

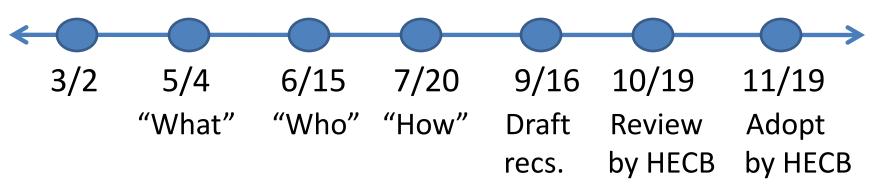
## **Washington Higher Education:** Population, Institutions, and Programs

## "Environmental Scan" System Design Plan Meeting May 4, 2009



## **Review of System Design Plan**

- May July Meeting Topics/Study Elements
  - Population, Institutions, Programs (the "what")
  - Students and Faculty (the "who")
  - Local governance and alternate educational delivery options (the "how")
- Timeline





## SDP Work Plan "Road Map" for today's meeting

Descriptions of the State (macro-level)

- Population: density, racial/ethnic minority groups, change 2000 to 2008
- Educational attainment levels

**Descriptions about Washington's Higher Education Institutions** 

- Current structure of Washington's higher education system, including institutional and sector broad missions
- Location, size (student FTE), and overall shape of Washington higher education program offerings of existing two- and four-year institutions
- State and regional degree production compared to *Master Plan* goals, national benchmarks, and gaps between current supply and job openings
- Analysis of degree production by location, sector, and major/high demand fields

#### Options for Expansion (afternoon session)

- How and where should graduate and undergraduate degree and certificate programs throughout Washington be developed, including the appropriate size and mix of programs?
- What are the rational rules for growth for the *MP* concept of "expand on demand?"



## Population and Geographical Challenges

- Low population density over large tracts of land
- Geographical challenges: Impact of mountains, water and highways on access
- Hispanic/Latino populations widely distributed across the state
- American Indian population small, but widely distributed across the state
- Rapid population growth in some areas where we have minimal higher education presence
- Washington's "Baby Boomers" (born 1946-1964) are the most highly-educated generation in our history; younger adults in Washington have, on average, less education than Boomers.



## **Population Maps**

#### 8 ERDC maps located at <u>www.erdc.wa.gov/temporary/</u>

- 1. Density: Statewide
- 2. Density: King/Snohomish/Pierce/Kitsap regions

Persons per square mile: by under-represented groups

- 3. Hispanic/Latino
- 4. Black/African American
- 5. Asian
- 6. American Indian/Alaska Native
- 7. Native Hawaiian & Other Pacific Islander
- 8. Population Change 2000-2008

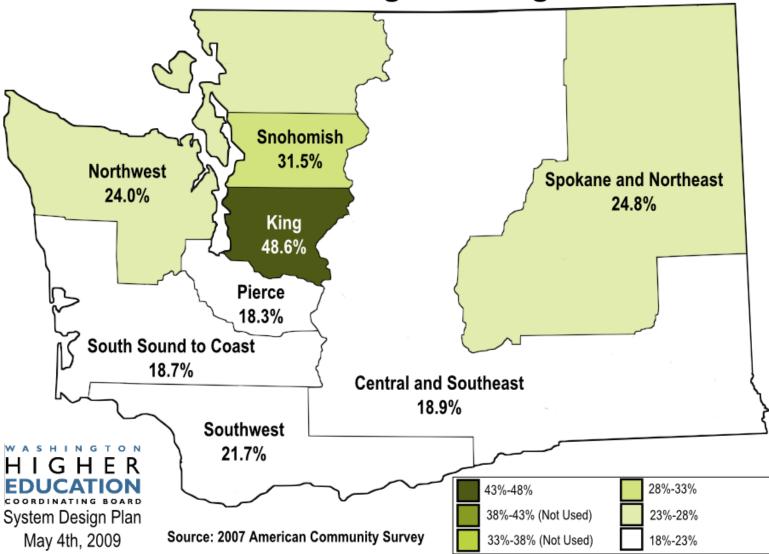


### **Educational Attainment Levels in Washington**

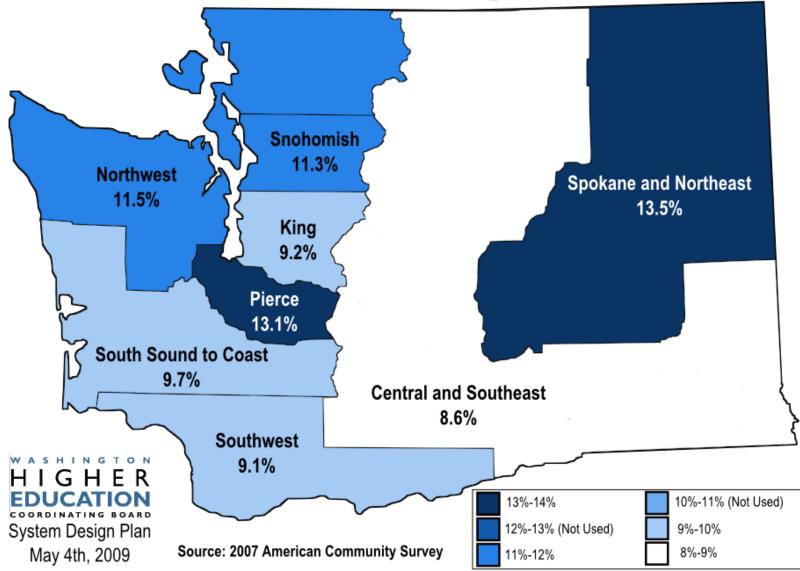
Washington is a well-educated state, but ...

- while nearly half of King County's adults ages 25-34 have a bachelor's degree or higher, in Pierce County and in the South Sound-to-Coast, Southwest, and Central & Southeast regions, less than 23% do.
- in all counties except King and Snohomish, over half of the adults ages 25-34 have a high school diploma, but less than an associate's degree.
- in the Central & Southeast region nearly 18% of those ages 18-34, who are not enrolled in school, have less than a high school diploma.

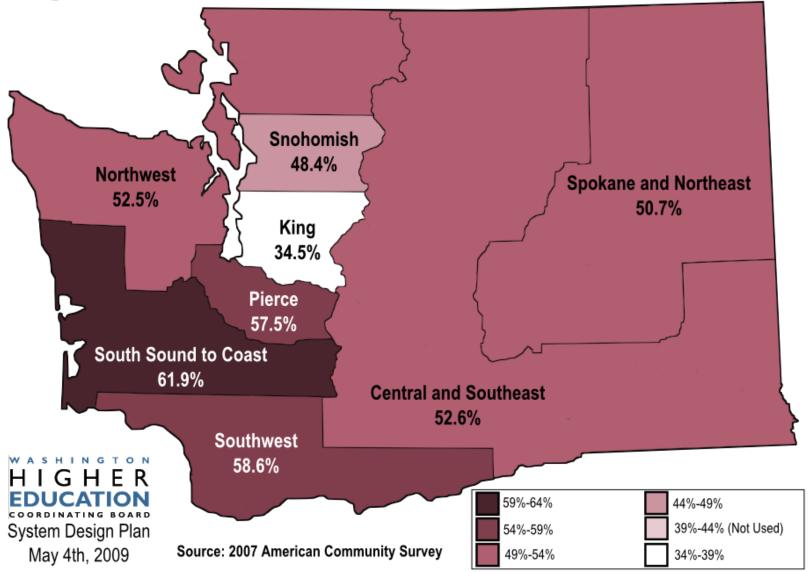
#### Highest Educational Attainment, Ages 25-34: Bachelor's Degree or Higher



