

Newt Gingrich Town Hall Meeting on Space Policy, January 25, 2012, Cocoa, Florida

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Video of speech at <http://www.c-spanvideo.org/program/SpacePolic>

What I'd like to do is a little different than most of the gatherings like this that we've done, and I'd like to use this as an opportunity to talk in a serious way about space and about how we reorganize what we're doing and what we think about what we're doing.

Now, I have a deep passion about this because I'm old enough that I used to read *Missiles and Rockets* magazine back in the – a couple of you are old enough to know what I'm talking about here – I'm talking about late 1950s, right? – before it merged with *Aviation Week*. And I was right at the right point as a youngster to be totally fascinated with Sputnik and I had been reading science fiction and Isaac Asimov in particular and it helped shape my life, so I come at space from the standpoint of romantic belief that it really is part of our destiny, and it has been tragic to see what has happened to our space program over the last 30 years [applause].

I actually wrote a section of a book called *Windows of Opportunity* in 1984 talking about what we could have done. We've had Bob Walker, who was chairman of the Science and Technology Committee and later on headed up the Walker Commission on Aerospace – he was with me in the early 1980s and we interviewed young NASA scientists and so I wrote a chapter in *Windows of Opportunity* about what would have happened if we had sustained the momentum of Apollo, and by the 1980s we would have had a permanent base on the Moon and we would have been on Mars. Just go back and look at the extraordinary trajectory.

I want to start, and because I used to be a history teacher, I want to put this in context, and what I want to talk to you about today is going to be very, very bold, and it's going to be very different, and it's going to make, frankly, some of the NASA bureaucracy uncomfortable, and there are going to be people in Washington who are going to say “Oh, my gosh – what if we are going to be flying rather than studying?” What if you were actually just getting things done instead of just having planning meetings? It will be a frightening change in the current pattern.

But let me put it in context, and I want to use three examples, the third of which is obvious and that's John F. Kennedy. The first, though, is Abraham Lincoln. Abraham Lincoln in 1859 stands on the banks of the Missouri River at Council Bluffs, Iowa, and says we should build a Transcontinental Railroad. Now at the time that he says this we do not have the steel-making capacity to build the rails to get to California, and we do not have an engine powerful enough to get across the Sierra Nevadas.

In 1869 the railroad is completed.

Lincoln, however, is a fascinating study in the American passion for technology and progress. In 1832, as a very young man of 23, he runs for the state legislature for the first time. Part of his platform is to build a railroad in Illinois. Now, what makes this amazing is that the first railroad, the Rocket, built by Stephenson in Great Britain, was in 1829. The first railroad engine to reach the United States was in 1831. Lincoln has never seen a train. But he has read about it and he has imagination and he knows the prairie is long and he knows that a train would be better than walking. And he is campaigning in 1832 on an idea, the idea of progress, and I want to give you a few Lincolnian visions on space in here.

Second, the Wright Brothers. This is my core critique of NASA, and frankly of all government science in its current form, with the possible exception of DARPA. In the late 19th Century people were sort of right at the edge of flight. They kind of almost knew how to do it, they almost had the right engines, they were all looking at birds, and there were two parallel American projects that are fascinating.

The Smithsonian, arguably at that time the greatest scientific institution in the country, had a \$50,000 grant from Congress to learn how to fly. And the Smithsonian had very smart scientists and they had connections to the best scientists in Germany and the best technicians and the best metallurgists, so they could order a really cool engine.

Meanwhile, in Dayton, Ohio, there were two brothers who ran a bicycle shop. Now, bicycles in the 1890s were a high-end technology. They actually merited a discussion in the census report of 1890 on the fact that bicycles were widespread and were allowing teenagers to escape from their parents and there were many sociological side effects from this new revolution.

So the Wright Brothers are here and in their spare time they are fascinated with flight. They actually build a wind tunnel. These are not unsophisticated people. They build a wind tunnel, they study birds, they go to the U.S. Government for important weather information. Where is the most continuous updraft in the United States? Kitty Hawk, North Carolina. It comes off the ocean, comes up the hill.

