$1.57 billion. This is $530 million short of what is currently being funded for Alabama's Medicaid. There are no easy answers. There is much work that remains to be done.

Additionally, in the area of public health education, I sponsored legislation to establish two health facilities at the University of Alabama at Birmingham to honor two of Alabama's legendary Senators; namely, the John J. Sparkman Center for International Public Health Education, and the Lister Hill Center for Health Policy. With $5 million in appropriations to the Lister Hill Center, and $4 million in funds appropriated to the John J. Sparkman Center, both centers have been instrumental in developing research programs that address the needs in public health in the United States, as well as other developing countries.

Initiated in 1980, the John J. Sparkman Center for International Public Health Education [SCIPHE] was provided initial support when Congress authorized funding for the establishment of an endowment at UAB. The endowment assures long-term support SCIPHE programs and activities which should be conducted primarily onsite in developing countries rather than at UAB or other academic institutions. Thus, the primary mandate of SCIPHE is to promote and provide sustainable training strategies for public health professional in developing countries.

The Lister Hill Center [LHC] for Health Policy is also a congressionally endowed center, with a university-wide mission to facilitate the conduct of health policy research, in addition to disseminating the findings of that research beyond the usual academic channels. It also fosters research primarily through the work of its scholars in the areas of health care markets and managed care, maternal and child health, management in public health organizations, and clinical health services research. Scholars with national reputations in an area pertinent to health policy are invited monthly to give seminars. These seminar series are free of charge and are open to the UAB community.

I was asked by officials at UAB, Auburn Veterinary Medicine School, NIH and the National Association of Bio-Medical Research Association to pass legislation making it a Federal crime to damage or destroy medical research centers. One of the awards I am most proud of is the Outstanding Service to Science Award from the National Association of Bio-Medical Research for passing such legislation as well as other contributions I made to biomedical research.

I am proud to have played a small role in the promotion of health care and medical research during my tenure in the Senate. No one can argue that this type of reform and research are crucial to the future of our Nation and the well-being of our citizens. I am also proud that my home State is playing such an important role in this area.

While we cannot ignore the need for improving access to quality health care, we also cannot forget the importance of medical research, health education, and disease prevention.●

THE IMPORTANCE OF CONTINUED SPACE EXPLORATION AND RESEARCH

● Mr. HEFLIN. Mr. President, at the beginning of my first term, my appointment to the Commerce Subcommittee on Science, Technology and Space was beneficial, primarily because my home State of Alabama contains the Marshall Space Flight Center in Huntsville. Alabama is historically an economically disadvantaged State, and by creating a high-technology corridor through northern Alabama, we have been able to provide jobs at NASA and the defense and space-related activities in the area. Alabama is now near the top of the list in terms of the number of high-technology industries.

But in fairness, it should be understood that a Senator learns to have a dual purpose in what he does. It may sound cynical to say that I was working for my own State and my own electorate, but that was my job. I didn't have any particular expertise in the Space Program before arriving here, but learned about it because it was important to Alabama. My predecessor in the Senate, John Sparkman, had also taken an interest in space policy. He was a native of Huntsville. While serving on this subcommittee, an appreciation of the national, and in fact global, need to pursue the study and exploration of space and also an appreciation of the need to travel in space in order to expand the scope of humanity became more clear to me. Joe Moquin and Charles Grainger, who represented the Federal Affairs Division of the Huntsville Chamber of Commerce, as well as others, were helpful as I studied these exciting issues.

Recent advances at NASA highlight these needs powerfully. Our voyages to Mars, combined with a recent discovery on Earth, have allowed us to deduce that life may have existed on another planet. The Hubble space telescope has given us a better understanding of the universe. The space station, which is now called Alpha, will allow Americans to stay in space permanently and conduct manned scientific experiments.

Many have complained that the space program is too expensive and it yields little for the investment. But the space program provides a far greater return than its cost. Satellites have redefined the way we communicate, and they have reshaped our economy. However, even this immediately practical benefit is outweighed by other, more intangible gains. The knowledge we can gain in physics and technology has proved itself nearly unlimited. And there are unexpected benefits of the program, including what we can learn about our own planet, the advances we can make in the field of medical research, and the international diplomacy we will develop with the space station.

I want to take some time here to summarize my activities relative to the space program, particularly regarding the space station and Marshall Space Flight Center. On a personal level, I am proudest of being the first Senator to call for and push for the development of a space station and also to have been a strong supporter of the shuttle program. Marshall has been central in both of these projects, and members of the Alabama congressional delegation have done our best to see that this remains the case.

Maintaining the independence and viability of NASA has been one of my top priorities. The agency has suffered a number of public relations problems in recent years, beginning with the Challenger explosion, followed by the failure of the Mars orbiter, and highlighted by the initial embarrassment of the Hubble telescope. But even before these setbacks, the military space budget had grown larger than NASA's. Of course, I have advocated ABM defenses, including some space-based projects for the future, longer than any other Senator. But NASA's civilian, independent status is necessary for the space program. For this reason, it was necessary to oppose intrusions such as military control of the heavy lift launch vehicle, which was proposed after the shuttle disaster, and each year, to work as hard as possible to see that NASA received the money it needed to continue to serve as a viable agency and to accomplish its specific aims.

Of course, it is NASA, the Marshall Space Flight Center, and the universities and businesses in Alabama who deserve the real credit. They are the minds who develop this astounding technology and reshaped the State. As a Senator, my aim was to do everything possible to support them consistently.

