

Results from Pilot Survey of Engineering & Engineering Technology Students in 2 YR – 4 YR Institutions

**Catherine Didion
Senior Program Officer
National Academy of Engineering**

**Engineering Deans Institute 2012
April 17, 2012**

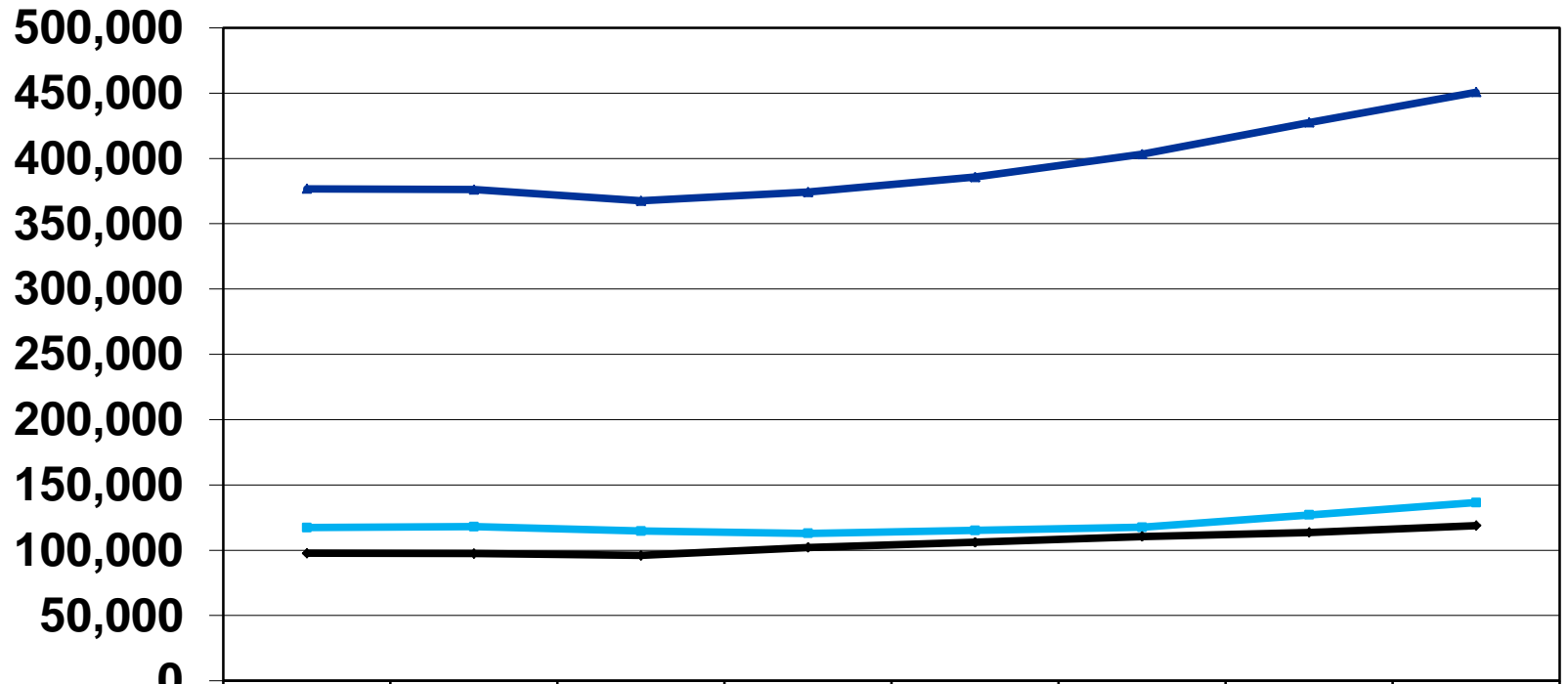


Rationale for the Project & Key Research Question

- **Insufficient data on E/ET students in 2 YR schools & transfers to 4 YR schools.**
- **Follow up on NAE report on community colleges which asked “How many students who have substantially completed an E/ET program of study in a community college transfer to a baccalaureate E/ET degree program irrespective of whether they have completed the requirements to obtain an associates degree?”**
- **As a pilot project can the data be collected? Is there value in the data collection?**



