

Bill Moore

Director, K-12
Partnerships

State Board for
Community and
Technical Colleges

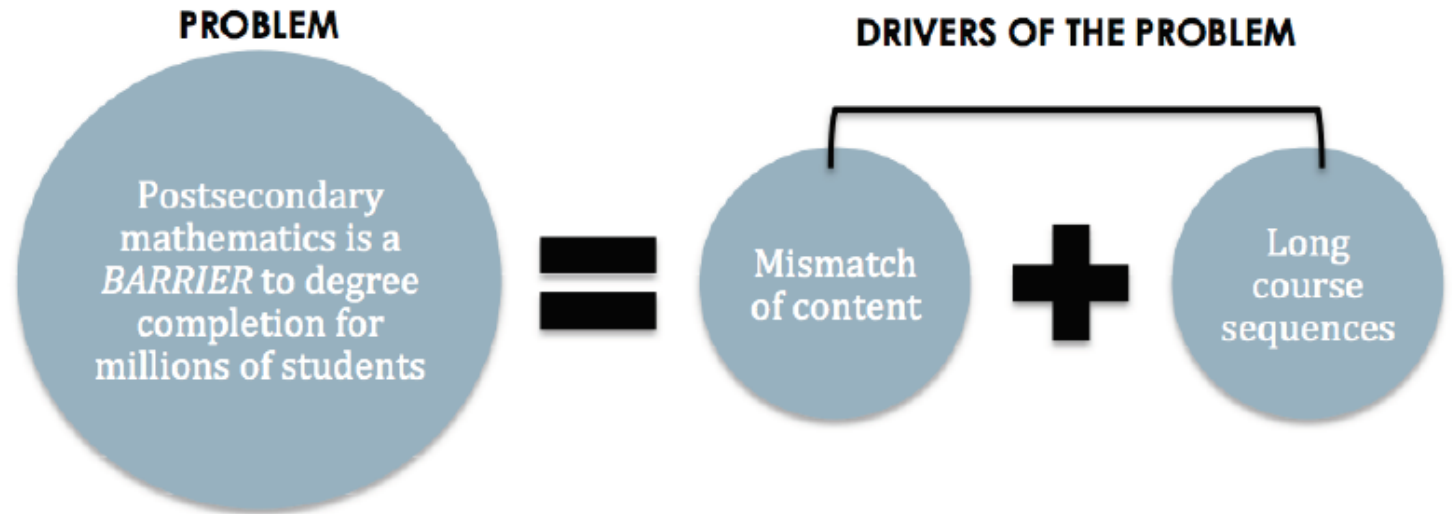
WASHINGTON MATH PATHWAYS TO COMPLETION

Developing or Expanding
Your Math Pathways:
Taking Pathways to Scale



UT DANA
CENTER:

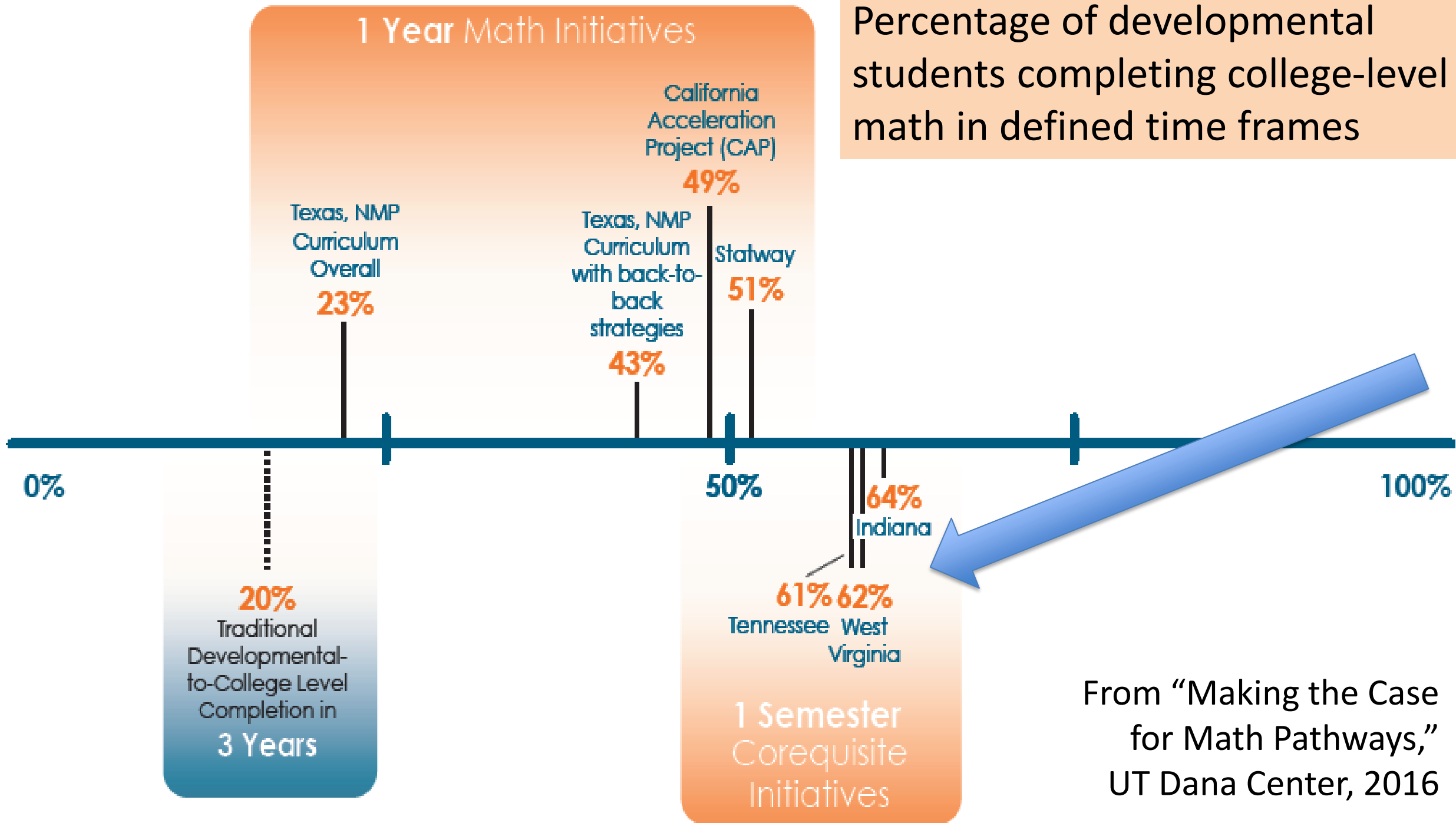
MATH PATHWAYS
TO COMPLETION
(MPC) PROJECT



Addressing the Problem:

Establish mathematics pathways as the **normative practice** for students to complete their mathematics requirement.

Percentage of developmental students completing college-level math in defined time frames



From "Making the Case for Math Pathways," UT Dana Center, 2016

**THREE STRANDS
OF WORK FOR
WASHINGTON
MATH PATHWAYS
TO COMPLETION**

**Task Force System
Recommendations**

- Clarifying models and visuals for advising
- Building common vision for content of pathways

Institutional Scaling

- Recruiting interested institutions
- Hosting fall *Designing Pathways* events

**Math Courses
Transfer &
Applicability**

- Analyzing statewide data on math course transfer issues
- Proposing relevant recommendations

**FINAL
RECOMMENDATIONS
IN WA MATH
PATHWAYS REPORT**

1. Clarifying pathways in WA for students, advisers, faculty
2. Making a solid evidence-based case for pathways
3. Defining math in designated DTA math pathways
4. Leveraging other initiatives and resources
5. Supporting faculty professional development in math pathways

Washington CTC

Single Pathway Model

L4

Developmental Math, Level 4

Long course sequences?

