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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

NSF S-STEM Program

Building Equitable STEM Transfer Pathways for Community College Students

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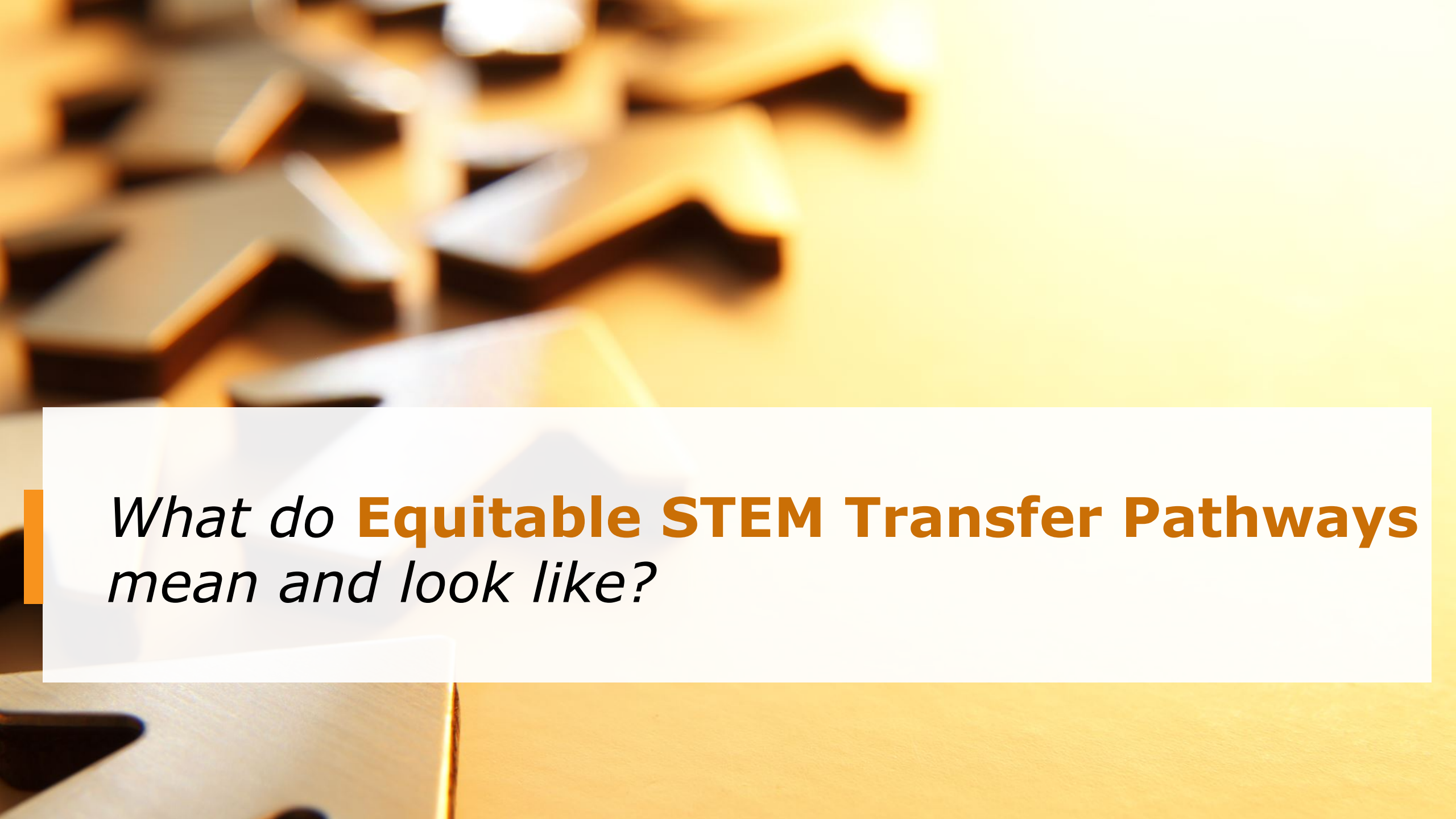
A Pressing National Issue

Transfer aspiration-attainment gap

- ~80% vs. 25% - all majors
- 77.9% vs. 10.2% - STEM

Transfer as an issue of social mobility, equity, and justice

Equitable Transfer Pathways



What do **Equitable STEM Transfer Pathways** *mean and look like?*

Empirical base for today's webinar:

