

70 YEARS OF CREATING TOMORROW



Los Alamos
NATIONAL LABORATORY

Community Program Overview

Prepared for

Radioactive and Hazardous Materials Committee
Science, Technology and Telecommunications Committee

UNCLASSIFIED





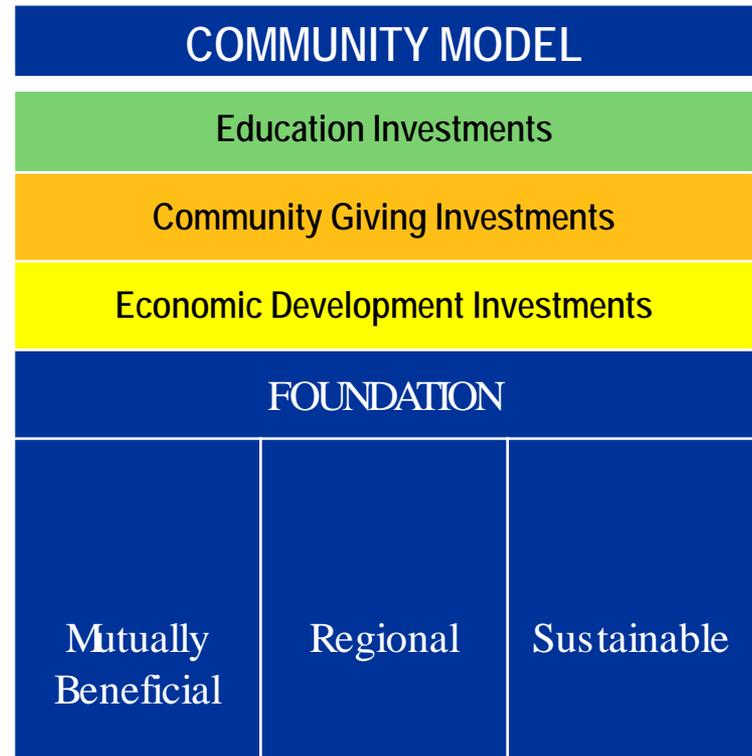
Our Community Vision: (1) World-class Education, (2) High Quality of Life, and a (3) Thriving Economy

Community Commitment Plan

- \$3M annually
- Leveraged \$123M additional funding
- Clear goals, accountability, and metrics
- Over 1.2 million volunteer hours

Focus areas

- Science, Technology, Engineering and Mathematics (STEM) education; workforce development in college and university programs
- Partnering with United Way and non-profit organizations
- “Los Alamos Connect” to create jobs and stimulate business growth





We Measure Outcomes Based Upon Key Strategies

Education – Building the workforce for LANL and regional companies

- **Strategy** – Strengthen the pipeline to employment, help students become science literate
- **Key** – Implement proven strategies that “transform northern New Mexico from a region that loses talent to one that attracts and retains talent”
- **Metrics** – Science, Technology, Engineering, and Mathematics (STEM) achievement, college enrollment, degrees earned, students hired

Community Giving – Improving quality of life in northern New Mexico

- **Strategy** – Support employee involvement in the community as a LANL core value
- **Key** – Incentivize employee participation
- **Metrics** – Volunteer hours and impacts, dollars leveraged, participation

Economic Development – Generating revenue and growing businesses

- **Strategy** – Support entrepreneurs to start businesses, further develop local companies
- **Key** – Establish a self-renewing investment fund based upon company success
- **Metrics** – Jobs created/retained, salaries, leveraged investments, company revenue, stakeholder engagement



Our Partnerships are Essential

- **Education**
 - Leveraged grants for northern New Mexico colleges - \$37.6M since 2006
 - Pre-college math and science education partnerships, including the LANL Foundation - \$16M since 2006

- **Community Giving**
 - LANS investments reached 162 nonprofit organizations in 2006 and grew to 531 in 2012 through United Way and VolunteerMatch
 - Partnered with regional organizations on the School Supply Drive, LANL Laces Shoe Program; holiday gifts, food donations, and Wreaths Across America campaigns

- **Economic Development**
 - Improving internet access across northern New Mexico - LANS investment of \$170k helped lead to grants totaling \$76.2M for broadband infrastructure
 - LANL Major Subcontractors contributions 2009-2012
 - \$1.5M in cash
 - \$1M+ in-kind
 - \$13M subcontracting
 - 11,447 volunteer hours

