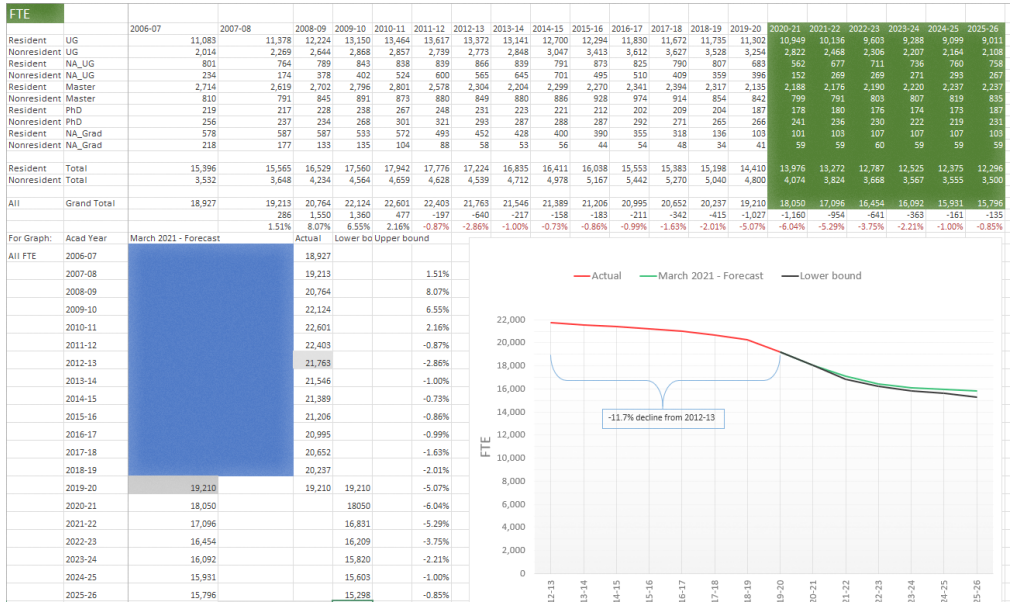
Portland State
UNIVERSITY

OFFICE OF INSTITUTIONAL RESEARCH AND PLANNING

Enrollment Forecast
Annual FTE Model



FTE

		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Resident	UG	11,083	11,378	12,224	13,150	13,464	13,617	13,372	13,141	12,700	12,294	11,830	11,672	11,735	11,302	10,949	10,196	9,603	9,288	9,099	9,011
Nonresident	UG	2,014	2,269	2,644	2,868	2,857	2,739	2,773	2,848	3,047	3,413	3,612	3,627	3,528	3,254	2,822	2,468	2,306	2,207	2,164	2,108
Resident	NA_UG	801	764	789	843	838	839	866	839	791	873	825	790	807	683	562	677	711	736	760	758
Nonresident	NA_UG	234	174	378	402	524	600	565	645	701	495	510	409	359	396	152	269	269	271	293	267
Resident	Master	2,714	2,619	2,702	2,796	2,801	2,578	2,304	2,204	2,299	2,270	2,341	2,394	2,317	2,135	2,188	2,176	2,190	2,220	2,237	2,237
Nonresident	Master	810	791	845	891	873	880	849	880	886	928	974	914	854	842	799	791	803	807	819	835
Resident	PhD	219	217	228	238	267	248	231	223	221	212	202	209	204	187	178	180	176	174	173	187
Nonresident	PhD	256	237	234	268	301	321	293	287	288	287	292	271	265	266	241	236	230	222	219	231
Resident	NA_Grad	578	587	587	533	572	493	452	428	400	390	355	318	136	103	101	103	107	107	107	103
Nonresident	NA_Grad	218	177	133	135	104	88	58	53	56	44	54	48	34	41	59	59	60	59	59	59
Resident	Total	15,396	15,565	16,529	17,560	17,942	17,776	17,224	16,835	16,411	16,038	15,553	15,383	15,198	14,410	13,976	13,272	12,787	12,525	12,375	12,296
Nonresident	Total	3,532	3,648	4,234	4,564	4,659	4,628	4,539	4,712	4,978	5,167	5,442	5,270	5,040	4,800	4,074	3,824	3,668	3,567	3,555	3,500
All	Grand Total	18,927	19,213	20,764	22,124	22,601	22,403	21,763	21,546	21,389	21,206	20,995	20,652	20,237	19,210	18,050	17,096	16,454	16,092	15,931	15,796
			286	1,550	1,360	477	-197	-640	-217	-158	-183	-211	-342	-415	-1,027	-1,160	-954	-641	-363	-161	-135
			1.51%	8.07%	6.55%	2.16%	-0.87%	-2.86%	-1.00%	-0.73%	-0.86%	-0.99%	-1.63%	-2.01%	-5.07%	-6.04%	-5.29%	-3.75%	-2.21%	-1.00%	-0.85%

For Graph:	Acad Year	March 2021 - Forecast	Actual	Lower bo	Upper bound	
All FTE	2006-07		18,927			
	2007-08		19,213			1.51%
	2008-09		20,764			8.07%
	2009-10		22,124			6.55%
	2010-11		22,601			2.16%
	2011-12		22,403			-0.87%
	2012-13		21,763			-2.86%
	2013-14		21,546			-1.00%
	2014-15		21,389			-0.73%
	2015-16		21,206			-0.86%
	2016-17		20,995			-0.99%
	2017-18		20,652			-1.63%
	2018-19		20,237			-2.01%
	2019-20	19,210		19,210	19,210	-5.07%
	2020-21	18,050			18050	-6.04%
	2021-22	17,096			16,831	-5.29%
	2022-23	16,454			16,209	-3.75%
	2023-24	16,092			15,820	-2.21%
	2024-25	15,931			15,603	-1.00%
	2025-26	15,796			15,298	-0.85%

David Burgess, Associate Director – OIRP, 5-3434
April 21, 2021

Topics

- Enrollment Modeling at PSU
- Historic accuracy of the Annual FTE Model
- Enrollment Context
- Full-time Equivalent (FTE) defined
- Method: Modified Markov
- Sources of Data in addition to SCARF end-of-term (EOT)
- Process method
- FTE Slides from Public Forums

Enrollment Modeling at PSU

OIRP has been modeling enrollment for PSU for 22 years, using Markov Chains (described on Slide #16). This technique also was used by the Oregon University System (OUS) to project institutional and system-wide enrollment for resource allocation. Markov Chains continue to be used widely among colleges and universities in the US to estimate enrollments (Donath, 1995; Gandy, et al, 2019). OIRP developed the PSU model in order to verify the OUS numbers, and met with the OUS institutional research office annually, in May, to compare the two results and confirm the headcount and student credit hour projections. As OUS was phasing out in 2013-2014, OIRP added FTE to its internal projections, so that the model could be adapted to PSU's fiscal planning. The PSU model has been accurate to within 2% every year, even given modifications. To assist the PSU Budget Office in planning for the coming year, OIRP uses preliminary data to estimate the enrollment, beginning in late December or early January, before the official forecast is set between March-May. Updates to the forecast also are provided in summer and early fall term, as final admissions and enrollment data are entered into the data base. Over the years OIRP has modified the approach, depending on the level of detail required by the end users. Currently, OIRP maintains two university-wide enrollment models: the Annual FTE model, and the RCAT Enrollment Model (RCAT provides detailed projections at the department level). This presentation covers the Annual FTE model.

Model Accuracy

Note: In five years, the model has over projected every year, except one.

Office of Institutional Research and Planning
2/6/2020

Actual FTE Compared To Estimated Annual FTE

Acad. Year*	Actual FTE	Est FTE	Actual from est
2015-2016	21,206	21,605	-1.8%
2016-2017	20,995	21,283	-1.4%
2017-2018	20,653	20,438	1.0%
2018-2019	20,237	20,744	-2.4%
2019-2020	19,210	20,210	-4.9%
*2019-2020 revised***		*19,848*	

*summer through spring term
**revised July 2019 to reflect the unanticpated decline in summer 2019 enrollment

Model Accuracy:

The accuracy of the enrollment model correlates closely with that of the gross tuition revenue model, which is a University Budget Office model that uses OIRP's FTE model results.

Office of Institutional Research and Planning
2/6/2020

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Fiscal Year	Adopted Budget	Actual	$ Variance	% Variance
2014-15	$208,379,000	$208,233,863	-$145,137	-0.1%
2015-16	$217,868,000	$214,303,311	-$3,564,689	-1.6%
2016-17	$221,400,000	$220,132,954	-$1,267,046	-0.6%
2017-18	$229,414,000	$224,808,519	-$4,605,481	-2.0%
2018-19	$228,296,106	$224,678,158	-$3,617,948	-1.6%
2019-20	$228,851,737	$218,659,444	-10,156,293	-4.4%

*Source: University Budget Office, April 2021

March 21, 2021, Enrollment Model

How did we arrive here?

FTE		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Resident	Total	15,396	15,565	16,529	17,560	17,942	17,776	17,224	16,835	16,411	16,038	15,553	15,383	15,198	14,410	13,976	13,272	12,787	12,525	12,375	12,296
Nonresident	Total	3,532	3,648	4,234	4,564	4,659	4,628	4,539	4,712	4,978	5,167	5,442	5,270	5,040	4,800	4,074	3,824	3,668	3,567	3,555	3,500
All	Grand Total	18,927	19,213	20,764	22,124	22,601	22,403	21,763	21,546	21,389	21,206	20,995	20,652	20,237	19,210	18,050	17,096	16,454	16,092	15,931	15,796
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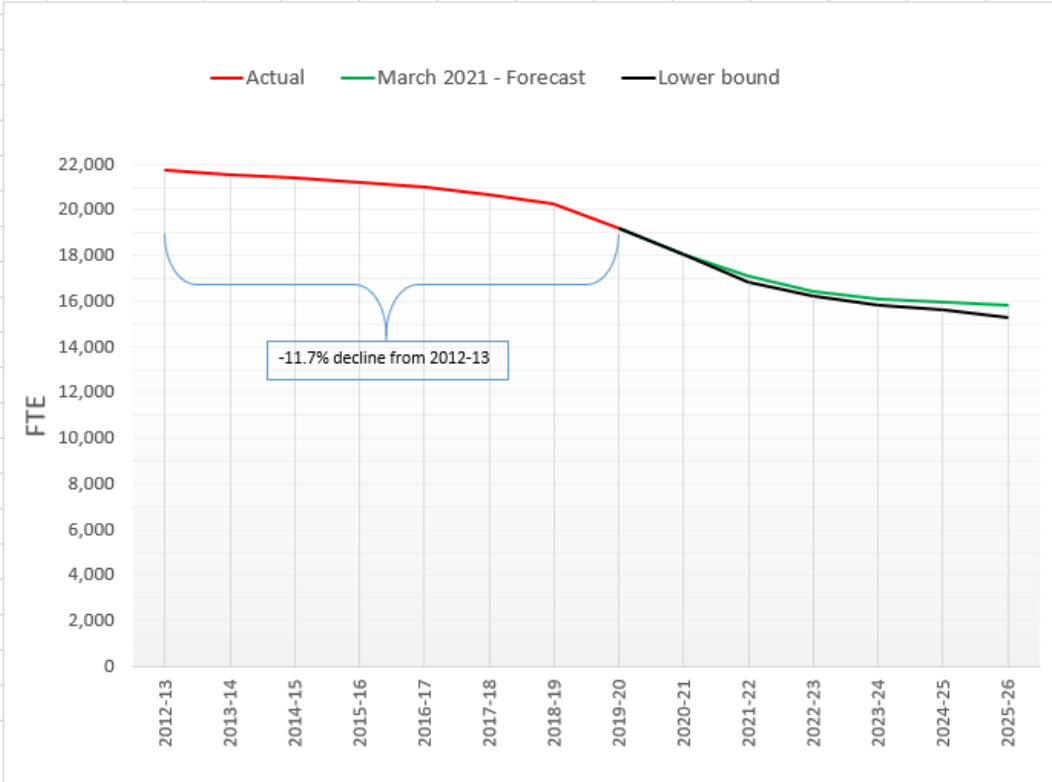
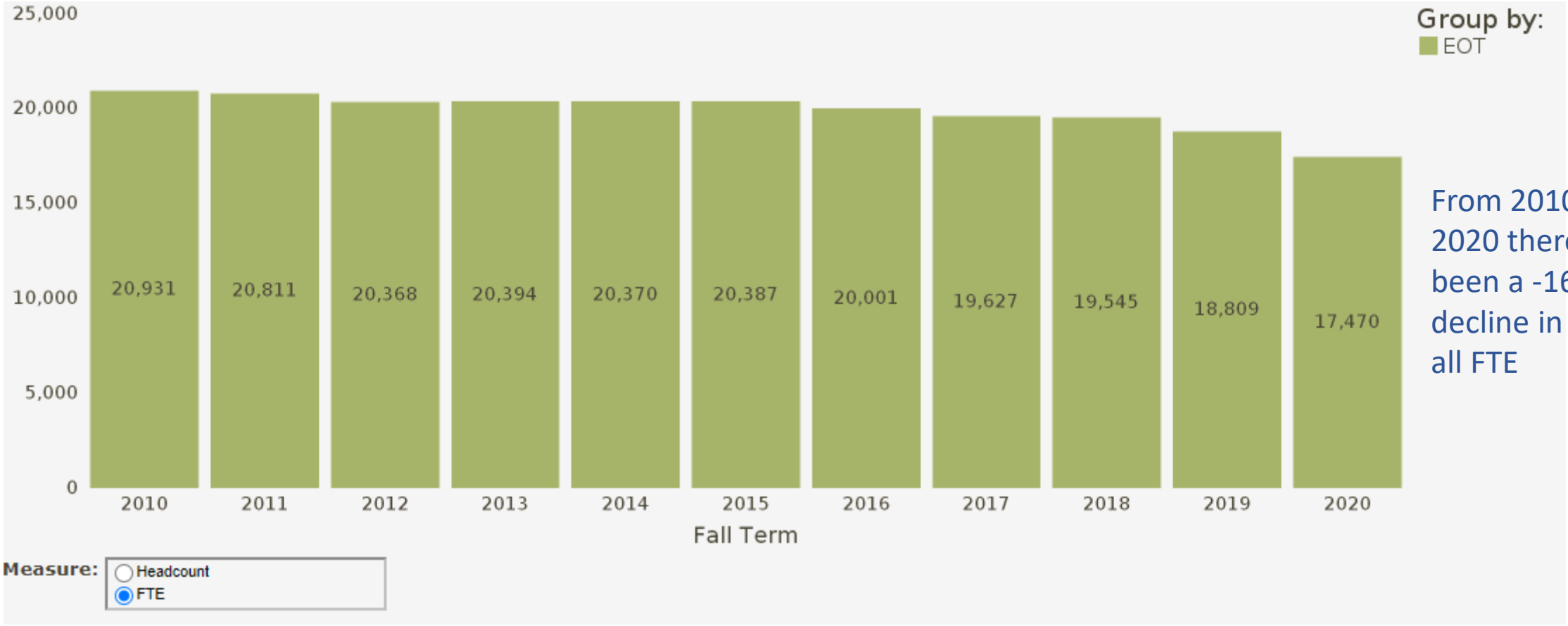


