CRA Strategic Plan:
A Foundation for Moving Forward

Snowbird 2022

Ellen Zegura (GT), Andy Bernat (formerly CRA!)

Very Brief Process Review

- Hired Greenway Strategy Group

- Created Strategic Planning Steering Committee

- Phase 1: July 2019 - December 2019 Analysis

- Phase 2: January 2020 – August 2020 Strategic Plan Development
  - Snowbird 2020 – interactive feedback on initiatives/priorities

- Strategic Plan Finalized (see handout)

- Phase 3: September 2020 – January 2021 Action Planning Groups

Target State I (Priority Outcomes)

- Source of content and resources that inform the field

- Cultivator of novel approaches to current and future opportunities for computing research

- Respected voice of the computing research community to government and other policy makers

- Champion for a diverse, welcoming, and equitable computing research community

Target State II (Priority Outcomes)

- A leader in promoting socially responsible computing research

- A catalyst for academic, government and industry computing research organizations to enhance the field

New Mission Statement

The mission of the Computing Research Association (CRA) is to catalyze computing research by joining with industry, government, and academia. CRA executes this mission by leading the computing research community; informing policymakers and the public; and championing a diverse, welcoming, equitable, and socially responsible computing research community.
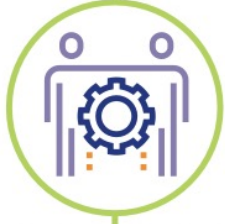
How to Get There (Strategic Themes)

CRA
Computing Research Association

Prioritize and focus CRA effort

Leverage the capacity of the CRA network

Inform the field of emerging best practices

Expand partnerships and connections among the computing research community
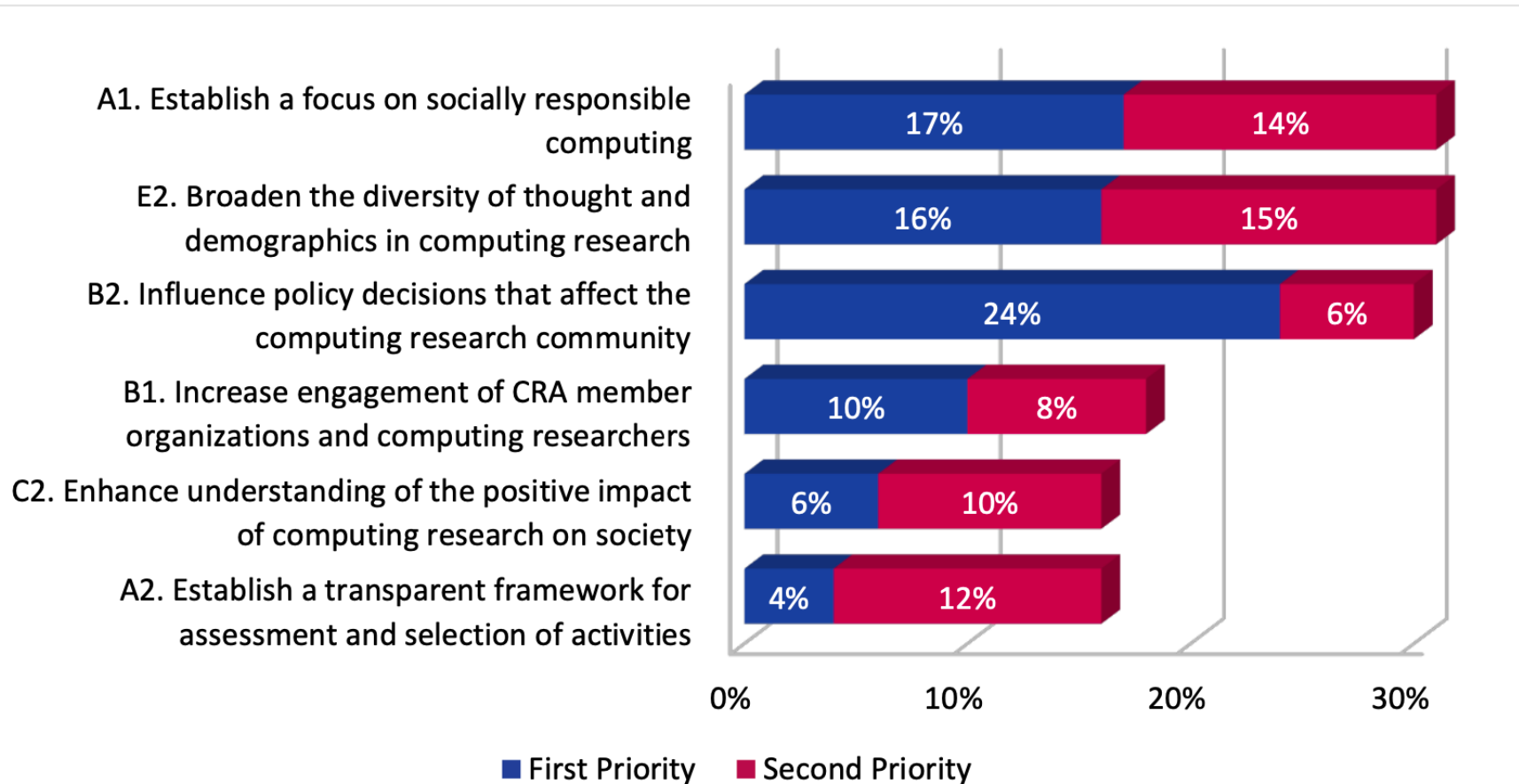
Strengthen pathways and diversify the field of computing researchers

