INSTITUTE FOR HIGHER EDUCATION LEADERSHIP & POLICY

California Community College Career Technical Education and the College Completion Agenda

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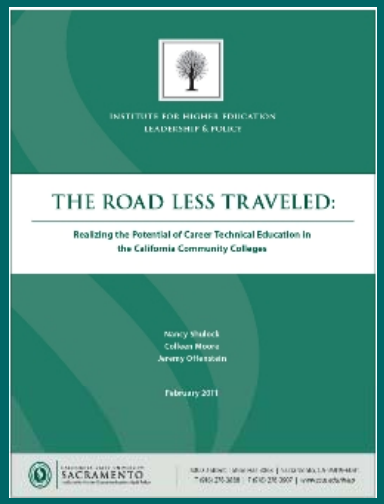
IHELP Wish List for College Completion Agenda

- National “college completion agenda” and “college for all” mantra to include *community* colleges and *sub-baccalaureate* credentials
- Increased CTE focus on *traditional* college-age students
- Improved understanding of the new economy – this is not the old “voc ed”
- Learn from Washington State’s Community and Technical Colleges’ 20-year laser focus on the workforce mission

Opportunities for Reforms to CTE in California

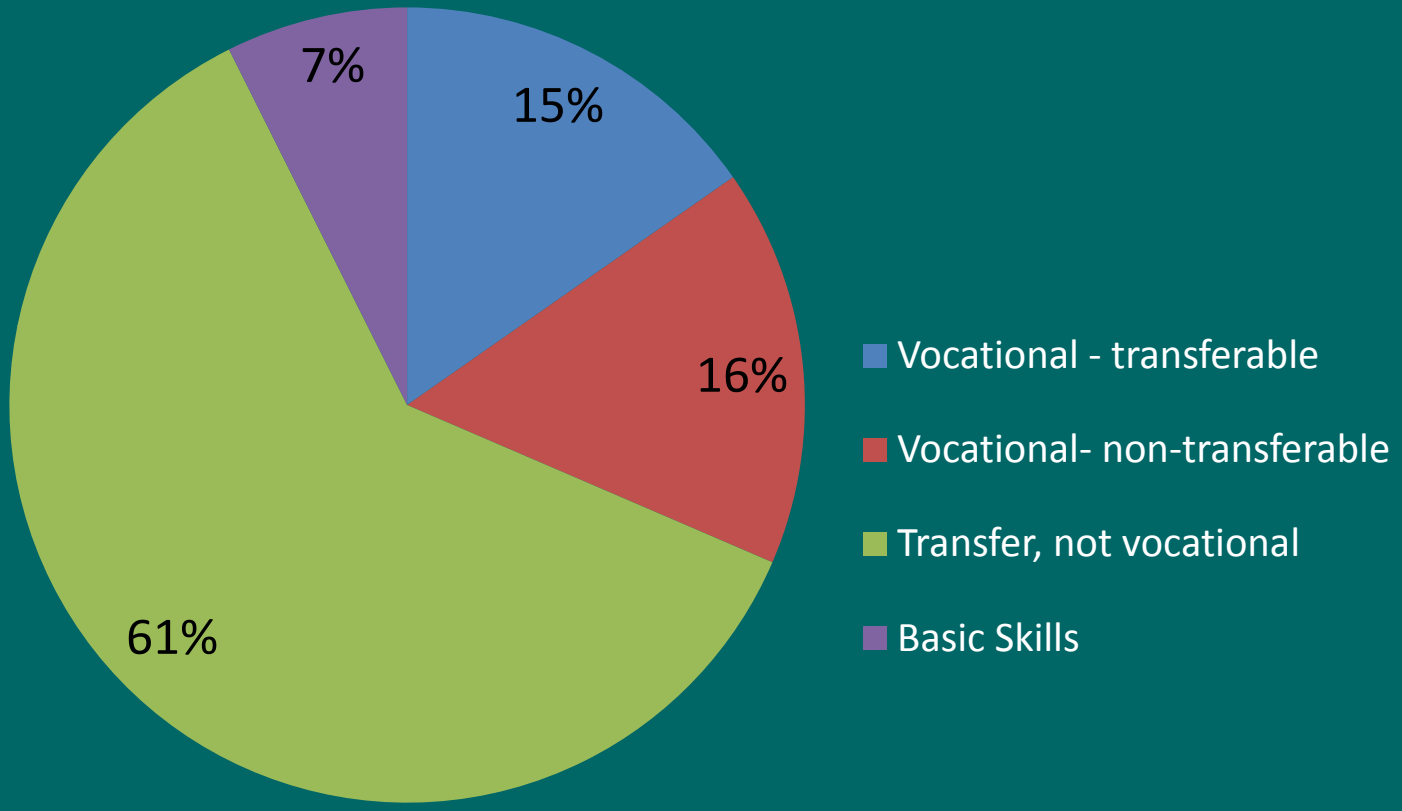
- New EWD/CTE leadership
- Student Success Task Force
  - Program of study emphasis
  - Education plans
  - College scorecards
  - Basic skills - alternative approaches
- Career Advancement Academies/Linked Learning
- Legislative interest in workforce issues
- EWD sunset January, 2012