In 1979, we worked to ensure that the Commerce Committee approved a $185 million supplemental authorization for Marshall to develop the space shuttle. In fact, the overall funding for the center had increased by $100 million since the previous year. We also worked to persuade the members of the Appropriations Committee to fund the shuttle, and they provided nearly our full request.

My subcommittee also approved $5 million for the gamma ray observatory project, to be developed at Marshall and launched by the space shuttle, and it authorized a fifth shuttle and a national oceanic satellite system. However, the full committee cut these three programs, so we set out to be certain that they would pass in later years.

In 1980, the Commerce Committee approved an authorization to build a fifth shuttle, but the conference committee dropped it in the final bill. However, the Congress did pass increases for

NASA over the administration's request.

In the committee, my amendment to add $12 million to the NASA budget to begin development of the solar electric propulsion system—called SEPS—at the Marshall Center was attached. The program was a $300 million program, spread over 5 years. Although it was originally in the fiscal 1981 budget, OMB had eliminated it over NASA's objections. This reusable system offered the high energy to fly demanding and complex missions that would otherwise require several expensive and expendable stages. That year, both Houses passed authorizations for this program. Both Houses also passed authorizations for the gamma ray observatory and the national oceanic satellite system. That same year, at a subcommittee hearing in Huntsville, I urged NASA to increase laser research and development at the Marshall Center. My argument for the increase was that the Soviets were spending at least three to five times America's $5 million annual budget on laser development. The continued research and development of laser technology was only one of the goals for the United States in the 1980's, but the potential benefits of laser power in both military and civilian applications mandate an accelerated interest by the scientific and industrial communities.

This hearing was part of a series conducted largely to investigate the potential of lasers in defense. However, the applications of lasers seemed worthy of investigation for civilian purposes. Testimony revealed the possibility that lasers might be used to generate vast amounts of power. This power might be used in space propulsion systems. In fact, at these hearings, witnesses speculated that lasers might even ultimately be used to facilitate nuclear fusion.

That year, we also highlighted international pressures to increase overall funding for NASA. In the years since the Moon missions, America had seemed preeminent in space, but the reality was that we had begun to fall behind the Russians. Senators John Glenn and Jack Schmitt, both former astronauts, appeared on my television show, the ''Heflin Report,'' to discuss the U.S. space program as compared to the Soviets. The United States had launched only 16 times in 1979 contrasted by the Russians' 87. In fact, the Russians had launched many more times over the previous 15 years.

In 1981, Columbia flew its first mission, showcasing the Marshall Space Center's work. This next giant step in America's ongoing adventure in space would not have been possible without the men and women in Huntsville who developed the shuttle's engines. Due to their successes, we were able to authorize increases to the shuttle program, although the Congress did not fully fund the program at the administration's request.

Despite this massive advance, however, critics continued to maintain that the space program was too costly, and supporters worked as best we could to clear up this misconception, such as citing studies conducted in the early 1970's which indicated that the program has brought $7 to $15 for each dollar spent. Commercial satellite launches had contributed to this return. NASA had also developed technology for the aircraft industry and the Landsat system, used to explore natural resources.

Notably, through our work in the committee that year, we also secured authorizations for NASA's missions to Jupiter and to Halley's Comet. Both of these NASA missions ultimately proved to be tremendously successful.

In 1982, we were finally able to include funds for a fifth space shuttle in the NASA authorization. This authorization represented an overall increase, and it included money for the National Oceanic and Atmospheric Administration Landsat satellite scanning, something we had been fighting to get for a long time.

But that year, for the first time, the military's space budget grew beyond NASA's. While I have long supported military initiatives in space, this was seen by some of us as a threat to NASA's independent, civilian status. Although there is a purpose to certain military missions in space, to usurp NASA's role is contrary to the U.S. mission in space as it was conceived. In the years to come, especially after the Challenger disaster, this threat would continue.

In 1983, the construction and deployment of a permanent, manned space station was again urged. A permanent presence in space is the next logical step in human advancement, and research in space has certain advantages not to be found on Earth. The microgravity atmosphere of space allows numerous scientific activities to occur. The growth of crystals and the electrophoresis process can take place far better in space than in the gravity atmosphere of Earth. Several kinds of metals will combine only under the conditions found in space. Medical research has also had many successes in space.

Dr. Charles Bugg, Dr. Larry DeLucas, and other scientists at the University of Alabama at Birmingham were conducting significant experiments in crystallography, but knew nothing about the crystallography activities at Marshall Space Flight Center until I got them together. Since then, they have developed a renowned partnership that will likely lead to treatments and cures for many diseases.

My strength on the subcommittee increased that year when I became its ranking member, and we crafted an authorization bill which provided money for space station design at Marshall. It also increased the funding to NASA generally. The bill provided more money than the President requested for Marshall's space telescope, its materials processing, teleoperator maneuvering system, and its space plasma lab programs. Finally, the bill also authorized the construction of a fifth space shuttle, which Reagan had not requested. Of course, this authorization bill was a particularly good one for the future of Marshall Center, but it also helped to bring about a more balanced NASA program.

Earlier in the year, I contacted the President to oppose the sale of the Nation's weather and land satellite system and to oppose commercialization of the National Weather Service because of my concern that such a transfer might hinder the system's efficiency. People in many parts of the country relied on the system for early warning in the case of tornados and other severe storms; farmers relied on the information to determine their crops, and the scientific community depended largely on the information. Under the proposal, the transfer seemed likely to be a single company. Since that company would require, as a condition of the sale, a noncompetitive, guaranteed Government contract for many years for the information derived from the satellites, the Government would be establishing a monopoly and creating disincentives for commercialization. The committee was able to secure provisions in the authorization bill to prevent the sale of NASA land and weather satellites, unless the sale were specifically approved by another law.

