

## BUILDING LEADERSHIP CAPACITY FOR SYSTEMIC, SCALABLE AND SUSTAINABLE CHANGE IN UNDERGRADUATE BIOLOGY/STEM EDUCATION

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NSF #1841055

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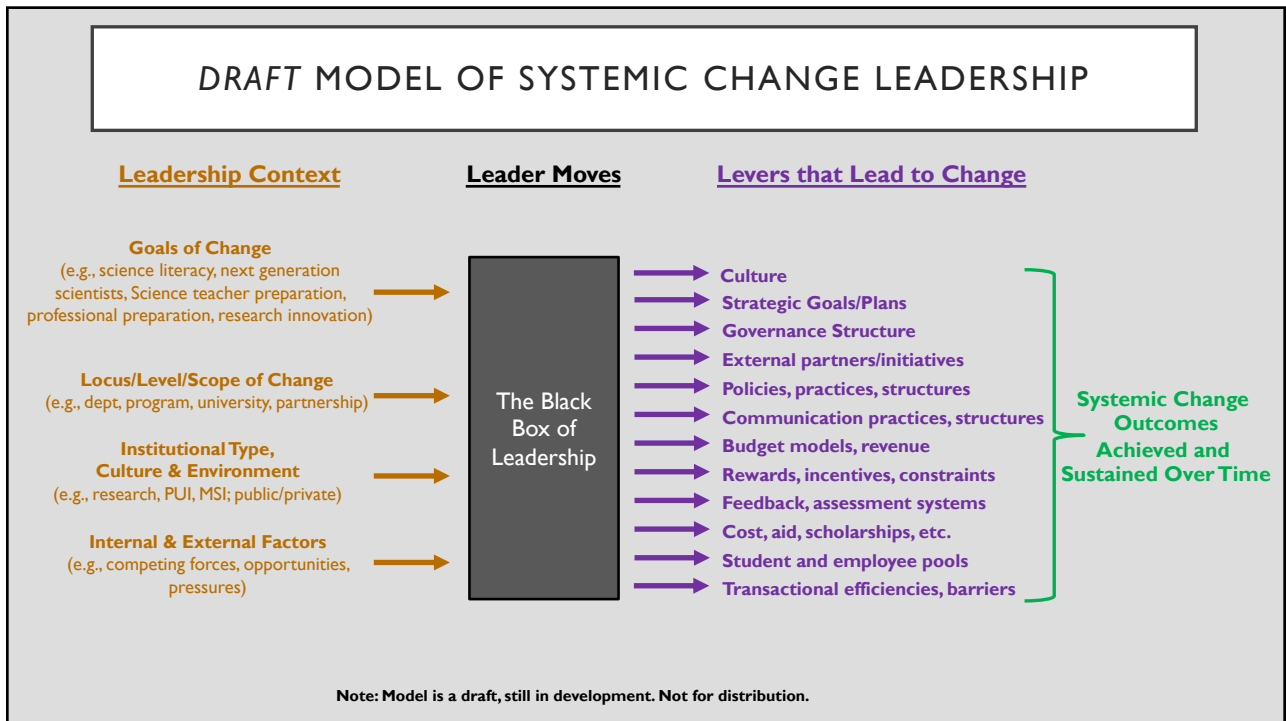
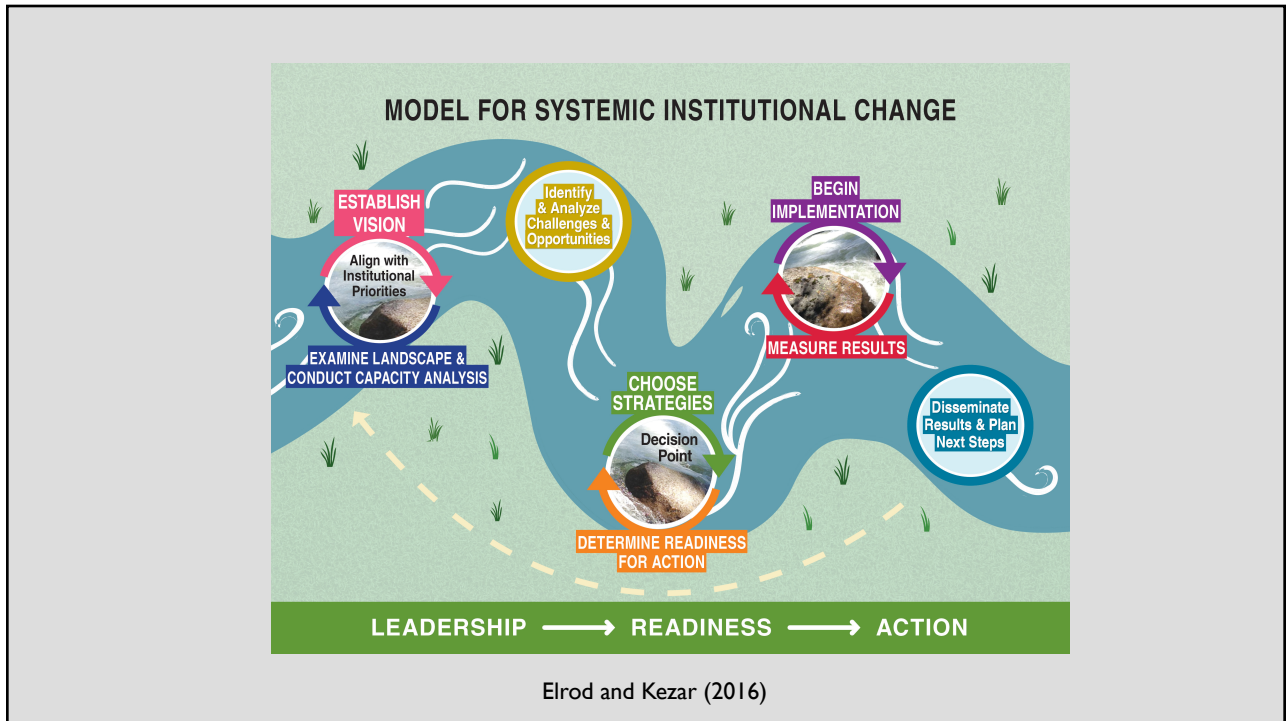