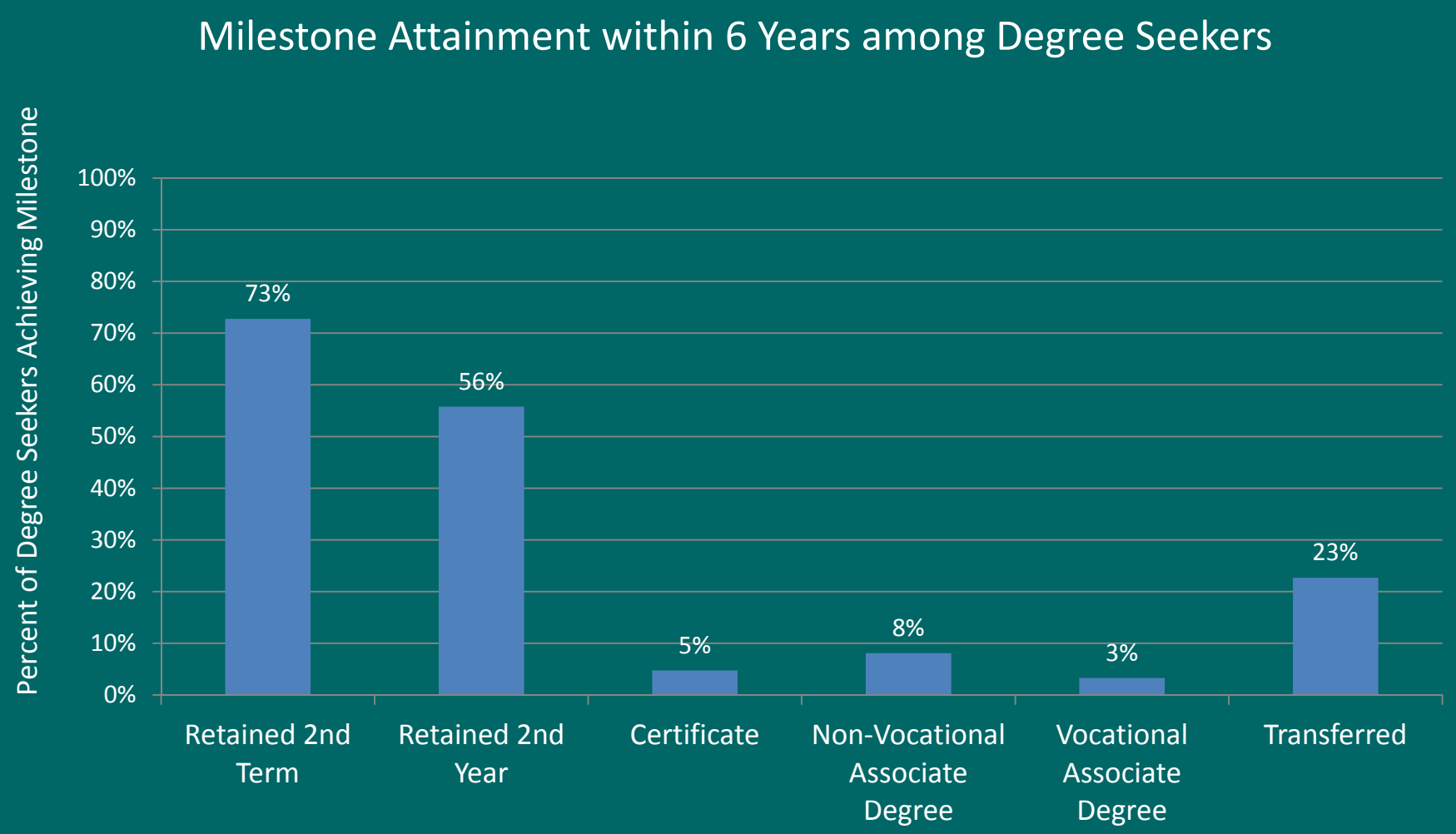
Findings – from Exploratory Research in Four Fields

