En Route to Mines@150

Paul C. Johnson, President and Professor
Outline

• Reflection (AY 15-16)
• Metrics Snapshots
• Higher Education Landscape
• Strategic Plan (Mines@150)
• 2016-17 Initiatives
AY15-16 Reflection

- **Campus Make-over**
  (CCAC, Starzer Welcome Center, Student Center, GRL Annex, Meyer Hall/CoorsTek, traffic changes…)

- **Accolades & Recognition**
  (academics and athletics, professional growth, innovation)

- **Regrouping and Realigning**
  (P&T expectations, alumni association, workload, business practices)

- **Recommitment to Teaching & Learning**
  (Trefny Innovative Instruction Center)
AY15-16 Reflection

- Resiliency Tests
  (GRL vandalism, litigation, campus moves, economy)

- Taking a Hard Look in the Mirror
  (Title IX)

- Eat, Talk, Travel, Figuring Out #17
  (aspirations, values, interests, opportunities, priorities, barriers)

- What’s Your Vision?
  (strategic plan(s), new initiatives, student numbers?)

- Parking, Holidays, and Snow Days 😊
Shared Values

Hard Work • Academic Rigor • Excellence • Challenges • Resiliency • Teamwork

Community • Location • Size • Students

History • Traditions • Accolades • Student-centric • Differentiated Mission • Connections

Creativity • Compassion • Innovation • Impact • Teaching • Leading

Higher Calling/Purpose • Balance • Fun • Recognition • Diversity • Inclusion • Access

Core Values • Aspirations • Priorities • Initiatives
Mines Snapshot and Trends

UG Apps/Yield/Quality: Strong/OK/High

Graduate Student Numbers?

Design Constraints (housing, classrooms, other)?

Little change in diversity recently;
Dissimilar to CO HS graduation demographics
(51.5% women; 26.4% Hispanic)
Mines Snapshot and Trends

Access to a Mines Education?

Only about 11% of AY2016-17 freshmen are Pell grant recipients.

Correlation with tuition increases?

Factors (recruitment and financial aid, projecting Mines)?

Our goal is a student population with demographics that mirror Colorado’s high school graduates.
Mines’ Investment in People to Enable Student Success and Research Growth

(2010 – 2016, with student enrollment +14%)

Tenured/Tenure-Track: 205 (+11% from 2010)
Teaching Faculty: 79 (+66% from 2010)
Adjunct Faculty: 131 (+35% from 2010)
Staff, Advisors, etc.: 576 (+23% from 2010)
Mines Snapshot and Trends

Significant Improvements over 10 year period

Overall, strong retention for a STEM-focused institution

Focused efforts to improve retention in some groups (e.g., “Nucleus” First-Generation Community)
Mines Snapshot and Trends

Time to Graduation

4-yr Grad Rate by Freshman Cohort

<table>
<thead>
<tr>
<th>Year</th>
<th>All Students</th>
<th>Female</th>
<th>URM</th>
<th>Hispanic</th>
<th>Pell</th>
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<tbody>
<tr>
<td>2004</td>
<td>38.1%</td>
<td>45.9%</td>
<td>29.3%</td>
<td>19.5%</td>
<td>32.9%</td>
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<tr>
<td>2005</td>
<td>39.6%</td>
<td>38.5%</td>
<td>25.9%</td>
<td>30.5%</td>
<td>29.0%</td>
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<tr>
<td>2006</td>
<td>40.4%</td>
<td>47.0%</td>
<td>36.7%</td>
<td>30.0%</td>
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<td>2007</td>
<td>41.6%</td>
<td>44.6%</td>
<td>44.2%</td>
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<td>2008</td>
<td>46.2%</td>
<td>52.0%</td>
<td>41.5%</td>
<td>37.3%</td>
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<tr>
<td>2009</td>
<td>49.0%</td>
<td>57.5%</td>
<td>39.8%</td>
<td>30.9%</td>
<td>40.6%</td>
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<tr>
<td>2010</td>
<td>51.9%</td>
<td>58.0%</td>
<td>50.4%</td>
<td>46.1%</td>
<td>41.6%</td>
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<td>2011</td>
<td>55.1%</td>
<td>66.4%</td>
<td>46.0%</td>
<td>46.3%</td>
<td>43.1%</td>
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6-yr Grad Rate by Freshman Cohort

