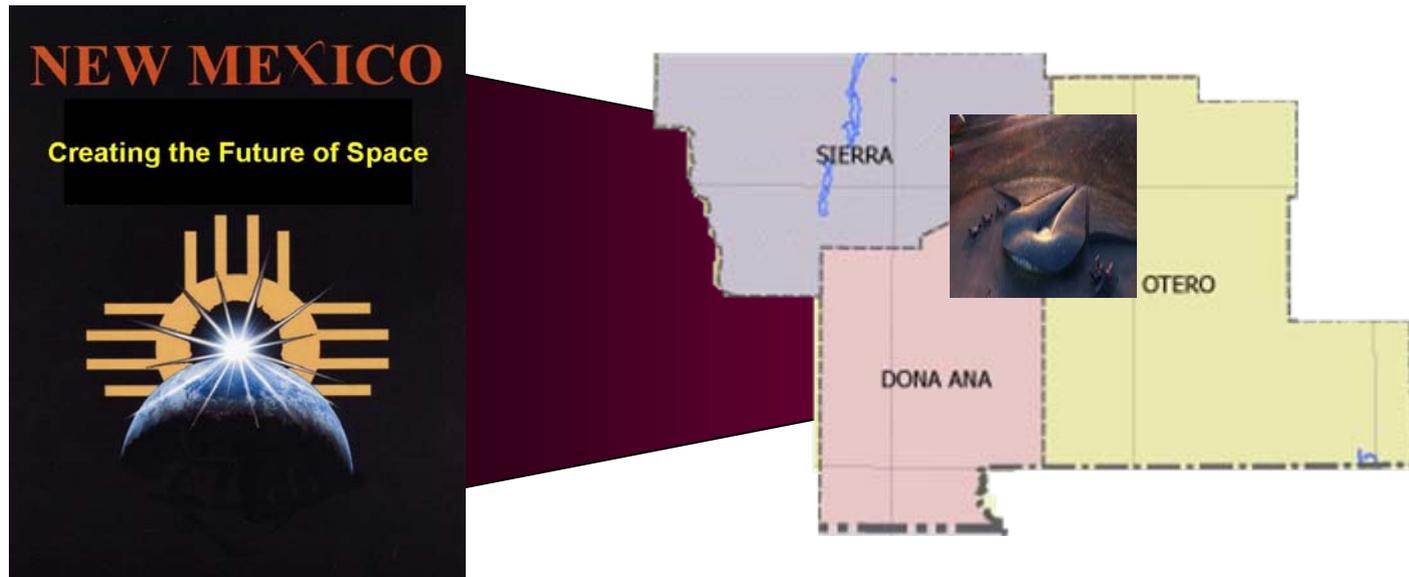


New Mexico Spaceport Authority



“Spaceport America”



Economic Development, Tourism, and Education

Creation of a New Industry in Southern New Mexico

October 28 2008

What does the Future Hold?



It is about creating History, a New Industry, and a Better Quality of Life through Technology Investment

Imagine Life without Automobiles

Was Thought to be
Only for the Rich

Imagine Life without Air Transport

Early Trans-Atlantic
Flights \$80,000

Imagine Life without the Internet

Information,
Communication, in
Real Time

What will the Commercial Space Industry Deliver that will ultimately change all of our lives?

New Mexico Opportunity to Create a Better Future

Benefits of Space Exploration



Past

Health Benefits

- Medical Imaging / Cat Scan
- Dialysis Machines
- Water Purification
- Ear Thermometer
- Vision Screening

Technology

- Internet
- Television
- Global Positioning Systems
- Communication Satellites
- Automobile Design Tools
- Virtual Reality

Safety

- Sunglasses
- Smoke Detectors
- Weather Forecasting
- Forest Management
- Wind Monitoring

Miscellaneous

- Cordless Tools
- Fire Resistant Clothing
- Thermal Wear: Gloves, Boots
- Failsafe Flashlight
- Invisible Braces
- Advanced Plastics

The Future Benefits Envisioned are Even Greater....

Future

Space Solar Power Generation

Space Based Servers, etc.