*DRAFT Results – Not for Distribution*

### PROBLEM STATEMENT

- We have articulated the desired goals for change in STEM education but we have having trouble spreading the desired change widely.
- Big change is difficult to achieve for many reasons – it's complicated! And, measuring change is also a challenge.
- Change projects are operating within specific contexts of the complex system of higher education.
- There are many models/theories of change, which are necessary but not sufficient or relevant to all change situations.
- Leadership is required for change.
- There are many different kinds of change leaders with different opportunities & responsibilities using different approaches & levers.

**However, we lack good models/frameworks of leadership for change in the context of the “system” of higher education: who, what, when & how.**



## CHANGE LEADER MOVES CATEGORIES

- Create **V**ision, Expectations and Pacing
- Develop **S**trategy and Resources
- **C**ommunicate Effectively
- Manage **P**eople and Teams
- Foster **D**iversity
- Overcome Challenges and **B**arriers
- Prepare for Success over the **L**ong-term

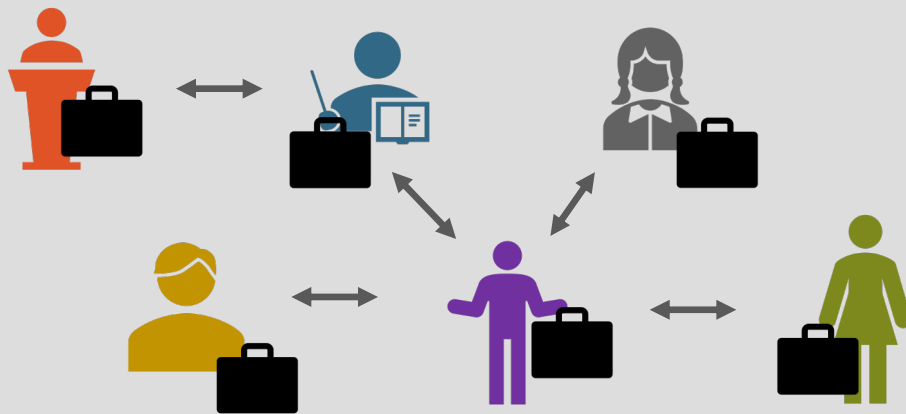
### EXAMPLE CHANGE LEADER MOVE CATEGORY: *CREATE VISION, EXPECTATIONS AND PACING*

