

# **Taking Student Success to Scale (TS<sup>3</sup>) Virtual Convening: Redesigning Math Pathways**

September 10, 2015

**NASH**  
National Association  
of System Heads



**Taking Student  
Success To Scale**



- **Update you on TS<sup>3</sup>**
- Provide an understanding of the different approaches to redesigning math pathways
- Share out best practices and cautionary tales, and highlight content related to redesigning math pathways

Currently, 21 systems and over 180 institutions compose TS<sup>3</sup>



THE UNIVERSITY  
of TEXAS SYSTEM



Minnesota  
STATE COLLEGES  
& UNIVERSITIES



PASSHE  
Pennsylvania State System  
of Higher Education



The State University  
of New York



THE UNIVERSITY of TENNESSEE  
KNOXVILLE, CHATTANOOGA, MARTIN, TULLAHOMA, MEMPHIS



University System of Georgia  
Creating A More Educated Georgia



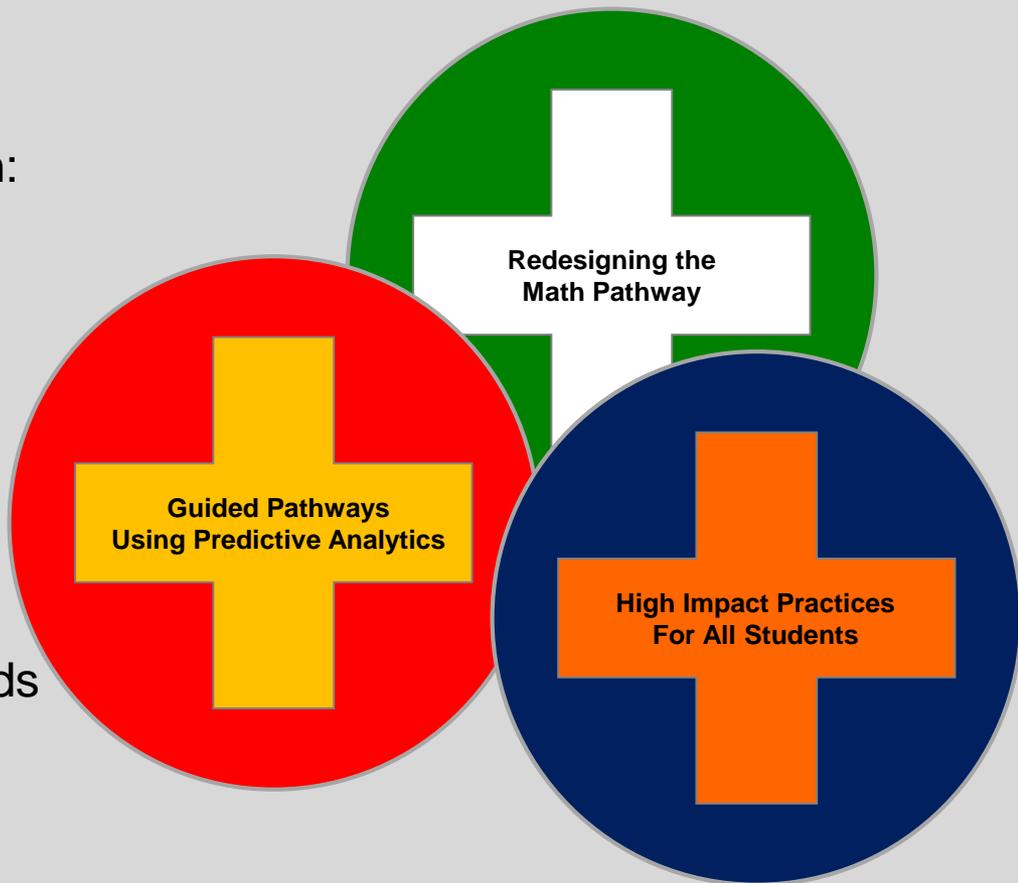
CONNECTICUT STATE  
COLLEGES & UNIVERSITIES  
BOARD OF REGENTS FOR HIGHER EDUCATION

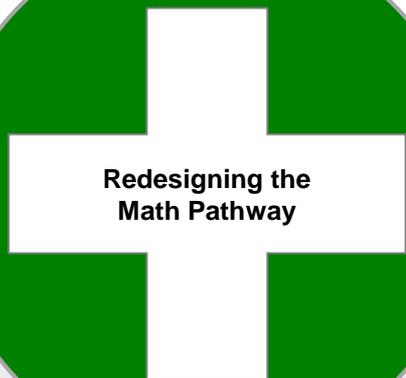


University of Colorado  
Boulder | Colorado Springs | Denver | Anschutz Medical Campus

- 1 Make the work problem-specific and user-centered
- 2 Variation in performance is the core problem to address
- 3 See the system that produces the current outcomes
- 4 We cannot improve at scale what we cannot measure
- 5 Anchor practice improvement in disciplined inquiry
- 6 Accelerate improvements through networked communities

- Interventions were chosen based on:
  - Having hard evidence
  - Improving student outcomes
  - Closing equity gaps
- TS<sup>3</sup> is designed to:
  - Allow for flexibility in implementation
  - Create common definitions of success and minimum thresholds for adoption and diffusion





Redesigning the  
Math Pathway

**What's  
exciting**

- Innovative approaches to math entry-level
- Growing consensus that not every college student needs algebra
- Need to redesign the pathway to STEM majors as well

**What are the  
challenges?**

- Faculty buy-in is particularly critical
- Math pathways at 2-yr institutions need to transfer to 4-yrs

**AIM:** *“Our aim is to, within a certain number of years, to appropriately increase the number of students who complete their credit-bearing gateway math course, differentiated by career aspirations, in their first 30 credits.”*

Key to this approach is a networked improvement community, which we are using to promote the redesign of math pathways

Sustainable and  
scalable improvements  
are typically:

Focused

Guided

Disciplined

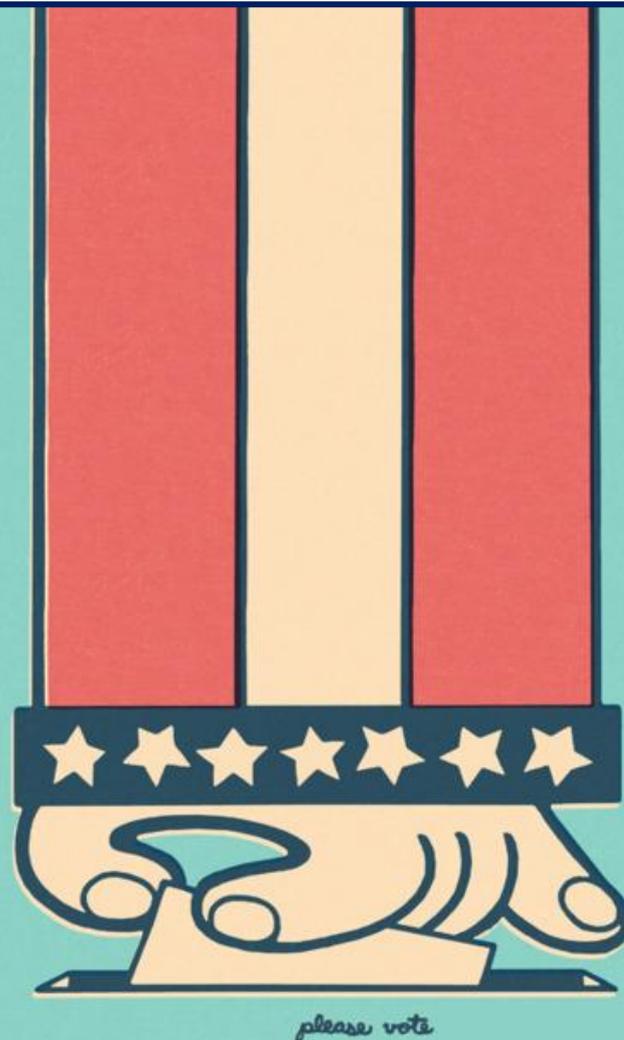
Networked



## Poll: We want to hear from you!

Why are you here today?