Space Based Tracking Systems

**Enhanced Satellite Based Monitoring:
Agriculture, Ranching, National Security**

Advancements in Medicine

Environmental Breakthroughs

Space Transportation

National Security & Defense

Advancing Technology

Genesis of Spaceport America



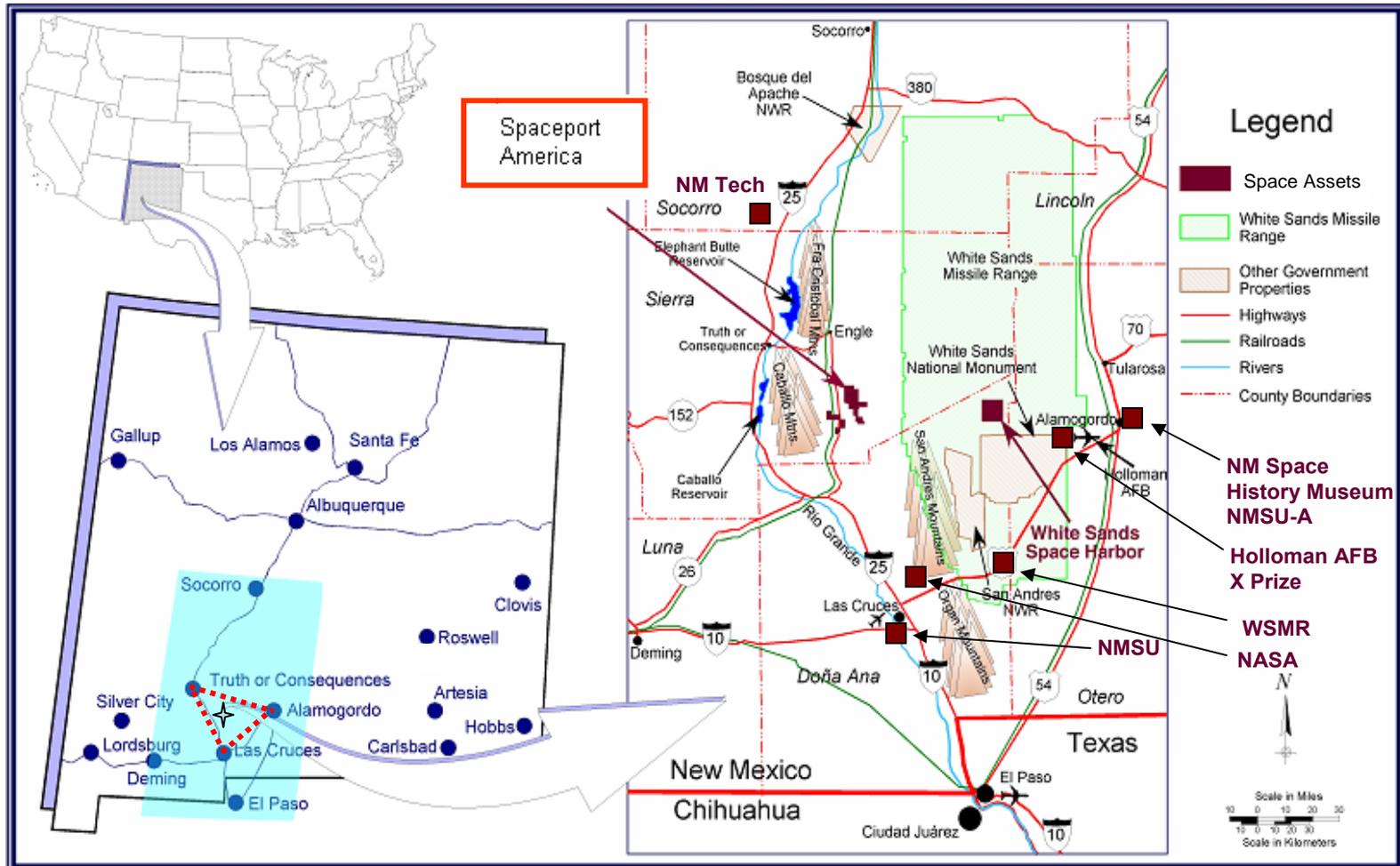
**Spaceport America's Purpose is to enable the
Emergence of a New Commercial Space Industry
and be a Catalyst
For Economic Development, Tourism, &
Education in New Mexico**



