

**Presidential Task Force on
Space Industry Workforce & Economic Development**

Report to the President

August 15, 2010

Task Force Composition

Co-Chairs

Secretary Gary Locke, Department of Commerce

Charles F. Bolden Jr., Administrator of NASA

Members

Department of Defense

Department of Labor

Department of Housing and Urban Development

Department of Transportation

Department of Education

Council of Economic Advisers

Office of Management and Budget

Small Business Administration

Director of National Intelligence

Office of Science and Technology Policy

National Economic Council

Task Force on Space Industry Workforce & Economic Development

Report to the President, August 15, 2010

“The space program has always captured an essential part of what it means to be an American – reaching for new heights, stretching beyond what previously did not seem possible...space exploration is not a luxury, it’s not an afterthought in America’s quest for a brighter future – it is an essential part of that quest.”

President Barack Obama, April 15, 2010

Executive Summary

NASA's mission is to pioneer the future in space exploration, scientific discovery and aeronautics research. The Obama Administration has embraced this mission, launching an ambitious space initiative that invests an additional \$6 billion over five years in American ingenuity to propel us further on the journey of innovation and discovery. This initiative opens up opportunities for pioneers of industry and innovators pursuing transformative technology, and will create thousands of jobs in a new era of human spaceflight and exploration, both in the area of the Kennedy Space Center (KSC) in Florida, and nationwide.

While these new opportunities will energize the space industry, decisions made over the past decade will still impact NASA and the Space Shuttle program in particular. Even with the Space Shuttle program’s significant contributions to our nation’s civil, national security, and commercial space endeavors, the last Administration decided to wind down the Shuttle program by 2010, after completion of the International Space Station (ISS) assembly and in preparation for follow-on exploration programs.

Recent space policy determinations, while maintaining this general course of action, will delay and mitigate resulting job losses by extending Space Shuttle operations into 2011. Nonetheless, the termination of the Space Shuttle program will carry consequences for the workforce and economy of Florida’s Space Coast and other communities across the country.

It is with these consequences in mind that the Presidential Task Force on Space Industry Workforce and Economic Development (Task Force)¹, in coordination with state and local government officials, economic development agencies, communities, and affected corporations and employees, has worked to assess the situation and develop a comprehensive and robust set of

¹See Appendix 1 for Presidential Memorandum. The Presidential Task Force on Space Industry Workforce and Economic Development was established in a Presidential Memorandum May 03, 2010. The Task Force is co-chaired by Commerce Secretary Gary Locke and NASA Administrator Charles Bolden, Jr., and includes the Secretaries of Defense, Labor, Housing and Urban Development, Transportation, and Education. The Directors of the Office of Management and Budget, National Intelligence, the Office of Science and Technology Policy, and the National Economic Council are also participants, as are the Chair of the Council of Economic Advisers and the Administrator of the Small Business Administration.

recommendations to ease workforce transitions and create jobs and enduring economic opportunity for the Space Coast.

The Federal Government has already invested significantly in the region by deploying retraining resources, establishing the Space Shuttle Transition Liaison Office (SSTLO), and providing considerable funding through the American Recovery and Reinvestment Act (Recovery Act) for infrastructure development and job creation in nascent industries. These investments notwithstanding, the Federal Government understands that the region will need both thoughtful strategies and a strong resource commitment to ensure economic vitality.

In May 2010, President Obama created the Task Force and charged it with developing a comprehensive plan that recommends how best to invest \$40 million in additional transition assistance from the Federal Government. He also tasked the group with describing how the plan will complement ongoing economic and workforce development efforts, exploring future activities for affected aerospace communities in additional states, identifying areas of collaboration with other public or nongovernmental entities to achieve objectives, and detailing a coordinated implementation strategy by executive departments and agencies.

Following a comprehensive review of the capabilities of the affected workforce and of the Space Coast's economic assets, employment needs, and development priorities, the Task Force has developed a set of recommendations in response to President Obama's requests. Together, these recommendations describe a cohesive path forward for the region that addresses employment challenges, aligns with local, state and national priorities and invests in sustainable job growth, while drawing upon best practices in economic development. Key recommendations include:

- **Sustain Regional Investments Already Underway:** The Federal Government should continue to support recent investments in the region made through retraining programs, SSTLO activities, Recovery Act funding, and other government programs.
- **Spur Immediate Opportunity:** The Federal Government should “prime the pump” by committing \$5 million from the \$40 million in FY 2011 transition assistance for new and immediate investments in the region to support the role of the Department of Transportation (DOT)/Federal Aviation Administration (FAA) in commercial space launch and reentry activities through creation of a new Commercial Spaceflight Technical Center.

In addition, the Department of Commerce (DOC), through the Economic Development Administration (EDA), and the Small Business Administration (SBA) will direct up to \$600,000 in FY 2010 to support small businesses and regional innovation clusters in the region, including through the provision of technical assistance. Further, the Office of Personnel Management (OPM) will hold a job fair in late 2010 or early 2011 to interview displaced employees for jobs in the Federal Government. Finally, DOC plans to facilitate

a technology export training program for the region's small and medium size enterprises in fall 2010 to bolster their access to international markets.