- To learn about redesigned math pathways?
- To overcome challenges you currently face in your efforts to redesign math pathways?
- To find out about content and tools that can help you successfully redesign math pathways?



**Today we will:**



- Update you on TS<sup>3</sup>
- **Provide an understanding of the different approaches to redesigning math pathways**
- Share out best practices and cautionary tales, and highlight content related to redesigning math pathways



The State University  
of New York

# SUNY Math Pathways

**September 10, 2015**

**Dr. Jason Lane**, Senior Associate Vice Chancellor and Vice Provost  
for Academic Affairs

**Dr. Joanne Russell**, Provost Fellow

# The State University of New York

- Largest comprehensive university system in United States
- 64 diverse institutions
- 7,500 degree and certificate programs
- 463,000 students
- 2 million students in workforce and professional development programs
- 3 million SUNY alumni

# The State University of New York

- Systemness
  - “the coordination of multiple components that, when working together, create a network of activity that is more powerful than any action of individual parts on their own.”
- Completion Agenda
  - Scaling interventions that work, SUNY will grow its annual cohort of graduates from the current annual rate of 93,000 to an ambitious target of 150,000 graduates every year by 2020.



## ACCESS

1. Full Enrollment Picture
2. NYS Residents Served by SUNY
3. Diversity\*
4. Capacity - programs and courses

## COMPLETION

5. Completions
6. Student Achievement / Success (SAM)
7. Graduation Rates
8. Time to Degree

## SUCCESS

9. SUNY Advantage (Applied Learning, Multi-Cultural Experiences, Student Supports)
10. Financial Literacy

## INQUIRY

11. Total Sponsored Activity
12. Courses in SIRIS that include hands-on research, entrepreneurship, etc.
13. Scholarship, Discovery and Innovation

## ENGAGEMENT

14. START-UP New York and beyond (businesses started / jobs created)
15. Alumni / Philanthropic Support
16. Civic & Community Engagement
17. Economic Impact

# SUNY Excels: Harnessing The Power of SUNY

- Successful completion of college-level math was identified as an area in need of improvement
- SUNY data reflects national trends: Over 60 percent of all students entering community colleges in the United States are required to complete developmental math and English; only about 5-10% successfully complete college-level math in three semesters

*“Developmental mathematics is where aspirations go to die.”*

**Tony Bryk**

**President, Carnegie Foundation for the Advancement of Teaching**

# Creating the climate for change

- Urgency: Completion Agenda
- Other levers/assets
  - *Pathways to Success* Remediation Task Force Report (2012)
  - Legislation (Graduation, Achievement, and Placement Program) based on recommendations of *Pathways to Success*. Metrics include:
    - Annual number and percentage of entering first-time students enrolled in developmental education Math and ELA courses who complete college-level course(s) in the same subject;
    - Annual number and percentage of first-time students who complete initial college-level Math and English courses within two consecutive years;
    - Number and percentage of first-time students enrolling from fall to spring and fall to subsequent fall at an institution of higher education
  - Seamless transfer initiative
    - SUNY General Education courses that fulfill the math requirement vary from campus to campus and include courses such as Quantitative Literacy, Contemporary Math, and Introduction to Statistics, in addition to pre-calculus and calculus courses
  - Early positive experiences with Carnegie Quantway model

# Carnegie Statway and Quantway

- Network Improvement Science methodology:
  - Productive Persistence
  - Relevant content
  - Advancing Quality Teaching
  - Network Engagement
  - Rapid Analytics

## **STATWAY**

Statway integrates developmental mathematics skills and college-level statistics into a collaborative, problem-focused class.

It is a year-long pathway that replaces the traditional algebra sequence and a statistics course, allowing developmental math students to earn college-level credit for statistics in a single academic year.

## **QUANTWAY**

Quantway 1 is a single-semester quantitative reasoning course that fulfills the requirements for students' developmental mathematics sequence and prepares them for success in college-level math.

Students who succeed in Quantway 1 are then eligible to enroll in Quantway 2, a college credit-bearing quantitative reasoning course, or another college-level course appropriate for their field of study.

# National Faculty Innovations

- Faculty are invited to join national committees (i.e. curriculum committee, assessment committee) convened by Carnegie to continually revise and improve the curriculum and its implementation
- Faculty-led conference workshops
- Examples of emerging initiatives:
  - Bridge course from Quantway to STEM
  - One semester (6-contact hour) Statway
  - New content, revised assessments
  - Supplemental technology

# SUNY's Partnership with Carnegie

- Two SUNY colleges (Onondaga CC and Westchester CC) were part of the inaugural 8 colleges for the national launch of Quantway
- A third college (Rockland CC) quickly joined the group
- Carnegie's success: Three-year success rates are over 50%, compared to range of 5-15% for traditional developmental math sequence
- SUNY is partnering with Carnegie to scale Quantway/Statway over a three year period (2015-2018)
- Led by Johanna Duncan Poitier, Senior Vice Chancellor for Community Colleges and the Education Pipeline

