drug and device regulatory programs; (2) specific aspects of health reform efforts, including changes in the Medicare Program, and (3) issues related to medical and disability technologies. In terms of regulatory reform, OTA could review FDA approval processes and regulation of new drugs, biologicals and devices. In the health care reform area, OTA could, for example, analyze reforms and controls at the State level that might be pertinent to future Federal efforts. We would focus on medical and information technologies as potential contributors to better, and in some cases possibly less expensive, health care under various scenarios, e.g., of managed care. We could continue studies of the degree of cost-effectiveness of new technologies for the treatment, detection, and prevention of various diseases and for the enhancement of functional ability in persons with disabilities. Also, OTA is well poised to provide Congress with information about the rapid advances in genetics and the human genome that will continue to present new technology-related dilemmas.

4) **Space and Defense**

OTA has more than 14 years of continuous experience in space technology, space policy and space programs. Much of what we have done has proved both to be timely and to have a long "shelf life". The 104th Congress has clearly stated its interest in increasing the private sector role in space activities. OTA has already begun to do some work in this area, a fertile one for major efforts for the remainder of this Congress and beyond. Two other major areas of concern are: (1) space policy priorities; and (2) international cooperation and collaboration in space. Both are themes that have run through OTA work for more than a

decade, and both are ripe for a fresh consideration by the Congress in light of recent dramatic events.

OTA has had a rich program of assessments of defense and security issues dating back to 1980. Recent work has concentrated on post-cold war topics such as proliferation,, problems of treaty implementation, defense industry and technology, and advanced modeling and simulation. Major technological areas of evolving interest include: the role of technology in evolving force structures and missions; changing terrorist threats; ballistic missile defense; and the future role of defense-unique industries and R&D facilities.

5) **Energy and Transportation**
As Congress considers changes to legislation affecting electric utilities, OTA could extend its earlier work on the technical feasibility of deregulation and examine the role of new technologies in implementing increased competition. OTA could also build on its work on nuclear power and nuclear waste to assess technologies for accelerating safe and secure interim storage of spent fuel, pending the availability of a repository. Also, as federal budget constraints prompt Congress to reexamine the goals and performance of the government's R&D efforts, OTA would continue to assist Congress in evaluating the costs, benefits, and performance of energy science and technology programs that receive federal funding. Finally, because the Federal role in research, infrastructure, and oversight of transportation safety is substantial, OTA can address whether and how new complex software systems and advanced automation fit into the safety equation, and quickly assess transportation safety by technology issue and transport mode.

6) **Telecommunications and Information Technology**
OTA could examine the evolution of electronic commerce and analyze how the national information infrastructure (NII) could be shaped to promote economic growth in the private sector and better and cheaper delivery of services in the public sector and private sectors, including education and training. We could extend our efforts in the areas of encryption, system security, privacy, and computer crime and continue to work on the building blocks of the NII such as wireless technologies, standards and interoperability, and software development. We could also help Congress deal with issues such as defining universal service and equitable access to information systems and computer technologies, e.g., for rural areas, or for schools, and analyze what effects new technologies could have on goals such as economic development in rural areas and student achievement.

I would characterize these zero base areas as "centers of gravity". This set of areas reflects our sense of how we would need to reposition the agency's smaller resource base to best respond to the requests we are most likely to receive in the next few years. Naturally, the work we would take on would, as usual, be decided by the Chairmen and Ranking Minority Members of the committees of jurisdiction, and be approved by our Board.

We could mobilize resources to begin some new work in these areas very soon. In all six areas, because of our past and current work, and the expertise of our staff, we would be able to hit the ground running on new work.

OTA's VALUE TO THE CONGRESS

The Technology Assessment Board directed OTA to analyze several aspects of its performance. First, we have always stressed the non-partisan nature of our work, and the bipartisan composition of the Board. Now we have numbers for our work. **Figures 1 and 2** shows the results of an analysis of Board approved projects from the 97th through the 103rd Congress. The result: about 80% of OTA assessments were requested by both parties. The data also show a striking similarity in behavior between the Republican controlled Senate of 1981 through 1986 and the Democratic controlled Senate of 1987 through 1994: in both cases, the party in control dominated single-party requests from the Senate by a large margin. Still, throughout, the majority of assessments had both a Republican and a Democrat Senate requestor.

Secondly, an analysis titled "About OTA", prepared at the direction of TAB and included in **Attachment 4**, documents examples of OTA studies that have led to significant saving for the federal government. OTA work helps Congress in several ways. Our work often assists in the preparation of legislation and in the incorporation of specific provisions based on sound scientific and technical information. However, OTA work that is instrumental in a Congressional decision <u>not</u> to pursue legislation is just as valuable. OTA reports also prepare Congress to debate policies from a common background and base of credible scientific and technical knowledge. Further, OTA work helps Congress to oversee and monitor Executive branch programs. Most of these uses of OTA work are illustrated by the examples in my testimony in the section **OTA's Contributions to the Work of the 104th Congress**. "About OTA" contains other examples.

This year as in the past, with the help of the Board and the Appropriations Committees, OTA has deflected new legislatively mandated studies. The agency has comfortably met all targets for administrative cost reductions and FTE controls. We have made it much easier and cheaper for the Congress and the Nation to access OTA information and reports through the addition of electronic access. Since last summer, OTA has steadily increased its delivery of OTA reports via the Internet. Thousands of users receive OTA's information by electronic mail. In January of this year, OTA made its electronic bulletin board system accessible via CAPNET, Capital Hill's wide area network, the Internet and by telephone. Nationwide, thousands in OTA's network of advisors and contacts subscribe to OTA's electronic information and report release system through the agency's listserve.

<u>In Summary</u>: Through shared staff at CBO and GAO, Congress has provided for sound and impartial economic and budgetary analyses and for careful audits of government programs. In the world today, science and technology increasingly pervade all aspects of life, public and private, and are increasingly part of what legislators must understand in proposing and implementing workable, affordable solutions to national

problems. The legislative branch should be able to call on a staff shared among all the committees for impartial scientific evaluations and information -- a shared resource that the committee staffs need more than ever as they are cut back.

OTA's capacity to provide Congress with unbiased scientific and technological advice is not duplicated or, indeed, matched elsewhere. This capacity derives from a staff highly trained across the range of science and technical disciplines; their credentials, unique in the Congress, are displayed in **Attachment 5**. Perhaps as important, OTA can and does also call on national experts and stakeholders from American industry, academia, other parts of the private sector and the States who provide a diversity and an unparalleled source of real world advice and review not available to other agencies of the Congress.

Finally, OTA's value depends on the fact that it is of the Congress, tuned to and responsive to the legislative process, answerable to and beholden to no person, group, institution, or interest but the Congress. And we are kept even handed and non-partisan by our Board. Being part of the Congress means, furthermore, that OTA can respond quickly and flexibly when Congressional needs change or Congressional priorities shift, as they have now.

In conclusion, I want to thank you Mr. Chairman, and the Members of the Subcommittee, for inviting me here today. I shall be pleased to respond to questions that you and your colleagues may have.

LIST OF ATTACHMENTS

1. Reports released, at the printer, or in an advanced stage of production

2. **OTA Resources:** *Technology and Law Enforcement*
   Proliferation of Weapons of Mass Destruction

3. Legislative Impact Summary

4. *OTA's Role and Function, Frequently Asked Questions,* and *About OTA*

5. Credentials of OTA staff.

LIST OF FIGURES

OTA Publications FY 95*

- The Fusion Energy Program: The Role of TPX and Alternate Concepts
- Teachers and Technology: Making the Connection
- Nuclear Safeguards and the International Atomic Energy Agency
- Other Approaches to Civil-Military Integration: The Chinese and Japanese Arms Industries
- Cost-Effectiveness of Colorectal Cancer Screening in Average-Risk Adults
- U.S.-Russian Cooperation in Space
- Agriculture, Trade, and Environment: Achieving Complementary Policies
- Hospital Financing in Seven Countries
- Costs and Effectiveness of Prostate Cancer Screening in Elderly Men
- Issue Update on Information Security and Privacy in Network Environments
- The National Space Transportation Policy: Issues for Congress
- A History of the Department of Defense Federally Funded Research and Development Centers
- Cost-Effectiveness of Screening for Osteoporosis: Vol. 1
- Cost-Effectiveness of Screening for Osteoporosis: Vol. 2, Technical Appendices
- Electronic Surveillance in Advanced Telecommunications Networks
- Telecommunications Technology and Native Americans: Opportunities and Challenges
- Wireless Technologies and the National Information Infrastructure
- International Collaboration in Large Science and Technology Projects
- Chartbook on Sustainable Development
- Federal Technology Transfer and the Human Genome Project
- Environmental Technology: Analysis of Federal R&D Programs

* *as of May 1995*

OTA resources

OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS

Proliferation of weapons of mass destruction

Key staff contacts: GERALD EPSTEIN, TONY FAINBERG, TOM KARAS

SELECTED ASSESSMENTS COMPLETED BY OTA

- Proliferation and the Former Soviet Union, *September 1994*
  Addresses the full range of consequences that the breakup of the Soviet Union has for the proliferation of weapons of mass destruction, including possible transfers of nuclear materials, technology, expertise, or actual weapons to other countries or subnational groups.

- Export Controls and Nonproliferation Policy, *May 1994*
  Provides options for enhancing the effectiveness of export controls in slowing the spread of capabilities to produce weapons of mass destruction and analyzes options for reducing the burdens of export regulations on U.S. exporters.

- Technologies Underlying Weapons of Mass Destruction, *January 1994*
  Reviews the technical requirements and observable indicators for a nuclear, chemical, or biological weapon program as well as the technical requirements and indicators of a program to deliver these weapons to distant or defended targets with ballistic missiles, combat aircraft, or cruise missiles.