Increase awareness of CRA value

What to Do First (Strategic Initiatives)

Selected Activities

- Socially Responsible Computing Working Group
  - Co-chairs: Cindy Bethel, Ran Libeskind-Hadas
- Governance Working Group
  - Chair: Dan Grossman
  - Previous group: Isbell, Morrisett, Ramming, Rheingans, Zegura
- CRA-Industry Committee
  - Co-chairs: Vivek Sarkar, Ben Zorn
- Research Integrity (responsive to NSF)

Reflection and Transition

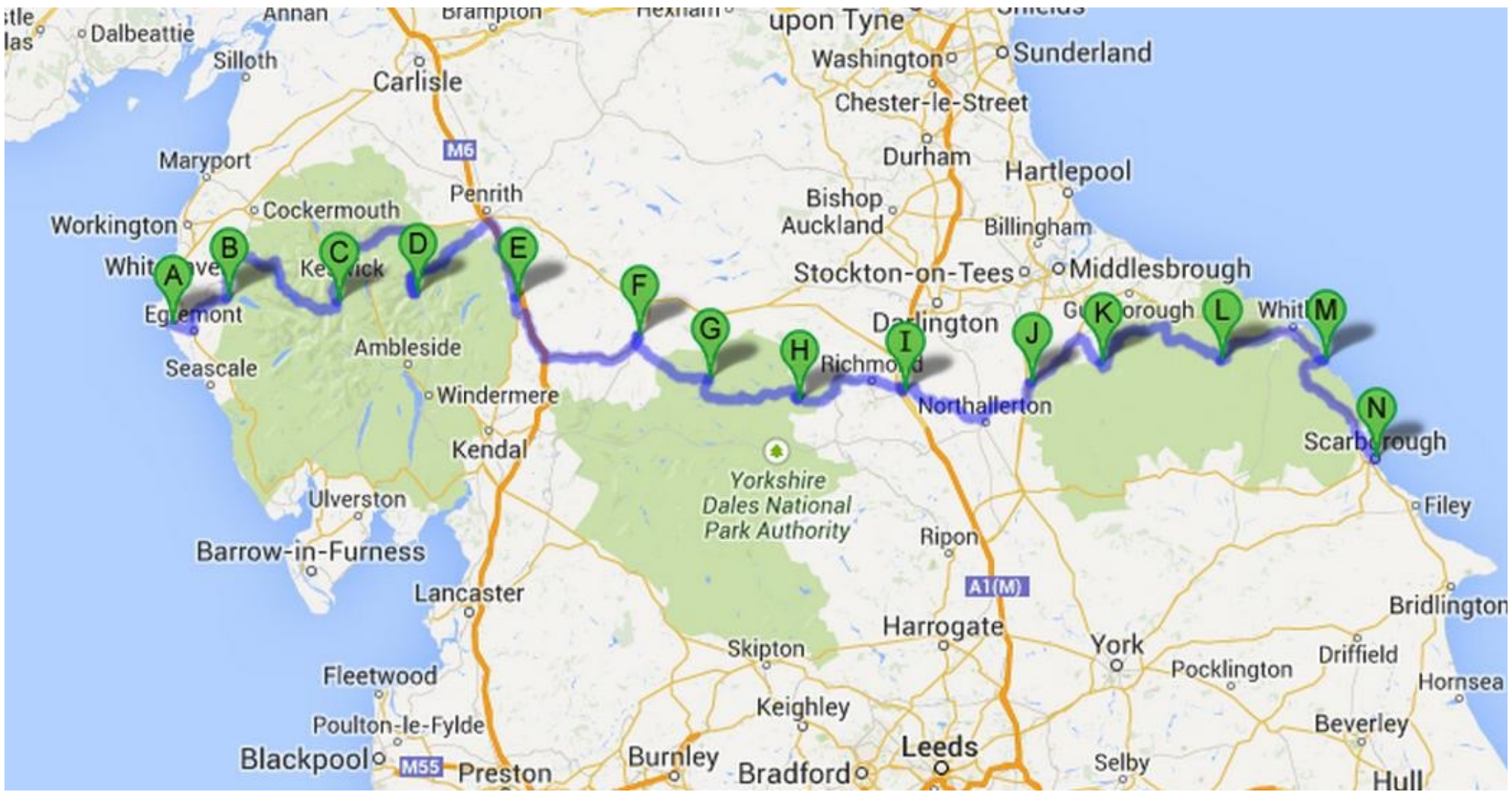# Strategic Plan 2021-2026

Agenda:

- CRA Career Engagement
- Challenges
- CRA Governance/Structure

Agenda:

- **CRA Career Engagement**
- **Challenges**
- **CRA Governance/Structure**

CRA Career Engagement

IDEALS

GRAD COHORT

REU

Ph.D.