Some of us also opposed the cuts to the National Weather Service recommended by the National Oceanic and Atmospheric Administration. Specifically, the NOAA had suggested reducing the number of weather stations to one-tenth their existing number. Specialized forecasts would also be eliminated. But the projected savings were minimal; the cost to create a centralized station would outweigh the savings over many years.

There was another project undertaken that year, which applied peripherally to the space program. This was the University Research Capacity Restoration Act which Senator DANFORTH and I introduced to bring universities and industries together in the creation of research parks. We introduced the bill after holding two hearings in Birmingham on the measure.

University research is among the most valuable in the country, yet lack of funding has limited it to obsolete equipment. With this bill, we hoped to use the Government as a catalyst to create research parks that combine industry and university resources. We hoped that we might thereby increase the quality of research at such institutions as the University of Alabama at Birmingham [UAB], the University of South Alabama in Mobile, Auburn, Tuskegee, and Alabama A&M. Metallurgy and space-based materials processing were among the chief projects we had in mind.

In 1984, the President supported the development of a permanent space station in his State of the Union Address.

I was absolutely delighted that he gave the station such strong support; without his help, this project might have died early on.

Energized by the President's support, I visited the Marshall Center in Huntsville, which would handle most of the materials processing for NASA's station numerous times, and each time was greatly encouraged. My committee was able to endure that the NASA authorization included funds for research and development of the manned space station. This authorization also created a National Commission on Space, a Mars mission, and a satellite to study the Earth's upper atmosphere. However, many of us were disappointed that the Congress approved the sale of Landsat satellites.

Other provisions of the authorization included language to create a National Commission on Space to establish a plan for the civilian space program. There was some concern over the Defense Department's intrusion on the space program, so we limited its membership on the board to a single nonvoting seat. The purpose of the commission was to study long-range goals and schedules for the program.

The commercialization of space also became a major initiative in these years. In 1984, Congress passed a law to encourage commercial space launches. It required licensing, to be provided by the Department of Transportation, and we set about to consider further ways of expanding private launches.

My bill to improve university research, the University Research Capacity Restoration Act, became law in 1984. The new law was designed to increase support for the NIH, the NSF, NASA, and the Defense, Energy, and Agriculture Departments by combining university and private industrial research efforts.

In 1985, when the Commerce Committee passed its NASA authorization, NASA's budget suffered cuts, but under this bill, Marshall Space Flight Center was not affected. It included strong support for four major Marshall programs: the space station, the materials processing program, the orbital maneuvering vehicle [OMV], and the aeronautical research and technology program.

Specifically, the bill funded the space station with a specific requirement that it embrace only peaceful ends. The committee had originally considered a lower level for the space station than the $200 million included in the bill, but we were able to bring that figure up. I worked especially hard to see that Marshall got a sizable portion of the space station work. Marshall was then designated to do 40 percent of the work, the most of any center. Robert Hager, project manager of Boeing, and I developed a close working relationship that proved very effective over the years.

This bill also fully funded the materials processing program at Marshall, a program with which several universities in my State were intimately involved. As a result of experiments conducted on the shuttle by McDonnell Douglas and Johnson and Johnson, we were hopeful that some major medical breakthroughs would materialize as a result of NASA-private sector materials processing research.

At one point, the OMV was deleted from the bill, but we were successful in persuading the committee to go forward with the development of this vehicle. Marshall's other chief project, the aeronautical research and technology program, also came out well. Again, this type of initiative was among NASA's chief money-making sources.

Further, the authorization bill provided for the delivery of the fourth shuttle—Atlantis—but Congress did not fund the fifth. We also authorized the Galileo mission to Jupiter, the Ulysses mission to the Sun, and the Hubble telescope, which has proved itself a tremendous success despite setbacks here and there.

My bill to remove tax code barriers to the commercialization of space was introduced that year along with the sponsorship of the subcommittee's chairman, Senator GORTON. The bill would have extended incentives for investment and research and development, and accelerated depreciation schedules. Many U.S. laws were written before the commercial uses of space were ever envisioned, but commercialization of space could be improved with the impetus of Government cooperation. To this end, we have maintained contact with officials from the Auburn University School of Engineering concerning corporations who might be interested in space-based materials processing. We have an opportunity to combine the expertise of Marshall Space Flight Center with university experts and transfer this potential to the private sector. This idea is one way to help make this possible and hopefully it will some day be enacted.

I also cosponsored a concurrent resolution to express the sense of the Congress that the Nation must improve university research, restating the ideas behind the University Research Capacity Restoration Act which had my cosponsorship in 1983. The 1983 bill increased support for the NIH, the NSF, NASA, and the Defense, Energy, and Agriculture Departments. This resolution did not fund these entities, but it restated the congressional commitment to do so. We depend on our preeminence in science to enable us to advance technology and maintain our economic and national security.

