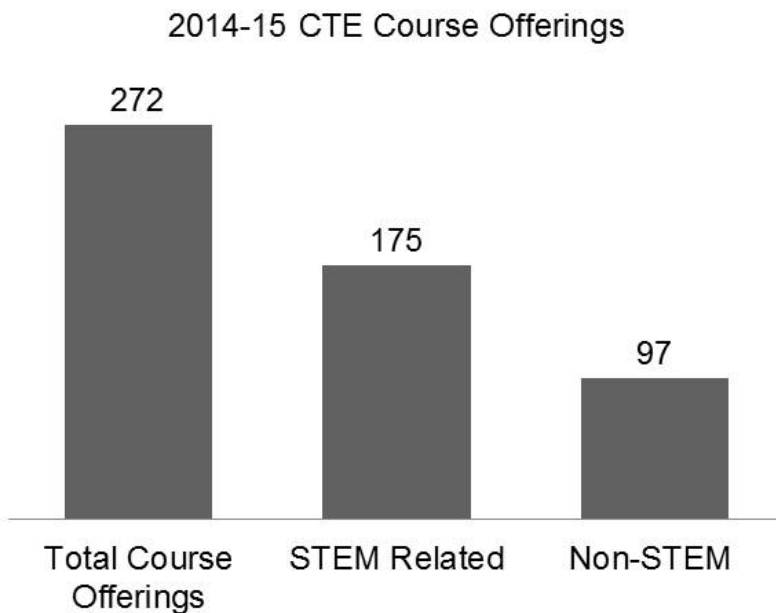Supplemental Report: 1.2.f. Increase project-based, career, workplace, community learning opportunities that provide STEM and 21st century skills with career and technical education (CTE)

1.2.f Increase project-based, career, workplace, community learning opportunities

Background: Increase learning opportunities that provide STEM and 21st century skills with Career and Technical Education (CTE)

- Provides academic enrichment

- Offers students a broad array of services and employment options within their local community and globally

- Offers work-based learning opportunities to students by extending learning into the employment

- Articulation agreements with community and technical colleges yield high graduation and employment rates

Current State: 64% of courses offered emphasize STEM concepts

2014-15 CTE Course Offerings

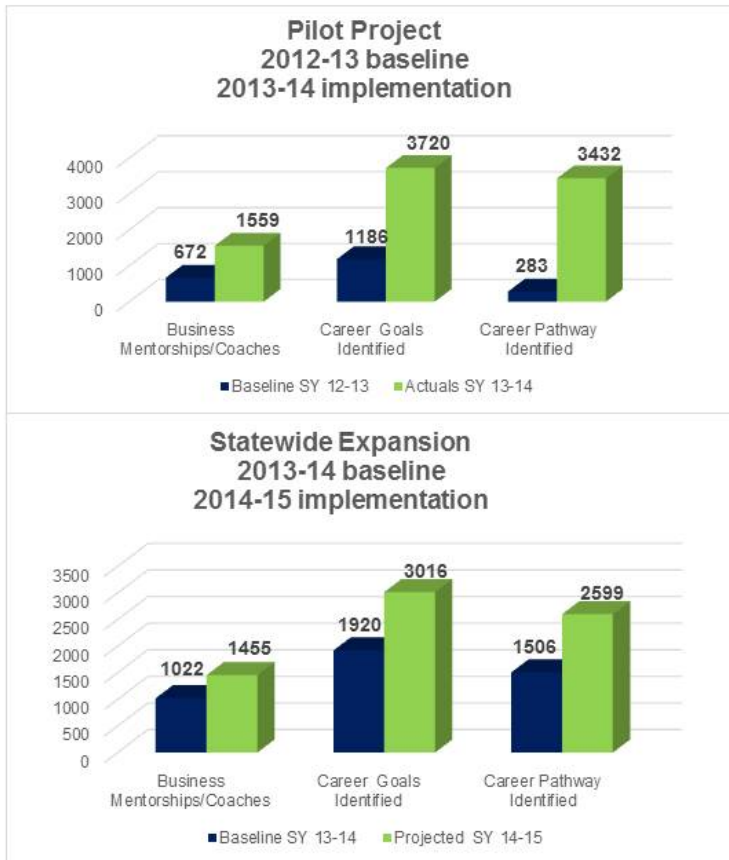|	
272	Total Course Offerings
175	STEM Related
97	Non-STEM