- Good student progress not translating into certificates and degrees
  - 30+ credits; math but no credential
- Pathways don't often lead to *technical* credentials
- Little evidence of sequential progression in field
- Extensive program offerings and variability

One Third of Course Enrollments are Vocational



Few Students Earn Vocational Credentials



Current Research Agenda
Strengthening CTE through Policy Reform

1. Document CCC structure and funding for CTE and economic and workforce development
2. Inventory and analysis of programs offered
3. Leading states – what can we learn?
4. Analysis of CCC policy environment – help or hinder the CTE mission?

the James Irvine foundation
Expanding Opportunity for the People of California

Two Related CCC Missions – Common Goal: Strengthen California Workforce

- Career Technical Education (CTE)
  - Serve primarily *students* (college credentials)
  - K-12 articulation
- Economic and Workforce Development (EWD)
  - Serve primarily *employers* (customized training)
  - Work with other state agencies, e.g. Labor & Workforce, HHS, Corrections and Rehabilitation
- Scope of our research
  - CTE; EWD as it influences CTE program/curriculum
  - Beyond our scope: entire state workforce system

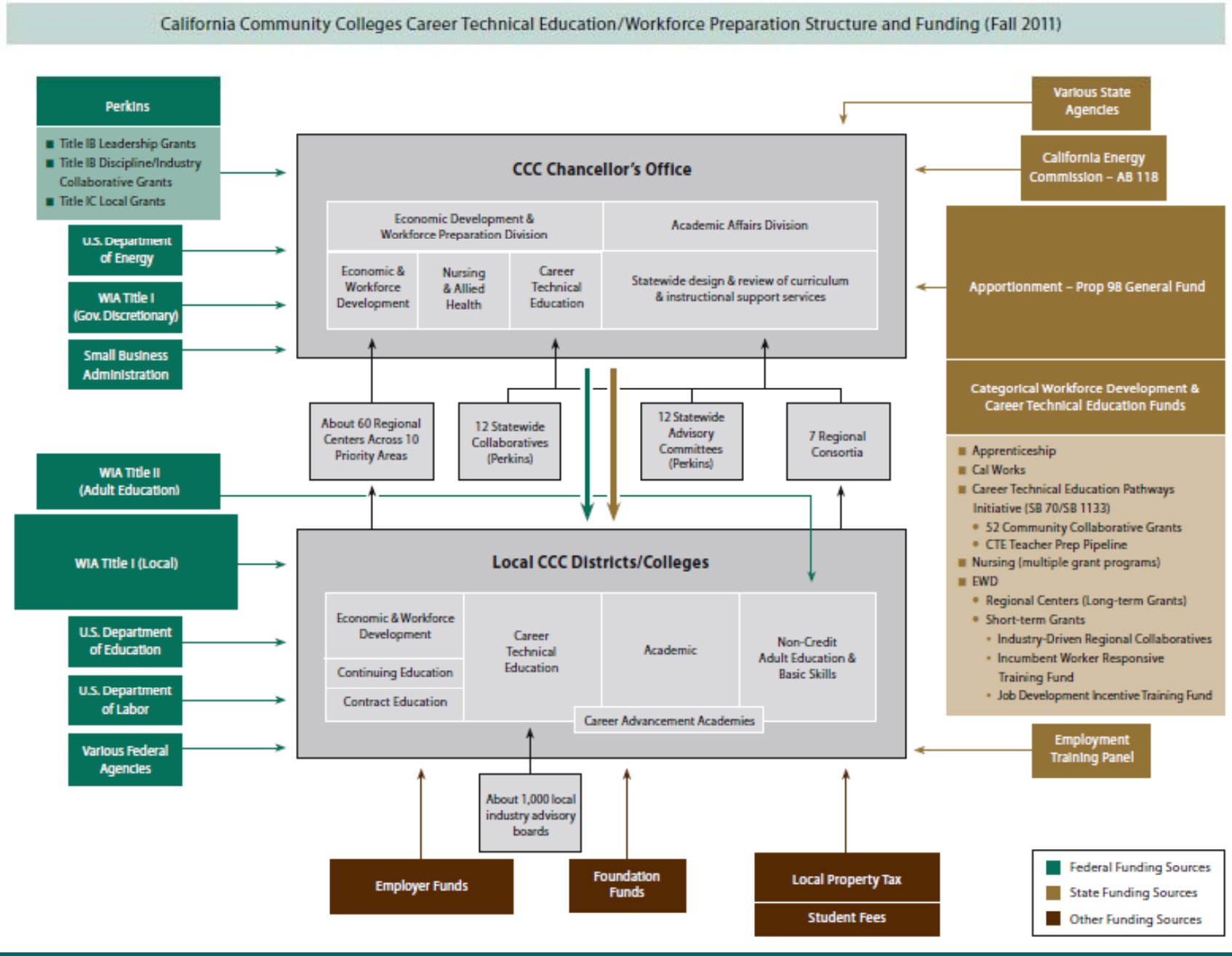
Hypotheses

1. Policies are geared more toward academic transfer mission – may not be ideal for CTE mission
   - E.g., adjunct faculty qualifications, faculty workload, course scheduling, financial aid, degree requirements, transfer of credits
2. Policies and programs established *specifically* for CTE/workforce development reflect serial legislative priorities – not coherent or efficient today

Criteria for Effective CTE – from literature review

1. Programs articulate with K-12 where appropriate
2. Prospective students are helped to identify and enroll in community college CTE programs of interest
3. Program offerings adapt to changing labor market needs
4. Efficient pathways exist for transition into entry level credentials and advancement through credential levels
5. Students and employers understand the skills and competency outcomes of credential programs
6. Credentials offered have market value for students, as validated by outcomes data
7. Resource allocation for CTE programs is predictable and responsive to workforce priorities

Findings –
Structure and Finance