- **Invest in Smart Economic Growth Initiatives through a New Competitive Fund:** EDA should establish a fast-track competitive grant process to maximum the impact of remaining transition assistance funding from the Federal Government. This competitive grant process will quickly identify and fund promising job creation and economic development initiatives aligned with regional cluster and competitiveness analysis. Several initiatives may stem from ideas proposed over the past three months by regional stakeholders, including elected officials, economic development organizations, and universities. EDA will launch this competition on September 1, 2010, with finalists announced this fall.
- **Build Lasting Infrastructure for Success:** Engage a public-private partnership to work with the Federal Government, private sources of capital, and corporations to catalyze new business creation along the Space Coast over the long term. Beginning in September, the Federal Government's Taskforce on Advancing Regional Innovation Clusters (TARIC), which includes SBA as well as the Departments of Labor (DOL), Education (ED), and Commerce, will lead the Federal Government's engagement with this public private partnership, coordinating funding and technical assistance.

This report provides more background on the history of NASA and the Space Shuttle program, as well as an overview of the workers affected by policy changes. Further, this report includes the Task Force's process to understand and address the questions outlined by President Obama. Finally, and most significantly, it highlights key insights from the region's economic strategy and outlines a comprehensive Federal Government response tightly linked to this strategy and to best practice in economic development.

I. Introduction

President Obama is committed to blazing a new trail of innovation and discovery in space. That is why he has outlined a broad and bold vision for NASA that unlocks our ambitions and expands our frontiers in space. By fulfilling our desire to explore, we not only extend humanity's reach in space, but strengthen America's leadership here on Earth.

During the prior Administration, a decision was made to wind down the Space Shuttle program by 2010 and establish in its place NASA's Constellation program to develop new space transportation capabilities for supporting human exploration missions beyond low Earth orbit (LEO). An independent review of the Constellation program commissioned in 2009 found that even with the dedicated contributions of NASA's civil servant and contractor workforce, the program faced a broad spectrum of programmatic and budgetary challenges. The review panel noted that the United States was on a path to rely on Russia for access to the International Space Station through 2015, cease operations of the ISS after 2015, and delay human missions to destinations beyond LEO until at least the late 2020's. The review also found that the Space Coast might have been without a U.S.-based rocket to launch humans into space until 2017 or later. Additionally, the independent review committee concluded that the U.S. human spaceflight program was suffering from decades of under-investment in new technology development. As a result, the space exploration program was not doing enough to achieve our national goals.



Figure 1: President Obama Outlines a Bold Strategy for Human Spaceflight, April 15, 2010

Taking the findings of the independent review into consideration, the President outlined an ambitious new plan for NASA. The plan increases funding for NASA by \$6 billion over the next five years and is complemented by proposals that continue our leadership in space by: extending the lifetime of the ISS until at least 2020; broadening the scope of our future exploration efforts beyond just the Moon; reducing the gap in U.S. human spaceflight capabilities by partnering

with the commercial aerospace industry for crew access to the ISS; investing in new space technologies to advance the state of the art in exploration; investing in research and development for heavy lift launch vehicle technologies; and funding much-needed improvements to modernize the Florida launch range. Overall this new strategy means more money for NASA, more jobs for the country, more astronaut time in space, and more investments in innovation. Implementation will result in a longer operating lifetime for the ISS, new launch capabilities becoming available sooner, and a fundamentally more ambitious space strategy to take us to an increased number of destinations and new frontiers in space.

Recently, members of Congress have taken important steps to help implement key elements of the Administration's strategy and achieve the President's vision for space exploration. For example, Senator Bill Nelson of Florida and Senator Barbara Mikulski of Maryland have helped bring together disparate interests to find bipartisan consensus on a way forward. As a result, this month the Senate passed a NASA authorization bill which marks an important step toward achieving key elements of the President's vision for NASA.

House Committees have also advanced legislation that supports much of the President's vision. Among others, Congresswoman Suzanne Kosmas of Florida has been a strong advocate in the House Science Committee by offering proposals that spur development of a job-creating commercial crew transport industry, make new investments in technology to diversify the Space Coast economy, and provide seed investments for both Florida's long-term economic needs and America's vibrant space future.

Working together with Congress, the Administration expects these steps to advance the nation's space strategy and open up a set of possibilities for exploration and economic development. The results of this important change in direction will not only help us chart a new path in space, but also retool for the industries and jobs of the future that will be vital for long-term economic growth in Florida.

The men and women who work in the Space Coast's aerospace industry are some of the most talented and highly trained in the nation. It is critical that their skills are tapped as we transform and grow the country's space exploration efforts.

Building on its significant new investments that help Florida retain its important role in NASA's human space programs, the Administration also has taken additional steps to help Florida's Space Coast adjust and succeed in the years ahead. Most importantly, the Administration launched a \$40 million multi-agency initiative to help the Space Coast transform its economy and prepare its workers for the opportunities of tomorrow. This effort builds on and complements ongoing economic and workforce development efforts by convening this Task

Force comprised of senior-level Administration officials to construct an economic development action plan.

II. A Workforce Ready for the Future

The 9,000 contractor personnel supporting Space Shuttle operations on the Florida Space Coast are some of the most highly-skilled workers in the country, with expertise in civil, military, and commercial space activities. These jobs currently represent a combined income of over \$600 million for the region. The United Space Alliance and Boeing corporations account for 60 percent of the total contractor staff employed at Kennedy Space Center. While the skill-sets of these contractors are diverse, some of the largest groups include engineers, technicians, and technical operators.² Beyond prime contractors like United Space Alliance and Boeing, the Space Shuttle is also supported by a supply chain of sub-contractors that provide key parts, equipment, and support services ranging from rocket components to medical supplies.³

The President's direction for NASA will create thousands of new jobs associated with a new era of human spaceflight and exploration, both in the area of the KSC in Florida, and nationwide. Still, the projected "gap" between current workforce needs and future demand at KSC is contingent on the outcome of critical space policy decisions as well as the pace of implementation.