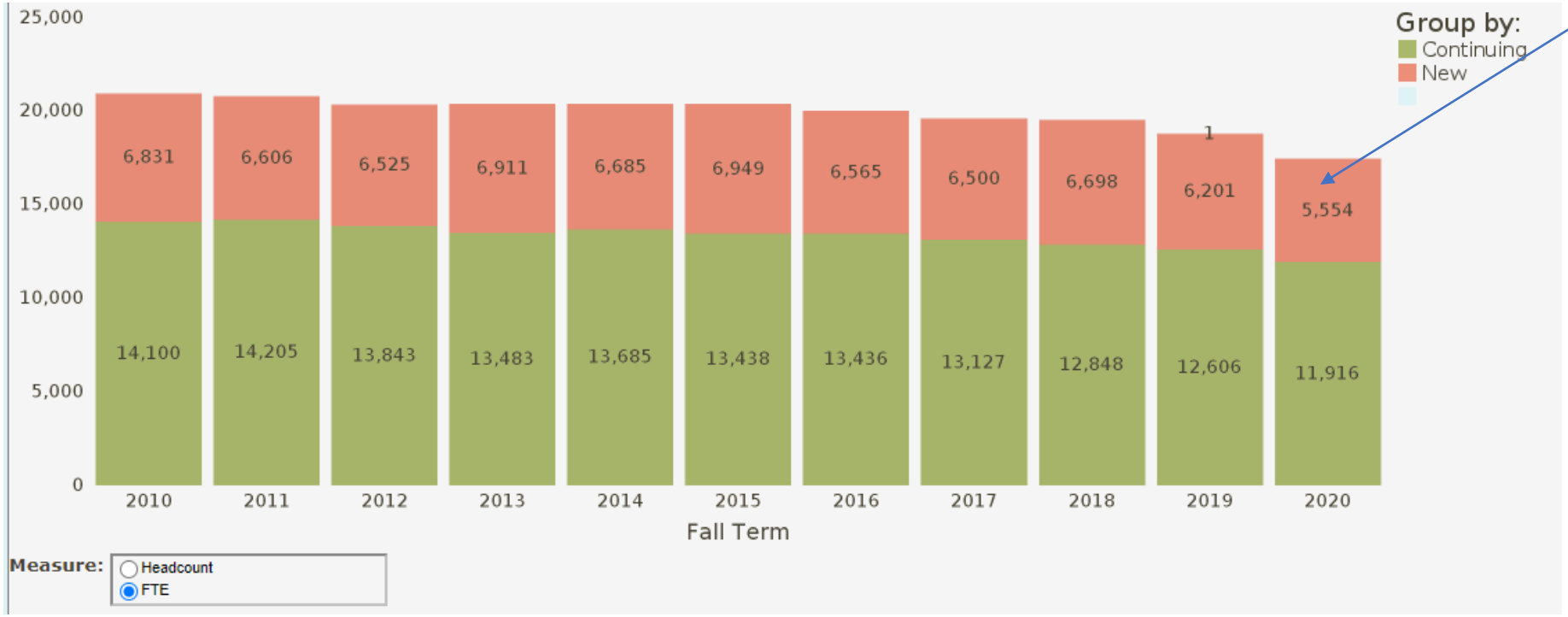
Enrollment Context: Historic Fall Term FTE



From 2010 to 2020 there has been a -16.5% decline in over-all FTE

[Datamaster Report: Fall Term Headcount Trends]

Enrollment Context: Long-Term Enrollment Trends



New enrollment comprises only around 1/3 of the enrollment at PSU every fall term and in the other terms it is substantially less, (about 10% in summer, winter and spring). This is important in two ways for enrollment forecasting; one, it gives us a very stable large population (continuing enrollment) to base our models on - that's good - and two, the **relative size of the new enrollment** means that is has a long-term effect on overall enrollment.

[Datamaster Report: Fall Term Headcount Trends]

FTE Defined

What is this and where does it come from?

FTE		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
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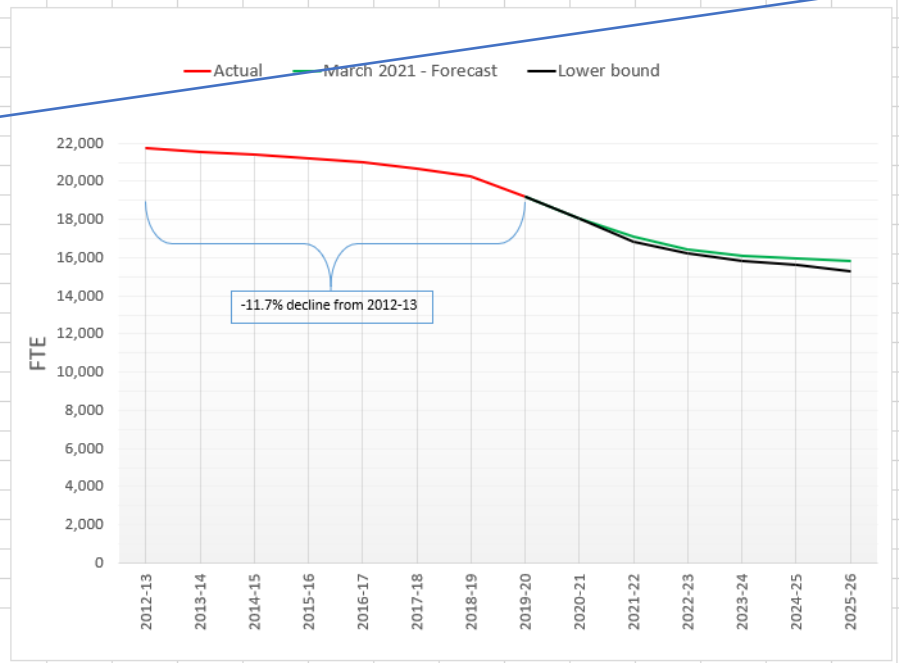
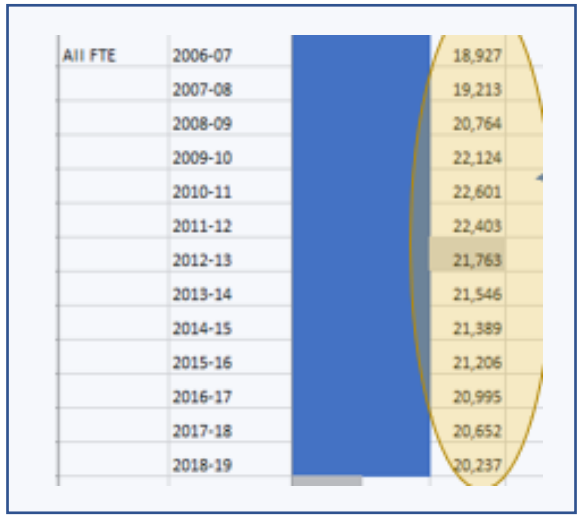


Calculation of FTE



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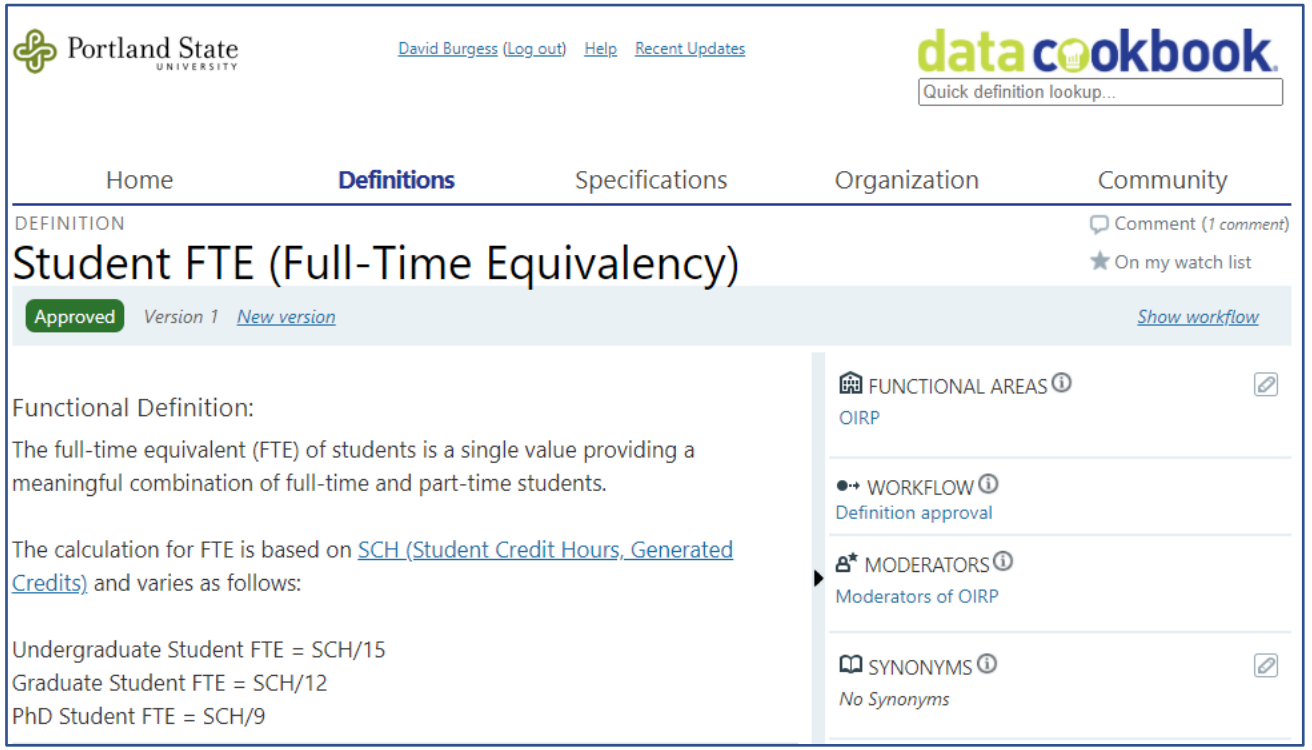
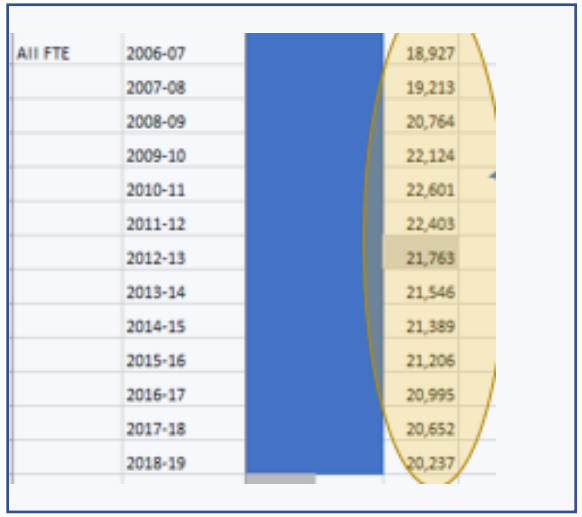


https://pdx.datacookbook.com/institution/terms/167797

Higher Education Coordinating Commission (HECC) FTE Calculation



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Public University Enrollment Data

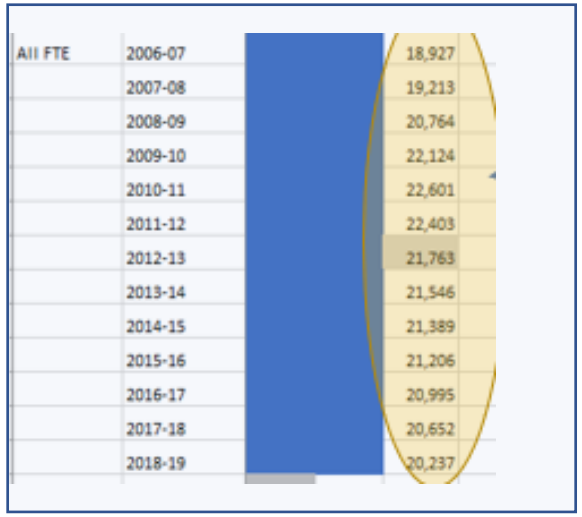
We describe university student enrollment in two ways:

Headcount is the actual number of individual students enrolled at a specific university. The data below count all students in the fourth week of the fall quarter.

Full-Time Equivalent (FTE) is calculated enrollment based on credit hours attempted. One term-based FTE is equal to 15 credits for undergraduates, 12 for graduates and professional level students, and 9 for doctoral students. One annual FTE is equal to 45 credits for undergraduates, 36 for graduates and professional level students, and 27 for doctoral students.

This means that we add up all the FTE generated each term, (summer through spring), and divide by three to arrive at annual fte. These historical values and the SCH can be found on the OIRP website.

Annual FTE Source



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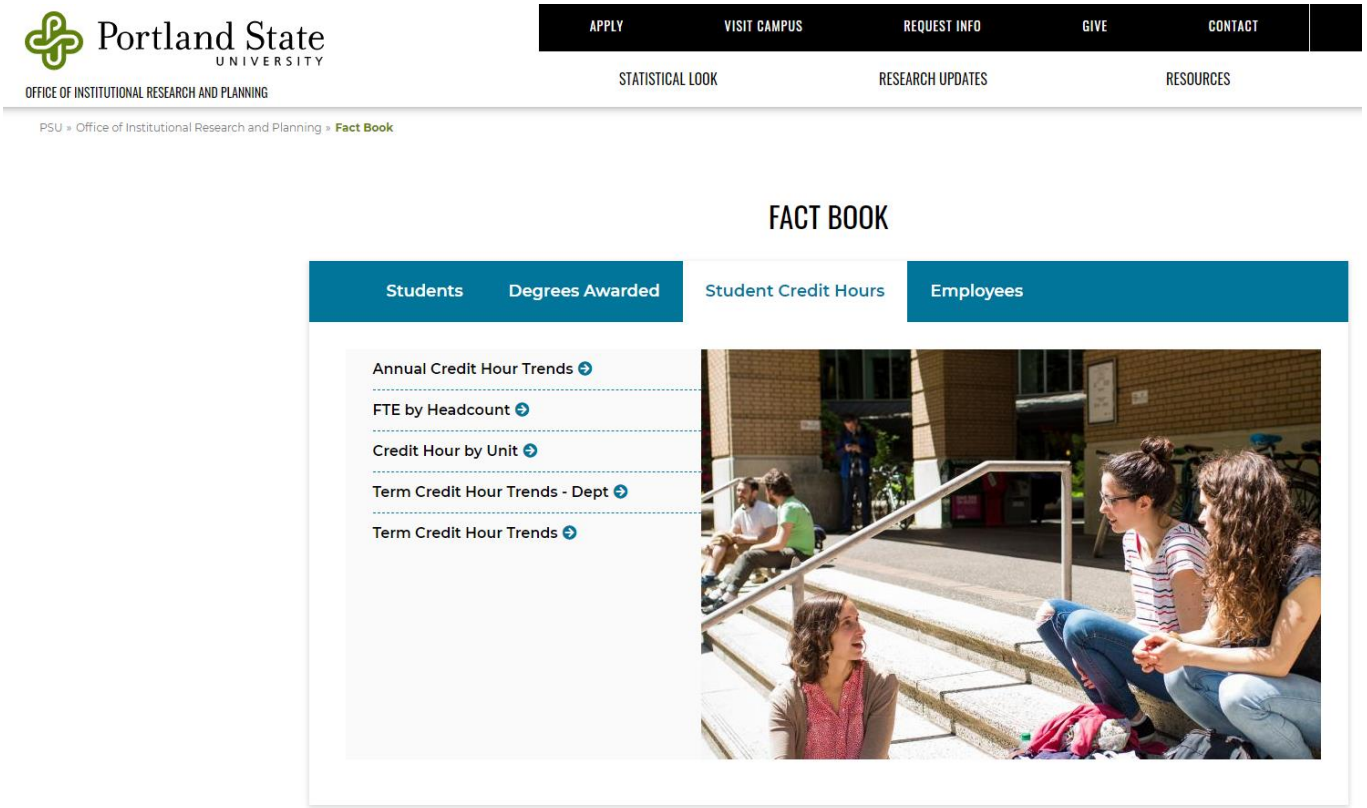
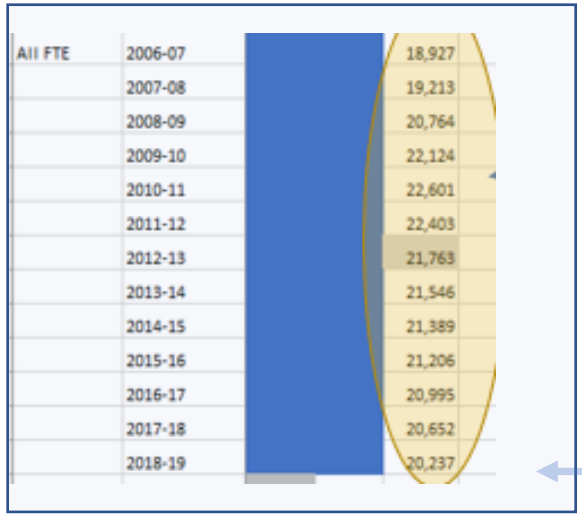


https://www.pdx.edu/research-planning/fact-book

Annual FTE Source



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FTE Headcount Viz | FTE Table