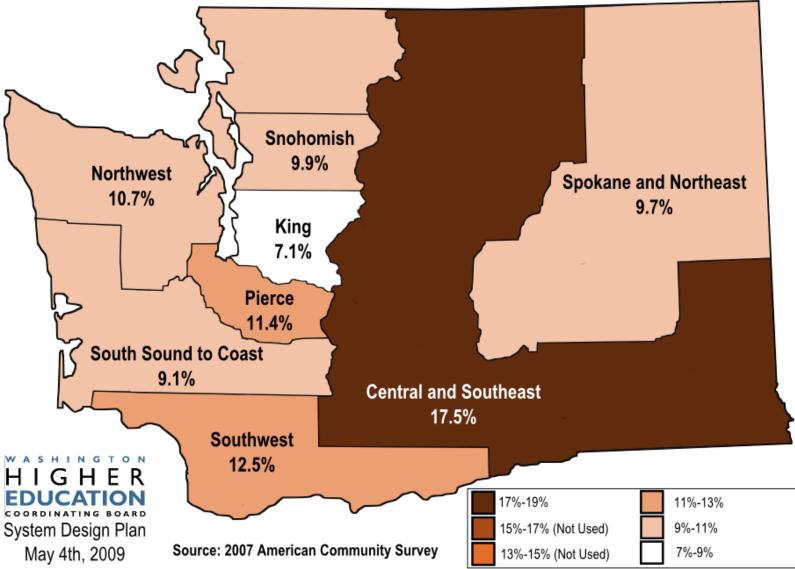
#### Highest Educational Attainment, Ages 25-34: Associate's Degree



#### Highest Educational Attainment, Ages 25-34: High School and Less than an Associate's Degree



#### Highest Educational Attainment, Ages 18-34: Less than High School, Not Enrolled





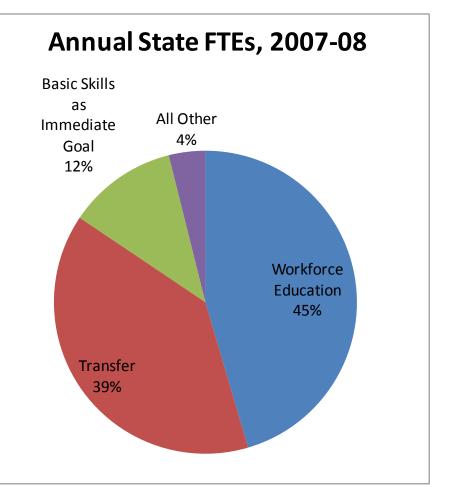
#### **Review of Public University and Branch Campus Enabling Legislation (RCW)**

- Statute indicates that UW's purpose is "to provide a liberal education in literature, science, art, law, medicine, military science and such other fields" as established by the board or regents or by law. (RCW28B.20.020)
- Statute indicates that WSU's purpose is "to provide higher education in such fields" as established by the board of regents or by law, "including instruction in agriculture or other industrial pursuits, mechanical arts and the natural sciences." (RCW28B.30.015)
- Statutes indicate that the primary function of branch campuses is to expand regional access to baccalaureate and master's levels. (RCW28B.45.030, 040, 050)
- Regional universities' primary missions are to provide programs through the master's degree, serve particular regions, focus on applied and professional areas, serve transfer students, and provide extended occupational and complementary studies programs that are integrated with the region's community and technical colleges. (RCW28B.35.050)



### Mission of Broad Access: Community and Technical Colleges

- 34 community and technical colleges serve nearly half a million people each year – 460,696 students in 2007-08
- 169,189 full-time students (annual FTES) – 80% state funded – 136,199 FTES





## Missions of Private Universities and Colleges

- The Independent Colleges of Washington (ICW) include 10 independent non-profit degree-granting universities and four-year liberal arts-based colleges headquartered in Washington state, accredited by the Commission on Colleges and Universities of the Northwest Association of Schools and of Colleges and Universities, which are open to all academically prepared persons on equal terms.
- (Handout: Capsules of Distinction Independent Colleges of Washington)



## Missions of Private Colleges

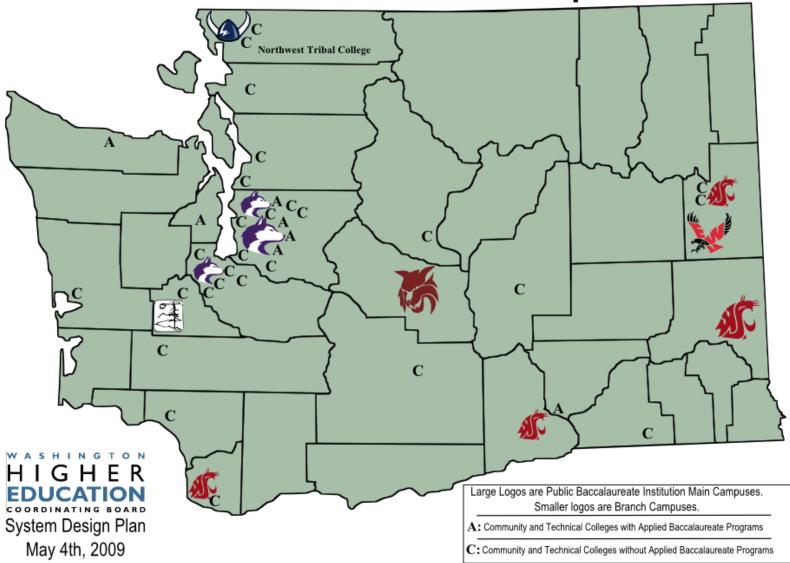
- The mission of Washington's private career colleges that are part of the Northwest Career Colleges Federation is to provide opportunities for education and training in high demand industries; to offer programs of study in which graduates with the right knowledge, skills and behaviors have higher employment potential; and to provide a foundation and desire in graduates to pursue lifelong learning.
- Other private institutions—baccalaureate institutions, proprietary and career colleges—exist and their missions vary.



## Washington's Higher Education Institutions

- Washington's public 4-year higher education system is relatively small compared to other states: only 6 main campuses.
- 5 branch campuses (including WSU Spokane) and numerous centers provide additional access. Growth of some branch campuses in other states, such as Southern Illinois University-Edwardsville, suggests that full establishment can take a decade or two.
- 34 community and technical colleges provide substantial access; 7 of the CTCs offer Applied Baccalaureate degrees.
- 18 of Washington's 39 counties have neither a public 4-year institution nor a community or technical college. Of these 18 counties, 9 have a CTC center.
- Of the 10 ICW institutions, 5 are located in the densely populated Puget Sound region. ICW centers and sites provide additional access in 7 counties that do not have main ICW campuses; four are located in central Washington.
- 9 counties have no bricks-and-mortar higher education presence (institutions, branches, centers, or sites) : East: Adams, Columbia, Lincoln, Okanogan, Pend Oreille; Central: Klickitat, Skamania; and West: Jefferson, Wahkiakum.