On January 28, 1986, the Challenger disaster brought a whole host of problems to the space program and to those of us who supported it. The public was horrified, and the military began to increase its intervention in space. Spacelab, a program to add modules to the space shuttle for experiments in orbit, died, and the space station suffered cuts; the Hubble telescope was also delayed until 1988. The Defense Department began building its own launch vehicles for satellites, and the military's space budget grew to two-thirds the total U.S. space budget. Further, President Reagan pocket-vetoed the NASA authorization which included money for the replacement of the Challenger shuttle, chiefly because of provisions creating a National Aeronautics and Space Council to advise the President on space and military issues. However, the Congress did appropriate money for the new shuttle in the omnibus appropriations bill.

Morale was at a terribly low level at Marshall Space Flight Center. Their spirit had been devastated by the Challenger explosion. I came out publicly at critical times praising the excellent work that had occurred at Marshall over the years and pointed out that while the explosion was horrible, the fault could be placed at many doors. Hopefully, my remarks boosted morale at Marshall. We worked behind the scenes to get Senator Robert Dole to visit Marshall and speak words of encouragement and support for the Huntsville-based space flight center. His words helped restore the morale and reputation of Marshall.

At the end of 1986, then-NASA Administrator Fletcher announced that work assignments on the space station had been finalized, and Marshall Space Flight Center was to maintain roughly 40 percent of the space station design and construction. It would also have responsibility for the living and working quarters of the spacecraft. The Marshall Center would provide technical direction for the propulsion system, conduct the adaptation of the planned international module, and develop and construct the environmental and pressure systems of the station, among other things.

That year, I contacted President Reagan and Energy Secretary Herrington to urge construction of the superconducting supercollider in Alabama. Researchers at UAH had developed a compound that loses all resistance to electricity at a higher temperature than had been previously possible. With the expertise demonstrated by this and other breakthroughs in this scientific area and the outstanding support provided by the University of Alabama at Huntsville and similar outstanding research at Auburn University, the State of Alabama has shown that it is a logical location for projects like the supercollider. Unfortunately, Alabama was not chosen, and the project ultimately was discontinued.

In 1987, I had to relinquish my seat on the science subcommittee in order to stay on the Agriculture Committee. Given the importance of the space program to my constituents, it was a great sacrifice, but farming was also so important to Alabama and therefore felt it wise to remain on that committee. In any case, I did my best to stay as involved with space issues as possible.

In the aftermath of the Challenger explosion, I testified before the subcommittee to oppose Air Force administration of the proposed heavy lift launch vehicle. The Defense Department had requested a supplemental appropriation of $250 million for the project. Assigning the project to the Air Force with only minimal NASA input would have been a backward way to approach the development of this vehicle. All the more so since the Air Force planned to start anew, without incorporating any of the lessons of the shuttle. NASA would benefit greatly from the vehicle's use, and its greater capacity would make up for lost time in the shuttle program in the deployment of the space station and other projects.

I successfully urged the inclusion of language in the supplemental appropriations bill to ensure that NASA played a more significant part in the development of the heavy launch vehicle. Marshall Space Center's expertise in propulsion and other aspects of design could serve as an excellent resource in the development of a heavy lift rocketship. And such a vehicle might one day facilitate a trip to Mars—and beyond.

Notably, disputes over military use of the space station made its passage difficult that year. Congress ultimately allowed some military research. And Alabama came out well through the debate. At the end of the year, NASA awarded Boeing, with facilities in the State, the contract to perform Marshall Space Flight Center's work on the station. The project had my full support, since, among other things, it would bring over 6,000 jobs to Alabama. It was a significant leap forward for the space program, and it only solidified my efforts to ensure that the space station received primary consideration.

Another boon for Alabama came that year when NASA selected Auburn University as host to its Center for the Commercial Development of Space Power. The new center would research the generation, storage, conditioning and distribution of electrical power in space. This was the kind of project desperately needed in my State. This center, and projects like it, could become the incubator for a new industry on the cutting edge of space technology. Until now the power requirements of our space ventures have been low, but future space projects will make much higher power demands. With these types of initiatives, we will begin the development of a cadre of engineers and physicists who will provide the crucial talent pool needed for the space power program for years to come. Hopefully, much of this work will be done in Alabama.

Meanwhile, my efforts to bring the supercollider to my State continued, especially through an amendment to the supplemental appropriations bill to decide location of the supercollider solely on technical merit. The Energy Department had just announced that it would consider donations of money and land. The Senate approved this amendment, but of course, it still did not work out as hoped.

In 1988, during the Presidential campaign, some of NASA's Democratic supporters were disappointed that our party's candidate did not show any particular support for the space program, nor the space station. I talked several times with Governor Dukakis asking for a revised stand on the issue. At a Huntsville campaign stop, he recited his full support for the space program and space station. We were able in Congress to pass funding at the full level of President Reagan's request.

That same year, I became a strong supporter of the Advanced Solid Rocket Motor project, which came about after the failings of the shuttle boosters and their O-rings became known, and talked to each of the Members of the Alabama Congressional Delegation asking for their full support of this ASRM Project for NASA and to support the appropriation process in Congress. Although there had been partisanship and divisiveness concerning the location of the rocket plant, the Alabama Congressional Delegation needed to pull together as a team and present a solid and united effort for this project and Alabama jobs.

In 1989, we protested the budget resolution's funding level for the space station. Knowing it would be a very tough budget year for the space station, we enlisted the support of Senators Sasser and DOMENICI of the Budget Committee. But when the Senate passed its VA–HUD appropriations for fiscal year 1990, the low funding level for NASA was criticized by me and others. While the bill provided for a 15-percent increase for the space program, that was only the bare minimum and it fell short of what was needed to maintain world leadership in space research, technology, and exploration. Most notably, the space station was funded at $200 million less than NASA's request. While fighting hard for full funding for the space station, I was nonetheless hopeful that the funding level would provide enough for the program to move forward without any serious program modifications, rescoping, or schedule delays.