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<tr>
<th>Year</th>
<th>All Students</th>
<th>Female</th>
<th>URM</th>
<th>Hispanic</th>
<th>Pell</th>
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<td>69.2%</td>
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<td>2005</td>
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<td>2006</td>
<td>66.6%</td>
<td>70.8%</td>
<td>70.6%</td>
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<tr>
<td>2007</td>
<td>70.1%</td>
<td>70.8%</td>
<td>67.3%</td>
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<tr>
<td>2008</td>
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<td>82.4%</td>
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<tr>
<td>2009</td>
<td>76.5%</td>
<td>82.8%</td>
<td>73.7%</td>
<td>72.7%</td>
<td>68.8%</td>
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</table>

(+) Impressive improvements over the past decade

(-) Not a compelling argument to attend Mines, especially to the top students in the country and those worried about the cost of their degree and ROI

Need to eliminate institutional constraints on time to graduation
(+ ) Mines tuition is lower than many other STEM-focused universities (most of which are privates)

(-) Mines tuition is higher than many public institutions offering similar programs

(-) The top students we recruit are offered significantly discounted tuition at other institutions

We need to offer differentiated programs, experiences, services, and outcomes to compete.
Mines Snapshot and Trends

Funded Research and Creative Activities & Innovation

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<tr>
<td>2012</td>
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<td>3</td>
<td>15</td>
<td>$74,000</td>
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<tr>
<td>2009</td>
<td>$51</td>
<td>4</td>
<td>13</td>
<td>1</td>
<td>11</td>
<td>2</td>
<td>6</td>
<td>$32,000</td>
</tr>
</tbody>
</table>

**Research Task Force Recommendations:**

Differentiated workloads, internal investments linked to output and impact, research neighborhoods, themed institutes, strategic faculty hires
Mines Snapshot and Trends

Finances:

- State support ($20M/year) – at best stable, could decrease due to TABOR restrictions; SB-3 constraints
- CSMF support ($21M/year) – expected to be flat (economy down, donors up)
- Gross Tuition Revenue ($130M/year) = tuition \times \text{student numbers} – modest increases in tuition in near future

Optimize use of our existing capacity

Changes to internal budget model

Pursue alternative revenue sources
Landscape

Higher Education Landscape

Low state support – burden on students & families
Press/political focus on tuition increases and debt
Family focus on cost, debt, jobs
All face the same financial challenges - what are others doing?

• Large public schools?
• Small private schools?

Need to minimize aggregate cost to degree, show strong ROI, supplement tuition revenue
Strategic Plan(s)
Strategic Plan(s)

- Cultivate world-class expertise in key focus areas
- Enhance Mines distinction as a research institution
- Sharpen Mines distinction in undergraduate education
- Align graduate programs with professional and societal needs
- Realign the geographic, demographic, and programmatic mix of students
- Expand the financial resource base
- Restructure the deployment of financial resources and capital assets
- Enhance the distinctive identity and reputation of Mines
- Build upon a student-centered campus culture of excellence, inclusion, diversity, and community
- Build and diversify revenue streams and auxiliary enterprises
- Develop and support campus infrastructure and processes to match Mines’ aspiration to become a top-tier engineering and science institution
Strategic Plan

Aspirations & Metrics

• Recognized in the Top-10 of similarly-sized peer institutions
• 4-Year graduation rate of 60%
• 6-Year graduation rate of 85%
• >$100M (or $50M) in research expenditures
• Financially self-sustaining
• $10M or (>2M) in professional education revenue
• Endowment >$250M
• 95% of graduates (all) report that they would have chosen Mines again
Strategic Plan

Reflection

• Re-commit to being “student-centric” and “Mines-centric”
• Focus on being “exceptional” (= excellence + distinction) in all areas
• Reset aspirations, metrics, and expectations for ourselves in all areas, with consideration of best-in-class performance of peer institutions
• Add new metrics related to core values (e.g., access)
• Need a university design, with principles to guide new investment, divestment, and optimization of resources to maximize student success, scope and impact of research enterprise, and achieving aspirational metrics
Strategic Plan

Near-Term Initiatives:

- Exceptional programs for exceptional students (stress professional preparation and longer-term career horizons)
- Accessible education (reduce time and cost to degree completion)
- Social research culture (thematic neighborhoods/institutes, GC problems)
- Compelling communications (recruitment, reputation, resources)
- Redesign administrative structures and processes to support institutional priorities
- Entrepreneurial efforts (students, staff, faculty)
- Professional development (people, leaders)
- Diversify resources and optimize use of existing capacity

$1M Innovation Fund for 2016-17