Tackling the Headwinds

## Using Analytics to Propel Students to Graduation

Kara Bosch, Brad Bostian

Central Piedmont Community College

Significant Headwinds

- Funding challenges
- Flattening enrollments
- Low retention rates
- Huge changes to placement, developmental education, and articulation of transfer courses
- Low graduation rates

Student Retention & Success Initiatives: users needed data to prove if initiatives were working

...y of Retention Committee Accomplishments Since 2006

...ommittee first met in December of 2005. Among things the Retention Committee has done since are the following, in chronological order:

- Adding course prerequisites
- Study reasons for Fall to Spring Term attrition of new students
- Under-performance of male students
- Substandard performance of CPCC college transfer students (NCCCS Performance Standard)
- Students enrolled in online courses.
- Assess outcomes of the pilot new or modified Accuplacer score and/or course completion standards for student enrollment in SPA111, HIS131, and HIS132 (Gen Ed prerequisite pilot). BUS110, BUS115, ECO251, ECO252, FRE111, GER111, INT110, and MKT120) through 2009-10, as a part of the continuing prerequisite pilot project. Measure grade performance for courses with new prerequisites.
- Program completion rates.
- Recommended to require:
    - Take the placement test (all new students)
    - Attend an advising session prior to first registration (all new students)
    - Attend an orientation session (all new students)
    - Enroll in needed developmental courses during the first term
    - Enroll in a student success course (like our ACA) prior to or during the first term
    - See an advisor prior to registering every term until completion of the developmental sequence
- Service-Learning
- Registration Method

Student Retention Dashboard-At a Glance: one dashboard targets many student retention initiatives

Promoting CPCC's Retention and Success Initiatives

Successful Gateway Grades for all Ethnicities, Genders

Net Registration Count		2011	2012	2013	2014
ACA-111	A	944	830	665	90
	B	382	333	341	32
	C	218	197	217	32
CIS-110	A	1,687	961	909	66
	B	760	751	748	26
	C	378	492	506	21
	I/B		2	2	
	I/C		2		
COM-110	A	1,048	1,013	1,019	35
	B	795	920	907	27
	C	368	441	449	8
	I/A	1	2		
	I/B	3	1		
	I/C	1	3	2	1
COM-231	A	948	764	701	1
	B	583	534	512	
	C	329	315	276	
	I/A	1		1	
	I/B	3			
	I/C	6	1		
ENG-111	A	1,938	1,983	1,942	48
	B	1,585	1,494	1,747	58
	C	800	807	853	47
	I/A	6	2	2	1
	I/B	19	2	5	1
	I/C	8	7	3	
	A	934	934	881	25
	B	649	699	782	18
	C	353	353	330	11

Successful Gateway Grades for Specific Targeted Groups (in order to compare to total CPCC population)

Black, Non-Hispanic Males

Ethnicity
Black, Non-Hispanic

Gender
Male

Net Registration Count		2011	2012	2013	2014
ACA-111	A	150	127	98	16
	B	115	108	73	4
	C	65	57	64	13
CIS-110	A	124	54	73	3
	B	84	76	72	4
	C	44	60	63	
COM-110	A	78	76	83	1
	B	101	110	100	2
	C	57	63	69	3
	I/B		1		
	I/C	1		2	
COM-231	A	66	39	51	
	B	70	69	69	
	C	57	53	44	
	I/B	1			
	I/C	1			
ENG-111	A	154	154	190	1
	B	177	191	222	3
	C	112	137	158	5
	I/B		3		
	I/C	1	1		
ENG-112	A	66	61	70	
	B	68	77	101	1
	C	59	42	41	2
	I/C	1	1	1	
MAT-155	A	5	19	12	
	B	16	19	18	
	C	18	22	27	
	A	6	19	12	

Registration Methods- Fall Comparison

Registration Method for Fall (CU) - Last 4 Fall Terms

Fall 2011
22,365
5,159

Fall 2012
22,870
5,399
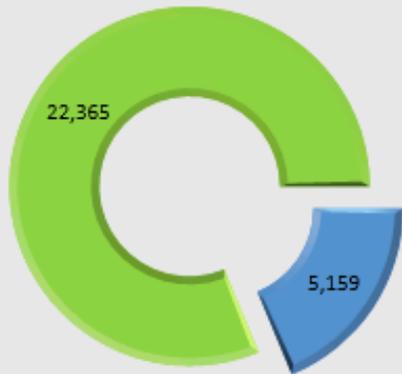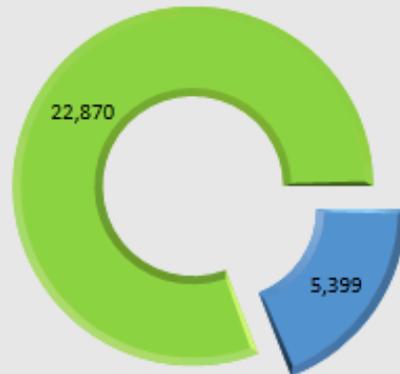
Fall 2013
23,351
6,321
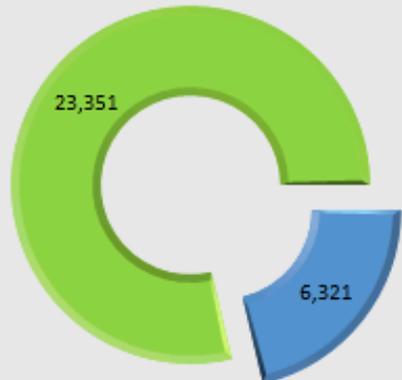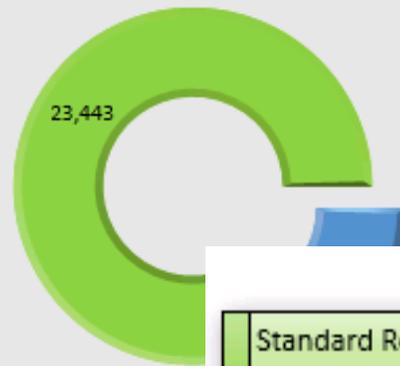
Fall 2014
23,443

The same data shown different ways!

- Standard Reg
- World-Wide Web Reg
- Sub-Total All Registration Methods *

	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Standard Reg	5,159	5,399	6,321	5,410
World-Wide Web Reg	22,365	22,870	23,351	23,443
Sub-Total All Registration Methods *	25,461	24,955	25,600	25,318

Ethnicity — All Ethnicities

Gender — All Genders

C44 Age Band 2 — All

Measures — Unduplicated Student Count ~

Registration Method by Age Band
(Can Slice by Term, Ethnicity and Gender)

Unduplicated Student Count ~ by Registration Method (Registration Method) on columns; and C44 Age Band 2 (Age Band) on rows sub-setted by Spring 2014, All Ethnicities, All Genders and Curriculum

Term.Term
Spring 2014 ▼

Ethnicity
All Ethnicities ▼

Gender
All Genders ▼

Registration Method by Age Band (Unduplicated Student Counts)

Standard Reg

World-Wide Web Reg
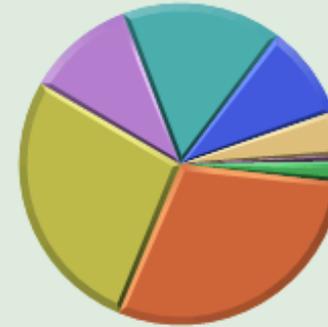
- 🟩 Under 18
- 🟧 18 - 20
- 🟨 21 - 25
- 🟪 26 - 29
- 🟦 30 - 39
- 🟦 40 - 49
- 🟨 50 - 59
- 🟪 60 - 64
- 🟩 65 and Above

Sub-Total All Registration Methods *			
	Standard Reg	World-Wide Web Reg	
Under 18	426	413	736
18 - 29 / 18 - 20	1,625	6,567	7,001
18 - 29 / 21 - 25	980	6,051	6,293
18 - 29 / 26 - 29	401	2,422	2,534
30 - 39	610	3,586	3,755
40 - 49	439	2,097	2,272
50 - 59	267	990	1,092
60 - 64	50	136	162
65 and Above	40	61	91

Successful Grades

All CPCC Students

	2011	2012	2013	2014
Sub-Total All Grades *	102,518	102,637	99,748	2,691
A	49,239	48,249	47,546	1,482
B	32,889	33,509	32,781	787
C	19,929	20,376	18,935	399
I/A	142	168	170	10
I/B	169	180	185	11
I/C	150	15		

All CPCC MALE Students

	2011	2012	2013	2014
Sub-Total All Grades *	44,065	44,060	43,231	1,263
A	20,510	19,891	19,732	691
B	14,165	14,629	14,357	351
C	9,184	9,303	8,910	204
I/A	71	87	83	9
I/B	77	78	88	8
I/C	58	72	61	