California Community Colleges Career Technical Education/Workforce Preparation Structure and Funding (Fall 2011)
Perkins
Title IB Leadership Grants
Title IB Discipline/Industry Collaborative Grants
Title IC Local Grants
U.S. Department of Energy
WIA Title I (Gov. Discretionary)
Small Business Administration
WIA Title II (Adult Education)
WIA Title I (Local)
U.S. Department of Education
U.S. Department of Labor
Various Federal Agencies
CCC Chancellor's Office
Economic Development & Workforce Preparation Division
Academic Affairs Division
Economic & Workforce Development
Nursing & Allied Health
Career Technical Education
Statewide design & review of curriculum & instructional support services
About 60 Regional Centers Across 10 Priority Areas
12 Statewide Collaboratives (Perkins)
12 Statewide Advisory Committees (Perkins)
7 Regional Consortia
Local CCC Districts/Colleges
Economic & Workforce Development
Continuing Education
Contract Education
Career Technical Education
Academic
Non-Credit Adult Education & Basic Skills
Career Advancement Academies
About 1,000 local industry advisory boards
Employer Funds
Foundation Funds
Local Property Tax
Student Fees
Various State Agencies
California Energy Commission – AB 118
Apportionment – Prop 98 General Fund
Categorical Workforce Development & Career Technical Education Funds
Apprenticeship
Cal Works
Career Technical Education Pathways Initiative (SB 70/SB 1133)
52 Community Collaborative Grants
CTE Teacher Prep Pipeline
Nursing (multiple grant programs)
EWD
Regional Centers (Long-term Grants)
Short-term Grants
Industry-Driven Regional Collaboratives
Incumbent Worker Responsive Training Fund
Job Development Incentive Training Fund
Employment Training Panel
Federal Funding Sources
State Funding Sources
Other Funding Sources

Issue 1
Structure is Fragmented and Overly Complex

- EWD - 10 strategic priorities
  - mix of industry and capacity building
- CTE - 12 statewide collaboratives
  - ≠ 12 statewide advisory committees
  - don't map to strategic priorities
  - don't coordinate with local advisory committees
- Statewide advisory committees ≠ 15 industry sectors
  - No systematic linkages to local advisory committees

Issue 2
Silos Marginalize CTE and Hinder Program Vitality

- CTE/EWD separate from Academic Affairs
  - CTE seen as not academic
  - Basic skills for CTE not a priority
- CTE separate from EWD
  - Hinders responsiveness to industry needs
- Silos at system and college levels