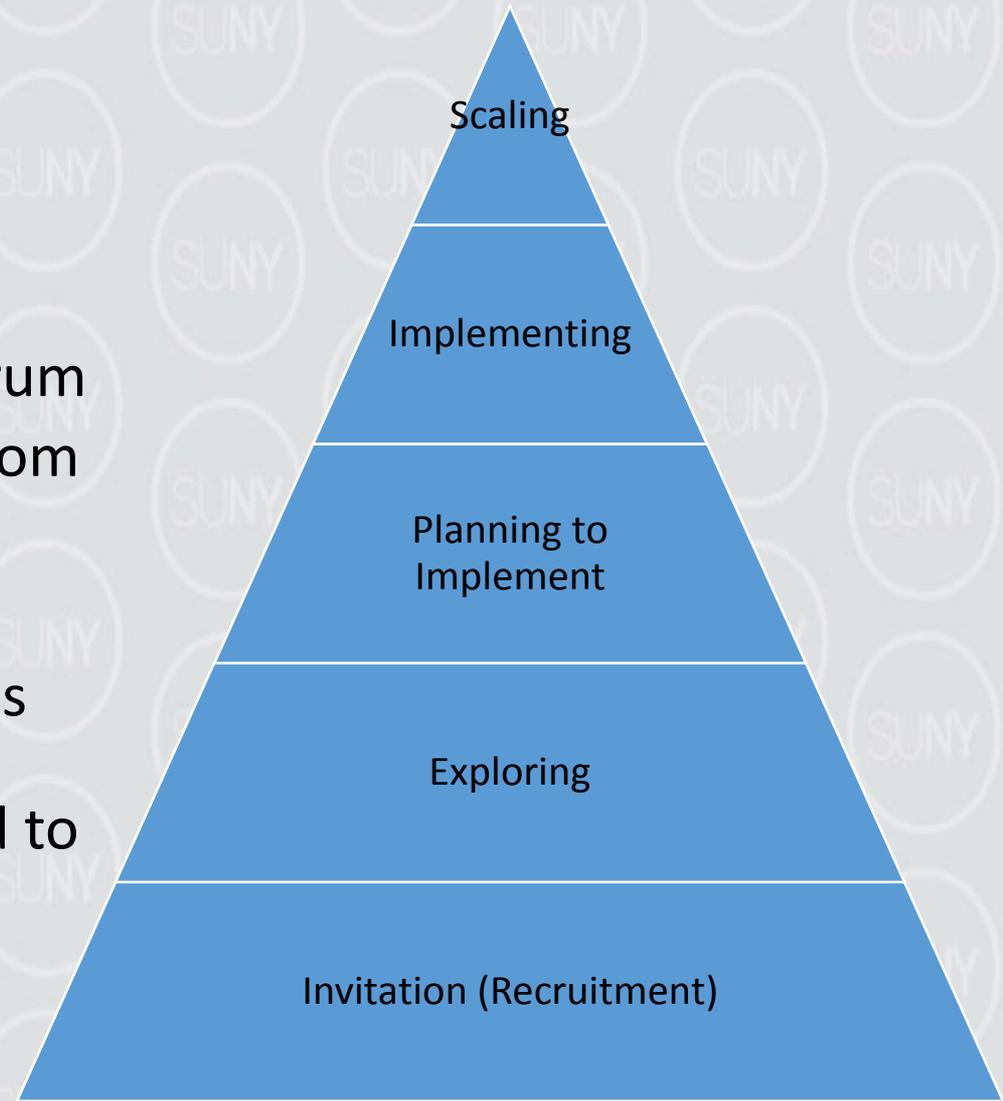


# Creating the climate for change

- Shared vision- balancing the communication with all stakeholders, while focusing on faculty leadership and professional development
  - College Presidents
  - Faculty and Faculty Governance
  - Chief Academic Officers
  - Advisors/Counselors
  - Student Affairs Staff (admissions, registrar)
  - Academic Support Specialists
- Presented as an opportunity, not a system mandate
- Support local college contexts and governance, while providing system level support
  - Statway, Quantway, or both?
  - Local graduation requirements
  - SUNY General Education Requirements and Seamless Transfer
  - Data Collection

# Engaging and enabling college action

- Year 1 (2015-2016)-inaugural colleges and other early adopter campuses
- Summer 2015- over 40 SUNY faculty/staff participated in Carnegie's Pathways National Forum
- Phone conferences, invitations from early adopters to visit Quantway classes in action; follow up conference in November
- Funding to support initial campus implementation
- Additional colleges will be invited to explore



# Other considerations

- Entry level math prerequisites for Quantway and Statway
  - Is a course in developmental pre-algebra or arithmetic required and how will this impact overall student success?
- STEM pathway
  - Bridge course from Quantway to STEM or alternative pathway?
- Transfer
  - Many non-STEM transfer programs require one 3-credit SUNY General Education math course
  - May be fulfilled with college level Quantitative Reasoning (or Quantway 2) or Elementary/Introduction to Statistics (equivalence to Statway)

# Summary

- Goals
  - Framed within system-level and campus-level strategic goals
- Leadership
  - Balancing communication-bottom up and top down
  - Shared governance
- Inventory
  - System-level assets: Pathways to Success, GAP legislation, Seamless transfer
  - Faculty support from colleges that had already had success with pathways
- System support/Campus implementation
  - “Systemness”
  - College mission, context, and governance
  - Faculty expertise



# Maryland Mathematics Reform Initiative: MMRI

Nancy Shapiro  
University System of Maryland

September 10, 2015



# USM at a Glance

## USM: Public University System

- 11 degree granting institutions
  - 3 research intensive institutions
  - 3 HBI/MSI institutions
  - 6 comprehensive institutions
  - 1 adult education/distance education institution
  - 1 research center for environmental sciences
  - 2 regional centers that host programs from other institutions
  - Professional schools of medicine, law, social work
- 120,000 undergraduates
- 41,700 graduate students
- 8,700 full-time faculty
- 6,500 part-time faculty
- \$5.13 Billion Operating Budget



# University System of Maryland



- Board of Regents, appointed by the governor, sets all USM policy (admission, faculty workload, graduation requirements)
  - Maryland also has a Higher Education Commission (MHEC) which regulates all public, private higher education, including community colleges, independent colleges and universities, all out-of-state colleges and universities.
  - MHEC sets state-wide general education requirements
-

# Maryland State Policy Context: Seamless Transfer

*COMAR 13B: Requires the transfer of general education block across all public two-year and four-year institutions in Maryland, without the need for course-by-course review, ensuring the portability of these new mathematics courses and pathways.*

*College and Career Readiness and College Completion Act of 2013: Requires that all Maryland public institutions ensure that students take their credit-bearing mathematics and English general education courses within the first 24 credit hours of study.*

# MMRI: Who? What? Where? When?

October  
2014

- State-wide Quantitative Literacy Convening, sponsored by the P-20 Leaders

December  
2014

- USM convened the first meeting of the Statewide MMRI Steering Committee

January  
2015

- Steering Committee charged a workgroup to develop recommendations to change state general education math regulation

May  
2015

- Steering Committee approved new language for the general education regulation and charged MMRI Workgroup to develop frameworks for new pathways

June  
2015

- MHEC approved new language and published it for public review and approval.