Course Utilization in Summary Form
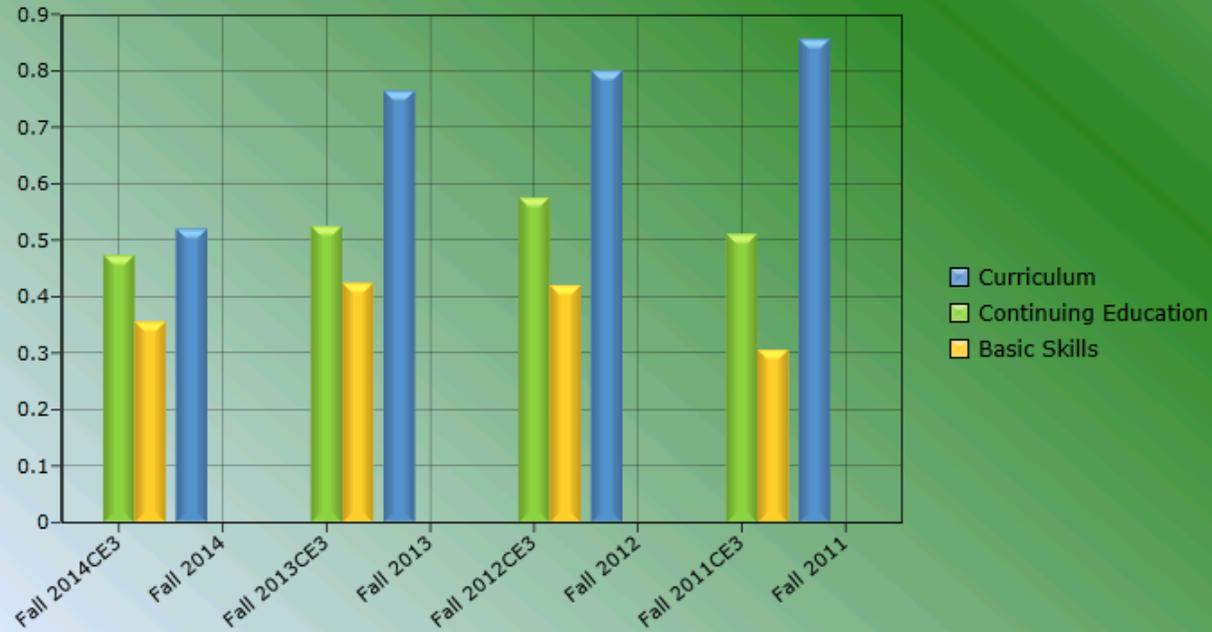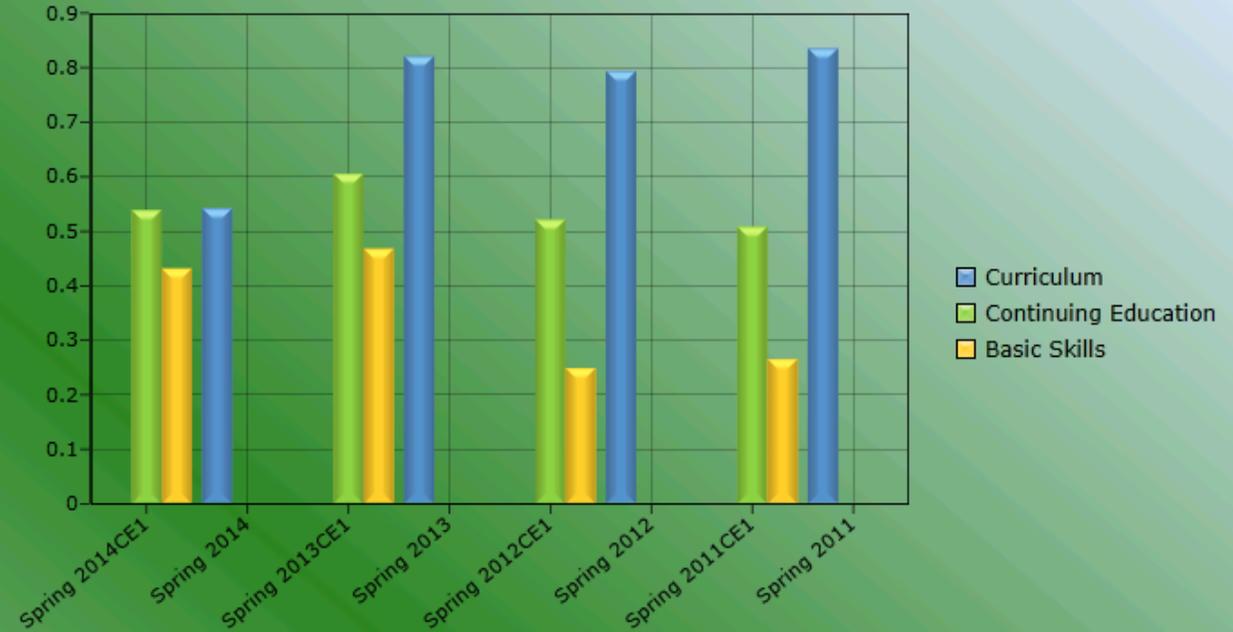
Course Utilization in Specific Courses, such as ACA (College Success)

		Fall 2011	Fall 2012	Fall 2013	Fall 2014
All Courses	Section Count	3,040	3,368	4,184	4,479
	Section Utilization %	85.67%	80.06%	76.50%	52.05%
	Avg Enrolled per Section	20.0	18.0	16.1	14.6
	Avg Sections per Course	3.4	3.7	4.5	5.0
ACA	Section Count	101	105	101	99
	Section Utilization %	90.57%	83.58%	91.06%	89.28%
	Avg Enrolled per Section	22.6	20.8	22.7	22.3
	Avg Sections per Course	25.3	21.0	20.2	24.8
ACC	Section Count	40	42	44	39
	Section Utilization %	73.94%	72.15%	73.81%	77.76%
	Avg Enrolled per Section	20.0	18.8	19.1	20.1
	Avg Sections per Course	2.9	2.8	2.9	2.6
AHR	Section Count	29	28	27	24
	Section Utilization %	96.59%	74.70%	83.81%	85.87%
	Avg Enrolled per Section	16.6	13.3	15.1	13.2

		Fall 2011	Fall 2012	Fall 2013	Fall 2014
ACA-111	Section Count	54	53	49	22
	Section Utilization %	90.74%	84.61%	89.48%	82.08%
	Avg Enrolled per Section	22.7	21.1	22.2	20.4
	Avg Sections per Course	54.0	53.0	49.0	22.0
ACA-118	Section Count	29	30	32	25
	Section Utilization %	93.24%	92.13%	92.75%	82.56%
	Avg Enrolled per Section	23.3	23.0	23.2	20.6
	Avg Sections per Course	29.0	30.0	32.0	25.0
ACA-120	Section Count	16	12	11	1
	Section Utilization %	86.18%	77.33%	89.82%	52.00%
	Avg Enrolled per Section	21.4	19.3	22.5	13.0
	Avg Sections per Course	16.0	12.0	11.0	1.0
ACA-121	Section Count		2	2	
	Section Utilization %		56.00%	86.00%	
	Avg Enrolled per Section		14.0	21.5	
	Avg Sections per Course		2.0	2.0	
ACA-122	Section Count	2	8	7	51
	Section Utilization %	82.00%	61.00%	97.71%	96.39%
	Avg Enrolled per Section	20.5	15.3	24.4	24.1
	Avg Sections per Course	2.0	8.0	7.0	51.0

Get to the details →

Course Utilization in Specific Courses (Such as "ACA")- (continued)

	Fall 2011	Fall 2012	Fall 2013	Fall 2014
All Course Sections	85.67%	80.06%	76.50%	52.05%
ACA	90.57%	83.58%	91.06%	89.28%
ACC	73.94%	72.15%	73.81%	77.76%
AHR	96.59%	74.70%	83.81%	85.87%
ALT	85.00%	51.67%	35.00%	40.00%
ANT	92.59%	91.25%	95.29%	91.05%

Department

All Departments ▼

- All Departments
- Unknown
- A/C, Heating & Ref Tech
- Academic Eng As a 2nd Language
- Academic Related
- Accounting
- Adult Basic Education
- Adult English As a 2nd Languag
- Adult ESL
- Adult High School - Instruct
- Advertising and Graphic Design

	Fall 2011	Fall 2012	Fall 2013	Fall 2014
ACA-111	90.74%	84.61%	89.48%	82.08%
ACA-118	93.24%	92.13%	92.75%	82.56%
ACA-120	86.18%	77.33%	89.82%	52.00%
ACA-121		56.00%	86.00%	
ACA-122	82.00%	61.00%	97.71%	96.39%

Retention Fall to Spring

Retention % (Next Term) by Term.Term (Term) on columns; and First Term Indicator (First Term Indicator) on rows sub-setted by All, All Genders, All Ethnicities, Enrolled and Curriculum

C44 Age band 1: All
Gender: All Genders
Ethnicity: All Ethnicities

Next Term Retention Fall to Spring - Trend
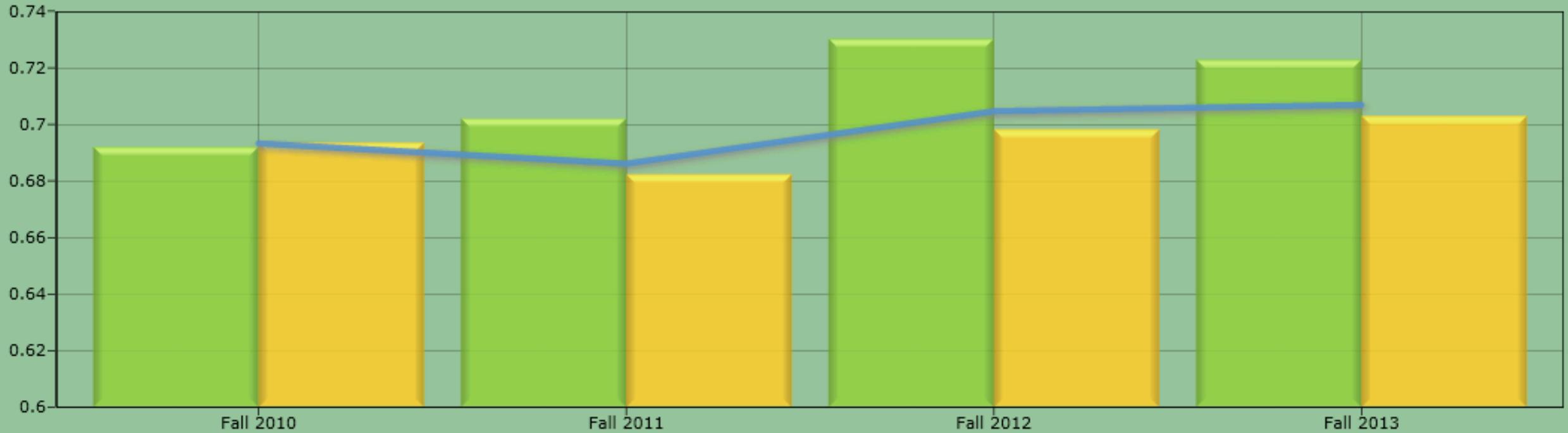
Legend: All First Term Indicators | First Term Enrolled | Returning Student

Can Get Retention Details By Program

Returned Next Term, Retention % (Next Term), Returned Next Year and Retention % (Next Year) by First Term Indicator (First Term Indicator) on columns; and Academic Program (Academic Program) on rows sub-setted by Curriculum, Enrolled and Fall 2013