#### Washington's Higher Education Institutions Public Main and Branch Campuses

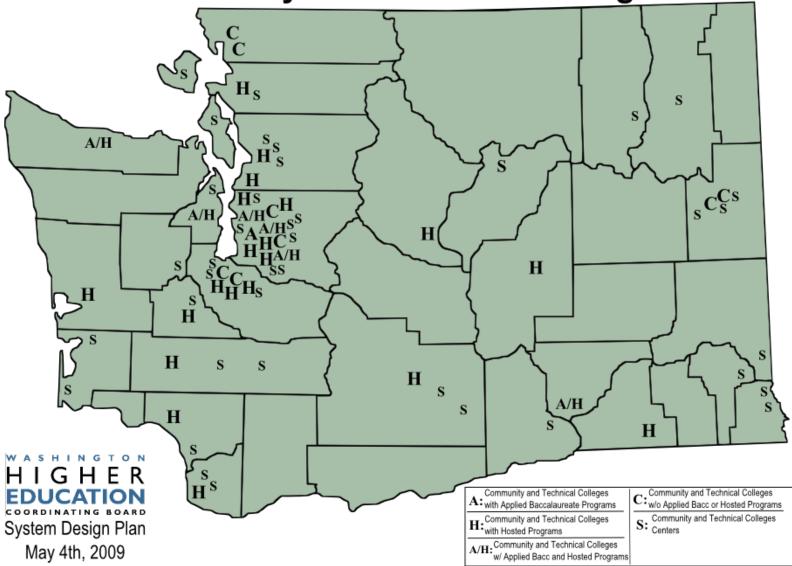




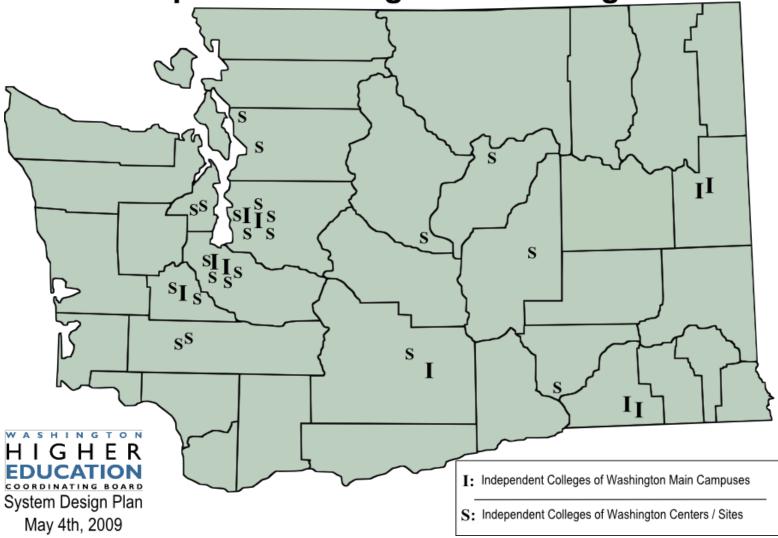
### Washington's Higher Education Institutions: Public 4-Year

Handout: Public Baccalaureate and Graduate Instructional Locations by Type

#### Washington's Higher Education Institutions Community and Technical Colleges



#### Washington's Higher Education Institutions Independent Colleges of Washington



• In 2007-08 ICW institutions accounted for 69% of the baccalaureate and higher degrees produced by Washington's private institutions. (Source: IPEDS)

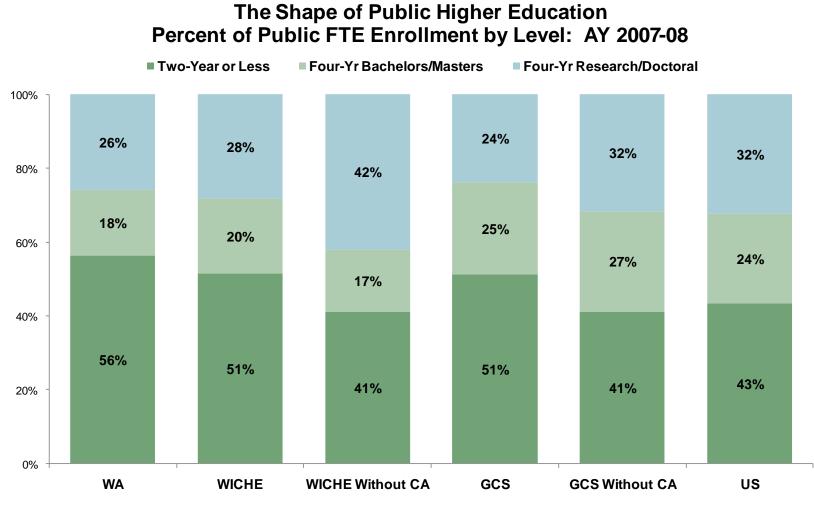


## The Shape of Washington Higher Education

- Washington's public institutions' enrollments indicate more of an "hour glass" shape compared to Washington Interstate Commission for Higher Education (WICHE) states, Global Challenge States (GCS), and the U.S. in total.
- The private institutions in Washington serve substantial enrollments at the undergraduate and master's level.
- Washington needs to expand undergraduate education even more to reach *Master Plan* goals for baccalaureate and graduate degree attainment.

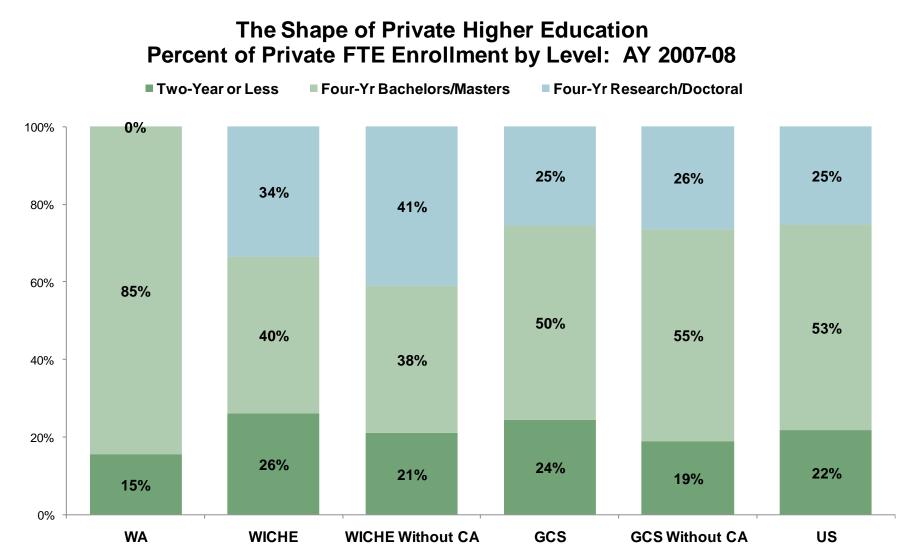


The shape of **public** higher education in Washington is similar to the shape of WICHE states in total, but differs from the Global Challenge States in total.



Source: NCES IPEDS data. HECB analysis. Stacked-bar percentages may add to more than 100% due to rounding.