August-  
September  
2015

- Public Review of new regulatory language approved

August  
2015

- USM convened MMRI Workgroup to review existing gen ed course frameworks and revise with new regulations in mind

# Old Regulatory Language/ New Regulatory Language

- OLD: One course in mathematics at or above the level of college algebra
  - NEW: One course in mathematics, having performance expectations demonstrating a level of mathematical maturity beyond the Maryland College and Career Ready Standards in Mathematics (including problem-solving skills, and mathematical concepts and techniques that can be applied in the student's program of study).
-

# Why?

- Intermediate Algebra is the “graveyard” for non-STEM majors
    - Approximately 20,000 (71%) Maryland community college students test into developmental math courses
  - Existing regulations drove community college students toward math courses that did not align with the requirements of their majors and resulted in high failure and drop-out rates.
  - USM institutions had multiple pathways, but community colleges did not.
-

# How?

## Leadership from the Top

- Intersegmental Chief Academic Officers
- MMRI Steering Committee

## Bottom up communication

- State Wide Math Group
  - MMRI Workgroup
  - Campus-level committees and task forces
-

# Challenges

- What happens to students who start down non-stem pathway and decide to change majors to STEM?
  - Who decides if the Statistics courses and Quantitative Literacy courses cover the minimal mathematical concepts and skills necessary for civic participation?
  - How should the academic community respond to the push for common course numbering, when the goal is common course outcomes?
-

# Lessons Learned

- If it's not broken, don't fix it
  - Be careful what you wish for
  - The perfect is the enemy of the good
  - When in doubt, think first about best interest of the students
-



Nancy Shapiro, PhD  
Associate Vice Chancellor,  
Office of Academic Affairs  
University System of Maryland  
3300 Metzert Road  
Adelphi, Maryland 20783

---



# The New Mathways Project

The Charles A. Dana Center at  
The University of Texas at Austin

**Philip Uri Treisman**

Executive Director

**Jenna Cullinane**

Strategic Policy Lead,  
Higher Education

Taking Student Success to Scale (TS3): *Redesigning the Math Pathway*  
National Association of System Heads  
September 10, 2015



**The Charles A. Dana Center**  
at the University of Texas at Austin

# About the Dana Center

The **Charles A. Dana Center** at The University of Texas at Austin works with our nation's education systems to ensure that every student leaves school prepared for success in postsecondary education and the contemporary workplace.

Our work, based on research and two decades of experience, focuses on K–16 mathematics and science education with an emphasis on strategies for improving student engagement, motivation, persistence, and achievement.

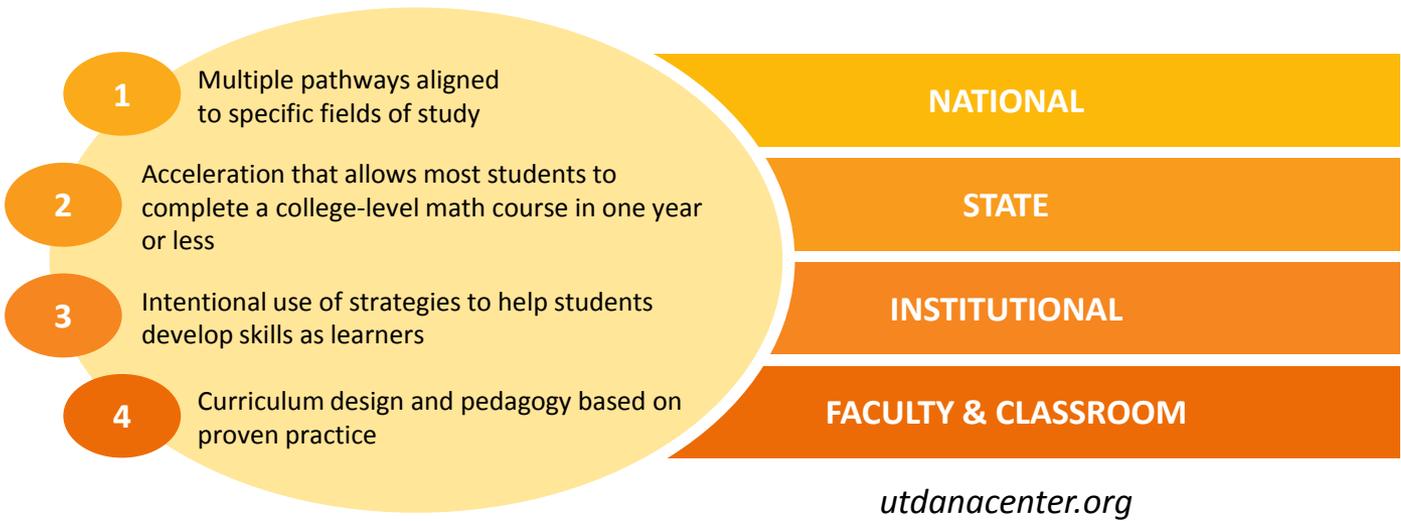
We develop innovative curricula, tools, protocols, and instructional supports and deliver powerful instructional and leadership development.

In all of our work, we strive to effectively advocate for **the real goals of reform.**

- Make mathematics a vehicle for upward social mobility, not a burial ground for students' aspirations.
- Narrow the gap between mathematics as it is used and what students learn in their courses.
- Improve learning infrastructure to help us get better at providing students with high quality mathematics education.

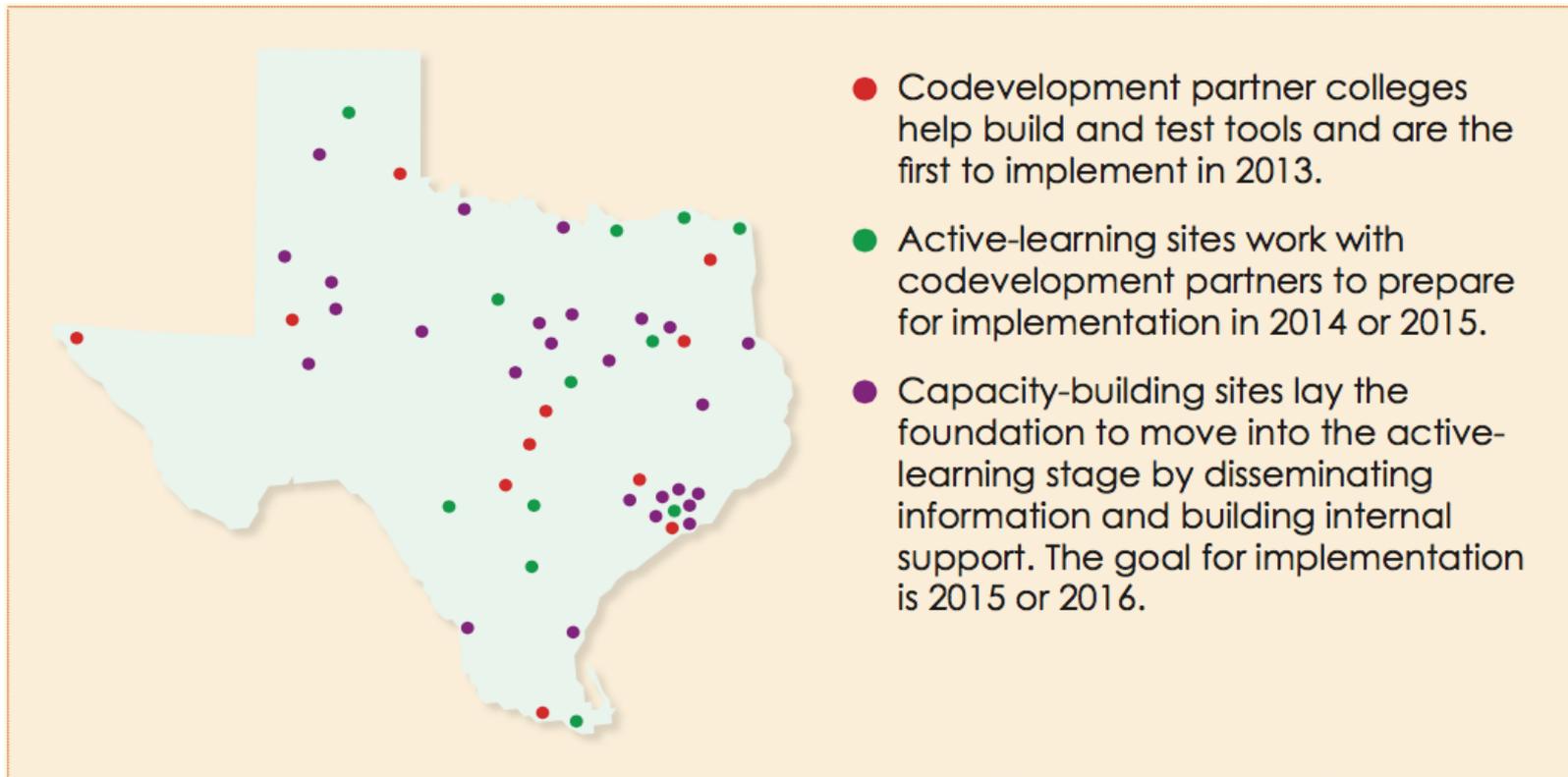
The New Mathways Project is a systemic approach to improving student success and completion based on four fundamental principles:

### Four Principles of Reform at All Levels of the System

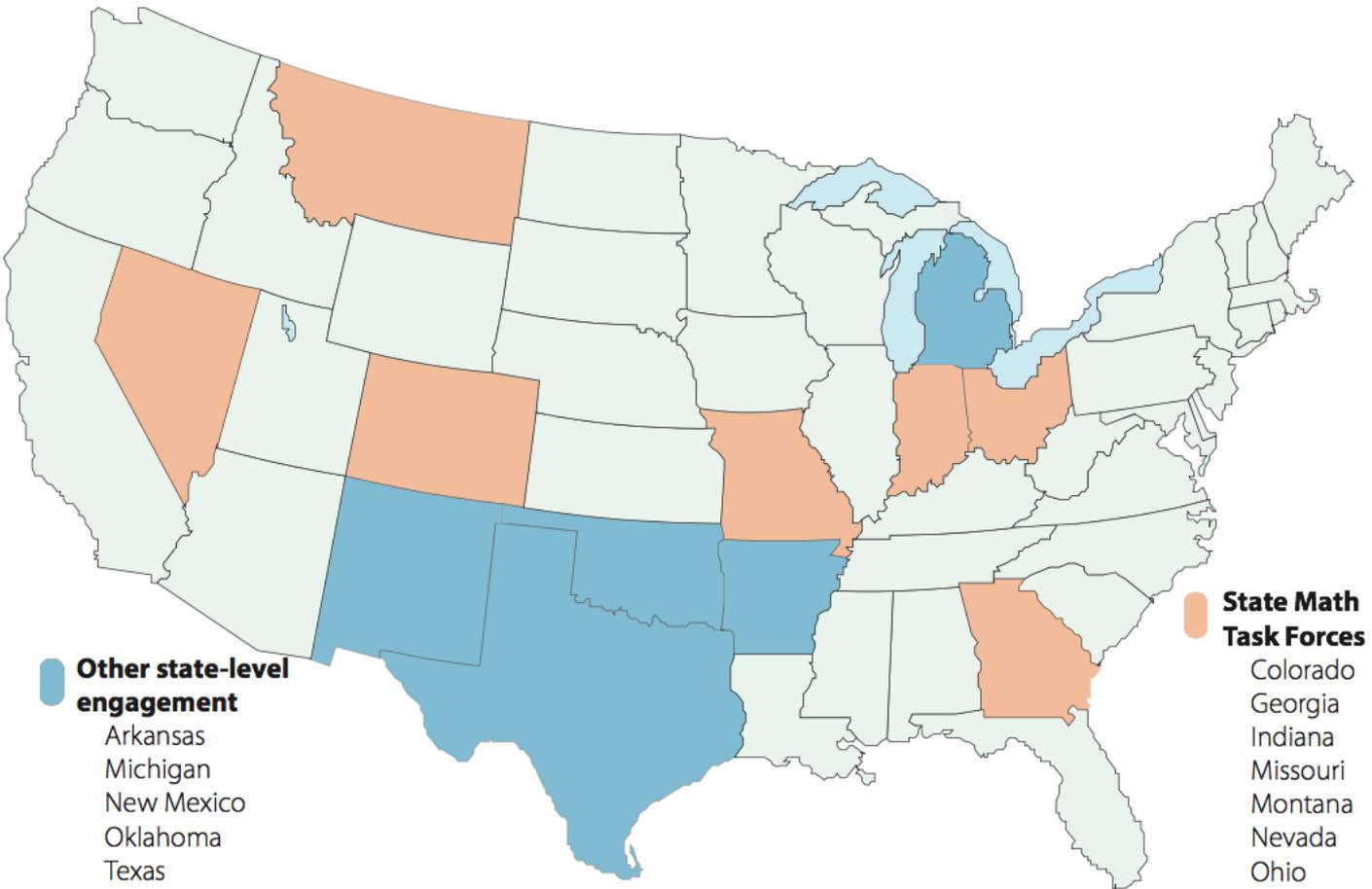


*utdanacenter.org*

The Dana Center launched the New Mathways Project in 2012 in collaboration with the Texas Association of Community Colleges.



The NMP has since expanded to several other states across the country.



# The Dana Center's Role

**NATIONAL**

**KEY ACTIVITIES:**

**GOAL:** Legitimize math pathways through professional associations and mathematics leadership

- **Common Vision 2025:** Collaboration of five math professional associations to modernize undergraduate pathways
- **Transforming Post-secondary Education in Mathematics** through thought leaders promoting constructive change in college mathematics

**An important driver of our work with mathematics leadership is the need to fundamentally rebrand American postsecondary mathematics education.**

### **High-level goals for postsecondary mathematics**

1. Math can become a **partner** discipline, rather than a service discipline.
2. Math can become the discipline best at **curricular modernization and relevance**, which requires working with peer disciplines.
3. Math can be seen as the most responsible discipline in **supporting student success**—and the easiest to work with.
4. Mathematics can become the exemplar among disciplines in **improvement**, in identifying areas of **consensus** in a highly heterogeneous higher education landscape, and in developing and scaling **innovation**.