Portland State UNIVERSITY

FTE Headcount Dashboard

Academic Year: 2018-19 | Instructional Unit: (All) | Department: (All)

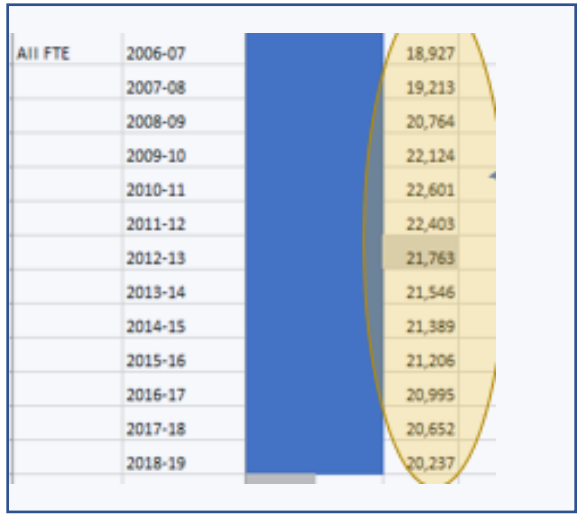
		Summer 2018		Fall 2018		Winter 2019		Spring 2019		Annual Ave FTE	
Undergraduate	Freshman	82	1%	2,213	11%	1,516	8%	1,126	7%	1,646	8%
	Sophomore	323	6%	2,337	12%	2,210	12%	1,848	11%	2,239	11%
	Junior	955	17%	4,238	22%	3,927	21%	3,545	21%	4,222	21%
	Senior	2,062	37%	5,460	28%	5,925	32%	6,270	36%	6,572	32%
	Post-Bacc.-UG	204	4%	533	3%	525	3%	490	3%	584	3%
	Non-Admt.-UG	553	10%	1,311	7%	939	5%	695	4%	1,166	6%
	Subtotal	**4,178**	**75%**	**16,091**	**82%**	**15,042**	**82%**	**13,974**	**81%**	**16,428**	**81%**
Graduate	Master	1,087	19%	2,620	13%	2,563	14%	2,455	14%	2,908	14%
	Post-Bacc.-GR	162	3%	227	1%	208	1%	188	1%	262	1%
	Non-Admt.-GR	120	2%	136	1%	126	1%	127	1%	170	1%
	Subtotal	**1,370**	**25%**	**2,983**	**15%**	**2,897**	**16%**	**2,770**	**16%**	**3,340**	**17%**
PhD	Doctoral	41	1%	471	2%	456	2%	438	3%	469	2%
	Subtotal	**41**	**1%**	**471**	**2%**	**456**	**2%**	**438**	**3%**	**469**	**2%**
	Totals	**5,589**	**100%**	**19,545**	**100%**	**18,395**	**100%**	**17,182**	**100%**	**20,237**	**100%**

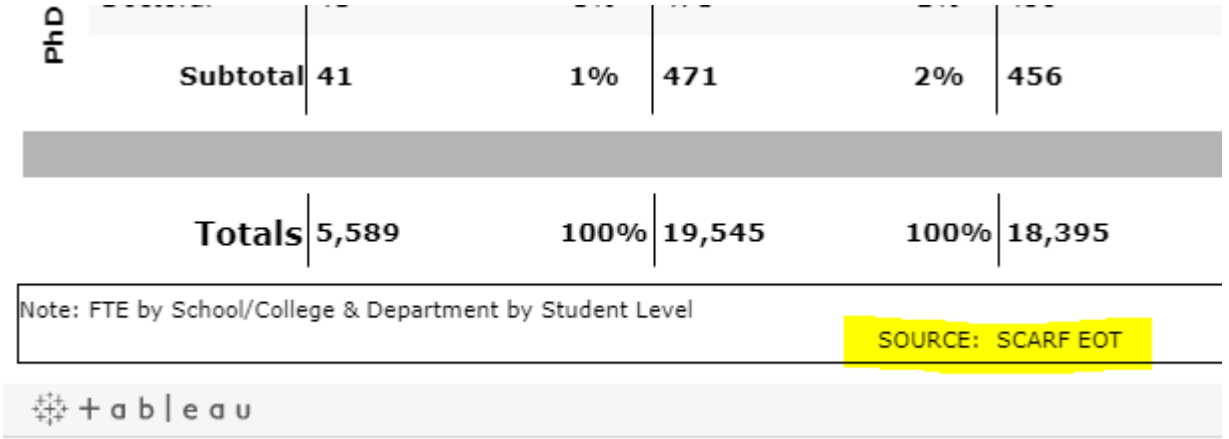
Note: FTE by School/College & Department by Student Level

SOURCE: SCARF EOT

https://www.pdx.edu/research-planning/fte-headcount

FTE Enrollment Data Source





The source of all enrollment data, SCH and student, is the end-of-term Student Centralized Administrative Reporting File (SCARF). These are the official enrollment data that are curated from the enrollment census records that PSU submits to the HECC, every term. Whenever one sees the term “Factbook” in relation to enrollment reports, the source of those data is the SCARF.

Markov Method

*"Markov property". In a very informal way, the Markov property says, for a random process, that if we know the value taken by the process at a given time, we won't get any additional information about the future behaviour of the process by gathering more knowledge about the past. Stated in slightly more mathematical terms, for any given time, the conditional distribution of future states of the process given present and past states depends only on the present state and not at all on the past states. ***

OIRP's model is a modified Markov chain in that the default state is the "Markov property," but in recognition that much of what is being modeled is not random, we adjust the model with additional information and factors. For example, if we know that there was an anomaly in enrollment from a prior time period, then we factor that in for future enrollment. The abrupt change caused by the pandemic is a factor considered in the current model.

** Introduction to Markov chains
Definitions, properties and PageRank example.
Joseph Rocca, Feb 24, 2019 – Towards Data Science - Blog Post

General Assumptions of Markov Models

- Finite number of discrete categories
- Condition at Time 2 depends on..
  - condition at Time 1
  - transition probability
- Time periods of equal duration
- Transition probabilities are constant over time period considered

Note that OIRP consulted Dr. Donhardt when it adopted the model in the early 2000's.

Donhardt, G.L. (1995).

Tracking student enrollments using the Markov chain, comprehensive tool for enrollment management.

Journal of College Student Development, 36(5), 457-462.

Detailed Process Example

The next 10 slides provide a step-by-step overview of how OIRP uses the Markov methodology. You may use the following slides to replicate the model.

I. The first step is to develop the transition matrix.

1. Start by inserting the most recent* official enrollment figures available.

Modeling Enrollment for Fall 2000 and Beyond

Fall 1998

Student Level	FT Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG	*total*
4th week data →	**1,017**	**701**	**1,710**	**2,625**	**3,183**	**514**	**1,110**	**2,559**	**358**	**531**	**922**	**15230**

Developing the transition matrix.

2. Enter in the number of "new" students. These are students who were not enrolled at the institution the previous fall term.

Modeling Enrollment for Fall 2000 and Beyond

students entering the system

Fall 1998

			FT Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG
			1,017	701	1,710	2,625	3,183	514	1,110	2,559	358	531	922
Fall	FT Freshmen	**1,110**											
1999	Con. Freshmen	**337**											
	Sophomore	**936**											
	Junior	**1,461**											
	Senior	**682**											
	UPB	**333**											
	NU	**1,114**											
	GM	**1,344**											
	GD	**112**											
	GPB	**330**											
	NG	**768**											
	total students entering	**8,527**											

Developing the transition matrix.

3. Enter in the fall 1999 enrollment figures, by student level, for only those students who were enrolled in fall 1998. Check for funny numbers. Ex. FT fresh in 98 -- GM in 99.
(Notice the additional two status cells *'degree granted & 'dropout/stopout'*)

Modeling Enrollment for Fall 2000 and Beyond

Enter in status of the fall 98 students

			Fall 1998									
			FT Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG
			1,017	701	1,710	2,625	3,183	514	1,110	2,559	358	531	922
Fall	FT Freshmen	1,110											
1999	Con. Freshmen	337	**310**	**37**					**23**				
	Sophomore	936	**284**	**316**	**215**				**32**				**1**
	Junior	1,461	**4**	**52**	**859**	**428**	**1**		**37**				
	Senior	682		**8**	**122**	**1,440**	**1,036**		**34**				**1**
	UPB	333					**2**	**187**	**10**	**5**		**35**	**22**
	NU	1,114	**1**			**1**			**120**				
	GM	1,344		**1**		**1**	**5**	**35**	**31**	**1,134**	**1**	**83**	**111**
	GD	112								**6**	**244**	**1**	**1**
	GPB	330		**1**		**1**	**1**	**1**	**9**		**1**	**88**	**22**
	NG	768					**2**						**111**
	degree granted				**1**	**179**	**1577**	**70**	**5**	**850**	**42**	**40**	**5**
	dropout/stopout		**418**	**286**	**513**	**575**	**559**	**221**	**810**	**564**	**70**	**284**	**647**

Developing the transition matrix.

4. Calculate the total fall 1999 enrollment by level by adding across rows. The total enrollment should equal the actual fall 1999 enrollment.

Modeling Enrollment for Fall 2000 and Beyond

			Fall 1998											
			Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG	
			1,017	701	1,710	2,625	3,183	514	1,110	2,559	358	531	922	
Fall	FT Freshmen	1,110	**Add across** →											**1,110**
1999	Con. Freshme	337	310	37					23					**707**
	Sophomore	936	284	316	215				32				1	**1,784**
	Junior	1,461	4	52	859	428	1		37					**2,842**
	Senior	682		8	122	1,440	1,036		34				1	**3,323**
	UPB	333					2	187	10	5		35	22	**594**
	NU	1,114	1			1			120					**1,236**
	GM	1,344		1		1	5	35	31	1,134	1	83	111	**2,746**
	GD	112								6	244	1	1	**364**
	GPB	330		1		1	1	1	9		1	88	22	**454**
	NG	768					2						111	**881**
	degree granted				1	179	1577	70	5	850	42	40	5		2,769
	dropout/stopout		418	286	513	575	559	221	810	564	70	284	647		4,947
											Total Fall 1999 enrollment			**16,041**

Developing the transition matrix.

5. a. Calculate the probability matrix.

Modeling Enrollment for Fall 2000 and Beyond

	Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG
Totals	**1017**	**701**	**1710**	**2625**	**3183**	**514**	**1110**	**2559**	**358**	**531**	**922**
FT Freshmen											
Con. Freshmen	310	37					23				
Sophomore	284	316	215				32				1
Junior	4	52	859	428	1		37				
Senior		8	122	1440	1036		34				1
UPB	←			**Each cell divided by the column total**				5		35	22 →
NU	1			1			120				
GM		1		1	5	35	31	1134	1	83	111
GD								6	244	1	1
GPB		1		1	1	1	9		1	88	22
NG					2						111
degree granted			1	179	1577	70	5	850	42	40	5
dropout/stopout	1 minus the sum of each column for each of these cells →										

Developing the transition matrix.

5. b. The complete probability matrix.
Check that each column adds to one

Modeling Enrollment for Fall 2000 and Beyond

	Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG
FT Freshmen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Con. Freshme	0.305	0.053	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000
Sophomore	0.279	0.451	0.126	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.001
Junior	0.004	0.074	0.502	0.163	0.000	0.000	0.033	0.000	0.000	0.000	0.000
Senior	0.000	0.011	0.071	0.549	0.325	0.000	0.031	0.000	0.000	0.000	0.001
UPB	0.000	0.000	0.000	0.000	0.001	0.364	0.009	0.002	0.000	0.066	0.024
NU	0.001	0.000	0.000	0.000	0.000	0.000	0.108	0.000	0.000	0.000	0.000
GM	0.000	0.001	0.000	0.000	0.002	0.068	0.028	0.443	0.003	0.156	0.120
GD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.682	0.002	0.001
GPB	0.000	0.001	0.000	0.000	0.000	0.002	0.008	0.000	0.003	0.166	0.024
NG	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.120
degree granted	0.000	0.000	0.001	0.068	0.495	0.136	0.005	0.332	0.117	0.075	0.005
dropout/stopout	0.411	0.408	0.300	0.219	0.176	0.430	0.729	0.220	0.196	0.535	0.703
	1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

II. Estimating the enrollment

1. Insert actual enrollment data from fall 1999
   Then apply the matrix to these numbers.

Modeling Enrollment for Fall 2000 and Beyond

Fall 1999

Student Level	FT Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG	*total*
4th week data →	**1110**	**707**	**1784**	**2842**	**3323**	**594**	**1236**	**2746**	**364**	**454**	**881**	**16041**
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.305	0.053	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	
	0.279	0.451	0.126	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.001	
	0.004	0.074	0.502	0.163	0.000	0.000	0.033	0.000	0.000	0.000	0.000	
	0.000	0.011	0.071	0.549	0.325	0.000	0.031	0.000	0.000	0.000	0.001	
	0.000	0.000	0.000	0.000	0.001	0.364	0.009	0.002	0.000	0.066	0.024	
	0.001	0.000	0.000	0.000	0.000	0.000	0.108	0.000	0.000	0.000	0.000	
	0.000	0.001	0.000	0.000	0.002	0.068	0.028	0.443	0.003	0.156	0.120	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.682	0.002	0.001	
	0.000	0.001	0.000	0.000	0.000	0.002	0.008	0.000	0.003	0.166	0.024	
	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.120	
	0.000	0.000	0.001	0.068	0.495	0.136	0.005	0.332	0.117	0.075	0.005	
	0.411	0.408	0.300	0.219	0.176	0.430	0.729	0.220	0.196	0.535	0.703	

Estimating the enrollment

2. Using the probability matrix the table is filled in with the estimated transitions of students who were enrolled the previous fall term.