The Brevard Workforce Development Board (Brevard Workforce),⁴ NASA, United Space Alliance, and other Space Shuttle contractors have undertaken a comprehensive effort to analyze and understand the capabilities of the affected workforce and outline employment opportunities that may fit with these capabilities. Key findings include:

- The Space Shuttle workforce is composed primarily of engineers, skilled flight hardware technicians, program support specialists, ground services and equipment specialists and workers with diverse scientific and management backgrounds.
- The workforce is "engrained with a strong safety and quality ethic" and in the "requirement for precision in work-process and measurement-monitoring functions."
- The workforce has extensive training in monitoring and record-keeping, Occupational Safety and Health Administration's Star Certification safety program, and quality assurance.⁵

² KSC Workforce Skills Assessment

³ Brevard Workforce, *Aerospace Workforce Outlook Report*, Phase III, January 2010. Pg. 9.

⁴ Brevard Workforce, formerly Brevard Workforce Development Board and Brevard Job Link, is a network of career centers offering services to job seekers.

⁵ Brevard Workforce, *Aerospace Workforce Outlook*. Pgs. 10-17

NASA notes that the experience base developed by the Space Shuttle program workforce will be directly applicable to new Space missions, despite the need for some worker retraining and skills development. NASA further notes that the engineering and technical skills possessed by the Space Shuttle workforce are directly applicable to commercial fields inside and outside of the aerospace industry. Both engineers and non-engineer technicians have strong backgrounds appropriate for new careers in non-space high-tech industries, including clean-energy, telecom, software, and cyber-security. Indeed, the Space Shuttle workforce embodies cutting-edge skills and expertise in demand both in the Space Coast and throughout the world.

III. Public Engagement

One of the Task Force’s explicit responsibilities was to “conduct outreach to representatives of nonprofit organizations; business; labor; state, local, and tribal governments; elected officials; and other interested persons that will assist in bringing to the President’s attention concerns, ideas, and policy options for expanding and improving efforts to create jobs and economic growth in affected aerospace communities.”

Over the past three and a half months, the Task Force has engaged in an aggressive work plan that included broad stakeholder engagement and interagency. Commerce Secretary Locke, NASA Administrator Bolden, Labor Secretary Solis and numerous senior Administration officials from the Task Force held town hall meetings and roundtables with hundreds of concerned stakeholders. NASA and EDA also launched an open government website to facilitate on-line submission of recommendations from citizens and organizations. Across the board, these efforts were conducted in a manner to ensure local ownership and identify connections between the affected workforce and demand for their talent in business and government.

To ensure broad-based participation in the stakeholder engagement process, Space Florida, a state-chartered economic development organization responsible for recruiting and retaining aerospace companies,⁶ in partnership with regional economic development organizations, sponsored on July 6, 2010, a “Best Ideas” forum. The themes that emerged from that event ranged from perspectives on areas to emphasize, like clean energy and entrepreneurship, to ideas for tools to deploy for development, such as infrastructure investment and workforce training. To a great extent, the ideas focus on and leverage the community’s critical economic assets, including research universities, incubators, and existing corporations.

The Task Force has used these themes as guidance in the development of its near-term and long-term strategies. The Task Force, however, has included activities within these strategies, such as

⁶ Space Florida was created as a Special Purpose Entity by the State of Florida to serve as the single point of contact for all space-related functions of the State of Florida. See www.spaceflorida.gov/index.php/en/about-us for more information

the competitive grant process, to force clarification and prioritization of these ideas. This will allow Federal resources to be allocated most effectively.

Beyond making a determined effort to build from locally-generated ideas, the Task Force recommends that any economic development plan pursued should coordinate efforts between Federal, state, and local groups to ensure that the plan is cohesive, inclusive, and efficient. Further, the Task Force suggests that all plans be bottom-up and regionally-driven and therefore reflective of local stakeholders' preferences.

Finally, the Task Force recommends that any plan incorporate a number of emerging development principles that attempt to focus resources around areas of competitive advantage while providing the supporting financial, physical, and political infrastructure to catalyze innovation ecosystems. These principles include:

- Promotion of Regional Innovation Clusters⁷
- Emphasis on Technology-Based Economic Development
- Promotion of Open Innovation Networks⁸
- Improved Access to Capital
- Investment in Cutting-Edge Regional Infrastructure, and
- Development of Partnerships between Federal, State, and Local Government.

Following these principles will help ensure that the Federal Government's investments leverage the region's wide range of economic assets, which include university research centers, technology accelerators, and existing high-tech corporations (described in more detail below). This engagement will help create an entrepreneurial ecosystem that supports both mature and nascent industries and generates jobs for decades to follow.