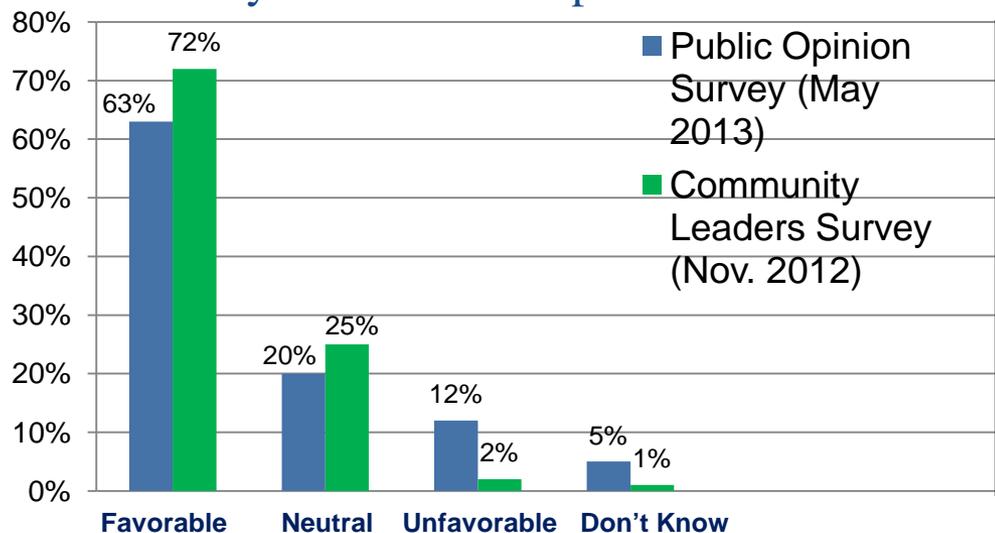


The Return on Investment is Significant

Results

- Initiated programs resulting in student achievement gains in science ranging from 16% to 29%
- Awarded 855 student scholarships (\$3M)
- Contributed to talent pipeline through university partnerships – 695 graduates
- Employee giving contributions up 342%
- Supported 276 companies and entrepreneurs that created/retained 327 jobs (\$9.8M in salaries), generated \$17.7M in revenue

Survey Results – Impression of LANL



Finding: Regional public opinion tracks closely with community leaders' perceptions





We are Working to Develop the Workforce of the Future

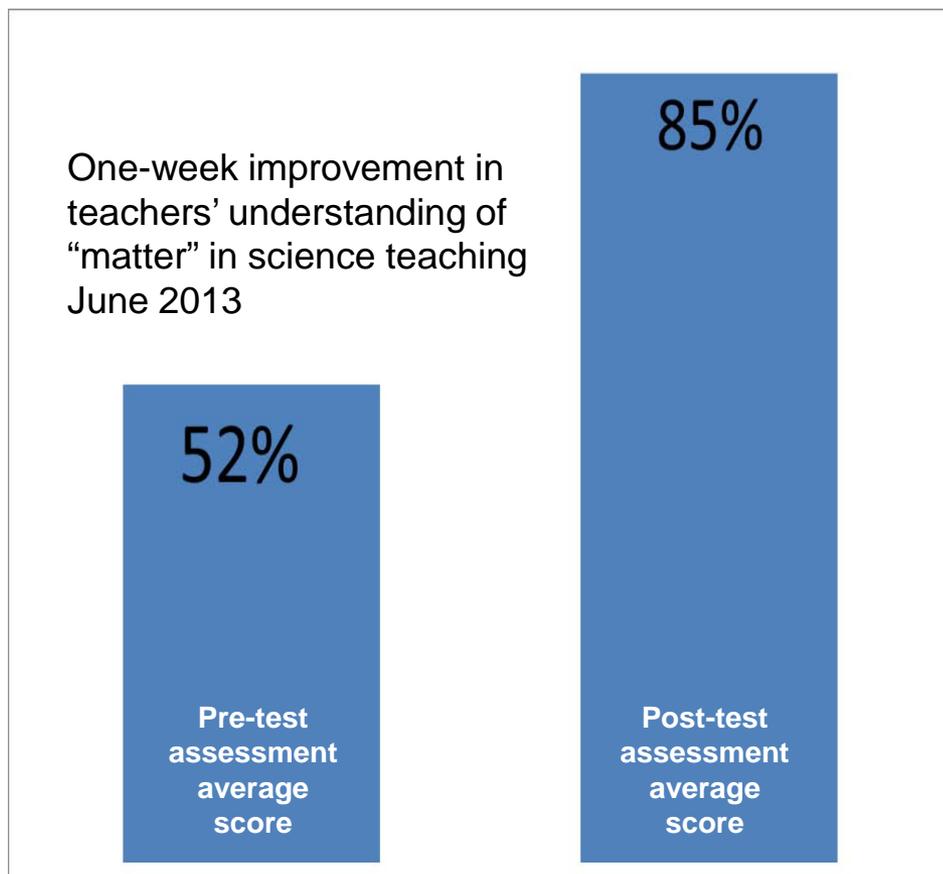
- **86% overall job placement rate for our LANS-funded programs**
 - Santa Fe Community College – Advanced Technologies
 - New Mexico Highlands University – Computer Science, Media Arts, and Software Systems Development
 - Northern New Mexico College – Chemistry, Nursing, and Teaching
 - University of New Mexico Los Alamos – Applied Technologies, Computer Science, and Information Technology
- **Leveraged \$26.1m in funding** beyond the LANS investment for math and science education
- **Math and Science Academy**
 - Teacher development
 - New implementation schools
 - Ohkay Owingeh Community School
 - T'siya Day School
 - Jemez Day School
 - San Felipe Pueblo Elementary