	All First Term Indicators				First Term Enrolled	
	Returned Next Term	Retention % (Next Term)	Returned Next Year	Retention % (Next Year)	Returned Next Term	Retention % (Next Te
Automotive Systems Technology	138	71.13%	82	42.27%	41	68.
Advanced Engine Performance Including Chassie Electronics (C60160C9)						
Advanced Fuel and Electronic Systems (C60160C8)						
Automotive Systems Technology (A60160)	124	76.54%	68	41.98%	35	79.
Automotive Systems Technology (D60160)	12	50.00%	12	50.00%	5	41.
Automotive Systems Technology - Brake & Alignment (C6016011)						
Basic Engine and Electrical (C60160C7)	1	50.00%	1	50.00%	1	50.
Vehicle Line Drive Systems (C6016010)						
Collision Repair & Refin Tech	11	64.71%	9	52.94%	3	60.
Autobody Estimating (C60130C3)						
Autobody Repair (C60130C2)						
Collision Repair and Refinishing Technology (D60130)	2	40.00%	2	40.00%		
Painting and Refinishing (C60130C1)	9	75.00%	7	58.33%	3	75.
Criminal Justice Technology	141	60.52%	95	40.77%	37	45.
Corrections (C55180C6)						
Courts and the Law (C55180C5)	1	50.00%	1	50.00%		

Tracking Student Success
Degree Count by Academic Year: The Big Picture

Degree Count by Academic Year (CU) (Curriculum, All Academic Programs, Degree Count)
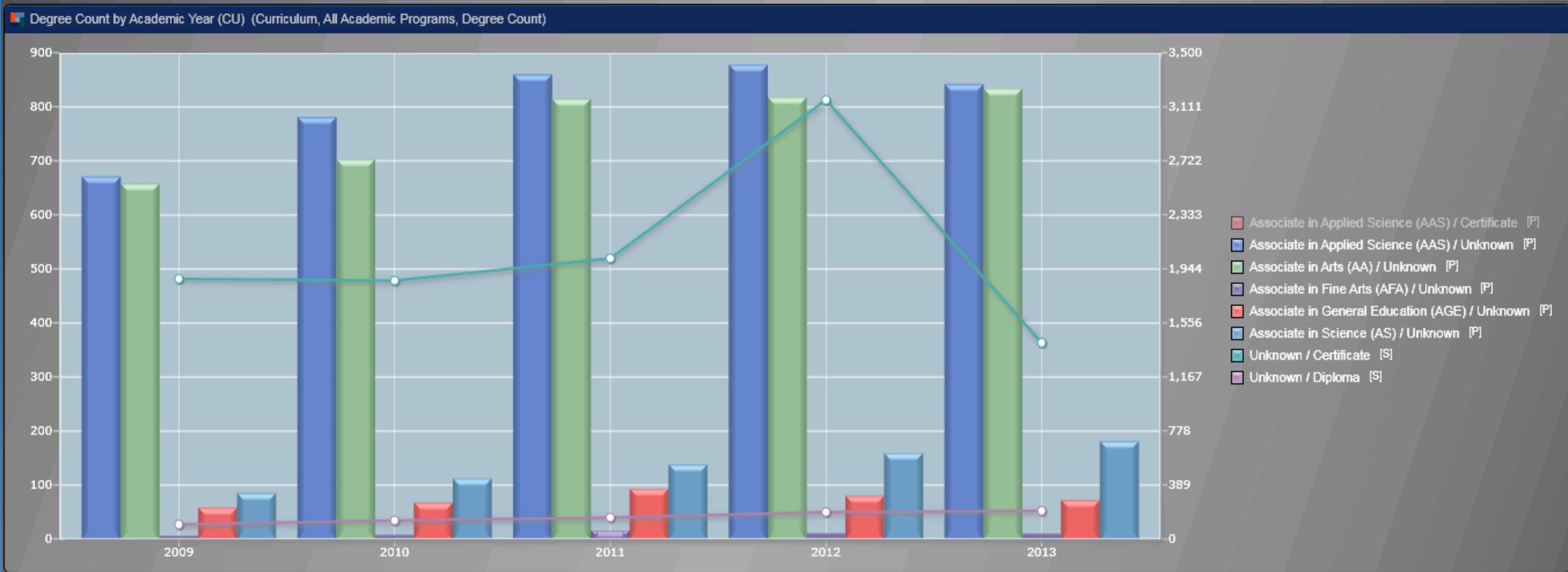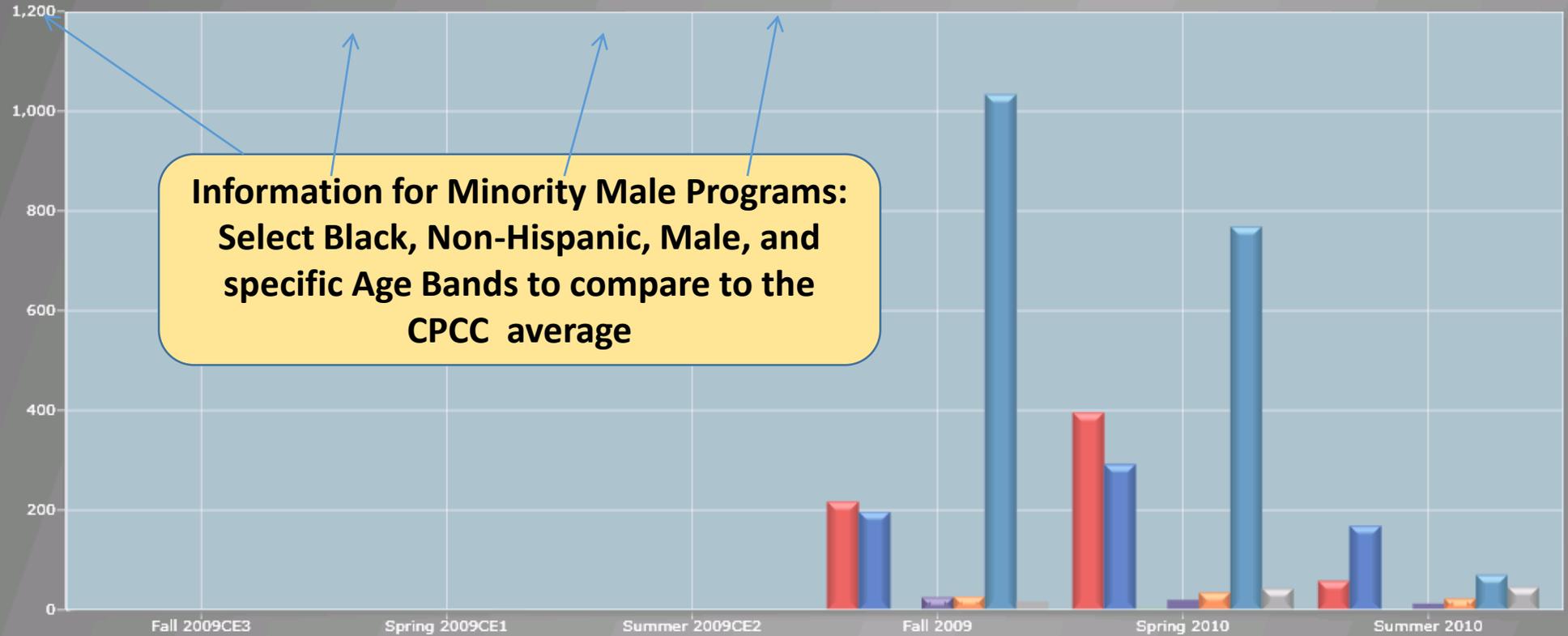
Tracking Student Success
Degree Count by Academic Year: Targeting At-Risk Groups

Back To The Headwinds

- Funding challenges
- Flattening enrollments
- Low retention rates
- Huge changes to placement, developmental education, and articulation of transfer courses
- Low graduation rates

Applications Are Flat

Year	Applications
2007-2008	23710
2008-2009	26220
2009-2010	25484
2010-2011	23209
2011-2012	23114
2012-2013	25448
2013-2014	23862
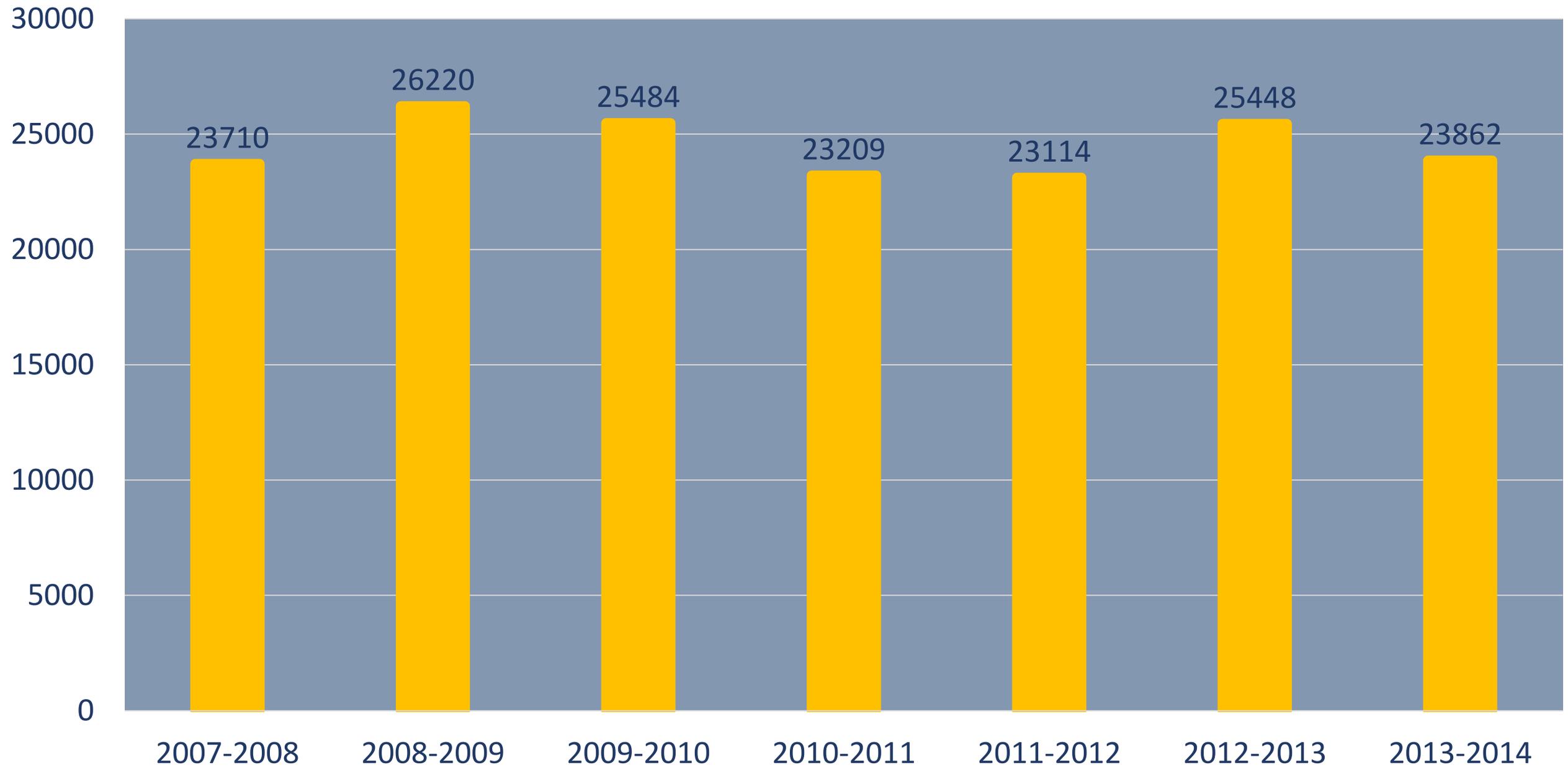
CPCC Projected Vs. Actual Curriculum Headcount

