The
Changing
Face of
Virginia
Higher
Education

Ángel Cabrera, President
George Mason University

Bob Templin, President
Northern Virginia Community College
Changing demography in Virginia

625,000 more people will be living in Virginia by 2020.

Most of that growth will come from minorities and immigrants.

Nearly half of total population growth will come from the Latino population.
Changing demography in Virginia

2.3 million more people living in Virginia by 2040

85% of that growth will come from minorities and immigrants.

Over one-half of total population growth will come from the Latino population.
Hispanic Population 2010

Source: Weldon Cooper Center, University of Virginia, December, 2012
Hispanic Population 2020

Source: Weldon Cooper Center, University of Virginia, December, 2012
Hispanic Population 2030

Source: Weldon Cooper Center, University of Virginia, December, 2012
Hispanic Population 2040

Source: Weldon Cooper Center, University of Virginia, December, 2012
A Growing Workforce Gap

By 2022, there will be 840,000 new jobs created in Virginia and most will require some type of postsecondary credential.

Almost half will be in scientific and technical careers.
There are not enough students graduating from the Commonwealth’s colleges and universities to meet demand from Virginia’s employers.

There will be a growing shortage of high-skill, tech-savvy frontline workers across most STEM disciplines that will become a critical choke point in the growth of many Virginia businesses.
Efforts Needed to Expand the Talent Pool

• Increase the number of high school graduates engaged in post-secondary education & training.

• Expand the number of high school students preparing for STEM-H careers.
Efforts to Increase Access & Student Success

Significantly increase the number of low-income, minority, and immigrant students who enroll & complete the baccalaureate

Scale a talent pipeline to STEM careers
Pathway to the Baccalaureate

Increasing the college attendance and baccalaureate completion of low-income, minority, immigrant, first-generation college goers
Pathway to the Baccalaureate

Highly-structured, case-management approach that leads students from high school, through NOVA, to completion at George Mason University
Pathway to the Baccalaureate

More than 11,500 students from 10th grade through the 4th year of college

55 high schools

88% college going rate

83% baccalaureate graduation rate within three years of transferring from NOVA
Northern Virginia Community College Students Transferring into George Mason University 2005–2013

Source: SCHEV 2014
Scaling a talent pipeline to STEM careers

12,000 students from elementary school to NOVA

9 public school divisions

Preparing students for careers in science, technology, engineering, and math
Regional STEM Pipeline Snapshot

Elementary Schools
Middle Schools
High Schools
George Mason University
NOVA

Interest
Readiness
Access
Completion
Workforce
SySTEMic Solutions Core Programs

Elementary & Middle School
- Explore Science!
- First LEGO League, VEX Robotics
- Summer Camps
- Engineering Challenges

High School
- SySTEMic Connections Club
- STEM Industry Panels
- Dual Enrollment
- Pathway to Baccalaureate
- Industry Field Trips
- Career Days
- Internships, GMU ASSIP
- NOVA Bus Tour
- Summer Academies
- STEM Expo

NOVA
- STEM Clubs on each Campus
- Pathway to Baccalaureate
- Career Days
- Internships – CSIIP, ASSIP
- AAS Biotechnology
- AA/AS IT
- AS Engineering
- Articulation Agreements
- Guaranteed Admission
- Industry Aligned Certificates

Student Outcomes
- STEM Interest
- Teamwork
- Problem Solving

- STEM Development & Awareness
- Cooperation & Collaboration
- Critical Thinking
- Problem Solving and Logic
- Exposure to Companies & Careers

- STEM Readiness
- Industry Access
- Education & Career Planning
- Access to 4 year degrees at UVA, GMU, GWU and all Virginia public universities
SySTEMic Solutions

Science clubs

Summer camps

Robotics competitions

Teachers in industry program

Cyber Patriot clubs
SySTEMic Solutions

**Industry participation**

10,000 volunteer hours

$1 million in program support

Paid internships
A Public Private Partnership Model