

## *High Demand Enrollment*

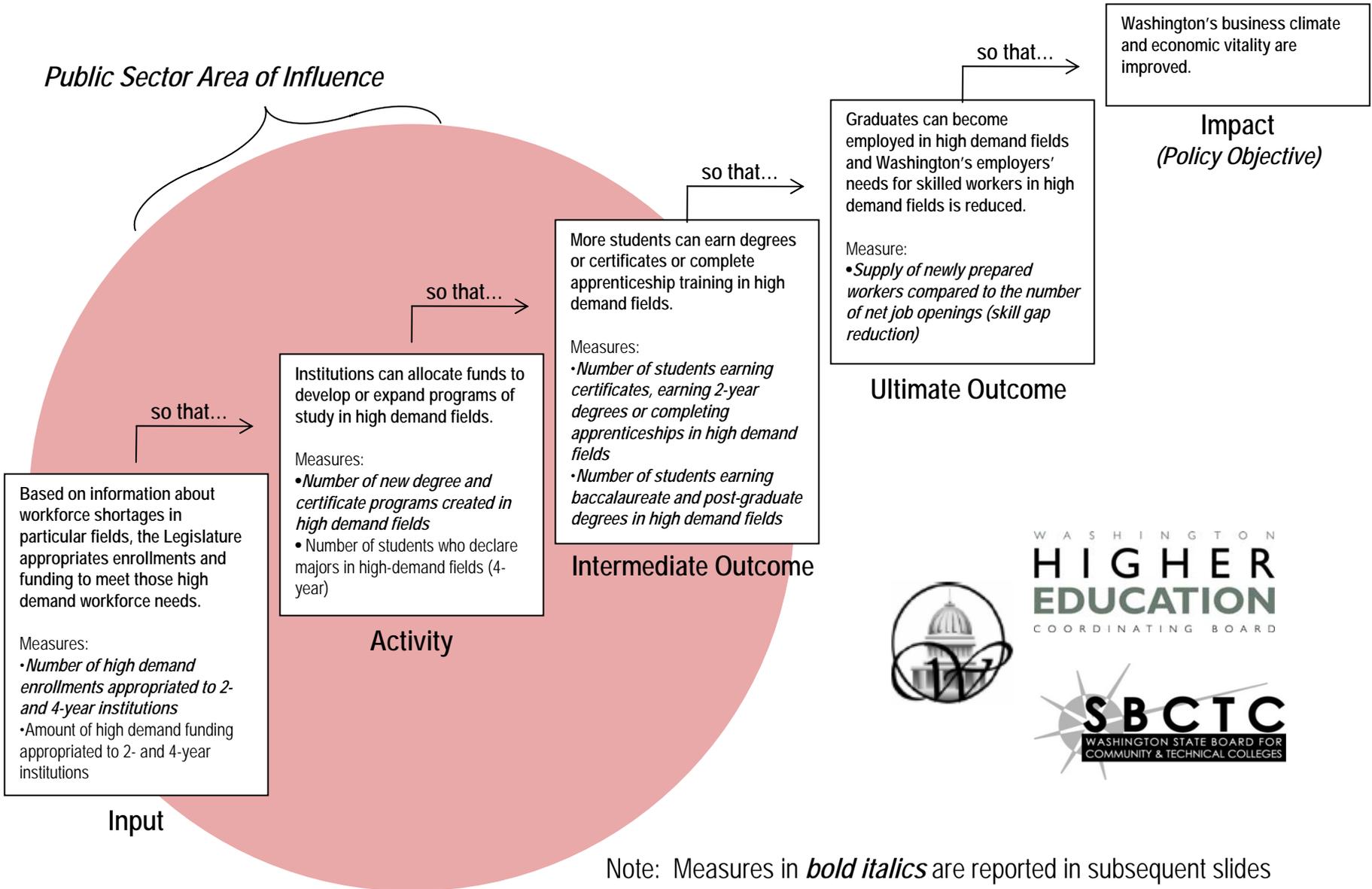


WASHINGTON  
**HIGHER  
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COORDINATING BOARD