Issue 3
Reliance on Competitive Grants Distorts Resource Allocation

- General fund allocations don't accommodate higher costs of CTE programs
  - Disincentive for high cost/high need programs
- Huge array of state/federal/private competitive grants
  - Uneven capacity – rich get richer
  - Money chase shapes the mission
  - Competition rather than regional cooperation

Issue 4
Chancellor's Office Lacks Capacity for Strategic Leadership

- Largely compliance and grant administration
- Strategic leadership lacking to:
  - Promote common vision
  - Leverage and maximize available grant funding
  - Establish skill and competency standards
  - Ensure access to quality labor market data
  - Expedite program approval; minimize program duplication
  - Lead transition from course-based to program-based CTE
  - Develop robust accountability
- Reliance on lead campuses
  - Responsibility exceeds authority
  - Potential conflict of interest

Issue 5
Accountability for Outcomes is Inadequate

- No *program* data
  - Students do not enroll *in programs* (a few exceptions)
  - Course outcomes ≠ program outcomes
- No systematic link to labor market outcomes
- State accountability reporting (ARCC)
  - Annual counts of activities and enrollments
- Ineffective program review and discontinuation policies

Preliminary Findings – Analysis of Program Inventory

Methods

- CCC's inventory of approved programs (associate degrees, certificates of 18+ credits)
- College catalogs for college-approved certificates
- Definitions:
  - Field: An area of study defined at 4-digit TOP code level (Taxonomy of Programs), for example 0514 = Office Technology or 1306 = Nutrition, Foods, & Culinary Arts
  - Program: A certificate or degree program at an individual college, for example AS in Dental Hygiene at Foothill College or certificate in Court Reporting at Cypress College
- Only CTE fields (TOP codes) in credit programs

Huge Array of Program Offerings

- About 8,000 certificate programs and 4,500 associate degree programs in 142 fields
- Average per college: 113 programs in 25 fields
- Range of programs at a single college: 28 - 275
- Average per region: 959 programs in 91 fields
- Most commonly offered fields (certificate and degree)
  - Office Technology
  - Automotive Technology
  - Child Development/Early Care and Education

Highly Variable Program Structure

- Certificates – Many short-term certificates
  - Average : 24 credits
  - Program range : 0.5 - 102 credits
  - 4 fields have average credit requirements of 15 or less
  - 3 fields have an average credit requirement of over 60 credits (requirement for associate degree (Physicians Asst, Radiologic Tech, Diagnostic Medical Sonography – likely licensure requirements)
- Degrees
  - Average *major subject* requirements: 34 credits
  - Lots of variation within similar programs in major requirements
  - Program range: 18 - 124 *major* credits
  - One field has an average of <20 major credits (Health Occupations, General)
  - 3 fields have an average of at least 65 major credits (Respiratory Care/Therapy, Radiologic Tech, Physicians Asst)

Example of Variation across Programs

Associate Degree in Engineering Technology

Merced College	San Joaquin Delta College	Modesto Junior College
30 major credits, as follows: • General Chemistry (5) • Physics (4) • Engineering Materials (3) • FORTRAN Programming (3) • Elementary Mechanics (3) • Direct and Alternating Current Circuits (5) • Descriptive Geometry (3) • Calculus I (4)	18 major credits, selected from (all 3 credits): • Drafting (Engineering, Computer-aided, Civil, Machine) • Materials & Measurement • 3-dimensional Modeling • Machine Design •Mech. & Elec. Systems • Industrial Control Systems • Applied Surveying • Technical Statistics • Applied Statistics	31 major credits, as follows: • General Chemistry (5) • General Physics OR Mech. Heats & Waves (5) • Intro to Engineering & Architecture (1) • Engineering Graphics (4) • Elementary Statistics (5) • 6 credits from General Computer Lit (3), Machine Tool Tech (4), Arc & Gas Welding (3) • 5 elective credits from a list (mostly Drafting or Calculus)