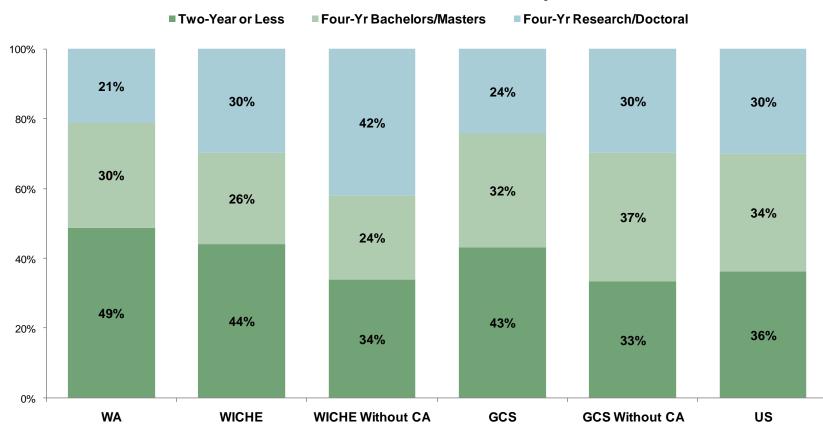


Source: NCES IPEDS data. HECB analysis. Stacked-bar percentages may add to more than 100% due to rounding.



The shape of public and private higher education in Washington compared to WICHE states in total, Global Challenge states in total, and the U.S. is larger at the 2-yearor-less sector and smaller at the research/doctoral sector.

The Shape of Higher Education Percent of Public & Private FTE Enrollment by Level: AY 2007-08



Source: NCES IPEDS data. HECB analysis. Stacked-bar percentages may add to more than 100% due to rounding.

## HIGHER EDUCATION

#### Relative Size of Public Institutions Based on State-Funded Full-time Equivalent (FTE) Student Enrollment

	Projected		Percent of Total	
	Annual Average	200809 Budgeted	2008-09 Budgeted	
Institution	2008-09 FTEs	FTEs	FTEs	
Public Four-Year Institutions				
University of Washington				
Seattle	35,341	34,067	14.5%	
Bothell	1,920	2,045	0.9%	
Tacoma	2,474	2,414	1.0%	
Washington State University				
Pullman/Spokane	20,198	19,272	8.2%	
Tri-Cities	957	865	0.4%	
Vancouver	2,161	2,113	0.9%	
Central Washington University	9,027	9,322	4.0%	
Eastern Washington University	9,317	9,184	3.9%	
The Evergreen State College	4,484	4,213	1.8%	
Western Washington University	12,401	12,175	5.2%	
TOTAL FOUR-YEAR FTE ENROLLMENT	98,280	95,670	40.7%	
Community and Technical College (CTC) System				
CTC, excluding programs listed below	NA	132,387	56.4%	
CTC Worker Retraining Total	NA	6,200	2.6%	
BAS/BSN Programs**	NA	160	0.1%	
TOTAL CTC FTE ENROLLMENT	146,557	138,747	59.1%	
Partnership Programs				
(in SBCTC budget and FTEs reported by Baccalaureate				
Institutions)	291	490	0.2%	
TOTAL STATE-FUNDED FTE ENROLLMENT	245,128	234,907	100.0%	

\*\*Baccalaureate programs (Bachelor of Applied Science, Bachelor of Science in Nursing) offered at Bellevue College, Peninsula College, Olympic College, and South Seattle Community College.

Data Source: WA OFM Winter 2009 Budget Driver Report. Retrieved from OFM website 4/10/09.

HECB correction in total Partnership Program Projected Annual Average FTEs.



## Size of Washington Higher Education: Degree Production

# Degree production must increase at all levels to meet the *Master Plan* Goals

#### **Degree Awards By Level** 2007-08 Annual Graduates and 2018 Degree Goal 23,580 Associate Degrees, Certificates, and Apprenticeship\*\* 36,200 29,524 **Bachelor's Degrees\*** 39.000 11.098 Graduate Degrees\* 19.800 2018 Goal 2007-08

Source: Associate Degrees and Certificate: SBCTC Academic Year Report; IPEDS; 2008 Stratigic Master Plan for Higher Education; Findings of the Economic Needs Assessment Worgroup

- \* Bachelor's and Graduate reflect the total number of degree awards, in rare cases an individual student may have multiple degree awards in the same year.
- \*\* Associate Degrees and Certificates 2007-08 awards include only public institutions.

- The Strategic Master Plan for Higher Education sets aggressive degree production goals to foster a vital economy in Washington and meet student needs.
- Degree production must increase at all levels to achieve these goals.
- Annual degree growth needed to reach SMP goal by 2018:

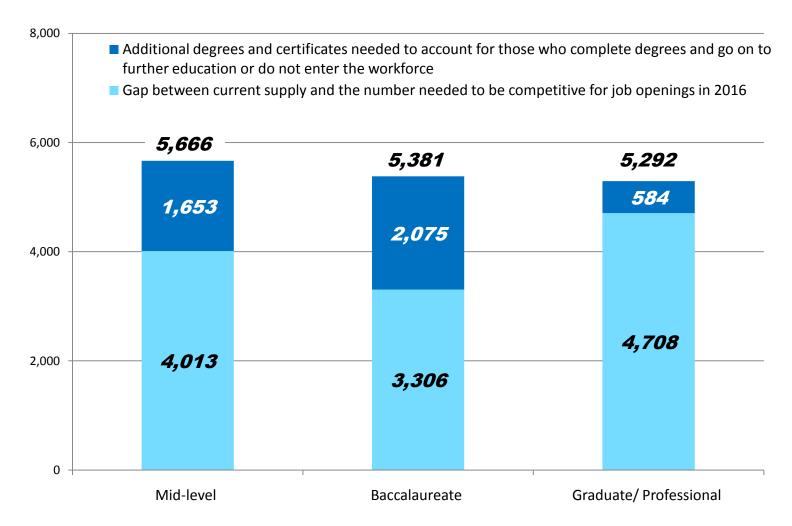
Mid-Level, 890 Bachelors, 950 Graduate, 870

#### We can increase degree production by capitalizing and improving on relatively high levels of productivity compared to other states.

Washington's <u>public</u> institutions rank:

- 1<sup>st</sup> in bachelor's degrees awarded per 100 undergraduate students, among U.S. states.
- 2<sup>nd</sup> in graduate degrees awarded per 100 graduate students
- 5<sup>th</sup> in overall undergraduate degree and certificate awards per 100 public undergraduate students.
- 3<sup>rd</sup> in the percent freshman completing a bachelor's degree within 150% of normal time.
- 12<sup>th</sup> in percent of community and technical college students completing degree or certificate within 150% of normal time.

### Degree Gaps by Education Level Mid-Level, Baccalaureate, Graduate

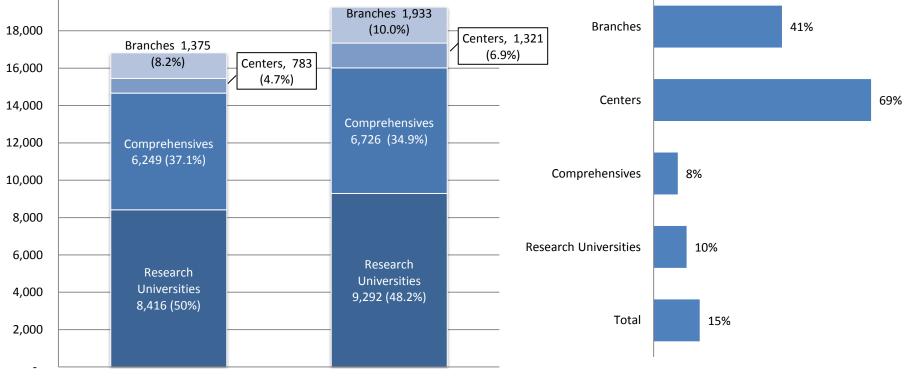


Source: HECB, SBCTC, WTECB Joint Analysis. "A Skilled and Educated Workforce " 2009 update forthcoming.