During a speech I delivered on the Senate floor on the 20th anniversary of the Moon landing, my support for the station was again emphasized. We cannot just leave our advances at that. We need to return to the Moon and travel to Mars. The President agreed that the space station was the first step to these ends, and a space summit with Members of Congress was suggested.

After much debate on the advanced solid rocket motor plant, we finally secured funding through the conference through use of an unusual procedural tactic. The House had not included funding, but we made sure the Senate included money so that there could be an increase during conference. Congressmen Whitten and BEVILL were extremely helpful in this effort. Although some questioned this strategy, we adhered to the rules completely. This bargaining chip worked, and we pushed the funding through successfully.

In 1989, the benefits of the Space Grant College and Fellowship Act were realized in my home State. Under its provisions, NASA selected several Alabama Universities to comprise a consortium for the new National Space Grant College and Fellowship program; these schools included UAH, UAB, Alabama A&M, the University of Alabama, and Auburn.

As a side note, NASA selected two Alabama women to fly on shuttle missions that year. These women were Mae C. Jemison, M.D. and N. Jan Davis, Ph.D. Dr. Jemison was the first African American woman selected for space flight. Without question, Alabama played an important role in the development and implementation of the space shuttle program. I took some pride in knowing that two people from my home State could take advantage of those efforts and experience the accomplishments of their fellow Alabamians first-hand.

In 1990, NASA suffered cuts after the Hubble telescope debacle, and it saw the death of National Space Council's long-term proposals for lunar and Mars missions. The problems of the telescope had brought very hard times on the agency, and the Congress needed to combat an increasing negativity in the press and among the public.

To work out these problems, the President held the space summit suggested the year before at the White House. It brought together the President, the Vice President, NASA officials, and other Members of Congress, including myself. Elected officials must continue to hold these kinds of summits in the future, because talks regarding the space station need to be centralized and should focus on the goals of acquiring and maintaining full funding and placing the space station in orbit.

During that same year, the Augustine Advisory Committee on the Future of the U.S. Space Program issued its report. I was quite pleased with its recommendations, including its advocacy of a heavy lift launch vehicle. At the time, the Congress and the committee were still waiting for a redesign of the space station, which had been dubbed ''Freedom.'' The HLLV seemed like it might be a good device for deployment of the station.

By that time, we had won the battle for the ASRM plant, which was to be located at Yellow Creek in Michigan, just across the border from Alabama. And that year, the Marshall Center awarded a $550 million contract to Lockheed for the design and construction of the Advanced Solid Rocket Motor. Lockheed arranged to subcontract the work to RUST International of Birmingham. It was going to be a great boon to Alabama as well

as the space program; in the following years, we did our best to continue this project.

In 1991, President Bush's fiscal 1992 budget request for NASA received my support. It was a 13-percent overall increase to fund the space station, NASA's share of the Heavy Lift Launch Vehicle program, and to increase space science research. The budget allowed the propulsion element for the space shuttle program at Marshall Space Flight Center in Huntsville to continue without interruption. And completion of the Advanced Solid Rocket Motor plant in Yellow Creek was also included.

But, of course, the space station met opposition again. To push the project, I met with the Vice President, administration officials, and other Members of Congress to discuss the future of the space station after its redesign, and we all came out of this meeting with a feeling that we were going to join forces. Vice President Quayle assured us that the President had assigned a high priority to the station.

There was an attempt to cut the program in the Senate, but it was opposed on the floor. The Senate voted to keep the funding in the bill. The station's toughest battle that year was in the House of Representatives. Congressmen BUD CRAMER and TOM BEVILL did great work in restoring funding after the House appropriations subcommittee had cut funding for the program from its bill. Together, we sought to return NASA to a reasonable and balanced profile of programs and to make sure that America did not abandon the 100,000 scientists, engineers, and support staff associated with NASA and its contractors who work on the development of the space station programs. We also sought to save the more than 3,000 jobs in Huntsville.

We protected other local jobs as well. The ASRM plant received full funding. And other programs which were funded were the Marshall Center's Advanced X ray Astrophysics Facility, and the National Launch System/Space Transportation Main Engine program. The Earth Observing Systems program also faired well.

In October, the President signed a bill to facilitate the construction of Space Station Freedom. Soon afterward, there was a meeting with a group of astronauts to discuss the station's future and talked with the astronauts about Mission to Planet Earth, a program to study the Earth's atmosphere with satellites.

As the whole debate on funding went on, I spoke about how much Alabama's economy had grown since the space program began there in the 1950's. Its role in the State's future was crucial. The growth began with the Army's development of the Redstone and Jupiter missile systems in response to Sputnik, and continued when Milton Cummings and Joe Moquin established the Cummings Research Park. Last, the Army Missile Command, the Redstone Arsenal, the Marshall Space Flight Center, and the Strategic Defense Command had great potential to continue the expansion.

In 1992, another amendment to eliminate the space station came before the Senate. The Senators who supported this amendment had deliberately inflated the cost of the station, and they perpetuated the myths of the station's extravagance. Again, the Senate failed to approve the amendment.