IV. Space Coast and Regional Economic Assets and Cluster Analysis

Florida's Space Coast is connected to a tremendous range of economic assets that can serve as the foundation for future business activity. Within Florida's Space Coast, a 72-mile long region of Florida that lies mostly within Brevard County, economic activity centers on KSC at Cape Canaveral. A thriving aerospace industry has developed around KSC, attracting hundreds of firms with expertise in aeronautical design and manufacturing, robotics, systems repair, and aircraft technology. According to Space Florida, the aerospace industry has a \$20 billion annual economic impact on the state. The Space Coast is also home to Port Canaveral, the world's second busiest cruise port, the Patrick Air Force Base and Cape Canaveral Air Force Station, the

⁷ Regional Innovation Clusters (RICs) are concentrations of integrated firms and industries that have common need for talent, resources, and technology. Universities and other R&D centers often serve as catalysts for RICs.

⁸ Open innovation is a growing trend among large corporations that involves using external entrepreneurs or technical expertise for problem solving. Open innovation networks are thought to encourage effective collaboration between large companies, start-up firms, and research centers

Florida Solar Energy Center, a renewable energy and energy efficiency research institute, and NASA's Space Life Sciences Center.

Connecting to the Space Coast are two broader economic regions that have served as useful organizing geographies for promotion and investment: the High Tech Corridor and Florida's Super Region. The High Tech Corridor encompasses most of East Central Florida and relies on long-standing industries such as aerospace and tourism for the majority of its economic activity. Florida's institutes of higher education are also critical economic assets within the High Tech Corridor, with the University of Central Florida, University of Florida, and University of South Florida driving innovation and the creation of new businesses in emerging fields such as simulation technology, advanced robotics, and software.

Leaders in the public, private, and civic sectors from seven counties, eighty-six cities, and thousands of businesses spanning Florida's Space Coast, High Tech Corridor, and the Tampa Bay region are now collaborating as Florida's first "Super Region." The City of Orlando, for instance, through its investment in Orlando Medical City, is building on and solidifying the region's emerging biomedical industry base. This broad collaboration recognizes that technology and rapid transportation have obviated some historical geographic boundaries.

In keeping with guidance from DOL,⁹ the Task Force recommends that the Federal Government consider the unique organizing principles of each economic region but focus most intently on developing strategies that support the broad Super Region.

As mentioned above, identification of and investment in Regional Innovation Clusters is critical for promotion of a cohesive and reinforcing network of economic activity. Enterprise Florida, a public-private partnership charged with promoting state-wide economic development, has developed a strategic plan for Florida¹⁰ that covers a period from 2010 through 2015 and identifies eight significant economic clusters that are then sub-divided further. Of those clusters, several are aligned with the growth and diversification strategies of the Super Region. The Task Force recommends that Federal resources focus on five of these key clusters:

- Aviation and Aerospace
- Clean Energy
- Homeland Security/Defense
- Information Technology, and
- Life Sciences.

⁹ Department of Labor July 21st recommendations for the Task Force report.

¹⁰ Plan is entitled "Roadmap to Florida's Future" and is available at www.eflorida.com

Space Florida has developed a long-range plan to advance several of these clusters, focused on modernizing existing capabilities and expanding space infrastructure in Florida to meet the dynamic needs of the market. TARIC has agreed to support the region by coordinating funding and technical assistance to work with partners like Space Florida. Beginning in September, Agency participants in TARIC will offer a variety of support to local leaders in the Space Coast. Commerce's EDA, for instance, will provide strategic expertise in formation of regional innovation clusters (RICs) as well as technical assistance for program implementation. SBA will offer expertise in small business development and financing. DOL and ED, meanwhile, will provide best practices in workforce development and retraining.

Collectively, TARIC participants will draw on the Federal Government's expertise to propel growth, utilizing established economic development tools and an understanding of the importance of creating entrepreneurial ecosystems through engagement with a community's economic assets—businesses, universities, nonprofits, the workforce, and entrepreneurs. TARIC's involvement with the Space Coast will likely enhance the Government's economic development knowledge base and may inform future efforts to create and implement growth strategies.

V. Implementation: Priority Actions

The Task Force recommends that the Federal Government continue transition efforts already underway and also make a series of immediate, near-term, and longer-term investments to help the KSC workforce mobilize for new careers inside and outside the space industry. The Federal Government should focus these efforts on helping the Shuttle workforce fill regional employment demand. In addition, the Government should ensure that its investments support local strategies to enhance the Space Coast's aeronautic and emerging business clusters and are tied to best practices in economic development.

Sustain Regional Investments Already Underway:

The Federal Government and its local partners have taken several steps to encourage reemployment of the Space Shuttle program workforce. These steps include workforce training begun in 2008 and greatly expanded in 2010, establishment of the Space Shuttle Transition Liaison Office in 2009, and over \$19.2 billion in obligated Recovery Act Funding designed to help Florida recover from the recession and invest in infrastructure for future competitiveness.

Workforce Training: In May 2008, Brevard Workforce, in conjunction with NASA, convened an Aerospace Workforce Transition Team and charged the group with understanding aerospace trends, outlining the skills and abilities required for transitioning to new aerospace programs and developing appropriate training to reposition the KSC aerospace workforce. DOL supported this analysis by funding the Regional Aerospace Workforce Initiative, a partnership between Federal and local leaders responsible for understanding emerging business trends and crafting an

economic strategy in response to these trends. Further, EDA provided funding to Florida Institute of Technology for a comprehensive entrepreneurial training program for aerospace workers.

Earlier this year, the Federal Government dramatically increased its support for workforce training when DOL awarded a \$15 National Emergency Grant to the region. Since DOL extended the first tranche of \$7.2 million to Brevard Workforce in June, 63 percent has been allocated to on-the-job training programs, which have been shown to result in employment more quickly than formal classroom education. Brevard Workforce expects to serve more than 2,500 individuals over the course of the grant.