#### Public degree production has grown rapidly at centers, branch campuses, and other off-campus locations. Is this a place for continued future growth?

Baccalaureate Degrees By Location type Public Institutions 2000-01 and 2005-06

Baccalaureate Growth by Location Type, 2000-01 - 2005-06



2000-01

2005-06

Source: 2000-01 - SBCTC Role of Transfer in the Bachelor's Degree (http://www.sbctc.edu/college/d\_transfer.aspx); 2005-06 - PCHEES 2005-06 Outcome Data.

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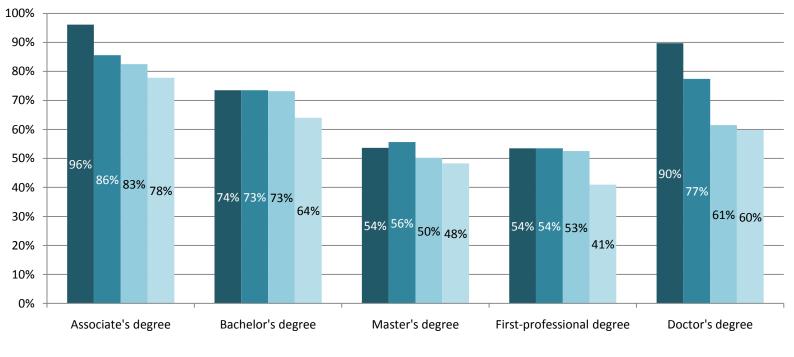
Note: "Centers" includes programs offered by all public baccalaureate institutions at

various off-site locations and includes WSU distance learning enrollments.

"Comprehensives" includes the Regional Universities and TESC

20,000

#### Percentage of Total Degrees Awarded in 2006-07 by Public Institutions

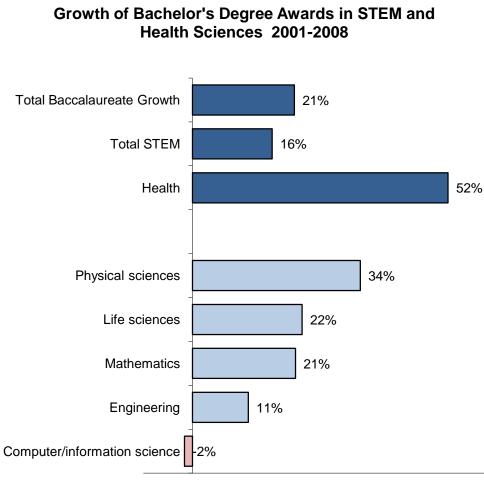


Washington CC Median GCS Median United States

Note: GCS are 8 Global Challenge States. CC are 13 states with a large percentage of college enrollment at public 2-year institutions. Source : NCES *Digest of Education Statistics, 2008*.

- In comparison to the nation, to states with developed community college systems, and to GCS states, Washington is more reliant on its public institutions to produce Associate's and Doctor's degrees.
- Overall, private institutions provide a higher proportion of the state's Master's and First-professional degrees, than their share of degrees at other levels.

# Bachelor's degree production in health has outpaced overall baccalaureate growth. STEM has lagged behind.



	2001-02 Degrees	2007-08 Degrees	
Total Baccalaureate	24,457	29,524	
Total STEM Degrees % of all Degrees	4,192 17.1%	4,870 16.5%	
Health	1,438 5.9%	2,185 7.4%	
Physical Sciences	431 1.8%	578 2.0%	
Life Sciences	1,530 6.3%	1,871 6.3%	
Mathematics	258 1.1%	312 1.1%	
Engineering	1,297 5.3%	1,444 4.9%	
Computer Science	676 2.8%	665 2.3%	

Source: IPEDS



# What associate degrees and certificates have we produced?

Community and Technical College 2007-08 Graduates by Level and Area of Study\*

	Technical Associate	Academic Associate
	Degrees and Certificates	degrees
Business/Management & Marketing	2,541	709
Computer/Information Technology	783	-
Education	339	23
Engineering & Engineering Tech	525	275
Health	5,026	54
Liberal Arts & Humanities	-	9,752
Life Sciences	11	85
Mathematics	-	1
Ag, Nat Resources, Communications, Legal studies	144	-
Physical Sciences	-	86
Social/Behavioral Sciences	214	-
Public Safety, Archit., Manufacturing, and Transportation	3,012	-
Total	12,595	10,985

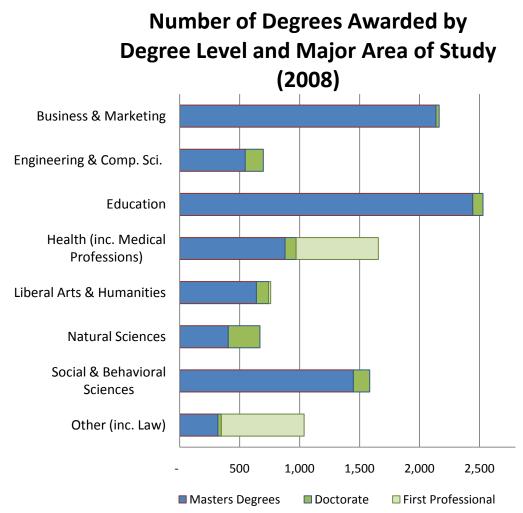
Source: SBCTC Academic Year Report; Community and Technical College Graduates exclude 1,000 international student graduates



## What bachelor's, graduate and professional degrees have we produced?

2007-08 Graduates by Level and Area of Study (includes public and private institutions)						
	Bachelor's Degrees	Masters Degrees	Doctorate	First Professional		
Business/Management & Marketing	5,392	2,137	26	-		
Computer/Information Technology	665	191	31	-		
Education	1,450	2,444	85	-		
Engineering & Engineering Tech	1,444	356	120	-		
Health	2,185	879	92	685		
Liberal Arts & Humanities	7,359	640	101	18		
Life Sciences	1,871	206	157	-		
Mathematics	312	82	25	-		
Ag, Nat Resources, Communications, Legal						
Studies	2,443	304	24	690		
Physical Sciences	578	117	83	-		
Social/Behavioral Sciences	5,383	1,449	136	-		
Public Safety, Archit., Manufacturing, and						
Transportation	442	15	5	-		
Total	29,524	8,820	885	1,393		
Source: IPEDS						

## Washington's Graduate Degree Awards



- Washington produced 11,098 graduate degrees in 2008.
- Not surprisingly, Master's Degree production is by far the highest among graduate degree types. Business, Education, Health, and Social Sciences are the most common major areas of study.
- Most doctoral degrees are in Natural Sciences, Engineering and Computer Science, and Social & Behavioral Sciences.
- First Professional degrees are almost exclusively in Law and Medicine.