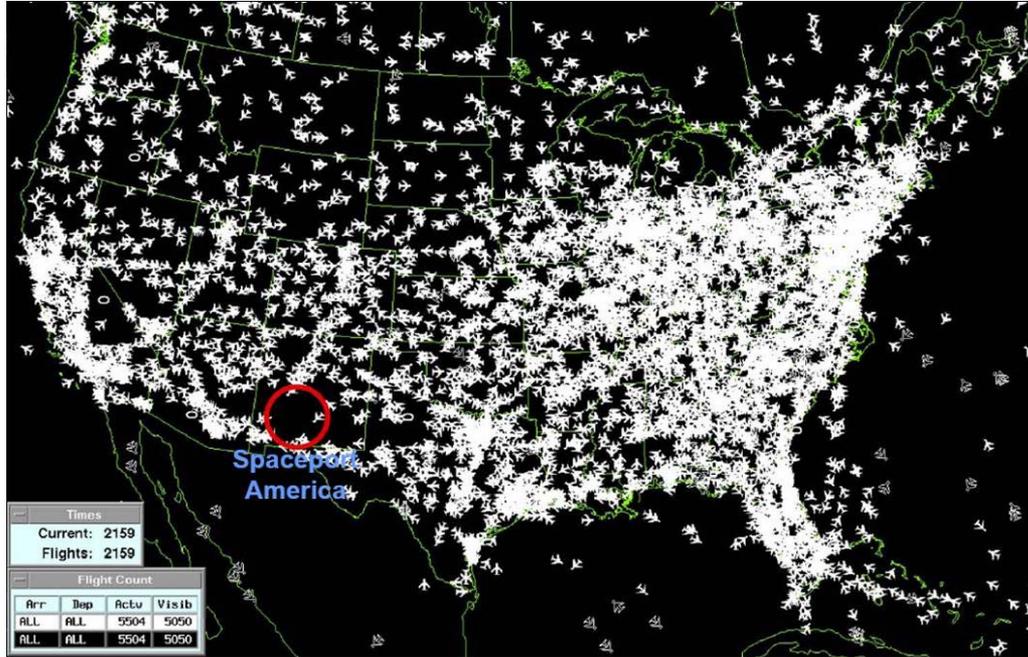
Spaceport America



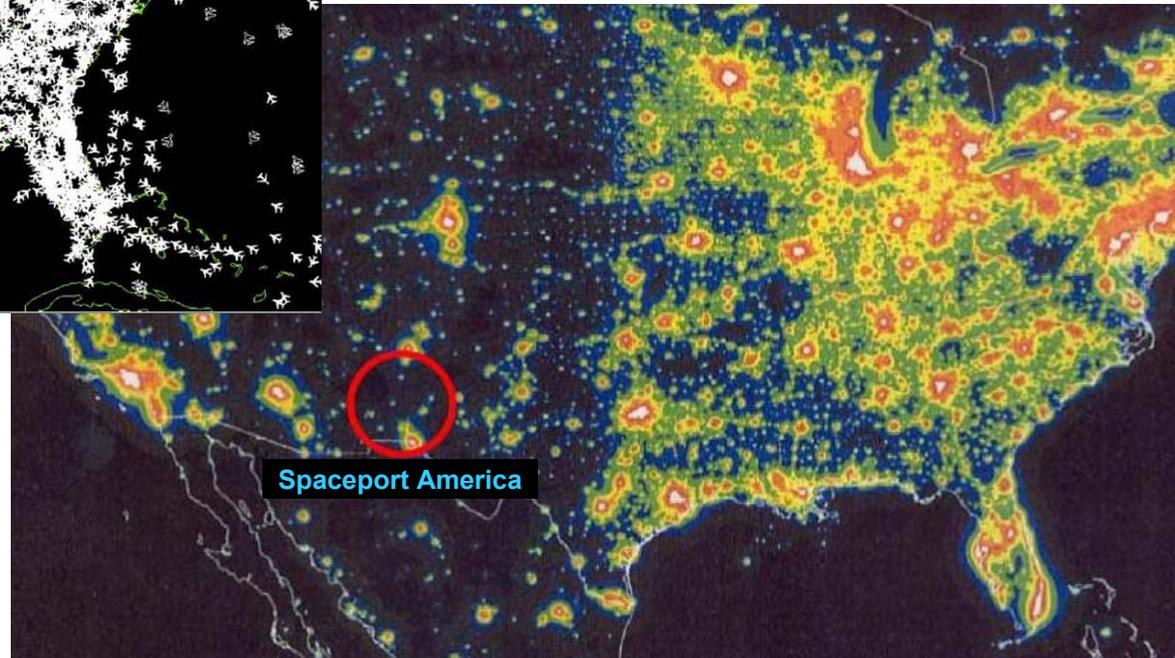
Located in southern New Mexico



Advantages of Spaceport Location



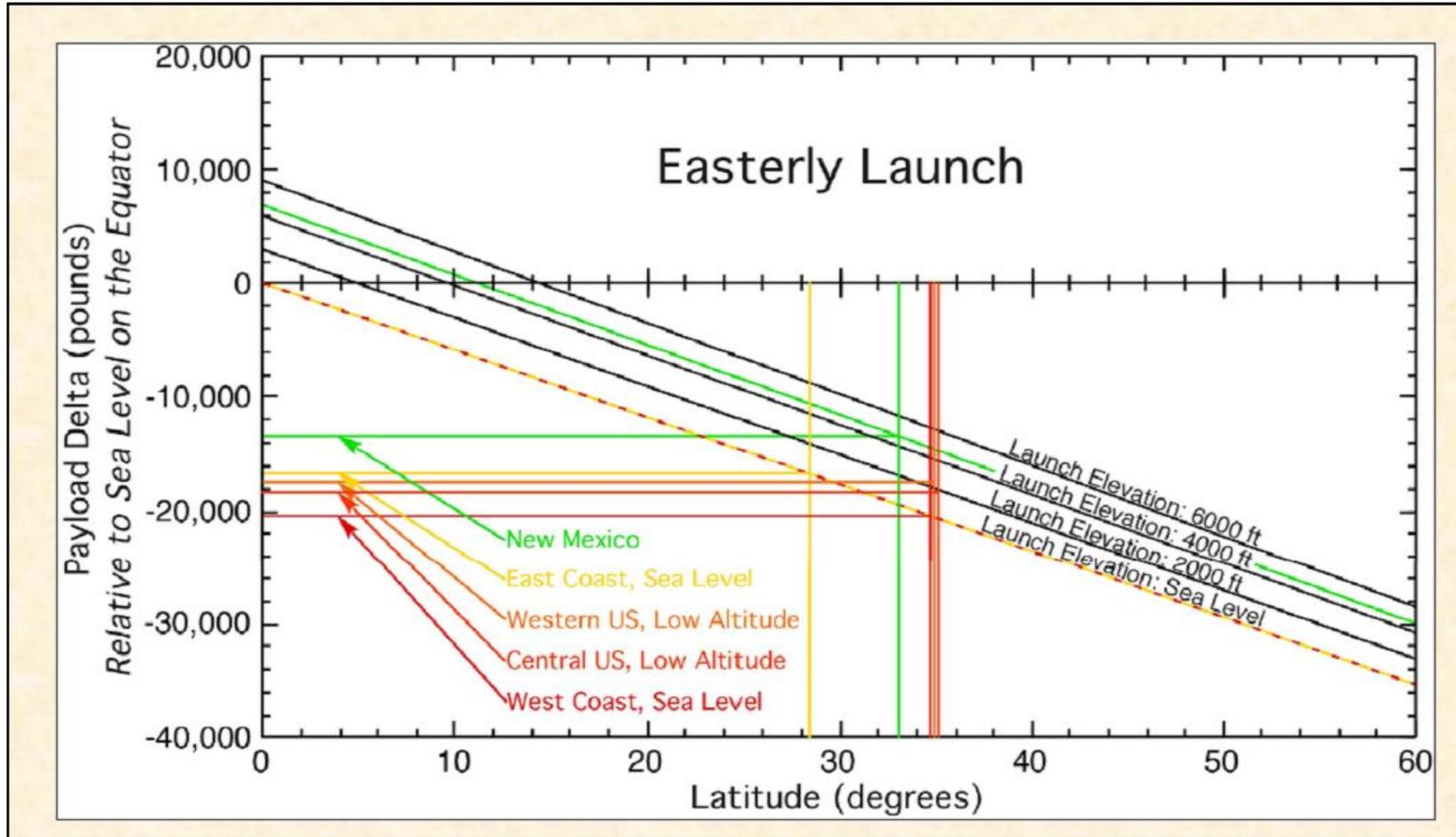
Low Population Density



Restricted Airspace

Ideal Conditions for Space Access

High Altitude Beneficial



Up to 6000 lbs More Payload

Spaceport America Elevation & Latitude Increase Payload Capability

NMSA Business Lines/Organization



Customer Milestones



➤ April 28 & Dec 19, 2007; Aug 12, 2008 – Spaceport America

- UP Aerospace Launches Commercial Rocket with Global Media Attention
- UP Aerospace Successful Launch of a Research & Development Mission
 - ❖ Lockheed Martin R&D



July 28 – Roll-Out of Aircraft

- White Knight Two and Space Ship Two Unveiled to the Public Jan 23, 2008; July 28, 2008 WKII Roll-Out at Mojave
- Designed with Flexible Architecture to Support Various Payloads
- Combined Investment of nearly \$500M
- Virgin Galactic Headquarters and Tenant Operations to be in New Mexico



➤ Customer MOUs:

- Lockheed Martin, UP Aerospace, Microgravity, Payload Specialties

Spaceport America National Support



National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001



April 22, 2008

The Honorable Bill Richardson
Governor of New Mexico
Santa Fe, NM 87501

Dear Governor Richardson:

It was a pleasure meeting with you earlier this month. I enjoyed hearing about the progress of New Mexico's Spaceport America and discussing the significant role that the United States commercial space industry plays in reaching broad national space goals.

The commercial space industry is vitally important to the National Aeronautics and Space Administration (NASA). As you know, we are seeking information from industry on our proposal to fly scientists and their research experiments on commercial suborbital spacecraft. As NASA moves toward realizing the Nation's goal of returning to the Moon and continuing the journey on to Mars and beyond, it is vital that we continue to benefit from a strong partnership with the private sector.

NASA supports a strong network of commercial facilities across the United States for both orbital and suborbital commercial launches. We believe that these new facilities will help to keep our Nation competitive in the growing global marketplace for space launch service and ensure America's position as a leader in space exploration.

I commend your efforts to strengthen New Mexico's position as a leading center for commercial space activities and wish you luck as you continue toward this goal.

Sincerely,

Michael D. Griffin
Administrator

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE AND TECHNOLOGY

SUITE 2320 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6301
(202) 225-6375
TTY: (202) 226-4410
<http://science.house.gov>

April 17, 2008

The Honorable Bill Richardson
