



ELSEVIER

Contents lists available at ScienceDirect

Futures

journal homepage: www.elsevier.com/locate/futures

The “Vision for Space Exploration” of President George W. Bush, space science, and U.S. space policy

Joseph N. Tatarewicz *

Department of History, University of Maryland, Baltimore County (UMBC), 1000 Hilltop Circle/AD 702, Baltimore, MD 21250, USA

ARTICLE INFO

Article history:

Available online 3 May 2009

ABSTRACT

On January 14, 2004 President George W. Bush announced a major overhaul of U.S. space exploration strategy and infrastructure, stipulating that NASA complete the International Space Station (ISS) and retire the Space Shuttle fleet by 2010, develop a new suite of launch and exploration vehicles for deployment shortly thereafter, and embark on a program of human exploration of the solar system with crewed landings on the moon by 2020 and, eventually, Mars. The “Vision for Space Exploration” would be funded by resources liberated by the end of the International Space Station construction and the Shuttle program, assuming a very modestly increasing NASA budget. While this decision marks a decisive attempt to grapple with longstanding issues concerning the Space Shuttle and station, it has stimulated both optimism and fear within the space community. There is skepticism about its intent, its feasibility, and concern for the effects on various areas of space science and technology. This decision is similar to other, major such initiatives in the history of NASA and space flight, relies on longstanding scenarios and models, and much of its content has been proposed unsuccessfully in the past.

© 2009 Elsevier Ltd. All rights reserved.

1. Introduction: the Vision

On January 14, 2004 President George W. Bush announced a major overhaul of U.S. space exploration strategy and infrastructure. He stipulated that NASA would complete the International Space Station (ISS) and retire the Space Shuttle fleet by 2010, develop a new suite of launch and exploration vehicles for deployment shortly thereafter, and embark on a program of human exploration of the solar system with crewed landings on the moon by 2020 and, eventually, Mars. With a modest increase of the NASA budget to \$16.2 billion for the first year, the “Vision for Space Exploration” would be funded by resources liberated by the end of the International Space Station construction and the Shuttle program [1,2]. Two and a half years later, Bush issued a new *US National Space Policy*, the first such revision since 1996 (Figs. 1 and 2). The unclassified portions of the new policy make no explicit reference to the Vision, nor to any of its elements [3].

NASA and its associates had been struggling for a year to determine and overcome the causes of the loss of Space Shuttle Columbia, and had for many years been hamstrung by a Space Station program running very late and over-budget and a Space Shuttle that had been effectively reduced to Space Station support. These two programs consumed most of the NASA budget, and prevented future ambitions from even being seriously planned. Successors to the aging and increasingly fragile Space Shuttle had had several expensive false starts, the Bush White House had shown almost no interest in civilian space flight, and in the aftermath of the September 11, 2001 terrorist attacks and subsequent military actions space flight had receded from public interest. Many observers had wondered whether the Space Shuttle program would even continue at all

* Tel.: +1 410 455 2036.

E-mail address: Tatarewicz@umbc.edu.

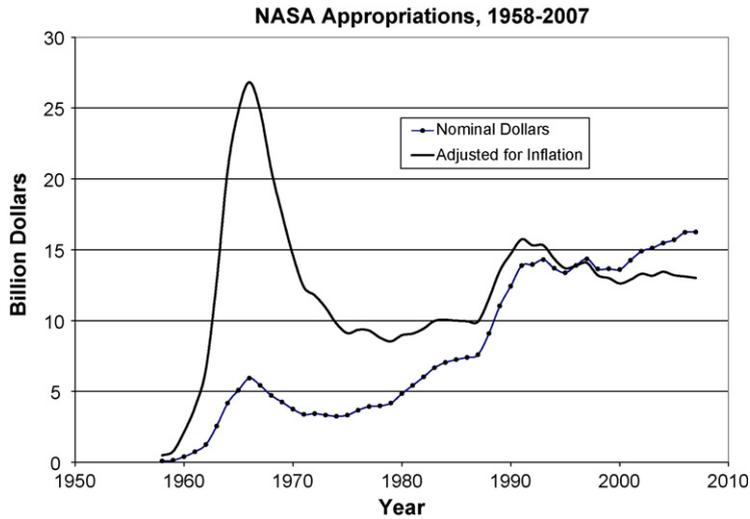


Fig. 1. NASA Budget, 1958–2007. By William Sims Bainbridge, based on data at Wikipedia, *NASA Budget* [http://en.wikipedia.org/wiki/NASA_budget] and verified by the author. This entry is detailed and contains excellent interpretive information on the various categories used over the years and important cautions concerning the effects on the data.

after the Columbia accident, and indeed it may not have survived had the half-built International Space Station not required the Shuttle’s unique capabilities to deliver elements already built by international partners.