- Proliferation of Weapons of Mass Destruction: Assessing the Risks, *August 1993*
  Analyzes the risks posed by the spread of nuclear, chemical, and biological weapons, summarizes the technical aspects of monitoring and controlling their production, and explains the array of policy tools that can be used to combat proliferation, identifying tradeoffs and choices that confront policymakers.

- The Chemical Weapons Convention: Effects on the U.S. Chemical Industry, *August 1993*
  The Chemical Weapons Convention is one of the first arms control agreements to have a significant effect on private industry. This background paper examines some of its effects on the U.S. chemical industry, particularly regarding the declarations that industry must make and the inspections it will become subject to.

continued

ONGOING ASSESSMENTS (OTA STAFF CONTACT/PHONE NUMBER)

- Countering Proliferation of Weapons of Mass Destruction—
  Gerald Epstein 8-6428, or Tom Karas 8-6430
  Addresses technological options for preparing the U.S. military for the possibility that it may confront adversaries armed with weapons of mass destruction.

- Detecting Nuclear Facilities Through Environmental Samples—
  Gerald Epstein 8-6428 or Tom Karas 8-6430
  Discusses the use of environmental samples to identify or characterize covert nuclear weapon facilities by detecting the radioactive or other characteristic substances they might emit.

- Nuclear Safeguards and the IAEA—*Gerald Epstein 8-6428*
  This study examines options that the International Atomic Energy Agency can take to strengthen its system of nuclear safeguards and improve its ability to detect nuclear proliferation. It addresses both improving safeguards at known nuclear facilities as well as strengthening the ability to detect covert facilities.

SELECTED OTA STAFF CONTACTS

NAME	PHONE/E-MAIL
Gerald Epstein	8-6428 gepstein@ota.gov
Anthony Fainberg	8-6429 afainberg@ota.gov
Tom Karas	8-6430 tkaras@ota.gov

OTA also meets immediate congressional needs with a variety of analytical support such as briefings, testimony, and special reports.

OTA resources

OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS

Technology and law enforcement

Key staff contacts: VARY COATES, TONY FAINBERG, PETE JOHNSON, MICHAEL CALLAHAM

SELECTED ASSESSMENTS COMPLETED BY OTA

- Technology Against Terrorism: Structuring Security, *January 1992*; and Technology Against Terrorism: the Federal Effort, *July 1991*
  Explores technologies useful for countering terrorism, particularly in the area of aviation security and explosives detection, and suggests some policy options for R&D funding and interagency coordination.
- Police Body Armor Standards and Testing, Vol. I, *August 1992*; and Vol. II, *September 1992*
  Proposes options to assure quality and to assess risks (to wearers and to manufacturers) of federally certified bullet-resistant armor.
- The FBI Fingerprint Identification Automation Program: Issues and Options, *November 1991*
  Assesses the FBI's plans for automating the fingerprint identification process and related technical, cost, privacy, and record quality issues.
- Automated Record Checks for Firearm Purchasers, *July 1991*
  Examines the technical options for computerized record checks of persons seeking to purchase firearms.
- Alternative Coca Reduction Strategies in the Andean Region, *July 1993*
  Describes opportunities for improving development-oriented approaches to reducing coca production in the Andean region and examines the potential for applying biological control methods to eradicate illegally produced coca.
- Border War on Drugs, *March 1987*
  Analyzes federal efforts and technologies used to stop or deter international narcotics trafficking and highlights the need for the design of integrated systems, long-range strategic planning, and measures of effectiveness.
- Genetic Witness: Forensic Uses of DNA Tests, *July 1990*
  Analyzes the validity and reliability of forensic DNA analysis, the legal admissibility of DNA evidence, the implications for law enforcement, policymakers and the public of DNA databanks, and the impact of forensic DNA analysis on FBI, state and local crime laboratories.

continued

- Scientific Validity of Polygraph Tests: A Research Review and Evaluation, *November 1983*
  Evaluated the reliability and validity of polygraph testing to detect deception, and the uses of polygraph tests for national security and private employment purposes.
- Information Security and Privacy in Network Environments, *September 1994*
  Examines technological and institutional measures for safeguarding information and identifies policy issues related to: data confidentiality and personal privacy, copyright protection for networked electronic information; legal issues related to digital signatures and electronic commerce; and cryptography research and standards.

ONGOING ASSESSMENTS (OTA STAFF CONTACT/PHONE NUMBER)

- Electronic Surveillance in Advanced Telecommunications Networks—*Jim Curlin 8-6787*
  Describes and evaluates the technology needed to assist law enforcement agencies in conducting authorized wiretaps within digital communications networks under the Communications Assistance for Law Enforcement Act of 1994.
- Information Technologies for Control of Electronic Money Laundering—*Vary Coates 8-6772*
  Assesses issues pertaining to the deployment of advanced information technologies designed to lead to the discovery and confiscation of electronically laundered money.
- Technologies for Tracking Ammunition and for Controlling the Inadvertent Use of Handguns—*Art Charo 8-6445*
  Examines technologies to prevent an unauthorized user from firing a handgun, assesses improvements to reduce the incidence of handgun accidents, and analyzes the technological potential to track ammunition.

SELECTED OTA STAFF CONTACTS:

NAME	PHONE/E-MAIL	EXPERTISE
Michael Callaham	8-6426 mcallaham@ota.gov	police body armor
Vary Coates	8-6772 vcoates@ota.gov	information systems
Tony Fainberg	8-6429 afainberg@ota.gov	terrorism
Pete Johnson	8-6862 pjohnson@ota.gov	drug interdiction

LEGISLATIVE IMPACT SUMMARY

INDUSTRY, COMMERCE, AND INTERNATIONAL SECURITY DIVISION

Energy, Transportation and Infrastructure Program

The Fusion Energy Program: The Role of TPX and Alternate Concepts

Requested by: Committee on Science, Space, and Technology

Impacts:

- OTA provided input for the drafting of H.R. 4553, several proposals of which reemerged in H.R. 4908 (The Hydrogen, Fusion and High Energy Nuclear Physics Research Act of 1994). OTA also provided input for H.R. 4564 and S. 646, and for the FY95 Energy and Water Appropriations Bills.
- In the 104th, OTA provided information relevant to hearings for FY96 DoE fusion budget request.
- OTA testified before House Committee on Science, Subcommittee on Energy and Environment.

REPORTS ON ENERGY EFFICIENCY

Requested by: Senate Committees on Energy and Natural Resources and Governmental Affairs
House Committees on Government Operations and Energy and Commerce

Building Energy Efficiency

Impacts:

- The report influenced P.L. 102-486 (The Energy Policy Act of 1992). OTA assisted the Energy and Commerce Committee on understanding the implications of the Administration's Climate Change Action Plan.
- In the 104th, OTA is assisting House Science in determining priorities for part of DoE's budget, and is assisting in preparing DoE Authorization legislation.

Industrial Energy Efficiency

Impacts:

- OTA testified before Senate Committee on Energy and Natural Resources

Energy Efficiency: Challenges and Opportunities for Electric Utilities

Impacts:

- OTA advised the Congress during the consideration of the Energy Policy Act of 1992 (P.L. 102-486). The report was praised by Members on both sides of the aisle for its timeliness for consideration of the Energy Policy Act. OTA advised the House Science Committee and the House Energy and Commerce Committee on various utility issues, including a California proposal.

Federal Energy Efficiency: Government by Good Example?

Impacts:

- The report influenced development of S. 1040 (The Government Energy Efficiency Act of 1991), S. 1220, S. 2166 and H.R. 776.
- This report affected at least one piece of passed legislation: The Energy Policy Act of 1992 (P.L. 102-486).
- OTA testified before Committees on Governmental Affairs and Government Operations.
- OTA prepared cost savings estimates (from fluorescent bulbs) for Governmental Affairs; these were printed in the Congressional Record.

Energy Efficiency in Federal Facilities: Update on Funding and Potential Savings

Requested by: House Committee on the Budget

Impact:

- The report was used to assist in FY95 budget reviews

Power Sources for Remote Arctic Applications

Requested by: Senators Stevens and Murkowski

Impact:

- As background material for defense appropriations in the 103rd Congress.

Aging Nuclear Power Plants: Managing Plant Life and Decommissioning

Requested by: Senate Committee on Governmental Affairs; House Committee on Energy and Commerce

Impact:

- In the 104th Congress; discussions with House Energy and Commerce on spent fuel legislation.

Retiring Old Cars: Programs to Save Gasoline and Reduce Emissions

Requested: House Committee on Energy and Commerce

Impact:

- Influenced the withdrawal of legislation.

Improving Automobile Fuel Economy: New Standards, New Approaches

Requested by: Senate Committee on Energy and Natural Resources

Impact:

- Senate Energy and Natural Resources introduced legislation based on OTA findings. OTA testified 6 times. OTA reviewed a number of legislative proposals.

Fueling Reform: Energy Technologies for the Former East Bloc

Energy Efficiency Technologies for Central and Eastern Europe (Interim Report)

Requested by: Senate Committees on Environment and Public Works and Foreign Relations
House Committees on Foreign Affairs, Energy and Commerce and Banking, Housing and Urban Affairs

Impact:

- Interactions with Committees had relevance for foreign aid hearings on P.L. 103-87.

Potential Environmental Impacts of Bioenergy Crop Production

Requested by: House Committee on Energy and Commerce

Impact:

- Helped on hearing. Helped Committee staff who were writing a position paper.