Office of the Governor
490 Old Santa Fe Trail
Room 400
Santa Fe, NM 87501

Dear Governor Richardson:

I was pleased to have the opportunity to meet with you earlier this month to discuss the importance of encouraging a robust and vibrant commercial space sector in the United States, as well as the plans for New Mexico's commercial spaceport, Spaceport America.

We are in strong agreement that nurturing the growth of the U.S. commercial space industry will help promote innovation, stimulate our economy, ensure continued American preeminence in the utilization of space, and offer important potential benefits to the nation's civil and military space efforts.

In that regard, I was very impressed with your vision for New Mexico's commercial spaceport, Spaceport America, and the concrete steps you are taking to turn that vision into reality. I share your view that commercial spaceports like the one under development in New Mexico will provide significant new capabilities that can both foster the development of the commercial space sector as well as provide capabilities that can be used to support the government's space research objectives.

I want to commend you on your initiative and commitment to develop Spaceport America in New Mexico. It is an undertaking that offers tremendous potential benefits to the nation as a whole, and to the extent that I can be helpful and supportive of your efforts, I will continue to do so.

Sincerely,

BART GORDON
Chairman

Customer Progress



- **MOU with UP Aerospace:**

- 10 Year Agreement
- Education and Business Development
- Relocate Business to T or C from Colorado



- **MOU with Micro Gravity:**

- Agreement to Expand Business Development in Sierra Co.
- Supporting Education
- Space₂O and Antimatter Energy Drink in Bullocks Grocery in T or C



- **MOU with Lockheed Martin:**

- Research and Development
- Business Development



- **MOU with Payload Specialties:**

- Relocate to New Mexico from Missouri



Spaceport America is Preparing for Launch.... New Industry to NM

Additional Spaceport Customer Announced



- **Agreement between Armadillo Aerospace and Rocket Racing League to develop suborbital space tourism company**
- **Tickets expected to be \$100K or less**
- **Commercial flights expected in 2010**
- **Operations based out of Spaceport America**



NM Commercial Space Race Has Now Begun!

2008 Spaceport America Strategic Imperatives



1. Creation of a Spaceport District
 1. Successful Completion of EIS & ROD & FAA Site License
 1. Signed Lease with Virgin Galactic
 1. Construction Cost Maximum \$225M
 1. Finalize Design, Prepare Bid Packages, Initiate Contractor Selection
 1. Spaceport America Ground-Breaking Aligned with EIS/ROD & VG Schedule
 1. Organizational Development to Deliver on Objectives
- } Legislated Requirements

2008 is a Pivotal Year for Spaceport America ...

