

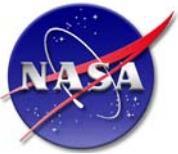


FY 2006 Budget.
February 7, 2005



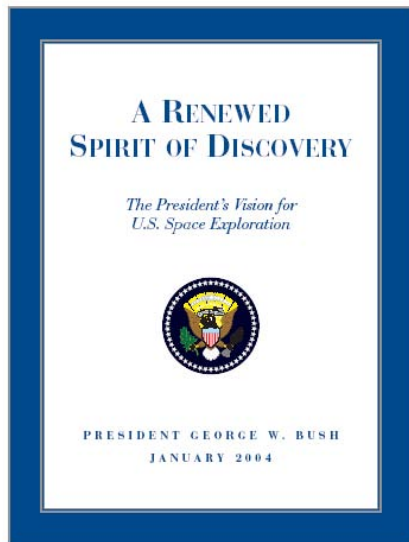
- **Exploration Vision is Well Underway....**
 - ... We Are Transforming NASA
 - ... And Making Great Progress
- **The Vision Remains an Administration Priority in a Challenging Budget Environment...**
 - ...We Are Guided By the President's Direction
 - ...Meeting Our Obligations
 - ...Pursuing Competition to Best Meet Requirements
 - ...And Retooling Our Institution
- **To Enable The New Age of Exploration**

The fundamental goal of this Vision is to advance U.S. scientific, security, and economic interests through a robust space exploration program.

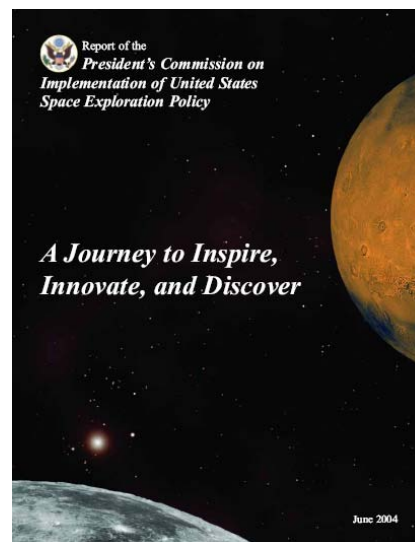


Exploration Vision is Well Underway....

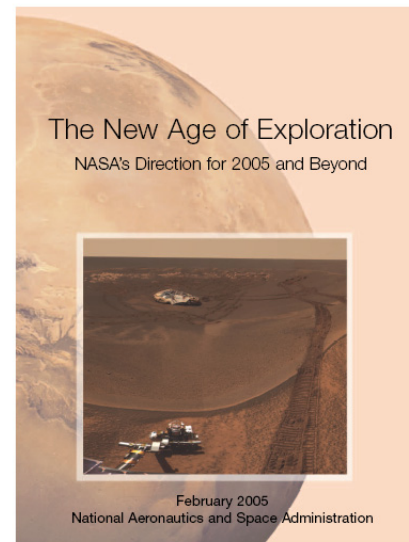
- **Vision provides a historic opportunity to focus NASA for the long-term**
 - The President has demonstrated his commitment to the Vision and the Congress supported with full funding the first year of the Vision implementation
 - The “Aldridge” Commission provided the blueprint for NASA transformation
 - NASA strategic planning efforts are defining *The New Age of Exploration*
 - And the President’s FY 2006 Budget request identifies what is needed to continue transforming America’s civil space program



