

FILE COPY  
DO NOT REMOVE  
FROM OFFICE

Report to the Governor

and

The Fifty-Seventh General Assembly

**Task Force on  
Federal Civilian and Defense Expenditures**



July 1, 1990

Legislative Council Research Publication No. 349

**Membership**  
**Federal Civilian and Defense Expenditures Task Force**

**Appointments By the Speaker of the House**

Representative Tony Grampsas  
Representative Tom Ratterree  
Representative Richard Bond  
Representative Peggy Kerns

**Appointments By the President of the Senate**

Senator Jeff Wells  
Senator Ray Peterson  
Senator Dennis Gallagher  
Ms. Wanda Reaves, Colorado Springs Chamber of Commerce

**Appointments By the Governor**

Dr. Ray Chamberlain, Executive Director, Department of Highways  
Mr. John Donlon, Executive Director, Department of Labor and Employment  
Mr. Eugene Petrone, Director, Office of State Planning and Budgeting  
Dr. William Randall, State Commissioner of Education

# COLORADO GENERAL ASSEMBLY

## OFFICERS

Rep. Chris Paulson  
Chairman  
Sen. Ted L. Strickland  
Vice Chairman

## STAFF

Charles S. Brown  
Director  
David Hite  
Deputy Director  
Stan Elofson  
Assistant Director



## LEGISLATIVE COUNCIL

ROOM 029 STATE CAPITOL  
DENVER, COLORADO 80203-1784  
(303) 866-3521

## MEMBERS

Sen. Wayne Allard  
Sen. Brian McCauley  
Sen. Harold McCormick  
Sen. Ray Powers  
Sen. Larry Trujillo  
Sen. Jeffrey Wells  
Rep. Chuck Berry  
Rep. Carl "Bev" Bledsoe  
Rep. Matt Jones  
Rep. Paul Schauer  
Rep. Carol Taylor-Little  
Rep. Ruth Wright

June 28, 1990

Governor Roy Romer  
Members of the Fifty-Seventh General Assembly

Dear Ladies and Gentlemen:

The Federal Civilian and Defense Expenditures Task Force herein submits its findings and recommendations in compliance with the provisions of House Joint Resolution No. 1019, 1989 Session. Final approval was given to the report at a June 27, 1990, meeting of the group.

The task force was established to study the impact of potential reductions, retentions, or increases in federal civilian and defense expenditures upon the state's economy, and to make recommendations regarding the prevention of and accommodations to reductions in a manner that maintains a healthy state economy. The group met on six occasions within a short time period during the legislative session. At each of these meetings the task force was presented with insightful perspectives on the impact of the defense industry from public and private sector leaders.

The following individuals provided valuable testimony before the task force:

Economists Tucker Hart Adams and Nancy McCallin;

Commander of Defense Contracts for the Rocky Mountain Region, Captain Bill Scott;

Governor Romer's staff including Chief of Staff Stewart Bliss, and Morgan Smith, head of the Office of International Trade;

Former Assistant Secretary of Defense and Chairman of the Colorado Commission on Space Science and Industry, Chapman Cox;

Colorado Adjutant General, Major General John France; Commander of Lowry Air Force Base, Major General Dale Tabor;

Director of Business Planning for Martin Marietta Astronautics, Leonard Taigman;

Chairman, Defense Mission Task Force, Colorado Springs Chamber of Commerce, Hal Littrell;

Governor Roy Romer  
Members of the Fifty-Seventh General Assembly  
June 28, 1990  
Page Two

Former Ft. Carson Commander, Retired General Jack Forest; and  
Group Vice President of Ball Aerospace Systems, Donovan Hicks.

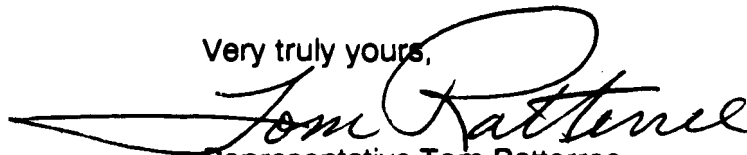
In addition, members of the task force met with Congresswoman Pat Schroeder, Congressman Hank Brown, and Congressman Joel Hefley. As chairman of the task force, I also met with Senator Tim Wirth, and Congressman Dan Schaefer. These meetings were successful efforts to establish a linkage with Colorado's congressional delegation. An example of that relationship is the task force letter to the congressional delegation appended to this report. The letter conveys support for relocating federal defense installations to Colorado and the upgrading and expansion of existing federal facilities in the state.

The focus of the narrative that follows is on actions that state government must take in response to inevitable impacts on the state's economy that result from changes in the role of the military and other segments of the defense industry.

Using Department of Defense data, Washington Analysis Corporation reports that 5.6 percent (\$7.6 billion) of Colorado's gross state output for 1989 was based on defense spending. Others estimate the impact to be considerably higher. **As all of us are aware, a reduction in defense spending in Colorado will impact some communities very heavily. The task force believes this is a subject of statewide concern. As a nation, we have generally not dealt well with the impact of cutbacks in defense procurement and base closures. As a state, we have not had a need in the past to face these hard issues. The downward pressure of defense spending must now change our thinking. There is an immediate need for legislative-executive involvement to meet that impending decline in defense expenditures.**

I am pleased that the General Assembly adopted House Joint Resolution 90-1025 which extended the life of the task force to the end of this calendar year. House Joint Resolution 90-1025 is appended to this report.

Very truly yours,

A handwritten signature in cursive script that reads "Tom Ratterree". The signature is written in black ink and is positioned above the printed name and title.

Representative Tom Ratterree  
Chairman

## **SUMMARY**

It is essential that Colorado prepare itself for reductions in defense expenditures. As congressmen and presidential advisors begin to discuss cuts in federal defense expenditures of 25 percent over the next five years, state and local governmental officials, as well as private sector leaders, must develop strategies of adjustment that include local economic development and job retraining. Time is of the essence.

In this report, the Federal Civilian and Defense Expenditures Task Force advances six recommendations for providing the resources that will be necessary to facilitate a decision-making process that provides economic stability for the state in a period of uncertainty.