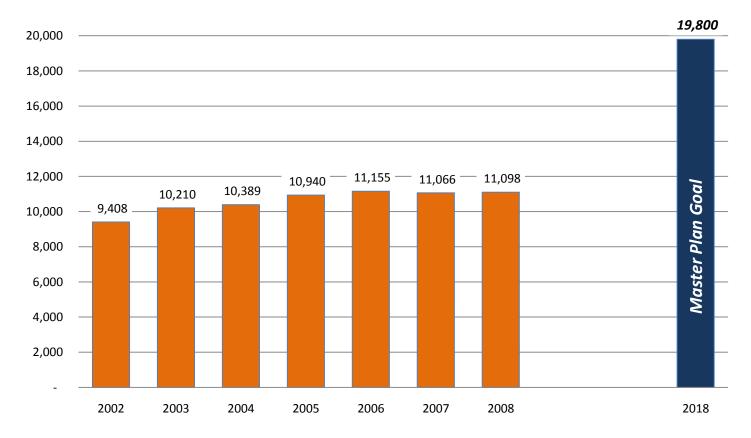
Source: IPEDS 2007-08 degree data.

Other includes: Legal Studies, Communications, Agriculture, Natural Resouces, Public Safety, Architecture, Manufacturing & Transportation.

#### To reach the *Master Plan* goal, graduate degree production needs to increase an average of 870 degrees each year until 2018 – a 6% annual increase.

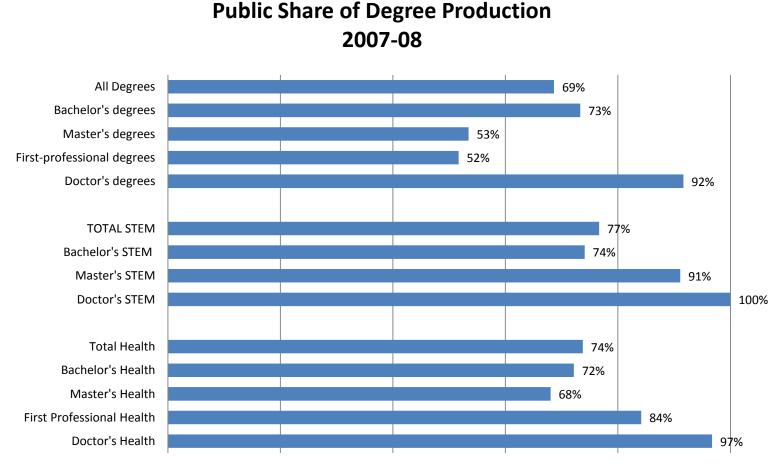
**Graduate Degrees Awarded in Washington** 

Includes Public and Private Institutions Reporting Degrees Awarded in Washington.



Sources: IPEDS, 2008 Master Plan for Higher Edcuation in Washington

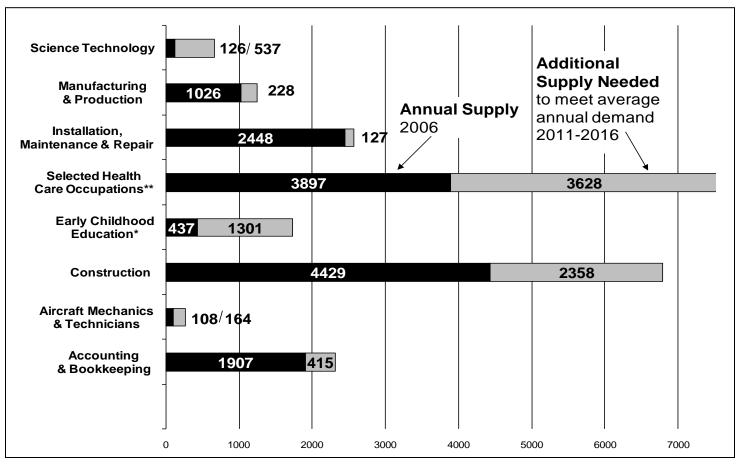
#### At the graduate and professional degree level, STEM and health fields rely heavily on public sector graduates.



Source: IPEDS 2007-08 Degree Awards for Washington State

# Job openings exceed the number of prepared workers in number of fields.

#### High Demand Programs of Study and Supply Gaps at the Mid-Level



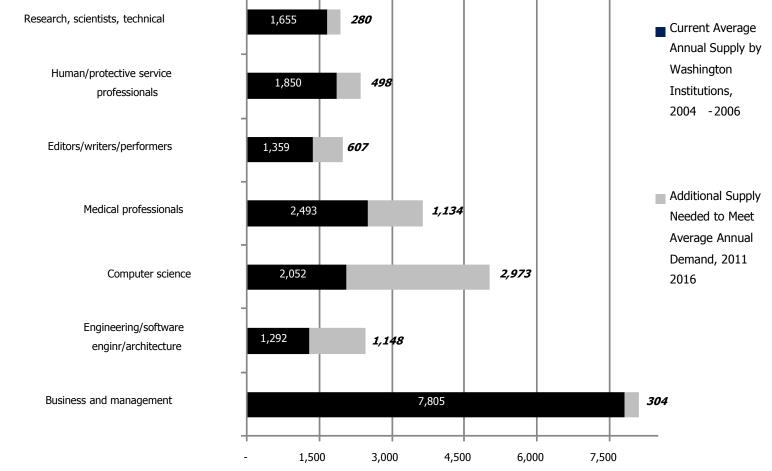
\*Data from 2007 analysis of Health Care Occupations

\*\*Calculation of additional supply needed derived from 2009-2014 workforce gap analysis forecast

**Source:** WTECB 2009 Major Occupation Group Supply and Demand Analysis

# Job openings exceed the number of prepared graduates in a number of fields.

High Employer Demand Programs and Supply Gaps at the Baccalaureate and above

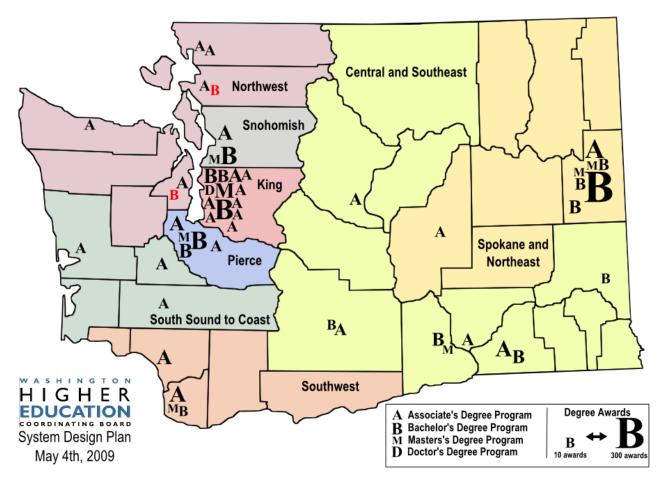


Source: Openings: Washington ESD June 2008 Long Term Employment Forecast

Supply : HECB Analysis of IPEDS data. Current supply is a three year annual average of degree awards, 2006

adjusted for entry into the labor market.

#### **High Demand Nursing Programs**



There are no initial service BSN or graduate nursing programs in the Northwest or South Sound regions of the state, or in the central counties of the state.

> Source: Higher Education Coordinating Board from primarily IPEDS data for 2006-07.