Objective Realization



Economic Development

- **Develop Atmosphere for Business Attraction**
 - Operators, Vehicle Developers, Research, Test, Value/Supply Chain, etc.
 - Value Proposition for Each Customer Segment
 - Leverage Existing Assets/Capabilities and Community Support

Tourism

- **Create a Global Tourism Destination**
 - Spaceport, Attractions, and Community Development
 - Community Engaged Development
 - Experience Based

Education

- **Establish Multi Dimensional Education**
 - Curriculum Development (NMSU – Pat Hynes Offer to Lead)
 - Educational Annual Launch (NMSA - Space Foundation – KAFB – Microgravity – UP)
 - Educational Launches with Super Loki (WSMR, Holloman, NMSU, NMSA)
 - Spaceport America Academy (Space Museum Lead)
 - Misc. Events: X Prize Like Events, Space Museum, etc...

Spaceport America can Deliver with the Right Business Model

Spaceport America Schedule



- Ranch Mitigation Proposal **Signed**
- Virgin Development Agreement **Final Review**
- Sierra Electric Coop. Contract **Final Review**
- Temporary Road to Spaceport **Construction**
- Construction Packages Bid **Oct/Nov, 2008**
- Virgin Lease Signing **Oct/Nov, 2008**
- Otero County GRT Vote **Nov, 2008**
- Terminal/Hangar Design completion **Dec, 2008**
- EIS ROD & Site License **Dec, 2008**
- On-Site Construction **Early 2009**
- Lic. Vertical Operations begin **Early 2009**
- Horizontal Operations begin **Late 2010**

Concept → Design → **Procurement** → Construction → Operation

Project Status Update



1. Gross Receipt Tax Initiatives

- Dona Ana: Passed April 2007
- Sierra: Passed April 22, 2008: 66% Favorable, >40% Turnout
- Otero: Target November 4th

2. Environmental Impact Study / ROD / License

- Draft EIS Released 3/24/08, Public Comment 7/3/08
- FAA Target ROD 12/31/08
- License Application Accepted by FAA July 2008

• Virgin Galactic

- Development Agreement Final Comments Received from VG
- Lease Negotiations in Process 7/31/08, Commercial Terms & Formulas to be Developed; Hawthorne Team Assisting
- White Knight II July 28, 2008 Roll-Out

• AO13 DOT Roads & Bridges (Temporary Designation)

- Bids Opened Aug 1, 2008; Reiman \$6.84M
- Desired Completion Prior to 12/31/08, No Later Than Feb 2009

1. Sierra Electric Agreement

1. Board of Finance/ DFA Comments being Addressed
2. MOU on Renewable Energy Signed

1. DMJM Infrastructure

- 95% Complete; Gap Betw Completion & Construction
- Bid Packages Oct/Nov 2008
- Construction Cost Escalation: Design to Cost

2. URS/Fosters Terminal and Hangar Facility

- Programming & Conceptual Design Complete
- Aggressive Schedule
- Construction Cost & Escalation at \$33M

3. Southern Road

- Corridor Study On Hold... Pending Strategy Development
- Route Selection Alignment with Welcome Center
- Funding Gap & Construction Cost Escalation

4. Welcome/Visitor Centers

- Strategy Developing
- Hatch: Engaged, Seeking Grant Money
- Sierra County NMSU Study Complete

5. Vertical Launch

1. UP Aerospace MOU, Additional Launches in 2008
2. Lockheed Martin, Micro Gravity MOUs, Payload Specialties
3. Educational Launches, Super Loki w/ WSMR/Holloman AFB
4. No Funding for Vertical Launch Area