Those recommendations may be summarized as follows:

- \* *develop a greater understanding of the defense industry by initiating a semiannual report on its impact from the Office of State Planning and Budgeting;*
- \* *establish a defense expenditures advisory council composed of private and public sector leaders for the purpose of advising the Governor, legislative leaders, and the Federal Budget Task Force;*
- \* *initiate a continuous and close working relationship with Colorado's congressional delegation in order that the state keep apprised of changes in the federal defense budget;*
- \* *designate the Federal Budget Task Force as a liaison to the federal Department of Defense, other federal agencies, and private defense related industries so that the state has an established and well identified group of officials to refer inquiries regarding the military's presence and potential in Colorado;*
- \* *enhance support for existing space-related facilities and increase efforts to attract similar businesses (such as space system division activities from Los Angeles to Colorado Springs) as Colorado seeks to achieve a preeminent position in space science and industry;*
- \* *strengthen the state's major research universities in space science;*
- \* *nurture an effort by the newly created Math-Science-Technology Commission to develop a statewide math-science-technology initiative; and*
- \* *forge a legislative-executive program to assist the competitiveness of Colorado business in the national marketplace.*

## TASK FORCE FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

**NEED:** Timely, objective, and comprehensive information regarding the impact of the defense industry in Colorado needs to be generated for the legislative and executive leadership of state government.

**BACKGROUND:** The task force finds that no state agency has a complete overview or ongoing understanding of the impact of the defense industry on the state, although 9.2 percent of the state's labor force is tied to the industry, and the state ranks sixth in the nation in per capita defense spending by the federal government. In light of recent dramatic changes in the world which may have significant impact on Colorado's economic well being, it is essential that the executive and legislative leadership of state government have adequate information from which to make informed decisions.

**RECOMMENDATION:** The Office of State Planning and Budgeting in the Governor's Office shall deliver, on a semiannual basis, an "Impact of the Defense Industry on the Colorado Economy" report to the Governor and the legislative leadership. In carrying out such an effort, the office shall:

- develop and maintain an economic model capable of addressing the impact of federal defense expenditures on the state's economy and employment, as well as:
- provide projections of federal defense expenditures coming into the state, changes in these expenditures, and the impact of these expenditures on the state's economic growth, employment, tax revenues, and other variables determined to be significant;
- assess the nature and extent of defense industry dependency in Colorado including the most vulnerable regions, communities, industries, companies, and occupations;
- monitor conversion and adjustment including diversification efforts in other states; and
- report data on defense prime contract awards, the effects of defense spending on industry output, and a summary of significant federal expenditure increases or decreases affecting Colorado military bases and active duty and retired military personnel located within the state.

**ACTION REQUIRED:** The Governor's Office of State Planning and Budgeting needs to compile the report.

**IMPLEMENTATION  
DATE:**

The first report on the "Impact of the Defense Industry on the Colorado Economy" should be delivered by the Office of State Planning and Budgeting on or before January 1, 1991, and subsequent reports should be made biannually on an ongoing basis.

**NEED:** A public/private partnership needs to be formed to monitor the changing patterns of federal expenditures at the national level and the potential impact of those changes on Colorado.

**BACKGROUND:** The potential magnitude of the economic impact of shifting federal defense expenditures requires the development of statewide policies addressing the need for economic adjustment, diversification, and conversion. These efforts will require close private and public sector cooperation. The state can assist local governments, educational institutions, businesses, and individuals to understand and evaluate the impact of these changes on their budgeting, training needs, competitive possibilities, and job prospects.

**RECOMMENDATION:** Establish a Defense Expenditures Advisory Council. The group would report their findings and recommendations to the group that made appointments to the council, namely the Governor, the President of the Colorado Senate and the Speaker of the Colorado House of Representatives, as well as the Federal Budget Task Force. The council will consist of nine members, three from each house of the General Assembly and three from the Governor's office. The membership should serve without compensation and represent diverse sectors of the state's economy, public and private. Funded by grants, gifts, or contributions from the Colorado economic development commission or from any other public or private source, the advisory council shall study and make recommendations regarding, but not limited to, the following:

- statewide economic conversion and adjustment policies and programs and executive and legislative strategies to implement the same;
- facilitating defense and nondefense technology transfer and civilian product applications;
- developing and identifying opportunities and approaches for coordination, on regional and statewide bases, among Colorado's private enterprises and institutions and public resources, to address the following areas: domestic and international product and capital market access, research and development technology transfer and entrepreneurial incubation, and financial and technical assistance options.

**ACTION REQUIRED:** The President of the Senate, the Speaker of the House of Representatives, and the Governor initiate the study by making appointments to the Defense Expenditures Advisory Council.

**IMPLEMENTATION  
DATE:**

Appointments to the Council should be made by August 1, 1990.

**NEED:**

Establish a close working relationship with Colorado's congressional delegation to the extent that public decision makers in this state can converse with members of the delegation about the portion of Colorado's economy that is driven by defense expenditures. As a result, the two groups may jointly identify the impact that federal expenditures and shifts in expenditures will have on our economy, and arrive at an understanding of the economic priorities of the state's public sector. In addition, identify a group of knowledgeable state officials to serve as a contact for federal and private sector decision makers with questions regarding the state's defense industry.

**BACKGROUND:**

The task force met with members of the Colorado congressional delegation and with civilian and military leaders to discuss the significance of the defense industry to Colorado. Also discussed was the desire of the task force to **develop a coordinated, pro-active position that provides collective input** to the federal decision making process. The directive is to assure that the state's economy will respond in a healthy and expansive manner to inevitable reductions in future military expenditures.

Three members of the congressional delegation serve on Armed Services committees, others serve on Congress' Budget committees, and all have various avenues of influence. Each member of the delegation identified a staff contact in Washington or from their district office in Colorado to serve as liaison with the task force.

The civilian and military leaders identified areas in need of greater attention by state government. Of primary concern was the desire that increased efforts be made to attract greater defense expenditures for Colorado military and manufacturing establishments.

**RECOMMENDATION:**

1) The Federal Budget Task Force serve as a liaison from state government to the Colorado congressional delegation. Lines of communication will be established with liaisons designated by each member of the Washington delegation. The objective is continuing communication, with a minimum of periodic reports on developments in the defense industry as they affect Colorado. The task force will be responsible for keeping the Governor and the legislative leadership up to date by means of a brief memorandum. The memorandum would also be made available to the Federal Civilian and Defense Expenditures Advisory Council.

2) The task force will act as a liaison to federal agencies and private defense related industries. The task force can thus assume a lead role in interfacing with those sectors of the economy most interested in military expenditures.



**ACTION REQUIRED:** The Federal Budget Task Force will serve as liaison to **strengthen lines of communication with the Colorado congressional delegation** for the purpose of identifying the impact that federal expenditures and shifts in federal expenditures will have on the state's economy. The task force will also serve as a liaison to the federal government and industry on matters relating to the defense industry in Colorado.

**IMPLEMENTATION  
DATE:**

July 1, 1990.

**NEED:** Public understanding of the importance of space science and industry to this state and the need to establish Colorado as a space program leader.