# The Dana Center's Role

## NATIONAL

**GOAL:** Legitimize math pathways through professional associations and mathematics leadership

## STATE/SYSTEM

**GOAL:** Coordinate policy, institutional and organizational efforts across state/system to promote NMP model

## KEY ACTIVITIES:

- **Texas:** Support policy change, engage 21 universities and 47 community college systems
- **Other States:** Mobilize faculty to set vision for math pathways in Colorado, Georgia, Indiana, Missouri, Montana, New Mexico, Ohio, and Oklahoma
- **Systems:** Engage faculty leaders from key systems including University of Texas System and Colorado State University System

**OHIO BOARD OF REGENTS'  
CHARGE TO THE MATHEMATICS  
STEERING COMMITTEE**

---

*To develop expectations and processes that result in each campus offering pathways in mathematics that yield*

- (1) increased success for students in the study of mathematics;*
- (2) a higher percentage of students completing degree programs; and*
- (3) effective transferability of credits for students moving from one institution to another.*

## Recommendations from the Ohio State Math Task Force

1. Improve student success in entry-level courses by aligning mathematics to academic programs of study and by improving instructional delivery mechanisms
2. Develop, implement, and evaluate co-requisite strategies to support underprepared students
3. Redesign OTM course criteria and processes to focus on student learning outcomes
4. Establish a statewide network of mathematics chairpersons
5. Improve communication among mathematics faculty and stakeholders across institutions
6. Develop quality measures for improving student success in mathematics; then collect, analyze, and share relevant data
7. Strengthen collaboration and communication between K12 and higher education on mathematics curriculum and instruction

# The Dana Center's Role

## NATIONAL

**GOAL:** Legitimize math pathways through professional associations and mathematics leadership

## STATE/SYSTEM

**GOAL:** Coordinate policy, institutional and organizational efforts across state/system to promote NMP model

## INSTITUTIONAL

**GOAL:** Build tools and services that help colleges to implement systematic reform

## KEY ACTIVITIES:

- **Texas:** Offer institutional mentorship
- **Everywhere:**
  - Provide detailed implementation guide and scaling toolkit
  - Develop tools and strategies to help train advisors and plan for student recruitment

*These resources are available now.*

# The Dana Center's Role

## NATIONAL

**GOAL:** Legitimize math pathways through professional associations and mathematics leadership

## STATE/SYSTEM

**GOAL:** Coordinate policy, institutional and organizational efforts across state/system to promote NMP model

## INSTITUTIONAL

**GOAL:** Build tools and services that help colleges to implement systematic reform

## FACULTY & CLASSROOM

**GOAL:** Develop professional learning and curricular resources informed by faculty

## KEY ACTIVITIES:

- **Course Materials:** Mathematics & Learning Frameworks
- **Faculty Training** for Dana Center courses and for general active learning pedagogy

# Lessons Learned

What we've discovered along the way

# Lessons Learned:

Lesson	Key points
Role of leadership	<ul style="list-style-type: none"><li>• Set the charge</li><li>• Connect to mission and strategic plan</li><li>• Establish structures for cross-institutional work</li><li>• “Faculty-driven, administrator-supported</li></ul>
Context matters	<ul style="list-style-type: none"><li>• Take the time to build a shared understanding of the current context</li><li>• Build on strengths and success</li></ul>
Pathways, not courses	<ul style="list-style-type: none"><li>• Create pathways for Statistics, Quantitative Reasoning, and STEM Prep</li><li>• Embed customized student success strategies into each pathway</li></ul>
The need for multi-dimensional solutions	<ul style="list-style-type: none"><li>• From placement to articulation, a variety of supports must be created</li><li>• These include: Content, delivery, sequence structure, and student supports</li></ul>
Design for scale	<ul style="list-style-type: none"><li>• Set goals for scaling early</li><li>• Balance bold vision with practicality</li><li>• Engage broadly from beginning</li></ul>
Work systemically	<ul style="list-style-type: none"><li>• Include all stakeholders early</li><li>• Communicate, communicate, communicate</li><li>• Engage, don’t just tell</li></ul>
Transfer and applicability	<ul style="list-style-type: none"><li>• Separate myth from reality <i>and</i> transfer from applicability</li><li>• Prioritize</li><li>• Facilitate regional discussions</li></ul>

**Don't reinvent the wheel!** We provide tools and resources for implementing and sustaining reform at scale, from the classroom to the institution.

Implementation

- NMP Implementation Guide
- NMP Institutional Scaling toolkit
- Pathways workshop

Transfer and applicability

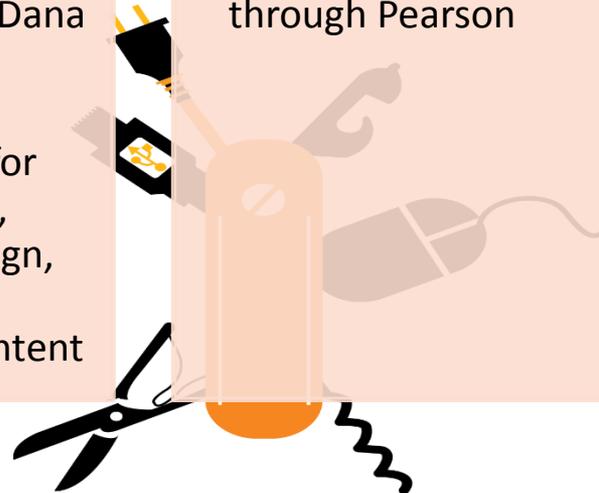
- Program of Study briefs: nursing, social work, communications, criminal justice
- Mathematics Pathways Transfer Inventory (Texas)

Professional learning

- College-based Learning Modules—to support active-learning pedagogy
- New Faculty Workshops for Dana Center courses
- Annotated bibliographies for NMP principles, curriculum design, and learning frameworks content

Curriculum

- Frameworks of Mathematics and Collegiate Learning
- Math courses are being released through Pearson



# Stay informed!

- Sign up for monthly updates of new information, services and tools at [mathways@austin.utexas.edu](mailto:mathways@austin.utexas.edu)
- Use the resources on our website: [www.utdanacenter.org](http://www.utdanacenter.org)
- To learn more about the courses, contact Heather Cook at [hcook@austin.utexas.edu](mailto:hcook@austin.utexas.edu)
- Contact Jenna at [jenna.cullinane@austin.utexas.edu](mailto:jenna.cullinane@austin.utexas.edu)



Today we will:



- Update you on TS<sup>3</sup>
- Provide an understanding of the different approaches to redesigning math pathways
- **Share out best practices and cautionary tales, and highlight content related to redesigning math pathways**

Folks from systems and institutions identified the following as critical issues to consider:

## What will it take to succeed?

1. Faculty buy-in inside and outside math
2. Opportunities for training and development
3. Data collection and analysis
4. Positive momentum
5. Student buy-in
6. Strong communication and outreach plan
7. Resources to help lower cost or make programs sustainable

## What gets in the way of success?

1. These efforts can be costly
2. Resistance can come in many forms
3. A lack of data and assessment can lead to skepticism
4. Splintered student support programs can derail otherwise good ideas
5. Curriculum committee buy-in is essential
6. Too many initiatives and fatigue
7. Effective tutoring to complement these new models

## Many systems and institutions are making progress towards redesigning math pathways



Community and Technical Colleges are all in with co-requisite delivery and have had spectacular results. Some schools are reporting a pass rate double from the previous year



CVCC has successfully implemented the new course MAT 143 - Quantitative Literacy.



DCC has launched a new developmental course in Math Literacy aimed at non-STEM majors headed for a limited selection of successor courses offered in five and ten week options.

