

Aero Club of Washington
Luncheon Address
Jim Albaugh, president and CEO Boeing Commercial Airplanes
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Thank you, Monte, for that kind introduction.

[Monte Belger, Club President and VP, Industry Relations at Metron Aviation]

I want to thank the Aero Club for having me here during National Aerospace Week, and I want to thank everyone at the head table for your service to our industry.

This Influential Club

It's an honor to speak to the Aero Club of Washington because I know what this group can do.

Back in 1909, our nation was skeptical about the Wright Brothers in particular -- and aviation in general.

Your predecessors created this organization to change those perceptions.

After your first luncheon, this club arranged for the Wright Brothers to receive Aero Club medals from President Taft at the White House.

That White House ceremony gave credibility to the idea of controlled, powered flight. And this club has been a champion of aviation ever since.

It's hard to imagine how different the 20th century might have been if this club had not stepped forward in those critical, early years.

Today, we're in the second century of flight.

- And once again, we face critical choices.
- Once again, we need people who understand aviation to stand up for the right policies and the right investments.

Doing Great Things

I'm going to talk about my view of what it will take for America to keep its lead in aerospace. It's part of a broader, more important conversation we need to have about keeping America the great country that it is.

Throughout my lifetime, our nation has done great things... things that have changed the world.

- We cured polio.
- We built the interstate highway system (1956).
- We put a man on the moon (1969).
- We won the Cold War without firing a shot.
- We invented GPS... and the list goes on.

In the wake of the Great Depression, we did great things to spur the economy.

Hoover Dam and the Grand Coulee Dam are two that are meaningful to me because of where I lived in my adult life and where I grew up.

While it's true the Hoover Dam put thousands of people to work, its lasting benefit came from irrigating the arid lands of California and powering the city of Los Angeles.

Similarly, the Grand Coulee Dam was not only about putting people to work.

- It powered the Hanford nuclear reservation,

- Provided the electricity needed to produce aluminum for aircraft during World War II,
- And irrigated thousands of acres of land that had been barren desert.
- Its legacy continues to this day.

The question is: what are the great things our country is doing today?

Two weeks ago, author Shelby Steele wrote in the *Wall Street Journal* ...

“When greatness fades, when a nation contracts to a middling place in the world, then the world... in fact ...no longer knocks on its door.”

Is that our future?

I certainly hope not... But it could be.

America still leads in aerospace. Keeping that lead should be a national priority in this century -- just as it was in the last.

We need to remind policymakers and the public that aerospace has always enabled America's greatness -- driving our economy, exports, innovation and security.

To me, American aerospace defined the 20th Century.

- It helped win World War II.
- It brought the world closer together with commercial air travel.
- It changed the way we communicate with commercial satellites.
- And, of course ... it changed forever how we look at the world around us when man first walked on the Moon.

We can do great things in the years ahead. Opportunity abounds. There is a dynamic global market that U.S. companies are working to win. But our government needs to play a supporting role because other countries are making inroads.

The question is... will the next century of aerospace be Made in America?

I'd like to share three points today.

- First, the growing commercial market that we see.

- Second, the strategy we have at Boeing to continue to be a market leader.
- And finally, the steps our country must take to keep our lead in aerospace, so we can remain a great country that does great things.

1. MARKET OUTLOOK

After the worst economic downturn since the Great Depression, the commercial aviation market is coming back.

Air traffic increases at a rate 1.5 times world GDP. Going forward, we expect world GDP to grow at about 3 percent over the next few years -- despite the economic slowdown in America and Europe and events in Northern Africa, with their potential impact on the price of oil.

Over the next 20 years, we see a need for 33,500 new airplanes. That's a \$4 trillion dollar market — one that many countries and companies covet.

The market is moving fast. Some of you heard me speak in April at the U.S. Chamber of Commerce. At the time, we had a 7-year backlog that we were working to burn down.

Since then, we:

- Booked \$22 billion dollars in orders and commitments at the Paris Air Show.
- Won an order from American Airlines for up to 300 Next-Generation 737s.
- Captured an order from Delta for 100 Next-Generation 737-900ERs.
- And secured over 500 order commitments for the re-engined 737.
- There's a good chance we'll set a record for 777 orders.