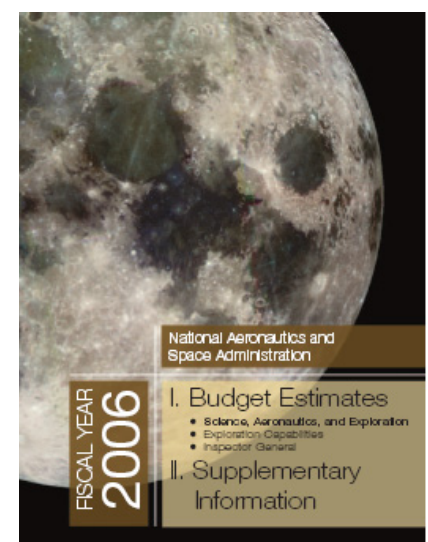
**President's
Policy Directive**



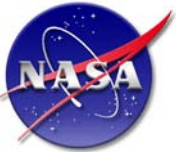
Aldridge Report



**NASA's Direction
for 2005 & Beyond**



**FY 2006 Congressional
Budget Justification**



... We Are Transforming NASA

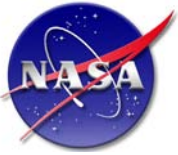
Guided by our Core Values of Safety, NASA Family, Excellence, and Integrity, we are:

- ***Embedding a Safety Culture*** – Workforce accident rates are lower than industrial world-class standards, and an Independent Technical Authority has been implemented
- ***Embracing Competition*** – Applying competitive process to bring out the best from industry, universities, and NASA centers
- ***Seeking Innovation*** – Casting a broad net worldwide for beneficial partnerships and the best ideas and innovative solutions to technical and management challenges
- ***Enhancing Long Range Planning*** – Developing strategic roadmaps, with external participation, to better align NASA efforts with Vision
- ***Improving Decision-Making*** -- Created a Strategic Planning Council, Ops Council and revised advisory council to better integrate across agency and tear down stovepipes
- ***Reinvigorating Field Centers*** – Identified and assigned core competencies by Center and reviewing possible alternate management structures
- ***Streamlining Corporate Structure*** -- Reduced number of HQ organizations by half to four Directorates and eight Mission Support Offices
- ***Building a Sound Management Foundation*** – Scored well on President’s Management Agenda and implementing new legislative tools to recruit next generation of engineers, scientists, and astronauts