**The efforts of the University System of Maryland and its institutions to promote seamless transfer exemplifies this:**

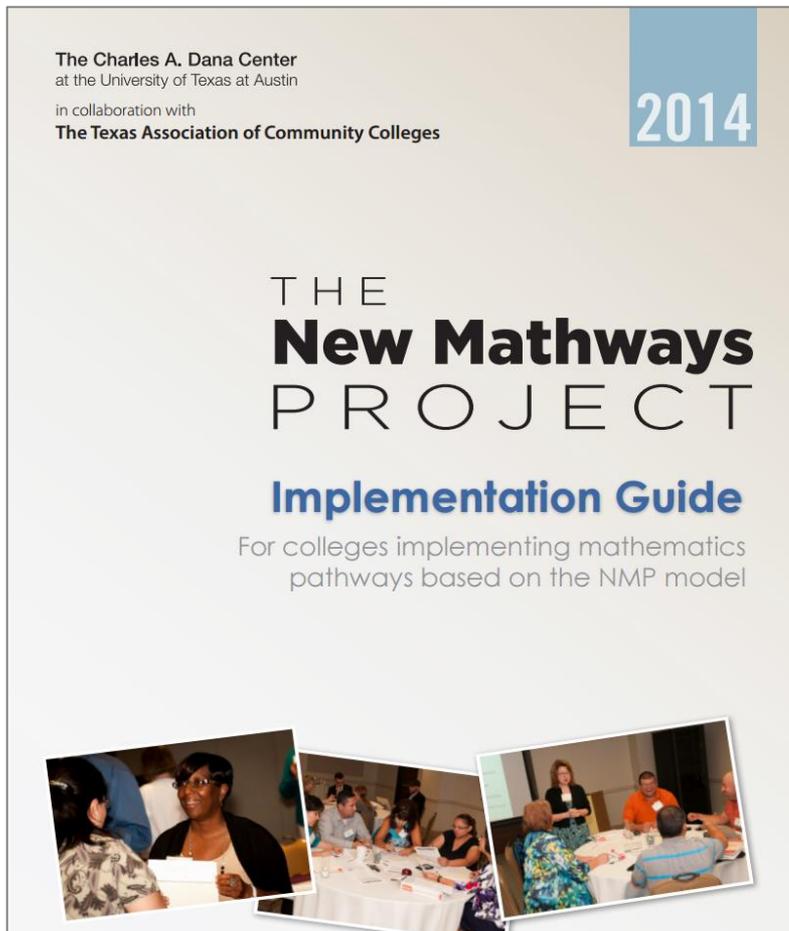
- **Systems can support** the adoption and scaling of **redesigned math pathways** by creating an enabling environment **through policies and resources.**
- Simultaneously, **institutions can take advantage of this** enabling environment **by acting on areas of convergence** with the system.
- **Opportunity:**
  - Improving seamless transfer across USMD
- **Challenges:**
  - Articulation between institutions
  - Articulation inside and outside the system
  - Ex. Transferring a 3 credit statistics course to an institution where statistics is 4 credits
- **System:**
  - Facilitated cross-institutional credit review
  - Developed policies and convening space
- **Institutions:**
  - Changed their internal mechanisms to accommodate transfer students
  - Gave faculty from across campuses the ability to review course outcomes and make decisions

# To help you take the important first step of taking stock of your current efforts, NASH has developed a self-assessment rubric

What?	Key Questions	Nascent (1)	Developed (4)
<b>Goals</b>	<ul style="list-style-type: none"> <li>- Has the system/institution clearly expressed its goals related to redesigning math pathways?</li> <li>- Has the system/institution broadcast those goals to internal and external stakeholders?</li> </ul>	<ul style="list-style-type: none"> <li>- The system/institution hasn't set a clear goal</li> <li>- The system/institution hasn't shared its goal with internal and external stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>- The system/institution has a clearly defined goal for the positive impact of the effort</li> <li>- The system/institution has obtained support from an array of internal and external stakeholders</li> </ul>
<b>Leadership</b>	<ul style="list-style-type: none"> <li>- Is there commitment among system/institution leaders committed?</li> <li>- Does the system/institution have a well-defined leadership team for the initiative?</li> <li>- Are system and institution leaders of the efforts well connected?</li> <li>- Have external champions been identified who can drive change?</li> <li>- Has the system selected a person who will be responsible for the organization and logistics of the team?</li> </ul>	<ul style="list-style-type: none"> <li>- There is uneven commitment to the effort among System/institution leaders</li> <li>- Ownership of redesigning math pathway efforts is murky</li> <li>- Key leaders are disconnected and unable to leverage one another</li> <li>- No group of external stakeholders have been identified, or those who have lack the ability to drive change</li> </ul>	<ul style="list-style-type: none"> <li>- System/institution leaders are committed to the effort</li> <li>- There are clear channels of responsibility and points of accountability within and outside of the organization</li> <li>- Key leaders are well connected and leverage each other to coordinate efforts</li> <li>- A group of external stakeholders who have the capacity to drive change have been identified and are engaged</li> </ul>
<b>Taking Inventory</b>	<ul style="list-style-type: none"> <li>- Has the system/institution taking the time to identify work currently underway?</li> <li>- Is the system/institution aware of support and opposition, and opportunities and challenges?</li> <li>- Has the system/institution identified bright and dark spots to focus early adoption efforts?</li> </ul>	<ul style="list-style-type: none"> <li>- There have been few efforts to understand the current system/institution landscape</li> </ul>	<ul style="list-style-type: none"> <li>- The system/institution has completed an inventory of existing efforts and understands what can be augmented and what must either be created/changed/dropped</li> <li>- The system/institution has a clear sense of the support and opposition, as well as the opportunities and challenges related to the effort</li> <li>- The system/institution has identified where early adoption efforts hold the greatest potential for success</li> </ul>



- The most recent report on the impact of pathways can be found here:  
[http://cdn.carnegiefoundation.org/wp-content/uploads/2015/01/pathways\\_impact\\_report\\_2015.pdf](http://cdn.carnegiefoundation.org/wp-content/uploads/2015/01/pathways_impact_report_2015.pdf)
- “In 2013-2014, the Pathways maintained the positive outcomes attained in the first two years of implementation, including successful course completion rates of approximately 50 percent for both Pathways. The initiative was able to achieve these results while serving almost three times as many students as in its first year (p. 2)”



- How do you develop a formal charge?
- What are the relevant constituent groups and how do you create buy-in?
- When do these groups meet?
- What data will you use?
- How will you tackle issues like common course numberings?
- How can you connect redesigned math pathways with K-12 priorities?
- What actions you can take?

[http://www.utdanacenter.org/wp-content/uploads/2014\\_NMP\\_Implementation\\_Guide\\_March2014.pdf](http://www.utdanacenter.org/wp-content/uploads/2014_NMP_Implementation_Guide_March2014.pdf)

THE UNIVERSITY OF TEXAS AT AUSTIN  
WHAT STARTS HERE CHANGES THE WORLD

news | clients | member login

**The Charles A. Dana Center** search

Equity. Access. Excellence.