U.S. Oil Import Vulnerability: the Technical Replacement Capacity

Requested by: Senate Committee on Energy and Natural Resources; House Committee on Energy and Commerce

Impact:

- Influenced S. 1220 (The National Energy Security Act), S. 2166 (a revised comprehensive energy bill), H.R. 776 and related bills, and S. 1018 (The Energy Goals Act of 1991, later incorporated into EPACT). Influenced the Energy Policy Act of 1992 (P.L. 102-486—[EPACT]). OTA testified several times.

Green Products by Design: Choices for a Cleaner Environment

Requested by: House Committees on Science, Space and Technology and Energy and Commerce

Impact:

- Contributed to H.R. 3870 (The Environmental Technologies Act of 1994). OTA commented on S. 405, which was incorporated into the Senate companion bill. OTA also delivered a memo used as background in the reauthorization of RCRA. OTA testified before House Science.

Federal Research and Technology for Aviation

Requested by: House Committees on Science, Space and Technology, Public Works and Transportation, and Government Operations

Impact:

- Report used in preparation for hearings in 104th Congress by House Transportation and Infrastructure. OTA testified in 103rd before Senate Appropriations.

Aircraft Evacuation Testing: Research and Technology Issues

Requested by: House Committee on Government Operations

Impact:

- Provided a basis for not pursuing legislation establishing the 60 second evacuation rule.

Access to Over-the-Road Buses for Persons with Disabilities

Requested by: Mandated by P.L. 101-336 (Americans with Disabilities Act)

Impact:

- The mandate required OTA to provide information that the DoT could use in developing regulations. DoT has used the report in developing regulations.

Renewable Energy Technologies (scheduled for release Spring 1995)

Requested by: House Committee on Energy and Commerce

Impact:

- Background material to House Energy and Commerce in 103rd as they prepared H.R. 1479; Background material to House Science in 104th for hearings on H.R. 655.

Industry, Telecommunications and Commerce Program

Advanced Network Technology

Requested by: Senate Commerce, Science and Transportation Committee and House Science, Space and Technology Committee

Impact:

- The first two BPs in the series of which this was the third, *High Performance Computing & Networking for Science* and *Seeking Solutions: High Performance Computing for Science* were used by the Committees in debate leading to the High Performance Act of 1991 (P.L. 102-194).

After the Cold War: Living with Lower Defense Spending

Requested by: Senate Committees on Armed Services, Commerce, Science and Transportation, Foreign Relations, and Labor and Human Resources; House Committee on Government Operations

Impacts:

- Extensive use by both the Republican and Democratic Defense Conversion Task Forces, and wide bipartisan and bicameral use in shaping many parts of the defense conversion legislation in the Defense Authorization and Appropriations Acts of 1993, 1994, and 1995 (H.R. 5006 and S. 3114; H.R. 2401 and S. 1298; H.R. 4301 and S. 2182).
- OTA testified before the Senate Commerce Committee, twice before the House Armed Services Committee, the Joint Economic Committee, and twice before the House Banking Committee.
- The Northeast-Midwest Congressional Coalition task force on defense downsizing relied extensively on the OTA report.

- Options of the report that were reflected in legislation ranged from those to expedite the transfer to the private sector of closed military bases, to assisting dislocated defense workers find other jobs, to easing the transition on defense impacted communities, to helping small, impacted defense contractors find ways to develop commercial markets.
- OTA also received testimonial letters from Members. See, e.g. letters from Sen. McCain: "After the Cold War is a superb study and the standard by which all similar efforts will be judged....Thank you for your fine service to the Congress and the American public."
- OTA also met with Members on both sides of the aisle to help them with defense conversion issues in their own communities.

Finding a Balance: Computer Software, Intellectual Property, and the Challenge of Technological Change

Requested by: Senate Committee on the Judiciary

Impact:

- Used by Senate Judiciary Committee in preparing hearings on and considering legislation on oversight and operations of the PTO and on software piracy. Sen. Hatch wrote that he and the Patents Subcommittee would "find the report to be a valuable resource in the years ahead."

U.S. Mexico Trade: Pulling Together or Pulling Apart?

Requested by: Senate Committee on Labor and Human Resources; House Committee on Education and Labor

Impacts:

- The report's analysis of the cost of building a car in the U.S. versus producing a car in Mexico were quoted a number of times on the Floor: the report found that, factoring in all the relevant costs, it was often cheaper to make the car in the U.S.
- OTA testified before the House Government Operations Subcommittee on Employment, Housing and Aviation on the impact of Mexico's agricultural policies on a NAFTA and before the Senate Labor and Human Resources Committee

Defense Conversion: Redirecting R & D

Requested by: Senate Committees on Armed Services, Commerce, Science and Transportation, Foreign Relations and Labor and Human Resources; House Committee on Government Operations

Impact:

- OTA testified before House SST Subcommittee on Energy on H.R. 1432. H.R. 1432 related several of the report's options to improve the CRADA process, and to focus the technology transfer efforts of the DoE labs on mission-oriented areas. S. 473 also reflected the report's options on improving the CRADA process, and on avoiding duplication between DoD and DoE

Accessibility and Integrity of Networked Information Collections

Requested by: Mandated by Section 2385 of the Rural Economic Development Act (P.L. 101-624)

Impact:

- This report was used as a resource at a 1993 Library of Congress conference on delivering electronic information co-chaired by the Vice President, and number Mr. Gingrich among the participants.

Electronic Enterprises: Networking for the Future

Requested by: Senate Committee on Commerce, Science and Transportation
House Committee on Science, Space and Technology

Impact:

- OTA testified before the House SST Subcommittee on Technology, Environment and Aviation on aspects related to House and Senate telecommunications legislation.

U.S. Telecommunications in European Markets

U.S. Banks and International Telecommunications (Interim Report)

Requested by: Senate Committee on Finance; House Committees on Foreign Affairs and Banking, Housing and Urban Development

Impact:

- Used by House Foreign Affairs in considering Executive branch proposals for restructuring the State Department's Bureau of International Communications and Information Policy, and in considering GATT telecomm issues.

Industry, Technology and the Environment: Competitive Challenges and Business Opportunities

Development Assistance, Export Promotion, and Environmental Technology (Interim Product)

Trade and Environment: Conflicts and Opportunities (Interim Report)

Requested by: Senate Committee on Finance; House Committees on Foreign Affairs and Energy and Commerce

Impacts:

- The report influenced three pieces of legislation: H.R. 3813 (Environmental Export Enhancement Act); S. 2093; and S. 978. With respect to H.R. 3813, Reps. Gilman and Roth cited the report's influence on the floor of the House. With respect to S. 2093, the Senate Committee on Environment and Public Works quoted and para phrased from the report in developing rationales for provisions of the bill on water pollution prevention. With respect to S. 978, floor debate in the Senate cited findings from the report. The Project Director testified twice before subcommittees of House Science, Technology and Space Committee.
- Sen. Moynihan cited the OTA reports in asking the ITC to collect and analyze trade data pertinent to U.S. environmental firms.
- *Trade and Environment* used by the bipartisan Congressional delegation to the June 1992 environment and development conference.

Performance Standards for the Food Stamp Employment and Training Program

Requested by: Mandated by the Hunger Prevention Act of 1988 (P.L. 100-435)

Impact:

- S. 2633, introduced by Sen. Dole in April 1992, drew from the findings of the OTA report and of the National Commission for Employment Policy to propose a comprehensive merger and streamlining of the Federal-State employment and training system.

Making Government Work: Electronic Delivery of Federal Services

Requested by: Senate Committees on Governmental Affairs and Agriculture, Forestry and Nutrition

Impact:

- The report influenced S. 1646 (the Food Stamp Fraud Reduction Act of 1993) and S. 560 (Paperwork Reduction Act of 1994). The report was the subject of two hearings, one by the Senate Committee on Governmental Affairs Subcommittee on Government Regulation and Information, and one by the Senate Committee on Agriculture, Forestry, and Nutrition. S. 1646 referred explicitly to the OTA report.

Multinationals and the U.S. Technology Base

Requested by: Senate Committees on Commerce, Science and Transportation and Banking, Housing and Urban Affairs

Impact:

- The Senate Commerce Committee used the report and consulted with the Project Director in drafting Sec. 105 of the Telecommunications Competition and Deregulation Act of 1995 (Sen. Pressler). The Committee is also considering legislation to harmonize conflicting language affecting the participation of foreign firms in government programs, and has asked OTA for further analysis, now almost completed.

Information Security and Privacy in Network Environments

Requested by: Senate Committee on Governmental Affairs

Impact:

- The report was used in developing H.R. 5199 (Encryption Standards and Procedures Act of 1994). At the release of the report, Sen. Roth said that the report "should serve as the basis for hearings and legislation" and requested assistance (now partially completed) from OTA to help prepare for legislation in the 104th Congress. Rep. Oxley asked OTA to examine the estimates of the costs to implement the Communications Assistance for Law Enforcement Act.

Contributions of the DoE Weapons Laboratories and NIST to Semiconductor Technology

Requested by: Senator Hollings on behalf of the Senate Committee on Appropriations

Impact:

- On OTA's identification of strength in the National Labs on advanced lithography, and the weakness of the U.S. lithography industry, Congress increased appropriations for basic research in advanced lithography.

The Social Security Administration's Decentralized Computer Strategy: Issues and Options

Requested by: House Committee on Appropriations

Impact:

- Report used by House Committee on Appropriations to make decisions on FY94 recisions and reductions in the FY95 appropriations for the SSA automation investment program. The House Committee report cited the guidance provided by OTA.