L3

Developmental Math, Level 3

L2

Developmental Math, Level 2

IA

Intermediate Algebra

Liberal Arts

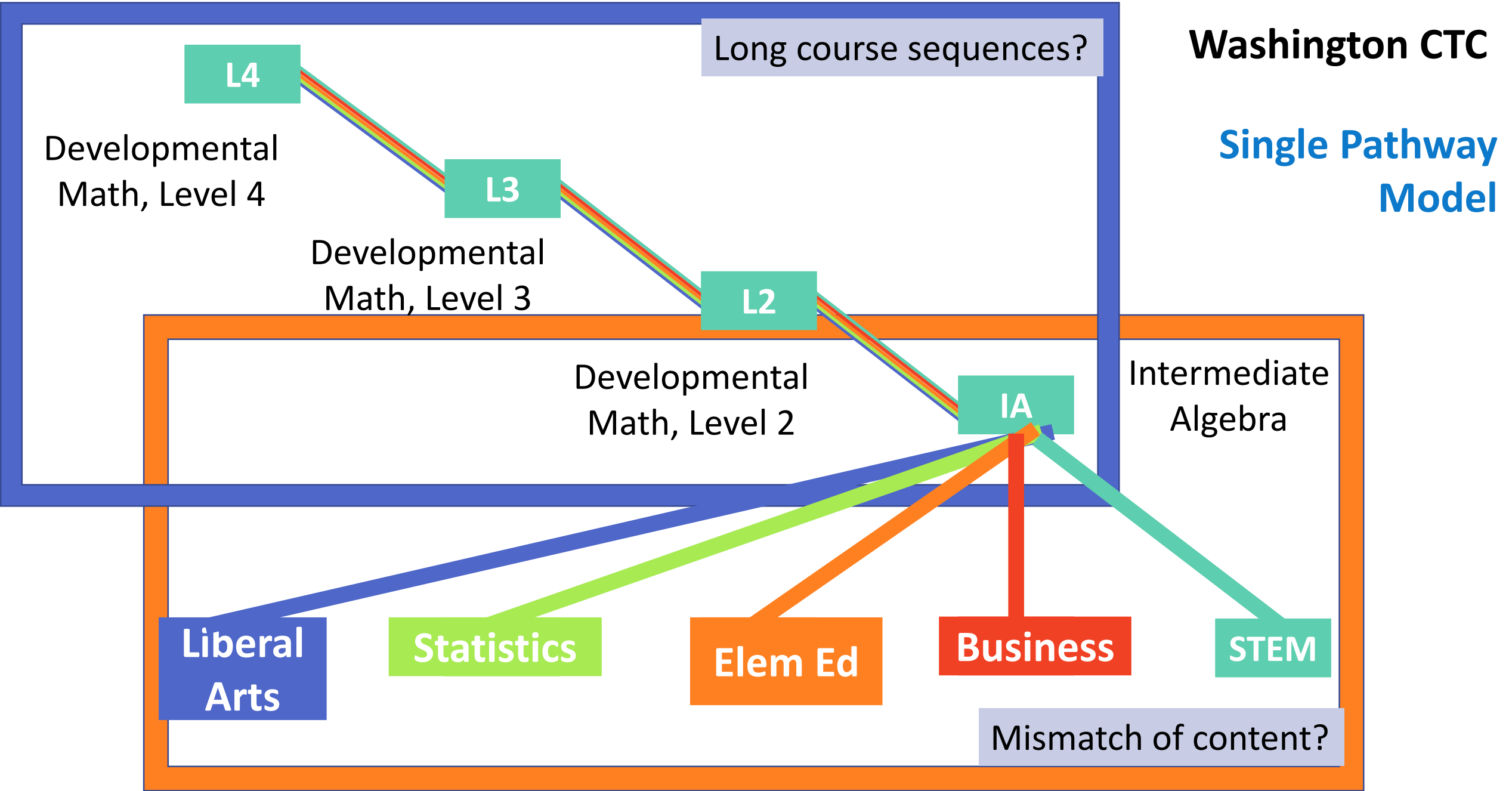
Statistics

Elem Ed

Business

STEM

Mismatch of content?



QUANTITATIVE REASONING PATHWAYS



FOR BUSINESS MAJORS

Designed for students seeking degrees in:

- ◆ Business
- ◆ Economics
- ◆ Accounting

RECOMMENDED COLLEGE MATH COURSES

- ◆ Pre-Calculus = MATH 153
- ◆ Finite Mathematics = MATH 130
- ◆ Foundations for Business Analytics = ECON 130



FOR HEALTH CARE MAJORS

Designed for students seeking degrees in:

- ◆ Nursing
- ◆ Health Science

RECOMMENDED COLLEGE MATH COURSES

- ? Check with adviser about whether you REQUIRE COLLEGE ALGEBRA



FOR ELEMENTARY EDUCATION MAJORS

Designed for students seeking degrees in:

- ◆ K-8 Education

RECOMMENDED COLLEGE MATH COURSES

- ◆ Foundations of Arithmetic = MATH 164
 - ◆ Intuitive Geometry = MATH 250*
- * Check with adviser about whether you REQUIRE BOTH COURSES



FOR LIBERAL ARTS MAJORS

Designed for students seeking degrees in majors which do not require algebra intensive courses.