Home About Us PK-12 Education **Higher Education** Products  
Contact Us

**New Mathways Project**  
Providing college mathematics pathways that support students' goals

**New Mathways Project** [Home](#) » [Higher Education](#) » New Mathways Project

The New Mathways Project embodies the Dana Center's vision for a systemic approach to improving student success and completion through implementation of processes, strategies, and structures built around three mathematics pathways and a supporting student success course. The Dana Center entered into a unique joint enterprise with the Texas Association of Community Colleges to develop and implement the NMP as a statewide reform effort.

**The New Mathways Project in Texas**  
The Dana Center's joint enterprise with the [Texas Association of Community Colleges](#) lays the foundation for statewide implementation in Texas.

**The New Mathways Project Curricular Materials**  
The Dana Center is building curricular

**Contact Us – Higher Ed**  
Contact us for more information at [mathways@austin.utexas.edu](mailto:mathways@austin.utexas.edu).  
[Subscribe to our email newsletter.](#)

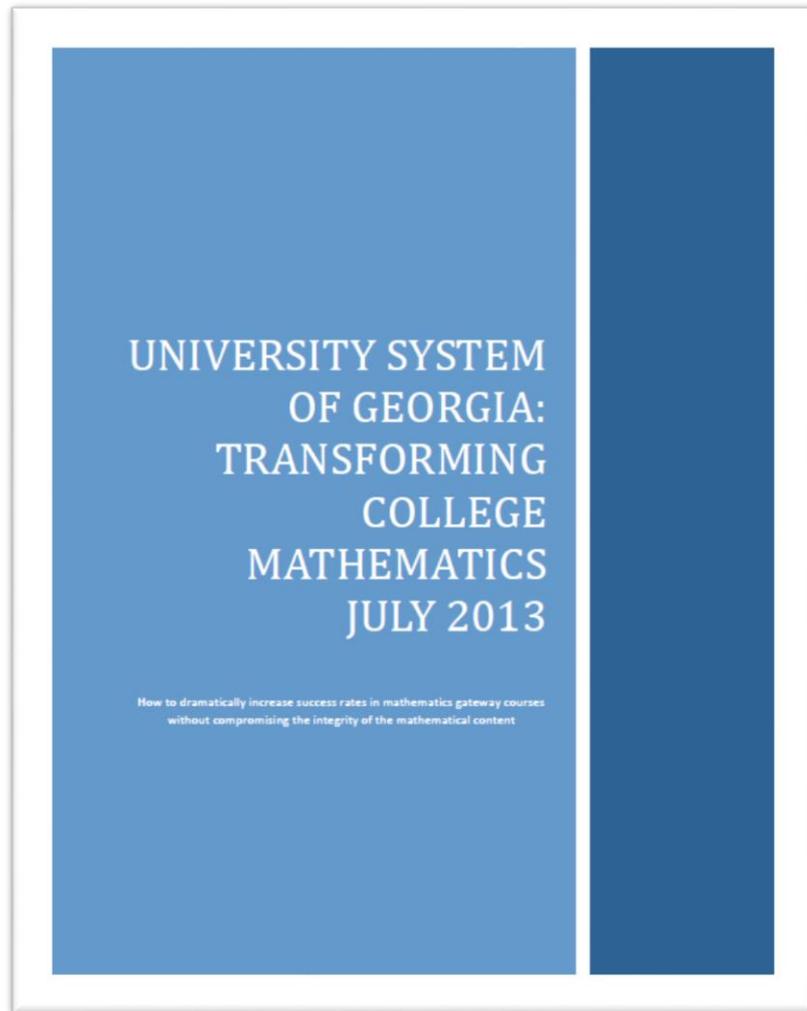
**Spotlight Resources**  
[Upcoming Events - Higher Education](#)  
[Policy Resources](#)

"The accident of where students live should not

- <http://www.utdanacenter.org/higher-education/new-mathways-project/>
- <http://www.utdanacenter.org/higher-education/new-mathways-project/new-mathways-project-curricular-materials/>
- <http://www.utdanacenter.org/higher-education/new-mathways-project/new-mathways-project-curricular-materials/statistical-reasoning-course/>

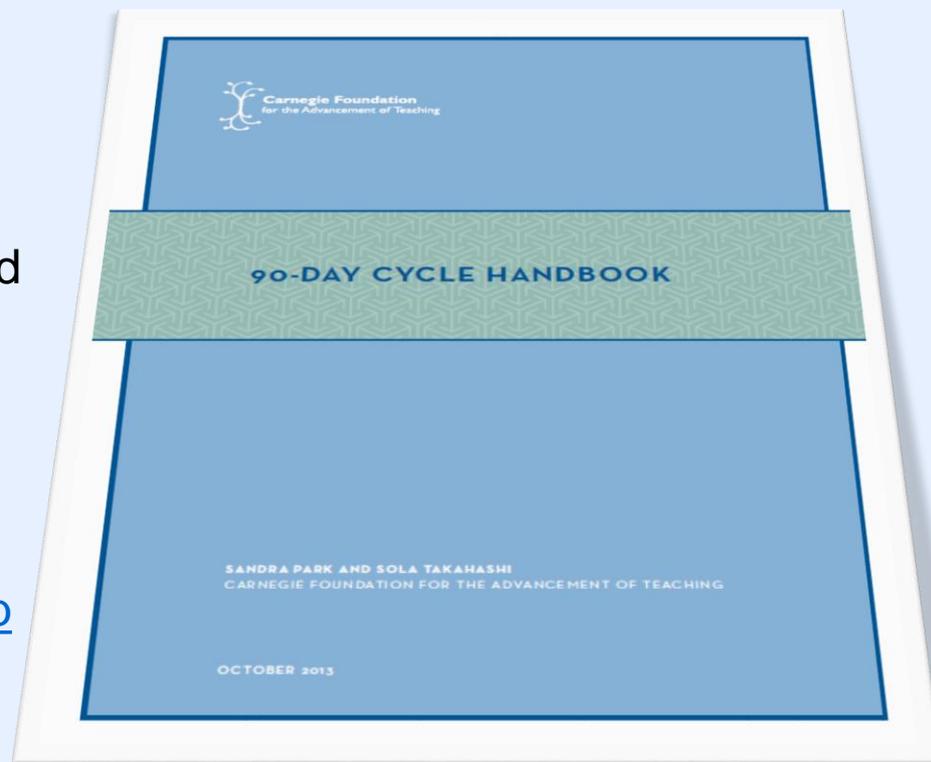
The report focuses on 8 recommendations, such as:

- Focusing on student success
- Aligning gateway math course sequences with academic programs
- Implement a co-requisite approach
- Develop year long math pathways



Elements of the report include:

- Prototype innovations
- Leverage knowledge from scholars and practitioners
- Include testing
- [http://cdn.carnegiefoundation.org/wp-content/uploads/2014/09/90DC\\_Handbook\\_external\\_10\\_8.pdf](http://cdn.carnegiefoundation.org/wp-content/uploads/2014/09/90DC_Handbook_external_10_8.pdf)









# NASH

National Association  
of System Heads

For more information, contact:

[rebecca@nash-dc.org](mailto:rebecca@nash-dc.org)

[jonathan@nash-dc.org](mailto:jonathan@nash-dc.org)