Enrollment is not meeting projections
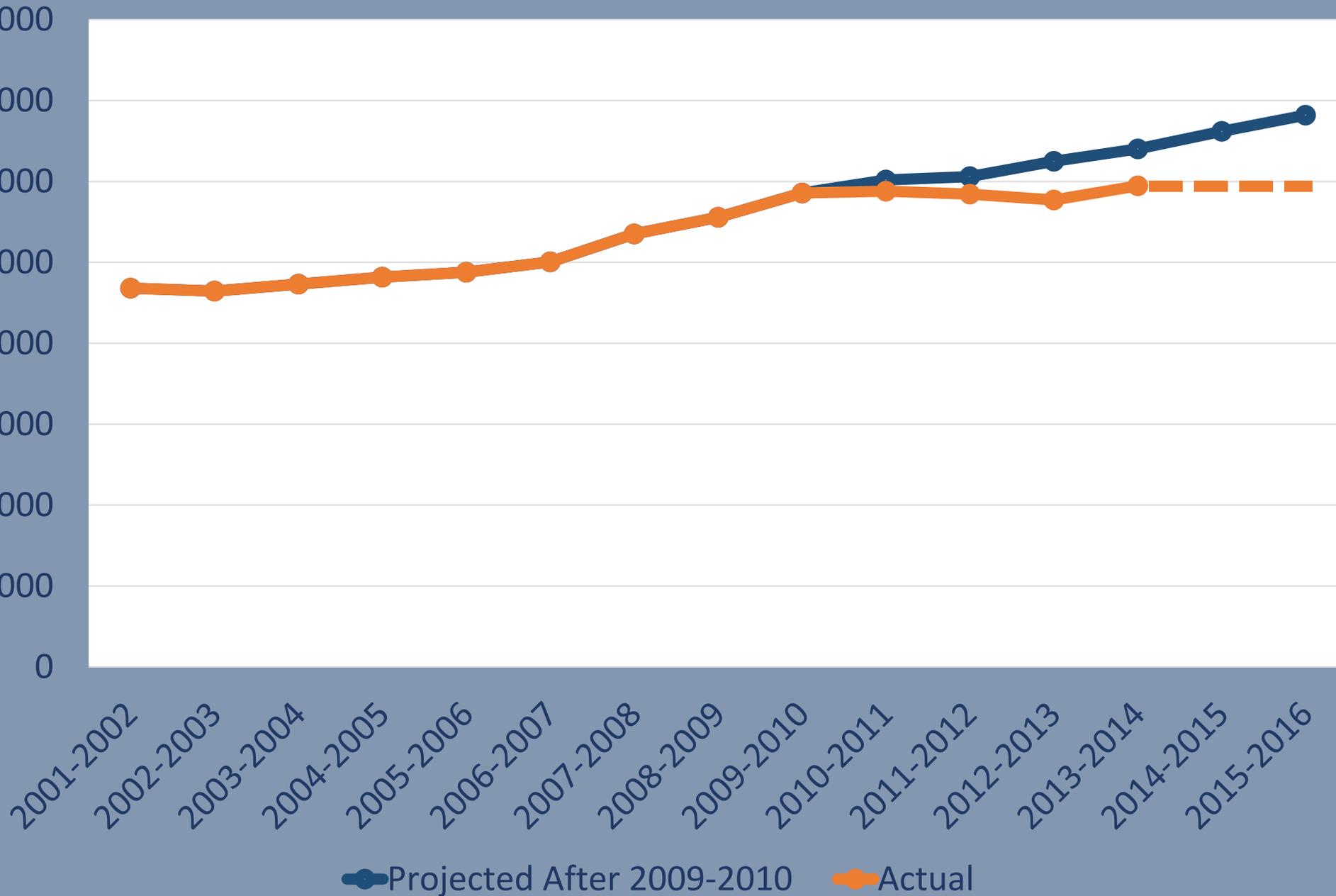
CPCC Revenue Sources

State funding is going down

State · Tuition · County · Other
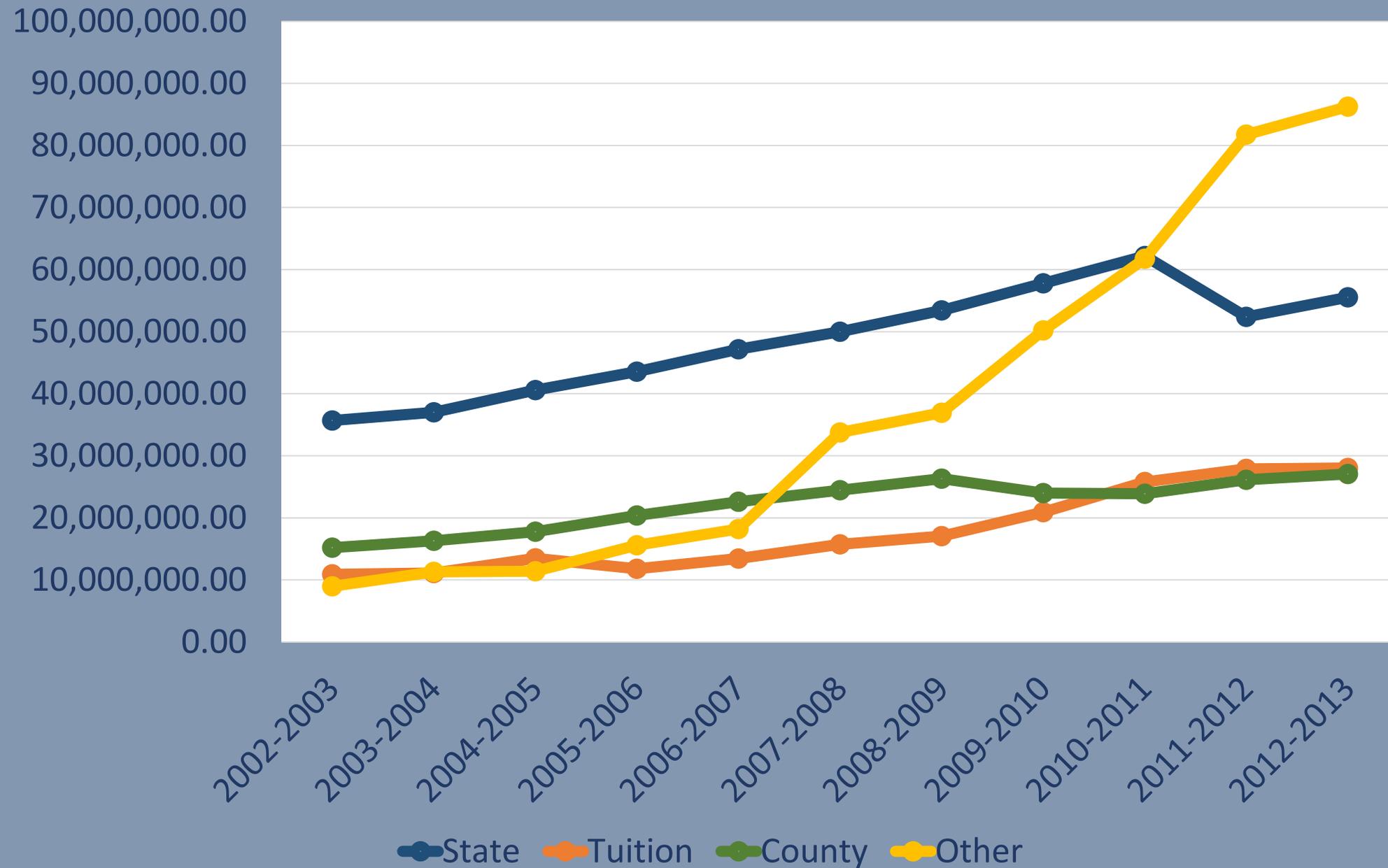
CPCC Revenue Source Percentages
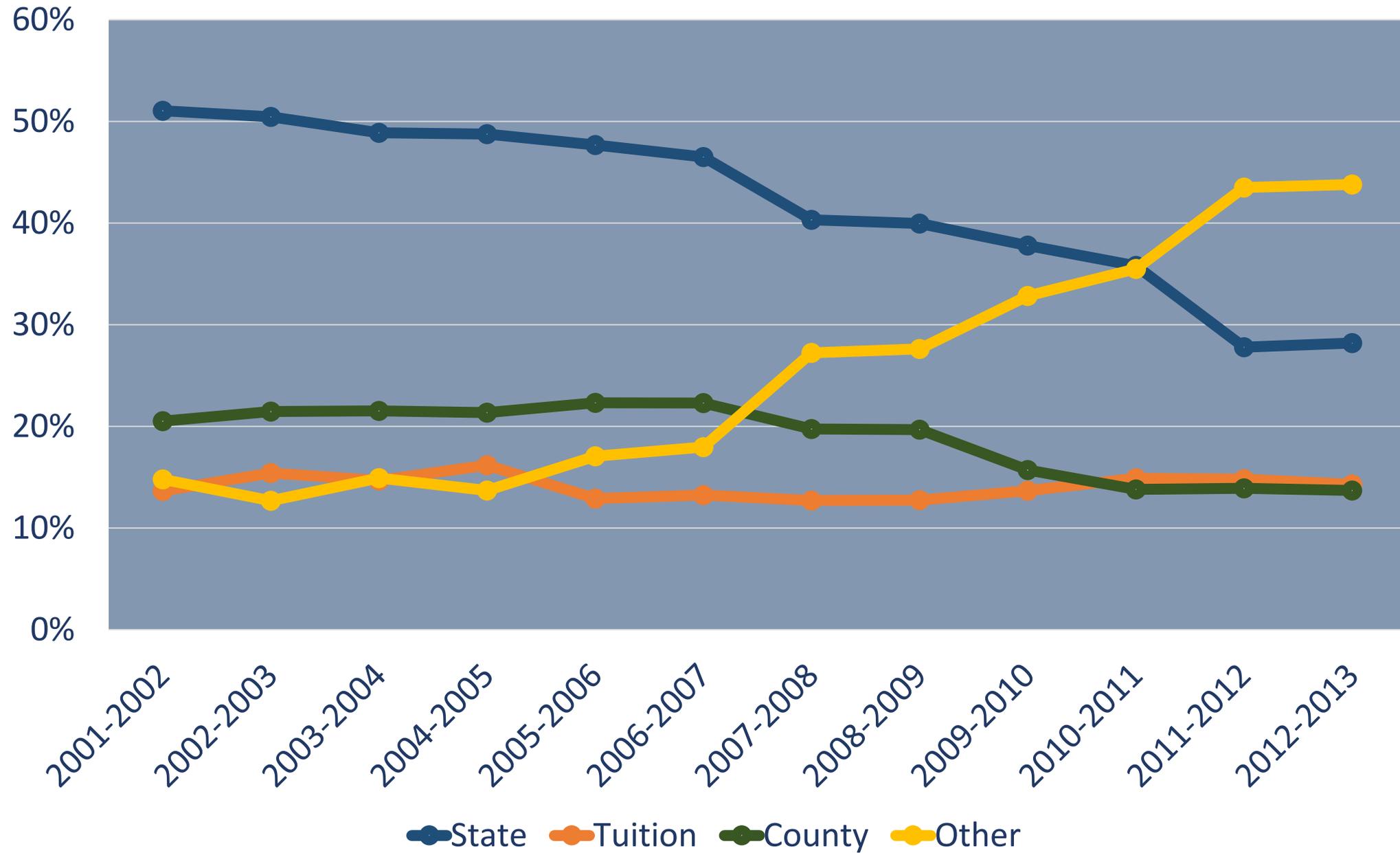
We're now more than a third self-funded