Global Standards: Building Blocks for the Future

Requested by: House Committee on Space, Science, and Technology

Impact:

- Cited in H.R. 820 and its companion bill S. 4, both of which, responding to OTA's findings and options, required NIST to develop a new standards setting strategy. OTA testified before the Subcommittee on Technology and Competitiveness. House SST, based on suggestions in the report, initiated a dialogue between NIST and key members of the standards setting community.

The 1992 World Administrative Radio Conference: Technology and Policy Implications

Requested by: House Committee on Energy and Commerce; Senate Committee on Commerce, Science, and Transportation

Impact:

- Anticipated that the report will be used to inform Senate debate on the Final Acts of the 1992 World Administrative Radio Conference (WARC-92), a treaty not yet sent to the Senate. House Foreign Affairs used the report to prepare for the 1994 International Telecommunication Union's Plenipotentiary Conference.

Information Systems Related to Technology Transfer: A Report on Federal Technology Transfer in the United States

Requested by: House Committee on Banking, Finance and Urban Affairs

Impact:

- The report's analysis led to changes in H.R. 3550, replacing a large new government program with improvements in existing programs. Key provisions of H.R. 3550 were piggybacked onto Title III of H.R. 2442. On the Floor of the House, Mr. Roth (R-WI) quoted OTA testimony before the Subcommittee on Economic Growth and Credit Formation. H.R. 80, the revised version of H.R. 3550 was introduced into the 104th Congress.

Protecting Privacy in Computerized Medical Information

Requested by: House Committee on Government Operations

Impact:

- Rep. Condit cited the OTA report in introducing H.R. 435 (The Fair Health Information Practices Act of 1995). OTA testified at a hearing to release the report. Also, OTA participated in a Roundtable Discussion on an improved employment verification system, with Senators Simpson and Kennedy and Rep. Barney Frank, as reported in a Staff Report for the Subcommittee on Immigration and Refugee Affairs.

International Security and Space Program

Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base

Requested by: Senate Committees on Armed Services; Commerce, Science, and Transportation; Foreign Affairs; and Labor and Human Resources; House Committee on Government Operations.

Impacts:

- Findings used in Senate Armed Services Committee, Subcommittee on Defense Industry and Technology hearings.
- OTA testified on report findings to the House Armed Services Committee, Structure of the U.S. Defense Industrial Base Panel.
- OTA's description of negative effects of current acquisition laws helped to form the basis of the Federal Acquisition Streamlining Act of 1994.

Building Future Security: Strategies for Restructuring the Defense Technology and Industrial Base

Requested by: Senate Committees on Armed Services; Commerce, Science, and Transportation; Foreign Affairs; and Labor and Human Resources; House Committee on Government Operations.

Impacts:

- Report findings and subsequent OTA testimony were used in the Senate report language of the National Defense Authorization Act of 1993 and were used as a basis for the Federal Acquisition Streamlining Act of 1994.
- Report findings related to DOD depot level maintenance led to legislation establishing a task force to evaluate depots.

Assessing the Potential for Civil-Military Integration: Technologies, Processes, and Practices

Requested by: Senate Committee on Armed Services; House Committee on Armed Services

Impact:

- In the 104th Congress, report findings are being used by the staff of the House Committee on National Security to examine the policies toward dual-use technologies, and by staff of the Senate Armed Services Committee to consider further acquisition reform.

Proliferation of Weapons of Mass Destruction: Assessing the Risks

Requested by: Senate Committees on Foreign Relations; Governmental Affairs Committee; Banking, Housing and Urban Affairs
House Committees on Foreign Affairs; Armed Services and Permanent Select Committee on Intelligence

Impact:

- According to the chairman of the Senate Foreign Relations Committee, OTA's report was "the single best general reference document on the subject of weapons proliferation;" the chairman of the Senate Governmental Affairs Committee described it as "a grand overview of the problem" and "an invaluable basic reference source on the Number One security threat facing world order today."

The Chemical Weapons Convention: Effects on the U.S. Chemical Industry

Requested by: Senate Committees on Foreign Relations and Governmental Affairs
House Committees on Foreign Affairs; Armed Services and Permanent Select Committee on Intelligence

Impact:

- This background paper was cited in report of the Select Committee on Intelligence of the United States Senate, Report 103-390.

Technologies Underlying Weapons of Mass Destruction

Requested by: Senate Committees on Foreign Relations and Governmental Affairs
House Committees on Foreign Affairs; Armed Services and Permanent Select Committee on Intelligence

Impact:

- This background paper was cited in report of the Select Committee on Intelligence of the United States Senate, Report 103-390.

Export Controls and Nonproliferation Policy

Requested by: Senate Committees on Foreign Relations and Governmental Affairs
House Committees on Foreign Affairs; Armed Services and Permanent Select Committee on Intelligence

Impacts:

- This report is being used in the 104th Congress by staff of the Subcommittee on International Finance and Monetary Policy of the Senate Banking Committee to organize its preparations for considering the reauthorization of the Export Administration Act.
- In the 103rd Congress, OTA provided testimony before the Senate Banking Committee during its consideration of the reauthorization of the Export Administration Act (Report 103-288).

Proliferation and the Former Soviet Union

Requested by: Senate Committees on Foreign Relations and Governmental Affairs
House Committees on Foreign Affairs; Armed Services and Permanent Select Committee on Intelligence

Impacts:

- This report is being used in the 104th by the Permanent Subcommittee on Investigations of the Senate Committee on Governmental Affairs to help plan the Committee's investigation of Russian organized crime, particularly in relation to the increased levels of smuggling of nuclear materials.
- In the 103rd Congress, Rep. Weldon (R-PA) quoted this report extensively in counterproliferation hearings held for the National Defense Authorization Act of FY 1996.
- In the 103rd Congress, the House Armed Services Committee used this report to urge that the defense appropriations conference committee to provide full funding for Nunn-Lugar programs.

Nuclear Safeguards and the International Atomic Energy Agency

Requested by: Senate Committees on Foreign Relations and Governmental Affairs
House Committees on Foreign Affairs; Armed Services and Permanent Select Committee on Intelligence

Impact:

- In the 104th Congress, the staff of the House National Security Committee are using these report findings as they prepare the National Defense Authorization Act of FY 1996.

Civilian Satellite Remote Sensing: A Strategic Approach

Requested by: Senate Appropriations Subcommittee on VA, HUD and Independent Agencies; Committees on Commerce, Science, and Transportation and Armed Services
House Appropriations Subcommittee on VA, HUD and Independent Agencies; House Committee on Science, Space and Technology

Impacts:

- In the 104th Congress, OTA staff helped staff of the House Science Committee to set up hearings on NASA's Mission to Planet Earth for Chairman Walker.
- OTA staff testified on the findings of the series of reports on the Earth Observation Systems for NASA oversight hearings in March 1995.

The Future of Remote Sensing from Space: Civilian Satellite Systems and Applications

Requested by: Senate Appropriations Subcommittee on VA, HUD and Independent Agencies; Committees on Commerce, Science, and Transportation and Armed Services Committee

House Appropriations Subcommittee on VA, HUD and Independent Agencies; House Committee on Science, Space and Technology

Impact:

- In the 102nd Congress, the OTA testified on its findings to the House Science, Space and Technology Committee's hearing on NASA's Mission to Planet Earth.

Remotely Sensed Data from Space: Distribution, Pricing, and Applications

Requested by: House Committee on Science, Space and Technology

Impact:

- This report is the result of an OTA workshop, held at the request of the House Committee on Science, Space and Technology to look at the different approaches to pricing. These findings were the basis of common language between the Senate and House versions of legislation for P.L. 102-555 on pricing Landsat information.

Technology Against Terrorism: The Federal Effort

Requested by: Senate Committees on Governmental Affairs; Foreign Relations; Commerce, Science and Transportation; and Select Committee on Intelligence

Impacts:

- Report findings were used to stabilize funding for counterterrorist research for the interagency Technical Support Working Group in the 102nd and 103rd Congress.
- Report findings showed the limitations of one explosive detective device and the promise of CAT scanning, which shifted funding priorities.

Technology Against Terrorism: Structuring Security

Requested by: Senate Committees on Governmental Affairs; Foreign Relations; Commerce, Science and Transportation; and Select Committee on Intelligence

Impacts:

- Committee report language of the Aviation Security Act of 1990 created a Science Advisory Panel and urged that OTA be represented on this panel, and the Project Director has been an invited and participatory observer for the past four years.
- In the 103rd Congress, OTA testified to the House Committee on Science, Space and Technology on its reports and recent FAA actions to improve aviation security.

Police Body Armor Standards And Testing

Requested by: Senate Committee on Judiciary

Impact:

- In the 102nd Congress, OTA's report findings concluded that passage of H.R. 332 would not resolve the police body armor controversy and might exacerbate it. The House Committee on Judiciary tabled the bill.

HEALTH, EDUCATION, AND THE ENVIRONMENT DIVISION

Education and Human Resources Program

Biomedical Ethics in U.S. Public Policy

Requested by: Senators Hatfield, DeConcini, and Kennedy

Impacts:

- Hatfield called attention to the report when he introduced S.1042.
- Kennedy released report at hearing of the Committee on Labor & Human Resources; Hatfield, and OTA, testified.
- Hatfield and Kennedy developed new legislation (not yet intro.) to establish a national bioethics commission; legislation draws on report options and elements.
- Hatfield cited report in letter to Secretary of Commerce re: biotechnology patents.