A longitudinal mixed methods research project

Two-year colleges with transfer mission in a midwestern state

About 1,670 students beginning in STEM programs or courses

Data sources

Survey data	Administrative and transcript records	Student interviews

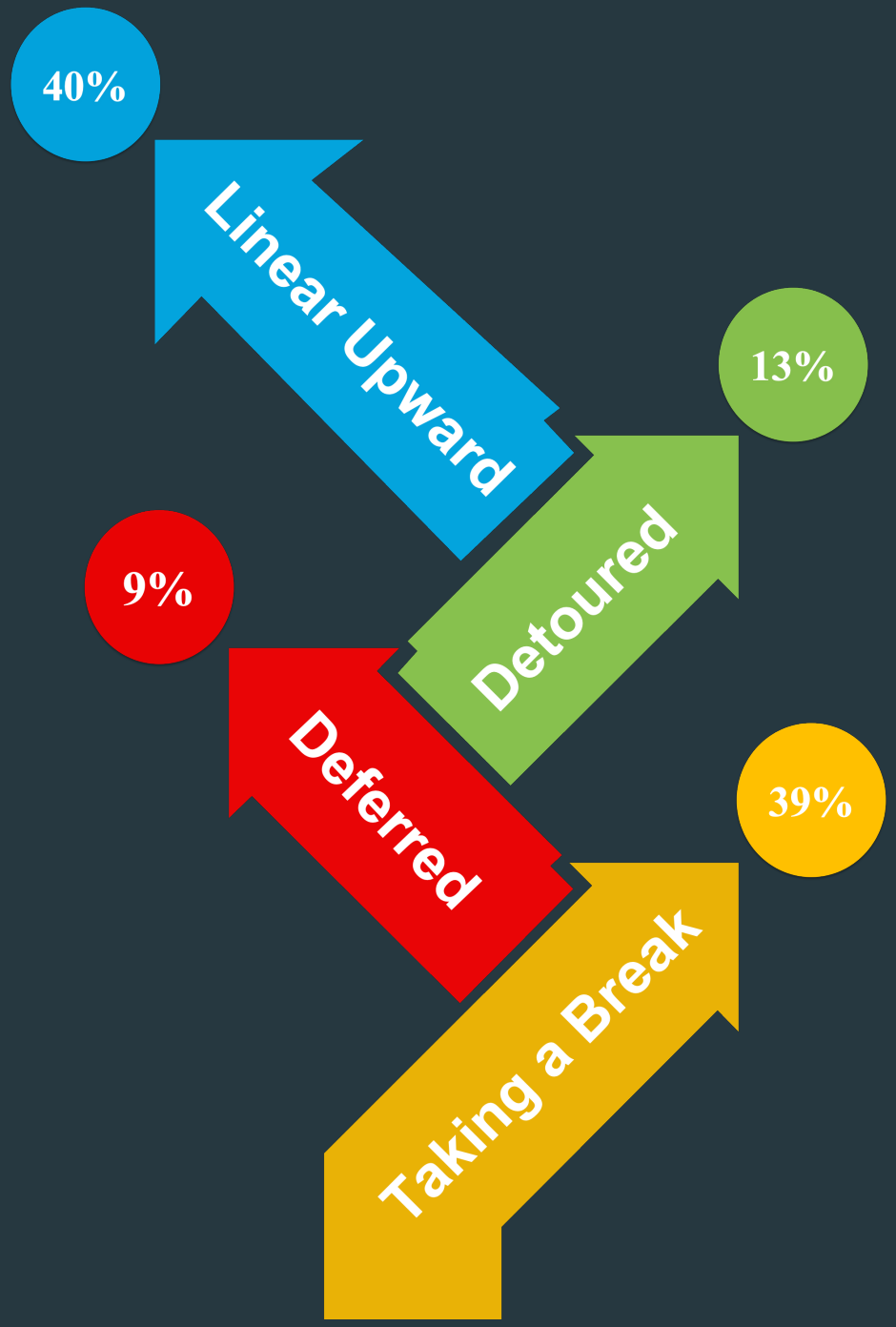
Starting in Fall 2014

High transfer aspirations

73.3% had initial goal of transfer into a four-year program

Four years later

Four momentum trajectories



Major structural issues

- Lack of articulation in STEM majors
- Lack of course pathways fitting students' scheduling needs
- (Un)affordability of transfer
- Converging & compounding barriers