Example of Variation across Programs

Certificate in Computer Programming

Laney College	Gavilan College	San Jose City College
47 - 56 credits • Intro. Comp. Sci. (5) • Intro. Programming (5) • C Programming (4) • Intro to Op. Sys. (1) • Op. Sys. Scripting (1) • Web Publishing (1) •Data Comm./Networks (4) OR Web Pub. II (2) • One writing class (3) •Programming w/C++ (4) • Data Struc./Algorithms (4) • Java Programming I (4) • UNIX/LINUX Op. Sys. (4) • 3 electives (e.g., Java, Assembly Language, Info Security, XML Apps.)	21 - 22 credits • C++ Programming I (4) OR C++ Scientific Prog. (3) • C++ Programming II (4) • UNIX/LINUX Op. Sys. (4) *10 credits from among:* • Web Page Authoring I (2) • Assembly Lang. Prog. (4) • Java Programming I (4) • C#.NET Programming (4) • Visual Basic.NET Prog. (4) • Perl Programming/Lab (3) • Web Sites with SQL and PHP (4)	30 credits • Intro. Comp. Info. Sys. (3) • C++ Programming (3) • Visual Basic Prog. (3) • Data Structures (3) • Object-oriented Prog. (3) • Java Programming (3) • Intro to UNIX (3) • 9 credits of CIS department electives

High Degree of Concentration - Enrollments

- 18% of fields account for 75% of FTES (25 of 142)
- Most popular fields based on FTES
  - Administration of Justice
  - Nursing
  - Child Development/Early Care and Education
  - Accounting
  - Fire Technology
  - Office Technology
  - Information Technology
  - Nutrition/Foods/ Culinary Arts
  - Cosmetology
  - Automotive Technology

Completions Concentrated in Few Fields

- 6% of fields account for over 50% of completions between 2008 and 2010 (8 of 142)
  - Nursing, Child Development/Early Care and Education, Administration of Justice, Fire Technology, Business Administration, Accounting, Automotive Technology, Business Management
- Most fields have very few completions
  - 70% of the fields produce 10% of completions (99 of 142)
- Breakdown of completions
  - 40% associate degrees
  - 41% short-term certificates (<30 credits)
  - 19% longer-term certificates (30 + credits)

Key Issues

- Program offerings appear too extensive
  - Not reflective of careful planning about which programs are most essential to students and economy
  - May reflect faculty interests/availability and/or ineffective processes for eliminating programs
- Abundance of short-term certificates limits value
  - Of little value to students with no prior college credential
  - Could serve as building blocks to something of value, but no evidence they currently do
- Variability across similar programs problematic
  - Prevents good understanding by students and employers about the meaning and value of credentials

Revisiting Criteria for Effective CTE

1. Programs articulate with K-12 where appropriate
   - Difficult with decentralized, course-centric paradigm
2. Prospective students are helped to identify and enroll in community college CTE programs of interest
   - Too few counselors who understand programs
   - Transitions from not-for-credit not smooth
3. Program offerings adapt to changing labor market needs
   - Uneven access to labor market data and industry advice
   - Absence of effective program review and discontinuation
4. Efficient pathways exist for transition into entry level credentials and advancement through credential levels
   - Lack of systemic attention to pathways paradigm
   - Silos prevent seamless transition

Revisiting Criteria for Effective CTE (cont.)