The Human Genome Project and Patenting DNA Sequences

Requested by: Senators Hatfield, DeConcini, and Kennedy

Impacts:

- Hatfield cited report on patents in letter to Secretary of Commerce re: biotechnology patents
- Based on this report and a 1992 OTA report, "Cystic Fibrosis and DNA Tests," OTA testified before Senate Committee on Governmental Affairs

Policy Issues in the Prevention and Treatment of Osteoporosis (series in progress)

Requested by: Senate Special Committee on Aging; Senators Grassley and Glenn; House Select Committee on Aging; Reps. Snowe and Gilman; former Reps. Donnelly, Downey, and Saiki

Impacts:

- Sen. Grassley's office asked OTA to comment on estimates of federal funding for osteoporosis research
- Rep. Snowe's office asked OTA to comment on proposals for accelerated review of osteoporosis drugs
- OTA provided information on osteoporosis for a publication of the House Select Committee on Aging, Subcommittee on Housing and Consumer Interests
- OTA provided informal briefings for Sen. Grassley's and Glenn's staff

Teachers and Technology: Making the Connection

Requested by: Senate Committee on Labor and Human Resources, Senate Appropriations Committee (Sen. Cochran), and House Committee on Education and Labor (now House Committee on Economic and Educational Opportunities)

Impacts:

- Sen. Cochran used report for hearing on educational technology appropriations
- OTA testified at hearing.
- Sen. Mosely-Braun and Sen. Kennedy both cited report at separate hearings on the Hill the day of release (4-4-95)

Understanding Estimates of Health Reform (series)

Requested by: Sen. Ted Stevens, member, Senate Appropriations Committee, and the Technology Assessment Board. Sen. Durenberger requested background paper, "Managed Care and Competitive Health Care Markets: The Twin Cities Experience"

Impact:

- OTA's three papers in this series (published in May, July, and September 1994) were used as background information to the health care reform debate

Cystic Fibrosis and DNA Tests: Implications of Carrier Screening; Genetic Counseling and Cystic Fibrosis Carrier Screening: Results of a Survey; Genetic Tests and Health Insurance: Results of a Survey

Requested by: House Energy and Commerce Committee; House Energy Subcommittee, Committee on Science, Space and Technology; Rep. David Obey

Impacts:

- Rep. Obey inserted report language into "Departments of Labor, Health and Human Services, Education, and Related Agencies Appropriations Bill," based on this report and on OTA's 1990 reports "Genetic Witness: Forensic Uses of DNA Tests," and "Genetic Monitoring and Screening in the Workplace."
- Based on this report and the OTA report, "The Human Genome Project," OTA testified before Senate Committee on Governmental Affairs.
- Committee on Science, Space and Technology held hearing on the Human Genome Project; committee staff used full report and two background papers to prepare for hearing.
- Rep. Conyers introduced H.R. 2045 (The Human Genome Privacy Act) based in part on information gathered during early developments in these reports and the previously mentioned 1990 OTA reports.
- These reports (and others from OTA) provided background material to develop report language on genetic information privacy that accompanied the administration's health care bill.

Technologies for Understanding and Preventing Substance Abuse and Addiction; Biological Components of Substance Abuse and Addiction

Requested by: House Committee on Government Operations (now House Committee on Government Reform and Oversight); Senate Labor and Human Resources Committee; Senate Governmental Affairs Committee

Impact:

- Minority staff of the House Committee on Government Reform and Oversight used the report to draft a memo to Democratic committee staff in preparation for a committee hearing on drug policy in March 1995.

Wage Record Information System

Requested by: Congress, Section 408 of the 1990 Amendments to the Carl D. Perkins Vocational Education Act.

Impact:

- Report sent to the Senate Committee on Labor and Human Resources and the House Committee on Education and Labor for the planned submission (May 1994) of the Bureau of Labor Statistics report on development of a national wage record data file.

Environment Program

Research Health Risks

Requested by: House Science Committee

Impacts:

- Used for writing title III of H.R. 9, the Job Creation and Wage Enhancement Act, which was made into H.R. 1022, the Risk Assessment and Cost Benefit Analysis Act.
- In the 103rd, the bill was used to develop language in H.R. 4306, the Risk Assessment Improvement Act, and H.R. 310, the Risk Communication Act.

Harmful Non Indigenous Species

Requested by: House Energy and Commerce Committee

Impact:

- Used by committee to reauthorize the Nonindigenous Aquatic Nuisance Prevention and Control Act. Has also been utilized during reauthorization of the Federal Noxious Weed Act.

Aquaculture

Requested by: House Committees on Agriculture; Merchant Marine and Fisheries

Impact:

- Used by Committees to develop H.R. 4853, the Marine Aqua culture Enhancement Act of 1994, and H.R. 4854, the National Aquaculture Development Act of 1994.

Disposal of Chemical Weapons

Requested by: Senate Armed Services

Impact:

- Report was used by Committee to develop legislation to create a mechanism to explore alternative technologies for disposal. Language was incorporated in Defense Authorization Act of 1992 which required Army to seek alternatives to incineration.

Advanced Liquid Metal Reactor

Requested by: Senate Energy Committee

Impact:

- Citing OTA report, the FY1995 Energy and Water Appropriations bill discontinued funds for ALMR.

Biologically Based Pest Controls

Requested by: House Agriculture

Impact:

- Study is being utilized for relevant portions for the 1995 Farm bill, and has been told it could be utilized in considerations of FIFRA, the Federal Insecticide, Fungicide and Rodenticide Act reforms scheduled for later in the Congress.

Dismantling Nuclear Bombs and Managing Nuclear Materials & Cleanup of Nuclear Complex

Requested by: Senate Governmental Affairs

Impacts:

- Was used by Senate Energy Committee to force DOE to set up Advisory Committee. Committee deferred action to implement reports suggestions.

- Complex Cleanup report led to language in the National Defense Authorization Act which required DOE to prepare a report to Congress to upgrade citizen participation and input into its plans for cleanup at Hanford, Oak Ridge, etc.

Health Program

The Biology of Mental Disorders: New Developments in Neuroscience

Requested by: Senate Committee on Labor and Human Resources

Impact:

- OTA testified at and the report was used to prepare for hearings held by the Senate Labor and Human Relations committee in 102nd & 103rd Congress.

Defensive Medicine and Medical Malpractice Reform

Requested by: House Committee on Ways and Means; Senate Committee on Labor and Human Resources

Impacts:

- OTA testified and the report was used to prepare for hearings by Senate Finance Committee.
- Report cited repeatedly by Senator Kyl and Senator Kennedy.

Pharmaceutical R&D: Costs, Risks and Rewards

Requested by: House Committee on Energy and Commerce and the Subcommittee on Health and Energy; Senate Committee on the Judiciary and the Subcommittee on Antitrust, Monopolies & Business Rights

Impact:

- OTA testified at and the report was used to prepare for hearings held by the Senate Finance Committee, House Ways and Means Committee, the Senate Aging Committee, and The House Small Business Committee; it served as the basis for legislation to amend the orphan drug laws.

Home Drug Infusion Therapy Under Medicare

Requested by: Senate Finance Committee

Impact:

- OTA testified before the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce; report served as basis for HR 4128 and HR 345 in the 103rd.

Evaluation of the Oregon Medicaid Proposal

Requested by: House Committee on Energy and Commerce and the Subcommittee on Health and Environment; Senate Commerce, Science and Transportation and Subcommittee on Science, Technology and Space

Impact:

- OTA testified on report at hearings held by House Committee on the Budget and one held by House Committee on Energy and Commerce. The Committee on Energy and Commerce decided not to block the wavier.

Identifying Health Technologies That Work: Searching for Evidence

Requested by: Senate Labor and Human Resources

Impact:

- Report formed the basis for bill introduced by Rep. Wyden in 103rd.

The Continuing Challenge of Tuberculosis

Requested by: Subcommittee on Health and the Environment of House Energy and Commerce Committee; Subcommittee on Intergovernmental Relations and Human Resources of the House government Operations; Senate Committee on Labor and Human Resources

Impact:

- Requesting Committees held a press conference on report to draw media attention to the conclusions.

Protecting Privacy in Computerized Medical Information

Requested by: House Committee on Government Affairs Subcommittee on Information, Justice, Transportation and Agriculture

Impact:

- OTA testified before the Government Affairs Subcommittee on Information, Justice, Transportation and Agriculture. The report was used as basis for legislation introduced by Rep. Condit - Fair Health Information Practices in 103rd; reintroduced in 104th.

Difficult-to-Reuse Needles for the Prevention of HIV Infection Among Injecting Drug Users

Requested by: Subcommittee on Regulation, Business Opportunities, and Energy of the House Committee on Small Business

Impact:

- Conclusions in report led to the Subcommittee decision to abandon proposed legislation.

Attachment 4

OFFICE OF TECHNOLOGY ASSESSMENT ■ CONGRESS OF THE UNITED STATES

OTA ROLE & FUNCTION

The profound technological and scientific advances affecting all facets of the nation's future—from economic competitiveness in the new global economy, to the challenges of new communication technologies, to the changing needs of national security—are placing unprecedented and complex policy issues before Congress. The Office of Technology Assessment (OTA), a congressional support agency, provides Congress with objective and extensive analyses of these issues.

With an analytical staff representing every major field of science and technology, OTA works directly for congressional committees. The small agency (about 200 employees) has two analytical divisions: 1) Industry, Commerce, and International Security; and 2) Health, Education, and the Environment.

OTA is governed by a 12-member bipartisan congressional Technology Assessment Board of six Senators and six Representatives, equally divided by party. In addition, a distinguished council of 10 leaders from science and technology, business and industry, and education provides advice.

OTA undertakes assessments at the request of any congressional committee Chairman. The Chairman may request the work personally, on behalf of a Ranking Minority Member, or on behalf of a majority of committee Members. The OTA Board may also request work, as can OTA's Director. In practice, most assessments are requested by the Chairman and the Ranking Minority Member of a committee, and many are supported by more than one committee. The Technology Assessment Board makes the final decision on whether OTA can proceed with an assessment and reviews all reports prior to their release.