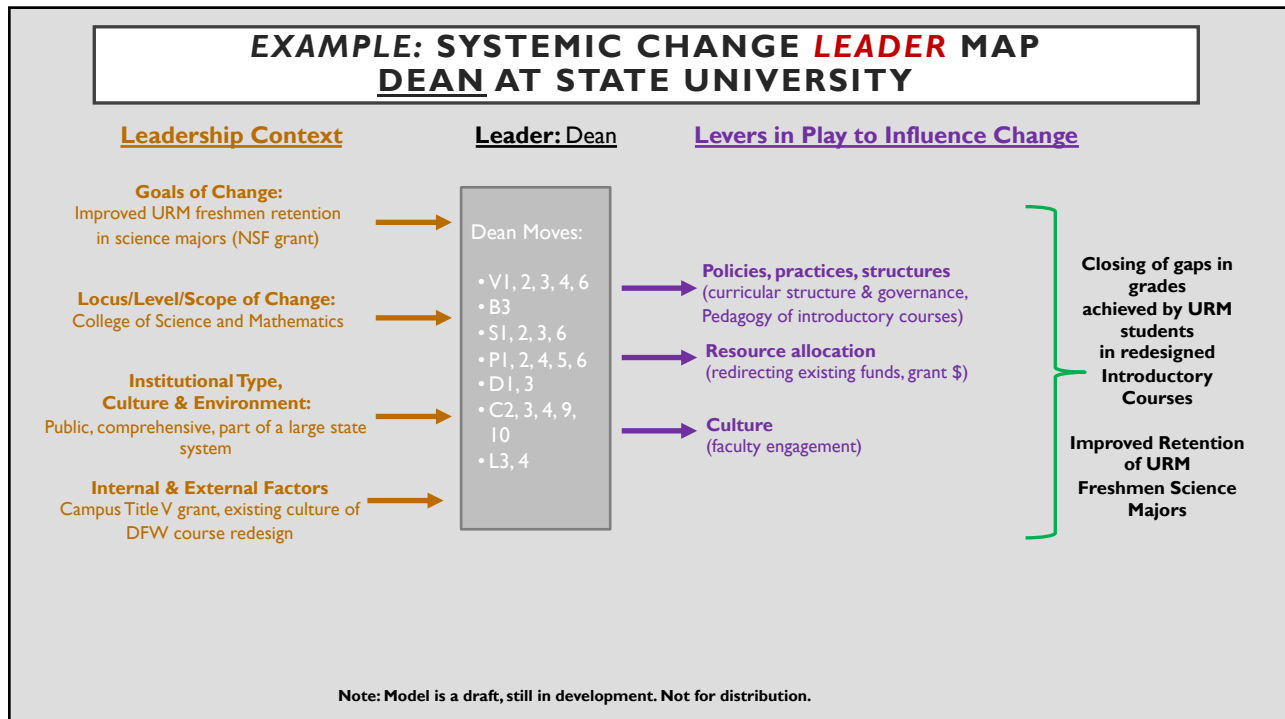
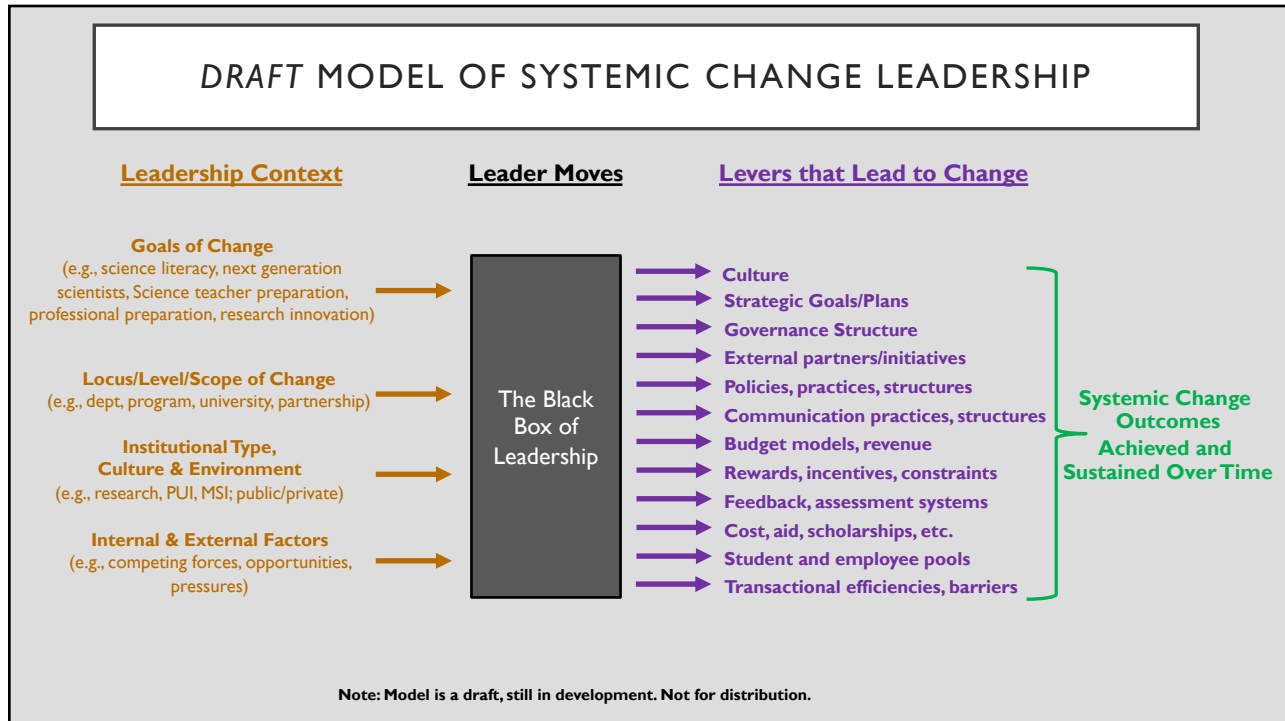
Move Symbol	Change Leader Moves	Move Code Phrase
	<b>Create Vision, Expectations and Pacing (V)</b>	
V1	Facilitate development of a shared vision with an understanding and ability to navigate the relevant internal and external landscapes, including institutional history of reform and where your project fits in to broader goals; identify appropriate locus(i) of change activity(ies)	Shared Vision
V2	Articulate vision and reframes as necessary to maintain motivation; connect the dots especially to the bigger picture and beyond the university to societal/political, challenges/issues	Articulate Vision
V3	Understand how to effectively work across roles, disciplines, hierarchies, power structures, boundaries, boundary conditions, institutional culture(s)	Work at Different Levels
V4	Set expectations and establish charge, priorities, responsibilities, authority, and parameters; hold people accountable	Expectations
V5	Create a sense of urgency but manage the pace & expectations of change	Urgency & Pace
V7	Balance the tension of fidelity to institutional mission with the need for innovation and responsiveness to the change urgency and agenda	Innovation/ Mission Balance