#### **On-Line Programs Approved in Washington for In-State Marketing and Recruitment**

April 2009

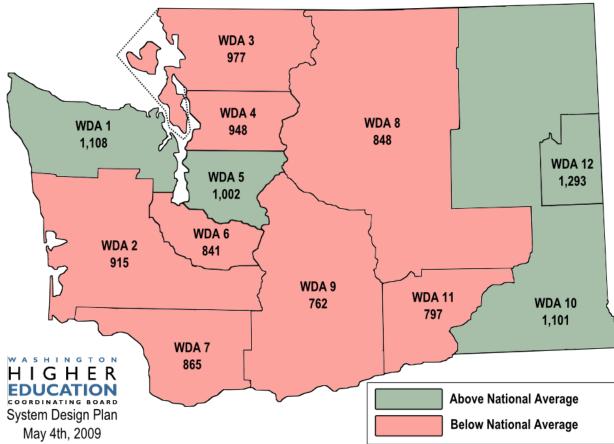
Field of Study	Bacclaureate	Masters	Doctorate/ Professional
Nursing	Old Dominion University (VA)	Old Dominion University (VA)	
	University of Phoenix (AZ)	University of Phoenix (AZ)	
	Washington State University (WA)	Walden University (MD)	
		Washington State University (WA)	

Note: Washington students may receive on-line degrees from other institutions who have not applied for authorization to market or recruit in this state. Information on the number of degrees conferred to Washington residents by field of study is not available.

Source: Washington Higher Education Coordinating Board

### **Access to Nursing Care in Washington**



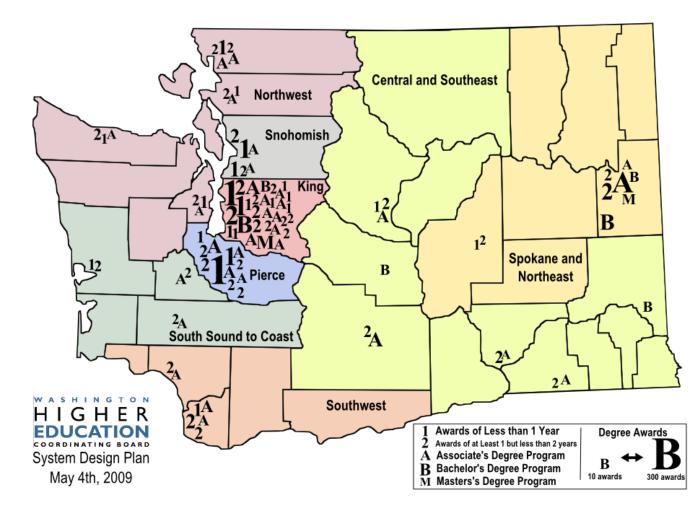


### RN's with Active Licenses per 100,000 Population

Washington (2008) 962 U.S. (2004) 991

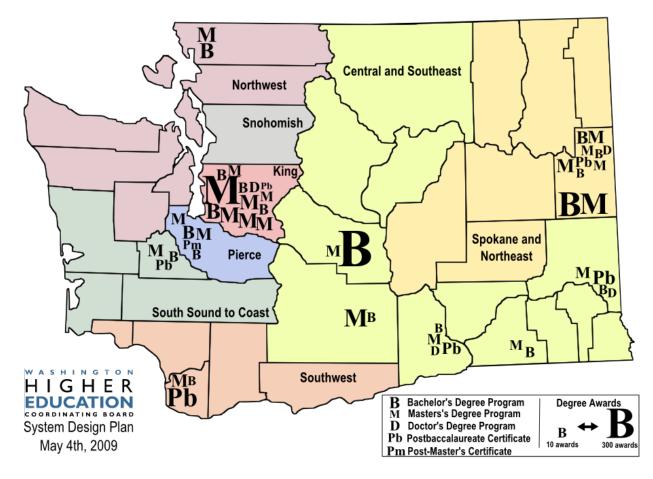
- In 8 of 12 regions, the concentration of RN's is below the national average.
- Access to nursing care is lowest in the south central areas of the state.

#### **Allied Health Programs**



- Allied Health programs at the BA level and above is almost entirely limited to the Spokane-Pullman and Seattle areas.
- Mid-level degree and certificate programs are widely distributed.

#### **Teacher Education Programs**



#### On-Line Programs Approved in Washington for In-State Marketing and Recruitment

**Field of Study** Bacclaureate Masters Doctorate/Professional Teacher Education Argosy University (IL) Argosy University (IL) Capella University (MN) Nova Southeastern Univ. (FL) Grand Canyon University (AZ) Old Dominion University (VA) Lesley University (MA) University of Phoenix (AZ) University of Phoenix (AZ) Walden University (MD) Walden University (MD)

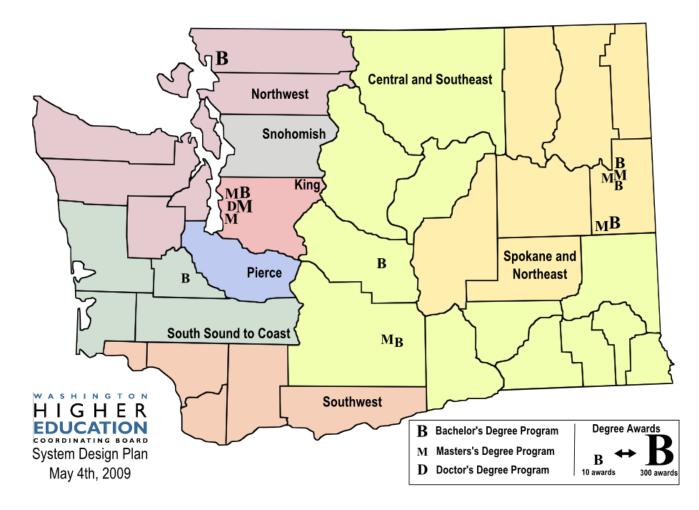
Note: Washington students may receive on-line degrees from other institutions who have not applied for authorization to market or recruit in this state. Information on the number of degrees conferred to Washington residents by field of study is not available.

Source: Washington Higher Education Coordinating Board

- Teacher education
  programs are
  distributed
  throughout the
  state at the
  Bachelor's and
  Master's levels.
- Doctoral programs are found in the Seattle, Spokane, Pullman, and Tri-Cities areas.

Source: Higher Education Coordinating Board from primarily IPEDS data for 2006-07.

#### **Special Education and Teaching Programs**



#### On-Line Programs Approved in Washington for In-State Marketing and Recruitment

Field of Study	Bacclaureate	Masters	Doctorate/Professional
Special Education		Grand Canyon University (AZ)	Nova Southeastern Univ. (FL)
		Lesley University (MA)	
		University of Phoenix (AZ)	

Note: Washington students may receive on-line degrees from other institutions who have not applied for authorization to market or recruit in this state. Information on the number of degrees conferred to Washington residents by field of study is not available.

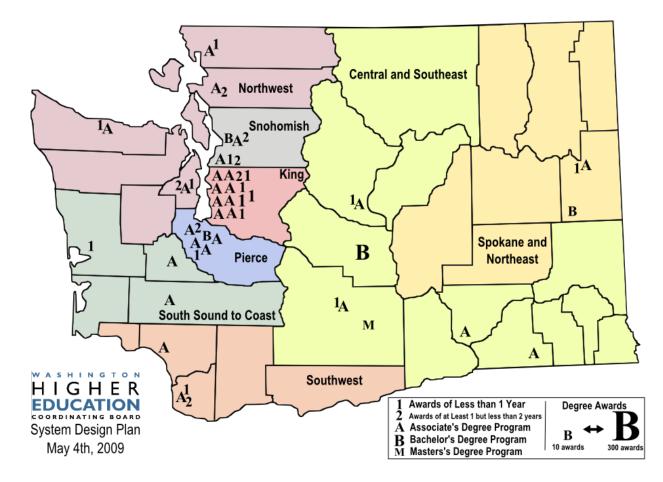
There are no special education programs available in the Snohomish, Pierce, or Southwest regions or in the Pullman or Tri-Cities areas.