Recent Undergraduate Engineering Enrollment



	2003	2004	2005	2006	2007	2008	2009	2010
— Total Full-time	376,703	376,096	367,576	374,202	385,690	403,191	427,503	450,685
— Seniors	117,298	117,988	114,741	112,950	115,180	117,586	127,046	136,426
— Freshman	97,706	97,514	95,961	102,125	106,110	110,543	113,588	118,831

Overview of Population at Community Colleges

- **1,167 community colleges**
 - 993 Public, 143 Independent, 31 Tribal
- **7.4 million students enrolled for credit (fall 2008)**
 - 5 million non-credit students
- **40% full-time, 60% part-time**
- **Median age is 23, average age is 28 (2007-08)**
- **42% are the first generation to attend college**



Framework of How Pilot Group of Institutions Were Selected

The following criteria were used for the selection of the 2 YR/ 4 YR institutions:

- Public/private institutions;
- Level of state accreditation efforts;
- Geographic diversity;
- Previous participation in ASEE surveys;
- Number of 2 YR transfer students (for 4 YR institutions); and
- Existence of established relationships w/ 4 YR institutions (for 2 YR institutions).

List of Participating Institutions

- Georgia Institute of Technology
- Iowa State University
- Mississippi State
- Missouri U. of Science and Technology
- Montana State
- Pennsylvania State University
- Rose Hullman Institute of Technology
- San Jose State University
- SUNY Alfred State College
- Texas A & M
- University of Central Florida
- University of Hawaii at Manoa
- University of Illinois, Urbana Champaign
- University of Maryland, College Park
- University of Michigan
- University of Virginia
- University of Wisconsin, Madison
- Villanova
- Virginia Commonwealth University
- Virginia Tech
- Wayne State University
- Allegheny County Community College
- Bluefield State College
- Camden County College
- Canada College
- City College of San Francisco
- East Los Angeles College
- Foothill College (California)
- Los Angeles City College
- Houston Community College Central
- Itasca Community College (Minnesota)
- Ivy Tech Community College (Indiana)
- Los Angeles Mission College
- Miami Dade College
- Montgomery Community College
- Northern Virginia Community College
- San Antonio College
- San Diego City College
- Sinclair Community College (Ohio)
- St. Louis Community College



Goals of Data Collection

Test ability to collect and aggregate 2 YR transfer student data from 4-Year institutions

- Retention/graduation rates
- GPA, ACT, SAT
- Demographics
- Pre-transfer program (A.S. degree?)