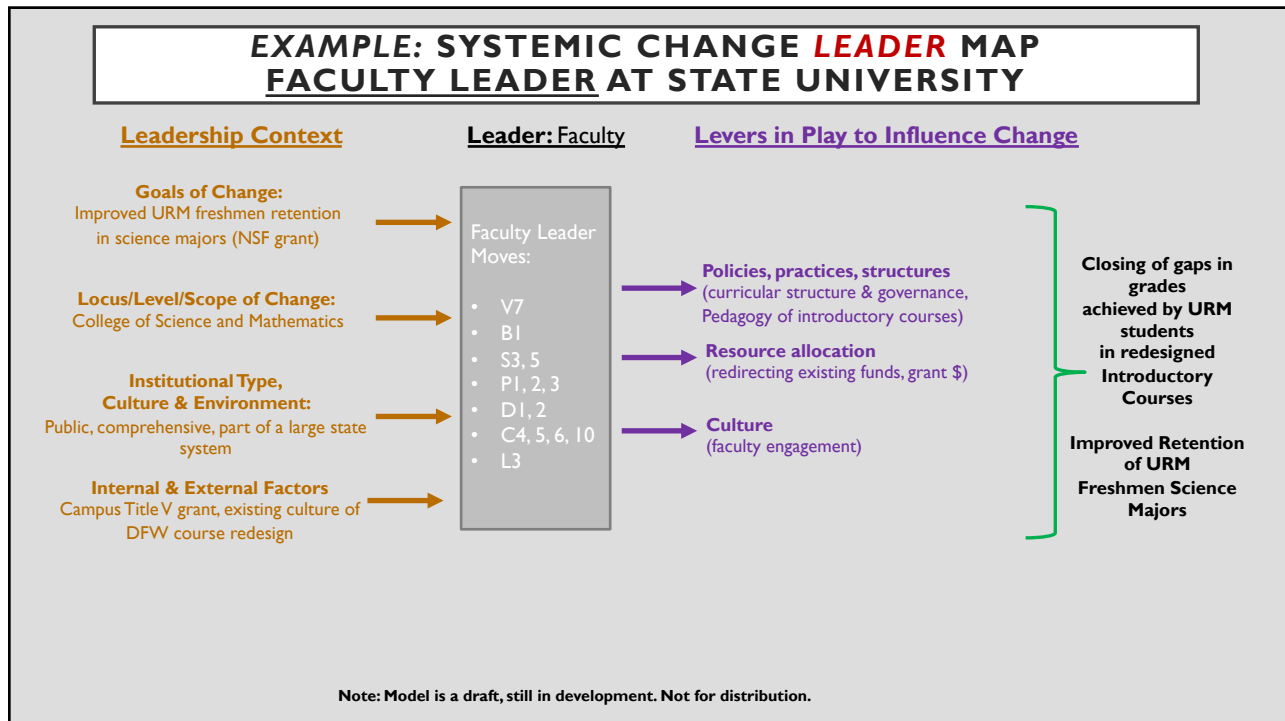
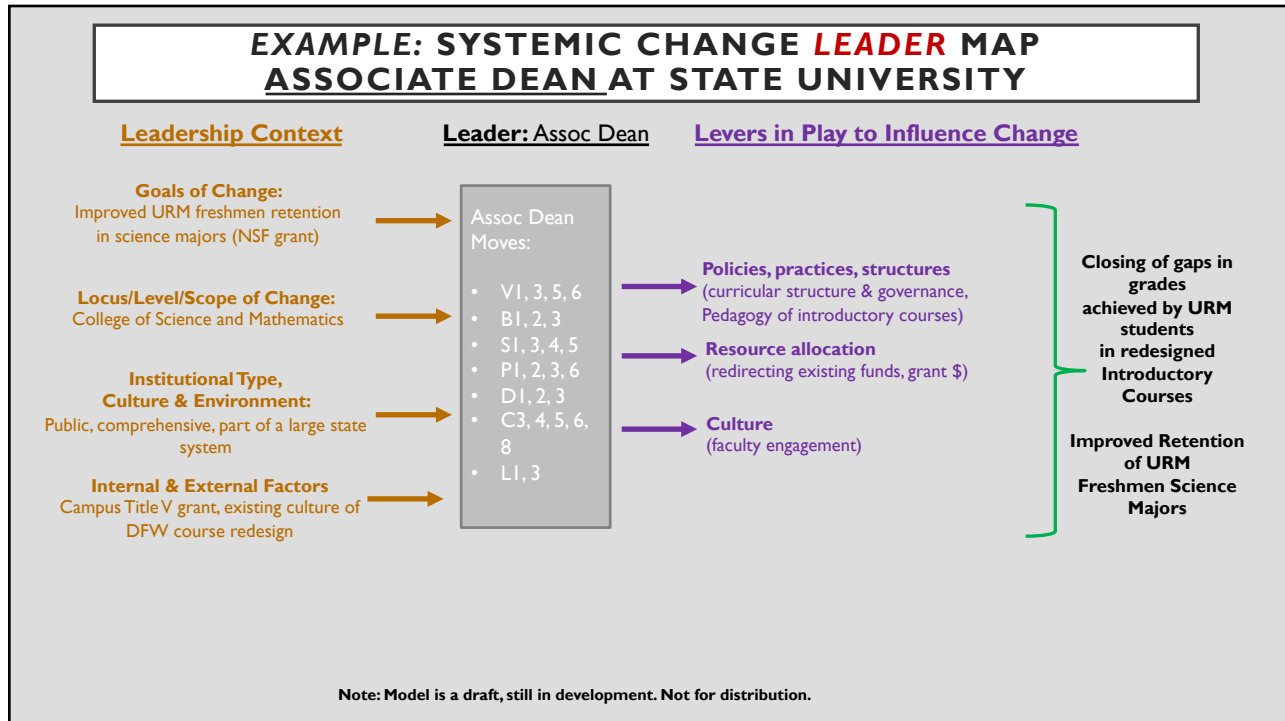
**EXAMPLE CHANGE LEADER MOVE CATEGORY:  
PREPARE FOR SUCCESS OVER THE LONG-TERM**