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 The only doctoral program in Washington is in the Seattle area.

Source: Higher Education Coordinating Board from primarily IPEDS data for 2006-07.

#### **Early Childhood Education Programs**



On-Line Programs Approved in Washington for In-State Marketing and Recruitment

Field of Study	Bacclaureate	Masters	Doctorate/Professional
Early Childhood Education	Chapman Univ. College (MO)	Lesley University (MA)	
		University of Phoenix (AZ)	

Note: Washington students may receive on-line degrees from other institutions who have not applied for authorization to market or recruit in this state. Information on the number of degrees conferred to Washington residents by field of study is not available.

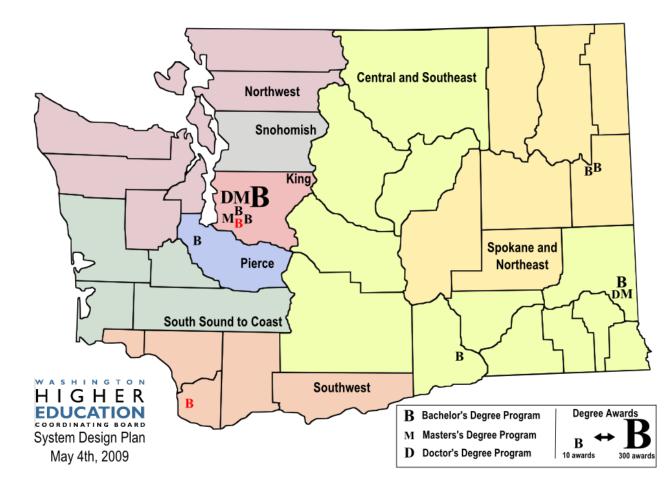
ECE capacity beyond the Associate Degree level is limited to the Spokane, Pierce, and Snohomish regions, and the central part of the state.

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 Heritage University has the only graduate level program in Washington.

Source: Higher Education Coordinating Board from primarily IPEDS data for 2006-07.

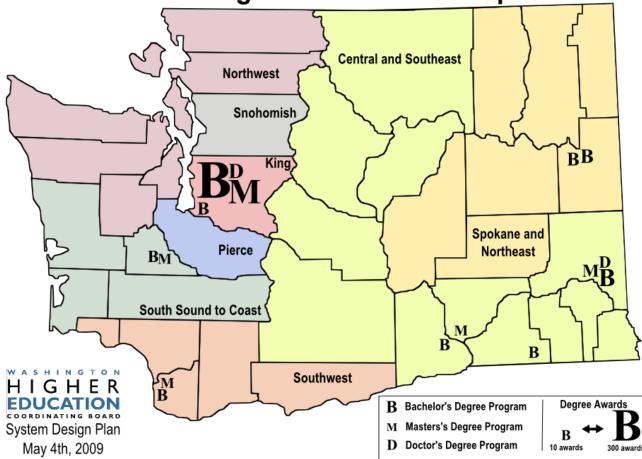
#### **Electrical and Computer Engineering Programs**



- Electrical and computer engineering is highly concentrated in the King region.
- There is some capacity in Pierce, Spokane, Pullman, Tri-Cities and, recently, Vancouver (not shown).
- There are no programs in the Northwest, Snohomish or South Sound regions.

Source: Higher Education Coordinating Board from primarily IPEDS data for 2006-07.

#### All Other Engineering Programs Not Including Electrical and Computer



- Engineering capacity for all other engineering disciplines is focused at WSU and UW-Seattle.
- There is no capacity in the Snohomish, Pierce or Northwest regions of the state, or the central area.

Source: Higher Education Coordinating Board from primarily IPEDS data for 2006-07.



## An Option to Increase Degree Production in High Demand Areas:

Transfer Pathways for Technical Associate Degree Graduates



### Challenge

• Only portions of the AAS-T apply to a baccalaureate degree.

### Solution

- Universities and colleges created specific baccalaureate pathways for AAS-T graduates.
- These degrees are often referred to as Bachelor of Applied Science (BAS) degrees. However, in many cases other degree designation may apply (e.g. BA, BS, BSN).



### **BAS-type degrees in Washington**

• BAS - Public Baccalaureates

– CWU, EWU, WSU, UWB, UWT

• BAS - Private Baccalaureates

– PLU, City U, U of Phoenix, DeVry U

- Upside Down Degrees
  - Focus on liberal arts in junior and senior year
  - Evergreen, SPU, Whitworth
- BAS Community and Technical Colleges
  - 2007: Bellevue, Olympic , Peninsula, South Seattle
  - 2009: Columbia Basin, Lake Washington, Seattle Central

Transfer Pathways for Technical Associate Degree Graduates Options in Washington				
Category	College/University	Degree	Area	
BAS Public	CWU	BAS	Information Technology/Administrative Management	
	CWU	BAS	Food Service Management	
	CWU	BAS	Health and Safety Management	
	CWU	BAS	Industrial Technology	
	EWU	BS	Applied Technology	
	EWU	BS	Dental Hygiene	
	EWU	BA	Children's Studies, Early Childhood Education Option	
	WSU	BS	Nursing – RN degree completion	
	WSU	BA	Interior Design	
	WSU	BA	Human Development	
	UW Bothell	BS	Nursing – RN degree completion	
	UW Tacoma	BS	Nursing – RN degree completion	
BAS Private	City U	BBA	Business	
	DeVry U	BSTM	Technical Management	
	PLU	BS	Nursing – for LPN and RN	
	U of Phoenix	BSM	Management	
Upside-Down	Evergreen	BA/BS	Various	
	SPU	BA/BS	Professional Studies	
	Whitworth	BLS	Program Management, Chemical Dependency, Social Services, Humanities	
BAS – CTC 2007	Bellevue	BAS	Radiation and Imaging Sciences	
	Olympic	BS	Nursing – ADN to BSN	
	Peninsula	BAS	Applied Management	
	South Seattle	BAS	Hospitality Management	
BAS – CTC 2009	Columbia Basin	BAS	Applied Management	
	Lake Washington	BTech	Applied Design	
	Seattle Central	BAS	Applied Behavioral Science	



# **Afternoon Discussion Session**

Getting to "What Could Be?"



# "Take-aways" from this morning's "environmental scan"





# Guiding Questions from the Work Plan

- Where are students currently being served, including educational centers, regional, and main campuses and alternative delivery systems for these existing structures?
- How and where should graduate and undergraduate degree and certificate programs throughout Washington be developed?
- What is the appropriate size and mix of programs, including those delivered via technology, to address Washington's need for an educated workforce?
- Where should these programs be developed to reach all areas of demand—urban/suburban/rural?
- What are the rational rules for growth in the concept of "expand on demand," that is, the demonstrated points at which students' demand for higher education warrants expansion, contraction, or elimination?