Preliminary data from 2-Year institutions

- Program of study (A.S. degree?)
- Headcounts, demographics

Types of Data 4 YR Institutions were asked to Provide & Response Rates

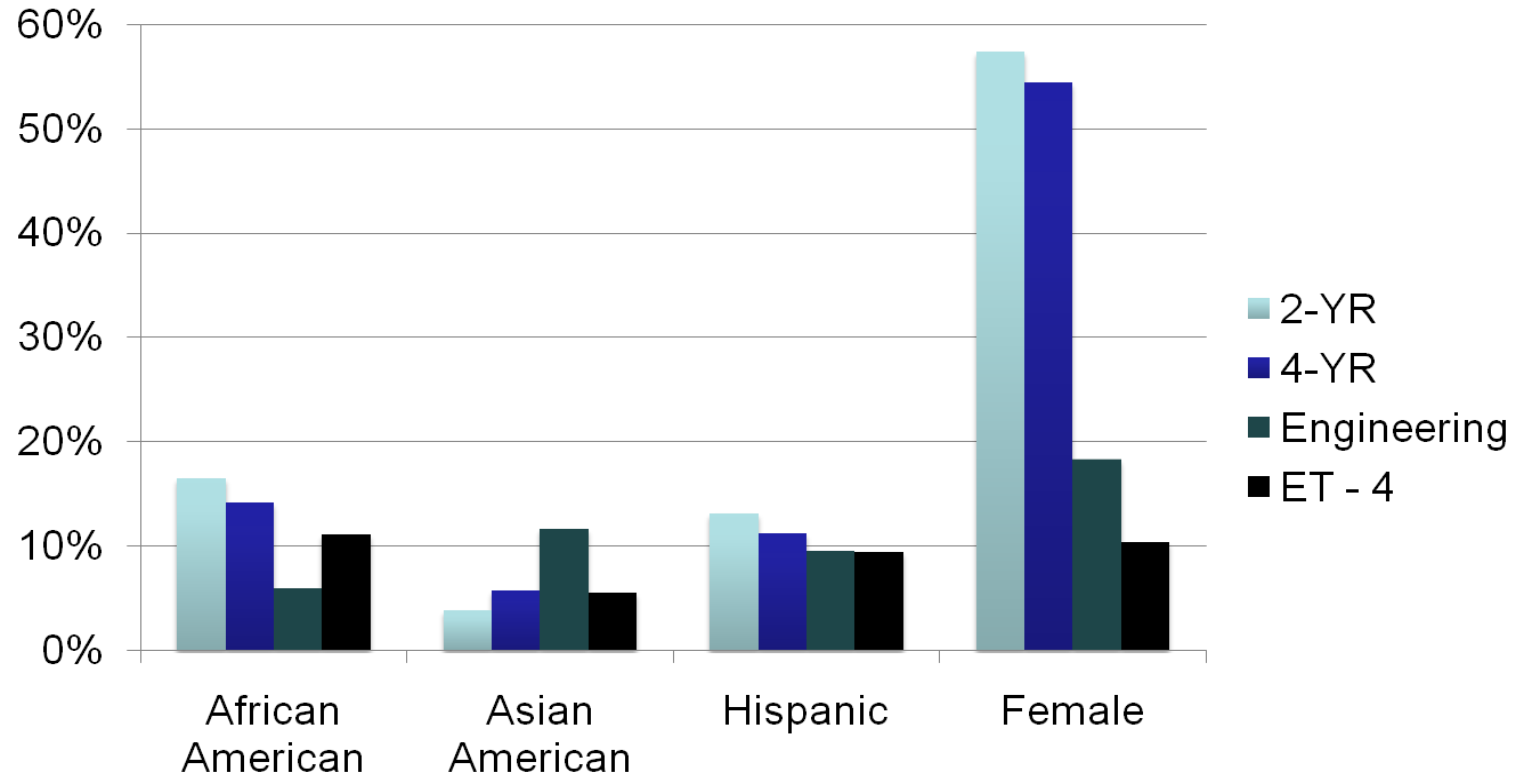
- **All years (2001-2009) – 12/17**
- **Graduated within 8 years – 13/17**
- **Demographics – 17/17**
- **Pre-transfer GPA – 11/17**
- **Post-transfer GPA – 12/17**
- **Pre-transfer program of study – 3/17**
- **SAT/ACT test scores – 11/17**