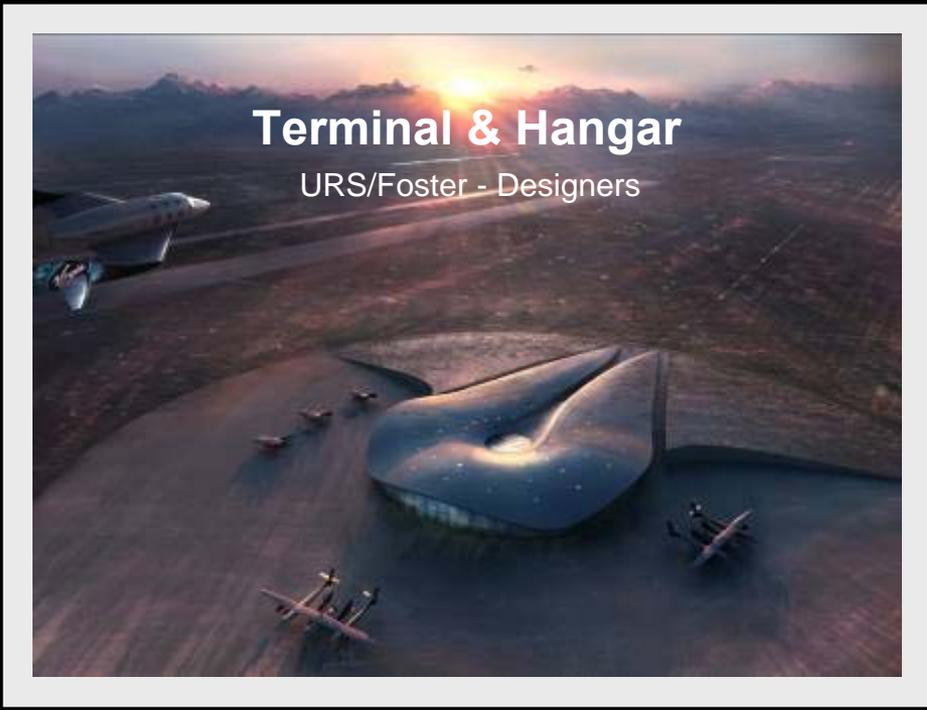
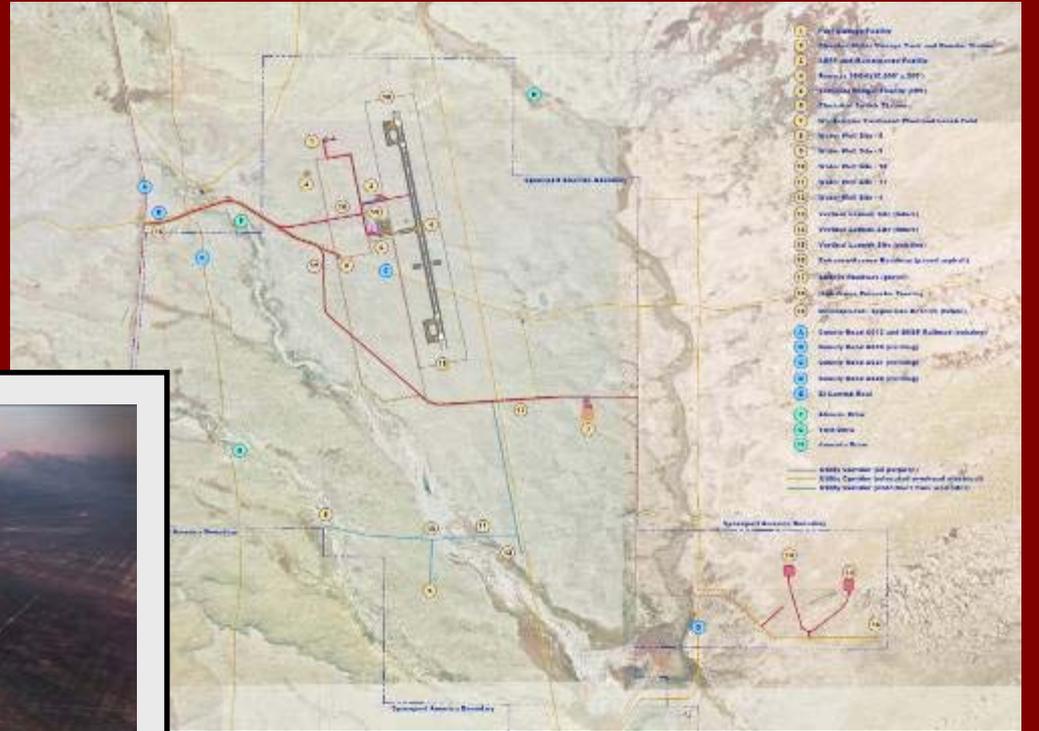
Construction Cost Escalation & Funding Gap Challenging Project

Site Layout / Design Status



Site Infrastructure

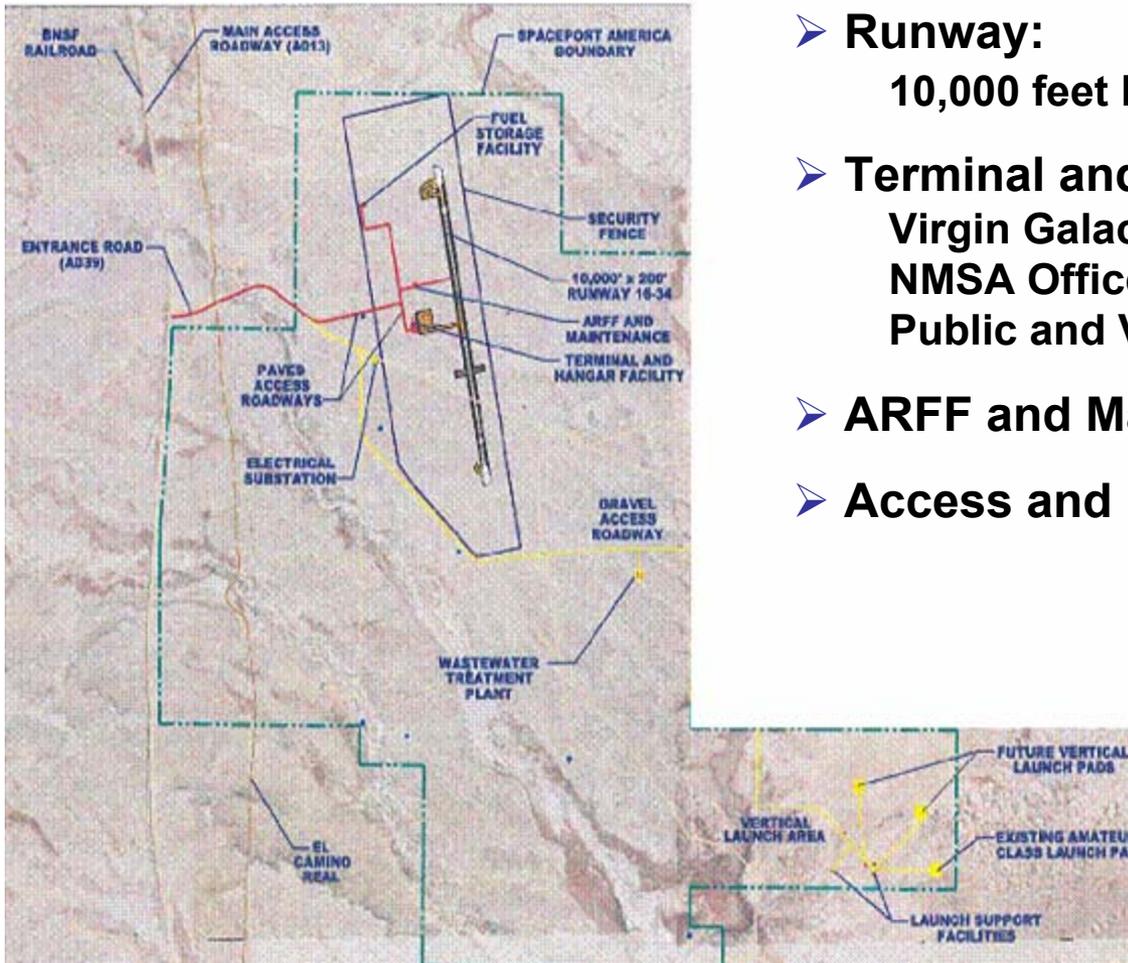
DMJM Aviation
Molzen-Corbin / Dekker/Perich/Sabatini