Beyond structural–student experiences: ON MY OWN

Highly individual approaches to negotiating potential transfer path

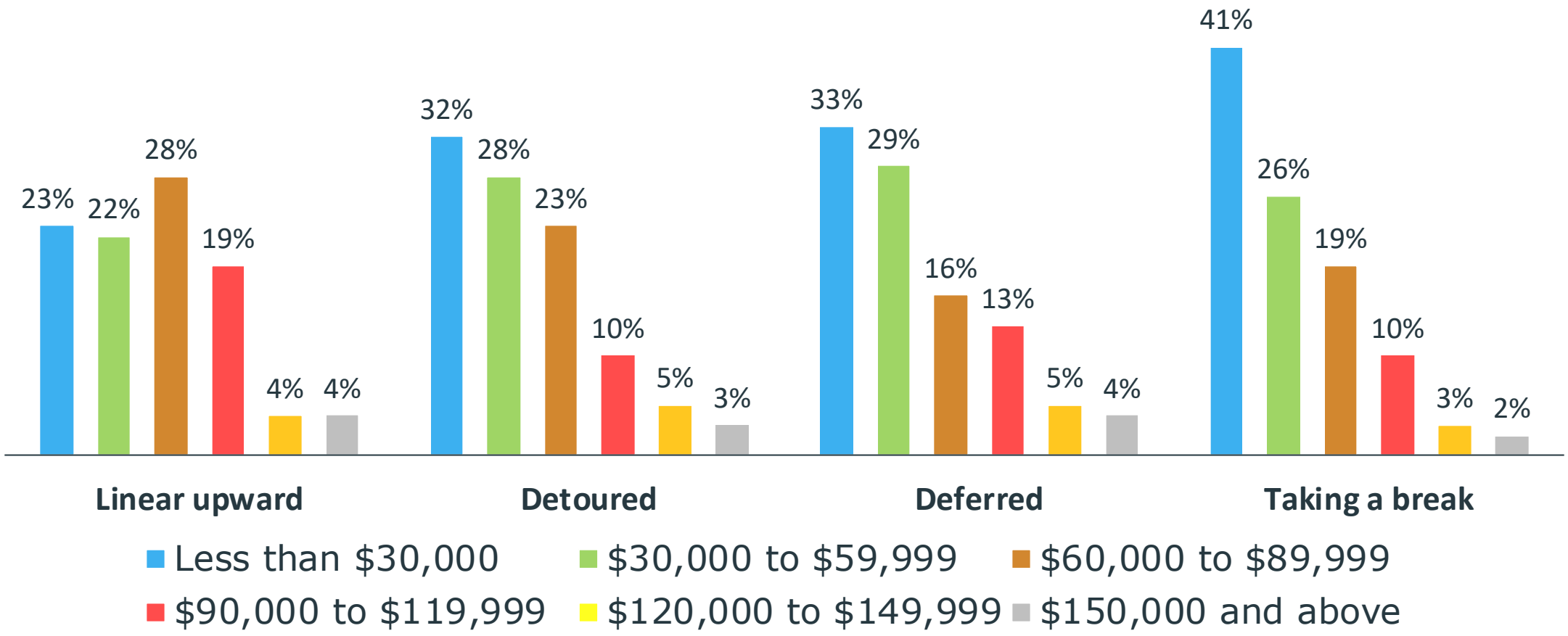
Institutional side largely missing

Supports are **incidental** and **unstructured**

Students harbor **doubts and uncertainties**

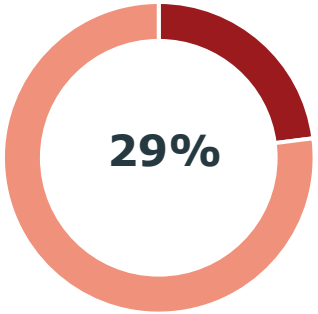
The more "disadvantaged" students persevere to chart their own success

Momentum trajectories and embedded inequities

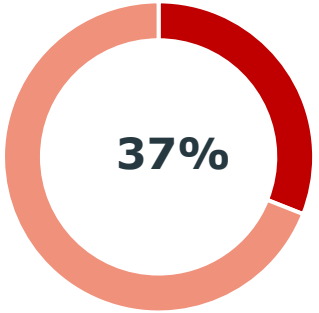


Momentum trajectories and embedded inequities

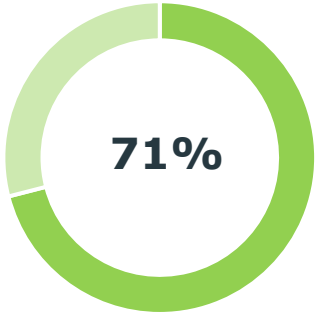
% Students of color in full transfer-intending sample



% Students of color on taking a break trajectory



% White students in full transfer-intending sample



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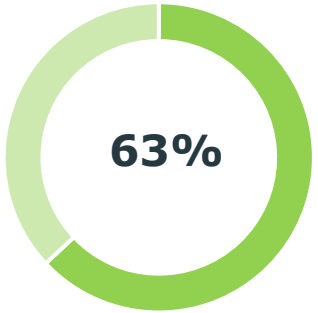

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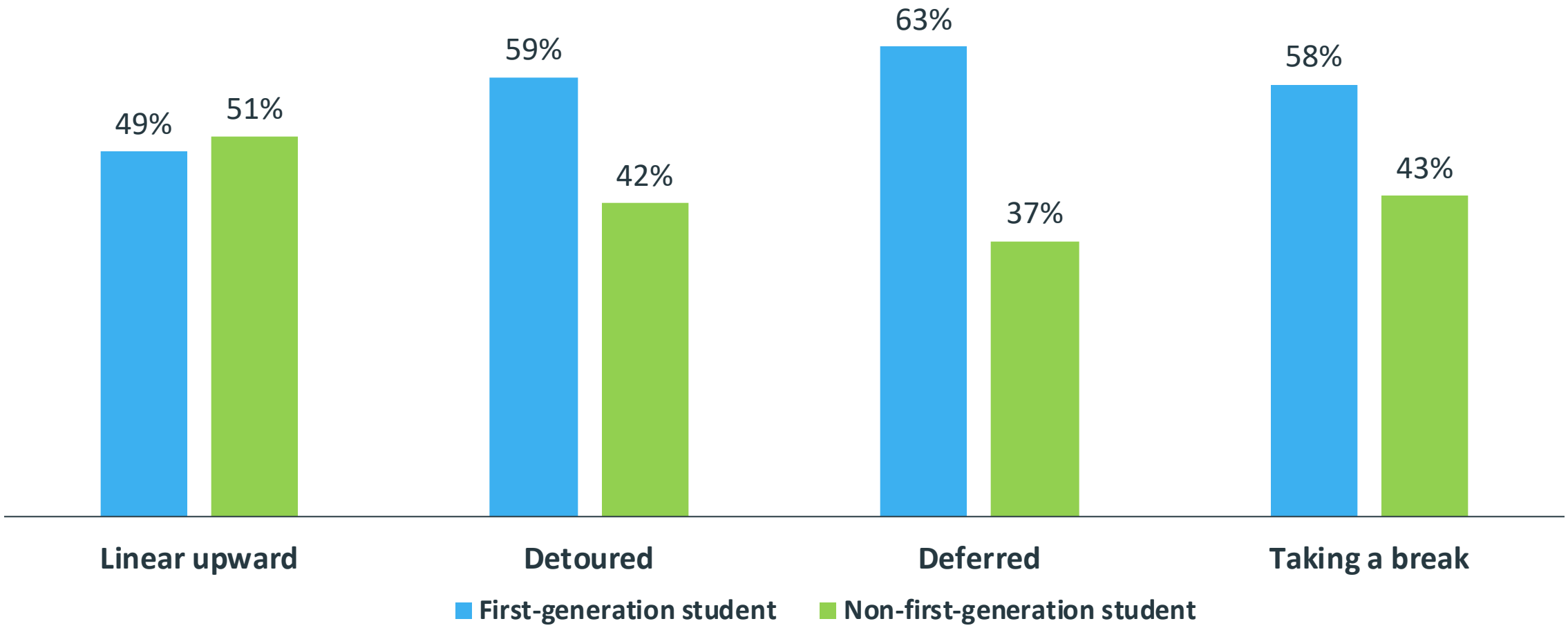


Address structural and experiential

Left to their own devices, but unequal and inequitable access to same "devices," and "devices" available not of equal quality and utility.

How to make STEM transfer structurally smoother?

- **Institution- and STEM-specific articulation agreements**
- **Co-construct learning objectives to streamline offerings**
- **Academic scheduling for easy, broad, and equitable access to transferable STEM courses**
- **Transform course structures and sequences from "gatekeepers" to "gateways"**

Beyond the structural

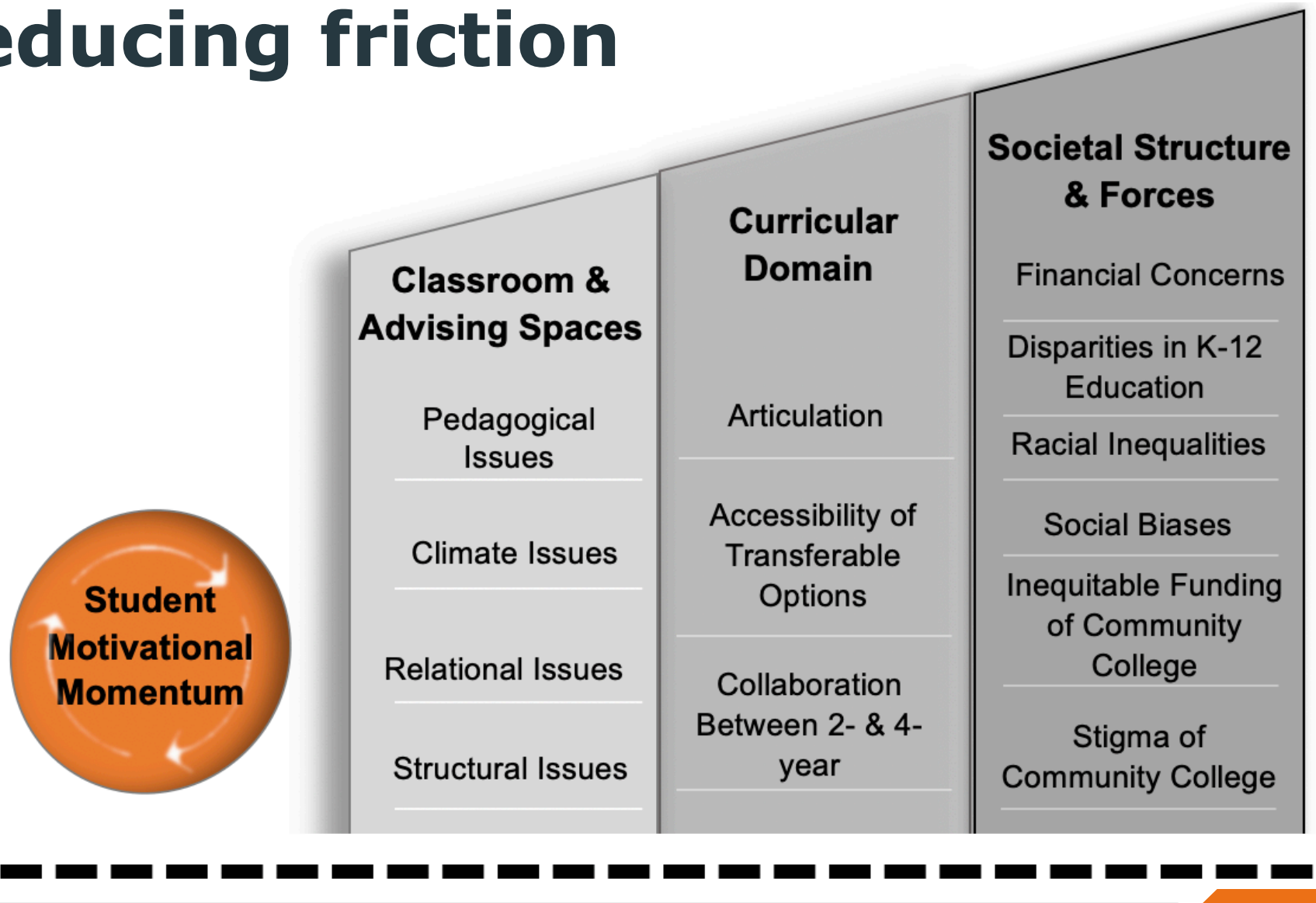
- Cultivate **inclusive** classroom environments and experiences
- Advising approaches support the **whole** person
- **Equity-minded culture** that intentionally practices deep, honest reflection
- **Equity-oriented policy environment for change**