INDUSTRY
RESEARCH LAB

AWARDS

ACADEMIA

B.A./B.S.

M.S.

POSTDOC

GOVERNMENT
RESEARCH LAB

ement

ACADEMIA

EARLY
CAREER

MID
CAREER

SNOWBIRD

CRA
BOARD

LISPI

LEADER

GOVERNMENT
RESEARCH LAB

CCC
WORKSHOP

RETIREMENT

CMW

AWARDS

SENIOR
CAREER

CRA Career Engagement

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AWARDS

SENIOR CAREER
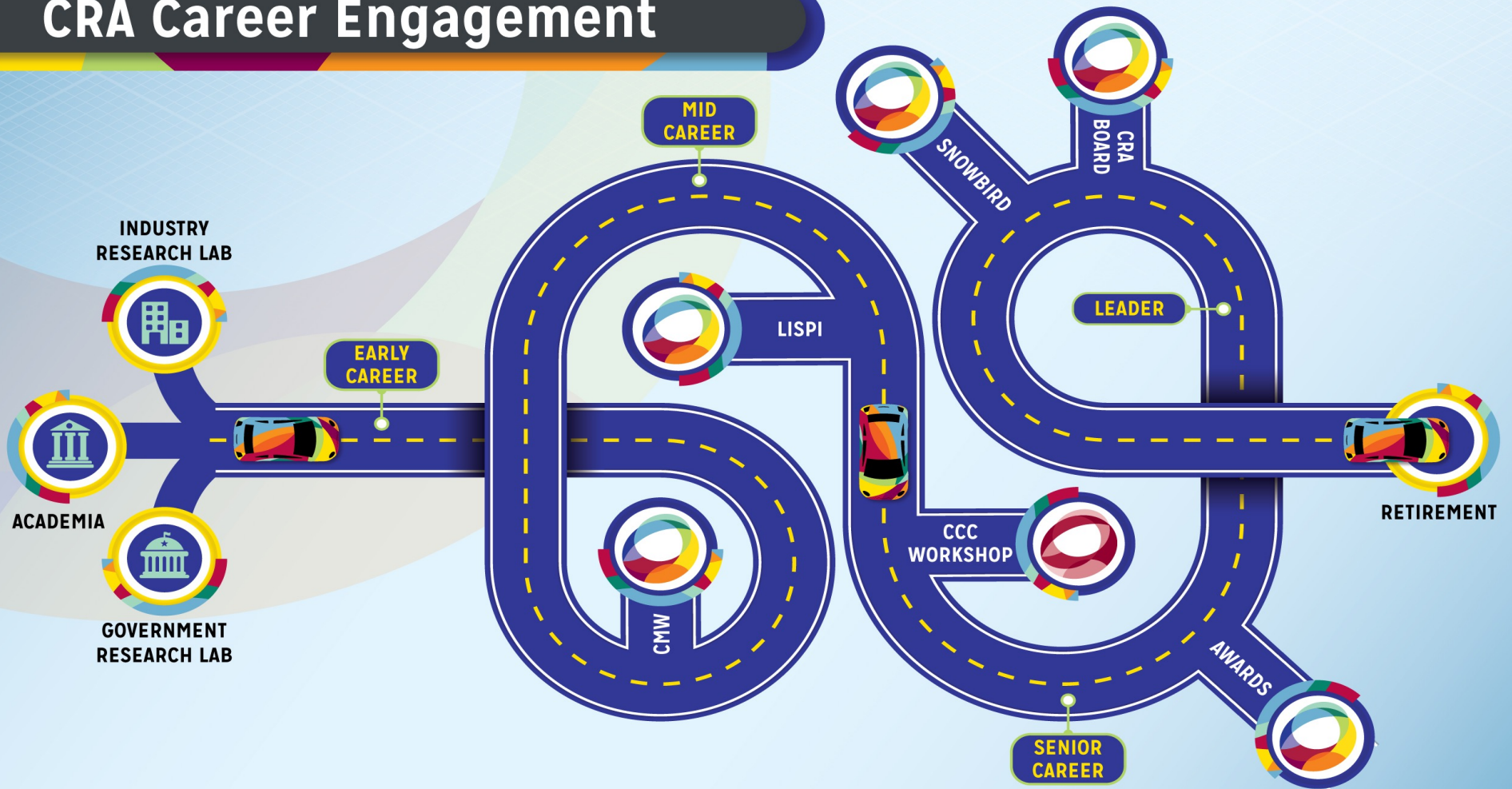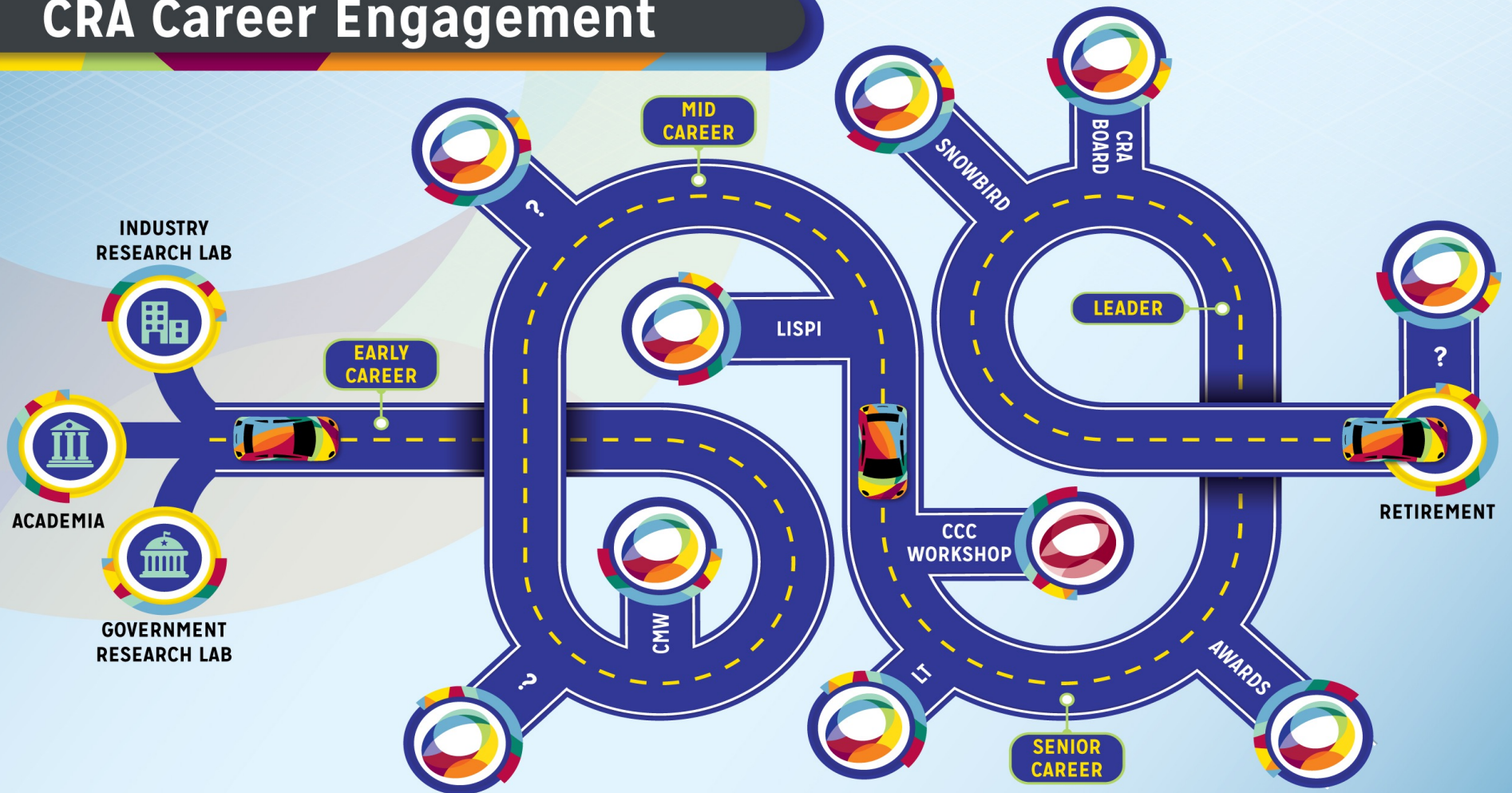
Brainstorming Time (15 min):

What can/should CRA do for the research community, considering different points of one's career?
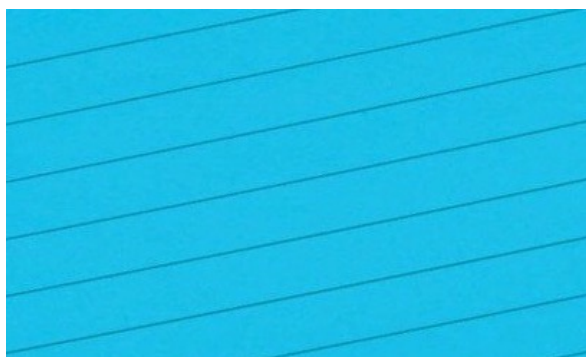
Write ideas down on BLUE post-it (one idea per note)

Agenda:

- CRA Career Engagement
- Challenges
- CRA Governance/Structure

Several BIG challenges exist …

Socially responsible computing

CRA reach / awareness / communications

Broadening Participation in Computing (BPC)

Eating the seed corn

Faculty burnout (growth, COVID)

Research funding

Tech backlash

Computing research everywhere

Research integrity

Climate change (computing and climate science)

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#1
Socially responsible computing research

Sustainability

#2
Expanding
Partnerships/Connections

Today: 3:30pm (Ballroom 3)

Bowie State University
Howard University
Merced College
Morehouse
Morgan State University
New Mexico Tech
Norfolk State University
North Carolina A&T State Univ

Northeastern Illinois University
Roosevelt University
Southern Univ and A&M College
Spelman College
Texas A&M, San Antonio
Texas Southern University
University of Hawaii at Hilo

#3
Broadening Participation

	Fall 2008	Fall 2021	Change
UG Majors	157	987	~6.3x
Women (#)	17	226	~13.3x
AHN (#)	12	180	~15x

CS@Mines

BPCnet
RESOURCE PORTAL

	Fall 2008	Fall 2021	Change
UG Majors	157	987	~6.3x
Women (%)	10.8%	**22.9%**	~2.1x
AHN (%)	7.6%	**18.8%**	~2.5x

CS@Mines

BPCnet
RESOURCE PORTAL

	Fall 2008	Fall 2021	Change
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AHN (%)	7.6%	**18.8%**	~2.5x

