

# *Space Tourism: How Spaceports Can Enable Economic Growth*



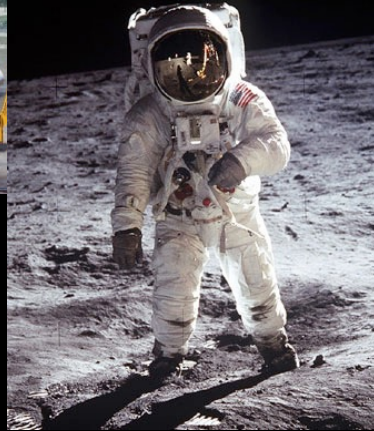
**GLOBAL**  
**SPACEPORT**  
**ALLIANCE**

Dr. George C. Nield  
GSA Chairman

June 27, 2024



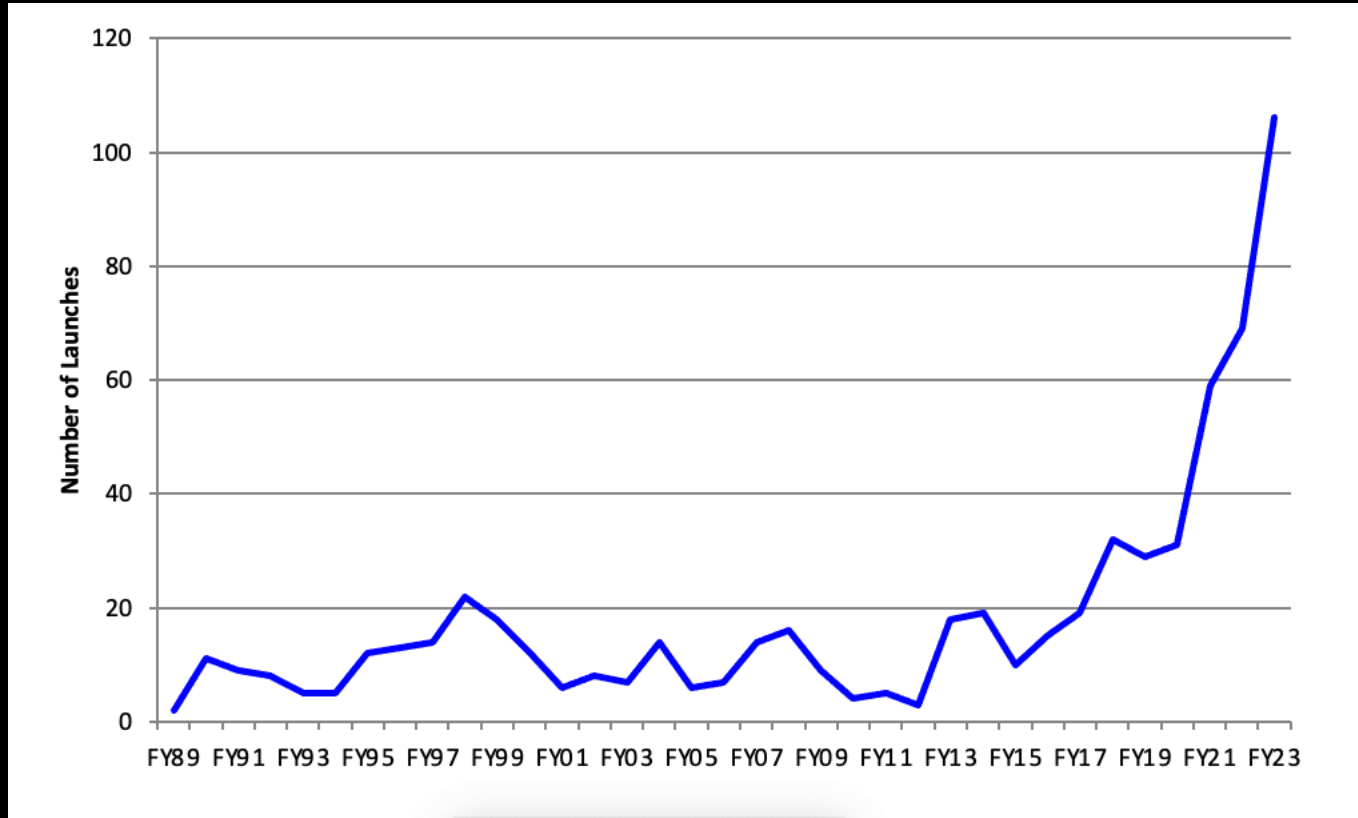
# *Major Spaceflight Milestones*



# *Potential Advantages of Increased Commercial Involvement*

- Lower costs
- Increased innovation
- Greater risk tolerance
- Opportunity for new products, services, and customers
- New sources of funding and investment

# *FAA-Licensed Launches per Fiscal Year*





# *U.S. Human Spaceflights Since July 2021*

For Government Customers:

- 7 Flights
- 26 Government Astronauts



Crew 3, 4, 5, 6, 7 & 8



Crew Flight Test

# *U.S. Human Spaceflights Since July 2021*

For Non-Gov Customers:

- 20 Flights
- 102 Non-Gov Astronauts



Inspiration4



Axiom-1, 2, & 3



Unity 22, 25,  
Gal 01-07



NS-16, 18, 19, 20,  
21, 22, & 25

# U.S. Spaceports



**Key**

- o FAA-Licensed Launch & Reentry Site
- ◆ Federal Launch & Landing Site
- + Private Launch & Landing Site