- 272 unique CTE courses
  - STEM courses - Science, Technology, Engineering, or Mathematics
  - Non-STEM courses – other academic learning standards (English Language Arts, Health, Art, Social Studies, etc.)
- 2014-15 data:
  - 64% (175 courses) STEM
  - 36% (97 courses) non-STEM
- 2015-16 goal:
  - Increase number of course offerings
  - 70% STEM
  - 30% non-STEM

Strategies

Need	Program
Partner with the workforce system	YouthWorks
Develop and implement CTE course equivalency programs that meet academic requirements	CTE course equivalencies
Keeps students in school & graduate with a diploma	Job for Washington Graduates
Provide project-based STEM opportunities for middle school youth	Middle School STEM
Provide dual credit opportunities	TechPrep Articulations

YouthWorks

Pilot Project
2012-13 baseline
2013-14 implementation

Category	Baseline SY 12-13	Actuals SY 13-14
Business Mentorships/Coaches	672	1559
Career Goals Identified	1186	3720
Career Pathway Identified	283	3432

Statewide Expansion
2013-14 baseline
2014-15 implementation

Category	Baseline SY 13-14	Projected SY 14-15
Business Mentorships/Coaches	1022	1455
Career Goals Identified	1920	3016
Career Pathway Identified	1506	2599

- Employment Security and OSPI partnership
- Mentorships, internships or other work-based learning activities with local businesses
- Pilot project in Renton, Spokane, Evergreen (Vancouver), Wenatchee, Yelm in 2012-13
- Statewide expansion in 2013-14
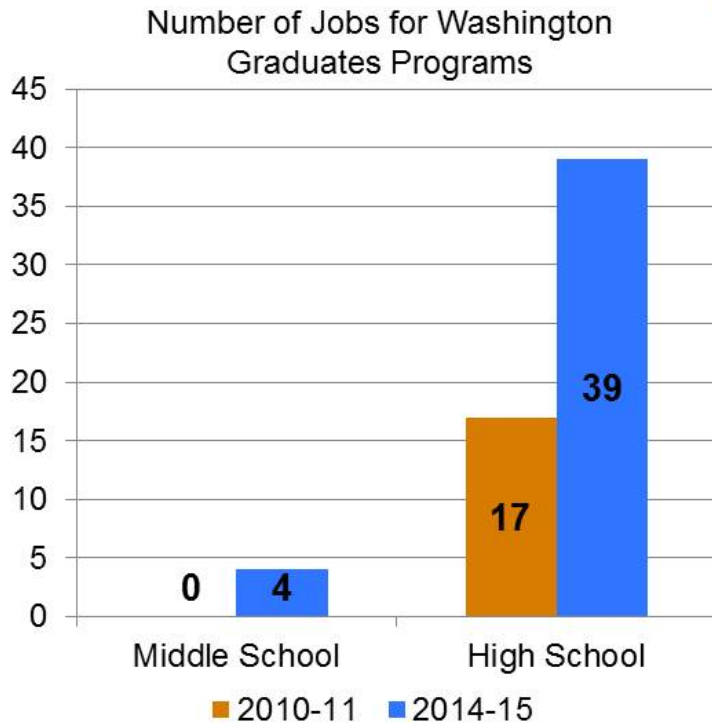- Increased funding through WIA funding