RECOMMENDED COLLEGE MATH COURSES

- ◆ Math in the Modern World = MATH 101
- ◆ Mathematical Decision Making = MATH 102

STEM PREP PATHWAY



MATH PATHWAY FOR STEM

Designed for students seeking a STEM or mathematics-intensive major including:

- | | | |
|---------------------------|------------------------------------|----------------------------|
| ◆ Actuarial Science | ◆ Engineering | ◆ Nutrition |
| ◆ Biology or Chemistry | ◆ Environmental Studies | ◆ Physics |
| ◆ Clinical Physiology | ◆ Environmental Geological Science | ◆ Safety Health Management |
| ◆ Computer Science | ◆ Mathematics | |
| ◆ Construction Management | | |
| ◆ Craft Brewing | | |

RECOMMENDED COLLEGE MATH COURSES

- ◆ Precalculus I = MATH 141
- ◆ Precalculus II = MATH 142
- ◆ Calculus I = MATH 151
- ◆ Calculus II = MATH 152



WHAT TO DO IF YOU AREN'T COLLEGE READY IN MATH

Students who need to refresh their math skills or didn't take math previously may need to complete one or more of the following preparatory courses. Placement information may be found in the online catalog <http://www.cwu.edu/registrar/catalogs> under Academic and General Regulations.

DEVELOPMENTAL MATH COURSES YOU MAY NEED:

MATH 100A
◆ Pre-Algebra

MATH 100B
◆ Introductory Algebra



In addition to **MATH 100A & 100B**, students in the STEM Prep Pathway may also need to take

MATH 100C
◆ Intermediate Algebra for Calculus

Math Pathways
Advising Visual
Version 1.0

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**DESIGNING
(EXPANDING)
MATHEMATICS
PATHWAYS
WORKSHOPS**

**OCTOBER 24 (SPOKANE)
OCTOBER 26 (SEATTLE)**

**TEAM REGISTRATIONS
DUE SEPT. 25**

Participants will:

1. Identify key issues and activities in the process of implementing math pathways.
2. Draft or refine their action plans for implementing math pathways at scale and a campus communications plan for the work.
3. Learn more about state and national resources related to math pathways and how local work can utilize and build on those efforts.

OPEN TO ALL COLLEGES



**INSTITUTIONS
PARTICIPATING IN
THE “DEVELOPING/
EXPANDING MATH
PATHWAYS” EFFORT
WILL COMMIT TO:**

1. Offer at least three of the college-level DTA math pathways — STEM (Precalculus), Statistics, Math in Society — and at least two precollege pathways aligned to the college-level courses.
2. Enroll all entering degree seeking and transfer students in pathway-appropriate math courses.
3. Assess and improve the effectiveness of college advising and “multiple measures” approach to placement for available math pathways.
4. Participate in statewide meetings and data-gathering efforts to analyze and coordinate pathways work across institutions.

RESOURCES AVAILABLE TO PARTICIPATING INSTITUTIONS

1. Access to high-quality technical assistance from the Charles A. Dana Center at the University of Texas at Austin.
2. Structured opportunities to interact with and learn from peers across the state working on similar issues related to math pathways.
3. Possible College Spark funding available for math pathways-related work, particularly if using a co-requisite approach to remediation.
4. Statewide Washington-specific resources being developed related to math pathways (e.g., pathway content descriptions, advising resources, institutional-level course-taking data).

NEXT STEPS

1. Consult with key administrators, faculty and staff to review the project expectations and determine whether or not to participate.
2. Draft a brief implementation plan (template will be provided).
3. Download the letter of commitment form from the Math Initiatives web page at SBCTC.
4. Submit **(by September 1)** the letter of commitment form (signed by key campus administrators) and the draft implementation plan to the MPC Leadership Team.

FOR MORE INFORMATION:

Contact *Math Pathways to Completion* leadership team:

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SBCTC Math Initiatives page:

**[SBCTC.edu/colleges-staff/
programs-services/math/](http://SBCTC.edu/colleges-staff/programs-services/math/)**

Links to:

- *Designing Math Pathways Events*
- *Developing or Expanding Your Math Pathways (scaling project)*