Most of OTA's work concentrates on in-depth assessments that take one to two years to complete. Drawing on past and current work, OTA also meets immediate congressional needs with a variety of analytical support such as briefings, testimony, and special reports.

OBJECTIVES OF OTA RESEARCH

Many programs that come before Congress for authorization and appropriations have a significant technological or scientific component. OTA's work assists Congress in evaluating priorities and level of funding in these programs. The agency also helps Congress oversee the management or regulation of technological applications by examining the benefits, disadvantages, and implications of various courses of action. Recent examples include:

- proliferation of weapons,
- the human genome project,
- a new air traffic control system,
- dismantlement of nuclear weapons,
- cleanup of the nuclear weapons complex, and
- advanced telecommunication networks.

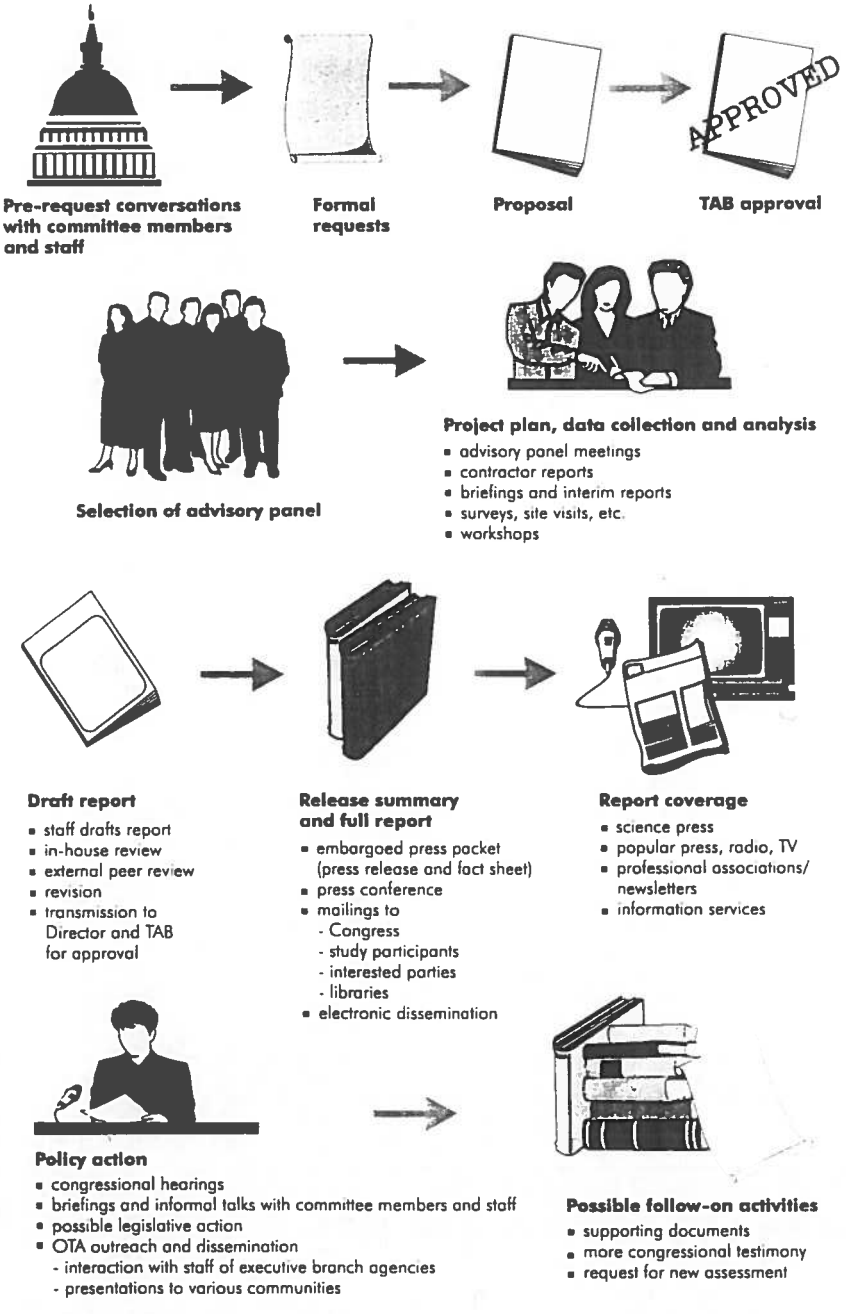
By providing committees with balanced, comprehensive research

FOR MORE INFORMATION

Office of the Director
202-224-3695
Congressional & Public Affairs
202-224-9241
Publication Distribution
202-224-8996
or e-mail
pubsrequest@ota.gov

Mailing address
Office of Technology Assessment
U.S. Congress
Washington, DC 20510-8025

THE OTA ASSESSMENT PROCESS



that explains and interprets such issues, OTA helps Congress evaluate the validity of information from other sources.

THE ASSESSMENT PROCESS

For each major assessment, OTA assembles a balanced advisory panel that includes stakeholders and experts. The advisory panel helps shape the study by suggesting alternative approaches, reviewing documents, and critiquing report drafts. No attempt is made to develop consensus among panel members; in fact, a wide diversity of views is sought.

OTA staff draw on the technical and professional resources of universities, industry, public interest and citizen groups, state and local officials, and individuals to ensure excellence in quality and impartiality in the presentations of views. The agency retains full responsibility for the content and conclusions of all assessments.

TODAY'S AND TOMORROW'S CRITICAL ISSUES

Many OTA assessments examine cutting-edge technological advances and evaluate their usefulness and impacts. For example, the agency has produced a broad range of assess-

OTA ONLINE

OTA has taken advantage of recent developments in information technologies to make its work widely available electronically. General information about the agency, electronic versions of OTA publications, and news about work in progress all are accessible online. You can retrieve this information in a variety of ways.

Internet Access

You can use any of these Internet tools:

World Wide Web:	http://www.ota.gov
Telnet:	otabbs.ota.gov, login as public
FTP:	otabbs.ota.gov, login as anonymous, password is your e-mail address publications are in the /pub directory

Questions or comments about Internet services should be directed to netsupport@ota.gov.

Dial-in Access

OTA also maintains a public electronic Bulletin Board Service (BBS) that provides dial-in access for general information about OTA and allows you to download publications and other material. The full features of the bulletin board are available to you through client software with a graphical user interface (GUI) for Microsoft Windows. To obtain the software or to inquire about user support for the OTA Bulletin Board, contact the OTA Telecommunications and Information Systems Office, (202) 228-6000, or e-mail sysop@ota.gov.

E-mail Listserver

OTA also maintains a free electronic mailing list—OTANEWS— that allows anyone with access to electronic mail on the Internet to receive notices of all OTA reports upon their release. To subscribe to OTANEWS, address an electronic mail message to listserv@ota.gov. Leave the subject line blank. In the text of the message, type: subscribe otanews [your name]. For example, Jane Smith would type the following:

SUBSCRIBE OTANEWS JANE SMITH

After you have sent the message, you will receive confirmation that your subscription has been entered. If you encounter difficulties, send an e-mail message to postmaster@ota.gov.

ments that explore the implications of telecommunication and computing technologies for various sectors of the economy and government, including manufacturing, financial services, and delivery of government services.

Congressional committees have turned to OTA for realistic appraisals of the potential costs and benefits of advanced automotive, rail, aviation, and other transportation technologies for the domestic economy and international competitiveness. These types of studies help Congress stay ahead of emerging technology issues.

Another issue faced by Congress has been the environmental impact of technology and what role technology could play in cost-effectively mitigating these impacts. Committees have sought OTA's expertise in evaluating technologies and policies for environmental problems such as oil spills; acid rain; and solid, hazardous, and nuclear waste.

Congress has had to deal as well with the sustained adverse economic effects of rapid technological change. Committees have requested OTA to analyze the full dimensions of the economic effects of technology-aided shifts from manufacturing to services and of the post-Cold War conversion of defense industries and business.

ORDERING INFORMATION

Most OTA products can be purchased from the Superintendent of Documents of the Government Printing Office (GPO), 202-512-1800.

Indicate the title; GPO stock number; quantity; and VISA, MasterCard, or prepaid Superintendent of Documents deposit account number. Shipping and handling charges are included in the price. Federal Express service is available for an additional $8.50 per order.

OTA publications are available in either paper or microfiche from the National Technical Information Service, 703-487-4650.

For information about OTA publications, a free *Catalog of Publications* is available from OTA's Publication Distribution Office. To order a catalog, call 202-224-8996 or e-mail pubsrequest@ota.gov or write to: Office of Technology Assessment, U.S. Congress, Washington, DC 20510-8025. Attn: Publication Distribution.