That year, the Senate also approved a resolution to place two full-scale models of the space station at the Capitol from June 2 through 4, 1992. The fight to fund the space station continued to be impassioned each year. If my colleagues had an opportunity to see first-hand the incredible potential the space station offers, they would understand how important continued funding is to the program. The NASA exhibit included two modules, the habitation and laboratory units, each housed in a tractor-trailer. I toured the exhibit myself with NASA Administrator Goldin and a visiting boy scout troop from Alabama.

I used a floor speech commemorating the quincentenary of Columbus' voyage to the Americas to again illustrate the importance of the Space Program. When hearing some of my colleagues rail against the space station and other projects designed to propel us into the future, one cannot help but wonder what they would have said had they been around in 1492. Some of the most important human advances, like Columbus' voyage and many breakthroughs in medicine, had been accidental. We may not always know exactly what is out there, but we know we must continue to explore in order to discover. Because of believing this so strongly, I met with the crew of Endeavor to discuss the future of the Space Program. Among these astronauts was Kathryn Thornton of Alabama.

Another proposal which was shortsighted was the President's decision to eliminate the advanced solid rocket motor plant from his budget request. Its supporters could not understand the rationale behind cancellation, since this system would have been much more reliable than previous boosters. In a letter to Senator MIKULSKI, the chair of the appropriations subcommittee, I asserted that it would cost more to cancel the Advanced Solid Rocket Motor Program than to complete it. That fact, combined with its increased safety and efficiency, certainly justified the ASRM in my own mind, and, fortunately, she agreed.

But this was not enough. We had to use the same strategy we used in 1989. The House had voted to kill the ASRM plant at the request of the Director of OMB. So, I spent an entire day convincing the Senate Appropriations Committee to include some funding to the program. Representative Jamie Whitten of Mississippi, chairman of the House committee, used this as a starting point to provide full funding in the conference. We also convinced AL GORE to voice support for the ASRM in speeches as the Democratic Vice Presidential candidate.

The final appropriations bill, which went to the President, included a much higher level of funding than appeared in the first Senate appropriations bill for ASRM, $2.1 billion for the space station, and $167 million for Marshall's AXAF Program, which was also in danger of elimination entirely.

In 1992, my bill to endorse the U.S. Space Camp, the U.S. Space Academy, and Aviation Challenge programs was introduced. Our goal in Congress must be to support educational programs and to tear down any barriers that would prevent government agencies from working in conjunction with private enterprise dedicated to teaching our youth.

Shortly after taking the oath of office as President, Bill Clinton began a program of downsizing the Government. The enemies of NASA went to work at OMB, and in the original recommendations from OMB, the space station was to be canceled. Many of the enemies of the space station in Congress were urging President Clinton to cancel the space station.

Congress recessed around the holiday celebrations of the birthdays of Presidents Washington and Lincoln in February 1993. I had scheduled a return to Alabama to visit numerous places in the State with a series of town meetings. Upon learning that President Clinton was seriously considering canceling the space station, my entire recess schedule was put on hold in order to stay in Washington to do everything possible to see that the space station survived in the President's budget. We worked with representatives of Boeing, McDonell Douglas, and others involved to stop the cancellation. For more than a week, we rallied forces to support the space station. On several occasions, I personally discussed the merits of the program with our President and Vice President.

We got Texas Governor Ann Richards to become actively involved in our efforts. There were numerous people working night and day to do everything they could to save the space station, and I hesitate to list all of them because there were so many that might be left out. But, Chris Hansen of Boeing and Amy Bondurant, an attorney representing McDonnell Douglas, were extremely helpful in this effort. Jyles Machen, our loan from Marshall, served as a congressional fellow in my office for 2 years, and his expertise was invaluable to me on the space station and to all issues and projects relating to NASA.

Vice President ALBERT GORE had always been a supporter of the Space Program, and he was convinced to go all out to preserve it. Greg Simon, a highly intelligent and knowledgeable member of Vice President GORE's staff, was especially helpful in this battle.

During this time, we kept in constant contact with the officials at Marshall Space Flight Center as well. The team that worked to save the station at that time all cooperated and performed exceptional work. When the President's budget was finally submitted, he called for the full funding that NASA requested for the space station.

In 1993, the ASRM program died after the House had voted it down for the fifth time, even though the new Vice President and other officials were strong supporters. The House votes during 1993 were so overwhelmingly negative that it became clear that the best to be hoped for was a reassignment to keep Yellow Creek employed in some other activity. My chief concern by this point was saving Alabama jobs. The plant was nearly completed, and it had several possible uses, so the NASA administrator came to my office to discuss its future.

Later that year, NASA and the Thiokol Corporation announced that company would transfer its rocket nozzle section from Utah to Yellow Creek. Eight hundred people would start work there. The transfer made a lot of sense, since Marshall would be the chief buyer, and of course we wanted to see the jobs there.

But there were other disappointments that year, including, most notably, the fact that Marshall was not chosen to be the lead center for the space station program. However, Boeing, also located in northern Alabama, would serve as a major contractor. Of course, Marshall would have been an excellent choice to host the project, especially because of the quality work the management and employees there had done on the program. They had done it without any of the large cost overruns that plagued other centers working on the space station project.

But in our Yellow Creek meeting with the NASA administrator, he assured Congressman CRAMER and me that any rumors Marshall would be close were ''poppycock,'' and his assurances seemed pretty solid. The final appropriations bill included more than $2.1 billion for the space station. This funding level included vital elements such as the payload utilization operations conducted at Marshall Space Flight Center. And NASA had selected the Marshall Center to build the Space Station Furnace Facility, a project which would employ 160 people.