Modeling Enrollment for Fall 2000 and Beyond

Fall 1999

		FT Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG
		1110	707	1784	2842	3323	594	1236	2746	364	454	881
Fall	FT Freshmen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	Con. Freshmen	338.35	37.32	0.00	0.00	0.00	0.00	25.61	0.00	0.00	0.00	0.00
	Sophomore	309.97	318.70	224.30	0.00	0.00	0.00	35.63	0.00	0.00	0.00	0.96
	Junior	4.37	52.45	896.17	463.38	1.04	0.00	41.20	0.00	0.00	0.00	0.00
	Senior	0.00	8.07	127.28	1559.04	1081.57	0.00	37.86	0.00	0.00	0.00	0.96
	UPB	0.00	0.00	0.00	0.00	2.09	216.11	11.14	5.37	0.00	29.92	21.02
	NU	1.09	0.00	0.00	1.08	0.00	0.00	133.62	0.00	0.00	0.00	0.00
	GM	0.00	1.01	0.00	1.08	5.22	40.45	34.52	1216.87	1.02	70.96	106.06
	GD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.44	248.09	0.85	0.96
	GPB	0.00	1.01	0.00	1.08	1.04	1.16	10.02	0.00	1.02	75.24	21.02
	NG	0.00	0.00	0.00	0.00	2.09	0.00	0.00	0.00	0.00	0.00	106.06
	degree granted	0.00	0.00	1.04	193.80	1646.36	80.89	5.57	912.11	42.70	34.20	4.78
	dropout/stopout	456.22	288.45	535.20	622.53	583.59	255.40	900.83	605.21	71.17	242.82	619.18

Estimating the enrollment

3. Next estimate the number of new* students entering the system.
   *This includes 1st time students and stopouts who are returning to the institution.

Modeling Enrollment for Fall 2000 and Beyond

estimate of students entering the system

Fall 1999

			FT Fresh.	Fresh.	Soph.	Junior	Senior	UPB	NU	GM	GD	GPB	NG
			1110	707	1784	2842	3323	594	1236	2746	364	454	881
Fall	FT Freshmen	**1154**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	Con. Freshmen	**403**	338.35	37.32	0.00	0.00	0.00	0.00	25.61	0.00	0.00	0.00	0.00
	Sophomore	**1015**	309.97	318.70	224.30	0.00	0.00	0.00	35.63	0.00	0.00	0.00	0.96
	Junior	**1409**	4.37	52.45	896.17	463.38	1.04	0.00	41.20	0.00	0.00	0.00	0.00
	Senior	**690**	0.00	8.07	127.28	1559.04	1081.57	0.00	37.86	0.00	0.00	0.00	0.96
	UPB	**347**	0.00	0.00	0.00	0.00	2.09	216.11	11.14	5.37	0.00	29.92	21.02
	NU	**1170**	1.09	0.00	0.00	1.08	0.00	0.00	133.62	0.00	0.00	0.00	0.00
	GM	**1320**	0.00	1.01	0.00	1.08	5.22	40.45	34.52	1216.87	1.02	70.96	106.06
	GD	**110**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.44	248.09	0.85	0.96
	GPB	**373**	0.00	1.01	0.00	1.08	1.04	1.16	10.02	0.00	1.02	75.24	21.02
	NG	**900**	0.00	0.00	0.00	0.00	2.09	0.00	0.00	0.00	0.00	0.00	106.06
		0	0.00	0.00	1.04	193.80	1646.36	80.89	5.57	912.11	42.70	34.20	4.78
		0	456.22	288.45	535.20	622.53	583.59	255.40	900.83	605.21	71.17	242.82	619.18
total students entering		**8,891**											

Estimating the enrollment

4. Add across the rows to find the estimate of enrollment at each level.

Modeling Enrollment for Fall 2000 and Beyond

			Add across the rows →											16,041	1999
Fall	FT Freshmen	1154	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1,154**	
2000	Con. Freshmen	403	338.35	37.32	0.00	0.00	0.00	0.00	25.61	0.00	0.00	0.00	0.00	**804**	
	Sophomore	1015	309.97	318.70	224.30	0.00	0.00	0.00	35.63	0.00	0.00	0.00	0.96	**1,905**	
	Junior	1409	4.37	52.45	896.17	463.38	1.04	0.00	41.20	0.00	0.00	0.00	0.00	**2,868**	
	Senior	690	0.00	8.07	127.28	1559.04	1081.57	0.00	37.86	0.00	0.00	0.00	0.96	**3,505**	
	UPB	347	0.00	0.00	0.00	0.00	2.09	216.11	11.14	5.37	0.00	29.92	21.02	**633**	
	NU	1170	1.09	0.00	0.00	1.08	0.00	0.00	133.62	0.00	0.00	0.00	0.00	**1,306**	
	GM	1320	0.00	1.01	0.00	1.08	5.22	40.45	34.52	1216.87	1.02	70.96	106.06	**2,797**	
	GD	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.44	248.09	0.85	0.96	**366**	
	GPB	373	0.00	1.01	0.00	1.08	1.04	1.16	10.02	0.00	1.02	75.24	21.02	**485**	
	NG	900	0.00	0.00	0.00	0.00	2.09	0.00	0.00	0.00	0.00	0.00	106.06	**1,008**	
		0	0.00	0.00	1.04	193.80	1646.36	80.89	5.57	912.11	42.70	34.20	4.78	2,921	
		0	456.22	288.45	535.20	622.53	583.59	255.40	900.83	605.21	71.17	242.82	619.18	5,181	
total students entering		8,891										**Total Enrolled**		**16,830**	**Fall 2000**
												% change from previous year		**4.92%**	

Sources of Data

- PSU End-of-term SCARF
- Admissions Funnel Data – Data about applications, admission decisions and matriculation
- Oregon K-12 enrollment data
- Portland Community College enrollment

Data source: UG Admissions

Undergraduate Admissions Funnel - S0122

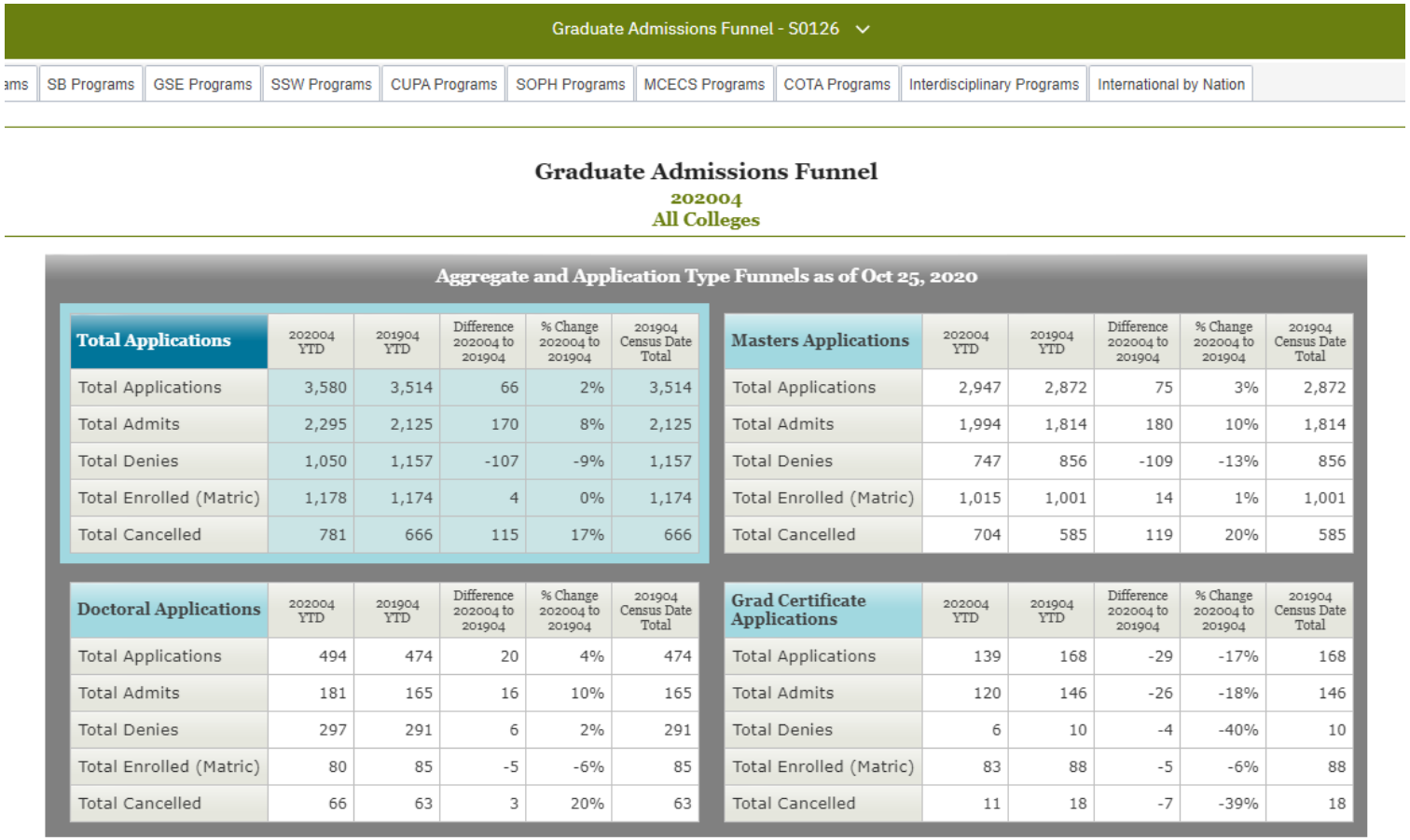
Freshman Enrollment Funnel	Selected Term		1 Year Prior					2 Years Prior					5 Year Avg
	202004 YTD	*202004 Conversion*	201904 YTD	*201904 Conversion*	Difference 202004 to 201904	% Change 202004 to 201904	201904 Total (Census Date)	201804 YTD	*201804 Conversion*	Difference 202004 to 201804	% Change 202004 to 201804	201804 Total (Census Date)	5 Year Avg 201604-202004
Prospects*	**98,607**		71,148		27,459	39%	71,148	0		98,607		75,927	80,108
Inquiries	**38,231**		45,763		-7,532	-16%	45,766	0		38,231		47,472	40,536
Funnel Begins Here													
Applicants	**7,899**		7,850		49	1%	7,850	0		7,899		9,070	8,521
Completed Applicants	**6,701**	**85%**	6,861	87%	-160	-2%	6,861	0		6,701		7,821	7,350
Admits	**6,379**	**81%**	6,573	84%	-194	-3%	6,573	0		6,379		7,517	7,028
Confirms (ITE)	**1,973**	**31%**	2,161	33%	-188	-9%	2,161	0		1,973		2,405	2,228
Enrolled (Matric)	**1,559**	**24%**	1,726	26%	-167	-10%	1,726	0		1,559		1,915	1,791
Cancelled	**1,230**		1,619		-389	-24%	1,619	0		1,230		1,607	1,485

Transfer Enrollment Funnel	Selected Term		1 Year Prior					2 Years Prior					5 Year Avg
	202004 YTD	*202004 Conversion*	201904 YTD	*201904 Conversion*	Difference 202004 to 201904	% Change 202004 to 201904	201904 Total (Census Date)	201804 YTD	*201804 Conversion*	Difference 202004 to 201804	% Change 202004 to 201804	201804 Total (Census Date)	5 Year Avg 201604-202004
Prospects*	**21,424**		2,354		19,070	810%	2,354	0		21,424		9,255	6,727
Inquiries	**17,218**		9,699		7,519	78%	9,705	0		17,218		3,253	7,861
Funnel Begins Here													
Applicants	**4,948**		5,117		-169	-3%	5,117	0		4,948		5,604	5,275
Completed Applicants	**4,203**	**85%**	4,454	87%	-251	-6%	4,454	0		4,203		4,784	4,502
Admits	**4,103**	**83%**	4,357	85%	-254	-6%	4,357	0		4,103		4,656	4,355
Confirms (ITE)	**2,960**	**72%**	3,235	74%	-275	-9%	3,235	0		2,960		3,555	3,152
Enrolled (Matric)	**2,426**	**59%**	2,687	62%	-261	-10%	2,687	0		2,426		2,982	2,599
Cancelled	**453**		460		-7	-2%	460	0		453		486	506

Undergraduate Admissions Funnel - S0122

Note: The source information is available on request.

Data source: Grad Admissions



Graduate Admissions Funnel
202004
All Colleges

Aggregate and Application Type Funnels as of Oct 25, 2020

Total Applications	202004 YTD	201904 YTD	Difference 202004 to 201904	% Change 202004 to 201904	201904 Census Date Total
Total Applications	3,580	3,514	66	2%	3,514
Total Admits	2,295	2,125	170	8%	2,125
Total Denies	1,050	1,157	-107	-9%	1,157
Total Enrolled (Matric)	1,178	1,174	4	0%	1,174
Total Cancelled	781	666	115	17%	666

Masters Applications	202004 YTD	201904 YTD	Difference 202004 to 201904	% Change 202004 to 201904	201904 Census Date Total
Total Applications	2,947	2,872	75	3%	2,872
Total Admits	1,994	1,814	180	10%	1,814
Total Denies	747	856	-109	-13%	856
Total Enrolled (Matric)	1,015	1,001	14	1%	1,001
Total Cancelled	704	585	119	20%	585

Doctoral Applications	202004 YTD	201904 YTD	Difference 202004 to 201904	% Change 202004 to 201904	201904 Census Date Total
Total Applications	494	474	20	4%	474
Total Admits	181	165	16	10%	165
Total Denies	297	291	6	2%	291
Total Enrolled (Matric)	80	85	-5	-6%	85
Total Cancelled	66	63	3	20%	63

Grad Certificate Applications	202004 YTD	201904 YTD	Difference 202004 to 201904	% Change 202004 to 201904	201904 Census Date Total
Total Applications	139	168	-29	-17%	168
Total Admits	120	146	-26	-18%	146
Total Denies	6	10	-4	-40%	10
Total Enrolled (Matric)	83	88	-5	-6%	88
Total Cancelled	11	18	-7	-39%	18

[Graduate Admissions Funnel - S0126]