So the Wright Brothers for several years go down to Kitty Hawk every summer, and they take a lot of wood. Now, the reason they take a lot of wood is they know something very profound: They don't know how to fly! It may seem obvious, but trust me, most government planners don't get this [laughter and applause].

So what do the Wright Brothers do? They get up in the morning, they have built a very light plane with a very weak engine, and it's going to start at the top of the hill and it's going to go downhill, it's going to have an updraft, and it crashes. They average six or seven crashes a day. And they stop and they fix it and they think about it and they talk about it, have some more coffee, and they try it again. This would go on for several years.

Finally in December of 1903, they have the first powered flight in history. One brother runs alongside the plane to make sure it doesn't flip over; it doesn't fly fast enough to get ahead of him. The entire first flight is shorter than the wingspan of a Boeing 747, and it never gets high enough to get over the fuselage of a 747. Small article in AP, December 7, 1903.

In 1907, they made enough progress that they fly around the island of Manhattan and a million and a half people see an airplane for the first time. Four years. Because they figured out the core thing, which is how to fly.

Now, by contrast, the Smithsonian, being a large government establishment of great prestige, with too much money, orders from Germany a really cool engine. Now, there is a problem with a really cool engine. It's heavy. And if you have a heavy engine you have to build a heavy plane. And if you have a heavy engine and a heavy plane and you're a Washington bureaucrat, you don't want to go to Kitty Hawk, North Carolina, which was nowhere. Kitty Hawk was so isolated that these guys were living in a tent.

And so, you say, "How am I going to get wind?" and you invest in something that we still use today – a catapult, on a boat – the precursor of the modern aircraft carrier. And you put it in the Potomac. You're going to launch it off a boat because you're smart and you have a theoretical study. And you invite the news media to come and watch your very first test [laughter] – you all probably know where this is going, right? – so, they get out there in the morning, the mist comes off the river, they launch the plane, and it goes straight into the water. Now, here's the problem: When you have a plane land on ground it's fairly easy to recover. When you have a plane that is heavier than water land in the Potomac River, it goes down, the current tears it up, and you have no idea what was wrong. It's a one-time perfection problem.

Now the Smithsonian is deeply embarrassed because they look like fools, and then they get this Associated Press report that two bicycle mechanics have flown. The Smithsonian hostility to the Wright Brothers was so great that the Wright Brothers would not give them the original airplane for 37 years, because bureaucracies hate things that aren't invented in the bureaucracy. There may be a lesson here for people in NASA and the Air Force.

Okay, I'm coming around here, bear with me. Third example. May 1961. And this is the model for what I am about to talk to you about.

May 1961. John F. Kennedy, representing a new generation, having taken power from Dwight David Eisenhower, launching a new sense of a new frontier, announces to the Congress we will go to the Moon before the end of the decade.

We did a movie called *A City upon a Hill* and we had Buzz Aldrin in the movie, and he is so convincing, and he said you have to realize the only person who had gone around the Earth at that point was Yuri Gagarin, a Russian, and the only American who had been in space had been on a suborbital flight. And here's the President saying we will get to the Moon inside this

decade. And you had to invent everything. Yeah, we had all the precursors and we had the V-2 and we had this and we had that, but the truth was if you listed every problem they solved by July of 1969, its one of the great periods of development in human history. And they just did it.

I'm giving this background for our friends in the news media because twice recently Governor Romney has made fun of me for having bold ideas in space and has suggested that the idea of having a permanent lunar colony – he actually didn't catch the weirdest thing I've ever done and I'm going to tell you all because sooner or later his researchers will find it – at one point early in my career I introduced the Northwest Ordinance for Space, and I said when we get – I think the number was 13,000 – when we have 13,000 Americans living on the Moon they can petition to become a state [laughter and applause].