CTE course equivalencies

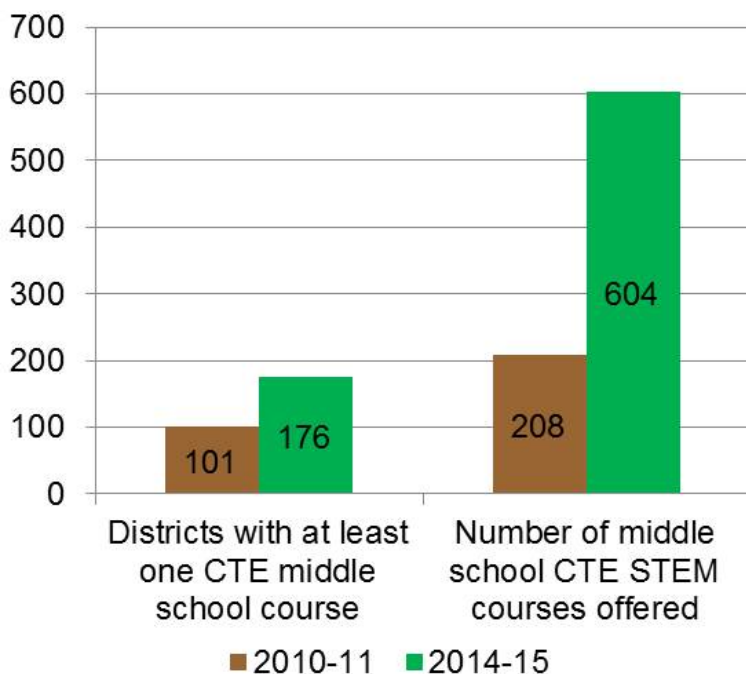| Size of District*	Total Districts	Math Courses	Science Courses
1-2,500	155	45	58
2,500-5,000	38	21	27
5,000-7,500	16	7	16
7,500-10,000	11	5	9
10,000-12,500	5	4	4
12,500-15,000	6	6	5
15,000-17,500	3	2	3
17,500-20,000	6	5	4
20,000-22,500	3	2	3
22,500-25,000	2	1	1
25,000-27,500	2	2	2
27,500+	3	2	3
Total	**250**	**102**	**135**

*Excludes K-8 districts

- Need to develop and implement CTE course equivalency programs that meet academic requirements
- Local school districts follow own course equivalency approval procedures
- Process provides options for students to earn academic credit through CTE in an applied, hands on, project-based manner

Jobs for Washington Graduates

Number of Jobs for Washington Graduates Programs

Middle School: 2010-11 = 0, 2014-15 = 4

High School: 2010-11 = 17, 2014-15 = 39

Legend: 2010-11, 2014-15

- Goals:
  - Keep young people in school through graduation
  - Help successfully transition from 8th to 9th grade
  - Graduate with a high school diploma
  - Provide students with 21st Century Skills Training
  - Enable students to obtain occupational specific training
  - Connect students to postsecondary and careers after high school

Middle School STEM

Districts with at least one CTE middle school course: 2010-11 = 101, 2014-15 = 176

Number of middle school CTE STEM courses offered: 2010-11 = 208, 2014-15 = 604

Legend: 2010-11, 2014-15

- All CTE middle school must meet STEM requirements
  - Include rigorous math and science state learning standards
  - Incorporate technology and/or engineering standards
  - Reviewed and approved by the OSPI STEM Program Supervisor

TechPrep Articulations

115,798
high school students enrolled in TechPrep articulated courses in 2013-14

- Students earn both high school and community/ technical college credits (dual credits)

- Prepares secondary students for a college technical degree program

- Prepares students for high-skill, high-wage careers

Assistance Needed:

- Incentivize business/industry to partner with school districts to offer internships, mentorships, job shadows, other work-based learning opportunities

- Statewide articulations between secondary and post secondary courses instead of community college by community college

- Support to replicate nationally proven, research based dropout prevention intervention programs with a career readiness focus

- Continued efforts to provide additional statewide CTE equivalencies in core academic areas

Mathematics Equivalencies

CTE Course	Equivalency
Engineering Design 1	Algebra 1
Consumer and Family Resources	
Applied Algebra 1	
Financial Math	
Animation Technology Video Graphics*	Geometry
Video Game Design/ Digital Computer Animation*	
Residential Carpentry*	
Applied Algebra 2	Algebra 2
Computer Programming	1 credit beyond Geometry
Business Statistics	Statistics

Science Equivalencies

CTE Course	Equivalency
Animal Science	Biology or lab science
Plant Science	
Natural Resources	
Natural Resources Management & Policy	
Food Science, Dietetics, and Nutrition	Lab science
Biomedical Sciences	
Biomedical-Body Systems	
Veterinarian Assistant*	
Nursing Assistant*	
Principles of Technology Applied	Physics or lab science
Computer Programming	Science

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