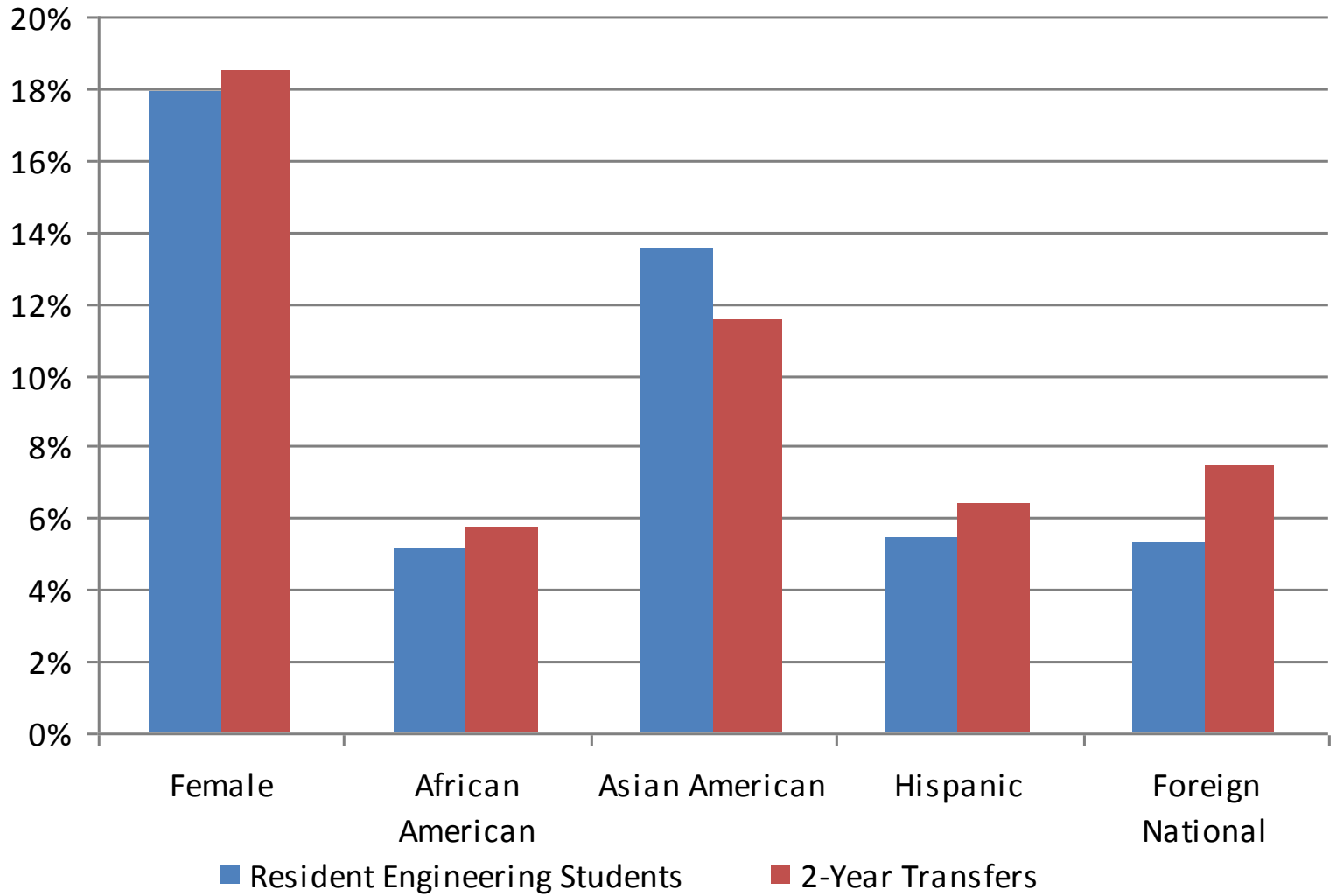
Data from 2 YR Institutions

- **Information from 2 YRs?**
 - Collected in many formats
 - Collected if 2 YR leadership sees value & provides resources
 - Some states are beginning to require collection.
- **How is data used?**
 - Usually Internally
 - Shared with 4 YR partners? Varies – sometimes with public 4 YR institutions per state regulations.
 - Not always reported to stakeholders

Representation of Women and Minorities by Institution Type: 2-YR & 4-YR and Major: Engineering & ET-4