And here's the difference between romantics and so-called practical people. I wanted every young American to say to themselves: I could be one of those 13,000. I could be a pioneer. I need to study science and math and engineering. I need to learn how to be a technician. I can be part of building a bigger, better future. I can actually go out and live the future looking at the solar system and being part of a generation of courageous people who do something big and bold and heroic.

And I will as President encourage the introduction for the Northwest Ordinance for Space to put a marker down that we want Americans to think boldly about the future and we want Americans to go out and study hard and work hard, and together we are going to unleash the American people to rebuild the country we love [applause].

So, I'm going to give you a set of goals and then I'm going to make a set of observations about how to achieve those goals.

By the end of my second term we will have the first permanent base on the Moon, and it will be American [applause].

We will have commercial near-Earth activities that include science, tourism, and manufacturing, and are designed to create a robust industry precisely on the model that was developed by the airlines in the 1930s, because it is in our interest to acquire so much experience in space that we clearly have a capacity that the Chinese and the Russians will never come anywhere close to matching [applause].

And by the end of 2020 we will have the first continuous propulsion system in space capable of getting to Mars in a remarkably short time, because I am sick of being told we have to be timid, and I'm sick of being told we have to be limited to technologies that are 50 years old [applause].

Candidly, if we truly inspire the entrepreneurial spirits of America, we may get some of this stuff a lot faster. Now, I'm going to make some modest observations and some big observations.

Modest Observation Number 1: We should be practical about using equipment. That is, for example, the Atlas 5 ought to be interchangeable and ought to be as usable for NASA projects as it is for Air Force projects. We should get in the habit of absorbing small units of space. You know, it's very difficult right now to get the bureaucracy to think about the fact that somebody is about to launch a commercial launch and it actually has a little extra space for 40 pounds, but that doesn't fit either the NASA or the military model. When we fly troops around we normally fly them on commercial airliners with other people. So we're used to the idea that you can share space. You can send things that don't have to be a military-only aircraft, or a NASA-only aircraft. I just suspect that even the NASA administrators actually fly on commercial planes with other people. So I want to know if we break down all the bureaucratic barriers and we go to what I want to call a common sense model: If it's cheaper, faster, and it works – do it! [applause].

Second: We need to learn how to do five or eight launches a day, not one. We need to get in the habit of saying: You know, this is going to be like an airport. We are going to be so busy – you know, if we are going to be getting to the Moon permanently and be starting to get to Mars and build this near-Earth capability, and do it all within eight years, we better start thinking more like airports than like space systems.

And we better start figuring out – so how are we going to manage this many things? It's not that we can't do it, it's just that we just don't push ourselves, we don't think about it, we don't design the systems for it. But I want constant activity. There's a reason. The World War II generation built tons of airplanes, so the designers that came out of World War II made lots of mistakes. And they learned from them. If you are a military aircraft designer today, you are lucky if you work on more than one airplane in your lifetime. That's how slow and cumbersome and bureaucratic we've become. You don't have any learning curve.

I want us to have so much constant energetic, excited activities that people are learning again. And that we're drawing the best talent in the country back to the Space Coast because it's exciting and it's dynamic and who knows what next week is going to be like. And does that mean I'm a visionary? You betcha! [applause].

You know, I was attacked the other night for being grandiose. I just want you to know: Lincoln standing at Council Bluffs was grandiose. The Wright Brothers going down to Kitty Hawk was grandiose. John F. Kennedy standing there saying we'll get to the Moon in eight years was grandiose. I accept the charge that I am an American and Americans are instinctively grandiose because they believe in a bigger future [applause].

Now just a couple more core observations. I want you to understand where I'm coming from. I very much believe in a project you can Google called Strong America Now, which is an effort to develop "Lean Six Sigma" for the Federal Government. I believe we've got to become agile, lean, competent, constantly evolving, and that means replacing the civil service laws that are 130 years old with a totally new practical management system that comes much closer to the way

Boeing is doing the Dreamliner. Callista and I went down to Boeing outside of Charleston and they were walking us through – I don't know how many of you know this, but this is just an example – The Dreamliner is built in Italy, Wichita, Japan, and Korea, and it's flown in in units that are then brought together at Charleston. And they are walking around and they said this particular work area currently takes sixteen days – our goal is to get it down to six with the same number of people.