Teachers are Also Improving

LANL's Math & Science Academy (MSA) *improves teaching* by increasing math & science content knowledge and builds classroom skills

Teacher Knowledge



95% of MSA participants strongly agree that the science content they learned in the 2013 Science Leadership Institute **will make them more effective** as an instructional coach or teacher in the coming year

In 2012-13, MSA strengthened:

- Over 60 teachers throughout northern New Mexico schools
- Seven Principals and math coaches within the Northern New Mexico Bureau of Indian Education and Pueblo Charter Schools

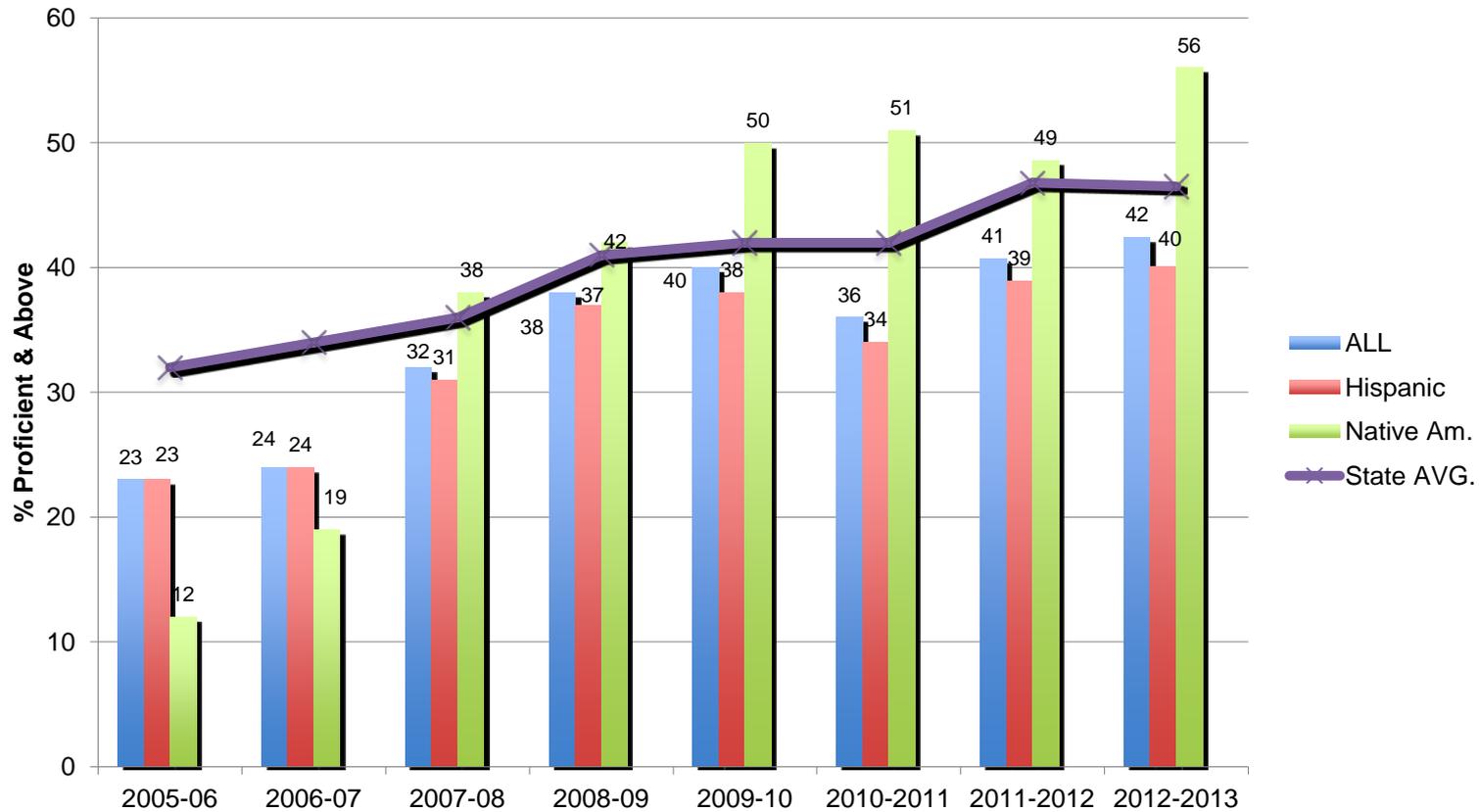
Students are Showing Improvement



Student Achievement

Española Public Schools Grades 3rd-5th

New Mexico Standards-Based Assessment, Math Proficient & Above 2005-2013





We are Engaged in Statewide Coordination

- Statewide STEM Summit – November 12, 2012
 - Promote quality education initiatives in New Mexico
 - Goals
 - Teacher preparation and professional development
 - K-12 classroom experience
 - STEM students in college
- LANL STEM Education Summit – April 11, 2013
 - Align and coordinate STEM education efforts
 - Strengthen the Lab's strategic direction in workforce development
 - Create a unified action plan that ensures we help fill the employment pipeline and develop a science-literate public



Our Student Scholarships are Greatly Appreciated

WE SALUTE THIS YEAR'S TOP SCHOLARS



KEVIN GAO

Los Alamos High School
Gold Scholar: \$20,000

Kevin Gao

"I will be pursuing a degree in engineering or science at Caltech on the way to becoming a research scientist. I want to help develop alternative sources in chemistry or plasma physics."