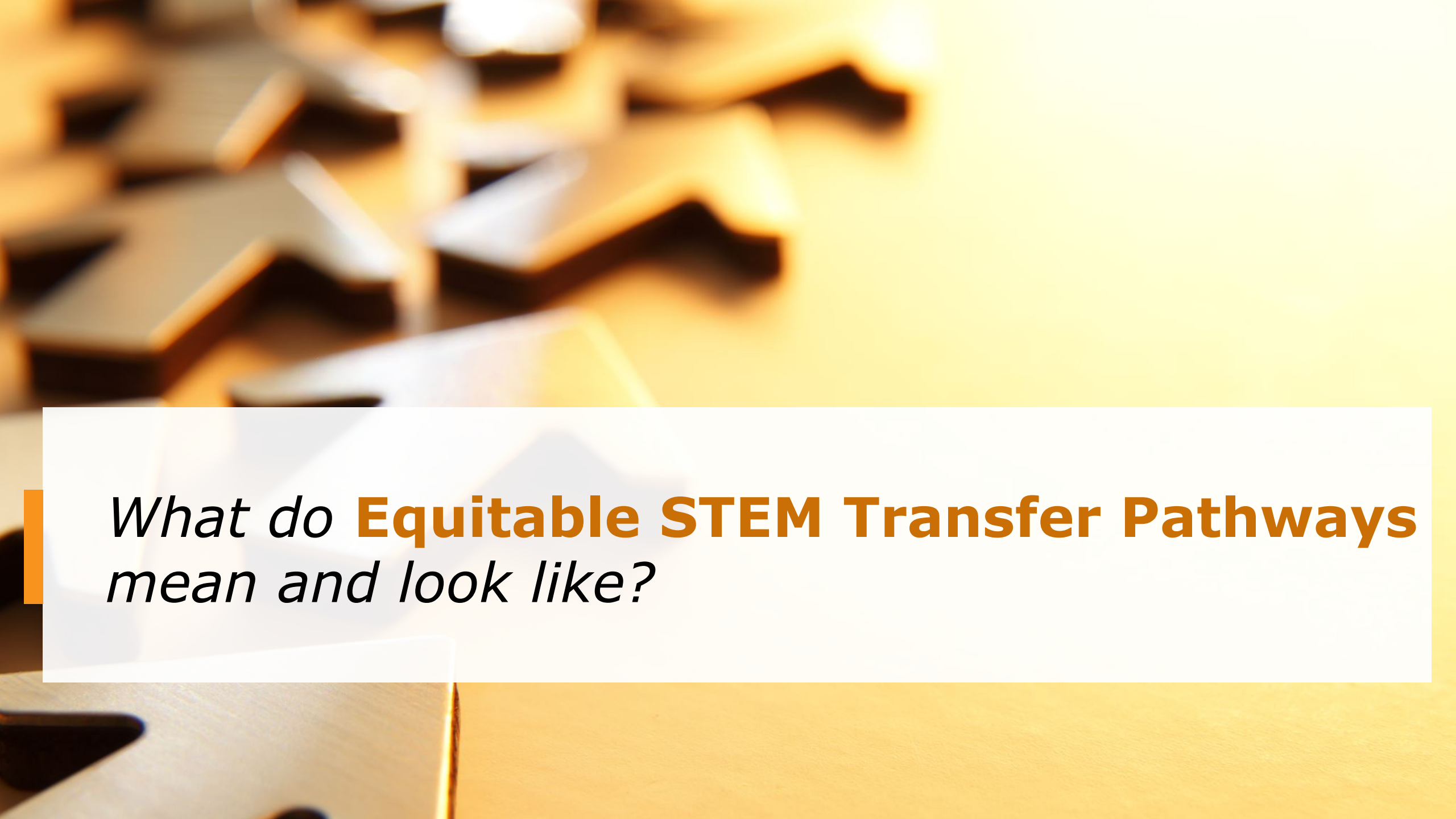
A reflective path toward real change

Do our efforts serve students justly by addressing their unique needs?

WHO is still NOT supported by our efforts, and how can we CHANGE that?