NASA Transition Activities: In 2009, NASA established the SSTLO to assist local communities affected by the termination of the Space Shuttle program. SSTLO offers nonfinancial technical assistance to the affected communities and helps individuals identify support from local, state, and Federal level programs. To facilitate the Space Coast's transition, SSTLO engages with Federal Government leaders as well as Brevard Workforce and the Economic Development Commission of Florida's Space Coast.¹¹ NASA also opened four workforce transition offices in the area surrounding KSC since March 2010, established a Center Planning and Development Office, conducted job fairs, and broke ground with Space Florida on a high-tech commerce park dedicated to cutting-edge technologies and activities related to space exploration.

In addition to these specific transition programs, the Administration has put KSC at the center of its new direction for NASA. NASA's new initiative in commercial crew transportation will be managed out of KSC. NASA is also dedicating as much as \$2 billion in funds to modernize KSC facilities and prepare the Space Coast for the human spaceflight and exploration missions of the future.



Figure 2 Space Life Sciences Lab at KSC¹²

¹¹ NASA Workforce Transition Whitepaper, Status of Activities, June 2010. Available: www.nasa.gov/pdf/465779main_Workforce%20Transition%20Whitepaper.pdf

¹² See <http://slsl.lssc.nasa.gov/> for more information.

Department of Commerce Infrastructure Development: The Department of Commerce has invested over \$7.5 million in the region to accelerate assessments and infrastructure development in support of regional innovation clusters. This funding has supported the improvement of a regional airport, the creation of a new technology and business incubator, and the establishment of a new bio-science research center in nearby St. Lucie County. The bio-science research center will leverage an additional \$4.4 million in private sector investment and is expected to create 100 jobs.

Recovery Act: The Recovery Act obligated over \$19.2 billion to Florida and the Council of Economic Advisors estimates that as of June 2010, the Recovery Act had created or saved 161,000 jobs in Florida.

The primary areas of funding likely to encourage job growth and economic activity in the Space Coast include:

- NASA: \$26 million in Recovery Act funding directed to Kennedy Space Center
- The Department of Energy (DOE): \$935 million in investments across Florida, which include \$262 million for Smart Grid, \$176 million for Weatherization, and \$126 million for the State Energy Program for renewable energy projects.¹³ An additional \$68 million in clean energy funding tax credits brings the total energy investment in Florida to \$1 billion.
- DOC and the Department of Agriculture (USDA): More than \$80 million in broadband awards to Florida communities¹⁴
- DOT: \$32 million in highway investments for Brevard County. Additionally, DOT has committed \$1.25 billion for a high-speed rail investment from Tampa to Orlando.

Through the Recovery Act, NASA was able to invest over \$26 million at KSC in infrastructure and other improvements, with some of this funding awarded directly to contractors based in Brevard County. These investments, part of NASA's Exploration Program, will help KSC remain a strong and critical part of NASA's infrastructure.

As of July 2010, funding for DOE Recovery Act projects across Florida totals over \$900 million, and includes \$262 million for Smart Grid deployment across the state. Florida Power and Light (FP&L), which received \$200 million for Smart Grid deployment, estimates that the program will create 6,000 jobs. FP&L has also received \$5 million for Smart Grid Workforce training.

¹³ See www.energy.gov/recovery/documents/FL_NO_TOC.pdf for more details on DOE's investments in Florida under the Recovery Act

¹⁴ Includes USDA Rural Utilities Service (RUS) and DOC Broadband Technology Opportunities Program (BTOP) awards announced as of August 15, 2010

Shuttle workers, given their deep technical and engineering backgrounds, may be ideally positioned to help Florida transition to a smarter energy grid.¹⁵

Recovery Act DOE funding also included \$176 million for Florida's Weatherization Assistance Program. Florida expects to weatherize over 19,000 homes with this funding, and the Florida Department of Community Affairs estimates that Weatherization has already saved or created over 200 jobs.¹⁶ In addition, Recovery Act funding for Florida included over \$126 million for the State Energy Program, intended as investment capital for state-level efficiency and renewable priorities that include emerging clean technology companies.

DOE has also funded companies near KSC through the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. For instance, Mainstream Engineering Corporation, an R&D company focused on commercializing thermal and energy conversion technology located just across the causeway from Cape Canaveral, received \$600,000 in Recovery Act funding to support four major initiatives. The recipient reports that one of the firm's Recovery Act projects alone is likely to create or save more than 500 jobs.

USDA and DOC have made several awards to the State of Florida to provide broadband to underserved areas, connecting homes, businesses, and community institutions to a broader knowledge base and set of economic opportunities. Over 125,000 people in Florida stand to benefit from the USDA broadband projects alone, as well as nearly 7,000 businesses. Recipients estimate the projects will create hundreds of jobs in project management and installation.

In addition, DOT has made major commitments to upgrading Space Coast infrastructure with Recovery Act funding, reducing transportation and shipping costs. For example, the FAA has provided \$3 million to Melbourne International Airport in Brevard County for three projects to rehabilitate the runway. The Federal Highway Administration is funding a project to widen I-95 in Brevard County and relieve congestion. Forty-six workers are involved in construction and design on the I-95 project.

DOT has also committed \$1.25 billion for building a high-speed rail line in Florida from Tampa to Orlando that will create both engineering and construction jobs, as well as energize new business opportunities along the corridor and across Florida more broadly.

¹⁵ FP&L has also been involved in the creation of a photo voltaic industry cluster around KSC. In April 2010, FPL commissioned the [Space Coast Next Generation Solar Energy Center](#). The new solar photovoltaic power facility is the result of a unique public-private partnership between FP&L and NASA and demonstrates both organizations' commitment to bringing clean-energy solutions to the state. The Center, located on NASA property at KSC, will provide clean, renewable power to Florida residents and support America's space program by supplying electricity directly to KSC.

¹⁶ Recipient Reporting Data as of July 30, 2010.

Spur Immediate Opportunity:

While continuing to support the ongoing activities, the Task Force recommends that the Federal Government commit a portion of the FY 2011 transition funding to create additional immediate employment opportunities and economic activity in and around the Space Coast, including:

Department of Transportation/Federal Aviation Administration (FAA): FAA's Office of Commercial Space Transportation is responsible for ensuring the protection of the public, property, and the national security and foreign policy interests of the United States during commercial space launch and reentry activities. To facilitate the provision of these services, the FAA proposes to establish a Commercial Spaceflight Technical Center at KSC which would provide safety and technical support for future commercial space launch activities. FAA could utilize up to \$5 million (from funding provided to NASA for Space Coast economic development activities) for staff to support the continued development of standards and regulations for commercial spaceflight. This enables opportunities for highly-skilled NASA employees and contractors in the area to transition seamlessly to FAA.

As the FAA works to create the Commercial Spaceflight Technical Center, DOL will partner to ensure that displaced workers from KSC receive the training they need to fit the requirements of the jobs created and that on-going work is done to customize the training for future workers to fill future jobs as the Technical Center grows.

Commerce/SBA Projects: Collectively, EDA and SBA have committed to providing up to \$600,000 in additional immediate investment to the Space Coast and surrounding region from FY 2010 funding. This includes a commitment from EDA to provide up to an additional \$400,000 in technical assistance grants for the Space Coast region.

SBA will provide \$130,000 in expanded funding from SBA's Office of Small Business Development Centers (SBDCs) for business counseling and training programs in the Space Coast and greater regional transition area. This funding supplements nearly \$790,000 in FY 2010 funds for Central Florida Small Business Development Center partners (SBDC). An additional \$95,000 will support capacity building and training for SBDCs across the state to support increased counseling and training efforts.

Finally, SBA will offer \$100,000 in funds to its local SBDC partners to participate in early efforts to identify cluster opportunities and form cluster partnerships. SBDCs will focus on coordinating with small business resources in the area and working to ensure that small business needs and resources are included and highlighted in broader community efforts.

To provide increased resources for the region, EDA and SBA, in conjunction with TARIC, stand ready to serve as conveners and facilitators of federal and local government efforts and to provide on-going technical assistance to the region. SBA will work to leverage its existing

nationwide capital access, business development, and training and counseling programs in the area.

Office of Personnel Management: In late 2010 or early 2011, the U.S. Office of Personnel Management will organize a job fair at which displaced employees will be interviewed for jobs in the Federal Government. Prior to the job fair, OPM would canvass other Federal agencies for job openings in Central Florida and around the country, with an emphasis on jobs that require scientific and technical expertise. OPM has organized similar job fairs in Detroit for displaced autoworkers to interview for Federal employment and in Milwaukee for veterans in search of job opportunities.

Invest in Smart Economic Growth Initiatives through a New Competitive Fund:

To maximum the impact of the remaining proposed transition assistance funding for the region, the Task Force recommends launching a fast-track competitive grant process. The process will identify and support innovative ideas for accelerating development of the region's most promising industry clusters. This initiative will build on and complement existing efforts and ensure collaboration with public, private and nonprofit partners in the region. The Task Force believes that many of the initiatives will build from ideas proposed over the past three months by regional stakeholders, including elected officials, local economic development organizations, and universities.

EDA will oversee an investment review committee charged with evaluating applications. Committee membership will reflect the broad mix of stakeholders engaged in Space Coast planning, including NASA, SBA, DOL, and representatives from other agencies with unique and important perspectives on Space Coast and regional development and diversification.

On September 1, 2010, EDA will make a Program Announcement outlining the criteria by which applicants will be evaluated. Its goal will be to announce grant award winners by January 2011, contingent on the availability of funding.

Key to rapid and effective roll-out of this competitive grant process will be support from relevant Federal Government agencies, especially technical experts from EDA, as well as ongoing support from local economic development agencies that have already engaged in the discovery and planning efforts. This fast-tracked process will mitigate uncertainty that accompanies any transition, and will ensure that local governments, businesses and other entities have swift access to economic planning assistance.

Build Lasting Infrastructure for Success:

In 2011 and 2012, the Task Force recommends engagement with a public-private partnership to work on an on-going basis with the Federal Government, small businesses, entrepreneurs, venture capitalists, and major corporations to catalyze new business creation along the Space

Coast. TARIC will lead the Federal Government's engagement with this public-private partnership, while coordinating funding and technical assistance.

In its research into opportunities for new business creation, the public-private partnership may explore:

- Strategies to engage with and attract new sources of investment to the region, including venture capitalists focused on technology sectors central to the Super Region cluster strategy.
- Creation of a streamlined process for attracting new businesses to the Space Coast, including potential creation of a program to accelerate the identification and assembly of sites for industrial use. This program might be modeled on best practice established by the Tennessee Valley Authority during its efforts to attract automotive and large-scale manufacturing facilities to the region.¹⁷
- Targeted export support initiatives designed to help existing and emerging industries develop external markets.
- A process for utilizing empty land around KSC and other NASA sites for renewable energy projects to be led by partners in the public and private sectors.

In addition, by early 2011, the public-private partnership, in conjunction with the TARIC, should assess and develop plans for other states affected by Space Shuttle program changes, which include Alabama, California, Louisiana, Mississippi, New Mexico, Texas and Utah. These plans might build from lessons learned in developing and implementing the Space Coast strategy.

VI. Conclusion

On February 1, 2010, President Obama announced an increase in the NASA budget by \$6 billion over the next five years. In April, the President outlined a bold strategy for spaceflight that will foster the development of path-breaking technologies and will increase the number, scope, and pace of manned and unmanned space missions.

Despite the expanded opportunities created by these additional resources, the Federal Government has recognized that NASA's transition into new ventures will affect the Space Coast workforce and the area surrounding KSC. Consequently, the Administration is committed to supporting the affected workforce and region by providing training to enhance skill sets and spurring regional job growth through targeted investments aligned with best practice.

In response to the Presidential Memorandum of May 3, 2010, the Task Force recommends that the Federal Government leverage ongoing efforts, implement key Federal initiatives, establish a fast-track grant process to allocate remaining funding to promising ideas and programs, and

¹⁷ See www.tvaed.com/megasites.htm for more information.

create a new public-private enterprise. By doing so, the Administration will help ensure that the Space Coast thrives.

In carrying out these initiatives, the Task Force will remain committed to a cooperative approach that maximizes input from all stakeholders, including state and local government agencies, the private sector, and most importantly, Space Shuttle employees. This type of comprehensive process, which taps into the best ideas from all stakeholders and follows key principles in spurring economic growth, will help create a more diverse economy for the Space Coast and allow the region to retain the scientific and technical expertise necessary to fulfill the President's vision for a 21st Century space policy.

Appendix 1: Presidential Memorandum

The White House

Office of the Press Secretary

For Immediate Release

May 03, 2010

Presidential Memoranda-- Task Force on Space Industry Workforce and Economic Development

MEMORANDUM FOR THE SECRETARY OF DEFENSE
THE SECRETARY OF COMMERCE
THE SECRETARY OF LABOR
THE SECRETARY OF HOUSING AND URBAN DEVELOPMENT
THE SECRETARY OF TRANSPORTATION
THE SECRETARY OF EDUCATION
THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET
THE ADMINISTRATOR OF THE SMALL BUSINESS ADMINISTRATION
THE ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION
THE CHAIR OF THE COUNCIL OF ECONOMIC ADVISERS
THE DIRECTOR OF NATIONAL INTELLIGENCE
THE DIRECTOR OF THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY
THE DIRECTOR OF THE NATIONAL ECONOMIC COUNCIL

SUBJECT: TASK FORCE ON SPACE INDUSTRY WORKFORCE AND ECONOMIC
DEVELOPMENT

My Administration is committed to implementing a bold, new approach to human spaceflight. Supported by a \$6 billion increase to the National Aeronautics and Space Administration's (NASA) budget over the next 5 years, this strategy will foster the development of path-breaking technologies, increase the reach and reduce the cost of human and robotic exploration of space, and help create thousands of new jobs.

NASA's budget also includes \$429 million next year, and \$1.9 billion over the next 5 years, to modernize the Kennedy Space Center and other nearby space launch facilities in Florida. This modernization effort will help spur new commercial business and innovation and provide additional good jobs to the region. While all of the new aspects of my Administration's plan together will create thousands of new jobs in Florida, past decisions to end the Space Shuttle program will still affect families and communities along Florida's "Space Coast."

Building on this significant new investment at the Kennedy Space Center and my increased budget for NASA overall, I am committed to taking additional steps to help local economies like Florida's Space Coast adapt and thrive in the years ahead. The men and women who work in

Florida's aerospace industry are some of the most talented and highly trained in the Nation. It is critical that their skills are tapped as we transform and expand the country's space exploration efforts. That is why I am launching a \$40 million, multi-agency initiative to help the Space Coast transform their economies and prepare their workers for the opportunities of tomorrow. This effort will build on and complement ongoing local and Federal economic and workforce-development efforts through a Task Force composed of senior-level Administration officials from relevant agencies that will construct an economic development action plan by August 15, 2010.

To these ends, I hereby direct the following:

Section 1. Establishment of the Task Force on Space Industry Workforce and Economic Development. There is established a Task Force on Space Industry Workforce and Economic Development (Task Force) to develop, in collaboration with local stakeholders, an interagency action plan to facilitate economic development strategies and plans along the Space Coast and to provide training and other opportunities for affected aerospace workers so they are equipped to contribute to new developments in America's space program and related industries. The Secretary of Commerce and the Administrator of NASA shall serve as Co-Chairs of the Task Force.