Data source: Oregon K-12 Enrollment

County	Attending District Institution ID	District Name	2020-21 Grade Two	2020-21 Grade Three	2020-21 Grade Four	2020-21 Grade Five	2020-21 Grade Six	2020-21 Grade Seven	2020-21 Grade Eight	2020-21 Grade Nine	2020-21 Grade Ten	2020-21 Grade Eleven	2020-21 Grade Twelve
Washington	2240	Banks SD 13	71	68	77	83	87	85	93	83	86	99	99
Washington	2243	Beaverton SD 48J	2,860	2,993	2,856	3,045	3,078	3,142	3,123	3,247	3,221	3,145	3,293
Clackamas	1929	Canby SD 86	307	325	312	339	303	343	352	349	352	330	335
Multnomah	2185	Centennial SD 28J	411	414	458	413	453	499	433	462	453	472	456
Clackamas	1902	Clackamas ESD	20	8	15	16	18	13	17	20	11	9	32
Clackamas	1927	Colton SD 53	31	33	30	29	47	46	43	41	47	50	57
Multnomah	2186	Corbett SD 39	78	79	76	97	88	89	104	89	75	81	78
Multnomah	2187	David Douglas SD 40	688	698	700	718	735	762	774	754	679	705	745
Clackamas	1930	Estacada SD 108	228	213	202	216	223	208	220	246	290	347	372
Washington	2241	Forest Grove SD 15	402	444	457	425	443	476	450	501	493	441	491
Washington	2245	Gaston SD 511J	31	28	44	23	47	49	38	42	42	50	56
Clackamas	1931	Gladstone SD 115	115	117	130	127	142	151	166	134	158	171	139
Multnomah	2183	Gresham-Barlow SD 10J	791	851	858	868	849	911	957	993	988	982	1,161
Washington	2239	Hillsboro SD 1J	1,471	1,469	1,404	1,455	1,555	1,559	1,532	1,506	1,599	1,498	1,596
Clackamas	1923	Lake Oswego SD 7J	433	458	481	516	524	568	557	640	636	666	625
Clackamas	1925	Molalla River SD 35	201	196	189	202	207	211	219	201	187	193	179
Multnomah	2148	Multnomah ESD	8	16	26	25	22	22	32	33	49	65	124
Clackamas	1924	North Clackamas SD 12	1,233	1,091	1,219	1,241	1,224	1,352	1,314	1,398	1,378	1,354	1,402
Washington	2230	Northwest Regional ESD	2	8	6	5	12	9	21	33	42	39	31
Clackamas	1928	Oregon City SD 62	533	519	499	534	596	603	634	630	592	588	638
Clackamas	1926	Oregon Trail SD 46	321	331	305	327	313	354	355	386	367	323	337
Multnomah	2181	Parkrose SD 3	180	198	198	212	251	235	260	266	261	228	273
Multnomah	2180	Portland SD 1J	3,743	3,654	3,754	3,766	3,610	3,665	3,732	3,437	3,477	3,453	3,666
Multnomah	2182	Reynolds SD 7	837	827	835	891	882	917	801	773	710	641	766
Multnomah	2188	Riverdale SD 51J	39	33	43	43	51	48	50	57	60	46	59
Washington	2244	Sherwood SD 88J	327	345	348	367	420	433	428	454	382	388	396
Washington	2242	Tigard-Tualatin SD 23J	852	872	906	875	914	947	921	971	936	949	1,049
Clackamas	1922	West Linn-Wilsonville SD 3J	603	642	638	736	758	758	846	813	813	783	775
			16,816	**16,930**	**17,066**	**17,594**	**17,852**	**18,455**	**18,472**	**18,559**	**18,384**	**18,096**	**19,230**

[Fall Membership Reports]

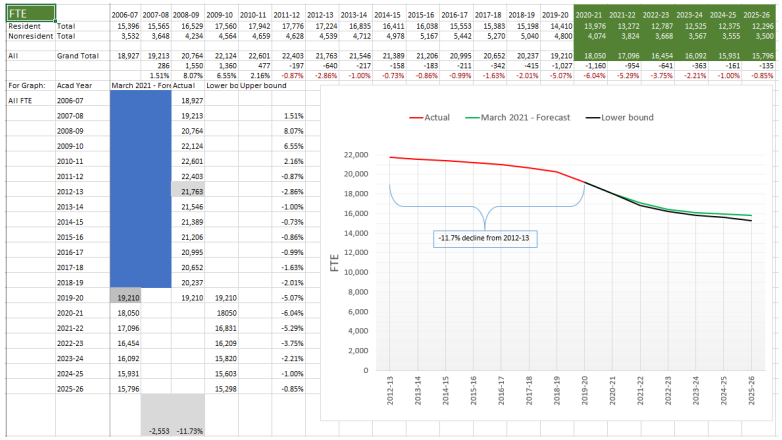
Data Source: PCC Enrollment

(Data provided by special request from the HECC Research Office)

Portland Community College Student Headcount: ASOT or AAOT Major						
Fall Headcount				Annual Headcount		
Term/Year	Declared Intent	Headcount		AcadYear	Declared Intent	Headcount
Fall 2009	AAOT or ASOT	4210		2009-10	AAOT or ASOT	7059
Fall 2010	AAOT or ASOT	4418		2010-11	AAOT or ASOT	6832
Fall 2011	AAOT or ASOT	5181		2011-12	AAOT or ASOT	7832
Fall 2012	AAOT or ASOT	6145		2012-13	AAOT or ASOT	8815
Fall 2013	AAOT or ASOT	6422		2013-14	AAOT or ASOT	9138
Fall 2014	AAOT or ASOT	6139		2014-15	AAOT or ASOT	8853
Fall 2015	AAOT or ASOT	5611		2015-16	AAOT or ASOT	8003
Fall 2016	AAOT or ASOT	5490		2016-17	AAOT or ASOT	7717
Fall 2017	AAOT or ASOT	5317		2017-18	AAOT or ASOT	7452
Fall 2018	AAOT or ASOT	4874	% decline	2018-19	AAOT or ASOT	6974
Fall 2019	AAOT or ASOT	4580	-0.06	2019-20	Estimated	6905

HECC - IR Office

1st step: Estimating the headcount enrollment by student level and residency

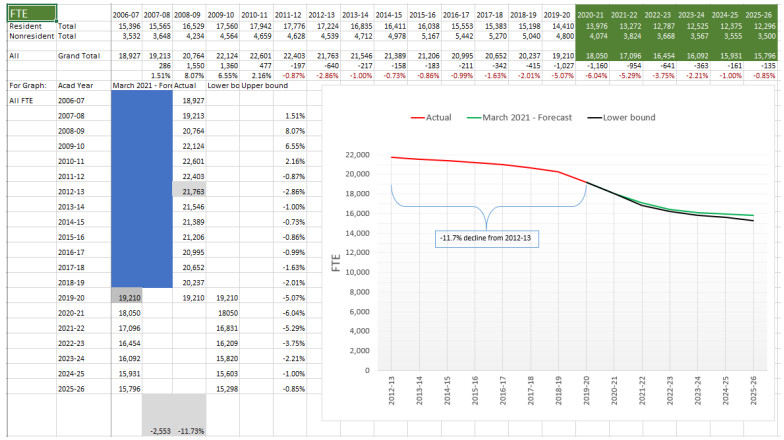


FTE		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Resident	Total	15,396	15,565	16,529	17,560	17,942	17,776	17,224	16,835	16,411	16,038	15,553	15,383	15,198	14,410	13,976	13,272	12,787	12,525	12,375	12,296
Nonresident	Total	3,532	3,648	4,234	4,564	4,659	4,628	4,539	4,712	4,978	5,167	5,442	5,270	5,040	4,800	4,074	3,824	3,668	3,567	3,555	3,500
All	Grand Total	18,927	19,213	20,764	22,124	22,601	22,403	21,763	21,546	21,389	21,206	20,995	20,652	20,237	19,210	18,050	17,096	16,454	16,092	15,931	15,796
			286	1,550	1,360	477	-197	-640	-217	-158	-183	-211	-342	-415	-1,027	-1,160	-954	-641	-363	-161	-135
			1.51%	8.07%	6.55%	2.16%	-0.87%	-2.86%	-1.00%	-0.73%	-0.86%	-0.99%	-1.63%	-2.01%	-5.07%	-6.04%	-5.29%	-3.75%	-2.21%	-1.00%	-0.85%
For Graph:	Acad Year	March 2021 - For	Actual	Lower bo	Upper bound																
All FTE	2006-07		18,927																		
	2007-08		19,213				1.51%														
	2008-09		20,764				8.07%														
	2009-10		22,124				6.55%														
	2010-11		22,601				2.16%														
	2011-12		22,403				-0.87%														
	2012-13		21,763				-2.86%														
	2013-14		21,546				-1.00%														
	2014-15		21,389				-0.73%														
	2015-16		21,206				-0.86%														
	2016-17		20,995				-0.99%														
	2017-18		20,652				-1.63%														
	2018-19		20,237				-2.01%														
	2019-20	19,210		19,210	19,210		-5.07%														
	2020-21	18,050			18050		-6.04%														
	2021-22	17,096			16,831		-5.29%														
	2022-23	16,454			16,209		-3.75%														
	2023-24	16,092			15,820		-2.21%														
	2024-25	15,931			15,603		-1.00%														
	2025-26	15,796			15,298		-0.85%														
				-2,553	-11.73%																

I. Ten student groups included in the analysis

- Resident admitted undergraduate (UG)
- Non-resident admitted (UG)
- Resident non-admitted (UG)
- Non-resident non-admitted (UG)
- Resident Masters level (Includes grad Post-bacs)
- Non-resident Masters level (Includes grad Post-bacs)
- Resident Doctoral
- Non-resident Doctoral
- Non-resident admitted (Grad Level)
- Resident non-admitted (Grad Level)

1st step: Estimating the headcount enrollment by student level and residency



FTE		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Resident	Total	15,396	15,565	16,529	17,560	17,942	17,776	17,224	16,835	16,411	16,038	15,553	15,383	15,198	14,410	13,976	13,272	12,787	12,520	12,375	12,296
Nonresident	Total	3,532	3,648	4,234	4,564	4,659	4,628	4,539	4,712	4,978	5,167	5,442	5,270	5,040	4,800	4,074	3,824	3,668	3,567	3,555	3,500
All	Grand Total	18,927	19,213	20,764	22,124	22,601	22,403	21,763	21,546	21,389	21,206	20,995	20,652	20,237	19,210	18,050	17,096	16,454	16,093	15,931	15,796
			286	1,550	1,360	477	-197	-640	-217	-158	-183	-211	-342	-415	-1,027	-1,160	-954	-641	-363	-161	-135
			1.51%	8.07%	6.55%	2.16%	-0.87%	-2.86%	-1.00%	-0.73%	-0.86%	-0.99%	-1.63%	-2.01%	-5.07%	-6.04%	-5.29%	-3.75%	-2.21%	-1.00%	-0.85%

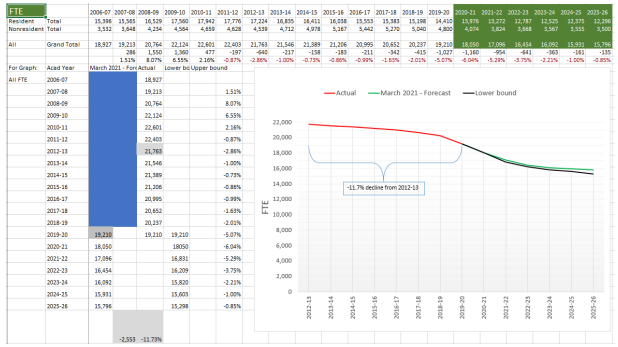
For Graph:	Acad Year	March 2021 - Fore	Actual	Lower bo	Upper bound	
All FTE	2006-07		18,927			
	2007-08		19,213			1.51%
	2008-09		20,764			8.07%
	2009-10		22,124			6.55%
	2010-11		22,601			2.16%
	2011-12		22,403			-0.87%
	2012-13		21,763			-2.86%
	2013-14		21,546			-1.00%
	2014-15		21,389			-0.73%
	2015-16		21,206			-0.86%
	2016-17		20,995			-0.99%
	2017-18		20,652			-1.63%
	2018-19		20,237			-2.01%
	2019-20	19,210	19,210	19,210		-5.07%
	2020-21	18,050		18050		-6.04%
	2021-22	17,096		16,831		-5.29%
	2022-23	16,454		16,209		-3.75%
	2023-24	16,092		15,820		-2.21%
	2024-25	15,931		15,603		-1.00%
	2025-26	15,796		15,298		-0.85%
			-2,553	-11.73%		

II. Estimating the headcount enrollment by student level and residency

A. Continuing Enrollment

- Fall cont. enrollment based on spring to fall probability matrix (Markov)
- Winter cont. enrollment based on fall to winter probability matrix (Markov)
- Spring cont. enrollment based on winter to spring probability matrix (Markov)
- Summer enrollment based on spring to summer probability matrix (Markov)

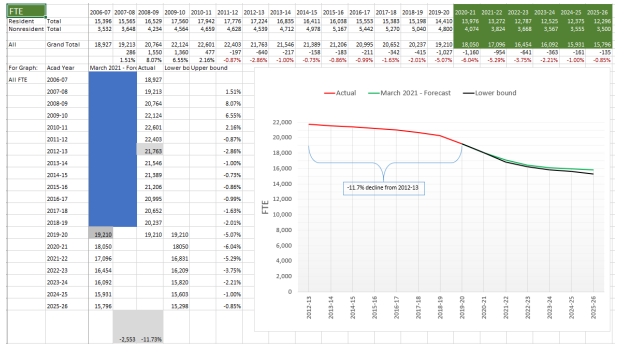
1st step: Estimating the headcount enrollment by student level and residency



B. New Enrollment – methodology depends on the student population

- First-time admitted UG resident – Tri-county high school model
- First-time admitted UG non-resident – Historic and current application funnel trends and EMSA feedback
- Transfers UG resident (includes UG post-bac) – Portland Community College (PCC) proxy model
- Transfer UG non-resident (includes UG post-bac) – Historic and current application funnel trends and EMSA feedback

1st step: Estimating the headcount enrollment by student level and residency

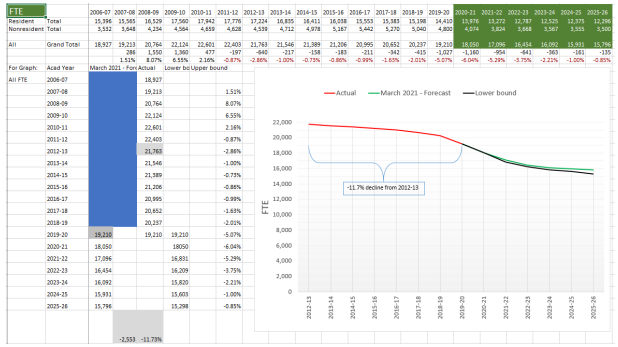


B. (Cont)

New Enrollment – methodology depends on the student population

- Masters level resident (includes Grad post-bac) – Historic and current application funnel trends and OGS feedback
- Masters level non-resident (includes Grad post-bac) – Historic and current application funnel trends and OGS feedback
- Doctoral level resident – Historic enrollment
- Doctoral level non-resident – Historic enrollment

1st step: Estimating the headcount enrollment by student level and residency



C. Non-admitted students

New and Cont. Enrollment – methodology depends on the student population

- Undergraduate level non-admit resident – Historic enrollment trends and program feedback
- Undergraduate level non-admit non-resident – Historic enrollment trends and program feedback
- Graduate level non-admit resident – Historic enrollment trends
- Graduate level non-admit, non-resident – Historic enrollment trends

1st step: Estimating the headcount enrollment by student level and residency

First-time admitted UG resident – Tri-county high school model

Office of Institutional Research and Planning
February, 2021

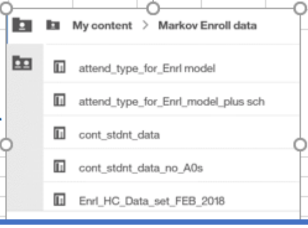
Check tri-county grad class size

Model for First-Time Resident Students (Tri-County Area)

Fall 2019, 78% of the 1,258 where direct from tri-county. Fall Membership 2020-21