Women at Mines: ~31.7%
URG at Mines: ~18%

CS@Mines

BPCnet
RESOURCE PORTAL

Departmental BPC Plan

BPCnet
RESOURCE PORTAL

Workshop
Aug 3-5, 2022
Denver

#4
Eating the seed corn

Number of CS PhDs Awarded 2004-2021

Source: CRA Taulbee Survey

Year	Number
2004	864
2005	1029
2006	1310
2007	1569
2008	1588
2009	1468
2010	1501
2011	1457
2012	1620
2013	1625
2014	1606
2015	1570
2016	1655
2017	1557
2018	1521
2019	1701
2020	1777
2021	1691
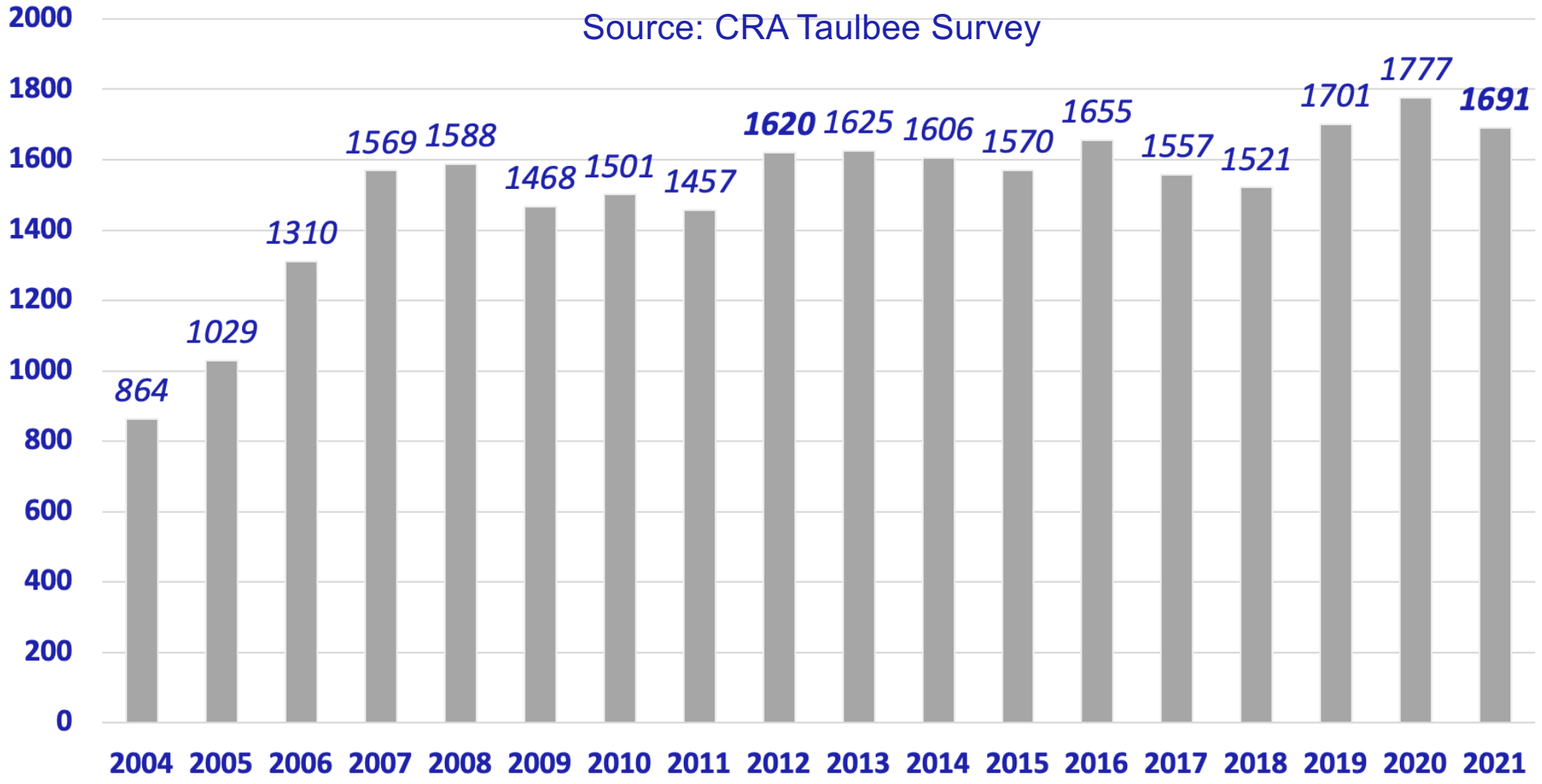
% Domestic/International
Source: CRA Taulbee Survey
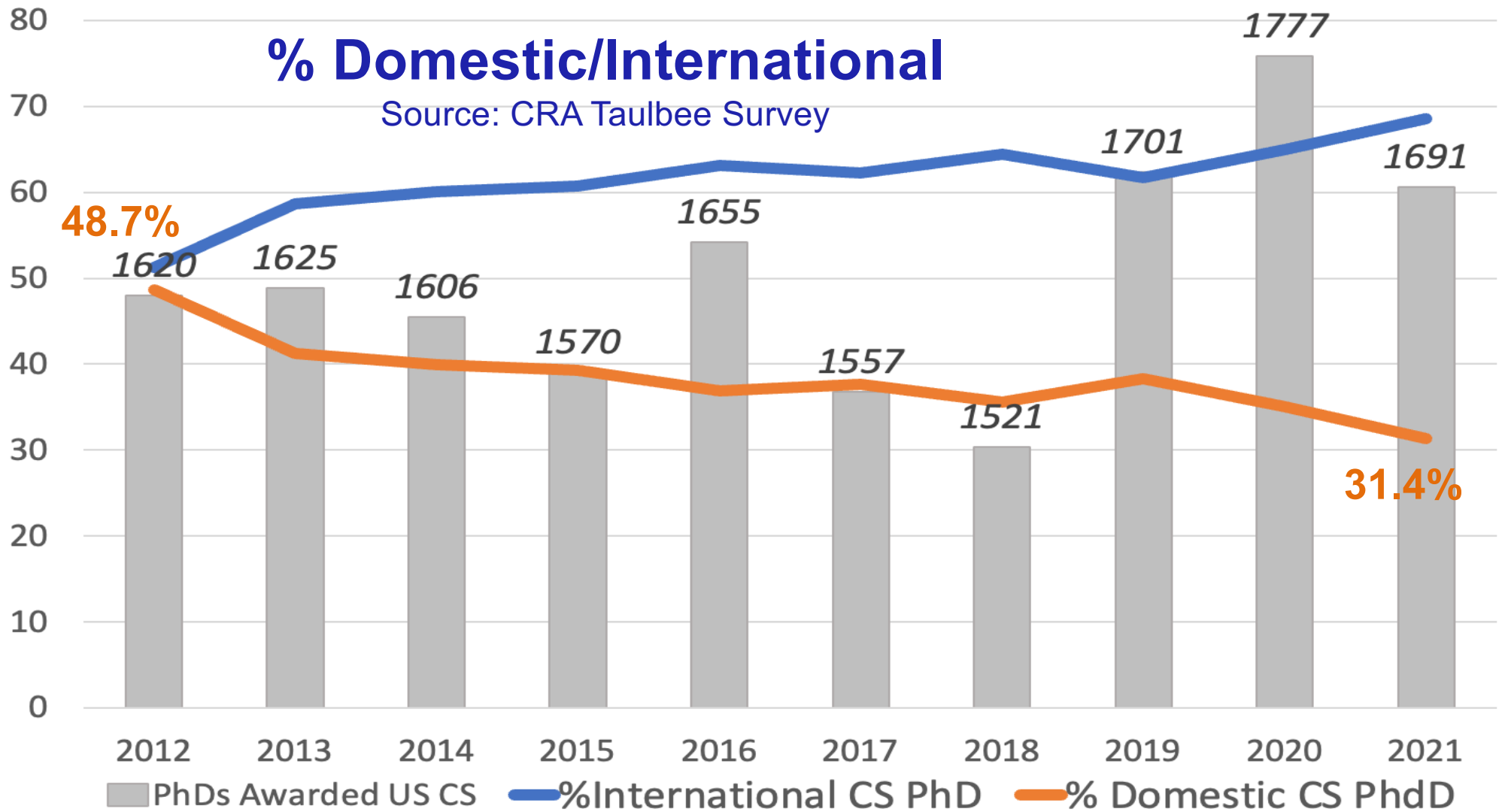
48.7%

1620 1625 1606 1570 1655 1557 1521 1701 1777 1691

31.4%

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

PhDs Awarded US CS   %International CS PhD   % Domestic CS PhdD

CSGrad4US, **through fellowships and mentoring,** aims to increase the number of diverse, *domestic* graduate students pursuing research and innovation careers in the CISE fields: computer science, computer engineering, or information science.