**BACKGROUND:** Space-related expenditures have been the fastest growing portion of the defense budget over the past decade. Colorado is well positioned to gain from the trend toward allocating more defense budget expenditures for space surveillance. The state should also gain from the increase in nonmilitary government space endeavors. These efforts are concentrated for the most part in the NASA budget. It is estimated that Colorado industry will have received as much as \$75 million in NASA prime awards and \$106 million in NASA business subcontract awards in Fiscal Year 1990.

The commercial utilization of space may well be the next economic breakthrough for the state. The major segments of the commercial space industry include satellite communications, satellite remote sensing, space-based industrial facilities, and materials research and processing in space. Martin Marietta and McDonnell Douglas combined have control over 80% of the U.S. commercial launch market using rockets manufactured in Colorado. The state is home to a growing number of software industries with expertise in areas that are essential to the space industry.

In short, the high-technology manufacturing industry, made up primarily of space-related businesses, has become one of the largest industries in the state. Space research generates substantial employment, manufacturing, and educational opportunities.

A strong existing base in space and science knowledge and facilities is in large measure the result of the fact that Colorado is the home of the National Oceanic and Atmospheric Administration, the Solar Energy Research Institute, the National Center for Atmospheric Research, the U.S. Space Command, the Air Force Space Command, the North American Aerospace Defense Command, the Pacer Frontier program, and important defense and commercial space hardware companies such as Martin Marietta and Ball Aerospace.

With the creation of the Colorado Commission on Space Science and Industry, the state has taken an additional step toward maximizing opportunities in the space industry for the state. Senate Bill 90-95 created the Colorado space advisory council for the purpose of advising the Governor and the General Assembly on the implementation of the state's space initiative. The new law also established the position of the Colorado space advocate to supervise the implementation of the space initiative for the state.

**RECOMMENDATION/  
ACTION REQUIRED:**

For Colorado to achieve an eminent position in space science and industry, support for existing space-related facilities must be enhanced, and new space-related businesses must be attracted to the state. The task force recommends careful consideration of the following initiatives:

- The Colorado Office of Space Advocacy must receive the strong support of the Governor and the General Assembly. This can first be achieved through the appointment of knowledgeable and dedicated individuals to the space advisory council. In addition, the Governor and the General Assembly should commit themselves to a continual dialogue with the office of space advocacy. The head of the office of space advocacy should be an integral part of the Governor's economic development team. Finally, the Business Affairs and Labor committees in both houses of the General Assembly should meet periodically with the space advocacy office director to keep abreast of recent developments.
- The Governor and the General Assembly should focus on factors considered by the space industry to be most significant when determinations are made on where to locate operations. These factors include:
  - educational quality from kindergarten through graduate school;
  - the availability of advanced degree programs in space science to meet the needs of employees of the space industry;
  - skills and availability of a labor force;
  - the accessibility of transportation and communication facilities;
  - closeness to similar space-related facilities and the subcontractors and vendors that supply space facilities; and
  - local government support.
- The Governor and the General Assembly should promote space and science education programs in elementary, secondary, and postsecondary schools of the state.

**IMPLEMENTATION  
DATE:**

The General Assembly's Federal Budget Task Force should meet with the space advisory council of the Colorado Office of Space Advocacy during the fall of 1990 to plan a joint strategy.

**NEED:** Those state programs of higher education focused on space science and research need to be strengthened and new programs initiated.

**BACKGROUND:** Colorado's research universities have a strong record of establishing research centers with the quality necessary to attract research and development industries. The University of Colorado's space Initiative and Colorado State University's Center for Space Engineering and Science are important first steps for the state as it seeks a preeminent position in space education. The University of Colorado at Colorado Springs has, for example, strong programs in aerospace, electrical engineering, and systems management. All increase the attractiveness of Colorado Springs and the state as a location for space science and research operations.

The state is a major recipient of NASA university research grants. The University of Colorado's annual space research expenditures exceed \$20 million. CSU receives in excess of \$1 million in NASA support each year. The space industry is becoming a major attraction to our college and university graduates. Approximately one half of a 14,000 work force at Martin Marietta are college graduates; 30-40 percent of the company's engineers are graduates of Colorado colleges and universities.

**RECOMMENDATION/  
ACTION REQUIRED:** The Federal Budget Task Force should meet with officials of the state's major research universities to develop a strategy for the 1991 legislative session that will enhance the state's role in space science and research.

**IMPLEMENTATION  
DATE:** Summer, 1990.

**NEED:** Enhance the joint efforts of business, government, and schools to educate students for the technological skill levels needed by a growing number of space and science industries in the state.

**BACKGROUND:** Primary and secondary education are seen as critical resource areas for a growing space and science industry in Colorado. Companies seeking to move to Colorado consider primary and secondary education as vitally important in attracting qualified employees who will be moving their children to public schools in the state.

Five Colorado based programs that focus on space and science are highlighted below.

### **U.S. Space Foundation**

A primary goal of the U.S. space foundation is space education enhancement. As a non-profit organization, its funding stems largely from corporate and private donations, contracts with federal agencies and support grants. Colorado corporations contributing to the Foundation include: Martin Marietta, Rockwell, Hewlett-Packard, Coors, El Pomar, TRW, and Digital. The foundation's financial support is \$820,000 in donations and grants for Fiscal Year 1990.

The foundation hosts three, five-day courses for K-12 teachers. Over 500 educators from 35 states and 3 nations have attended the course over the past six years. The Space Foundation is also a national space education resource center with materials donated from NASA, FAA, and the Civil Air Patrol. Materials are provided to teachers and schools free of charge. Last year, approximately 15,000 educational materials and 14,000 lesson plans were distributed by the foundation throughout the United States. The Space Foundation's Space Discovery Center is located in Colorado Springs and is cosponsored with NASA. The center has received over \$1 million in cash donations to date.

### **Colorado Alliance for Science**

The alliance is funded through membership dues from business and industry and higher education institutions. For Fiscal Year 1989-90, the Alliance raised \$100,000 in dues from 34 businesses and educational institutions. The Alliance had a total budget of \$386,000 for Fiscal Year 1989-90 which included grants, contracts, and membership dues.

Through three programs, the Colorado Alliance for Science is seeking to strengthen the ties between educators and professional scientists.

- The Visiting Scientists program began in 1984 when the Alliance collaborated efforts with Hewlett-Packard. Scientists from a variety of fields visit classrooms and share with students of all grades, interests, and experiences in science. During the 1988-89 school year, 300 scientists visited Colorado schools. It is expected that 500 scientists will participate during the 1989-90 school year. Individual companies pay to have their employees participate in the program.
- The Summer Fellowship program for teachers placed eight teachers in Colorado science and space corporations in 1989. The teachers are hosted by the corporations at no expense to the schools.
- The Retired Educators, Scientists, and Engineers Task Team (RESETT) is another program sponsored by the Alliance where retired science professionals work with and tutor students.