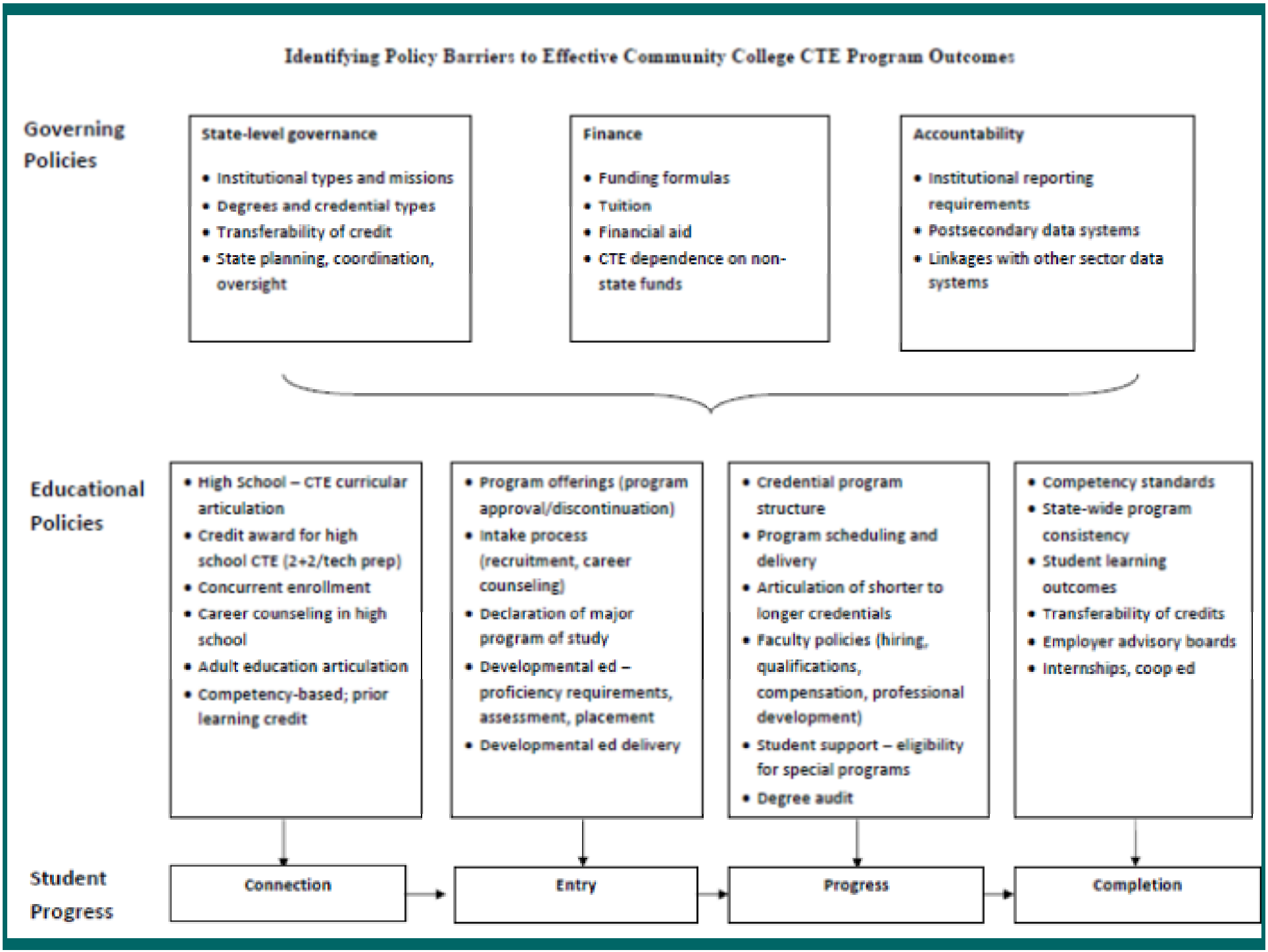
5. Students and employers understand the skills and competency outcomes of credential programs
   - Too much variability among similar programs
6. Credentials offered have market value for students, as validated by outcomes data
   - No systematic approach to validating labor market outcomes
7. Resource allocation for CTE programs is predictable and responsive to workforce priorities
   - No accommodation of high-cost, high-need programs
   - Uneven capacity to compete for grants; unpredictable finances

Part III:
Learning from Other States

- Several states have made notable attempts at reforming their system of CTE delivery, including:
  - Arkansas
  - Florida
  - Kentucky
  - Ohio
  - Oregon
  - Tennessee
  - Washington
  - Wisconsin

Policy Implications and Ongoing Research Directions

Identifying Policy Barriers to Effective Community College CTE Program Outcomes



Examples of Policy Barriers

- *Associate Degree requirement*
  - Math course with prereq. of elementary algebra or equiv. creates disincentives for contextualized math in CTE courses
- *Transfer of credits*
  - Substantive CTE coursework can't transfer if taught as upper division at CSU
  - High school-CCC articulation agreements are faculty- and course-specific, and don't create pathways
- *Program approval*
  - Too slow for credit CTE
  - Full process required even if program operates in other colleges, e.g., retail management certificate
  - Program elimination requires academic senate approval

Examples of Policy Barriers - continued

- *Faculty hiring*
  - Full-time faculty obligation
  - Part-time workload limit of 67% of full load
  - Part-time pool processes
  - Minimum degree requirements – problematic in some fields
  - Teaching credential required to teach high school CTE
- *Faculty workload provisions*
  - Semester-based policies don't accommodate some CTE
    - e.g. Academy format - must pay higher contract rates if exceed # days
  - Open labs must be scheduled courses at higher $$
  - Professional development and outreach not compensated

IHELP Contact Information

Reports and presentations: www.csus.edu/ihelp
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Reports on community college student success:

Rules of the Game, February 2007

Beyond the Open Door, August 2007

Invest in Success, October 2007

It Could Happen, February 2008

Crafting a Student-Centered Transfer Process in CA, August 2009

Steps to Success, October 2009

Divided We Fail, October 2010

The Road Less Traveled, February, 2011

Sense of Direction, August, 2011