In short, there's a huge global market for aerospace products. And new competitors are entering that market, reshaping what has long been a duopoly between Boeing and Airbus.

2. PRODUCT STRATEGY: OUR RESPONSE TO THE MARKET

Let me now turn to our product strategy, which is always driven by the market and the needs of our customers.

Some companies build an airplane and see if they can sell it. At Boeing, we sell the airplane and then we see if we can build it. While that may put more pressure on our engineers, it ensures we're delivering what our customers want -- the best, most capable airplane in the world.

Today, our airline customers are concerned about three things –

- Profitability (they have made money only three times in the last 10 years),
- efficiency,
- and reducing their environmental footprint.

Our products can help our customers with all three. Let me share some examples – starting with the 787.

787

The Dreamliner will be the first new airplane of the 21st century.

- It will use 20 percent less fuel per passenger than today's airplanes of the same size.
- It will be 60 percent quieter than the aircraft it replaces.

Over the course of my career, I've been fortunate to experience some historic days in aviation, and December 15, 2009 was one of them... the first flight of the 787.

On that day, everyone in our company felt the same emotions: anticipation, apprehension, concern and then -- as the 787 lifted off the runway in Everett for the first time -- we all felt great joy and pride.

Engineers, machinists, accountants, management... it didn't matter. We all felt the same.

Twenty years from now, I believe that rainy December day in Everett will be viewed as one of the most important in the history of our company and commercial aviation.

It will be remembered as a day that fundamentally changed the way

airplanes are built and the way people travel.

And, it will be seen as a day when Boeing once again proved the kind of company it is -- a company of vision, innovation and achievement.

A great company that does great things.

In the nearly hundred-year history of The Boeing Company, we've only certified 11 all-new commercial airplanes.

So it was a thrill to be in Everett, Washington last month when FAA Administrator Randy Babbitt and European officials certified the airplane as safe and reliable.

These certificates aren't just pieces of paper. They represent a huge investment in capital and people over the last 8 years, including:

- Over 4,000 hours of ground testing,
- nearly 5,000 hours of flight-testing
- and rigorous documentation of the airplane's performance.

They represent both a dream and a promise fulfilled.

I want to commend the FAA. They've been at our side since the earliest days of the program, making sure we understood and complied with all of the regulations and requirements. Together, our teams have shared an unwavering commitment to the safety of the flying public.

Creating a brand new airplane is a monumental undertaking, and the path on the 787 was not smooth or easy. The journey on development programs seldom is.

From start to finish, the members of our 787 team demonstrated extraordinary grace, resilience and perseverance. They brought the best of Boeing to some of the most complex aviation challenges in history, and I'm very proud of them.

On September 26th, we'll deliver the first Dreamliner to our launch customer ANA, and it will open a new chapter in the history of aviation.

747-8

These are exciting times at Boeing Commercial Airplanes, and we've had a few other milestones to celebrate.

- On February 8, 2010, the largest airplane ever built by Boeing – the 747-8 Freighter -- took to the sky.
- The FAA certified that airplane last month.

It will give cargo operators the lowest operating costs and best economics of any freighter airplane while providing enhanced environmental performance.

Next week, we'll deliver that airplane to our launch customer ... keeping Queen of the Skies flying long into the 21st century.

The passenger version of that aircraft – the 747-8 Intercontinental -- completed its first flight on March 20, 2011 and will be certified later this year.

With the certification of the 747-8, I can't help but be reminded of the three historic aerospace events of 1969:

- The first flight of the Concorde,

- Man walking on the moon,
- And the first flight of the 747-100.

I find it sad and ironic that today, in the U.S., we no longer have the ability to access low earth orbit and the Concorde has long since been parked.

737 MAX

Let me turn now to the 737 – the world’s most popular and reliable commercial jet airplane.

As you may know, we’ve had to raise our production rate several times to come close to meeting the strong demand from our customers.

Over the next 20 years, we forecast demand for 23,000 airplanes worth nearly \$2 trillion in the 737’s market segment.

As you’ve probably heard, we are re-engining the world’s best-selling jetliner to address this market.

We’ve named the aircraft the 737 MAX because it maximizes fuel efficiency, reliability, maintainability and passenger comfort.