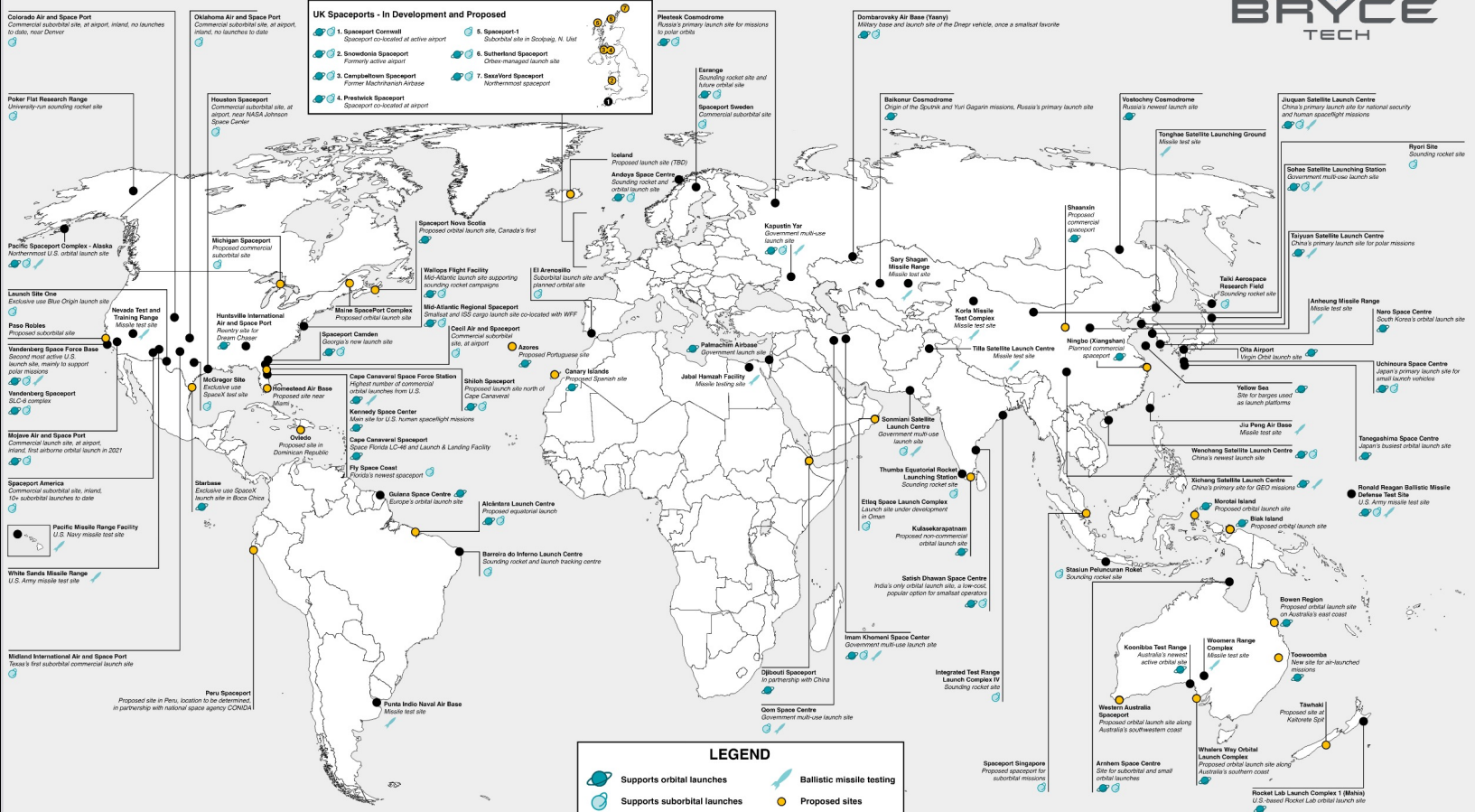
**Proposed Commercial Spaceports**

- Arizona
- Brownsville
- Guam
- Hawaii
- Las Vegas
- Maine
- Michigan
- Paso Robles
- Poker Flat
- Puerto Rico
- Stennis Int. Airport
- Waco
- Yuma

**Other Government Sites**

- Guam
- Marshall Islands

# Orbital and Suborbital Launch Sites of the World

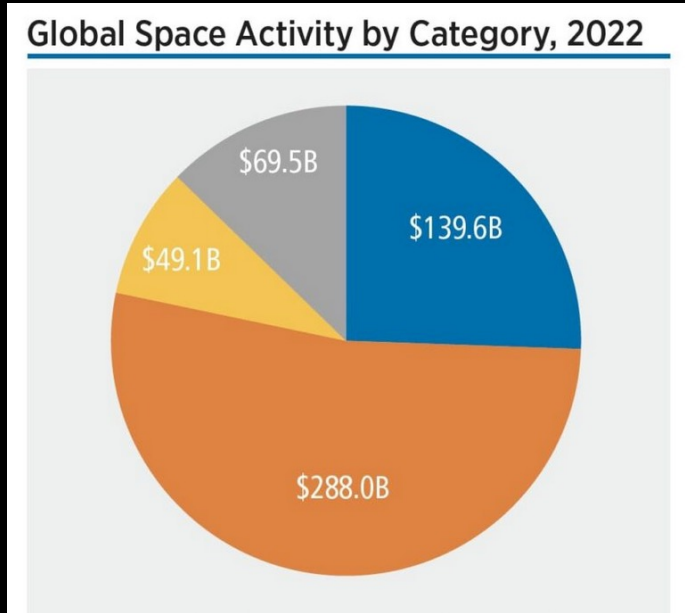


**LEGEND**

- Supports orbital launches
- Supports suborbital launches
- Proposed sites
- Ballistic missile testing

Criteria for inclusion is active support of orbital/suborbital launches; / proposed, regulatory recognition, adequate investment/financing, and construction/launch contracts signed

# *The Global Space Economy Now Totals \$546B, According to the Space Foundation*



- Commercial Infrastructure and Support Industries
- Commercial Space Products and Services
- Non-U.S. Government Space Budgets
- U.S. Government Space Budgets



# *Expectations for Growth of the Space Economy*

- World Economic Forum
  - By 2035: \$1.8 Trillion
- UBS
  - By 2040: \$1 Trillion
- Morgan Stanley
  - By 2040: \$1.1 Trillion
- Bank of America Merrill Lynch
  - By 2045: \$2.7 Trillion

WORLD  
ECONOMIC  
FORUM



Morgan Stanley

Bank of America  
Merrill Lynch



*Much of that economic growth could take place at or near spaceports*



# *A New Vision for Spaceports*



- Spaceports are not just locations from which rockets are launched.
- They can also serve as focal points and technology hubs to support many different kinds of activities!