That year's appropriations bill had other advantages for Alabama, too. It included millions for the Centers for the Commercial Development of Space. These centers were comprised of a consortium of universities, including UAB, UAH, and Auburn. NASA had recently conducted a peer review of these centers and scored Alabama's three centers very well. By the recommendations of this same report, 6 of the 17 centers were scheduled for closure, but not ours.

In 1994, the dramatic and successful repair of the Hubble Telescope helped NASA to restore some of its own credibility with the public. Another tremendous benefit was the report issued by the Advisory Committee on the Redesign of the Space Station, an independent group of academic, scientific, and business leaders, headed by MIT President Charles Vest. This committee had reversed its initial, negative view on the space station printed in 1993. This time, Chairman Vest clearly stated that the program had progressed well beyond his expectations. It was not an endorsement to be taken lightly and it further emphasized the need for budgetary stability and a firm national commitment for the International Space Station.

However, NASA still had its vocal opponents. For instance, CBO published a report stating that NASA could save half of its money by halving its workload. We were able to point out many errors in the report. This sort of haphazard approach was reflected in the budget allocation handed to the VA–HUD subcommittee, which cut $700 million from NASA's budget. I was very concerned by the proposed cuts, and began working to ensure that the space station and other programs were protected.

1994 saw yet another Senate amendment to cut the space station. By that time, the program had already been assigned a district management structure with clear lines of responsibility and authority. One center had been designated as a host center to facilitate program administration, and one contractor was selected as the prime, with all others working as subs. Transition to the previous year's redesign and this new management structure was complete. The new management structure included a concept widely embraced within the private sector, a tenet of total quality management known as the integrated product team. These teams are a flexible management tool designed to bring together experts from several fields to work individual issues, solve problems, improve communications, and speed decision making. Essential design and review stages were almost completed.

Compared to the Freedom design, the International Space Station had nearly twice the power, almost double the pressurized volume, and twice the number of laboratory modules. The station was designed to orbit at a higher inclination, broadening the band of the Earth's surface and atmosphere visible to the station. The crew size has been increased from 4 to 6 fulltime crew members. The amount of extra-vehicular activity, or ''spacewalks'' required to construct the station has been drastically reduced, thereby reducing program risk. Furthermore, the international partners in the project had completed their essential design and review stages.

It made no sense to cut the program, and the Senate knew it. In the subsequent vote, 64 members voted for the space station, a remarkable victory. We did a not of preparatory work for the vote and all of our efforts paid off and everything turned out well. Those of us who were proponents of the space station contacted every Senator numerous times in advance of the vote. I was pleased to serve as chairman of the vote round-up group as on several occasions before and since. We tried to get as many votes as possible so we could put this continual fight for space station funding behind us. Our position was greatly strengthened by the House of Representatives, which also gave a strong show of support for the space station that year.

Senators MILKULSKI and GRAMM of the Appropriations Committee did outstanding work on the NASA budget, which reflected remarkable support for the Space Station and the space science programs. It increased NASA's funding over the President's request, and fully funded the space station.

That year, the Senate also passed an amendment to appropriate $40 million for the continuation of the commercial mid-deck augmentation module for the space shuttle—widely known as ''Space Hab.'' The amendment became part of the emergency supplement bill to aid victims of the earthquake. The primary contractor for the project was McDonnell Douglas, headquartered in Huntsville, which would employ 150 people to finish the quasi commercial venture. The Space Hab program has been in serious danger due to budget cuts, but the appropriation allow it to continue. It was a crucial project in the commercialization of space.

We also continued our efforts to maintain Yellow Creek that year, pursuing the rocket-nozzle factory at the plant and other options. In a meeting with Navy Secretary Dalton, I proposed conversion of NASA's Yellow Creek facility into a site for Navy demilitarization of surplus strategic and tactical rocket motors. NASA's Advanced Rocket Motor Director had given me the idea in another meeting. The Navy would receive a flexible facility to enable the sound disposal of excess rocket motors; the transfer would create a means to investigate energy production and reusable chemicals, and jobs would be saved.

Last year, there were misguided efforts to cut the NASA budget significantly. The Republicans advocated huge cuts, and the President and NASA Administrator claimed they had to propose cuts, too. The Executive Branch told me that some of the funding reductions would occur after the construction of the space station was completed. Streamlining the shuttle program was another cost-savings plan.

In a meeting in May, the NASA Administrator announced that both the Senate and the House versions of the Republican budget proposals would cause severe cuts to the agency's personnel. To pay for the tax cut contained in the House of Representatives budget plan, he told me NASA would be forced to cut 45,000 civil service and

contractor jobs at NASA by the year 2000. The House proposal was worse, and it required large cuts by this year. Of course, the President vetoed this budget, but the agency is still in trouble.

Most disturbing, however, was the House Republicans' announcement that they would close Huntsville's Marshall Space Flight Center by 1998 along with other NASA facilities in Maryland and Virginia. In a meeting with NASA Administrator Goldin, he assured me he would fight to maintain all three center the House had targeted: Marshall, Goddard, and Langley. We had already done a lot of work in the Senate, and Senator Shelby and I had contacted key leaders in the Senate and received their commitments to keep Marshall and the other centers open.

In September 1996, we fought against yet another Senate amendment to cut funding for the space station. Tens of thousands of pounds of equipment had already been constructed, and the shuttle had flown its first station related mission the year before. Although the Senate voted the amendment down, it is unfortunate that the biggest challenge the station program faces appears to be the Congress of the United States, specifically a small handful of members who continue to offer legislation aimed at terminating the station program. Since the inception of the program, votes have been held over 18 times on the station. We must continue to reject these attempts and continue our support of the Space Station program. We owe this to the future of the citizens of the United States and to all the people of Earth.