Brown University - Carnegie Mellon University - Cornell - Duke University - Georgia Tech - Harvard University - Indiana University - Iowa State University - MIT - New York University - Northeastern University - Princeton University - Purdue University - Rice University - Stanford University - Toyota Technical Institute at Chicago - Tufts University - University of California-Berkeley - University of California-Irvine University of California-Los Angeles - University of California-San Diego - University of California-Santa Cruz - University of Chicago - University of Colorado-Boulder - University of Colorado-Denver - University of Houston - University of Minnesota - University of Nebraska-Lincoln University of Pennsylvania - University of Southern California - University of Texas-Austin - University of Texas-Dallas - University of Virginia University of Washington - University of Washington-Tacoma - Virginia Tech - Yale University

#5
Faculty Burnout

Several BIG challenges exist ...

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Zoom Convos
(coming soon to a computer near you)

1) **Should we move Snowbird?**
2) **If yes, should we keep a resort-style location?**
3) **And what should we call this conference?**
4) **And do we keep it every other year?**
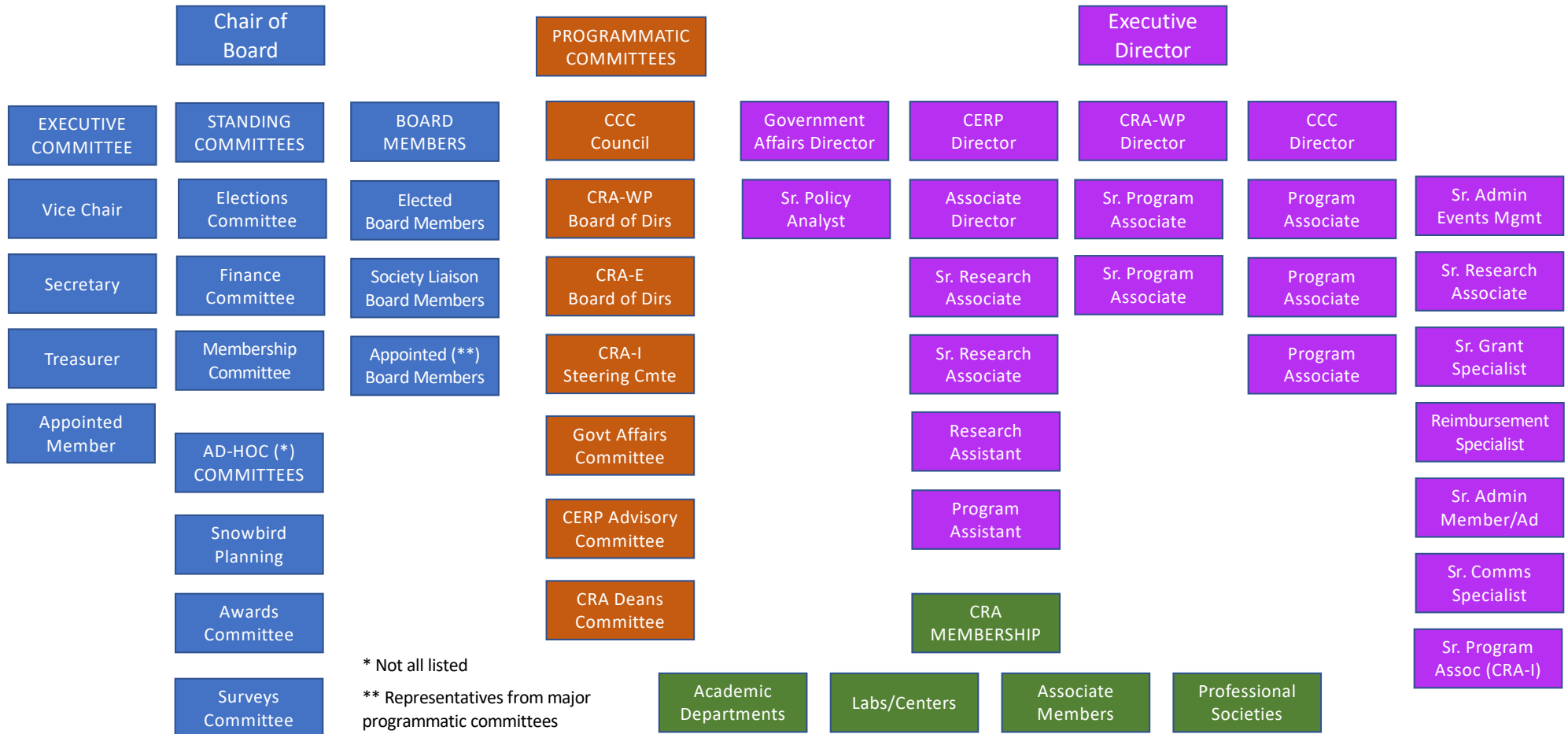

Write thoughts down on YELLOW post-it

Agenda:

- CRA Career Engagement
- Challenges
- CRA Governance/Structure

What makes a high-performing board?