DANIELLE HARRIER

Pojoaque Valley High School
Gold Scholar: \$20,000

Danielle Harrier

"I aspire to attend an east coast Ivy League university to pursue a degree in economics and international finance."



MICAELA LUCERO

St. Michael's High School
Gold Scholar: \$20,000

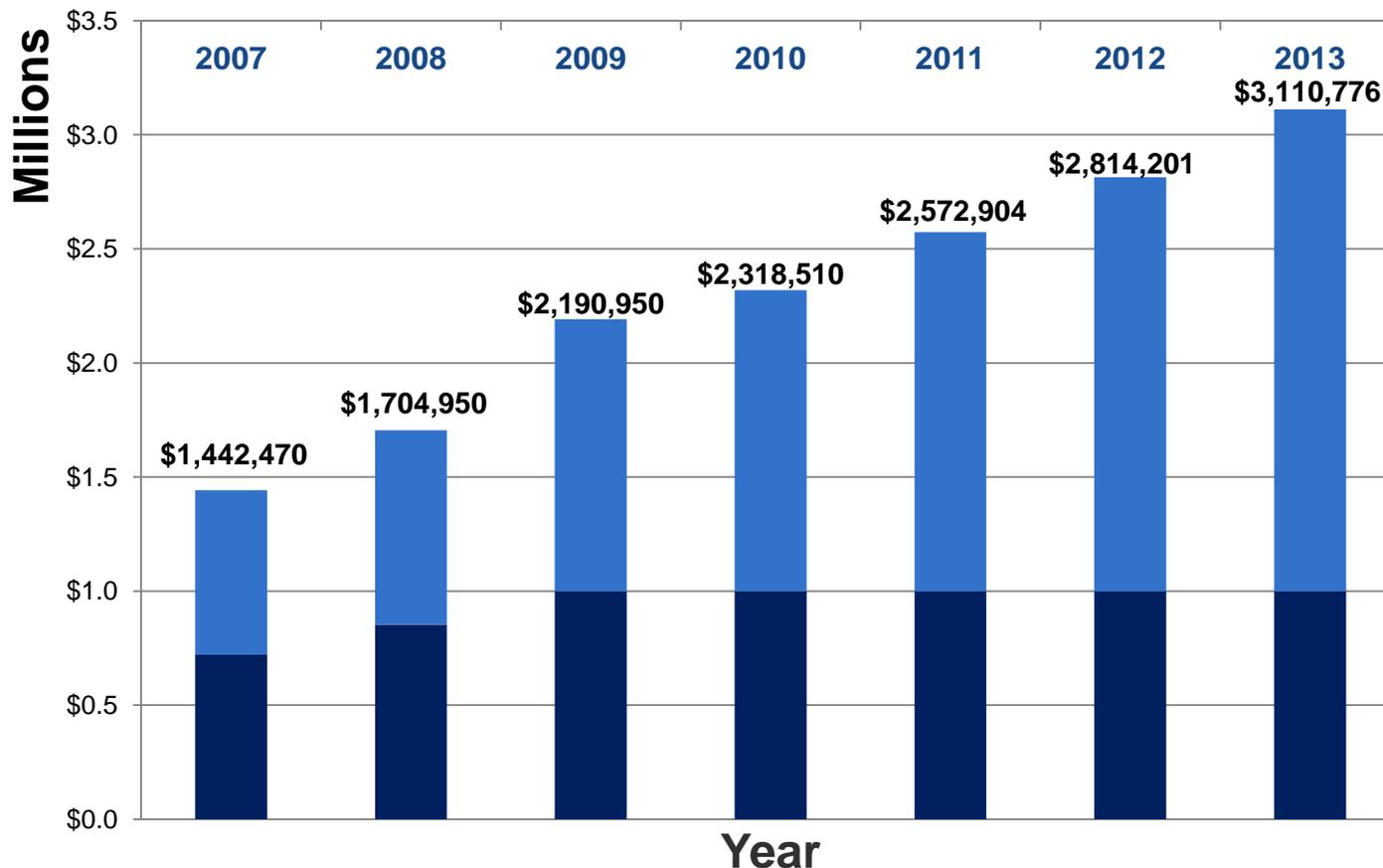
Micaela Lucero

"I plan to attend the University of Pennsylvania and attain a dual degree in health and societies from the College of Business at Wharton."