The Columbia accident forced the administration to confront a Space Station-Shuttle problem that had been “kicked down the road” without resolution for many years. For a solution, it fell back on a well-established scenario that went back a century, as far as the earliest space pioneers, and had been articulated by a young Wernher von Braun even before the World War II. This scenario had been advanced seriously at the national level and either rejected or ignored several times before—at the beginning and at the end of the Apollo program, after the Space Shuttle Challenger accident, and shortly thereafter by President George H.W. Bush [4–7].

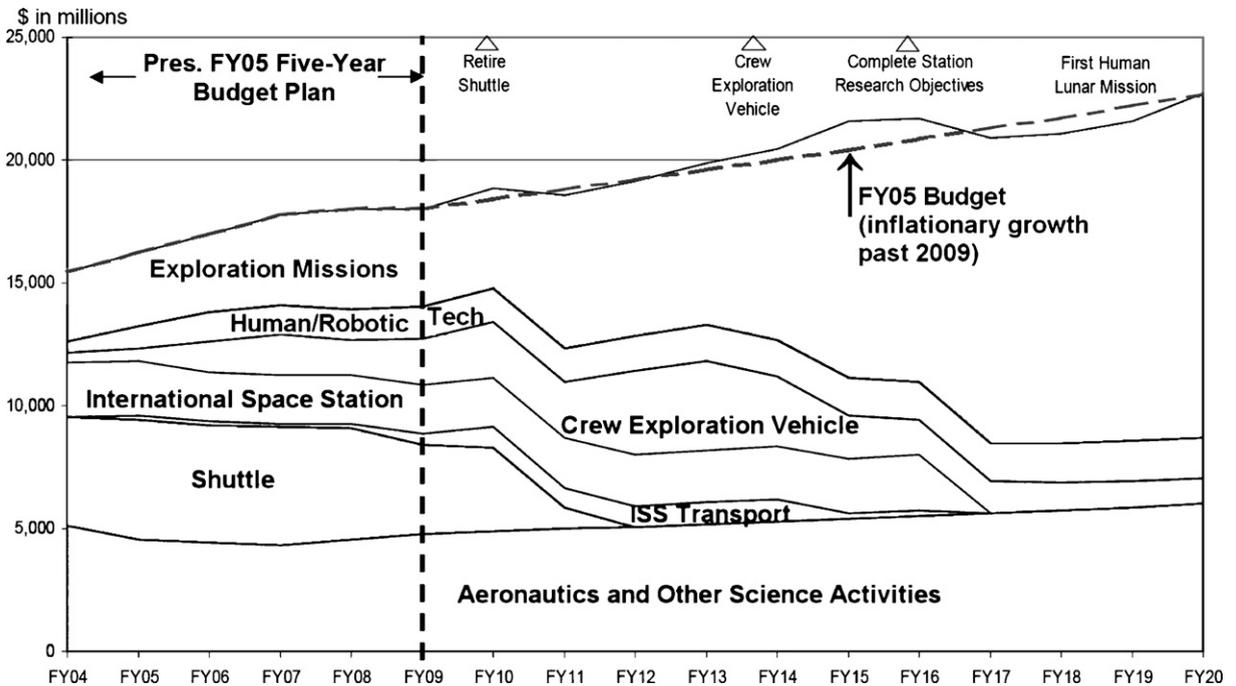


Fig. 2. NASA Vision for Space Exploration Projected Budget, 2004–2020; from NASA, *The Vision for Space Exploration* (Washington, DC: February, 2004), p. 19. Available at: NASA, Exploration, News and Media Resources [http://www.nasa.gov/mission_pages/exploration/news/index.html] as 55584main_vision_space_exploration-hi-res.pdf. This represents the initial budget projections, which have since been adjusted several times, and also subjected to critical analysis by several organizations, including the Congressional Budget Office.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات