# **NM** Spaceport Authority

# **Status Brief to Legislative Finance Committee**

Taos | September 23, 2022 Scott McLaughlin, Executive Director



### **SPACEPORTAMERICA**

THE SPACE TO BE...

# **O**UTLINE





# RECENT ACTIVITY



# REVIEW OF SPACEPORT FACILITIES AND OPERATIONS



#### **Horizontal Launch Area (HLA)**

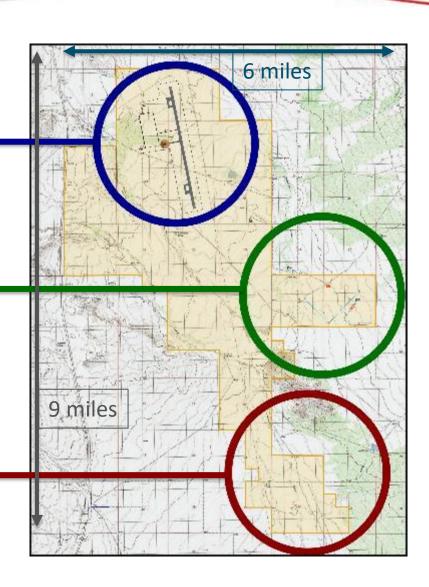
- 12,000-ft long, 200-ft wide runway
- Horizontal and air launch operations
- Space tourism
- Conventional aircraft operations
- Unmanned aircraft operations
- High-altitude balloon operations

#### **Vertical Launch Area (VLA)**

- Suborbital space research
- Launch vehicles R&D
- Solid, liquid, and hybrid propellant support
- Rocket motors manufacturing and testing
- Commercial and academic customer support
- Launch from SA, land on WSMR

#### **Advanced Technology Area (ATA)**

- Emerging technologies, R&D
- Isolated environment



### RECENT ACTIVITY (Last ~18 Months)

- USAF Thunderbirds winter training
- Space flights by **Virgin Galactic**, with ops starting 2023
- Continued operations by **SpinLaunch** (recently funded)
- New High Altitude Pseudo-Satellite (HAPS) test site
- Continuation of AeroVironment activities including testing/training of Jump 20 and TUAS UAV systems
- Spaceport America Cup held
- Continued development of several New Prospects for permanent presence and aerospace events
- Venue Events on runway (non-aerospace)
- STEM and Workforce Development activities
- Scheduled liquid rocket engine testing
- NMSU MARTE grant project (regolith technologies)
- Preparing for VLA launches (one solid and one liquid)
- Infrastructure Development including roads, power, fiber, water, hangar fire suppression, SOC repairs, and other approved projects
- Contracted Project Management services (2 engineers) for capital improvements and infrastructure projects
- RFP for Spaceport Master Plan (underway)
- Visit <a href="https://www.youtube.com/spaceportamerica">https://www.youtube.com/spaceportamerica</a> for updates and review of activities











### SPACE VALLEY COALITION



Space Valley Center



- Iconic destination, heart of downtown ABO
- Tenancy for all coalition members, fast-growing startups, anchors
- 750-capacity auditorium
- Built to make private & government collaboration easy

Vertical
Launch Area
@ Spaceport
America



- Expanded vertical launch area at Spaceport America
- Offices for Spaceport America and its companies @ Space Valley Center.

Space Workforce of the Future





- Immersive bootcamps for highdemand software & hardware engineering skills
- Customized training for key employer partners
- Accelerated placement of learners via NewSpace NM

Co-located @ Space Valley Center with other higher ed partner programs. Unite & Ignite Expansion



- Incubator to help companies elevate TRL, accelerate growth, gain high-value access to equipment, prototyping, and demonstration
- K-12+ programming to accelerate diversity and inclusion for company internships, apprenticeships, and jobs

Co-located @ Space Valley Center

Q Station Expansion



CNM Ingenuity, Inc.

Venture

Studio &

Fund

- Soft Landing program for nat'l & int'l startups to locate in NM
- Coworking for space tech talent and companies to meet, collide, and work
- Software Factory to develop talent, provide lower-cost services, and accelerate placement

Co-located @ Space Valley Center

- Venture Studio to build space 2+ tech startups from idea to Seed and Series A annually
- Venture Fund (\$25m) to deploy capital to Studio companies, and join seed rounds.

Co-located @ Space Valley Center

- Formed in response to EDA BBB grant (did not win)... but coalition will expand and keep going
- Planned for National Science Foundation (NSF) Regional Engines grant
- Visit: https://spacevalley.org/

# SPACEPORT AMERICA CUP 2022



- Premier event hosted by Spaceport America since 2017
- •2020 cancelled, 2021 successfully held virtually
- •2022 was the largest Cup to date with 4 local teams competing



### SA CUP BY THE NUMBERS





- 5,500 participating overall
- 1,300+ students in NM
- 200+ teams signed up, 151 selected, 89 made it to NM
- 20 countries
- 4 regional schools
- 100+ volunteers (from around the country)
- 90 flights
- 8.9 million media impressions
- \$700k earned media
- 100k views on live stream
- \$1.2 million local economic impact
- Visit: <u>https://www.youtube.com/c/ExperimentalSoundingRocketAssociation</u> for 4 days of livestream
- Next year: week of June 19, 2023

## **CHILE CUP WINNER: NMSU ATOMIC AGGIES**





- NMSU Atomic Aggies

   https://www.facebook.com/NMS
   UAtomicAggies
   https://tinyurl.com/2pmjbjyd
- NM Tech
   https://tinyurl.com/2j56usbb
- UNM Lobos https://lobolaunch.unm.edu/
- UTEP
   https://tinyurl.com/2hvtbjr8
   https://tinyurl.com/2zabn42a
  - Outreach to other NM schools is ongoing
    - See: <a href="https://tinyurl.com/2nnfobwe">https://tinyurl.com/2nnfobwe</a>

# STEM AND OUTREACH



- Leading GSA Academic Partnership Working Group - ISS data collection program running in LCPS
- Assisted in bringing Teachers in Space Workshop to NM late June
- Supported Girls in Aviation event during SA Cup
- NMSA Outreach efforts recognized by state Delta Kappa Gamma group
- **STEM Visits** to local schools
- Student site visits to SA and partnership with tenants
- Supported the Tuskegee
   Airmen Space Camp rocket
   launches
- Creating new STEM SA activity teaching coloring book
- Working on updating Visitor
   Experience and merchandise
   (partnership with DCA)





# NMSA BUDGET



## NMSA BUDGET BACKGROUND



- Customer operations continue to increase each year, requiring additional services
- Current NMSA budget is about \$10.8 M per year. Customer revenue provides around \$6 million
- NMSA operating expenses contain fixed costs that cannot be cut (facilities maintenance and 24/7 site operations) – these include services that the SoNM is contractually obligated to provide for customers
- Increased economic activity is returning monies the region and State of NM



# NMSA BUDGET (THOUSANDS)

Item	FY21 Actual	FY22 <sup>2</sup> Actual	FY23 Budgeted	FY24 Request	Notes
Customer Revenue	5,603	7,525	6,924 <sup>3</sup>	7,328	Leases, user fees, utilities, fuel, services
General Fund	1,917	2,091	3,878	3,878	
Expansion				220	
Revenue Total	7,520	9,616	10,802	11,426	
200 Personal Services	2,120	1,720	2,759 <sup>4</sup>	3,387 <sup>5</sup>	
300 Contract Services	4.550 <sup>1</sup>	4,627	5,638	5,655	
400 Other Costs	1,968	2,299	2,405	2,384	
<b>Expenses Total</b>	8,638	8,646	10,802	11,426	
	1,750 <sup>1</sup>	1,000			FY22: Supplemental
Net Result	632	1,970			

#### **Notes**

- 1) Partial contractual expenses (in the amount of \$1.75 million) were transferred to Capital Projects Fund, as directed by Legislature.
- 2) Ended June 30, 2022. Numbers are unaudited and subject to change for FY closeout.
- 3) Original budgeted as submitted September 2021.
- 4) Allows for 23 FTE's (approved for 28).
- 5) Working to get to 28 FTEs.



# SITE OPERATIONS AND MAINTENANCE

- **Electrical** 
  - Poles
  - Lines
  - Transformers
  - ■PMHs
  - Buried lines
  - Generators
  - Lights
  - ■Solar cells
  - Switches
- **Water System** 
  - Wells
  - ■Pumps
  - ■Tank
  - ■Treatment plant
  - Holding tanks
  - Fire hydrants
  - ■Stormwater drains
- Runway
  - Surface
  - ■Paint
  - Apron
  - Caulking
  - Joints
  - ■Signage
  - ■FOD boss

- SOC
  - HVACs
  - Plumbing
  - •Electricity
  - Flooring
  - ■Walls Ceiling
  - ■Roof
  - Windows
  - Elevator
  - ■Fire protection system
- **VLA** 
  - Buildings
  - Roads
  - Fences
- **GTS**
- HVACs
- •Plumbing
- Electricity
- Flooring
- Walls
- Ceiling
- Roof
- Windows
- ■Water system
- ■Fire alert system

- ■Fire protec. svs.
- Elevators
- Stairs and railings
- Skylights
- Hangar doors
- Outer walls
- Bulwarks Lighting
- **IT Equipment**
- Servers
- Routers
- Firewalls Printers
- Storage
- ■Wi-Fi Equipment
- ■Remote sites equip.
- ■Fiber infrastruc.
- Computers
- ■Cell & desk phones
- ■Telecom equip.
- Security Equip.
- Cameras
- Recording equipment
- ■Vehcl gates/stops ■Personnel gates

- ■Badge readers
- Safety Equip.
- ■Fire extinguishers
- ■PPE
- AEDs
- AWOS

#### **Fuel Farm**

- ■Fuel farm
- Fuel trucks
- Certifications Fabric Hangar 1
- Clamshell door
- HVAC
- ■Fire protection system

#### Grounds

- Mowing
- Weeding
- Fences
- ■Walkways
- ■Parking Lots
- Sidewalks

#### Roads

- Surface
- Edges
- Drains Striping

#### **Equipment**

- ■UTV 1
- ■UTV 2
- ■UTV 3
- ■Light towers
- Generators
- Manlift
- Tractor 1
- ■Road grader
- ■Dump truck
- ■Sweeper truck
- Ambulance and its equipment
- ■ARFF truck and its equipment
- ■Brush Truck and its equipment
- ■Firetruck and its equipment
- Manlift

#### General

- Trash bins/removal
- ■Storage containers
- ■Signage



### **ECONOMIC IMPACT**

- Total "new money" jobs due to the spaceport (direct, indirect, and induced) is estimated at 500+ with estimated payroll at over \$34 million.
- Tenant-paid construction is estimated at about \$10 million a year
- Customer salaries, construction, and services all add to collected GRT and state collected income taxes
- Spaceport customers fill hotel rooms, add per diem, and spend other money in the local area throughout the year
- This economic activity is estimated to return to the state close to \$3 million via income tax and GRT
- As Virgin Galactic increases operations, there will be substantial additional employment, with concurrent increase in tourism
- NMSA is continuing to attract new long-term tenants and short-term customers
- The spaceport and its brand are helping sell all of New Mexico as an entrepreneurial destination for the "new space" economy

# INFRASTRUCTURE DEVELOPMENT



### CAPITAL OUTLAY



- In progress items include (\$34 million):
  - Spaceport Operations Center (SOC) Repairs (\$1.2M)
  - Fabric Hangar Improvements (fire alarm, fire suppression, and HVAC) (\$800k)
  - Spaceport Technology and Reception Center (STARC) (\$10M)
  - VLA Rocket Launch Rail (\$1.8M)
  - Vertical Launch Area Improvements (\$5M); Roads, electricity, water, restrooms, rentable buildings, and concrete pads
  - Cell phone tower and supporting fiber optic extension
  - General Purpose Hangar(s) (\$2M)
  - Master Plan (\$1M)
  - Taxiway (\$20M total, \$2M funded)
  - Infrastructure upgrades (\$7.5 total, \$1.5M funded)
  - Viewing Lot and improved viewing access of VG replica
  - T or C Tour Depot upgrades
  - NM Statewide Pricing Agreement contractors are being utilized to access project management services to increase development and implementation speed.

# INFRASTRUCTURE IMPROVEMENT EXAMPLES



















# **ICIP TOP 3 REQUEST**



# 1. Spaceway Taxiway - 2023 / 2028

Full-length taxiway, runway upgrades, drainage, aprons, aircraft parking areas. (Funded at \$2 million, total project cost estimated at \$20 million)

# 2. General Infrastructure - 2025 / 2028

Improvements and expansion, includes internal roads, parking, utilities (power, water, waste management, telecommunications, internet). (Funded at \$1.5 million, with additional \$1.5M per year)

# 3. Warehouses / Light-Duty Shops – 2025

Facilities to support customers' needs and be made available under short- and long-term lease arrangements. (Not currently funded, total project cost about \$5 million)

# **O**UTLOOK





# GROWTH STRATEGY - NEXT FIVE YEARS

- Continue to work with Virgin Galactic to maximize economic impact of regular space tourism flights and space operations
  - As Virgin Galactic moves toward additional carrier aircraft and several spaceships, the region will see significant and consistent positive economic benefits
- Continue to enable other customer successes
  - SpinLaunch, AeroVironment, UP Aerospace, etc.
- Focus on appropriate markets and find new tenants that increase local private sector jobs, and help enable the entire NM aerospace ecosystem
  - Continually update business development targets and operational plans as the commercial space marketplace continues to grow
- Acquire FAA reentry license and work toward attracting viable partners
  - Suborbital point-to-point and orbital re-entry programs are upcoming markets and will be carefully and objectively considered, dimensioned, and cultivated
- Watch new technologies...
  - Continue watching for other emerging markets, technologies, and requirements. Adjust our operational capabilities to meet them (e.g., master plan results)

Spaceport America is competitive, and well positioned for the growing commercial space and aerospace market.



# Working on FAA REENTRY LICENSE

# SPACENEWS.

f Facebook

in LinkedIn

Sierra Space signs agreement for Dream Chaser landings at Spaceport America

by Jeff Foust — June 21, 2022





# Sierra Space teams with New Mexico's Spaceport America

Dennis Huspeni dennis huspeni@gazette.com Jun 23, 2022 Updated Aug 3, 2022





# THANK YOU FOR THE OPPORTUNITY TO TALK ABOUT SPACEPORT AMERICA



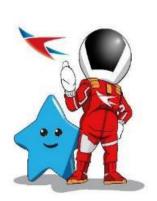
# Questions?





Visit to SA by C-17 Transport

- URL: <u>www.spaceportamerica.com</u>
- EMAIL: <u>SCOTT.MCLAUGHLIN@SPACEPORTAMERICA.COM</u>
- Main Phone: (575) 267-8500
- GOOGLE EARTH LINK TO SITE: <a href="https://tinyurl.com/y4grkvca">https://tinyurl.com/y4grkvca</a>



THE SPACE TO BE...

# EXTRA SLIDES



### NMSA STATUTORY MISSION



# The New Mexico Spaceport Authority shall:

- Encourage and foster development of the state and its cities and counties by developing spaceport facilities in New Mexico;
- B. Actively promote and assist public and private sector infrastructure development to attract new industries and businesses, thereby creating new job opportunities in the state;
- C. Create the statutory framework that will enable the state to **design**, **finance**, **construct**, **equip and operate spaceport facilities** necessary to ensure the timely, planned and efficient development of a southwest regional spaceport; and
- D. Promote educational involvement in spaceport activities and education and training of the workforce to develop the skills needed for spaceport operations.

From the New Mexico Spaceport Development Act, 2005