Our United Way Partnership is Successful

Results



We continue to break records in giving

- Employees
- LANS Match





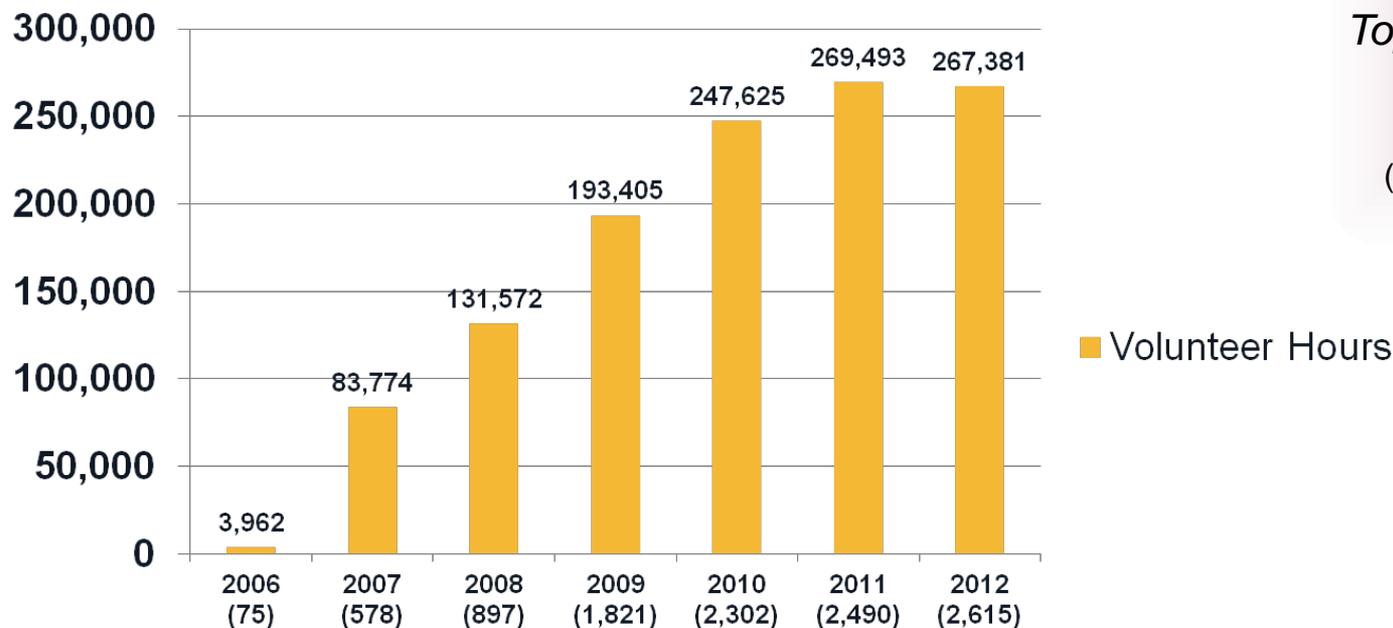
We Incentivize Lab Volunteers

- We work with the Retired Senior Volunteer Program and nationally recognized VolunteerMatch to track hours and address local needs
- Our 2011 award put us ahead of Google, UnitedHealth Group, and Morgan Stanley, which all partner with VolunteerMatch
- Employee time is matched and incentivized with \$1 per hour from LANS

LANL
 recognized by
 VolunteerMatch
 Top organization
 in 2011

(Companies with
 10,000 or more
 employees)

Volunteer Hours



Year (Number of Volunteers)

Results





Thankful Community Stories Abound



“Because of LANL employees’ generosity, our family is able to have a Christmas.”

Member of the Santa Fe Boys & Girls Club



“We are proud of our oldest LANL retiree volunteer, Virginia Stovall, who at 102 years of age is still making a difference in the community.”

Irene Powell, Director of the Los Alamos Retired and Senior Volunteer Program (2012)



Our Economic Development Program is Showing Positive Results

- **New Mexico Small Business Assistance Program** - results for 2012
 - 349 New Mexico small businesses served
 - \$4.5M in technical assistance provided
 - 67% rural and 33% urban businesses impacted
 - Economic impact (2000 – 2011)
 - 2,874 jobs created/retained
 - \$145M increase in revenue
- **Partner with local Chambers and Economic Development Organizations**
 - Presidents Award for Support Organization of the Year - Española Chamber
- **Venture Acceleration Fund**
 - \$2.8M LANS investment since 2006
 - Funding to 39 northern New Mexico businesses
 - \$24.7M additional revenue
 - 83.3% of the funded companies are still in business, three have been acquired
 - 70% of the funded companies have created jobs in northern New Mexico
- **Native American Venture Acceleration Fund**
 - Awards to six tribally owned businesses
 - Funded by LANS and the New Mexico Indian Affairs Department



Businesses Leaders Say Thank You

“VAF has positioned our company to attract significant outside investment. The partnership with New Mexico’s national laboratories and the University of New Mexico is the key to our success.”

Seth Hagberg, Rio Grande Neurosciences (Santa Fe)



“LANS helped level the playing field to enter the marketplace. Now, with the help of Northern New Mexico Connect and WESST, we are able to grow into European markets.”