Unfortuantely, the Premiere Nozzle Center at Yellow Creek came to an end last year. Mississippi state officials seem to have made a deal with NASA to gain title to the property.

The Yellow Creek saga began when TVA terminated a 30–percent-complete nuclear reactor. Then came the rash cancellation of the ASRM plant, which was designed to prevent future space shuttle disasters like the Challenger incident in 1986. Last, we were faced with the sell-out of the nozzle center, a project which first was announced just 18 months beforehand.

In reviewing its history, it is hard to dismiss the theory that the use of Yellow Creek as a site for ASRM and as a Nozzle Center was being sabotaged from the beginning after the Revised Solid Rocket Motor was completed. Given its history, hopefully something productive can occur at Yellow Creek; otherwise it will stand as a monument to Government ineptitude an incompetence, as well as a destructive conspiracy.

In my last year as a Senator, NASA and the space station have, thankfully, enjoyed a banner year. Congress has approved a NASA budget of $14.37 billion, which includes $2.1 billion for the International Space Station. Space Lab received $102.3 million, which is 10 million over the original request. In April, NASA safely concluded the second longest shuttle mission. The space station was reconfigured within congressional budget limits and considerable improvements were made in management, engineering and budgeting the program. These changes led to a resounding endorsement from the Vest Committee.

It is rewarding to those of use who have worked long and hard in support of this important international scientific collaboration that the groundswell of public and congressional support is growing stronger. Credit for this success belongs to the team of personnel—scientists, engineers, contractors, universities and government agencies—who have worked tirelessly to make this program a viable path to the future.●

JUDICIARY COMMITTEE ACTIVITIES AND COURT REFORM

● Mr. HEFLIN. Mr. President, as the end of the 104th Congress was drawing to a close, I began making a series of speeches summarizing my activities and legislative efforts relating to some of the major policy issue areas facing our Nation. My purpose was to reflect upon and generally summarize my three terms in the Senate, pointing out progress, key accomplishments, disappointments, and suggestions for the future. So far, I have focused on the areas of civil rights and national defense and foreign policy. Here, I will devote some attention to my role as a member of the Senate Judiciary Committee.

Much of my statement on civil rights issues focused on activities within the Judiciary Committee, since these issues often arise in the context of court cases and nominations. I will reiterate some of that material here, but will focus more on court reform and the administration of justice, issues which were not discussed at length in that statement on civil rights.

While serving as chief justice of the Alabama Supreme Court, my primary goal was to modernize the State's system of justice. The backlog of cases when I came into office was staggering, so we set out immediately to pass reform of the judicial article, which is the part of the State constitution outlining the State judiciary. During my term, we were successful in getting the people to adopt a new article to the State's constitution in the form of a constitutional amendment which was known as the new judicial article and in getting the State legislature to pass a judicial article implementation bill, which some say became a model for the Nation. I was extremely proud of our efforts and of the many hundreds of people who came together to make it happen. I saw first-hand that State courts can be made more efficient and citizens' access to the courts increased.

Upon arriving in the Senate, I quickly saw that much of the reform we accomplished at the State level was needed at the Federal level. Much of my work on the Judiciary Committee has focused on bringing these reforms to the Federal court system. As a member, chairman, and ranking member of the subcommittee overseeing the courts and judicial administration, I have had the opportunity to seek many much-needed improvements in the administration of justice. Since judicial administration is so important to access to the judicial system, it is my firm belief that efficient administration is a necessary component of swift and sure justice for all those who seek it.

Since time and space will not permit me to be as comprehensive in summarizing these various issues as I would like, I ask unanimous consent that a summary listing of legislation I have introduced, cosponsored, or directly shaped in some way be included in the CONGRESSIONAL RECORD after my remarks. However, I would like to summarize some of the highlights in these areas.

One of the major efforts was in the area of bankruptcy reform. Passage of the Bankruptcy Reform Act of 1994 brought to a close nearly 5 years of work in this area. Over these several years, we were able to produce the first major substantive change in the Bankruptcy Code since 1984. We successfully streamlined and updated the code.

The need for a major reform of the code became apparent with the record increases in bankruptcy filings the courts had been experiencing. There was a need for changes in the code which recognized the changes in the economy and different types of financial arrangement faced by consumers and businesses.

Our act addressed virtually all aspects of bankruptcy, including provisions which made significant and important changes to the bankruptcy process in our Federal courts. Also included were provisions which streamlined the process for the individual consumer debtor through the encouragement of the use of chapter 13 repayment bankruptcy provisions. The commercial bankruptcy process and procedure was also addressed. I am particularly proud that a Bankruptcy Review Commission was set up to review and study the laws and process related to bankruptcy filings. Overall, these reforms have led to a more effective and workable process.

In the 96th Congress, I introduced a bill to divide the Fifth Circuit Court of Appeals into two courts. Its main purpose was to promote judicial efficiency. Individual judges in the fifth circuit were severely burdened by an excessively large caseload. Furthermore, the entire court had accrued the largest en blanc caseload in U.S. judicial history. The measure splitting the circuit and creating the 11th Circuit Court of Appeals was signed into law in October 1980.

In the 97th Congress, I was a cosponsor of the Omnibus Victims Protection