Legend: State, Tuition, County, Other

PROBLEM

We're down in enrollment, yet registration looks like this
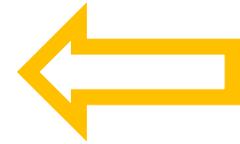
WITHDRAWAL RATE

How do we retain more students when they're doing this?

PROBLEM

Our withdrawal rate was high (21.1% from 1997-2005), at the bottom 5% of 151 benchmark colleges

Fall to Spring retention was 58%. Our graduation rate was 6%

Improved services, like eliminating phone registration and creating Get Started, our online enrollment portal

Fall 2010   Fall 2011   Fall 2012   Fall 2013
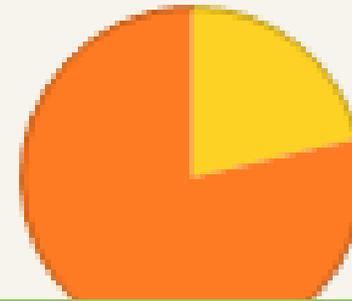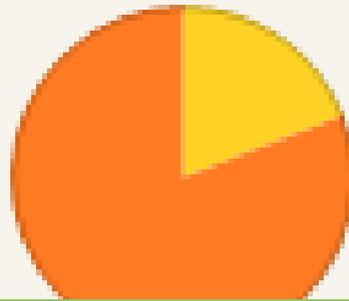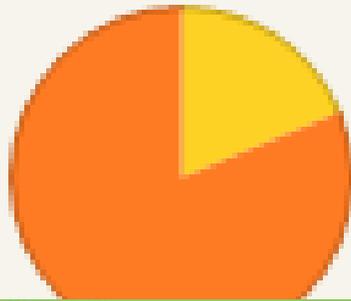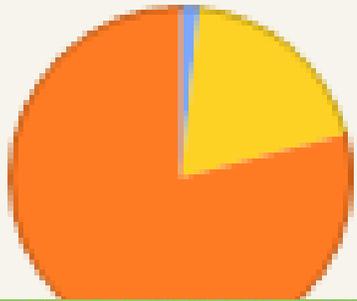
Phone Reg
Standard Reg
World-Wide Web

Added more short session classes, which support concinuous enrollment and student success

Term Length	N	% A-C	% F	% W
16 Weeks	18812	69.6%	10.6%	15.5%
8 Weeks	3680	74.1%	11.8%	10.7%
4 Weeks	240	81.3%	8.8%	6.7%

Reducing the withdrawal rate

Moved the 75% W date to the 35% point

Created an online attendance system

Added early term progress reports to our Online Student Profile system

A to C Grades and W Grades

	1997SU	1998SP	1999SP	2000SP	2001SP	2002SP	2003SP	2004SP	2005SP	2006SP	2007SP	2008SP	2009SP	2010SP	2011SP	2012SP	2013SP	2014SP
A to C	59%	61%	61%	62%	66%	66%	67%	66%	66%	65%	65%	66%	68%	69%	71%	72%	69%	64%
W	31%	28%	26%	26%	23%	22%	21%	22%	21%	22%	23%	18%	13%	12%	11%	9%	8%	7%
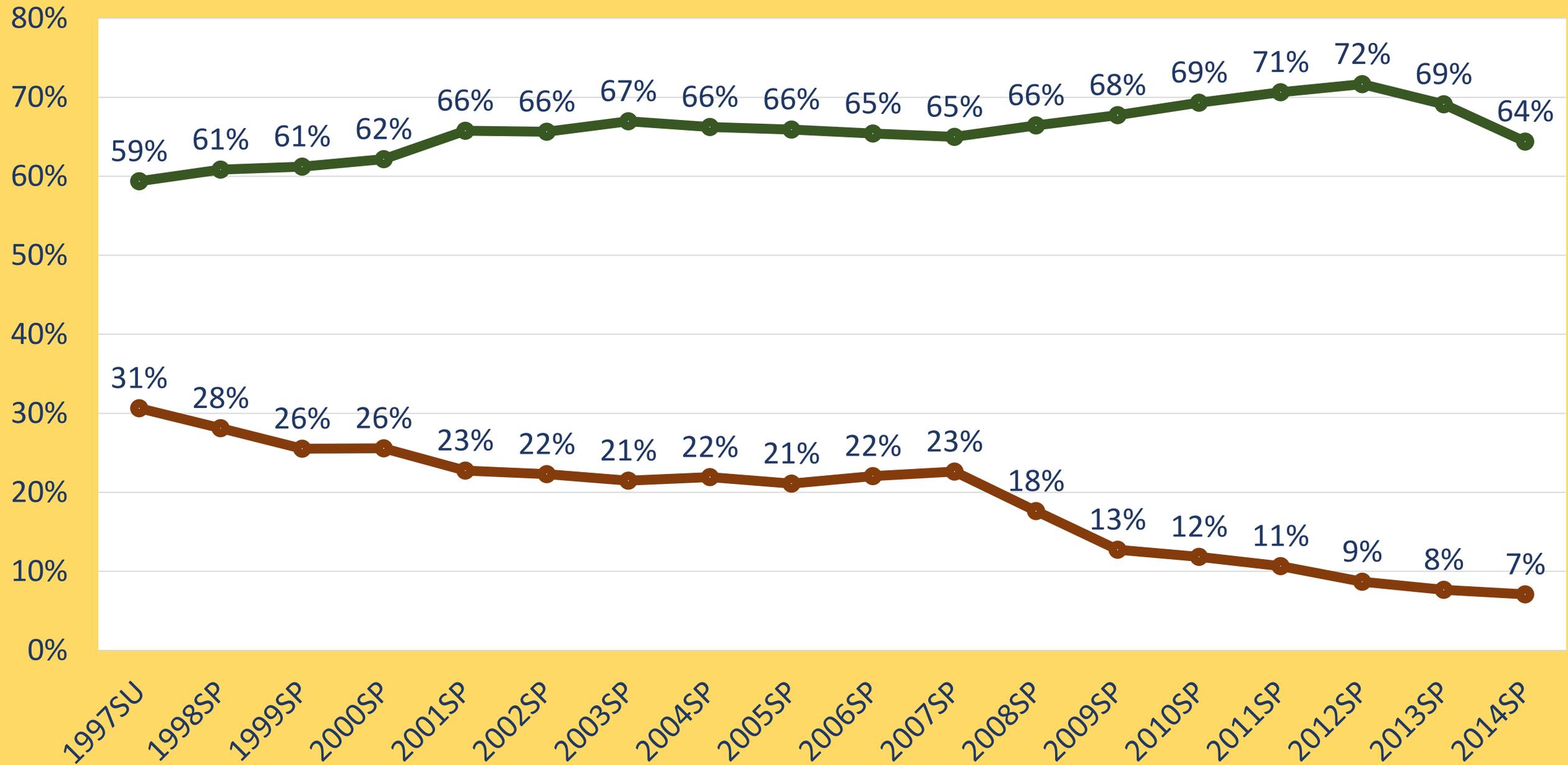
Intervention 3: Course Utilization Formula

In 2009-2010, English earned $5,000,000 while Health Sciences cost $900,000

ENG 111	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012
Section Count	73	74	79	85	91	116	120
Section Utilization %	85.2%	86.8%	97.3%	95.6%	94.8%	94.8%	92.4%
Avg Enrolled per Section	21.2	23.1	24.1	23.7	23.5	23.4	23