### **Math-Science-Technology Commission**

The Math-Science-Technology Commission was created by executive order effective April, 1990. The commission consists of 16 members appointed by the Governor, including representatives from the General Assembly, educators, and business people.

The commission is to develop a draft design for a state wide math-science-technology initiative and serve as the coordination point for grant applications to the National Science Foundation and other agencies and foundations to fund implementations of the statewide initiative.

The commission is formulating statewide systemic initiatives which will include specific educational goals in redevelopment of science and math curricula, teacher preparation, and allocation of resources. One program already in preparation is the Colorado Academy for Space Sciences.

### **Colorado Academy for Space Sciences**

The Academy for Space Sciences focuses on preparing students for careers in science and other related professions beginning at the elementary level and continuing through high school.

The academy is an outcome-based instructional program being established by the Colorado Department of Education. It is a cooperative venture between education, government, and business to produce graduates equipped to enter and succeed in math, science, or technological careers. Students who participate in the academy will meet rigorous entrance and exit requirements. Currently the Department of Education is working to select a design team that will conduct a feasibility study for the program.

**RECOMMENDATION/  
ACTION REQUIRED:**

The recently created Math-Science-Technology Commission should assume a lead in coordinating and promoting space and science education programs for the public schools of Colorado. In recognition of the importance of the commission's work, the General Assembly's committees of reference on education should meet in joint session prior to the convening of the 1991 legislative session to receive a report on the commission's progress in developing a statewide math-science-technology initiative.

**IMPLEMENTATION  
DATE:**

The General Assembly's education committees should meet with the Math-Science-Technology Commission in November or December, 1990, and, if necessary, on an ongoing basis.

**NEED:** Policy makers should devote greater attention to the problems of smaller contractors and subcontractors associated with defense contracts.

**BACKGROUND:** On several occasions, the task force was briefed on efforts by state government to facilitate networking of Colorado businesses, small and large, in order to enhance opportunities for subcontractors to capture the estimated \$2 billion in subcontracts that are awarded annually to firms outside Colorado. Of the \$5.3 billion awarded to Colorado Springs contractors, approximately \$1 billion leaves the state through subcontracts. Efforts to reverse this situation are being made by the Department of Defense, the state's congressional delegation, the Governor's Office of Economic Development, and organizations representing the business community and individual businessmen.

The task force is acutely aware of the fact that without careful planning inevitable cuts in military spending will negatively impact the state's economy. Despite cutbacks, through careful planning our economy can prosper. While 1990 will not be a time of loss of military expenditures, it should be a year of examination of our business environment with a emphasis on strengthening Colorado businesses and their competitiveness. Under Department of Defense rules, 20 percent of all prime contracts must be subcontracted to small business and 5 percent to minority or women-owned businesses. When compared to Southern California, the Midwest, or the Northeast, Colorado has the competitive edge because a reported 50 percent of the state's small businesses are owned by women and some 27 percent are minority-owned.

**RECOMMENDATION/  
ACTION REQUIRED:** A stronger working relationship needs to be forged between the legislative and executive branches to assist the competitiveness of Colorado business in the national marketplace. Greater impetus must be given to the broad distribution of data to the state's business community including lists of subcontractors and prime contractors, the refinement of a single step qualification procedure to enable small firms to be approved for work with larger firms, assistance with capital formulation and marketing, and training to meet standards for qualification for work. Assistance to the community of small businesses, and minority business as well, is extremely important.

**IMPLEMENTATION  
DATE:** The General Assembly's Federal Budget Task Force should meet with representatives of the Governor's Office during the summer of 1990 to plan a joint implementation strategy.



## **BACKGROUND**

### **THE DEFENSE INDUSTRY IN COLORADO**

The Federal Civilian and Defense Expenditures Task Force has begun an examination of the Colorado defense and space industry and of the potential effects of federal defense spending cuts. Although defense is a national issue, economic adjustment to defense transitions is a matter of state and local concern.

#### **Further Declines Foreseen**

Chart I depicts defense outlays as a portion of the nation's gross national product for the period 1950 - 1991. Based on that 40 year history, most observers believe that further reductions in defense spending will not have a major impact on the national economy at a macro economic level. Chart II shows the disbursement of Fiscal Year 1990 federal budget dollars. Some observers estimate that the defense budget will drop from its current 25 percent of the federal budget level to 21 percent by Fiscal Year 1995. This figure is a significant decrease from the 27 percent experienced in the early 1980's. Inflation-adjusted defense budgets began declining in 1986. The five-year budget projection, starting in Fiscal Year 1991, submitted by the Bush Administration to Congress in January, 1990, was based upon a 2 percent inflation-adjusted decline. However, others believe that Congress is more likely to pass a budget with 5 percent annual inflation-adjusted reductions. As a result, although the Department of Defense budget will probably not experience a real rate of decline this year, it is anticipated that the budget will be in greater jeopardy in future years.

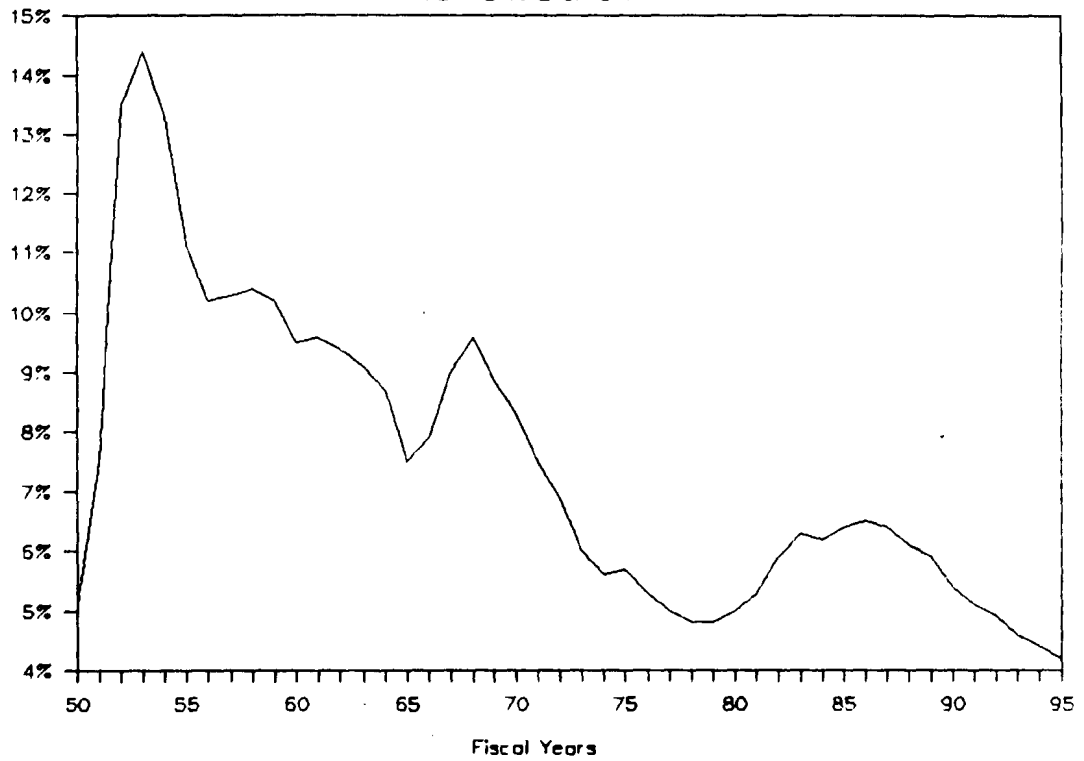
Much of the downward pressure on the defense budget preceded events toward democratization in the Soviet Union and Eastern Europe. The changes were precipitated by the deficit reductions called for by the federal Gramm-Rudman-Hollings Act of 1985, and increased public sentiment for federal spending on other, nondefense areas of the economy including environmental cleanup, transportation, other infrastructure needs, combatting drug use, assisting the savings and loan industry, and increasing support to existing programs of health, education, and assistance to children.