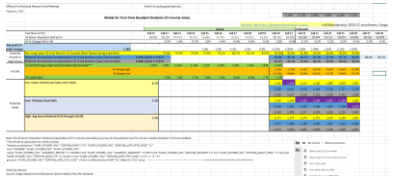
			Fall 11	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20	Fall 21	Fall 22	Fall 23	Fall 24	Fall 25	Fall 26
													1.10%	2.11%	2.90%	3.64%	4.49%	5.23%
			Actual											Estimated				
	Year New to PSU		Fall 11	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20	Fall 21	Fall 22	Fall 23	Fall 24	Fall 25	Fall 26
	HS Senior Population (Fall prior)		19,055	19,118	19,419	19,292	19,664	19,745	19,561	19,631	19,583	19,222	19,230	19,183	19,144	19,111	19,023	18,991
	HS % Change Fall to Fall			0.3%	1.6%	-0.7%	1.9%	0.4%	-0.9%	0.4%	-0.2%	-1.8%	0.0%	-0.2%	-0.2%	-0.2%	-0.5%	-0.2%
Avg yearly % point change		1.38% r change 9.75061%					1.8%	1.5%	3.3%	2.0%	0.9%	3.31%	0.55%	1.05%	1.44%	1.81%	2.22%	2.59%
Potential Growth in High School	Flat Using Latest HS Grad Rate for Tri-Counties (Most Recent Spring Grad Rate)			73.8%	75.3%	75.6%	77.0%	78.1%	80.7%	82.3%	83.0%	85.8%	85.8%	85.8%	85.8%	85.8%	85.8%	85.8%
	Potential HS Grad Rate Increase (about 1/5 of the previous 5 year rate increas	2.22% (Fall20 to Fall25)										85.8%	86.2%	86.7%	87.0%	87.3%	87.7%	88.0%
	Potential HS Grad Rate Increase (about 2/5 of the previous 5 year rate increas	4.49% (Fall20 to Fall25)										85.8%	86.7%	87.6%	88.2%	88.9%	89.6%	90.2%
Actuals	Actual Fall Oregon High School Students Matriculated **		1,001	1,052	1,144	1,126	1,150	1,094	1,393	1,334	1,258	1,194						
	% change High											*1.50%*	*1.14%*	*0.76%*	*0.57%*	*0.55%*	*0.35%*	*0.54%*
	% change Low											*-12.19%*	*0.04%*	*-0.24%*	*-0.21%*	*-0.17%*	*-0.46%*	*-0.17%*
	PSU yield rates			7.5%	7.8%	7.7%	7.6%	7.1%	8.8%	8.3%	7.7%	7.2%						
Potential Yields	**Low -Linear Trend (4 year basis, 2017-2020)**	**6.7%**										1,105	1,105	1,102	1,100	1,098	1,093	1,091
												1,105	1,111	1,114	1,116	1,118	1,117	1,120
												1,105	1,117	1,126	1,132	1,138	1,142	1,148
	Mid - Previous Years Rate	**7.2%**										1,194	1,194	1,192	1,189	1,187	1,182	1,180
												1,194	1,201	1,204	1,206	1,209	1,208	1,210
												1,194	1,208	1,217	1,224	1,230	1,235	1,241
	High- Avg Recent Rates (Fall 18 through Fall 20)	**7.7%**										1,277	1,277	1,274	1,272	1,270	1,264	1,262
												1,277	1,284	1,288	1,290	1,292	1,292	1,294
												1,277	1,291	1,301	1,309	1,316	1,320	1,327

Note: The HS Senior Population fields are populated with Tri-County Area data as a proxy for the potential pool for all new resident domestic first-time students.
* The HS senior population for 2019 is actual.
**select count(distinct "SCARF_STUDENT_PSU"."ZSPSTDN_PIDM") "C0", "SCARF_STUDENT_PSU"."ZSPSTDN_OIRP_STYP_CODE" "C1"
from "ODSMGR"."SCARF_STUDENT_PSU" "SCARF_STUDENT_PSU"
where "SCARF_STUDENT_PSU"."ACADEMIC_PERIOD" in ('201604') and "SCARF_STUDENT_PSU"."ACADEMIC_SNAPSHOT" in ('EOT') and "SCARF_STUDENT_PSU"."ZSPSTDN_RESIDENT"='R' and
"SCARF_STUDENT_PSU"."ZSPSTDN_ADMIT_TERM" in ('10') and "SCARF_STUDENT_PSU"."ZSPSTDN_ADMIT_YR" in ('201617') and "SCARF_STUDENT_PSU"."ZSPSTDN_OIRP_STYP_CODE" in ('B', 'C', 'D', 'E')
group by "SCARF_STUDENT_PSU"."ZSPSTDN_OIRP_STYP_CODE" (IF this is different than SCARF "N1" default to "N1" value. --->>

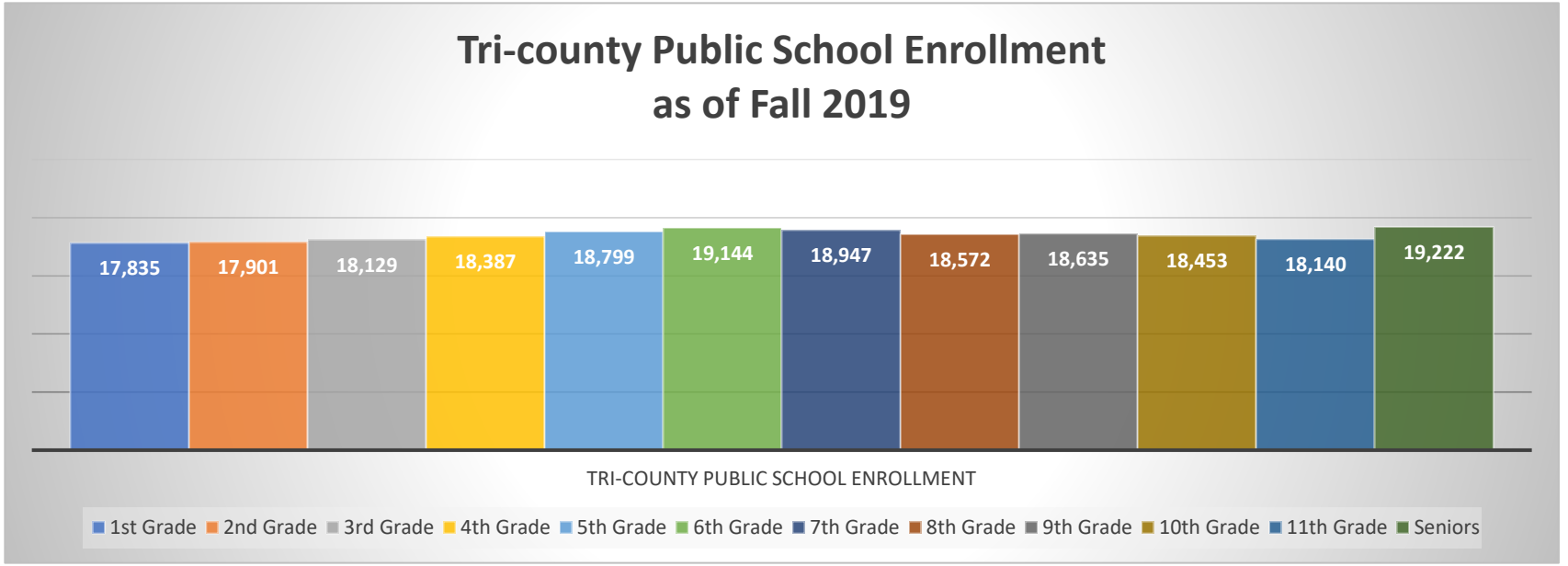


OIRP: GO, DB, ZM
Source: Oregon Department of Education (Cohort Media File); PSU Factbook
\\psu\resources\Staff\OIRP\Projects\burgessd\Enrollment Management\HS_Grad_Rates\cohortmediafile2019-2020.xlsx

First-time admitted UG resident – Tri-county high school model – (Cont)



OIRP uses the tri-county K-12 public school enrollment data as the basis for potential resident first-time enrollment. The majority of new students come to PSU from this area, not from other states, so national data do not contribute to the predictive power of the model. For example, in Fall 2019, 87% of first-time enrollment came from the Tri-county school-districts. The Oregon Dept. of Education reports the number of students each fall by grade level and school district. This detailed data set allows us to see the enrollment potential for the next 12 years.



First-time admitted UG resident – Tri-county high school model – (Cont)

The tri-county model has two decision points where OIRP relies on the expertise and current recruitment plans from Enrollment Management (EM). Two decision points are made by the Vice President for Enrollment Management, Chuck Knepfle: 1) estimated change in the high school graduation rates, and 2) estimated yield rates for all Oregon high school graduates becoming students at PSU.

OIRP uses these inputs to calculate the growth rate from the previous period and then applies this growth rate to the entire 1st-time UG resident student population.

Academic Period		201204	201304	201404	201504	201604	201704	201804	201904	202004	202104	202204	202304	202404	202504
HS Senior Population		19118	19419	19292	19664	19745	19561	19631	19583	19222	19230	19183	19144	19111	19023
First Time Student	Resident	1071	1149	1131	1135	1094	1404	1344	1270	1189	1105	1192	1189	1187	1210
% Yield		7.6%	7.9%	7.8%	7.5%	7.1%	8.9%	8.3%	7.8%	7.2%	6.7%	7.2%	7.2%	7.2%	7.4%

1st step: Estimating the headcount enrollment by student level and residency

First-time admitted UG non-resident – Historic and current application funnel trends and Enrollment Management (EM) feedback

OIRP uses undergraduate admissions funnel data for upcoming terms where EM is currently accepting applications for admissions. OIRP relies on EM to help inform future funnel expectations based on their experience and recruitment plans. A large portion of this potential student population is influenced by the university policies around the Western Undergraduate Exchange (WUE)

		-6.5%			5391	4956	4985	5272	4786	(160.00)	-6.6%			2,491
Academic Period		**201204**	**201304**	**201404**	**201504**	**201604**	**201704**	**201804**	**201904**	**202004**	**202104**	**202204**	**202304**	**202404**
First Time Stdnt Apps	Non-Resident	2052	3039	3162	4086	4272	4191	3703	3115	2950	3127	3252	3317	3350
% change in apps	Non-Resident	6.5%	48.1%	4.0%	29.2%	4.6%	-1.9%	-11.6%	-15.9%	-5.3%	6.0%	4.0%	2.0%	1.0%
Admitted	Non-Resident	1901	2810	2924	3772	4033	4007	3546	2921	2747	2922	3034	3097	3127
% admitted	Non-Resident	0.926413	0.924646	0.924731	0.923152	0.944054	0.9560964	0.957602	0.9377207	0.931186	93.4%	93.3%	93.4%	93.3%
First Time Student	Non-Resident	390	495	567	675	651	559	552	448	332	401	416	408	423
% admitted/enrolled	Non-Resident	20.5%	17.6%	19.4%	17.9%	16.1%	14.0%	15.6%	15.3%	12.1%	13.7%	13.7%	13.2%	13.5%

1st step: Estimating the headcount enrollment by student level and residency

Transfers UG resident (includes UG post-bac) – Portland Community College (PCC) proxy model

PCC transfer students historically are the largest population of new resident transfer students. Over the last 5 years 50.9% of the new resident transfer students came from PCC. Enrollment trends from PCC are used as a proxy for estimating PSU's total resident transfer population. The model uses a two-year lag for estimating the size of the population who could possibly transfer from PCC to PSU.

Portland Community College Student Headcount: ASOT or AAOT Major

Fall Headcount				Annual Headcount			
Term/Year	Declared Intent	Headcount		AcadYear	Declared Intent	Headcount	2 yr lag
Fall 2009	AAOT or ASOT	4210		2009-10	AAOT or ASOT	7059	1,324
Fall 2010	AAOT or ASOT	4418		2010-11	AAOT or ASOT	6832	1,325
Fall 2011	AAOT or ASOT	5181		2011-12	AAOT or ASOT	7832	1,420
Fall 2012	AAOT or ASOT	6145		2012-13	AAOT or ASOT	8815	1,266
Fall 2013	AAOT or ASOT	6422		2013-14	AAOT or ASOT	9138	1,255
Fall 2014	AAOT or ASOT	6139		2014-15	AAOT or ASOT	8853	1,157
Fall 2015	AAOT or ASOT	5611		2015-16	AAOT or ASOT	8003	1,153
Fall 2016	AAOT or ASOT	5490		2016-17	AAOT or ASOT	7717	1,493
Fall 2017	AAOT or ASOT	5317		2017-18	AAOT or ASOT	7452	1,240
Fall 2018	AAOT or ASOT	4874	% decline	2018-19	AAOT or ASOT	6974	
Fall 2019	AAOT or ASOT	4580	-0.06032	2019-20	Estimated	6905	

David Burgess:
1st year of transfers finish free program.

Notes:

AAOT = Associate of Art - Oregon Transfer

ASOT = Associate of Science - Oregon Transfer

Headcount includes all students enrolled at PCC with ASOT or AAOT as intended major, not just new students

1st step: Estimating the headcount enrollment by student level and residency

Transfers UG resident (includes UG post-bac) – Portland Community College (PCC) proxy model – (cont)

PCC enrollment for future years uses same methodology that this model uses for the 1st-time resident student population, that is, the tri-county K-12 public school enrollment data.

OIRP again relies expertise and current recruitment plans from EM (C. Knepfle) regarding the yield rates and based on that feedback, an overall growth rate, over prior time period, is applied to the entire UG resident transfer population.

David Burgess:
1st year of transfers finish free program.

Portland Community College Transfer Model*

	% of Last 2 HS pop (moving) of PCC enrollment			23%	24%	23%	21%	20%	19%	18%	18%	17%	17%	17%	17%	17%
											Estimated					
		Fall 11	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20	Fall 21	Fall 22	Fall 23	Fall 24	Fall 25
	PCC Potential Transfer Population (Headcount)	6,832	7,832	8,815	9,138	8,853	8,003	7,717	7,452	6,974	6,905	6,771	6,703	6,681	6,653	6,620
	PCC % Change Fall to Fall	-3.22%	14.64%	12.55%	3.66%	-3.12%	-9.60%	-3.57%	-3.43%	-6.41%	-0.99%	-1.94%	-1.01%	-0.32%	-0.41%	-0.50%
													-13%	-10%	-5%	-4%
Actuals	Actual Fall PCC Transfer	1,324	1,325	1,420	1,266	1,255	1,157	1,153	1,493	1,240	1,164					
	% change in population		0.08%	7.17%	-10.85%	-0.87%	-7.81%	-0.35%	29.49%	7.55%	-6.13%					
	Actual yield rates (Lagged 2 years)		19%	21%	16%	14%	13%	13%	19%	16%	15.6%					
Yield Rates	Low avg yield last 5 years excluding Fall 2018 after 2021											15.2%	14.5%	14.9%	15.1%	15.1%
	Mid - Last years rate flat		16.5%							16.2%		15.6%	15.6%	15.6%	15.6%	15.6%
	Linear Trend Rate											17.3%	17.3%	17.5%	17.5%	17.3%
PCC Transfers Enrollment												1,060	1,002	1,008	1,009	1,006
												1,089	1,079	1,058	1,047	1,044
												1,209	1,197	1,184	1,171	1,158
			% change in Transfers low									-8.9%	-5.5%	0.6%	0.1%	-0.3%
			% change in Transfers mid									-6.4%	-1.0%	-1.9%	-1.0%	-0.3%
			% change in Transfers high									3.9%	-1.1%	-1.1%	-1.1%	-1.1%

1st step: Estimating the headcount enrollment by student level and residency

Transfer UG non-resident (includes UG post-bac) – Historic and current application funnel trends and EM feedback

OIRP uses undergraduate admissions funnel data for upcoming terms where EM is currently accepting applications for admissions. OIRP again relies on EM (C. Knepfle) to help inform future funnel expectations, based on its experience and recruitment plans.

			Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
Transfer Non-resident Assumptions	**Current assumption**	**Mid**				**-20.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
		Low				-27.5%	0.0%	0.0%	0.0%	0.0%
		Mid				-20.0%	0.0%	0.0%	0.0%	0.0%
		High				-13.8%	0.0%	0.0%	0.0%	0.0%

1st step: Estimating the headcount enrollment by student level and residency

Masters level, resident **and** non-resident (includes Grad post-bac) – Historic and current application funnel trends and OGS feedback

OIRP uses graduate admissions funnel data for upcoming terms where the Office of Graduate Studies (OGS) is currently processing applications for admissions. Similar to the non-resident first-time students OIRP relies on the OGS to help inform future funnel expectations based on know recruitment plans, program changes, (additions and contractions) and recent trends in program demand.

			Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
Masters Resident Assumptions	**Current assumption**	**Mid**				**3.4%**	**2.6%**	**1.3%**	**0.6%**	**0.3%**
		Low								
		Mid				3.4%	2.6%	1.3%	0.6%	0.3%
		High								
			Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
Masters Non-Resident Assumptions (Default is same as resident assumptions)	**Current assumption**	**Mid**				**6.0%**	**3.0%**	**1.5%**	**0.8%**	**0.4%**
		Low								
		Mid				6.0%	3.0%	1.5%	0.8%	0.4%
		High								

1st step: Estimating the headcount enrollment by student level and residency

Doctoral level resident **and** non-resident – Historic enrollment

The overall new doctoral student population is relatively small, an average of 0.39% of total headcount over the last 10 years, OIRP uses a three year moving average in the model.

Academic Period		201804	201904	202004	202104	202204	202304	202404	202504
New PhD	Resident	49	38	47	45	43	45	44	44
New PhD	Non-Resident	58	51	44	51	49	48	49	49

1st step: Estimating the headcount enrollment by student level and residency

UG and Grad. non-admit level, resident **and** non-resident – Historic enrollment trends and program feedback

Normally the model uses Markov chain with no modification to assumptions. For the 2021-22 period the model assumptions where modified with the expectation that the non-admit enrollment will eventually rebound to pre-covid levels. With no historic precedence to guide the model we are assuming a time period of one academic year for this population to rebound to previous enrollment levels. The non-admit population that is traditionally enrolled in the ESL program is an exception to this assumption resulting in a smaller total UG non-resident enrollment in the out years.

Academic Period		201804	201904	202004	202104	202204	202304
NA_UG	Resident	2985	2707	2302	2762	3039	3221
NA_UG	Non-Resident	362	443	189	331	358	358
NA_Grad	Resident	349	273	223	268	300	300
NA_Grad	Non-Resident	83	91	142	142	142	142

1st step: Estimating the headcount enrollment by student level and residency

New Enrollment for summer, winter and spring – Markov Chain

Fall term accounts for the majority of all new admitted enrollment for the full academic year, (close to 76% in 2019-21). The FTE model relies on Markov chains to estimate the number of new students in summer, winter and spring terms. Normally, no other assumptions or adjustments are made.

1st step: Estimating the headcount enrollment by student level and residency

The net result of the new and continuing estimation is a head count matrix that similar to the historic table shown below with the total enrollment for the 10 student enrollment segments for each future time period.

Headcount	201604	201704	201804	201904	202004	200701	200801	200901	201001	201101	201201	201301	201401	201501	201601	201701	201801	201901	202001	200702	200802	200902	201002	20110
Resident	**22025**	**21458**	**21361**	**20286**	**19092**	**20285**	**20528**	**21420**	**22810**	**23345**	**23584**	**23156**	**22542**	**21653**	**21221**	**20338**	**20185**	**19671**	**18738**	**19575**	**19556**	**20981**	**22097**	**2271**
UG	14928	14515	14517	14040	13314	13246	13497	14385	15554	15975	16407	16355	15947	15259	14730	14093	13896	13735	13224	12878	13238	14198	15361	1573
NA_UG	2914	2802	2985	2707	2302	1811	1848	1896	2005	2061	2143	2327	2351	2248	2371	2193	2152	2287	2141	1335	1037	1383	1377	141
Master	3142	3217	3179	2938	2948	3523	3457	3514	3643	3638	3346	3061	3006	3008	2979	3050	3149	3028	2853	3511	3448	3511	3617	358
PhD	338	334	331	328	305	295	281	295	303	331	331	346	326	326	318	336	327	314	309	273	277	284	298	33
NA_Grad	703	590	349	273	223	1410	1445	1330	1305	1340	1357	1067	912	812	823	666	661	307	211	1578	1556	1605	1444	165
Nonresident	**6382**	**6212**	**5924**	**5730**	**5005**	**4536**	**4583**	**4901**	**5275**	**5203**	**5239**	**5065**	**5205**	**5391**	**5675**	**5856**	**5722**	**5446**	**5229**	**4292**	**4443**	**4789**	**5050**	**500**
UG	4103	4066	3977	3735	3262	2288	2612	2959	3126	3085	3012	3074	3115	3322	3709	3786	3762	3686	3379	2205	2581	2921	3000	303
NA_UG	561	465	362	443	189	544	429	464	468	517	644	545	642	540	398	427	345	251	359	471	415	427	493	49
Master	1275	1240	1163	1135	1100	979	955	975	1034	1043	1030	989	1011	1056	1147	1207	1181	1110	1081	917	924	956	1012	100
PhD	356	351	339	326	312	248	239	235	263	291	304	328	315	340	322	341	337	323	312	248	235	229	261	28
NA_Grad	87	90	83	91	142	477	348	268	384	267	249	129	122	133	99	95	97	76	98	451	288	256	284	17
Grand Total	**28407**	**27670**	**27285**	**26016**	**24097**	**24821**	**25111**	**26321**	**28085**	**28548**	**28823**	**28221**	**27747**	**27044**	**26896**	**26194**	**25907**	**25117**	**23967**	**23867**	**23999**	**25770**	**27147**	**2771**

Process
Second Step: Estimating SCH

The total enrollment segments are then multiplied by the SCH carrying load which is estimated for each of the 10 student populations. The default for the carrying load is Markov chain but in most instances the carrying load matrix is adjusted to reflect observable trends. For example, the carrying load decline for non-resident, non-admitted undergraduates (NA_UG) between fall 2019 to fall 2020 is due in large part to the dramatic decline of students enrolled in the English language program.

	Avg Carry										
		201604	201704	201804	201904	202004	202104	202204	202304	202404	202504
Resident	UG	11.4	11.6	11.7	11.8	12.0	12.0	12.1	12.2	12.3	12.4
Nonresident	UG	12.7	12.9	12.9	12.9	12.7	12.9	12.8	12.8	12.8	12.8
Resident	NA_UG	4.8	4.8	4.9	4.8	4.9	4.9	5.0	5.0	5.0	5.0
Nonresident	NA_UG	12.9	11.2	14.2	13.6	7.5	10.8	10.5	10.5	10.5	10.5
Resident	Master	7.9	7.8	7.7	7.7	7.8	7.7	7.8	7.8	7.8	7.8
Nonresident	Master	8.9	8.4	8.3	8.6	8.3	8.4	8.4	8.4	8.4	8.4
Resident	PhD	5.6	5.6	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0
Nonresident	PhD	7.6	7.0	7.1	7.3	7.1	7.2	7.2	7.2	7.2	7.2
Resident	NA_Grad	3.1	3.6	3.8	3.8	4.0	3.9	3.9	3.9	3.9	3.9
Nonresident	NA_Grad	3.9	4.0	3.7	3.9	4.4	4.0	4.1	4.2	4.1	4.1

=Linear Trend(BaseF12 throughF17)
=Flatline (Base F20)
=3 year moving avg
=Markov

2nd step: Estimating SCH

The SCH is then converted into annual FTE

		200603	200703	200803	200903	201003	201103	201203	201303	201403	201503	201603	201703	201803	201903	202003	202103	202203	202303	202403	202503	202104	202204	202304	202404	202504	202101	202201	2023(
Resident	UG	43354	46820	48210	52862	56993	57078	51378	47262	45364	43536	44141	41487	41334	37333	45866	41749	38823	37117	35622	35413	147828	140708	136419	134147	134595	150436	139073	1313
Nonresident	UG	9509	8605	9692	12568	13073	12726	12933	12829	12132	11759	12761	13699	13040	11956	13788	11069	9884	9484	9006	9042	36120	33642	32253	31616	31643	37526	33026	311
Resident	NA_UG	11167	10589	9306	11245	9833	10084	8369	7555	6947	5653	5307	4423	3489	3095	1669	2370	2219	2112	2321	2310	13616	15065	16061	16639	16734	7738	8828	89
Nonresident	NA_UG	3819	3208	2722	4029	5879	6001	6488	5779	7931	5740	5169	4611	4813	4252	2165	3869	3716	3651	4367	4551	3572	3744	3744	3512	3512	1113	1745	18
Resident	Master	13695	12682	12947	12671	12870	11969	10486	9161	10129	9981	11073	11295	11702	10154	10455.5	10658	10607	10733	10869	10910	23112	23214	23472	23709	23844	22871	22559	227
Nonresident	Master	3135	2841	2863	2674	2787	2846	3382	3018	2767	2748	3181	3309	3288	2771	3201	2998	3035	3108	3117	3159	8945	9123	9169	9289	9410	8388	8544	86
Resident	PhD	283	332	363	359	350	328	259	358	199	224	182	180	231	212	186	201	193	188	190	187	1544	1519	1492	1489	1476	1512	1576	15
Nonresident	PhD	246	222	197	223	197	220	299	251	178	210	211	181	136	148	159	134	135	133	127	126	2142	2095	2031	1992	1963	2079	2073	20
Resident	NA_Grad	6667	6681	7243	6582	6713	5968	5487	5773	5292	5097	4540	3891	1131	952	1046	976	994	1005	992	997	1032	1163	1171	1163	1166	810	810	81
Nonresident	NA_Grad	2466	2498	1602	1483	1455	1309	744	627	736	568	834	592	314	363	656	696	703	685	695	694	566	579	590	578	583	490	490	49
		94341	94478	95145	104696	110150	108529	99825	92613	91675	85516	87399	83668	79478	71236	79191.5	74721	70310	68218	67306	67390	238477	230853	226400	224135	224926	232964	218724	20953
SCH Check		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
												%dif for r	-4.27%	-5.01%	-10.37%	11.17%	-5.6%	-5.9%	-3.0%	-1.3%	0.1%						-8.0%		
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024										

FTE		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Resident	UG	11,083	11,378	12,224	13,150	13,464	13,617	13,372	13,141	12,700	12,294	11,830	11,672	11,735	11,302	10,949	10,136	9,603	9,288	9,099	9,011
Nonresident	UG	2,014	2,269	2,644	2,868	2,857	2,739	2,773	2,848	3,047	3,413	3,612	3,627	3,528	3,254	2,822	2,468	2,306	2,207	2,164	2,108
Resident	NA_UG	801	764	789	843	838	839	866	839	791	873	825	790	807	683	562	677	711	736	760	758
Nonresident	NA_UG	234	174	378	402	524	600	565	645	701	495	510	409	359	396	152	269	269	271	293	267
Resident	Master	2,714	2,619	2,702	2,796	2,801	2,578	2,304	2,204	2,299	2,270	2,341	2,394	2,317	2,135	2,188	2,176	2,190	2,220	2,237	2,237
Nonresident	Master	810	791	845	891	873	880	849	880	886	928	974	914	854	842	799	791	803	807	819	835
Resident	PhD	219	217	228	238	267	248	231	223	221	212	202	209	204	187	178	180	176	174	173	187
Nonresident	PhD	256	237	234	268	301	321	293	287	288	287	292	271	265	266	241	236	230	222	219	231
Resident	NA_Grad	578	587	587	533	572	493	452	428	400	390	355	318	136	103	101	103	107	107	107	103
Nonresident	NA_Grad	218	177	133	135	104	88	58	53	56	44	54	48	34	41	59	59	60	59	59	59
Resident	Total	15,396	15,565	16,529	17,560	17,942	17,776	17,224	16,835	16,411	16,038	15,553	15,383	15,198	14,410	13,976	13,272	12,787	12,525	12,375	12,296
Nonresident	Total	3,532	3,648	4,234	4,564	4,659	4,628	4,539	4,712	4,978	5,167	5,442	5,270	5,040	4,800	4,074	3,824	3,668	3,567	3,555	3,500
All	Grand Total	18,927	19,213	20,764	22,124	22,601	22,403	21,763	21,546	21,389	21,206	20,995	20,652	20,237	19,210	18,050	17,096	16,454	16,092	15,931	15,796
			286	1,550	1,360	477	-197	-640	-217	-158	-183	-211	-342	-415	-1,027	-1,160	-954	-641	-363	-161	-135

Additional OIRP Markov Model: RCAT Enrollment Forecast

OIRP uses an additional Markov model for assisting OAA in maintaining the RCAT planning tool. OIRP also uses the RCAT model for validating the results of the FTE model. The methodology is much the same as the FTE model, but because of the complex detail required in the RCAT, the Markov chain assumptions are usually adhered to. The FTE model has 10 X 2 probability matrix at its core, whereas the RCAT model uses a 30 X 36 probability matrix, a portion of which is shown below.