Move Symbol	Change Leader Moves	Move Code Phrase
	<b>Prepare for Success Over the Long Term (L)</b>	
L1	Measure and celebrate successes, including early wins; connect project success with other institutional successes	Measure and Celebrate
L2	Identify infrastructure required to scale and sustain change (e.g., budget, policy, process, structure); continuously evaluate and address emerging issues of scale and sustainability over the course of long haul	Infrastructure
L3	Reassure when setbacks occur; encourage; cheerlead to keep momentum going	Reassure
L4	Use data to monitor progress and adjust when needed; mindful of possible negative or unintentional consequences	Monitor and Adjust
L5	Balance responsiveness and urgency in landscape and context; manage inertia	Manage Inertia
L6	Builds on successes to accelerate momentum	Accelerate Momentum
L7	Apply learning from successes and failures to project processes and outcomes	Apply Learning
L8	Build leadership capacity within the university; creates pathways for emerging leaders, monitors and prepares for leader transitions/succession	Leadership Capacity
L9	Identify next steps, vision beyond current project	Next Steps

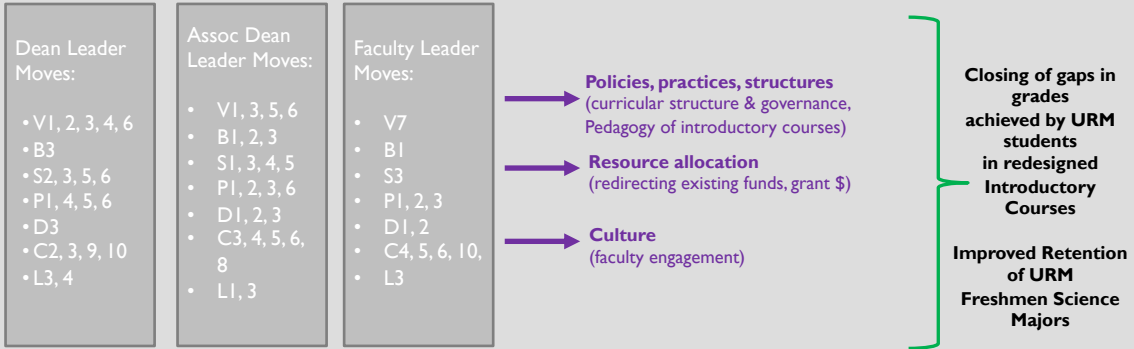
**MANY LEADERS, ONE SYSTEM OF LEADERSHIP**