*What Can You Do at a Spaceport?*

# *Space Tourism*







FTOFF

MAXQ

MECO

SEPARATION / ZERO-G

KARIMÁN

APOGEE



NEW SHEPARD  
MISSION NS-20







Play (k)





















*What ELSE Can You Do at a  
Spaceport?*



# *Aerospace Manufacturing*



- Launch & Reentry Vehicles
- Modules
- Landers
- Satellites
- Systems
- Subsystems
- Components
- Final Assembly & Integration

# *Research & Technology Development*



- Basic Research
- Development & Testing of:
  - Launch Vehicles
  - Carrier Aircraft
  - Space Support Vehicles
  - Satellites
  - Rocket Engines
  - Parachutes & Recovery Systems
  - Avionics
  - Software

# *Education and Training*





# *Workforce Development*



- Partnerships with High Schools, Community Colleges, & Universities
- Classes
- Academic Projects
- Training Programs
- Internships
- Co-ops
- Apprenticeships

# *National Spaceport Policy*

# *Executive Order*



# *Congressional Resolution*



# *National Space Council/Space Policy Directive*



*Commercial Human Spaceflight  
Training*



# *NASA Astronaut Training*



# *Potential Commercial Systems*



*Point-to-Point Transportation  
through Space*

# *Point-to-Point Transportation*

- The ability to fly from one point on Earth to the opposite side of the planet in just an hour or two will be a major game changer for both national security and economic competitiveness.
- This is an area in which the U.S. needs to lead.



# *SpaceX Starship*

## Point-to-Point Capabilities

- Can reach most destinations in less than 30 minutes
- Anywhere on Earth in less than 1 hour
- Pressurized volume is greater than an Airbus 380
- Could carry several hundred passengers or 100 metric tons of cargo



# *Other Industry Concepts*



Hermeus



Stoke Space



New Frontier Aerospace



Radian Aerospace



Venus Aerospace



Rocket Lab



*Recommended Legislation to  
Address Commercial Space  
Transportation Issues*



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GSA CAPITOL HILL  
SPACE ADVOCATES  
PROGRAM

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**THE GROWING IMPORTANCE OF SPACEPORTS  
TO THE WORLD ECONOMY**

# Capitol Hill Panel



Moderator:  
**Dr. George Nield**  
GSA Chair



**Rob Long**  
CEO  
Space Florida



**Maj. Gen. (Retired)  
Ted Mercer**  
CEO & Exec. Director  
Virginia Spaceport  
Authority



**Scott McLaughlin**  
Executive Director  
New Mexico  
Spaceport Authority



**Arturo Machuca**  
Director  
Houston Spaceport





# Commercial Spaceflight Operations Act of 2024

## Draft Legislation - Key Provisions and Rationale

**1 Establishment of the Commercial Space Transportation Administration**  
Recognizes Commercial Space Transportation as an independent operating administration by moving the Office of Commercial Space Transportation out from under the FAA and having it report directly to the Secretary of Transportation. Note that a recommendation to this effect was approved unanimously by the Commercial Space Transportation Advisory Committee (COMSTAC) at its meeting on April 23, 2024.

**2 Creation of A Commercial Spaceflight Research Alliance**  
Directs the Secretary of Transportation to competitively award a cooperative agreement to a university, nonprofit, or not-for-profit organization to form a consortium that would operate a Commercial Spaceflight Research Alliance. The consortium would be collaborative in nature and would involve all interested parties from government, industry, academia, and the international community. Potential focus areas for research include a Human Research Program for Civilians in Spaceflight and Space Habitation, along with studies related to vehicle systems and technologies, mission operations, spaceports, and policy and market research.

**3 Adoption of a National Spaceport Policy**  
Supports the development of a National Spaceport Network, consisting of current and prospective commercial spaceports, government launch & landing sites, and privately-owned-and-operated launch & landing sites, that would allow assured access to space for all users, while enabling the U.S. to satisfy national security requirements, maintain technological leadership, enable international competitiveness, and provide inspiration for students and the development of a robust aerospace workforce.

**4 Spaceport Infrastructure Funding**  
Updates and provides funding for the Space Transportation Infrastructure Matching Grants Program to support projects that will increase the safety, capacity, efficiency, and resiliency of space transportation operations.