SELECTED OTA ASSESSMENTS IN PROGRESS

Energy, Transportation, and Infrastructure

- International Collaboration in Large Science Projects
- Advanced Automotive Technologies
- Technological Change and Metropolitan America

Industry, Telecommunications, and Commerce

- Wireless Telecommunications Technologies
- Information Technologies for Control of Money Laundering
- Information Technology and the Health Care System

International Security and Space

- Countering Proliferated Weapons of Mass Destruction
- Assessing Future Space Launch Industry Alternatives
- Advanced Methods of Defense Modeling and Simulation

Education and Human Resources

Technology and Work-Based Learning

The Human Genome Project and Patenting Human DNA Sequences

Teachers and Technology

Environment

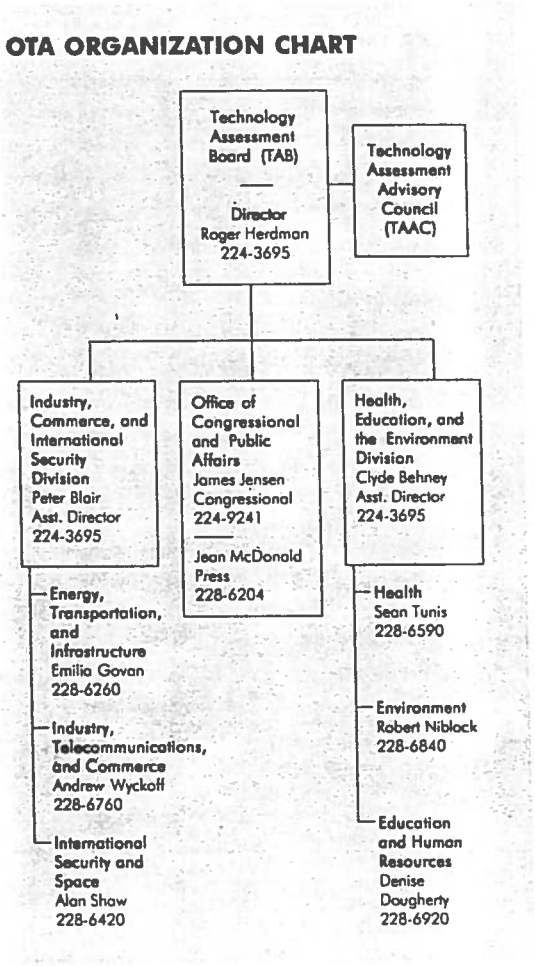
Arctic and Other Regional Impacts from Soviet Nuclear Contamination

- New Approaches to Environmental Regulation

Health

- Impacts of Antibiotic-Resistant Bacteria
- Prevention and Treatment of Osteoporosis

OTA ORGANIZATION CHART



Attachment 4

Q&A

Frequently asked questions about OTA

Q. WHAT IS OTA?

OTA is the Office of Technology Assessment, the agency that analyzes science and technology issues in depth for the Congress.

Q. WHAT DOES OTA DO?

OTA provides Congress with reports on a variety of topics, which are objective, nonpartisan analyses of issues involving science and technology, and offers options for Members to deal with public policy issues such as space, the human genome, or the information superhighway.

Q. HOW BIG IS OTA?

OTA is a small agency with 143 full-time employees and an annual budget of about $22 million.

Q. WHO CHOOSES THE ISSUES THAT OTA STUDIES?

Full committees from both the House and Senate request OTA studies. OTA's congressional board approves studies that OTA undertakes.

Q. WHO SERVES ON OTA'S TECHNOLOGY ASSESSMENT BOARD?

Six Senators and six Representatives, equally divided by party, with the positions of chairman and vice chairman alternating between the Senate and House in succeeding Congresses.

Q. HOW LONG DOES IT TAKE OTA TO COMPLETE A STUDY?

It varies. Full assessments with advisors from across the Nation, peer review, and up-to-date quantitative data take one to two years. Shorter studies can be finished in six to nine months.

Q. HOW DOES OTA PRESENT A COMPLETED STUDY?

OTA publishes reports of varying lengths, usually with a short executive summary, as well as a report brief. OTA issues about 50 reports every year.

OFFICE OF
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FOR ADDITIONAL
INFORMATION,
CONTACT:
CONGRESSIONAL &
PUBLIC AFFAIRS
202.224.9241

over, please

Q&A *continued*

Q. HOW CAN OTA HELP ME AND MY STAFF?

OTA reports can help with committee and constituent issues, as well as newsletters and electronic communications.

OTA can testify on scientific and technical matters that have been researched for reports.

OTA scientists can answer questions or consult on topics related to their work. Scientists from board-certified internists to Ph.D. physicists are on staff.

OTA can do studies if your committee chairman requests them and the agency budget allows.

OTA can brief you on issues related to work that the agency has done.

OTA's available resources include some 700 publications produced since the agency began. These reports cover subjects ranging from nuclear power to Alzheimer's Disease and are authoritative sources of quantitative information.

Q. HOW CAN I FIND OUT ABOUT NEW OTA REPORTS?

All Members receive notice of OTA reports upon release and may call OTA's Congressional and Public Affairs Office at 202-228-9241 for copies of reports, summaries or report briefs, publications catalogs, and annual reports.

Q. ARE OTA PUBLICATIONS AVAILABLE TO THE PUBLIC?

Yes. The public may buy OTA reports at the Government Printing Office at 202-512-1800 and can call the Congressional and Public Affairs Office at 202-224-9241 for summaries, report briefs, publications catalogs, and annual reports.

Q. ARE OTA PRODUCTS AVAILABLE ELECTRONICALLY?

Yes. OTA makes its work widely available electronically. General information about the agency, electronic versions of OTA publications, and news about work in progress all are accessible online. For details, call 202-228-6272.

OTA RESEARCH STAFF

SENIOR

Name	Degree	Field
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Blair, Peter D.	Ph.D.	Energy Mgmt & Policy
Behney, Clyde J.	M.B.A.	Industrial Relations
Govan, Emilia L.	J.D.	Law
Shaw, Alan H.	Ph.D.	Nuclear Physics
Wyckoff, Andrew W.	MPP	Public Policy
Niblock, Robert W.	M.S.	Communications
Dougherty, Denise	Ph.D.	Social Psych.
Tunis, Sean R.	MD, MPH	Medicine
Plotkin, Steven E.	M.S.	Engineering
Wood, Frederick B.	D.B.A.	Mgmt. Science
Gough, Michael	Ph.D.	Biology
Johnson, Peter A.	B.S.	Naval Arch.& Marine Engineering
Friedman, Robert M.	Ph.D.	Ecol. Syst. Analysis
Phillips, Michael J.	Ph.D.	Agri. Economics
Buyrn, Audrey B.	Ph.D.	Physics
Curlin, James W.	J.D., Ph.D.	Law, Forestry
Alic, John A.	Ph.D.	Engineering
Crane, Alan T.	M.S.	Mech. Engineering
Karas, Thomas H.	Ph.D.	Political Science
Fletcher, Wendell	M.S.	Resource Mgmt.
Nunn, Jack H.	Ph.D.	Defense & Science Policy
Williamson, Ray A.	Ph.D.	Physics & Astronomy
Coates, Vary T.	Ph.D.	Political Science
Wagner, Judith L.	Ph.D.	Environmental Engineering
Fainberg, M. Anthony	Ph.D.	Physics
Gorte, Julie K.	Ph.D.	Resource Economics
Garcia, D. Linda	M.A.	Internat'l Affairs
Gelband, Hellen	M.H.S.	Public Health
Nishimi, Robyn Y.	Ph.D.	Biological Sciences
Maslow, Catharine C.	M.S.W.	Social Work
Hess, Alison L.	M.A.	Resource Economics
Epstein, Gerald L.	Ph.D.	Physics
McCue, Brian G.	Ph.D.	Political Science
Charo, Arthur A.	Ph.D.	Physics
Roy, Robin, K	Ph.D.	Civil Engineering, Resource Plan.
Wirt, John G.	Ph.D.	Economics, Decision Theory
McDonough, Robert S.	MD,J.D.	Medicine; Law
Keller, William W.	Ph.D.	Government
Callaham, Michael B.	Sc.D.	Instrumentation
Larsen, Karen. L.	J.D.	Law
Weissler, Robert	J.D.	Law
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Name	Degree	Field
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Boroush, Mark A.	M.S.	Public Policy, Planning
Gluck, Mchael E.	Ph.D.	Public Policy
Freeman, Kenneth E.	Ph.D.	War Studies
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Hadley, Elizabeth	JD	Law
Power, Elaine J.	M.P.P.	Public Policy
Westermeyer, William E.	Ph.D.	International Relations
Eden, Jill	MBA;MPH	Business Admin.; Public Health
Bowes, Michael D.	MA	Economics
Hewitt, Maria E.	Dr. P.H.	Public Health
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Hausken, Thomas R.	Ph.D.	Electrical Engineering
Jensen, David D.	DSC	Engineering & Policy
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Sobin, Rodney	M.S.	Technology & Human Affairs
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Butler, David A.	Ph.D.	Public Policy Analysis
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Lane, Arna M.	BA	English
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Keller, Jacqueline	BA	Economics/Government/Policy
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Gille, Eric L.	BA	History
Smith, Dwayne	BS	Journalism
Eisenberg, Nell B.	BA	Biology
Longbrake, John	BA	Sociology
Creager,Bill	Ph.D.	Physics
DeWinter,Michael	BS	Finance & Philosophy
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Ewing, Miles	BA	British History
Gallo,Frank	BA	Political Science & Psychology
Katz, Wally	Ph.D.	History
Maruyama, Xavier	Ph.D.	Physics
Semenza, Paul	M.S.	Elect.Engineering & Public Policy
Smith, Peter	BA	History
Tao, Winston	Ph.D.	Geophysics
Thornett, Rich	BA	Economics & Philosophy
Tsarnas, Greg	BA	Political Science
Wial, Howard	Ph.D.	Economics
Croft, Helima	MA	Economic & Social History
Livingston, Martha	J.D.	Law
Rose, Erica	J.D.	Law
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Berliner, Elise	Ph.D.	Biophysics
Costillo,Paul	MD,MPH	Medicine
Colindres, Romulo	BA	International Studies
McDaniels, Tom	BA	Economics
Schreiber, Angela	BA	Publications
Christensen, Damaris	MA	Journalism
Ervin, David	Ph.D.	Agricultural & Resource Economics
Gerard, Beth	MA	International Relations

Name	Degree	Field
Graffy, Elisa	M.S.	Agricultural Economics
Lee, Bernard	MA	Russian Studies (RAFT)
Lowe, David	BS; MS	Geology, Internat'l Agri.
Mayer, Leo	Ph.D.	Agricultural Economics
Rivas, Yolanda	BS	Environmental Policy

about OTA

OTA IS BIPARTISAN. Of the major reports OTA did in the last year, 85% were requested on a bipartisan basis. Bipartisanship is monitored closely by OTA's governing board, with an equal number of House and Senate Members from both sides of the aisle. No study is undertaken without the bipartisan approval of the Board.