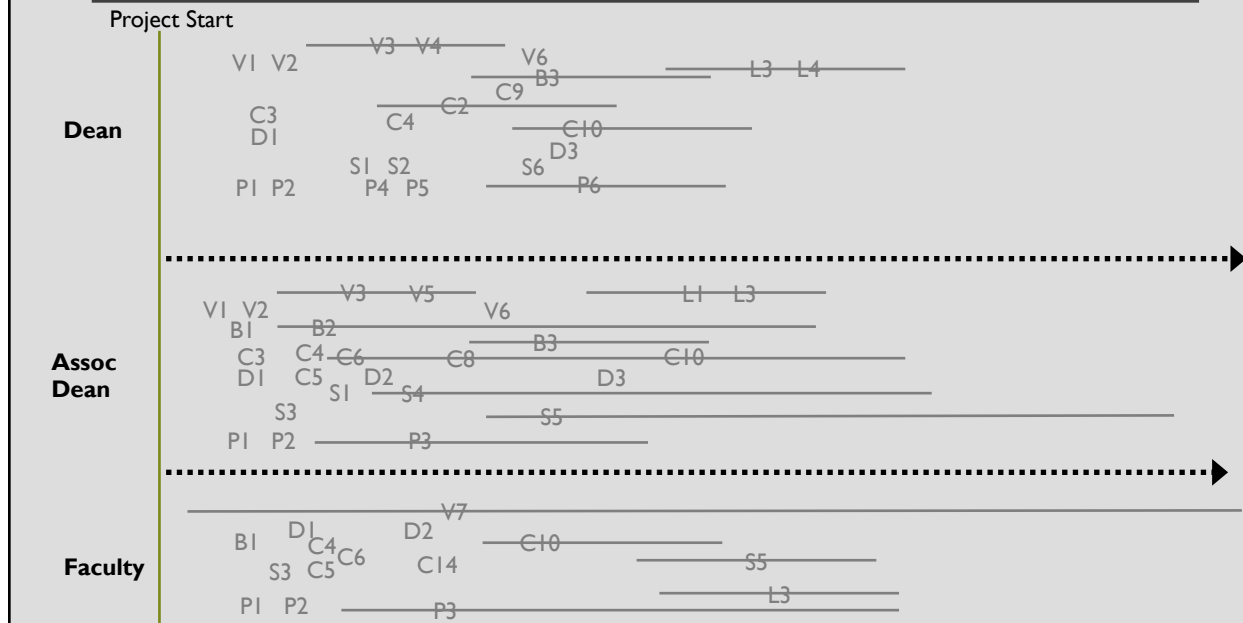


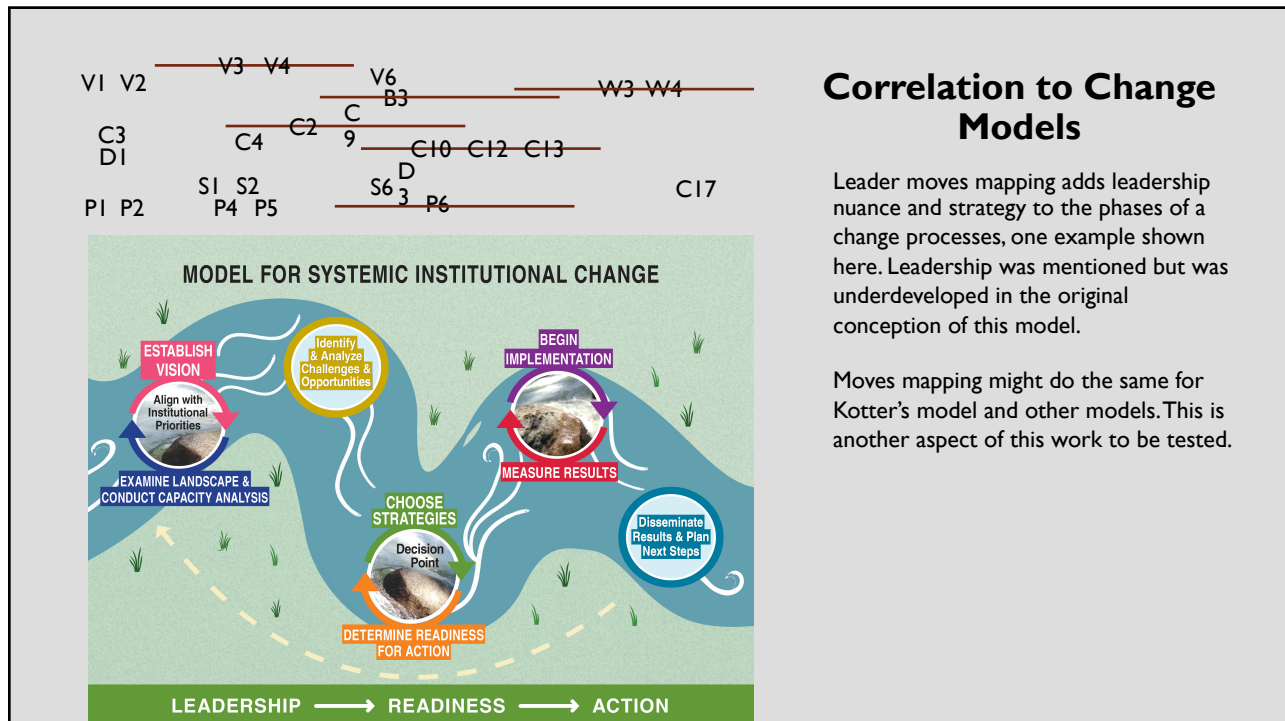