And I looked at that and I thought to myself – Department of Housing and Urban Development [laughter]. But let's be honest, I could have said Air Force Space Command, I could have said NASA. I mean we want to become lean and aggressive, and here's my bias: They told me in the Corps of Engineers that in order to improve the Port of Charleston so they could receive ships that are starting to come through the Panama Canal in 2014 when they finish widening it, that to do the study of the project takes eight years. Not the project – the study! And I said to them: you know we fought the 2nd World War in three years and eight months, so we beat Nazi Germany, Fascist Italy, and Imperial Japan, in 44 months.

Now I want to imprint this on you because if I become your President...you will have a 365 day a year relentless pressure to be faster, quicker, leaner, more innovative, more thoughtful, more daring, more visionary.

So let's go back to how to do it. I would want 10% of the NASA budget set aside for prize money. Lindberg flies to Paris for \$25,000. You set up prizes – for example, I forget what the Bush administration estimate was, but it was something like \$450 billion to get to Mars with a manned mission. So let's put up \$10 billion. And if somebody figures it out, we save \$440 billion. If they don't figure it out, it didn't cost us anything.

But you'll have for \$10 billion – and I'd make it tax free because Americans love things tax free so much. It's not the monetary value, it's the psychic thrill that Uncle doesn't get any of it. And this is why you are going to have to learn to have a lot more launches every day because if we put up the right prizes – and Bob Walker and I, shortly before I left Congress, actually hosted a two-day National Academy of Engineering Workshop on prizes, which is [online](#), as it was published, and we were talking about the historic use of prizes going back to the 17th Century. You put up a bunch of interesting prizes, you are going to have so many people showing up who want to fly, it's going to be unbelievable.

So the model I want us to build is largely the model of the 20s and 30s, when the government was actively encouraging development, but the government wasn't doing it. The government was paying a reward, it was subsidizing the airmail, it was doing a variety of things. There were prizes – you know, Jimmy Doolittle got famous winning prize money before World War II, then he got famous for bombing Tokyo; I mean, he had a life that was very interesting.

We had enormous breakthroughs in aviation in the 20s and 30s at very little cost to the government because lots of smart people did it. This is my closing bias – I just want to share it

with you. I want people cutting metal, or nowadays I guess you would say creating various synthetics; I mean the Dreamliner is a composite aircraft, so I want people pouring composite. Is that a more accurate way to think of it now? Actually, they wrap it. It comes in a – it's very strange – for a guy my age, I'm going to fly in it? – although it is apparently stronger than aluminum, and more durable.

But here's the point: We'd be better off to do 1% of the current studies and ten times the number of experiments just flying. If it doesn't work we'll walk off saying, well, that was kind of interesting. There is a great story of Bernie Shriver, who had been the great leader of Air Force ICBM development, calling his successor, and his said: "You know, you've had 17 successful launches," and the guy said – he was very proud – "You're right." And he [Bernie] said: "You're not trying, because if you had been trying you would have inevitably made mistakes. You're only doing stuff that's safe, what you already know how to do."

So I came here today to ask you, because you're here, and you know people all over the country who believe in space, you know how exciting it can be at its best, you know what a total mess, what an embarrassment our current situation is. How can we build a bureaucracy this big and get into a period when we rely on the Russians, while we watch the Chinese plan to surpass us, and we sit around bureaucratically twiddling our thumbs with no real reform? [applause].

I want you to help me both in Florida and across the country so that you can someday say you were here the day it was announced that of course we'd have commercial space in near-space, that of course we'd have a manned colony on the Moon that flew an American flag, and of course we'd be moving towards Mars by the end of the next decade. After all, we are Americans and you were there at the beginning of the second great launch of the adventure that John F. Kennedy started.

Thank you.