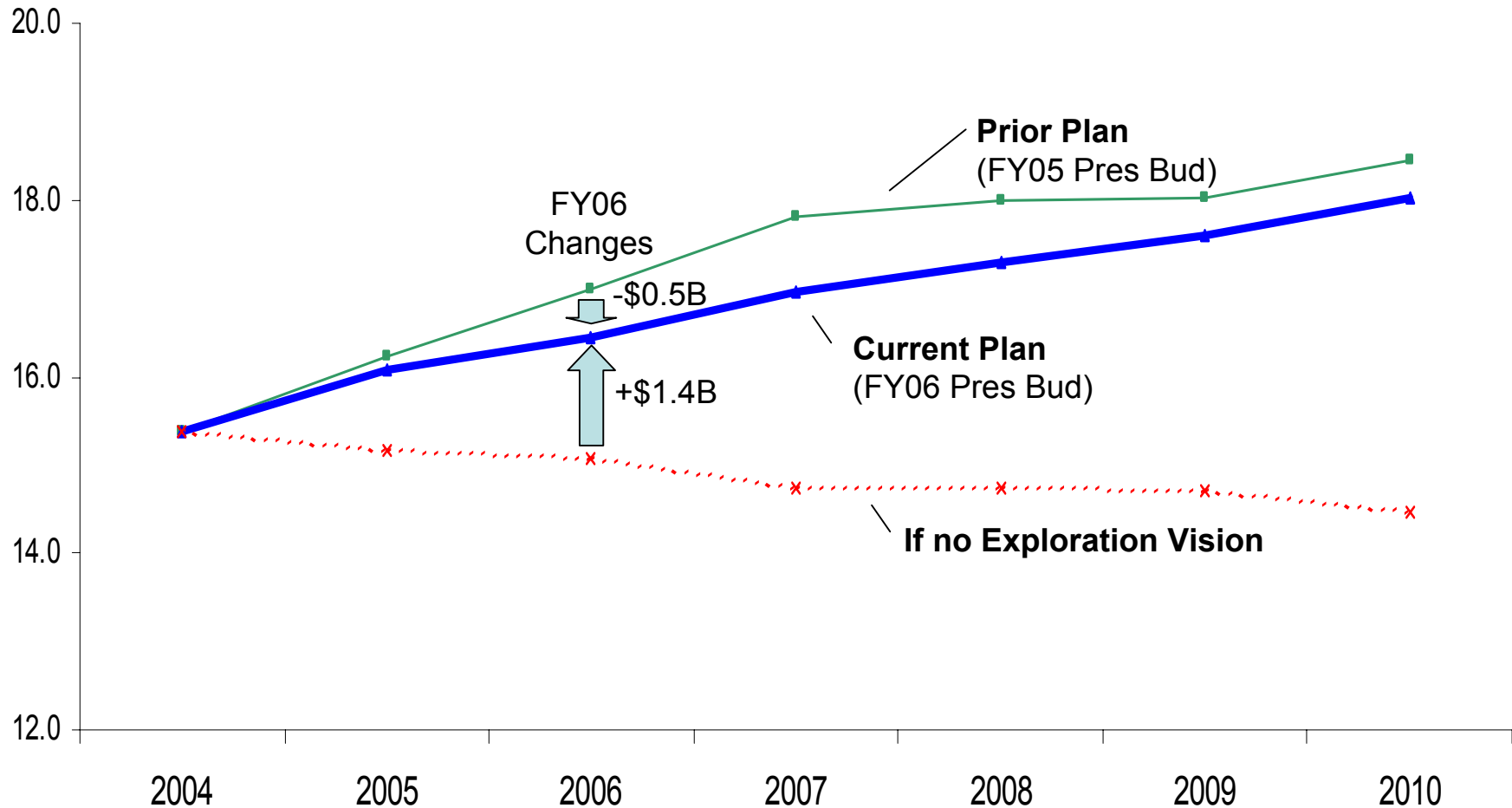
... And Making Great Progress

- **Returning to Flight**
 - Space Shuttle – Making final preparations for Shuttle return-to-flight
 - Space Station – Entering our fifth year of continuous presence on-orbit
- **Exploring our Solar System and the Universe**
 - Exceeding all goals with Mars twin rovers making unprecedented discoveries and still-operating
 - Providing stunning views of Saturn and Titan from Cassini/Huygens mission
 - Returning primordial samples from space on Genesis mission
 - Launching new missions to Mercury and comets
 - Continuing discoveries with Hubble, Chandra and Spitzer
 - Completed deployment of the Earth Observing System
- **Laying the Groundwork for the Future**
 - Competitively awarding 118 contracts for exploration technologies based on an overwhelming 600 proposals and 5,000 letters of interest
 - Beginning competition this year for the Crew Exploration Vehicle, with flight demos in 2008
 - Putting the building blocks in place for returning astronauts to the Moon
 - Beginning system design and early technology tests for nuclear power in space
- **And Generating Excitement**
 - Over 17 billion hits on NASA web site is a testament to intense public interest

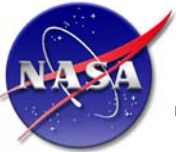


The Vision Remains an Administration Priority in a Challenging Budget Environment ...

\$ in billions

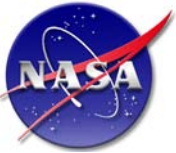


The Exploration Vision has enabled an increasing budget for NASA, although prior plans have been reduced in the government-wide effort to reduce deficit