	TRUE		589.7899356	228.883	1123.15	4637.79	5.9139	86.5769	582.249	447.846	442.014	301.599	67.3659	278.11	937.011	1042	75.1306	573.933	133.359	1086.42	381.809	532.539	1924.97	467.094	92.7723	371.958	343.655	2325.81	185.876	70.
	22073.78163		CLAS_01_MAST	CLAS_01_	CLAS_LD	CLAS_UD	COTA_26_	COTA_26_	COTA_26_	COTA_LD	COTA_UD	CUPA_11_	CUPA_11_	CUPA_LD	CUPA_UD	GSED_07_	GSED_07_	MCECS_2	MCECS_2	MCECS_2	MCECS_L	MCECS_U	PSU_LD	PSU_MAS	PSU_UD	SBA_06_L	SBA_06_M	SBA_06_L	SBA_LD	SBA_
ACADEMIC_PERIOD	COLLEGE_DESC	RESIDENCY																												
202101	Chal_Link	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00617	0	0	0	0	0	0	
202101	Chal_Link	R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.44162	0	0	0	0	0	0	
202101	CLAS	N	2.60264611	4.48715	1.98258	1.54636	0	0.03829	0.54904	0.71752	0.6332	0.11189	0.41025	0.95128	0.53426	0.00757	0	0.07055	0.09881	0.44307	1.37413	1.29407	0.12542	0.2916	0.91294	0.67186	0.07615	0.31314	1.05884	0.63
202101	CLAS	R	4.457882337	2.56933	6.36032	7.71721	1.35898	0.16308	1.622	1.32338	1.70478	0.15553	0.15884	2.93668	2.05342	0.02218	0	0.1639	0.06576	1.13239	4.394	3.36486	1.28514	1.71943	4.77532	2.38455	0.01158	1.29778	2.40457	3.05
202101	COTA	N	0.006119527	0	0.13332	0.09729	2.01944	3.64409	2.2604	2.14517	2.27086	0.03541	0	0.071	0.09421	0	0	0.01218	0	0.03027	0.02931	0.02601	0.01541	0.04582	0	0.13358	0.01549	0.07653	0.15949	0.26
202101	COTA	R	0.017457957	0	0.25262	0.38781	7.43709	5.27929	5.74603	4.27326	5.72567	0.02755	0	0.23863	0.22803	0.01026	0	0.00632	0	0.06279	0.10209	0.16506	0.1791	0.15052	0.10475	0.28887	0.0241	0.28778	0.37709	0.2
202101	CUPA	N	0.035541443	0	0.10168	0.07975	0	0.05507	0.0491	0.01304	0.04906	2.45269	3.76695	1.06705	1.73007	0	0	0.01076	0	0.02743	0.02538	0.0989	0.03007	0.07328	0	0.33447	0.18514	0.12821	0.49454	0.17
202101	CUPA	R	0.032548541	0.01611	0.2764	0.41219	0	0.06767	0.05746	0.13908	0.1464	4.07705	1.5442	3.81541	5.56126	0.01625	0	0.06639	0	0.11557	0.10692	0.26202	0.20414	0.41836	0.4923	1.36898	0.31857	0.44303	1.35731	1.58
202101	IELP	N	0	0	0.01123	0	0	0	0	0.00799	0	0.00162	0	0	0.00995	0	0	0.00084	0.02581	0.02178	0.09793	0.06145	0.25048	0.0021	0	0	0	0.00344	0.33878	0.17
202101	IELP	R	0	0	0	0	0	0.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00173	0	0	0	0	0	0	
202101	International Program	N	0	0	0.01423	0.00652	0	0	0	0.01688	0	0.00514	0	0.0297	0.00332	0	0	0	0	0	0	0	0.05677	0.00666	0.02933	0	0	0.00641	0.01293	
202101	International Program	R	0	0	0.02371	0.01305	0	0	0.00471	0.00563	0.01411	0.00771	0	0.0297	0.02986	0	0	0	0	0	0.0146	0	0.00732	0	0	0	0	0.00951	0.03879	0.0
202101	MCECS	N	0.031214076	0.01545	0.00555	0.01164	0	0	0.00551	0.01317	0.01652	0	0	0	0	0	0	3.35418	3.98934	2.14545	0.74336	0.99885	0.01929	0.31356	0.10301	0.00768	0.04214	0.00601	0.02649	
202101	MCECS	R	0.091545435	0.02614	0.03366	0.04005	0	0	0.03108	0.03715	0.04658	0.02037	0	0.03921	0.01314	0.00414	0	3.13544	1.45053	7.89165	2.75649	3.3731	0.05521	0.5712	0.21302	0.00866	0.11883	0.02329	0.02988	0.10
202101	OTHER	N	0	0	0.00075	0.00124	0	0	0	0	0	0	0	0	0.00419	0	0	0	0	0.00512	0	0	0	0	0	0.00828	0	0.00283	0	
202101	OTHER	R	0	0.0125	0.00599	0.00412	0	0	0.00594	0.00888	0	0	0	0.0125	0.0199	0	0	0	0	0.00427	0.00461	0	0	0	0.00926	0.00621	0	0.01053	0.02041	
202101	SB	N	0	0	0.0376	0.03472	0	0.03588	0.11196	0.05098	0.11986	0.01165	0	0.03364	0.0526	0	0	0.00601	0	0.02451	0.01653	0.06644	0.00968	0.03015	0	0.8394	2.44375	1.58768	0.54185	0.65
202101	SB	R	0.01082949	0.01787	0.07383	0.13509	0	0.05361	0.21665	0.11426	0.26743	0.0905	0	0.05361	0.11002	0.00424	0	0	0	0.08057	0.03953	0.15883	0.0347	0.11262	0	3.71579	5.41542	7.65328	1.24278	2.15
202101	SED	N	0.01578901	0.01737	0.0117	0.01352	0	0	0.00619	0	0.00928	0	0	0	0.00873	1.32037	0.36183	0	0	0	0	0	0.00723	0.26271	0	0.00863	0	0.00675	0	
202101	SED	R	0.066694995	0	0.01157	0.07838	0.21473	0.03865	0	0.02403	0	0.10039	0	0.01812	0.01922	6.32803	4.24083	0	0	0.0033	0	0	0.07335	0.57245	1.45834	0	0	0.00156	0	
202101	SOPH	N	0	0	0.02844	0.0418	0	0.01	0.04012	0.01599	0.02227	0.14286	0	0	0.04817	0.00198	0	0.06365	0	0.01708	0.00461	0.0101	0.01156	0.03782	0.03704	0.01242	0.00284	0.02024	0.0449	0.10
202101	SOPH	R	0.005050505	0	0.09581	0.20774	0.11111	0.03	0.05795	0.0444	0.07572	0.22403	0	0.125	0.10262	0.00198	0	0	0	0.0222	0.04378	0.04209	0.04817	0.08613	0.31481	0.06418	0	0.09069	0.05306	0.23
202101	SSW	N	0	0	0.01238	0.03256	0	0	0.01229	0.00734	0.01842	0.01007	0.04027	0.02584	0.02165	0	0	0	0	0	0	0.00696	0.00159	0.0456	0.03828	0	0	0.01004	0	0.11
202101	SSW	R	0	0	0.04857	0.17472	0	0	0.00603	0.01441	0.03613	0.00988	0	0.02535	0.09767	0.00702	0	0	0	0.01385	0.00934	0	0.00469	0.01491	0.31918	0	0	0.02668	0	
202101	SYSC	N	0.019268123	0.031	0	0.00424	0	0	0.0068	0	0	0	0	0	0.0024	0	0	0.0786	0	0	0	0.00385	0.00088	0.00962	0	0	0.02601	0	0	
202101	SYSC	R	0.053440582	0.10287	0	0.02208	0	0	0.00419	0.00501	0	0.00916	0	0.01764	0.00886	0	0	0.04017	0	0.01205	0	0.03325	0.00217	0	0	0.00584	0.07214	0.01828	0	
202101	UHC	N	0	0	0.08446	0.04943	0	0	0.0526	0.14148	0.05174	0	0	0.06569	0.06951	0	0	0	0	0.0189	0.07138	0.00745	0.00213	0	0	0.09162	0	0.01433	0.06773	
202101	UHC	R	0	0	0.20782	0.11534	0	0	0.02908	0.09776	0.08717	0	0	0.25609	0.11271	0	0	0	0	0.02507	0.14937	0.02471	0.00848	0	0	0.12155	0	0.01387	0.06989	
202101	UNST	N	0	0	0.67682	0.10172	0.40967	0	0.19859	0.98232	0.11086	0	0	0.70283	0.19497	0	0	0	0	0.00945	0.6329	0.09155	0.04973	0	0	0.58587	0	0.08098	0.77502	0.15
202101	UNST	R	0	0	2.58494	0.60353	1.54363	0	0.6795	2.55809	0.43318	0	0	2.70256	0.5625	0	0	0	0	0.03658	2.46483	0.15008	1.35982	0	0.04288	2.77805	0	0.09843	2.87304	0.26

Additional OIRP Markov Model: RCAT Enrollment Forecast

The estimated annual FTE of the RCAT model is 72 FTE higher than the FTE model, (17,096) for the 2021-22.

Total SCH 2021-22	735,621		CLAS_01_MAST	CLAS_01_PHD	CLAS_LD	CLAS_UD	COTA_26_LD	COTA_26_MAST	COTA_26_UD	COTA_LD	COTA_UD	CUPA_11_MAST	CUPA_11_PHD	CUPA_LD	CUPA_UD
Resident	556,532		9,161	1,945	32,417	135,396	289	1,561	12,729	11,547	10,536	4,876	364	9,222	24,794
Non-resident	179,089		5,453	3,291	11,243	30,701	131	1,106	5,193	6,300	4,317	2,985	916	3,540	8,185
			14,614	5,236	43,660	166,097	420	2,668	17,922	17,847	14,853	7,861	1,281	12,762	32,979
Chal_Link	N	52	0	0	0	0	0	0	0	0	0	0	0	0	
Chal_Link	R	9,293	0	0	0	0	0	0	0	0	0	0	0	0	
CLAS	N	61,477	5180	3220	6952	22751	13	11	844	1113	896	86	76	1110	15
CLAS	R	211,655	8514	1788	21091	102962	40	34	2291	1894	2146	126	24	2556	56
COTA	N	14,528	13	0	442	1440	94	1048	3450	3145	2815	22	0	80	2
COTA	R	36,545	52	0	991	5505	176	1448	8616	5946	6828	22	0	198	6
CUPA	N	15,350	73	4	416	1288	0	26	83	73	95	2695	828	1282	50
CUPA	R	43,064	58	10	1096	5665	3	32	167	171	243	4331	336	3755	150
IELP	N	8,923	4	0	116	9	0	6	0	56	0	2	0	53	
IELP	R	49	0	0	0	0	0	30	0	0	0	0	0	0	
International Program	N	4,590	34	0	283	425	0	0	12	75	15	15	0	158	
International Program	R	2,601	31	0	259	948	0	0	54	46	40	55	0	98	3
MCECS	N	19,944	39	12	34	168	3	2	8	24	27	4	3	0	
MCECS	R	40,424	108	9	117	650	3	0	52	58	51	16	2	40	
OTHER	N	100	0	6	2	24	0	0	0	0	0	0	0	0	
OTHER	R	353	3	20	27	73	0	0	4	11	1	0	0	17	
SB	N	20,592	0	0	163	595	3	10	232	106	132	26	0	57	1
SB	R	70,477	18	4	273	1994	8	8	368	186	389	74	0	77	3
SED	N	6,442	36	18	36	143	0	3	5	0	3	7	0	0	
SED	R	31,451	145	4	62	975	1	8	4	23	5	100	0	6	
SOPH	N	7,447	4	0	107	617	0	1	38	19	23	123	4	25	1
SOPH	R	28,646	19	0	407	3289	1	3	94	59	100	134	2	65	3
SSW	N	5,217	0	0	62	484	0	0	11	6	23	6	5	23	
SSW	R	31,122	9	0	257	2651	0	0	28	16	52	15	0	55	2
SYSC	N	417	69	31	3	101	0	0	6	6	0	0	0	0	
SYSC	R	1,385	204	110	6	450	0	0	14	3	4	4	0	22	
UHC	N	1,797	0	0	259	547	3	0	79	162	51	0	0	78	1
UHC	R	3,584	0	0	517	1368	0	0	63	112	88	0	0	168	2
UNST	N	12,213	0	0	2368	2109	16	0	425	1513	235	0	0	674	5
UNST	R	45,885	0	0	7314	8866	57	0	975	3022	589	0	0	2165	17

Totals by Unit	Res		Differential Hours		FTE	Undergraduate Le	Masters Level	PhD Level
Chal_Link	All	9,345				606,826	117,440	11,355
CLAS	All	273,132	CLAS-01	19,849		15	12	9
COTA	All	51,073	COTA-26	21,009	17,168	13,485	3,262	421
CUPA	All	58,414	CUPA-11	9,142				
IELP	All	8,972			-874			
International Prog	All	7,191			-4.8%			
MCECS	All	60,367	MCECS-24	54,639				
OTHER	All	453						
SB	All	91,069	SBA-26	113,875				
SED	All	37,893	GSED-07	32,437				
SOPH	All	36,093	SSW-08	20,585				
SSW	All	36,339						
SYSC	All	1,801						
UHC	All	5,381						
UNST	All	58,098						

Explanation of FADM Information Provided during Budget Forum

Finance & Administration Committee

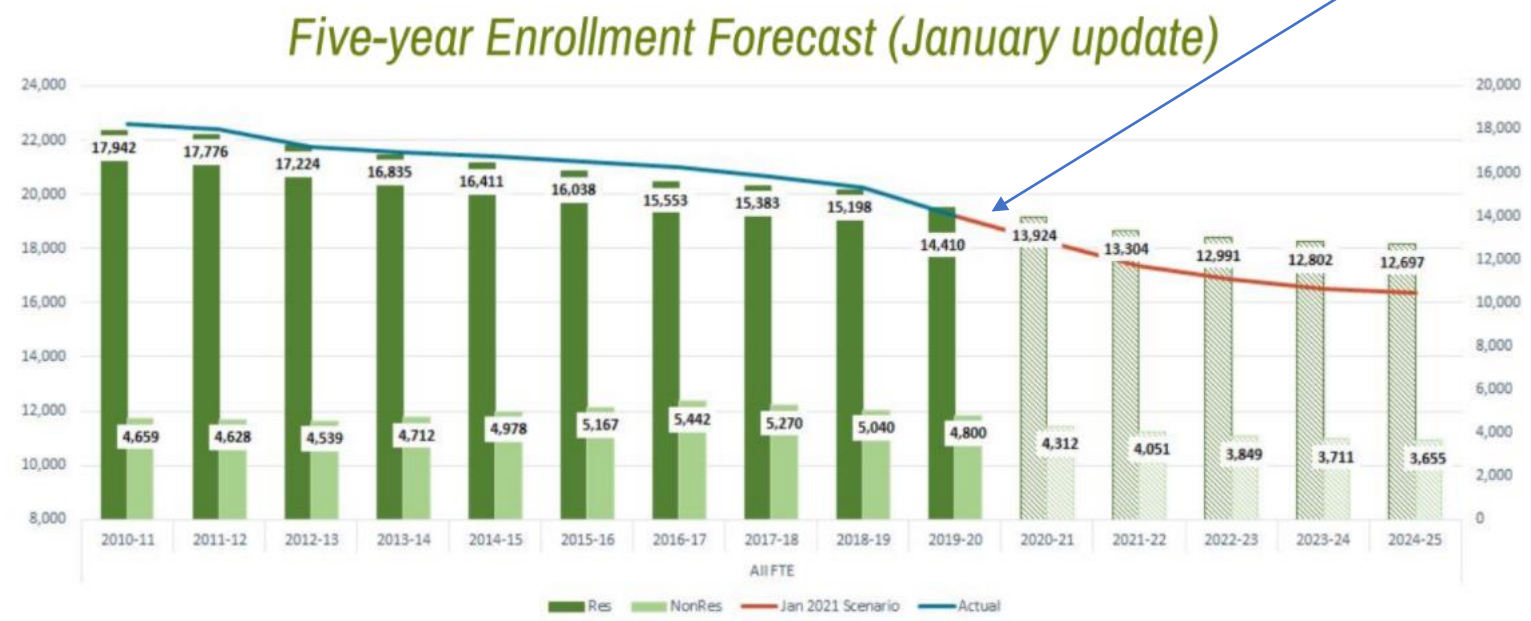
January 13, 2021

https://www.pdx.edu/board/finance-and-administration-committee#Past%20Meetings

This line is the total fte using the left hand axis; the right hand axis relates to the enrollment bars. (The annual totals for the line and the bars are the same)

Finance & Administration Committee

8. Enrollment Update and Long Term Forecast



Explanation - continued

https://www.pdx.edu/board/finance-and-administration-committee#Past%20Meetings

Removed total FTE line; results show updated model using updated enrollment and admissions funnel data.

Finance & Administration Committee

7. Enrollment Update and Revenue Forecast

Five-year Enrollment Forecast

This is copied directly by FADM & EMSA from the OIRP enrollment model (Next slide)