It represents everything we, and our customers, have learned about designing, building, maintaining and operating the world's best single aisle airplane.

The MAX will have the lowest operating costs in the single-aisle segment with a 7 percent advantage over the competition.

As I mentioned earlier, our customers have told us they want to improve profitability and fuel efficiency while reducing their environmental footprint. The MAX will meet all three of those needs. We see incredible demand for this airplane in the years to come.

When I step back and look at these three programs (the 787, the 747 and the 737), I see Boeing doing the things that have made us the company we are today --

- Listening to our customers,
- Ensuring excellence in engineering,
- And always pushing the boundaries of innovation.

3. POLICIES NEEDED

Now I want to talk about the policies we need to help our industry -- and our nation -- take full advantage of the opportunities ahead.

Getting our financial house in order is important, but it can't be the only thing that defines our nation or our future.

What will it take?

- Policies that promote innovation and competitiveness,
- a strong Defense industrial base,
- a level playing field,
- and a modern infrastructure.

A. Policies that Promote Innovation & Competitiveness

Studies have shown that more than half the growth of America's GDP is due to technological innovation.

Our government must offer R&D incentives just as other countries do. We should maximize the R&D tax credit and make it permanent, or significantly lower the corporate rate.

Government agencies should also encourage investments in both right-to-work and non-right to-work states.

The recent action by the National Labor Relations Board does just the opposite. It's an over-reach that's without merit or precedent. And it will have a chilling effect on companies thinking of locating plants in non-right-to-work states - as such companies will know that they may face legal risk if they later decide to expand to a different location.

Our tax and regulatory policies must also encourage and reward companies that decide to invest and innovate here at home, rather than placing work overseas. Much has been said and written about this in recent weeks.

Leading in aerospace means having a skilled workforce. About half of Boeing's engineers will be able to retire by 2015. The same is true for other

aerospace companies. And we are not producing enough engineers in this country, with the right skill sets, to take their place.

It's contributing to what I call the "intellectual disarmament" of our nation.

If we continue along this path, America could lose its lead in aerospace and the capability that's made our industry great.

It's not about spending more money on education, it's about inspiring students with great missions -- and ensuring they have the support to accomplish them.

Our engineering talent is not a fixed asset. It's made up of people who need challenging new projects. And if they don't have them, they will move into other industries or retire.

Once lost, reconstituting that asset is very difficult and will take decades.

With the F-35 in test flight, we are now at a point where there are no new military manned airplanes or helicopters in development by the DoD for the first time in a hundred years.

There are many other examples I could give you of how we are losing capabilities necessary to support our future Defense needs.

B. Strong Industrial Base

Having a strong defense industrial base is not a given. It's a product of the right policies, investments and priorities. The most fundamental question is this: Is a strong Defense industrial base strategic to our security and our country? There is no question that in the Pentagon the answer is yes. I'm not sure of the answer in Congress.

With our current direction, we risk breaking a continuum of capability that's taken us decades to build.

To be a viable defense contractor and an integrator of very complex systems, you have to understand how to do R&D. You have to take R&D into detailed design. You have to transition detailed design into production. You have to run your production systems, and you have to have a very healthy supply chain.

What we're seeing right now with no new starts in the Department of

Defense is that we are putting in jeopardy our ability to do development and losing our capability to transition design into manufacturing.

Once that's gone, it will be difficult to rebuild. That was one of the problems we had on the 787 program. We had not done a new development program since the 777, and we paid the price as a result.

Marty Bollinger -- who runs the aerospace and defense practice at Booz & Company -- observed that defense companies soon will get more of their revenue from providing services than providing products.

Let me add to that. Without any new starts, I fear we will wake up some morning and ask for a capability only to find that no company has those skills anymore.

As you know, Boeing has both Defense and Commercial businesses, and we have to make choices about where to invest. Other companies, like Rockwell Collins and the engine companies are in the same boat.

With no new starts on the military side, and returns on investment well below what they are in the commercial sector, why does anyone believe that companies serving both the commercial and defense industries will invest in defense projects and technology?

I don't want anyone leaving here thinking that we're getting out of the defense business. We are not. But without new starts it's difficult to close the business case for defense investment.

Space

We see the same troubling direction on the space side of our industry. Thousands of very experienced engineers are being laid off with the demise of the Space Shuttle program.