#### **Defense Spending in Colorado**

Reductions in defense budgets should be of grave concern to Colorado. Using multipliers, the impact of the defense industry on Colorado is estimated to be as high as \$17.6 billion. In 1988, Colorado ranked sixth in per capita Defense Department spending. Per capita defense spending is greater in Colorado than any of the other Western states. Colorado received \$4.6 billion from the Department of Defense in 1988, which accounted for 35.6 percent of total federal expenditures received by the state. Most of the Department of

**Chart I**

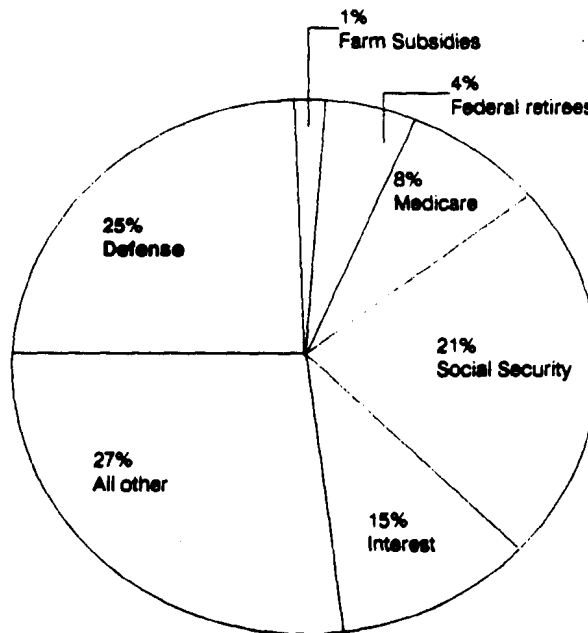
**NATIONAL DEFENSE SPENDING  
AS A SHARE OF GNP**



SOURCE: Defense Budget Project, Based on DoD Comptroller.

**Chart II**

**Fiscal 1990 outlays as a percent of total federal budget**



Total Outlays: \$1197.2 billion

Source: Office of Management and Budget

Defense expenditures are confined to a handful of Colorado counties, with over 90 percent of the spending occurring in Denver, El Paso, Adams, and Boulder counties. These figures, however, do not account for subcontracts. With subcontracting taken into consideration, figures for spending on defense-related projects increase to \$5.3 billion for Colorado Springs and \$3.5 billion for Denver in Fiscal Year 1989.

With approximately 131,900 people on its personnel system, the Department of Defense has an annual payroll of \$2.2 billion in Colorado. The Colorado payroll is comprised of 38,000 active personnel with a \$310 million annual payroll; retired military personnel of 59,000 with a payroll of \$874 million; 40,642 active and retired civilian personnel; and over 20,000 reserve and national guardsmen.

The defense industry and military employ at least 9.2 percent of Colorado's work force. The Department of Defense has the greatest presence in El Paso county where one out of every five working individuals is directly employed by the Department of Defense. One-fourth of Colorado Springs' non-farm workers are directly employed by the military or by defense contractors. Slightly over 3 percent of metro-Denver workers are employed by the military. An additional 3.1 percent are employed by defense contractors. Within the Department of Defense, Colorado ranks 12th nationally in total personnel compensation, 13th for Department of Defense prime contract awards, and again, 13th in total number of military retirees.

The Department of Defense awarded approximately \$2.9 billion worth of prime contracts in Colorado in Fiscal Year 1988, over half of which (\$1.8 billion) were awarded to the Air Force in research and development contracts. Approximately \$425 million in prime contracts was allocated for supply, \$325 million was awarded for service contracts, and \$70 million was awarded for construction and civil functions in the state.

Colorado's top six defense contractors are Martin Marietta Corporation, Litton Industries, Ford Aerospace Company, International Business Machines Corporation, Raymond Holding Inc., and Ball Aerospace Corporation. These companies received \$2.3 billion in new prime contracts in Fiscal Year 1988. Although growth in Colorado's defense industry is slowing, there is still a great deal of backlog in contracts that will be beneficial to the state over the next thirty months. Martin Marietta, the state's largest private contractor, has order backlogs that should sustain business through 1995. With a work force in excess of 14,000, Martin Marietta's payroll for its Colorado operations totalled \$612 million in 1989. Though the long-term outlook for Star Wars (Strategic Defense Initiative, SDI) is uncertain, a large majority of Colorado's defense contracts (72 percent) are for research and development. Historically, research and development contracts tend to be stable during budget cuts.

Lower funding levels have caused some minor cuts for local defense contractors and it is believed that more layoffs will materialize. Since it takes three to five years for appropriated defense budgets to be spent, defense firms are now finishing contracts received in the mid-1980s when defense budgets were at record-high levels. As these contracts are completed, further layoffs are expected by private contractors. In terms of military construction projects in the state, the National Test Bed Facility at Falcon Air Force Base in Colorado Springs (a key component of SDI) has \$100 million in construction currently underway and

there is another \$9 million in other Falcon Air Force Base projects. Lowry Air Force Base has been allocated \$15.5 million to construct a computer center that is expected to employ 800 people.