Reducing friction





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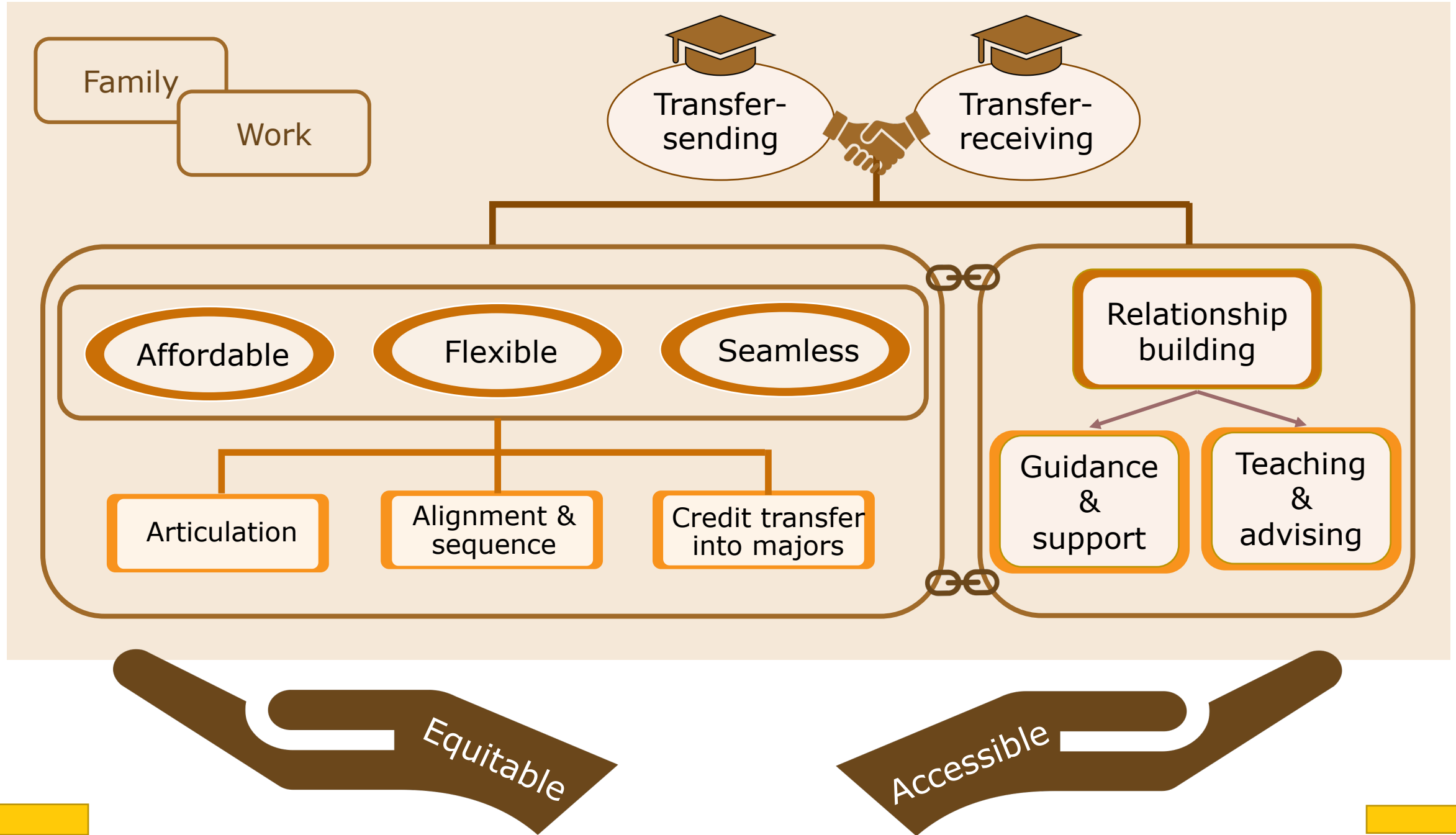
Family
Work
Transfer-sending
Transfer-receiving
Affordable
Flexible
Seamless
Articulation
Alignment & sequence
Credit transfer into majors
Relationship building
Guidance & support
Teaching & advising
Equitable
Accessible

Supporting STEM transfer students amid crisis

Going the extra mile

- Support, flexibility, extended timelines

Beyond the numbers

- Transfer-receiving institutions respond to and creatively account for transfers

STEM transfers as assets

- They are the future—STEM professionals address community needs
- They are the community—Positioned to serve local societal good

Thank you!

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