Without clear direction and investments, we're going to lose the intellectual capital it's taken us 50 years to develop.

Just as we're beginning to see a return on our multi-billion investment in the International Space Station, we've been reduced to hitching a ride from the Russians. For the first time since 1962 we do not have the ability to put an

American in space.

How did we let ourselves reach this point?

- Did we forget that investing in our space program creates high-tech, high wage jobs?
- Did we forget that our space program helped bring us computers and smart phones?
- Did we forget the power of a bold mission – like going to Mars?

One day humans will reach Mars. The odds are pretty good, though, that America won't get there first. I hope I'm wrong.

Likewise, I would hate to see the day that another country lands on the moon, uproots the flag Neil Armstrong planted there, and hands it back to us...

That would be tragic.

How do we start to address these issues? I think we start by formulating an Industrial strategy for Defense and Space. Discussions with the DoD indicate they are very receptive to starting that dialogue.

C. Level Playing Field

One other thing we need going forward is a level playing field.

We should pass the Free Trade Agreements that are pending.

We should keep America competitive in export financing. The Ex-Im Bank is a powerful force for creating U.S. jobs. It's been very effective under the leadership of Chairman Fred Hochberg, but its charter will expire on September 30th.

Congress should reauthorize the Ex-Im Bank at robust levels now, so it can continue to create jobs here at home. Further, we should push for all countries to follow common rules on export finance.

Next, we must enforce global rules about subsidies.

The WTO found that European subsidies to Airbus distorted the market and put America's aerospace industry at a competitive disadvantage.

Ensuring compliance with that landmark decision -- and taking similar actions against other violators of international trade rules -- is essential to America's future.

D. Infrastructure - NextGen

I talked earlier about some of the things our country has done in my lifetime that have made us great:

- Finding a cure for polio
- Building the interstate highway system
- Putting a man on the moon
- Winning the Cold War without firing a shot
- Inventing GPS

I'd be remiss if I didn't suggest something great that we can do now.

Instead of filling potholes and investing in solar panels, let's harness the imagination and intellect of the thousands of engineers coming off the space program.

Let's turn them loose on a project that will have a lasting and meaningful impact on our country and world. The aerospace project I'd propose is the NextGen ATM system. It would:

- Create jobs
- Stimulate the economy
- Improve the environment
- Promote energy independence
- Pay for itself in a short period of time
- Make struggling airlines profitable so they can grow, invest in new airplanes and create even more jobs.
- And it would have a lasting legacy

In my lifetime, there have been three major strides in transportation.

- The first and second were the Interstate Highway System and GPS, which I mentioned earlier.
- The third was commercial air travel.
- I think the fourth great stride could be air traffic management. It would be the interstate highway system of the sky.

We spent billions on the 787 to make one airplane type 20% more efficient than the airplane it replaced.

NextGen ATM can make all airplanes up to 15% more efficient than they are today.

I was pleased that in the President's speech last Thursday, the Administration recommended that there be \$1B in funding to support NextGen. But we need more than support. We need a commitment and a firm timetable for completion. The payback for America would be significant and lasting.

Let me take a moment to thank Michael Huerta for his leadership role on shaping NextGen. He chairs the NextGen Advisory Committee which is

working on crucial policy recommendations... and he oversees the transformation efforts at the FAA in his role as Deputy Administrator. Michael brings a business-minded perspective to this work, and we all appreciate that.

Conclusion: “That Used to Be Us”

In each of the areas I’ve talked about – innovation, industrial base, competitiveness and infrastructure – it’s not too late for America to keep its lead.

Last week (9/4), Thomas Friedman and Professor Michael Mandelbaum released a new book.

Its title is: “That Used to Be Us: How America Fell Behind in the World It Invented and How We Can Come Back.”

As they were writing the book, people would take note of the title and ask - “But does it have a happy ending?”

The authors write – quote -

“Our answer is that we can write a happy ending, but it is up to the country -- to all of us -- to determine whether it is fiction or nonfiction. We need to study harder, save more, spend less, invest wisely, and get back to the formula that made us successful as a country in every previous historical turn.”

I think we also need to think big and be bold.

I don't want our children to say of leading the world in aerospace ... “That used to be us.”

Thank you.