Chart III displays military spending for payroll and prime contracts in Colorado Springs and Denver. The table displays how Colorado Springs receives more military dollars in payroll than in contracts. In sharp contrast, Denver receives substantially more defense dollars in contracts with less invested in payroll. Typically, payroll budgets are more stable. Although this may appear troublesome for Denver, its well diversified economy should protect it from severe damage from defense cutbacks. Although Colorado Springs' defense industry is more concentrated in payroll, its economy is not diversified; 50 to 60 percent of its economic activity comes from defense and the military. In effect, Colorado Springs will more likely feel the damaging effects of defense cutbacks than will Denver.

### **Military Programs and Installations**

The following is a brief profile of the major military installations in Colorado. With few exceptions, spokesmen from these facilities reported that the future appears to offer stability or growth despite the uncertainties of the federal defense budget.

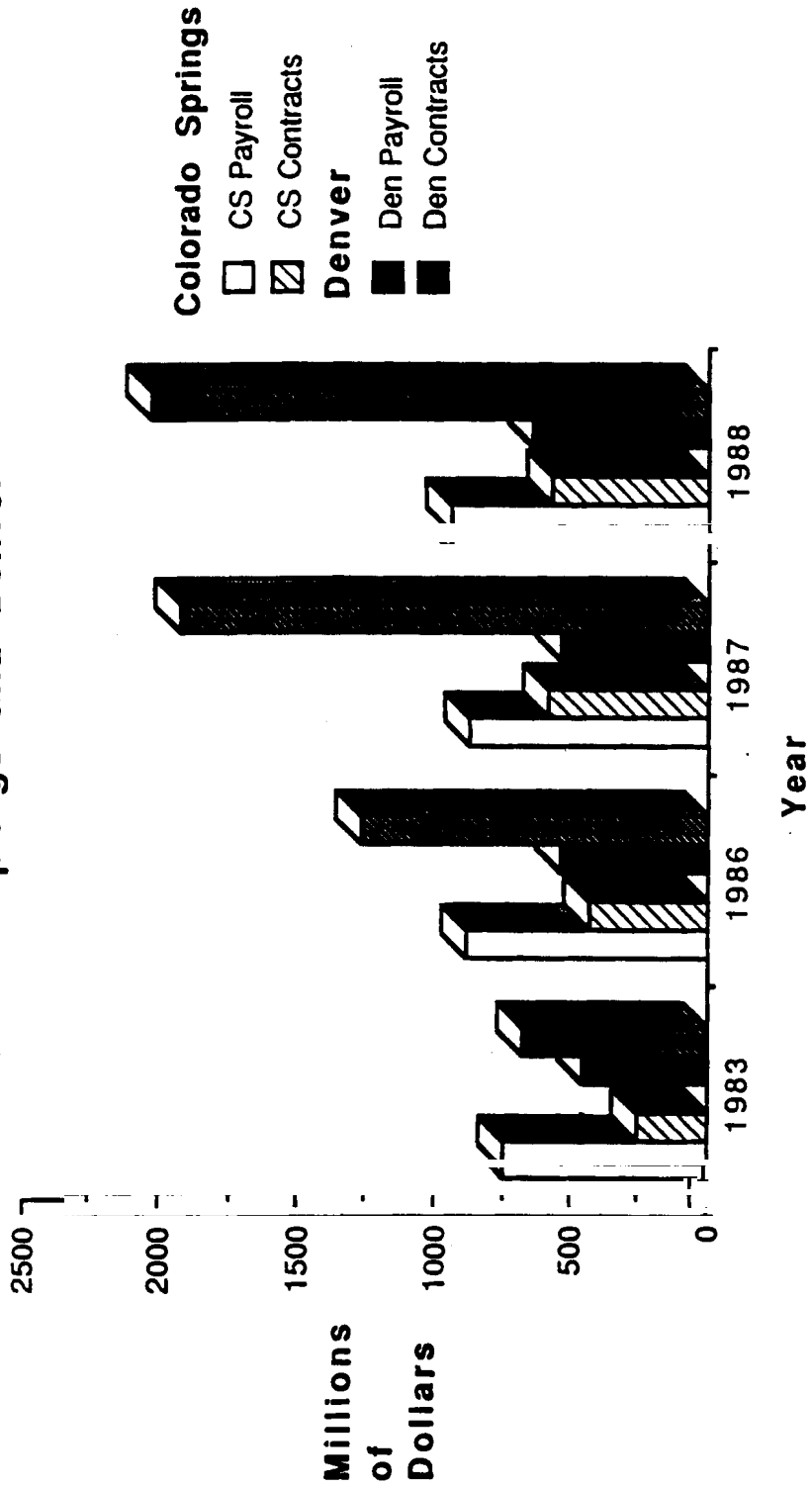
**Fort Carson.** Fort Carson identifies itself as the largest employer in the state with 18,900 active military stationed at the base, 40,480 dependents, and a civilian work force of 4,000. The base serves some 115,995 retirees. By the mid 1990s, the military force on the base will be reduced to 16,000. Fort Carson consists of two large land areas. The main base is on 137,000 acres. The Pinon Canyon facility outside of Trinidad and 100 miles south of Colorado Springs has 244,000 acres, enough for brigade size maneuvers.

The closure of a brigade at Fort Carson and the subsequent loss of 3,300 soldiers has caused the Colorado Springs' economy to endure significant hardship. Fort Carson was the only base in the country with three brigades, although all three were not at full force. As a result, a portion of the 3,300 soldiers were transferred to the other two brigades to bring them to full force. Nonetheless, the closure caused a \$100 million loss in payroll. The relocation of 700 employees from The Presidio in San Francisco to Colorado Springs will help to offset some of these losses, bringing 1,100 jobs and \$20 million in payroll to the area.

Fort Carson makes a significant contribution to the Colorado Springs economy. In Fiscal Year 1989, military pay and allowances were \$379.2 million, civilian pay \$59 million, and military construction \$10 million. It is estimated that the contribution to the Colorado Springs community may have been as high as \$570 million.

Chart III

Military Spending For Payroll and Prime Contracts  
Colorado Springs and Denver



**Fitzsimons.** Fitzsimons has four primary missions:

- mobilization (in addition to their permanent party of 1,400 military, 1,400 civilian, and 1,000 tenants, Fitzsimons accommodates 3,000 weekend personnel and an additional 3,200 throughout the year for short term training programs);
- a military installation or self contained base like Walter Reed Hospital in Washington;
- a facility for graduate medical education (Fitzsimons has eleven specialities, 96 residents and 34 interns); and
- health care delivery to a forty mile military catchment area.

Currently, a number of new or replacement facilities are being planned at Fitzsimons. The largest project is a new hospital scheduled for completion in 1998 at a cost of \$300 million. Fitzsimons's existing hospital currently serves a population base of 730,000, with approximately 70,000 outpatients each month.