Cost per Completion (Unit Cost)

**Outcome-Adjusted Pathway Cost:
2005-06 First Time in College Students after 5 Years**

Category	Cost
PC per dev ed student	$125,595
PC per college-ready	$74,544
PC per LAS major	$113,351
PC per business major	$117,837
PC per allied health major	$135,668
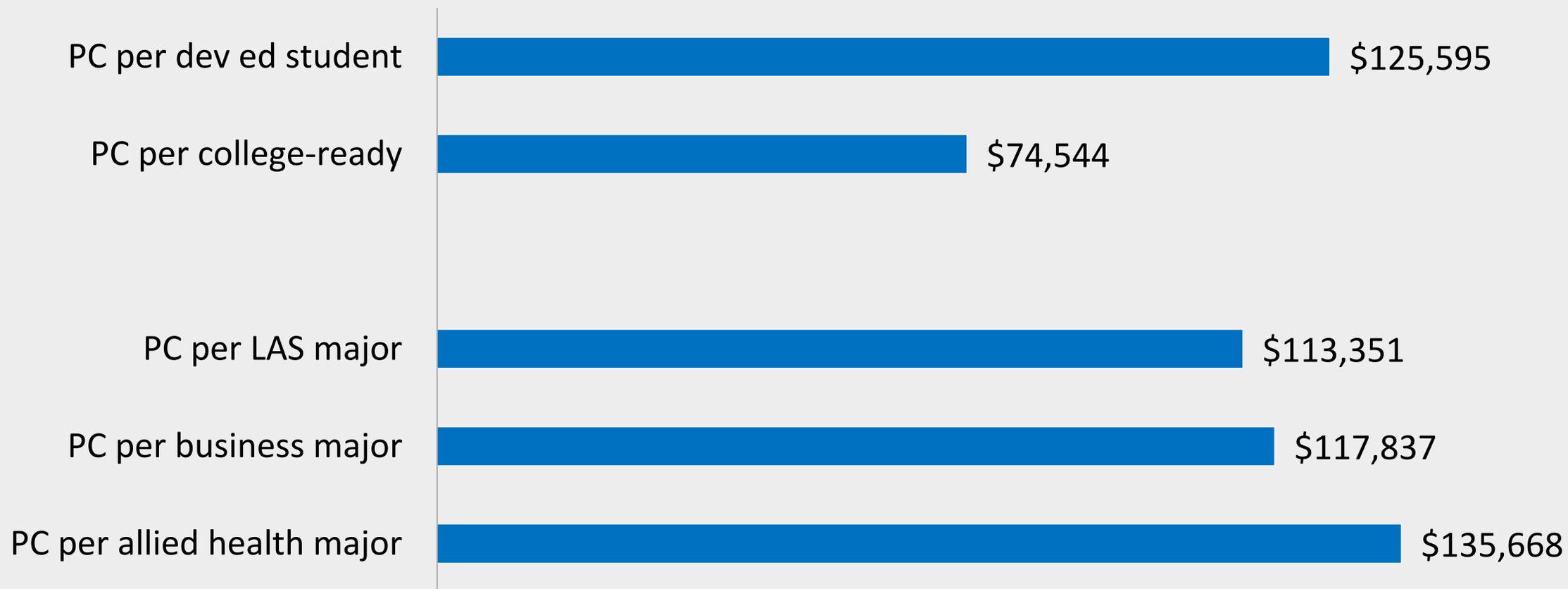
Developmental math students who complete college math

Will earn 25 more credits

Complete a degree at a significantly higher rate

Are twice as likely to transfer out

Changes may be incremental but significant

An increase of 15% in the rate of recent high school graduates completing college level math in their first year might take a 13% graduation rate to 15%

And lower the cost per completer from $112,000 to $102,000

- Moving to 100% completion of college math by year 2 would take a 13% graduation rate to 27%

And reduce cost per completer to $76,000

Course utilization = butts over seats

Using Blackboard Analytics I can pull course utilization data by prefix

All Courses	GEL	Section Utilization %	104.24%	96.58%	91.71%	92.41%	89.68%
All Courses	GEL	Avg Enrolled per Section	24.6	25.6	24.3	24.3	22.6
All Courses	GEL	Avg Sections per Course	5	5.5	5	6	5
All Courses	GEO	Section Count	7	7	8	10	7
All Courses	GEO	Section Utilization %	102.06%	96.88%	99.16%	96.43%	101.08%
All Courses	GEO	Avg Enrolled per Section	28.3	26.6	29.5	27	26.7
All Courses	GEO	Avg Sections per Course	2.3	2.3	2.7	3.3	2.3
All Courses	GER	Section Count	12	12	14	14	14
All Courses	GER	Section Utilization %	67.56%	64.29%	59.69%	46.94%	53.76%
All Courses	GER	Avg Enrolled per Section	18.9	18	16.7	13.1	14.3
All Courses	GER	Avg Sections per Course	2	2	1.8	1.8	1.8

Or by a particular snapshot, by campus, and for each course

07 Course Utilization: Section Measures by Course - Fall Trend - sliced

Section Utilization % for Central Campus / CPCC, End of Add/Drop, Curriculum (Reporting Term)

		Spring 2013
All Courses	All Courses	85.21%
All Courses	ACA-111	90.93%
All Courses	ACA-118	98.55%
All Courses	ACA-120	80.00%
All Courses	ACA-121	52.00%
All Courses	ACA-122	100.00%
All Courses	ACC-110	77.78%
All Courses	ACC-115	85.19%
All Courses	ACC-120	90.28%
All Courses	ACC-121	90.12%
All Courses	ACC-129	47.06%
All Courses	ACC-130	52.94%

My Method

Pull number of sections and utilization percentage for 7 campuses and for all campuses, at end of drop/add and at end of term

Transform the data into one record per course

Account for needed growth or section reduction

Adjust for known changes, such as to placement policies, the developmental course sequences, and the CAA

My Method

For utilization % < 90%:

Sections needed = current sections * utilization % / 90%

For utilization % ≥ 90% (low estimate):

Sections needed = current sections + [2 * (utilization % - 90%)]

For utilization % ≥ 90% (high estimate):

Sections needed = current sections + [5 * (utilization % - 90%)]

Excel example =IF(F4<0.9,(E4*(F4/0.9)),E4+((F4-0.9)*2*E4))

This method is good but has flaws: it is backward looking, can over-grow, and ignores course idiosyncrasies

This busy slide shows the result of these calculations. It gives low and high estimates for the number of sections needed by campus and for both snapshots

Levine					Merancas					Other					All				
	2015 Needed					2015 Needed					2015 Needed					2015 Needed			
Courses	Low Current	High Current	Low End of Drop Add	High End of Drop Add	Courses	Low Current	High Current	Low End of Drop Add	High End of Drop Add	Courses	Low Current	High Current	Low End of Drop Add	High End of Drop Add	Courses	Low Current	High Current	Low End of Drop Add	High End of Drop Add
Aall Courses	345	345	371	371	Aall Courses	172	172	176	176	Aall Courses	769	769	808	813	Aall Courses	3133	3133	2856	2861
ABL-6014	1	1	1	1	ABL-6014	1	1	0	0	ABL-6014	0	0	0	0	ABL-6014	12	12	11	11
ACA-111	3	3	3	3	ACA-111	1	1	1	1	ACA-111	9	10	9	10	ACA-111	23	24	25	26
ACA-118	5	5	4	4	ACA-118	1	1	1	1	ACA-118	8	9	8	10	ACA-118	29	30	28	30
ACA-120	0	0	0	0	ACA-120	0	0	0	0	ACA-120	5	6	5	6	ACA-120	9	10	7	8
ACA-121	0	0	0	0	ACA-121	0	0	0	0	ACA-121	1	2	1	2	ACA-121	1	2	1	2
ACA-122	2	2	1	1	ACA-122	1	1	0	0	ACA-122	3	4	3	3	ACA-122	7	8	6	8
ACC-110	0	0	0	0	ACC-110	0	0	0	0	ACC-110	0	0	0	0	ACC-110	0	0	3	3
ACC-115	0	0	0	0	ACC-115	0	0	0	0	ACC-115	0	0	0	0	ACC-115	0	0	1	1
ACC-120	3	3	0	0	ACC-120	0	0	0	0	ACC-120	4	4	5	5	ACC-120	17	17	16	18
ACC-121	2	2	1	1	ACC-121	0	0	0	0	ACC-121	3	3	3	4	ACC-121	5	5	9	9
ACC-129	0	0	0	0	ACC-129	0	0	0	0	ACC-129	0	0	0	0	ACC-129	0	0	1	1
ACC-130	0	0	0	0	ACC-130	0	0	0	0	ACC-130	0	0	0	0	ACC-130	0	0	1	1
ACC-140	0	0	0	0	ACC-140	0	0	0	0	ACC-140	1	1	1	1	ACC-140	1	1	1	1
ACC-149	0	0	0	0	ACC-149	0	0	0	0	ACC-149	1	1	1	1	ACC-149	1	1	2	2
ACC-150	0	0	0	0	ACC-150	0	0	0	0	ACC-150	1	1	1	2	ACC-150	1	1	1	2
ACC-220	0	0	0	0	ACC-220	0	0	0	0	ACC-220	0	0	0	0	ACC-220	0	0	1	1
ACC-221	0	0	0	0	ACC-221	0	0	0	0	ACC-221	0	0	0	0	ACC-221	0	0	0	0