OTA GETS OUTSIDE THE BELTWAY. All OTA studies draw on a network of nearly 5,000 carefully selected participants annually from around the country from industry, academia, and other institutions, bringing with them a broad portfolio of stakeholder interests, analytical models, regional perspectives, and additional sources of information to make the OTA process uniquely informed and nationally representative. New advisors are sought for each study so that each OTA report benefits from the views of the real world.

OTA IS A SHARED RESOURCE FOR HOUSE AND SENATE COMMITTEES. OTA typically does its studies at the request of multiple committees, so that when a report is complete, the committees of jurisdiction can share the work, as opposed to multiple subcommittees requesting multiple, duplicative reports.

OTA IS A LEAN, COST-EFFECTIVE EXPERT ORGANIZATION. Since 1993, OTA has reduced its middle and senior management by 40%. Moreover, it relies whenever possible on the use of temporary expert technical staff to avoid a growing bureaucracy. Nowhere else in Congress is there a similar group of such highly trained, experienced, multidisciplined staff.

OTA HELPS THE CONGRESS MAKE DECISIONS that save the U.S. Government money. For example:

- OTA's Special Care Unit study concluded that regulation of this technology for Alzheimer's patients was not needed. State and federal efforts to do so have stopped. HCFA estimates annual savings of $14 million.
- OTA's study of the Social Security Administration plan to purchase computers saved a total of $368 million.
- OTA cautions about the Synthetic Fuel Corporation helped secure a $60 billion savings.
- OTA has made significant contributions to how government services can be improved through the utilization of modern information technology.

OFFICE OF
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UNITED STATES

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over, please

*about*OTA *continued*

- OTA's recommendations on the technology of the electric power industry greatly facilitated the legislation to deregulate the electric power industry in the Energy Policy Act of 1992.

- OTA's studies of preventive services for Medicare have assisted legislative decisions for the past 15 years, including studies of:
  - ***cholesterol screening in the elderly,*** which showed the costs of screening could lead to net national health costs of over *$5 billion per year* with no health benefit to the elderly, and legislation was not passed as result.
  - ***mammography screening in the elderly***, which showed that the life-saving benefits in the elderly make it a good buy (though it does cost Medicare money) (passed as legislation).
  - ***colorectal cancer screening in the elderly***, which highlighted the high aggregate national costs (about $2 billion per year) of such a program even though it has real life-saving benefits for the elderly (not passed as legislation).
  - ***pneumonia vaccines*** which showed Medicare would save money by paying for this vaccine in the elderly (passed as legislation).
  - ***influenza vaccines*** which showed Medicare would save money by paying for this vaccine in the elderly (passed as legislation).
  - ***pap smears in the elderly***, which showed that paying for a pap smear every three years in Medicare patients would save Medicare money (passed as legislation).

- OTA's report on the environmental legacy of nuclear weapons production was followed by the Department of Energy taking extensive steps to improve clean up with projected reduced costs.

- OTA recommended technical changes on base closures so that tens of millions were saved.

- OTA's recommendations of how the Department of Energy handles cooperative research has cut the time for processing technology transfer assignments in half.

- OTA's work on nuclear power plants has played a central role in eliminating poorly conceived and burdensome regulations on the U.S. power industry.

OTA ONLINE. OTA makes its work widely available electronically. Electronic versions of OTA publications, information about the agency, and news about work in progress are accessed by thousands of users worldwide. The information can be retrieved in a variety of ways (for details, call 202-228-6272).

Figure 1

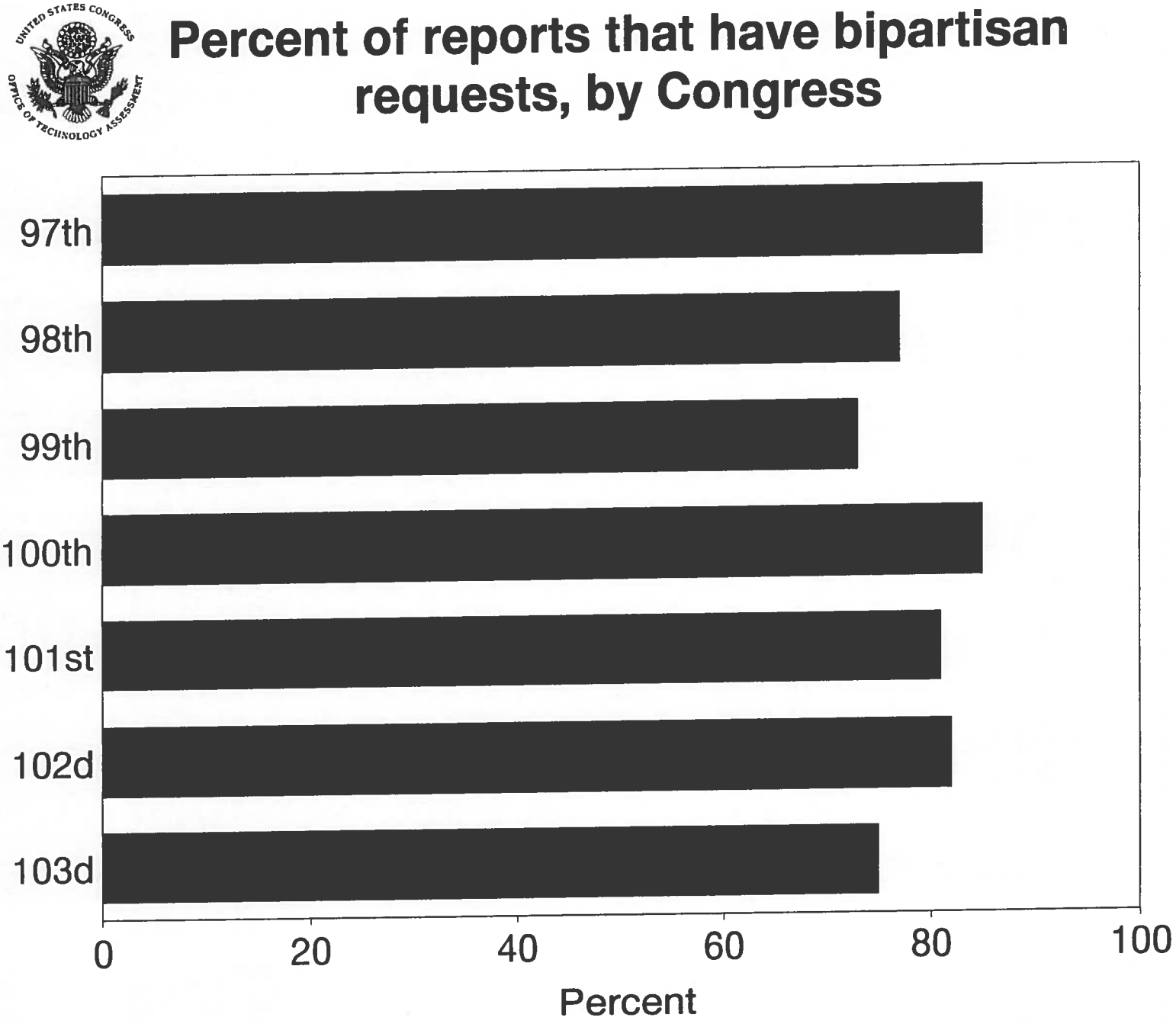
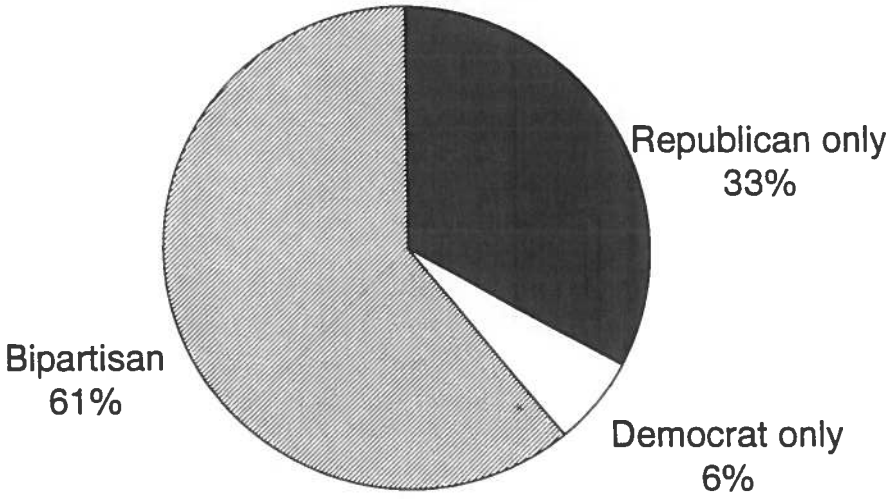

Percent of reports that have bipartisan requests, by Congress
97th
98th
99th
100th
101st
102d
103d
0
20
40
60
80
100
Percent

Figure 2

Reports requested by the Senate

97th through 99th Congresses (81 reports requested)



100th through 103d Congresses (148 reports requested)