Krista Boinis, Vapour Beauty Products (Taos)

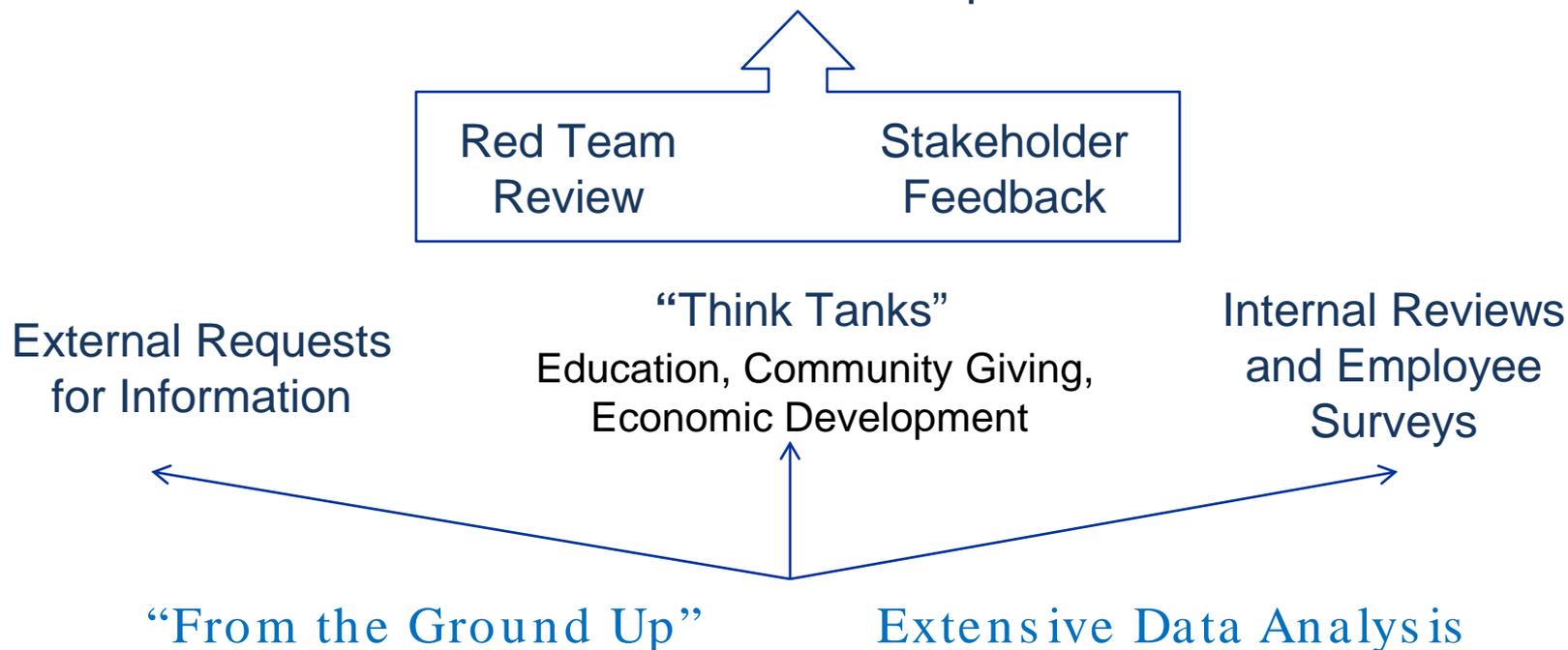
Back-up Slides





Our Process for Strategic Planning

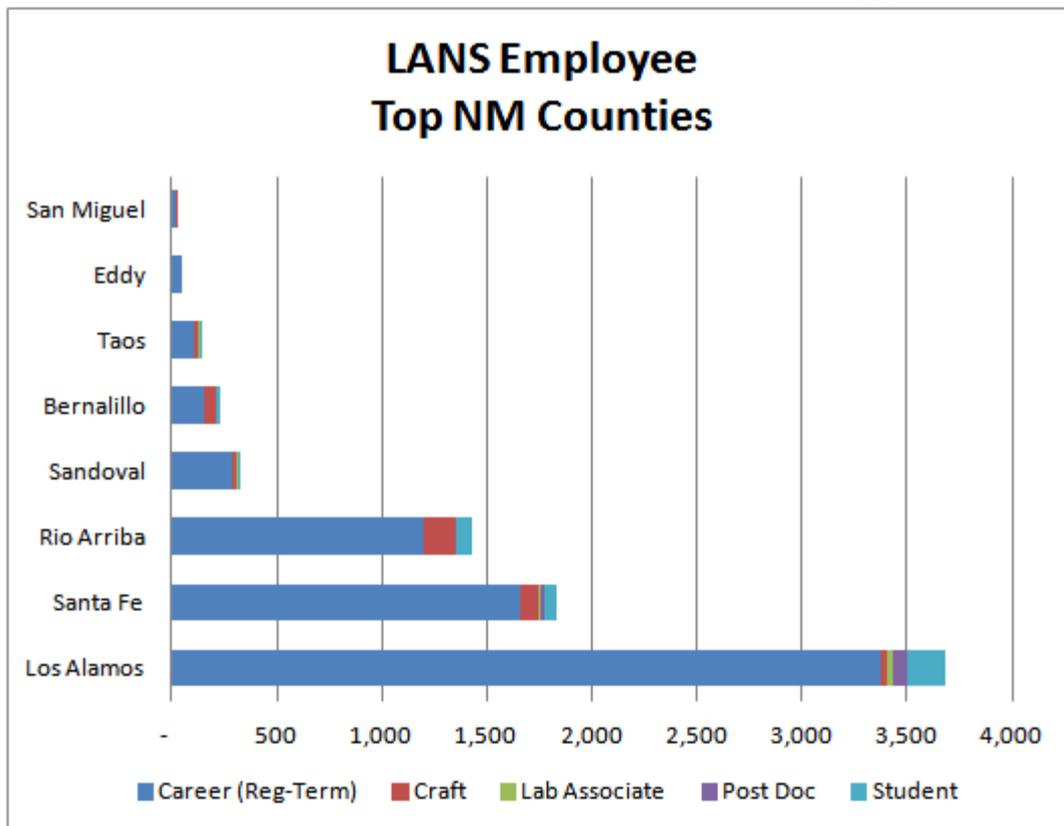
Northern New Mexico - Implementation



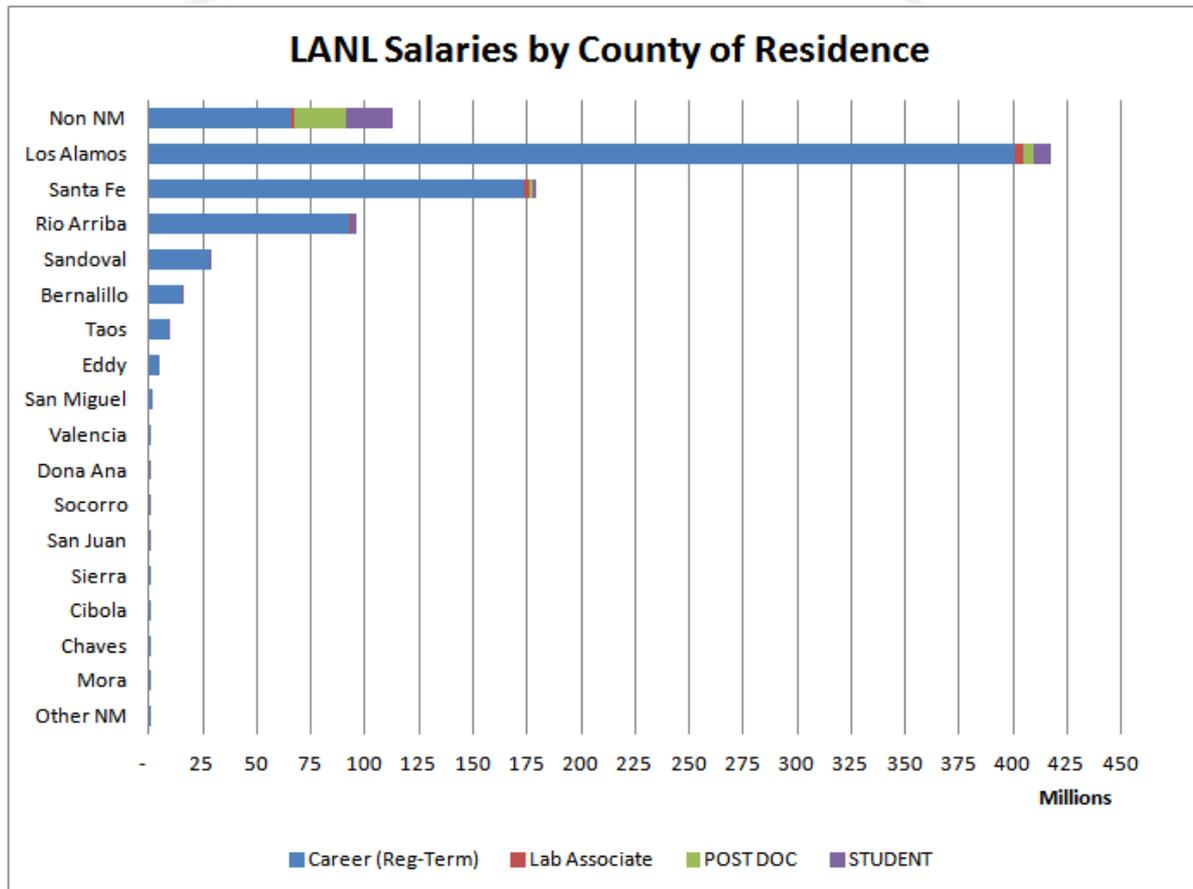
Legislative reports, measuring results, Program Budget Accountability Reviews, economic updates, surveys, and interviews with regional community leaders



LANL employees – where do they live?



LANL employees – impact on counties



Over \$756 million in annual salaries to NM residents

LANL Post Doc and Student Pipeline



- Currently, 391 Post Docs and 948 Students
- 30% of all current Regular employees were Post Docs or Students
- 54% of all current Research & Development scientists and engineers were at one time Post Docs or Students
- Since the Voluntary Separation Program, 39% of all Regular hires or conversions were conversions from Post Doc or Student positions.
- Since the VSP, 64% of all Regular Research & Development hires or conversions were conversions from Post Doc or Student positions.