Color coding indicates adjustment needed and reason

SectionsNeeded14SUMMER - Excel

Courses	HarrisLOW	HarrisHIGH	Courses	LevineLOW	LevineHIGH	Courses	MerancasL	MerancasH	Courses	OtherLOW	OtherHIGH	Courses	AllLOW	AllHIGH		
Aaall			Aaall			Aaall			Aaall			Aaall			No Longer Need	
ABL-6014	0.0	0.0	ABL-6014	0.0	0.0	ABL-6014	0.0	0.0	ABL-6014	0.0	0.0	ABL-6014	2.8	2.8	Developmental	
ACA-111	0.0	0.0	ACA-111	0.0	0.0	ACA-111	0.0	0.0	ACA-111	2.2	2.4	ACA-111	4.4	4.6	CAA General Electives	
ACA-118	0.0	0.0	ACA-118	0.0	0.0	ACA-118	0.4	0.4	ACA-118	4.3	4.8	ACA-118	8.1	8.6	CAA A.S. Elective	
ACA-120	0.0	0.0	ACA-120	0.0	0.0	ACA-120	0.0	0.0	ACA-120	1.3	1.7	ACA-120	1.3	1.7	CAA A.A. Elective	
ACA-122	0.0	0.0	ACA-122	0.0	0.0	ACA-122	0.0	0.0	ACA-122	3.4	4.1	ACA-122	3.4	4.1	UGETC	
ACC-110	0.0	0.0	ACC-110	0.0	0.0	ACC-110	0.0	0.0	ACC-110	0.0	0.0	ACC-110	0.6	0.6		
ACC-120	0.0	0.0	ACC-120	0.0	0.0	ACC-120	0.0	0.0	ACC-120	3.7	3.7	ACC-120	6.5	6.5		
ACC-121	0.0	0.0	ACC-121	0.0	0.0	ACC-121	0.0	0.0	ACC-121	2.1	2.2	ACC-121	3.1	3.2		
ANT-210	0.0	0.0	ANT-210	0.0	0.0	ANT-210	0.0	0.0	ANT-210	4.9	4.9	ANT-210	4.9	4.9		
												ANT 220				
												ANT 221				
ARC-133	0.0	0.0	ARC-133	0.0	0.0	ARC-133	0.0	0.0	ARC-133	0.8	0.8	ARC-133	0.8	0.8		
ART-111	0.0	0.0	ART-111	0.0	0.0	ART-111	0.0	0.0	ART-111	9.4	9.9	ART-111	11.6	12.5		
ART-114	0.0	0.0	ART-114	0.0	0.0	ART-114	0.0	0.0	ART-114	0.4	0.4	ART-114	0.4	0.4		
ART-115	0.0	0.0	ART-115	0.0	0.0	ART-115	0.0	0.0	ART-115	0.3	0.3	ART-115	0.3	0.3		
												ART 116				
												ART 117				
ART-121	0.0	0.0	ART-121	0.0	0.0	ART-121	0.0	0.0	ART-121	0.0	0.0	ART-121	0.6	0.6		
ART-131	0.0	0.0	ART-131	0.0	0.0	ART-131	0.0	0.0	ART-131	0.0	0.0	ART-131	1.2	1.5		
ART-231	0.0	0.0	ART-231	0.0	0.0	ART-231	0.0	0.0	ART-231	0.0	0.0	ART-231	0.4	0.4		
ART-232	0.0	0.0	ART-232	0.0	0.0	ART-232	0.0	0.0	ART-232	0.0	0.0	ART-232	0.2	0.2		
ART-240	0.0	0.0	ART-240	0.0	0.0	ART-240	0.0	0.0	ART-240	0.0	0.0	ART-240	0.6	0.6		

Data | Sections Needed Based On 2014 | Sections Needed Based On CAA

Next I can analyze the actual sections run based on the projected need

Low	High	Actual	Utilization	No Color = Difference Greater Than 1 Section	No Color = Difference Greater Than 1 Section	Courses	Actual Versus Needed Sections: Differences Greater Than 1	Absolute Value Of Actual Versus Needed Sections With Differences Greater Than 1	Actual Versus Needed Sections	Absolute Value Of Actual Versus Needed Sections	Courses	Absolute Value Of Actual Versus Needed Sections: Low Estimate	Absolute Value Of Actual Versus Needed Sections: High Estimate	Sections Needed: Differences Greater Than 1	Section Surpluses: Differences Greater Than 1	Sections Needed: Differences Greater Than 1	Section Surpluses: Differences Greater Than 1
						Aall Courses	Low Estimate		High Estimate		Aall Courses	Low	High	Low	Low	High	High
						ABL-6014					ABL-6014						
31.7	34.2	34.0	72.24%	2.3	-0.2	ACA-111	2.3	2.3	0.0	0.0	ACA-111	2.3	0.2	0.0	2.3	0.0	0.0
28.4	30.4	30.0	87.33%	1.6	-0.4	ACA-118	1.6	1.6	0.0	0.0	ACA-118	1.6	0.4	0.0	1.6	0.0	0.0
11.4	12.2	8.0	94.50%	-3.4	-4.2	ACA-120	-3.4	3.4	-4.2	4.2	ACA-120	3.4	4.2	-3.4	0.0	-4.2	0.0
1.4	1.4	2.0	96.00%	0.6	0.6	ACA-121	0.0	0.0	0.0	0.0	ACA-121	0.6	0.6	0.0	0.0	0.0	0.0
6.7	7.2	8.0	85.00%	1.3	0.8	ACA-122	1.3	1.3	0.0	0.0	ACA-122	1.3	0.8	0.0	1.3	0.0	0.0
3.3	3.3	3.0	81.67%	-0.3	-0.3	ACC-110	0.0	0.0	0.0	0.0	ACC-110	0.3	0.3	0.0	0.0	0.0	0.0
0.9	0.9	1.0	77.78%	0.1	0.1	ACC-115	0.0	0.0	0.0	0.0	ACC-115	0.1	0.1	0.0	0.0	0.0	0.0
16.4	16.4	17.0	89.76%	0.6	0.6	ACC-120	0.0	0.0	0.0	0.0	ACC-120	0.6	0.6	0.0	0.0	0.0	0.0
7.5	7.5	10.0	78.79%	2.5	2.5	ACC-121	2.5	2.5	2.5	2.5	ACC-121	2.5	2.5	0.0	2.5	0.0	2.5
0.5	0.5	1.0	59.26%	0.5	0.5	ACC-129	0.0	0.0	0.0	0.0	ACC-129	0.5	0.5	0.0	0.0	0.0	0.0
0.6	0.6	1.0	88.89%	0.4	0.4	ACC-130	0.0	0.0	0.0	0.0	ACC-130	0.4	0.4	0.0	0.0	0.0	0.0
0.8	0.8	1.0	88.00%	0.2	0.2	ACC-140	0.0	0.0	0.0	0.0	ACC-140	0.2	0.2	0.0	0.0	0.0	0.0
1.5	1.7	2.0	67.31%	0.5	0.3	ACC-149	0.0	0.0	0.0	0.0	ACC-149	0.5	0.3	0.0	0.0	0.0	0.0
1.3	1.7	1.0	92.00%	-0.3	-0.7	ACC-150	0.0	0.0	0.0	0.0	ACC-150	0.3	0.7	0.0	0.0	0.0	0.0
0.8	0.8	1.0	70.37%	0.2	0.2	ACC-220	0.0	0.0	0.0	0.0	ACC-220	0.2	0.2	0.0	0.0	0.0	0.0

2014 | Needed | Needed Raw | Sections Needed Spring 2015 | **Analysis of Spring 2014**

					0.2	0.5	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-143	0.2	0.5	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-151	0.2	0.2	0.0	0.0	0.0	0.0
0.0	0.0	-1.7	1.7	WLD-215	0.7	1.7	0.0	0.0	-1.7	0.0
0.0	0.0	0.0	0.0	WLD-221	0.7	0.7	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-231	0.4	1.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-251	0.7	0.7	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-261	0.1	0.1	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-265	0.2	0.5	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-270	0.1	0.2	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WLD-293F	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	WOL-110	0.3	0.3	0.0	0.0	0.0	0.0
Net Difference	Sum Of The Differences	Net Difference	Sum Of The Differences		Absolute Differences	Absolute Differences	Under Low	Over Low	Under High	Over High
43.1	520.9	-173.2	608.3		916.9	1010.9	-38.9	282.0	-390.7	217.6
Low Estimate		High Estimate			Low	High		43.1		-173.2

Here you can see the bottom line values. In absolute terms, we're about a thousand sections off from what we need. And taking the high estimate of sections needed, we have a net need of nearly two hundred sections

Now we can adjust sections by need

	Fall 2011		Fall 2012		Fall 2013		Fall 2014	
All Courses	3051	86%	3997	80%	4184	77%	4479	52%
ABL-6014	0	NA	27	92%	30	83%	15	74%
ACA 111	55	90%	53	85%	49	89%	22	82%
ACA 122	2	90%	8	61%	7	98%	51	96%
ENG 111	116	99%	120	93%	119	96%	150	96%
PSY 150	44	97%	59	95%	47	97%	65	94%
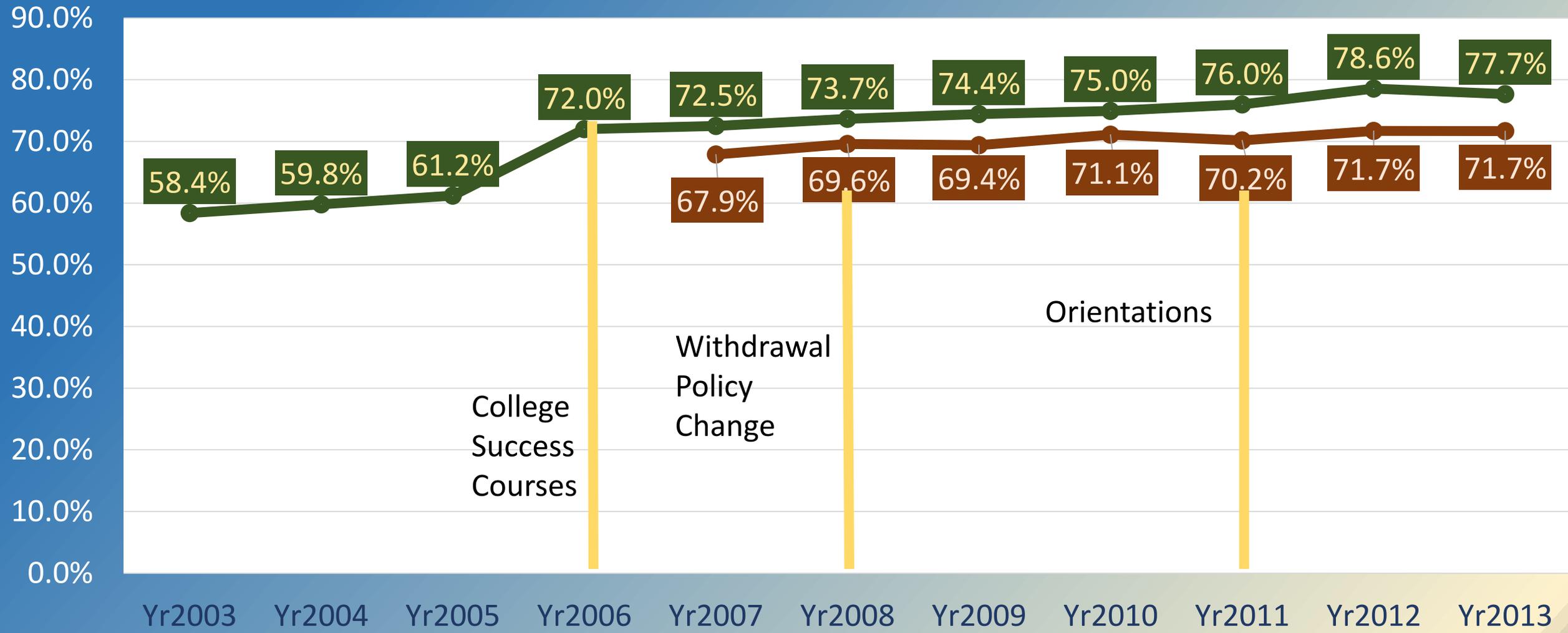
So the graduation rate is now rising

