

NSS Statement of Mars Policy

those currently planned for Mars, if landed on Earth by some extraterrestrial exploration authority, would ever discover any evidence

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The August 1996 announcement of the discovery of evidence for the past existence of life on Mars has elicited widespread public support for a significant expansion in the nation's Mars exploration program. An exploration program based upon a permanent human presence on the Red Planet will not only unlock the secrets of possible past life there, but will also establish the rich promise of a human future on Mars.

Robotic probes can return much useful data on Mars for modest cost, and the National Space Society therefore fully supports NASA's plans to continue and accelerate its robotic Mars exploration program. However, in realistically considering the requirements of conducting paleontological and other forms of field exploration on Mars, **the severe limitations of small robotic rovers commanded from Earth with 20 minute time lags on data transmission must be admitted.** For example, it can safely be said that no number of robotic units similar to

for our planet's dinosaur past.

Benefits of Human Explorers

Real exploration requires the ability to hike long distances over rough ground, to scramble over boulders and up steep hillsides, to do both heavy work and delicate work, and to use subtle forms of intuition, perception and intelligence, all of which are light years beyond the capability of robotic rovers. It is likely that the evidence recently discovered for a past Martian biosphere is just the tip of an iceberg. To carry out a competent program of field exploration to find the truth about the past history or possible present existence of life on Mars will require the skills that only human explorers, real live rockhounds and prospectors operating for extended periods on the planet's surface, can offer.

But Mars is much more than an object of scientific inquiry -- **it is a world full of history waiting to be made.** It has been clear since the 1970s Viking missions that Mars

possesses all the raw materials needed to support the eventual creation of self-sufficient human settlements. **It is the belief of the National Space Society that a positive future for humanity requires the expansion of civilization into space**; that the creative interplay of human ingenuity with the challenge, freedom, and unlimited resources of the space frontier will be central to our posterity's hopes for a free, prosperous, and dynamically progressive society. The establishment of a permanent human outpost on Mars would be a giant step towards the realization of that vision.

Mars is not the only celestial body of interest to the human future in space. **However, in sending humans to Mars, we would also develop the technologies needed to establish humans on the Moon and the asteroids, thereby accessing their potential as well.**

Cheaper Access

If a permanent human presence on Mars is to be made economically sustainable, the costs of transportation to orbit and through space, as well as the mass of supplies needed to support a Mars outpost, must be dramatically reduced. Therefore, in parallel with the push to get humans to Mars, NASA must continue and expand its efforts to create those technologies which will provide ever cheaper access to orbit, advanced propulsion for cheaper interplanetary transportation, and resource utilization technologies that will allow humans to be increasingly self-sufficient on Mars and other extraterrestrial bodies.

The Nation's Preparedness

Despite the greater distance to Mars, we are much better prepared today to send humans to Mars than we were to launch humans to the Moon in 1961 when John F. Kennedy committed the nation to that goal. Cost is not

really the central issue either; NASA's average budget during the period 1961 to 1973, when it built up from near-zero space capability to storm heaven with the Mercury, Gemini, Ranger, Surveyor, Mariner, NERVA, Apollo, and Skylab programs, was \$15.4 billion in

1994 dollars. That is only 18% greater than NASA's current budget. **A humans-to-Mars program can be accomplished within the scope and the scale of the existing US space program.** The problem is not lack of money, but lack of focus and direction. For the past two decades the US space program has floundered without any central motivating goal. As a result, funds have been spent at a rate comparable to that of the 1960s without producing anything approaching commensurate results. Thus, in point of fact, rather than being a waste of money, launching a humans-to-Mars program would provide the American space program with a focused goal that would give the American taxpayer a much better return for their space dollars than they are currently receiving.

In the 1960s the Moon was the goal that forced the space program's reach to exceed its grasp, in the process forcing it to develop computers and many other technologies from which resulting economic spin-offs are still unfolding today. The space program of the 1960s was an invitation to the youth of the nation to join in a great adventure by developing their minds. Today, such an invitation is absent. **The inspiration to educational achievement in science and engineering that a Mars program would provide would be a sound investment in intellectual capital, the true source of all our future wealth.** Between now and 2008, over 100 million children will either enter or graduate from our nation's schools. If a humans-to-Mars program should only succeed to inspire even a tiny extra percentage of these children to educate themselves for careers in science or engineering, the gain in national income generated in the course of their careers would dwarf the expenditures of the Mars program many times over.

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e have a new world that needs to be explored, a generation that needs to be inspired, and a space program that needs to be mobilized. A humans-to-Mars program, planned in such a way as to be sustainable, can do all of these things.

Therefore, the National Space Society calls upon the Administration and Congress to set a clear goal of establishing human explorers on Mars by the end of the first decade of the 21st century.

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