Design Status

- Site Layout – 100% complete
- Water, Power, Roads – 100% complete
- Airfield – 100% complete
- Terminal – 20% complete

Operational Site Plan



- **Runway:**
10,000 feet long - - - - 200 feet wide
- **Terminal and Hangar: ~100K Sq. Ft.**
Virgin Galactic Operations
NMSA Offices
Public and Visitor Experiences
- **ARFF and Maintenance Building**
- **Access and Internal Roads**
 - **Underground Utilities**
Water
Wastewater
Electrical Power
Communication
 - **Vertical Launch Area**

NMSA RFP Summary



Estimated RFP Values Given Below Include Base Construction Costs, Project Contingencies, Escalation Costs, and NMGR T. RFP Release Timeframes Are Targeted For Q4 2008 / Q1 2009 for Utility / Infrastructure Works, and Q1 2009 for ARFF and THF Structures. Project Construction Activities Are Scheduled to Begin Q1 2009. Construction Will Complete With Facility Operationally Ready By Mid-2010.

Bid Package Work Scopes		Approx. \$ Value			Approx. \$ Value
BP1	Airfield 10,000 ft x 200 ft asphalt runway Runway-end turn arounds for aircraft Aircraft Service Apron Surrounding THF	\$ 42,000,000	BP5	Fuel Storage Area Access Roadways Site Grading for current and future fuel storage facilities Jet A Fuel storage tank and pumping facility Diesel fuel storage tank and pumping facility Gasoline storage tank and pumping facility Startup, Checkout, and Commissioning	\$ 1,000,000
BP2	Internal Roadways 6 miles paved asphalt roadways 7 miles unpaved site roadways Temporary construction access roadways Structure at Aleman Draw crossing along the Entrance Road Site Enabling Works	\$ 7,000,000	BP6	ARFF Site and foundation work Building structure and roofing External enclosure systems, including walls, doors, glazing Interior Finish out for offices, common areas, equipment bays, etc. Mechanical and electrical systems, including geothermal well systems Interior fire protection, alarm, and comm system equipment and wiring Startup, Checkout, and Commissioning	\$ 3,500,000
BP3	Water Distribution System Well field development (four wells - 100 gpm total) 1,300,000 gal Storage tank Domestic and Hi-Service distribution pumps Water chlorinization system Pump house / drainage pond Distribution piping system for domestic and fire uses System Controls Startup, Checkout, and Commissioning	\$ 7,500,000	BP7	ARFF Vehicles / Equipment ARFF Fire Fighting Truck ARFF Chemical Skid	\$ 1,000,000
	WasteWater Treatment System Waste Treatment Plant 50,000 gal Equalization Tank for waste Leach Field (overflow system) Waste piping distribution system System Controls Startup, Checkout, and Commissioning	\$ 5,000,000	BP8	THF Site and foundation work Building structure and roofing External enclosure systems, including walls, doors, glazing Interior Finish out for offices, common areas, equipment bays, etc. Mechanical and electrical systems, including geothermal systems Interior fire protection, alarm, and comm system equipment and wiring Startup, Checkout, and Commissioning	\$ 30,000,000
	Onsite Electrical Distribution Onsite Switching Substation (25kV - Distribution Voltage) Switching and Distribution Equipment 25kv / Voltage Distribution Switchgear / Transformers at Use Points Controls Systems Site Lighting Startup, Checkout, and Commissioning	\$ 11,000,000	BP9	Systems Integration Local area Network Voice Systems Front End Equipment Data Systems Front End Equipment Wireless Radio Systems and Antennas Public Address Systems Front End Equipment Fire Detection and Alarm Systems NMSA Operations / Missions Control Display Systems / Consoles Startup, Checkout, and Commissioning CCTV Security System Supervisory Control and Data Acquisition (SCADA)	\$ 6,000,000
	Communications System Backbone Concrete Ductbank and Conduit for Service Provider Pathway to THF Direct-buried fiber optic cable from THF to ARFF Startup, Checkout, and Commissioning	\$ 1,500,000	TOTAL	Total Estimated Project RFP Value	\$ 116,500,000
BP4	Fencing Site Security chainlink fencing around airfield / ARFF / THF Facilities Game fencing around airfield to prevent animal encroachment Cattle fencing along roadways and around remote facilities	\$ 1,000,000			

NMSA / Third Party RFP Summary



- **NMSA Construction Management**

- Construction and Project Management Services for all Onsite NMSA RFP Work
- RFP September 2008; Bids Due Oct. 15th

- **NMDOT**

- Awarded: AO13 Temporary Road Improvements
 - Bids Opened August 1 – Reiman Construction \$6.8 million
 - Project Start September 2008, Project Completion December 2008 but No Later Than Feb 2009
- Awarded: Corridor Study, South Access Road
 - October 2007 – Molzen Corbin
 - Project Start February 2008, Project Completion Q4 2009 (On-Hold)
- South Access Road
 - Preferred route and design subject to completion of Corridor Study
 - Target RFP Q4 2010, RFP Value in excess of \$35 million

- **NM DoIT**

- Fiber Optic Service to Site; Provider, Route, Distances, Equipment tbd
- Target RFP Q2-Q3 2009; RFP Value Unknown

- **Sierra Electric Cooperative**

- 115kv Transmission Line and Substation
 - 6 miles aerial, 1 mile underground
 - 5kva substation, expandable to 10kva
 - Expected RFP Value - \$5-6 million
 - Substation Components – Tentative RFP Q1-Q2 2009
 - Construction / Installation – Tentative RFP Q2-Q3 2009

\$198M Project Funding Summary



➤ \$140 million State

- \$100 million with conditions, appropriated ✓
- \$15 million unrestricted, appropriated ✓
- \$10 million in FY 2008 appropriated to DOT for roads ✓
- \$7.5 million in FY 2009 appropriated for infrastructure ✓
- **\$7.5** million remaining for FY 2010 Legislature consideration

➤ \$58 million Local

County	<u>3-yr Avg GRT Rev Annual</u>	<u>Tax %</u>	<u>Available</u>	<u>75%</u>	<u>25%</u>	<u>Estimated \$ for Construction</u>
Doña Ana	\$2.7 billion	1/4	\$6.5 million	\$4.9 million	\$1.6 million	\$49 million ✓
Otero	\$725 million	1/8	\$878k	\$659k	\$219k	\$6.6 million
Sierra	\$125 million	1/4	\$308k	\$232k	\$77k	\$2.4 million ✓
						\$58 million

Majority of Funding In-Place ...

Otero County Status



- **County Commission Approves GRT Vote**

- November 4th General Election Ballot
- Early Voting October 7th

August 21
County Commission Meeting

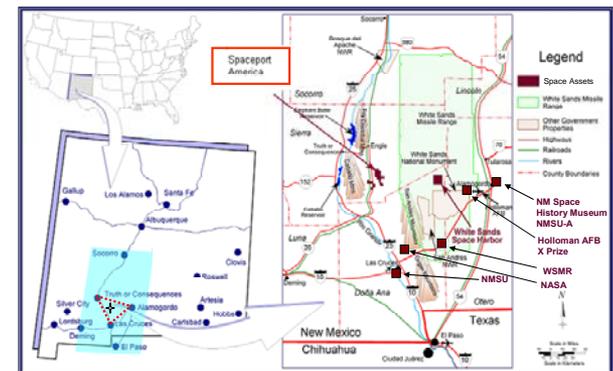
- **People for Aerospace Otero County Formed**

- PeopleForAerospace.com
- Excellent Information Source



- **Otero County Key to Spaceport America**

- Historical Roots in Space Leadership
- Core Space Assets & Capabilities
- Educational Leadership



Otero County in Position to be the Keystone for Commercial Space in NM

Fundraising Overview



- **Non-Profit Entities – Augment State/Gov’t. Funding**
 - 501(c)3 Educational Foundation
 - STEM Education, Outreach, Infrastructure Fundraising Activities, Charitable Events
 - 501(c)6 NM Space Industry Organization
 - Technology Base Development - Make NM more attractive to Space Business
- **Public/Private Partnerships**
 - SBIRs, Joint Ventures, Business to NM
- **Earned Income Strategies**
 - Website Donations, In-Kind Gifts, Special Events
 - Spaceport Merchandise Online Store
- **Grant Writing Activities**
 - Private, Federal, State, Corporate Sources
- **Capital Campaign Concepts**
 - Roads, Fencing, Naming Opportunities, etc.
- **Volunteer Program**
 - Aid in Organizational Development
 - Links to Institutions, Donors



Fundraising/Volunteers Enable Business Success

NM Space Week / X Prize 2008: Event Plan



- **Global Spaceport Federation Meeting - Oct. 21**
- **ISPCS Space Symposium - Oct. 22-23**
- **Lunar Lander Challenge - Oct. 24-25 @ Las Cruces***
 - 10 Registered Teams, 18 Vehicles, 2 Team Summits
 - Use of DACC Film Students in Media Production
 - Event Highlights Broadcast Online
- **Education Days - Oct. 22-24th @ Space Museum***
 - X Prize Video Feed in IMAX Theater
 - Speakers, Exhibits, Starlabs, Model Rockets etc.
for >1000 NM Children Per Day
- **Space Day - Oct. 25th @ Space Museum***
 - Public Event
 - Music, Performers, Local Restaurants, Exhibitors, etc.
- **Educational Launch - Late April 2009**



Work within Budget; Position as NMSA Event in Future

Educational Programs



- **Spaceport America Educational Launch Initiative***
 - High School, Community College, University Competitions
 - Design, Build, & Fly Payloads on Annual Launches - Beginning April 2009
 - Teacher Professional Development Program
 - Start with Doña Ana, Sierra, Otero ⇒ Expand to **All 89 School Districts** w/in 5 yrs
 - FY10 Recurring Request (Developing Team: NMSU/UNM/Tech, UP Aero, KAFB, WSMR, HAFB, MEI)
- **Developing Program with Super Loki Rockets***
 - WSMR Offer to Provide 200+ Rockets
 - Deliver Frequent, Inexpensive Edu. Launches
 - Potential Link to HAFB Student Program
- **Spaceport America / X Prize Education Days**
 - Edu. Activities at NM Space History Museum
 - Statewide, 2000+ kids



Education is Key to Workforce Development



NEW MEXICO

Creating the Future of Space