Graduation Rates (year is the cohort year)*
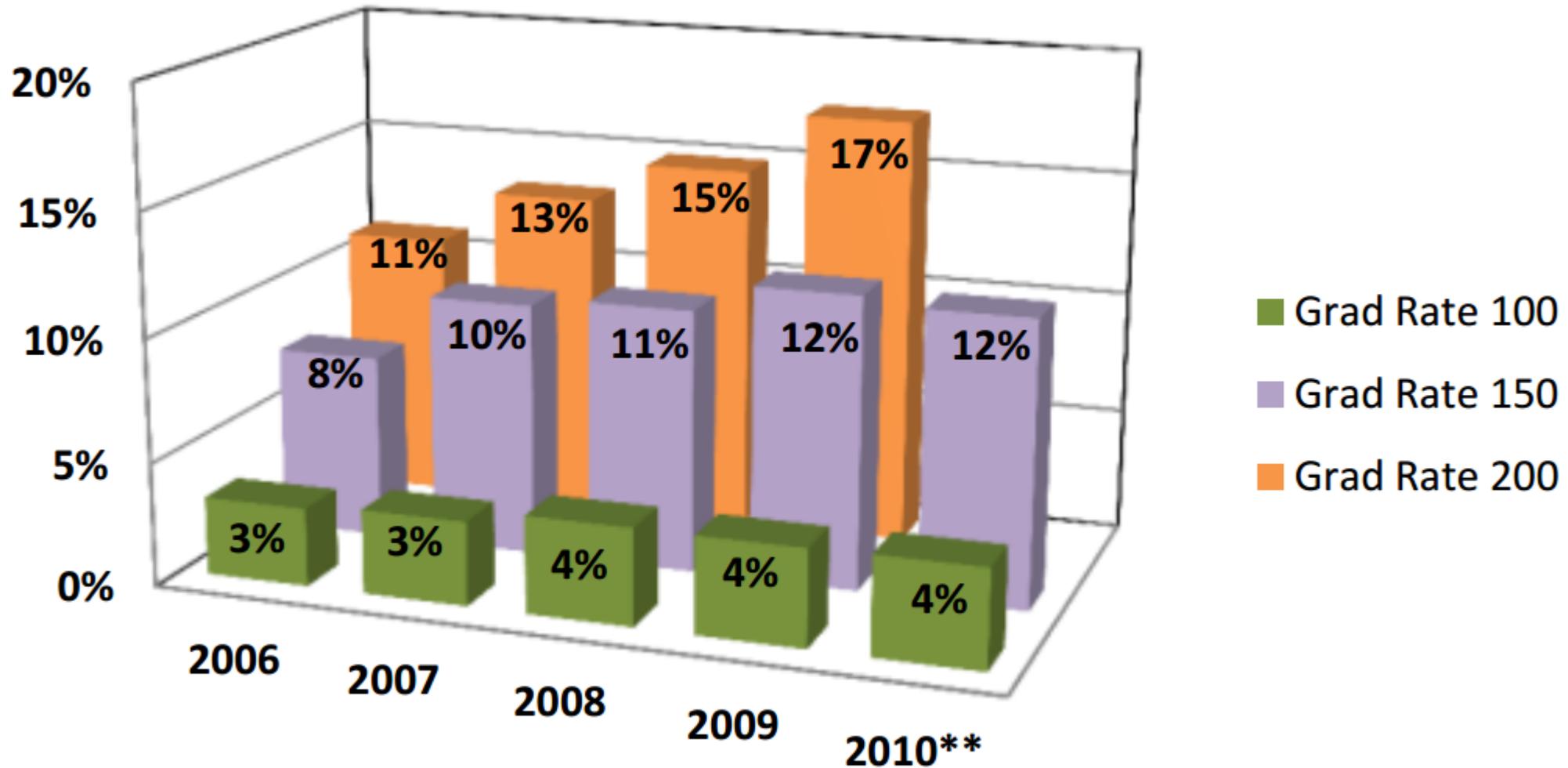
There is more to do: **Multiple Measures for Placement**

Spring 2014	Course Success Rates	**Estimated** Two Semester Course Completion Rates
ENG 111	12% higher	**33% higher**
Reading Intensive (COM 110, HIS 111, PSY 150, SOC 210)	1% to 13% higher	**15% to 33% higher**
MAT (through MAT 171)	**1% to 8% lower**	**13% to 28% higher**
Estimated Graduation Rate		**More than 2% higher**

ACCUPLACER Test Prep

Sometimes even a wizard needs to review
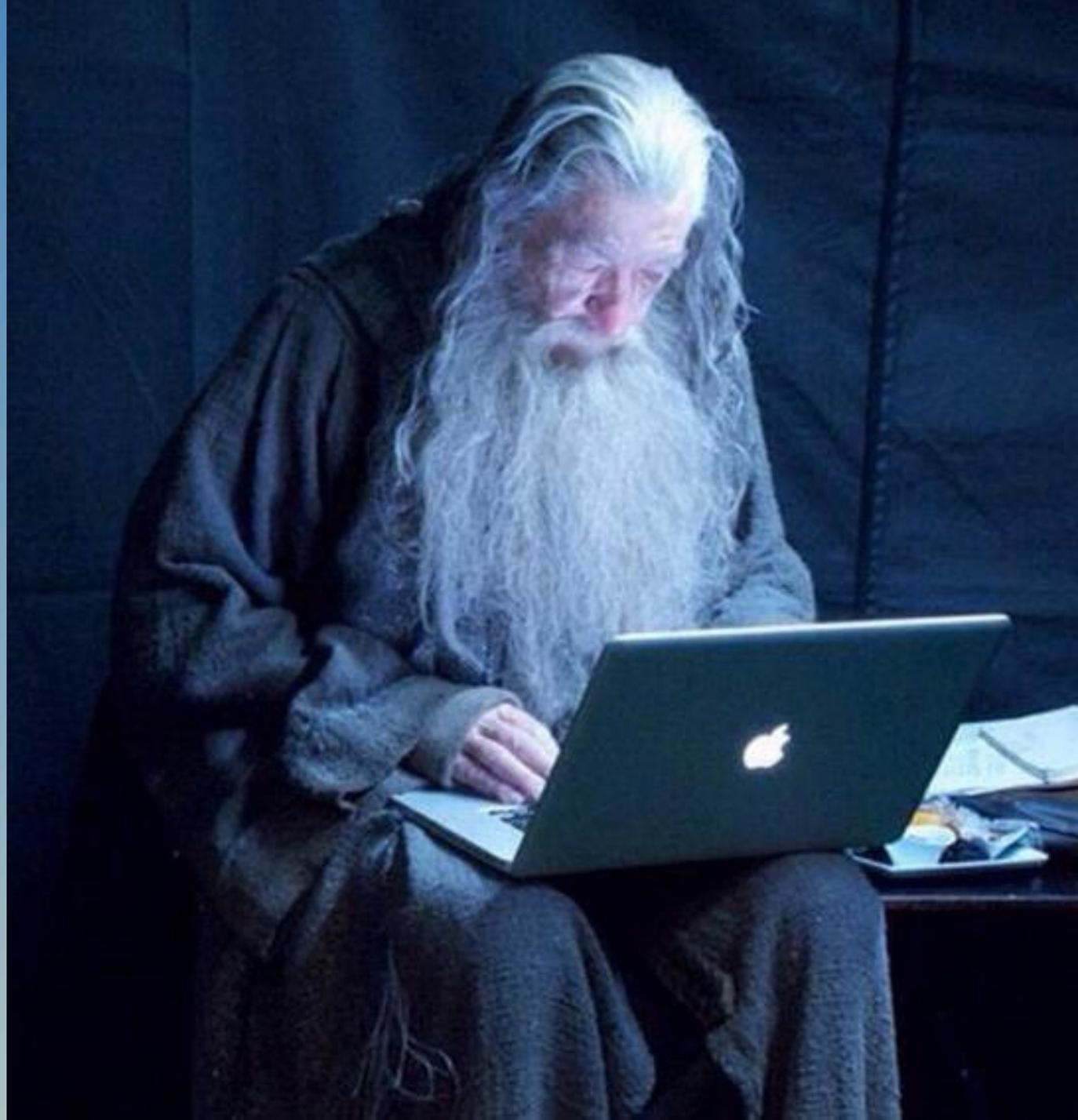
How much time and money would be saved if the other 67% of students reviewed before testing?

Test Name	Extra Time	Extra Money	Graduation Rate Increase Lost
Arithmetic	Up to 28 Weeks	$271,979	1.4% to 1.9% (according to work by Peter Crosta of the Community College Research Center)
Elementary Algebra		$660,453	
Reading Comprehension	Up to 29 Weeks	$695,314	
Sentence Skills			
Total	Up to 29 Weeks	$1,627,746	

With resources shrinking and needs expanding, we can't redesign colleges to maximize student completions without tools like Blackboard Analytics

Questions?

kara.bosch@cpcc.edu

brad.bostian@cpcc.edu