2009 Demographics - Average: Total Enrollment vs. Transfers

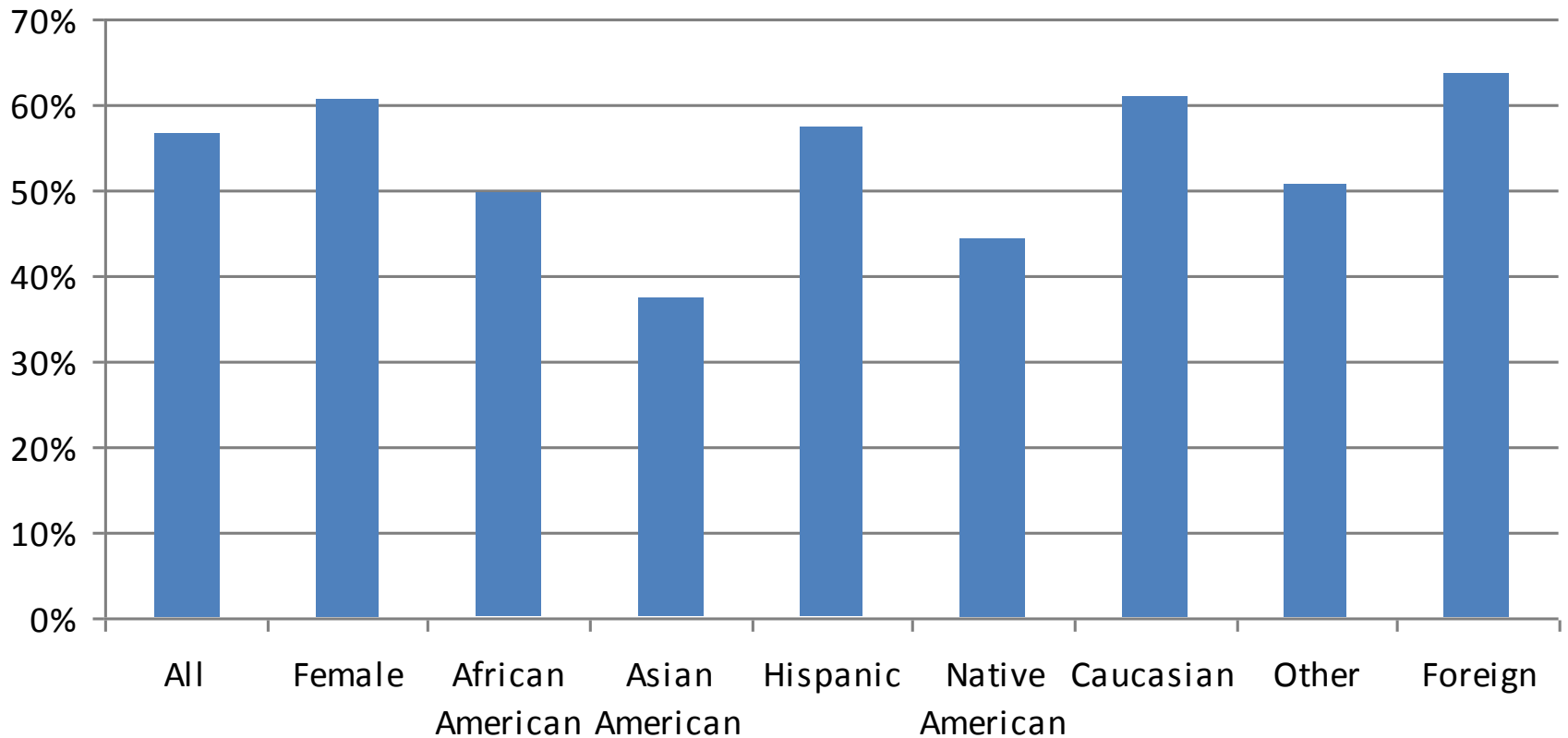


Graduation Rates: 2-Yr Transfers vs. Incoming Freshman

- **How to calculate this?**
- **Anecdotal information indicates that 2-Yr transfers have similar outcomes to incoming freshman once they reach junior status.**



Graduation Rate for 2-Year Transfers: 3 Years After Reaching Junior Year



This table displays the graduation rate for transfers from 2-year institutions, three years after they reached their junior year.

The data is based on responses from fifteen 4-year institutions.

2011 Policy Summit Discussion Points:

- **Challenges for 2 YR institutions in tracking students after transfers highlights lack of data sharing between 2 YR – 4 YR institutions;**
- **Agreed there is value of a representative sample of 2 YR –4 YR transfer students to highlight successful pathways & inform decision making of policy makers; and**
- **Need for changes in financial aid & articulation agreements to improve degree attainment.**



Policy Summit Discussion Points Continued:

- **Need for different strategies & data collection on retention of students (not just recruitment) – especially of diverse populations (e.g. 1st generation or veterans); and**
- **Need for orientation/support at 4 YR institutions for cohort of 2 YR transfers (especially if 4 YR school has different student population).**



For More Information:

- Catherine Didion cdidion@nae.edu
- Brian Yoder b.yoder@asee.org

This project is supported by the National Science Foundation under grant ENG-1042875. Any opinions, findings, and conclusions expressed in this presentation are those of the authors and do not necessarily reflect the views of the National Science Foundation.