(a) Membership of the Task Force. In addition to the Co-Chairs, the Task Force shall consist of the following members:

- (i) the Secretary of Defense;
- (ii) the Secretary of Labor;
- (iii) the Secretary of Housing and Urban Development;
- (iv) the Secretary of Transportation;
- (v) the Secretary of Education;
- (vi) the Chair of the Council of Economic Advisers;
- (vii) the Director of the Office of Management and Budget;
- (viii) the Administrator of the Small Business Administration;
- (ix) the Director of National Intelligence;
- (x) the Director of the Office of Science and Technology Policy;
- (xi) the Director of the National Economic Council; and
- (xii) the heads of such other executive departments, agencies, and offices as the President may, from time to time, designate.

A member of the Task Force may designate, to perform the Task Force functions of the member, a senior-level official who is a part of the member's department, agency, or office, and who is a full-time officer or employee of the Federal Government.

(b) Administration. The Co-Chairs shall convene regular meetings of the Task Force, determine its agenda, and direct its work. At the direction of the Co-Chairs, the Task Force may establish subgroups consisting exclusively of Task Force members or their designees, as appropriate.

Sec. 2. Mission and Functions. The Task Force shall work with local stakeholders and executive departments and agencies to equip Space Coast and other affected workers to take advantage of new opportunities and expand the region's economic base.

The Task Force will perform the following functions, to the extent permitted by law:

- (a) provide leadership and coordination of Federal Government resources to facilitate workforce and economic development opportunities for aerospace communities and workers affected by new developments in America's space exploration program. Such support may include the use of personnel, technical expertise, and available financial resources, and may be used to provide a coordinated Federal response to the needs of individual States, regions, municipalities, and communities adversely affected by space industry changes;
- (b) provide recommendations to the President on ways Federal policies and programs can address issues of special importance to aerospace communities and workers; and
- (c) help ensure that officials from throughout the executive branch, including officials on existing committees or task forces addressing technological development, research, or aerospace issues, advance the President's agenda for the transformation of America's space exploration program and support the coordination of Federal economic adjustment assistance activities.

Sec. 3. Outreach. Consistent with the objectives set forth in this memorandum, the Task Force, in accordance with applicable law, in addition to holding regular meetings, shall conduct outreach to representatives of nonprofit organizations; business; labor: State, local, and tribal governments; elected officials; and other interested persons that will assist in bringing to the President's attention concerns, ideas, and policy options for expanding and improving efforts to create jobs and economic growth in affected aerospace communities. The Task Force shall hold inaugural meetings with stakeholders within 60 days of the date of this memorandum.

Sec. 4. Task Force Plan for Space Industry Workforce and Economic Development. On or before August 15, 2010, the Task Force shall develop and submit to the President a comprehensive plan that:

- (a) recommends how best to invest \$40 million in transition assistance funding to ensure robust workforce and economic development in those communities within Florida affected by transitions in America's space exploration program;
- (b) describes how the plan will build on and complement ongoing economic and workforce development efforts;
- (c) explores future workforce and economic development activities that could be undertaken for affected aerospace communities in other States, as appropriate;
- (d) identifies areas of collaboration with other public or nongovernmental actors to achieve the objectives of the Task Force; and

(e) details a coordinated implementation strategy by executive departments and agencies to meet the objectives of the Task Force.

Sec. 5. Termination. The Task Force shall terminate 3 years after the date of this memorandum unless extended by the President.

Sec. 6. General Provisions. (a) The heads of executive departments and agencies shall assist and provide information to the Task Force, consistent with applicable law, as may be necessary to carry out the functions of the Task Force. Each executive department and agency shall bear its own expense for participating in the Task Force; and

(b) nothing in this memorandum shall be construed to impair or otherwise affect:

(i) authority granted by law to an executive department, agency, or the head thereof; or
(ii) functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(c) This memorandum shall be implemented consistent with applicable law and subject to the availability of appropriations.

(d) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(e) The Administrator of the National Aeronautics and Space Administration shall publish this memorandum in the Federal Register.

BARACK OBAMA

Appendix 2: Timeline and Work Plan

Key Milestones for Task Force on Space Industry Workforce & Economic Development	
Established USG Washington Leadership Team	23-Apr-10
White House Issues Presidential Memorandum Establishing Task Force	3-May-10
Kick-Off Meeting	12-May-10
Began Discovery and Stakeholder Engagement Efforts	12-May-10
Began Weekly Coordination Calls	12-May-10
Assistant Secretary Fernandez Participated Super Regional Leadership Conference	26-May-10
Launched Open Government Website	28-May-10
Secretary Solis Announced National Emergency Grant	2-Jun-10
Held Space Shuttle Transition Liaison Office Meeting	3-Jun-10
Secretary Locke and Administrator Bolden Held Stakeholder Engagement Meeting in Orlando	4-Jun-10
Secretary Locke and Administrator Bolden Co-Chaired Principles Meeting	8-Jun-10
Department of Commerce (DOC) Briefed Congressman Posey's Staff	15-Jun-10
Best Ideas Forum Conducted in Orlando	6-Jul-10
DOC/NASA/DNI Held Stakeholder Engagement Meetings in Orlando.	7-Jul-10
Interagency Call Held with United Space Alliance regarding Employment Opportunities.	15-Jul-10
Draft Report Submitted to White House	16-Jul-10
DOC Briefed Senator Nelson's Staff	23-Jul-10
DOC Briefed Congresswoman Kosmas' Staff	28-Jul-10
Secretary Locke and Associate Deputy Administrator Scales Visited Kennedy Space Center	4-Aug-10
Assistant Secretary Fernandez Conducted Stakeholder Engagement Meetings in Titusville	4-Aug-10