**Lowry.** Lowry Air Force Base is one of six Air Force technical training centers in the country. Its population includes approximately 5,800 military and 5,000 civilian personnel with a payroll of approximately \$283 million in Fiscal Year 1989. Lowry is currently constructing a \$15.5 million computer center that is to be completed by 1992.

Lowry will benefit from the closure of Chanute Air Force Base in Illinois with the transfers of \$35 to \$60 million in construction to be in place by 1993. Lowry is to become a heavy equipment training center as well as a small missile training facility.

**Buckley.** Buckley Air National Guard Base houses components from all four branches of the military. Buckley's primary mission is combat readiness, although the Colorado National Guard is a part-time military force. Buckley employs 1,073 full-time personnel. The National Guard has an authorized strength of 5,385. For Fiscal Year 1989, total payroll was \$53.6 million.

Buckley is the sixth largest base of its kind in the world. Approximately 10,000 transient aircraft fly into the base each year. Currently, funding is underway for a new \$7.8 million Army/Navy building.

**Peterson Air Force Base Complex.** The Peterson Complex, east of Colorado Springs, is home to a variety of agencies made up of the North American Aerospace Defense Command, the U.S. Space Command, Air Force Space Command Headquarters, U.S. Army Space Command, 1st Space Wing, 2nd Space Wing, 3rd Space Support Wing, and associate units.

In Fiscal Year 1988, the Peterson Air Force Base Complex employed approximately 7,300 military and 7,000 civilian personnel with a total payroll of \$302 million. These figures make Peterson the second largest employer in the Colorado Springs area. Department of Defense

expenditures at Peterson totaled \$113.9 million in Fiscal Year 1988, of which \$73 million went to local contracts. It is estimated by the Department of Defense that the total economic impact of the base on the local economy in Fiscal Year 1988 totaled \$688 million.

The **Pacer Frontier** program will be a valuable program in space surveillance. Currently, the Pacer Frontier program employs 900 military and civilian personnel. It is predicted that the program will create anywhere between 780 and 1,030 new jobs at Peterson Air Force Base between 1990 and 1998. The Pacer Frontier program is also estimated to create 380 secondary jobs over that same period of time. Most importantly, the program has the potential to make a total annual economic impact of \$47 million by the late 1990s. The President has earmarked \$185 million for the Pacer Frontier program, but that figure has yet to be approved by Congress.

### **Civilian Use of Closed Military Bases**

A study entitled *25 Years of Civilian Reuse* for the Office of Economic Adjustment analyzed the question of civilian use of closed military bases between 1961 and 1986. The study found that the majority of bases were converted to educational facilities. Twelve four-year colleges and 33 postsecondary vocational technical schools or community colleges with more than 53,700 students were created on former bases. In addition, 14 of the 100 closed bases established high school vocational education programs, with 7,900 students and 8,100 trainees.

Office and industrial parks have also been established at 75 of the 100 former defense bases and municipal or general aviation airports at 42 of the bases. Typically, the transition period to an alternate use takes approximately two to three years.

The report also found that new jobs at the reused bases totalled 138,140, outweighing the 93,400 jobs which were lost when the bases closed. The study, however, only analyzed the lost civilian jobs, not the lost military jobs. The reason for the exclusion of military jobs is that they are not included in the official employment figures but the military payroll and its secondary effects are included in official income figures. Thus, the omission of military jobs and the resulting conclusion that the reuse of military facilities creates more jobs than its former use as a base is overall optimistic. In the case of the closure of a brigade at Fort Carson, for example, 3,300 troops were removed from the economy, while only a negligible number of civilian workers were affected.

### **Colorado's Space Industry**

As troops in eastern Europe are reduced because of the breakup of the Warsaw Pact and the recent move toward democracy, more emphasis is likely to be placed on space programs. Colorado is well positioned to gain from the trend toward space surveillance.

There is a strong existing base in Colorado for space and science expansion. Colorado Springs is well on its way to becoming a major satellite communications center. Beginning in 1982, the Air Force Space Command was established with a \$1.4 billion investment at Falcon Air Force Base. In 1985, the Air Force Space Command was formed at Peterson Air Force Base. Besides monitoring satellites, the Command also supports the missile-warning function of the North American Aerospace Defense Command (NORAD and U.S. Space Command) in Colorado Springs and will eventually supervise all Department of Defense space launches. And, in 1988, the Air Force created a unit to provide additional logistical support for its space activities called Pacer Frontier. Each of these programs provide a solid base for future expansion and development of the space industry in Colorado.

Colorado Springs (Peterson Air Force Base and Falcon Air Force Base) is being considered as the site for relocation of the Air Force's Space Systems Division currently located in Los Angeles California. Other locations being considered include Vandenberg and March Air Force Bases in California and Kirtland Air Force Base in New Mexico. There are several reasons that Colorado Springs should be considered as the strongest candidate for the relocation:

- Falcon is the home of the Second Space Wing, responsible for Air Force on-orbit satellite commanding. Space Systems Division is responsible for research, design and development of Air Force systems. Air Force Space Command is responsible for acquisition of these systems.
- Placing Space Systems Division and Air Force Space Command together would result in greater operational efficiency.
- The surrounding area contains a large supportive community of active duty military and military retirees, available land, and plentiful housing.

With the creation of the Colorado Commission on Space Science and Industry, the state has taken a positive, pro-active lead in looking for growth opportunities in the space industry for the state. Senate Bill 90-95 created the Colorado space advisory council for the purpose of advising the Governor and the General Assembly on the implementation of a Colorado space initiative. The act also established the position of Colorado space advocate to supervise implementation of the space initiative.



## COLORADO GENERAL ASSEMBLY

## OFFICERS

Rep. Chris Paulson  
Chairman  
Sen. Ted L. Strickland  
Vice Chairman

## STAFF

Charles S. Brown  
Director  
David Hite  
Deputy Director  
Stan Elofson  
Assistant Director



## LEGISLATIVE COUNCIL

ROOM 029 STATE CAPITOL  
DENVER, COLORADO 80203-1784  
(303) 866-3521

## MEMBERS

Sen. Wayne Allard  
Sen. Brian McCauley  
Sen. Harold McCormick  
Sen. Ray Powers  
Sen. Larry Trujillo  
Sen. Jeffrey Wells  
Rep. Chuck Berry  
Rep. Carl "Bev" Bledsoe  
Rep. Matt Jones  
Rep. Paul Schauer  
Rep. Carol Taylor-Little  
Rep. Ruth Wright

May 9, 1990

The Honorable William L. Armstrong  
528 Hart Senate Office Building  
United States Senate  
Washington, DC 20510

Dear Senator Armstrong:

Earlier this year, lines of communication were established between your office and a task force composed of Colorado state legislators and members of the governor's cabinet. The task force was established to study the impact of changes in defense expenditures upon Colorado's economy. I appreciate your interest and participation in the study.