### Commercial Human Spaceflight Training

**5** Modifies the statutory definition for Space Support Vehicles to enable commercial spaceflight companies to conduct spaceflight training programs using high-performance or former military aircraft, just like NASA does.

### Point-to-Point Transportation Through Space

**6** Establishes a goal for the United States to lead the world in Point-to-Point Transportation through Space, which will be a major game changer for both national security and economic competitiveness.

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www.GlobalSpaceportAlliance.com

313 South Patrick Street  
Alexandria, VA 22314

Any questions about today's presentation,  
please call (917) 443-7240.

June 12, 2024

## A BILL

To amend title 49 and title 51, United States Code, to support the licensing and operation of commercial space transportation systems and spaceports, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

### SECTION 1. SHORT TITLE.

This Act may be cited as the "Commercial Spaceflight Operations Act of 2024."

### SEC. 2. ESTABLISHMENT OF ASSISTANT SECRETARY FOR COMMERCIAL SPACEFLIGHT.

Section 102(e) of title 49, United States Code, subtitle 1, is amended —  
(1) in paragraph (1) by striking "7" and inserting "8"; and  
(2) in paragraph (1)(A) by inserting "an Assistant Secretary for Commercial Spaceflight," after "an Assistant Secretary for Research and Technology,".

### SEC. 3. ESTABLISHMENT OF COMMERCIAL SPACE TRANSPORTATION ADMINISTRATION.

Title 49, United States Code, subtitle 1, Chapter 1, is amended by adding at the end the following:

"§ 120 - Commercial Space Transportation Administration.

"(a) The Commercial Space Transportation Administration is an administration in the Department of Transportation.

"(b) The head of the Administration is the Administrator, who shall be appointed by the President, by and with the advice and consent of the Senate. When making an appointment, the President shall consider the fitness of the individual to carry out efficiently the duties and powers of the office. Except as provided in subsection (f) or in other provisions of law, the Administrator reports directly to the Secretary of Transportation. The term of office for any individual appointed as Administrator shall be 5 years.

"(c) The Administrator must—

- (1) be a citizen of the United States;
- (2) be a civilian; and
- (3) have experience in a field directly related to space transportation.

"(d)

"(1) The Administration has a Deputy Administrator, who shall be appointed by the President. In making an appointment, the President shall consider the fitness of the appointee to efficiently carry out the duties and powers of the office. The Deputy Administrator shall be a citizen of the United States and have experience in a field directly related to space transportation. An officer on active duty in an armed force may be appointed as Deputy Administrator. However, if the Administrator is a former regular officer of an armed force, the Deputy Administrator may not be an officer on active duty

# *Summary of Proposed Legislation*

- Recognizes Commercial Spaceflight as an independent operating administration by moving the Office of Commercial Space Transportation out from under the FAA and having it report directly to the Secretary of Transportation.
- Establishes and supports the operation of a Commercial Spaceflight Research Alliance.
- Adopts a National Spaceport Policy.

## *Summary of Proposed Legislation (cont.)*

- Allows improved Commercial Human Spaceflight Training using Space Support Vehicles.
- Provides federal funding for spaceport infrastructure projects.
- Calls for the identification of needed changes to policies, laws, regulations, and procedures to facilitate the near-term testing and operations of vehicles capable of point-to-point transportation through space.

## *Next Steps*

- Continue to engage with Members of Congress, staffers, and other stakeholders on how best to resolve key commercial space transportation issues.
- Identify potential co-sponsors for the proposed legislation.
- Identify Members willing to introduce the Commercial Spaceflight Operations Act of 2024.





**FARNBOROUGH**  
INTERNATIONAL

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**AIRSHOW**

**22-26 JULY 2024**



**SPACE  
ZONE**

- GSA Panel on International Spaceport Readiness to Support Point-to-Point Transportation
- Tuesday, July 23, 2024, 14:30-15:20
- Space Zone Theatre



# INTERNATIONAL SPACEPORT FORUM

MILAN, ITALY | OCTOBER 13, 2024

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