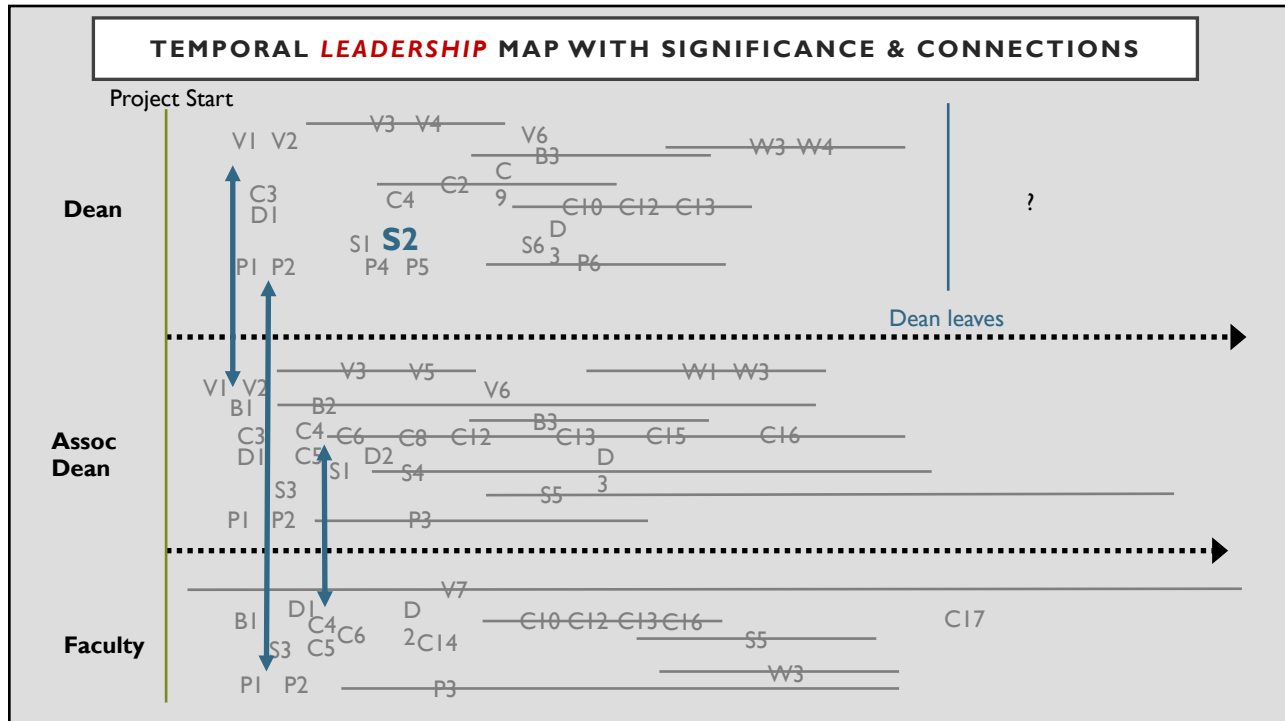
### EXAMPLE: COMBINED **LEADERSHIP** "ECOSYSTEM" MAP