*March 26, 2008*

# Logic Model for Meeting High Demand Workforce Needs by Higher Education in Washington



# Occupations with Supply Gaps Requiring a Baccalaureate or Graduate/Professional Degree

## Baccalaureate or Higher Analysis:

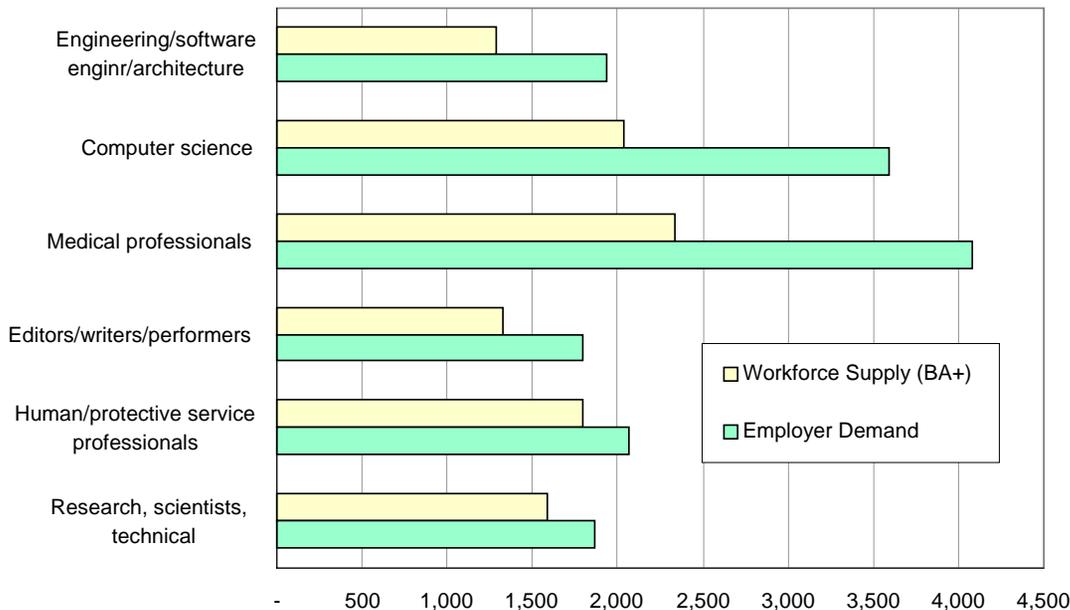
Current degree production meets only 67 percent of the expected annual job openings from 2009-14 in engineering, 56 percent in computer science, and 65 percent in the medical professions.

More moderate shortages are expected in editing, writing, and performing occupations, human and protective services, and research, scientists, and technical occupations.

Aggregate demand is expected to be met or exceeded for educators, business and management occupations, administrative, clerical, and legal occupations, agriculture, construction, production, and transportation occupations, and sales and service occupations. However, shortages within each of these categories may still exist, such as for math and science teachers.

### Education Supply and Demand

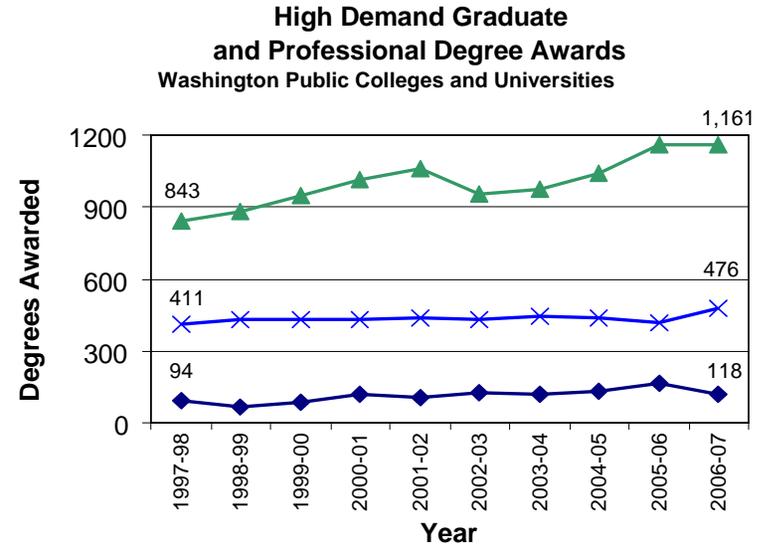
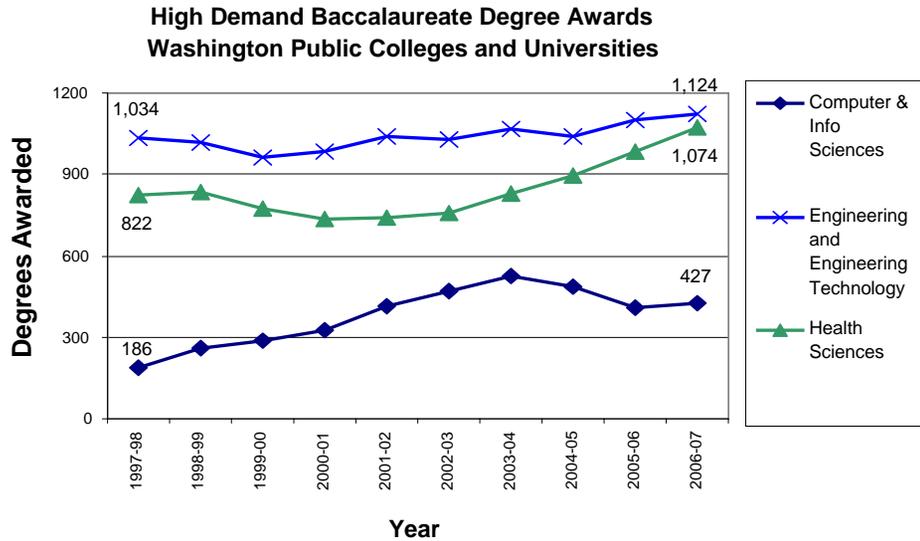
Graduates with BA or higher (2006) vs. Expected Job Openings (2009-14)



**Data Source:** Joint analysis of the WTECB, SBCTC and HECB. Chart shows current resources and future demand by comparing graduates expected to enter indicated occupational fields with expected average annual openings in 2009-2014.

# High Demand Degree Production Growth

## Public Four-Year Institutions, High Demand Program Areas



### Analysis

**Baccalaureate:** Degree production in health sciences have increased 45 percent since 2001-02 and reached a high last year (for the 10-year study period). In other fields, degree production growth has been more moderate.

**Graduate/Professional:** There is a slight upward trend in health sciences degree production. Degree production in other fields appears less effected by enrollment investments, as of 2006-07. Graduate/Professional investments began in FY04.

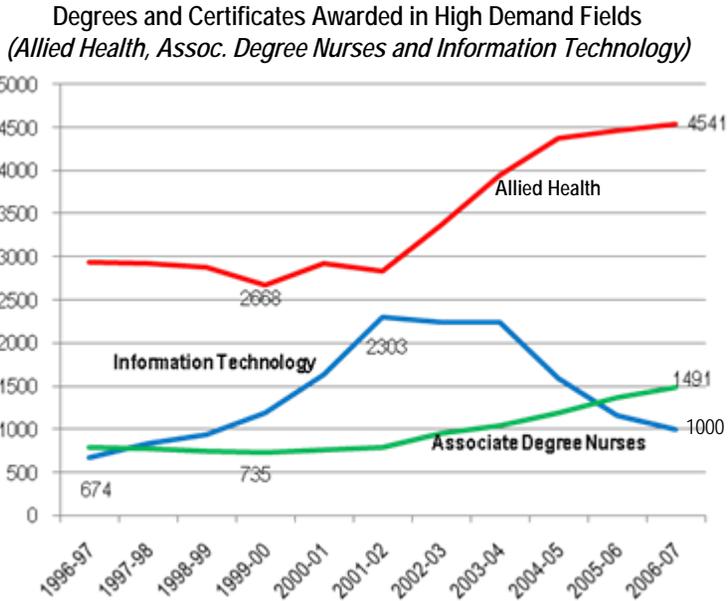
**General Analysis:** Degree production must increase more rapidly to narrow the supply-demand gap. Funding for high demand enrollment growth has recently increased substantially, but it will take several more years to see an impact on degree production.



Data Source: NCES IPEDS data from OFM-generated tables.

Note: The Evergreen State College is not included in the Baccalaureate totals. High demand fields were identified by HECB.

# Community And Technical Colleges Have Responded To Employers' Needs For Graduates In High Demand Fields



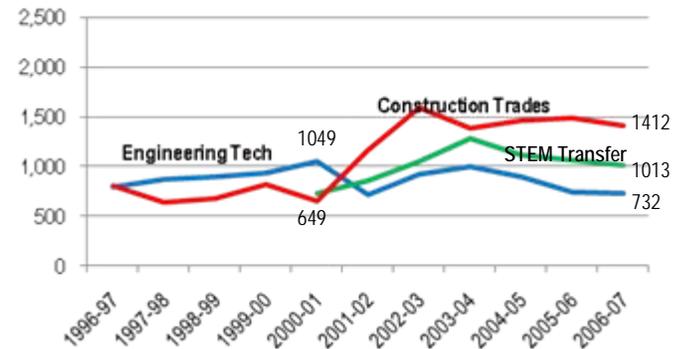
## Analysis:

- Allied Health graduates show the highest growth overall, at over 70% from FY 2000 to FY 2007, and continue to increase, particularly in nursing.
- Associate Degree Nursing graduates have more than doubled since FY 2000.
- Information Technology graduates declined following the dot com bust in the early part of the decade.
- The increasing use of technology in the workplace is projected to lead to faster than average growth in IT in the future, according to the Bureau of Labor Statistics, so IT graduates should begin to increase.
- Declining enrollments through 2004 caused STEM transfer graduates to decline slightly in recent years.
- A stronger economy and declining Worker Retraining enrollments have affected engineering tech graduates slightly.

Since the late 1990's, Workforce Supply/Demand Gaps have driven funding to increase enrollments in high demand fields:

- SBCTC received first appropriated high demand funding in 2000.
- In addition, SBCTC has reallocated additional funds to high demand fields, to meet employers' needs.
- Colleges also redistributed discretionary funding to support high demand programs and have launched new programs as needed to provide additional graduates in high demand fields.

Degrees and Certificates Awarded in High Demand Fields  
(Engineering, Transfer and Construction)



## Future Supply/Demand Gaps:

- WTECB analysis shows expected supply of graduates to be less than 50% of expected job openings in the future (through 2014) for the following jobs:
  - Accounting Technicians
  - Aircraft Mechanics and Technicians
  - Registered Nurses
  - Educators and Trainers (primarily Early Childhood Education)
  - Biology Technicians

## **Economic Vitality GMAP Forum March 26, 2008**

### **Background Slides**

# New Program Approvals at 4-Year Institutions In STEM and Health Science Fields of Study

New Science, Technology, Engineering, Math and Health Sciences Degree Programs Approved by HECB, 2003-2007

Year	Inst.	Deg.	Title
<b>2007</b>			
	UW	MS	Biomedical Regulatory Affairs
	UW	Ph.D.	Earth and Space Science
	UW-B	BA	Applied Computing
	WSU	Ph.D.	Nursing
<b>2006</b>			
	BCC	BAS	Radiation and Imaging Science
	OC	BS	Nursing
	UW	DNP	Doctor of Nursing Practice
	UW	Ph.D.	Rehabilitation Science
	UW-T	BA	Computing and Software Systems
	UW-T	BS	Computer Engineering & Systems
<b>2005</b>			
	CWU	BAS	Information Technology and Administrative Management
	WSU	BAS	Informatics
<b>2004</b>			
	CWU	BAS	Industrial Technology
	EWU	BS	Electrical Engineering
	EWU	MOT	Master of Occupational Therapy
	UW	BFA	Digital Arts & Experimental Media
	WSU	BS	Exercise Physiology and Metabolism
	WSU	MS	Computer Engineering
	WSU	Au.D.	Doctor of Audiology
<b>2003</b>			
	CWU	BS	Environmental Geological Sciences
	UW	Au.D.	Doctor of Audiology
	UW	Ph.D.	Digital Arts and Experimental Media
	UW	DPT	Physical Therapy
	UW	Ph.D.	Biomedical and Health Informatics
	UW-B	MS	Computing and Software Systems

## Comparison of New STEM/Health Sciences Programs with All Newly Approved Programs

Year	Number of New STEM/Health Programs	Number of All New Programs	STEM/Health Percentage
2007	4	10	40%
2006	6	16	38%
2005	2	5	40%
2004	7	14	50%
2003	6	15	40%
2002	9	16	56%
2001	7	13	54%
2000	9	20	45%
<b>TOTALS</b>	<b>50</b>	<b>109</b>	<b>46%</b>

### Analysis:

Since 2000, nearly half of all new program created by the public 4-year institutions have been in STEM or Health Sciences fields.