... We Are Guided By The President's Direction

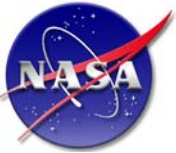
- **Budget maintains resolute focus on exploration priorities and critical milestones, informed by our science priorities**
 - First Step – Return Shuttle to flight and complete Space Station assembly
 - Flagship Program – Project Constellation (maintain 2008 CEV flight demo)
 - Technology Base – Critical exploration technologies
 - Transforming Technologies – Project Prometheus (flight demo in a decade)
 - Robotic Precursors – Lunar beginning in 2008 & added Mars in 2011
 - Shuttle Transition – ISS Cargo/Crew Services, near-term commercial service
 - Scientific Breakthroughs – Exploration of the solar system and Universe (e.g., Webb in 2011) and the search for earth like planets
- **Budget supports critical National needs and revolutionary technologies**
 - *Aeronautics*: Protects Aviation Safety & Security and Airspace Systems, and restructures Vehicle Systems to focus on technology breakthroughs and near-term demonstrations
 - *Climate Change*: Invests in next generation earth observing satellites
 - *Education*: Continues to inspire the next generation of explorers with priority programs (e.g., Explorer schools, scholarship for service)



... Supported by a Solid Budget

(\$ in millions)	<u>2005 *</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Science, Aero & Exploration	8,912	9,661	10,550	11,215	12,210	12,796
Science	5,364	5,476	5,960	6,503	6,853	6,798
Exploration Systems	2,568	3,165	3,707	3,826	4,474	5,125
Aeronautics Research	813	852	728	731	728	718
Education	166	167	155	155	155	155
Exploration Capabilities	6,704	6,763	6,379	6,057	5,367	5,194
Space Operations	6,704	6,763	6,379	6,057	5,367	5,194
Inspector General	27	32	34	35	35	37
Unrequested Items	426					
TOTAL	16,070	16,456	16,962	17,306	17,612	18,027
– annual increases		2.4%	3.1%	2.0%	1.8%	2.4%
Emergency Hurricane Supplemental	126					

* - FY 2005 budget is shown in new budget structure for comparison purposes, and allocation by Mission Directorate does not include \$426m in unrequested items to allow a direct comparison of content included in the President's request.

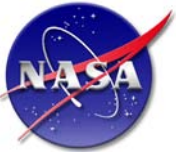


... Building on Our Scientific Successes

(\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
SCIENCE	5,476	5,960	6,503	6,853	6,798
Solar System Exploration	1,900	2,348	2,832	2,999	3,066
The Universe	1,512	1,532	1,539	1,495	1,407
Earth-Sun System	2,064	2,081	2,132	2,359	2,325

The FY06 budget request for Science Mission Directorate includes:

- FY06 budget will support 55 missions in orbit, 26 in development, and 34 in design phase
- \$858m, a 17% increase, for Mars/Lunar robotic exploration
- \$372m, a 19% increase, to maintain Webb telescope on pace for 2011 launch
- \$93m in development funds for Hubble to extend scientific productivity and initiate a robotic mission to safely deorbit the telescope
- \$218m, a 17% increase, to maintain competitive efforts for Explorer Program
- \$56m, a 33% increase, for Beyond Einstein program to study the universe
- \$234m, a 16% increase, for studying the sun in Living With a Star
- \$136m, a 26% increase, for competitive opportunities in Earth System Science Pathfinder
- \$6.8b, a 23% increase in the projected annual budget by 2010, increasing the Science portion of total Agency budget from 33% in FY 2006 to 38% in 2010



... Preparing for Our Exploration Future

(\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
EXPLORATION SYSTEMS	3,165	3,707	3,826	4,474	5,125
Constellation Systems	1,120	1,580	1,524	1,991	2,452
Exploration Systems R&T	919	907	989	1,050	1,078
Prometheus	320	424	501	614	779
Human Systems R&T	806	797	812	819	816

The FY06 budget request for Exploration Systems Directorate includes:

- \$753m for the Crew Exploration Vehicle, America's future workhorse for safe and affordable human exploration, with resources to pursue a timely flight demo in 2008
- \$919m, a 27% increase, for Exploration Systems R&T that will enable a designs for sustainable exploration, including \$44m for a revamped technology transfer program and \$34m for Centennial Challenges prize program
- \$320m for Project Prometheus to test of a nuclear reactor in 2008 and fly a demo mission within a decade, followed later by other demonstrations (e.g., to Jupiter's moons) – rephased to reflect development profile and more than doubling over five years
- \$806m for Human Systems R&T, which after a thorough bottom-up review, is now directly linked to exploration requirements for human missions to the moon and beyond

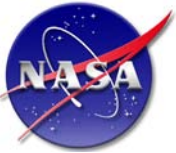


... Enabling Breakthrough Aeronautics Research

(\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
AERONAUTICS RESEARCH	852	728	731	728	718

The FY06 budget request for Aeronautics Directorate includes:

- Maintains top priorities in aeronautics research:
 - \$193m, a 4% increase, for Aviation Safety & Security
 - \$200m, a 32% increase, for Airspace Systems
- Also provides \$459m for a restructured and improved Vehicle Systems program
 - Focused on breakthrough research culminating in flight demos
 - Pursues high risk, high payoff concepts beyond incremental research of interest to industry (e.g. eliminates almost all work in conventional subsonic aircraft)
 - Consists of projects in noise reduction, high altitude unmanned vehicles, and an all-electric airplane
 - Includes realignment of workforce and facilities to best implement new priorities

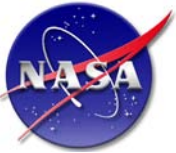


... Meeting Our Obligations

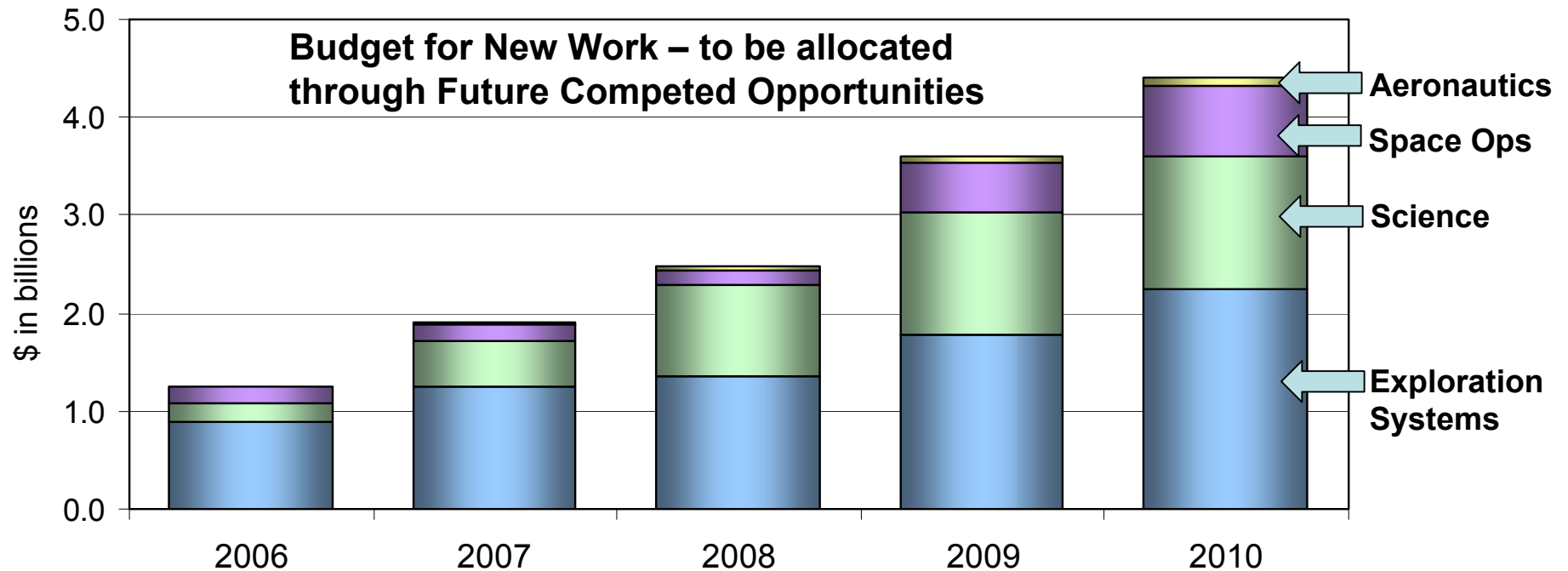
(\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
SPACE OPERATIONS	6,763	6,379	6,057	5,367	5,194
Space Shuttle	4,531	4,172	3,866	2,815	2,419
Space Station	1,857	1,835	1,791	2,152	2,376
Space Flight Support	376	371	400	400	399