The purpose of this letter is to update you on the progress of the task force and to encourage your consideration of our recommendations regarding three specific concerns.

Space Systems Division Move

The task force strongly supports the selection of Colorado Springs as the site for relocation of the Space Systems Division. Our position was communicated to members of the Air Force Regional Civil Engineering Team during their recent trip to Colorado Springs. We encourage your support for such a move as well. The state, and, in particular, Colorado Springs, has a historical and continuing role in space science and industry. Colorado has the capacity to become a major center of civilian and military space-related development. Relocation of the Space Systems Division to Colorado Springs would complement the 1982 establishment of the Air Force Space Command and the location in 1985 of the United States Space Command.

The creation just two months ago of a Colorado Office of Space Advocacy is the latest in a series of actions by state government that show a commitment to attracting civilian and military space operations to Colorado. The legislative declaration to the act establishing the office states that the legislature supports the goals of the Colorado

space initiative, namely, that Colorado should become an internationally recognized space capital, secondly, that the existing space-related facilities in Colorado should be supported and enhanced, and finally, that new space-related businesses should be encouraged to locate and expand in Colorado.

#### Cooperation Between Fitzsimons and CU Health Sciences Center

A second area of concern to the task force is the opportunity for joint efforts between Fitzsimons Army Medical Center and the University of Colorado Health Science Center. The task force believes that the strengthening of ties between the two facilities is clearly in Colorado's best interests. The concept of a UCHSC wing in a new Fitzsimons Army Medical Center continues to draw the attention of medical administrators. The viability of this concept is enhanced by a long history of joint use by staff and students of existing facilities and programs at UCHSC and Fitzsimons. Shared use of a new hospital at Fitzsimons would benefit UCHSC which is a facility with limited capital and very limited space for expansion. The relationship would also assist Fitzsimons as it seeks to enhance civilian health care for its personnel and dependents and improve care as a regional medical center with responsibility for a population of some 730,000.

The task force endorses efforts to speed the construction schedule for a new hospital at Fitzsimons and strongly recommends your careful consideration and support.

#### Training and Housing for Deactivated Military Units

A third area that the task force believes should be pursued by our state and Washington delegations of elected officials is the establishment of Fort Carson, Lowry, and the Peterson Field complex as temporary facilities for the training and housing of deactivated units. All of these facilities have great capabilities for the handling of guard and reserve units. Fort Carson, for example, hosted nearly 130 units with 18,000 soldiers at Fort Carson or at the Pinon Canyon Maneuver Site in fiscal year 1989. This large number of soldiers provided a great economic contribution to the Colorado Springs and Trinidad/La Junta areas.

#### Continuation of the Work of the Task Force

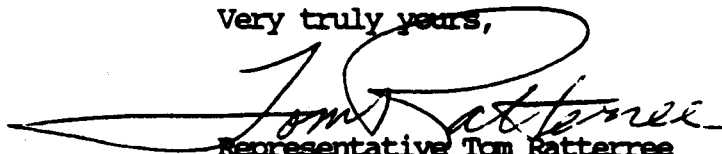
Finally, I am pleased to report that the General Assembly has voted to continue the life of the task force through the end of the year. It is our belief that changes in the federal defense budget in the next several years will have a significant impact on the Colorado economy. As a result, it is essential that state policy makers continue to monitor the entire federal budget. Therefore, the task force is being reconstituted as the Federal Budget Task Force with responsibility to study the impact on Colorado of a reordering of federal government budget priorities.

May 9, 1990  
Page 3

An important element of the study will be a continuation of the dialogue that the task force has established with the Colorado congressional delegation. One of the task force recommendations contained in the July 1, 1990 report to the Governor and the General Assembly will be to charge the Office of State Planning and Budgeting within the Governor's Office with delivery on a semiannual basis of an "Impact of the Defense Industry on the Colorado Economy" report to the Governor and the legislative leadership. I hope that the staff of the Colorado congressional delegation can be committed to assisting in compiling the necessary information for such a report.

I appreciate your continued interest in the work of the task force and trust that we can continue to develop a coordinated, pro-active position on matters of mutual concern. The task force is vitally concerned with the budget decisions that Congress will be making in the next few months. Please keep us informed of those decisions as they affect Colorado's defense industry. In addition, the task force would appreciate your making our three recommendations a part of the agenda at the Colorado delegation's next meeting and the favor of your response to the recommendations.

Very truly yours,



Representative Tom Ratterree  
Chairman

APPENDIX B

BY REPRESENTATIVES Ratterree, Bond, Grampsas, and Kerns;  
also SENATORS Wells, Gallagher, and Peterson.

HOUSE JOINT RESOLUTION 90-1025

1           WHEREAS, House Joint Resolution No. 1019, 1989 enacted at  
2 the First Regular Session of the Fifty-seventh General  
3 Assembly, established a Federal Civilian and Defense  
4 Expenditures Task Force composed of members appointed by the  
5 Governor, the President of the Senate, and the Speaker of the  
6 House of Representatives; and

7           WHEREAS, The Federal Civilian and Defense Expenditures  
8 Task Force met on several occasions during the 1990  
9 legislative session and will make its recommendations to the  
10 Governor and the General Assembly no later than the required  
11 reporting date of July 1, 1990; and

12           WHEREAS, Changes in the federal defense budget are being  
13 debated and could have a significant impact on the Colorado  
14 economy in the next several years; and

15           WHEREAS, It is essential that state policy makers  
16 continue to monitor changes in the focus of the federal  
17 budget; now, therefore,

18           Be It Resolved by the House of Representatives of the  
19 Fifty-seventh General Assembly of the State of Colorado, the  
20 Senate concurring herein:

21           That the Federal Civilian and Defense Expenditures Task  
22 Force be reconstituted as the Federal Budget Task Force, with  
23 responsibility to study the impact on Colorado of a reordering  
24 of federal government budget priorities in light of probable  
25 reductions in the federal defense budget.

26           Be It Further Resolved, That the authorities who  
27 appointed the members of the Federal Civilian and Defense  
28 Expenditures Task Force shall appoint an equal number of  
29 members to the Federal Budget Task Force and that the  
30 appointing authorities are encouraged to reappoint the members  
31 of the Federal Civilian and Defense Expenditures Task Force to  
32 the Federal Budget Task Force.

1           Be It Further Resolved, That members of the Federal  
2 Budget Task Force not be compensated for their attendance at  
3 task force meetings, that staff be provided to the task force  
4 by the Legislative Council and the Office of State Planning  
5 and Budgeting, and that the task force report its findings and  
6 recommendations to the Governor and the General Assembly not  
7 later than January 1, 1991.