Post Doc and Student demographics



- High School Co-op
 - Total 29
 - All from northern New Mexico

- Undergraduate Students
 - Total 579
 - ~50% from New Mexico colleges

- Graduate Students
 - Total 340
 - ~42% from New Mexico colleges

- Post Docs
 - Total 391
 - ~3% from New Mexico colleges
 - 54% foreign nationals



LANL NM-educated workforce

The LANL workforce is significantly populated by NM-educated graduates

- Of the 6,918 Lab employees with degrees, 2,895 (42%) received at least one of their degrees from a New Mexico college or university.
- Of the 13,191 degrees earned by LANL employees, 3,933 (30%) came from New Mexico colleges and universities.
- Of the 2,281 employees with PhD's working at LANL, UNM has the most with 114.



Top colleges and universities

| Top Colleges and Universities for All Employees | Employees with Degrees |
|--|-------------------------------|
| Grand Total | 6,918 |
| University of New Mexico | 1,074 |
| New Mexico State University | 655 |
| Northern New Mexico College | 460 |
| College of Santa Fe | 333 |
| New Mexico Highlands University | 200 |
| New Mexico Institute of Mining & Technology | 198 |
| University of Phoenix | 193 |
| University of Illinois | 132 |
| University of Colorado | 126 |
| University of New Mexico Los Alamos | 124 |
| Colorado State University | 123 |
| University of Texas Austin | 122 |
| Texas A & M University | 116 |
| University of California Berkeley | 111 |
| University of Arizona | 103 |
| University of Wisconsin Madison | 97 |
| Massachusetts Institute of Technology | 90 |
| Eastern New Mexico University | 81 |
| Colorado School of Mines | 78 |
| University of Michigan | 78 |
| University of Washington | 77 |
| Brigham Young University | 75 |
| Purdue University | 66 |
| University of California San Diego | 63 |
| University of Maryland | 63 |

| Top PHD Colleges and Universities | PHD Degrees |
|--|--------------------|
| Total | 2,281 |
| University of New Mexico | 114 |
| University of Illinois | 80 |
| University of Texas Austin | 61 |
| University of California Berkeley | 52 |
| Massachusetts Institute of Technology | 50 |
| Texas A & M University | 48 |
| University of Michigan | 48 |
| University of Arizona | 47 |
| University of Wisconsin Madison | 47 |
| University of Colorado | 43 |
| University of Washington | 40 |
| Cornell University | 32 |
| Princeton University | 31 |
| New Mexico State University | 30 |
| California Institute of Technology | 30 |
| University of Minnesota | 30 |
| University of California Santa Barbara | 28 |
| University of California Davis | 27 |
| University of Maryland | 27 |
| Ohio State University | 26 |
| Stanford University | 26 |
| University of California San Diego | 25 |
| University of Utah | 24 |
| Colorado State University | 23 |
| Colorado School of Mines | 22 |
| University of North Carolina | 22 |



Top colleges and universities

| Top Colleges and Universities for Students and Post Docs | DPD | GRA | PD | UGS | Total |
|--|-----|-----|-----|-----|-------|
| Grand Total | 8 | 308 | 382 | 462 | 1160 |
| University of New Mexico | | 71 | 8 | 96 | 175 |
| New Mexico State University | | 42 | | 52 | 94 |
| Northern New Mexico College | | 12 | | 37 | 49 |
| New Mexico Institute of Mining & Technology | | 20 | 4 | 20 | 44 |
| New Mexico Highlands University | | 16 | | 7 | 23 |
| Brigham Young University | | 6 | 3 | 14 | 23 |
| Colorado State University | | 4 | 5 | 10 | 19 |
| University of California Berkeley | | 7 | 5 | 7 | 19 |
| University of California San Diego | | 5 | 6 | 8 | 19 |
| University of Illinois | | 4 | 12 | 3 | 19 |
| University of Michigan | | 6 | 7 | 5 | 18 |
| University of Texas Austin | | 9 | 7 | 1 | 17 |
| University of Washington | | 3 | 13 | 1 | 17 |
| Texas A & M University | | 4 | 10 | 1 | 15 |
| University of California Santa Barbara | | 6 | 6 | 3 | 15 |
| University of Wisconsin Madison | 1 | 4 | 9 | 1 | 15 |
| University of New Mexico Los Alamos | | 2 | | 12 | 14 |
| Colorado School of Mines | | 6 | 3 | 5 | 14 |
| Georgia Institute of Technology | | 5 | 6 | 3 | 14 |
| University of California Davis | | 5 | 4 | 5 | 14 |
| University of Colorado | | 6 | 5 | 3 | 14 |
| University of Utah | 1 | 6 | 6 | 1 | 14 |
| University of Arizona | | 3 | 5 | 4 | 12 |
| University of Maryland | | 3 | 9 | | 12 |
| Florida State University | | 6 | 5 | | 11 |
| Peking University | | 1 | 10 | | 11 |
| University of California Santa Cruz | | 3 | 5 | 3 | 11 |