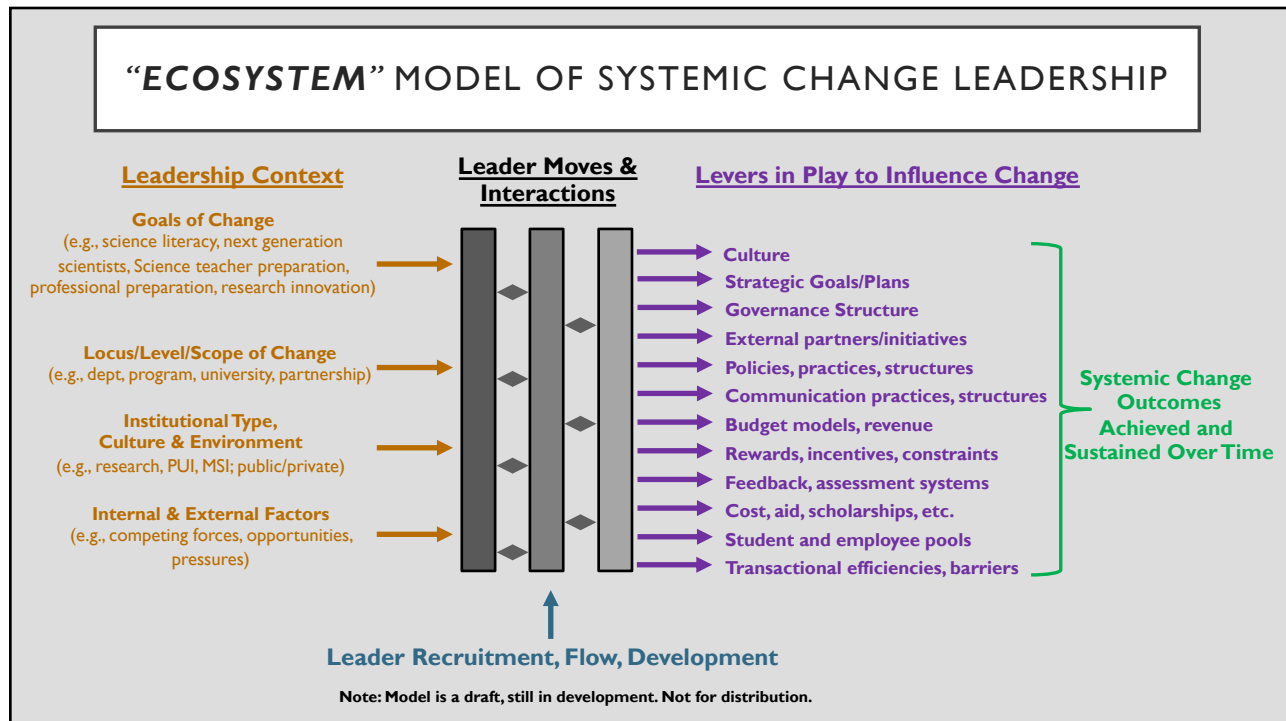
Note: Model is a draft, still in development. Not for distribution.

### TEMPORAL **LEADERSHIP** MAP









## RESEARCH QUESTIONS & RESOURCE DEVELOPMENT

- **Questions:**
  - What do moves of different change leaders look like? Does position matter? To what extent does the context or levers in play influence leader moves, if so, which ones?
  - Are some moves more important for achieving systemic change outcomes than others?
  - Are there some moves that are more operational at the beginning, middle, end, or across the project timeline (cross-cutting)?
  - What are the interdependencies between leaders and leader moves?
  - How can leader moves and a system of leadership be developed for more effective outcomes?
  - Others ....
- **Resources:**
  - Publications, conference & other presentations describing results.
  - Partnerships with national associations and initiatives to improve systemic change project/initiative success as well as disseminate results.
  - Resources that can be used by individuals and teams in projects/initiatives to proactively plan for and monitor leader moves and their ecosystem of leadership.

## AN INVITATION

- **We have developed a worksheet to help leaders in a project/initiative create a leadership map.**
  - The worksheet includes questions to help leaders identify the relevant context and levers that are operational in the project/initiative.
  - It includes the complete list of *draft* change leader moves and provides space for each leader in the project to identify the moves they have used. There is a template to “map” the moves over time.
- **We invite interested BVA campus project leaders (and others) to consider working with us to test the worksheet in a retrospective “case study” manner. We are also working with other national projects to do the same.**
- **We will use this input to continue explore the research questions and to refine the model and moves as we develop useful resources and tools.**