The FY06 budget request for Space Operations Mission Directorate includes:

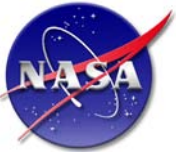
- \$4.5b to return Shuttle to flight as a top priority and resume flight operations
 - Provides \$366m more for return to flight and related activities in FY06 to maintain safe operations in support of five planned flights
 - NASA will retire the Space Shuttle in 2010 while working to ensure that the last flight is as safe as the flights this year
- \$1.9b for the International Space Station
 - NASA is examining configurations for the Space Station that meet the needs of both the Space Exploration Vision and our international partners while using as few Shuttle flights as possible to complete Station assembly
 - Assembly sequence and funding support enhanced crew size of up to 6 prior to completion of assembly, enabling important Vision work



... Pursuing Competition to Best Meet Requirements

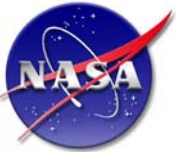


- **Industry, academia, and NASA field centers will have opportunity to compete for well over \$10 billion in new opportunities over the next five-years. Examples:**
 - *Exploration Systems* -- Crew Exploration Vehicle, Crew Launch Vehicle, Project Prometheus, and exploration research and technology
 - *Science* -- Discovery, Explorer, New Frontiers, Mars Scouts, Lunar Robotic, Earth Science Pathfinders, New Millennium, Living with a Star
 - *Space Operations* -- Launch services to Station and other users
 - *Aeronautics* -- New breakthrough flight demonstration projects



... And Retooling Our Institution

- **The focus of the transformed NASA is on how best to achieve the Vision and other national priorities assigned to NASA – *the Mission is First***
 - Human Capital – Workforce transformation is growing in importance and will require workforce adjustments and distribution of needed skills based on mission and core competency requirements
 - Physical Capital -- Growing list of underutilized facilities will be assessed to determine the critical requirements to support the Vision
 - Organization -- Based on Aldridge Commission recommendations, plan proposals and legislation to pursue non-governmental organizations to enhance Center management structures
- **Transforming NASA field centers for the coming decade through improved agility and competitiveness**
 - Vision provides the long-term focus and stability required for sound business planning and for attracting skills important to the US economy
 - Competition will help the Centers to provide the best value and new and innovative approaches while encouraging partnerships and collaboration with industry and academia (notable successes this past year)
 - Agility, enhanced by new legislative authorities, will enable Centers to maintain cutting edge capabilities as the Vision progresses and technologies advance
 - Core competencies will be maintained and funded through competition



To Enable The New Age of Exploration

- **The torch is being passed from the pioneers, who first took us to the moon and beyond, to the new generation of explorers who will take us into deep space to stay**
 - Sustainable implementation of the Vision will provide the legacy for future generations
- **The FY06 NASA Budget reaffirms the President's commitment and provides us the next step in implementing the Vision**
 - Returning Shuttle to completing assembly of the Space Station
 - Exploring the cosmos with robots and humans
 - Transforming to enable the Vision – without change, there is no Vision

**“We choose to explore space because doing so improves our lives and lifts our national spirit. So let us continue the journey.”
-- Pres. George W. Bush**