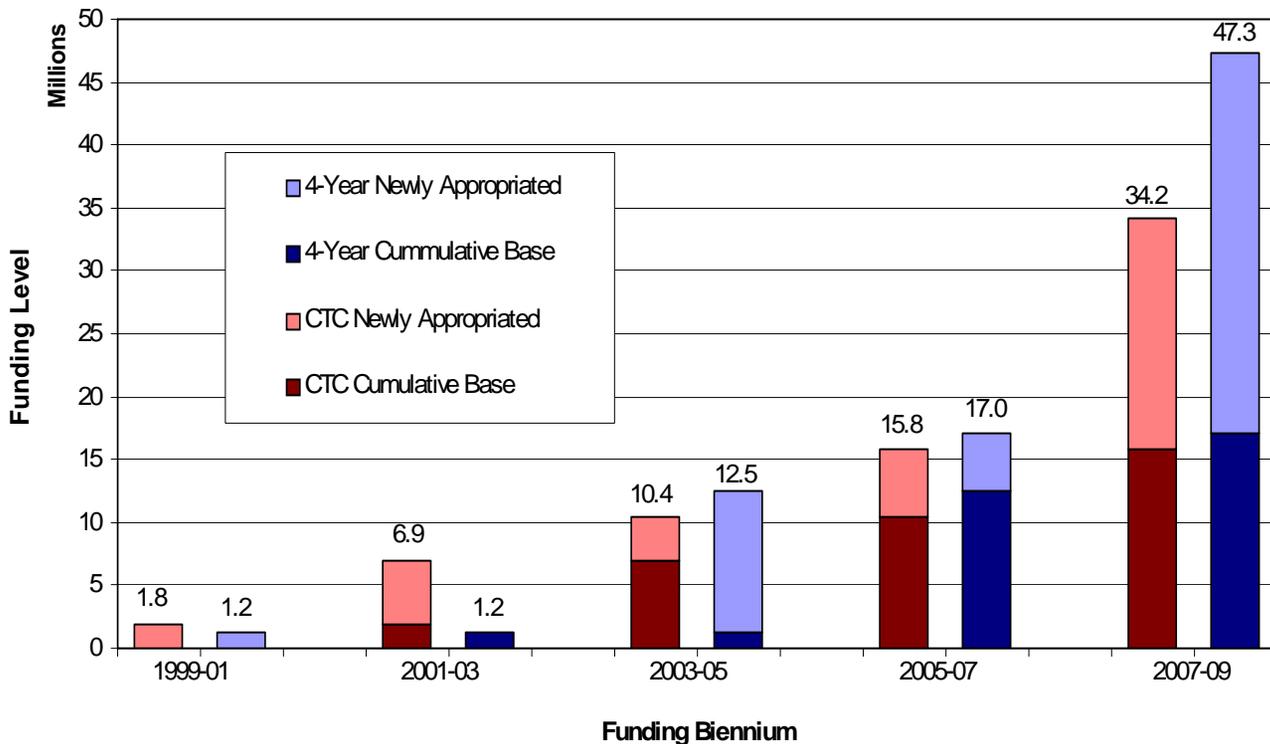
About three-fourths of all new STEM/health sciences programs created since 2000 have been in information technology or health sciences, the rest in science, mathematics, and engineering.

Most of these new programs have been supported primarily by the reallocation of institutional resources, and secondarily by high demand enrollment funds.

# High Demand Program Expansion Funding

## State Investments in Program Expansion

**State Funding to Expand Enrollments in High Demand Fields of Study**



### Funding Analysis:

High demand enrollment funding is added to the institution's base funding once it is allocated.

Cumulative previous and new funding reached a total of \$81.5 million in the current biennium.

Since 2000, SBCTC has also used \$5.4 million in non-provisoed funds to support curriculum development and other activities targeting high demand fields of study.

Funding levels for high demand enrollments have fluctuated at four-year institutions since 2000, based on appropriations. In some years no funds were available for program expansion.