Does CRA have one?

CRA Organization and Governance Structure

Chair of Board

PROGRAMMATIC COMMITTEES

Executive Director

EXECUTIVE COMMITTEE	STANDING COMMITTEES	BOARD MEMBERS	CCC Council	Government Affairs Director	CERP Director	CRA-WP Director	CCC Director	
Vice Chair	Elections Committee	Elected Board Members	CRA-WP Board of Dirs	Sr. Policy Analyst	Associate Director	Sr. Program Associate	Program Associate	Sr. Admin Events Mgmt
Secretary	Finance Committee	Society Liaison Board Members	CRA-E Board of Dirs		Sr. Research Associate	Sr. Program Associate	Program Associate	Sr. Research Associate
Treasurer	Membership Committee	Appointed (**) Board Members	CRA-I Steering Cmte		Sr. Research Associate		Program Associate	Sr. Grant Specialist
Appointed Member			Govt Affairs Committee		Research Assistant			Reimbursement Specialist
	AD-HOC (*) COMMITTEES		CERP Advisory Committee		Program Assistant			Sr. Admin Member/Ad
	Snowbird Planning		CRA Deans Committee					Sr. Comms Specialist
	Awards Committee				CRA MEMBERSHIP			Sr. Program Assoc (CRA-I)
	Surveys Committee			Academic Departments	Labs/Centers	Associate Members	Professional Societies	

* Not all listed

** Representatives from major programmatic committees

CRA Governance System Definitions*

Executive Committee: Four elected officers of the board and at most one additional member appointed by the Chair with Board approval. Executive Director is a non-voting, ex-officio member. Advises the Chair and makes decisions that cannot wait for the next Board meeting.

Standing Committee: Membership, Elections and Finance with membership consisting of board members. Members appointed annually by the Chair with approval of the Board.

Programmatic Committee: Board establishes; well-defined mission to address "problems of the computing research community" requiring a long-term focus; leadership approved by the Board; permanent until dissolved by Board action; Board ratifies committee membership changes.

Ad Hoc Committee: Appointed as necessary by the Chair with the concurrence of the Board. Members appointed annually by the Chair.

* Per CRA By-laws

We Heard During Strategic Planning

- This governance system is not viewed as **inclusive** by everyone in the membership organizations.

- The means of **setting the agenda** and determining the issues that are addressed by CRA is not understood by the membership at large, nor is it clear how that agenda can be influenced by the membership.

- The organizations on the board are not necessarily **representative** of all organizations in the membership.

- The **flow of work** of the board and its committees is not always communicated, mutually understood, or connected.

Governance Questions

- What methods and type of input into Board **agenda setting** would member institutions like to have?

- How could the **work** of the Board be made more **transparent?**

- Should a new Topical Interest Group (**TIG**) category be added?

Governance Questions

- What actions and/or re-structuring would help ensure the Board is **more representative of our community**?

- What actions and/or re-structuring would help make the Board **more inclusive**?

- Should we **re-evaluate method of nomination and voting** for 24 at-large board members.

Brainstorming Time (15 min):

Ideas on how to modify the board/committee structure and selection process, to make CRA more represented and effective.
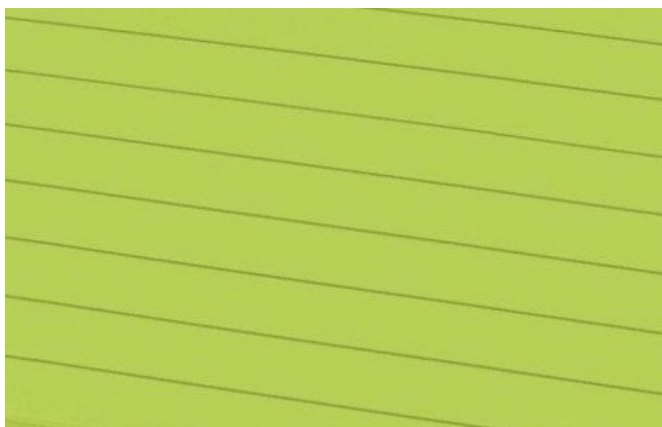
Write ideas down on GREEN post-it (one idea per note)

Looking Forward