

## 2006

- Founding partners Battelle, Washington State University Tri-Cities (WSU-TC), and the Kennewick, Pasco, and Richland school districts discuss the possibility of a high school in the Tri-Cities focused on science, technology, engineering, and mathematics (STEM) education.
- An advisory group is created and committees developed to research and analyze funding viability, facility options, and community partnerships.

## 2007

- The advisory group presents the STEM school concept to local school boards and is positively received.
- A project manager is hired.
- A core planning team is assembled to develop a program of study. This team is comprised of educators, scientists, engineers, community members, and higher education professionals.
- Partners continue to explore affordable and viable space options for the high school.

## 2008

- Grants to assist with development of the program of study are awarded by the Paul G. Allen Family Foundation and Battelle.
- A planning principal is hired.
- Phase One program of study recommendations (e.g., course overviews, portrait of a graduate, 21st Century skills) are finished by the core planning team.
- Washington State STEM Education Foundation is formed in support of the school.

- Columbia Basin College (CBC) joins the project and offers their former Richland campus, “virtually rent-free,” to serve as the initial school site.

## 2009

- The three school boards approve the opening of a STEM-focused high school in the fall of 2009.
- “Delta High School” is selected as the name for the STEM school, to represent the community of creative thinkers and STEM-focused students.

- Local companies, organizations, and individuals offer to provide cash, materials, and time—worth ~\$700,000—to help with renovating the CBC Richland campus.
- Based on the community response, Battelle announces its intent to give up to \$1.2 million to support the gap in operations funding for years one through four.
- Phases Two and Three of the program of study focus on student support systems and school culture, as well as the development of ninth grade units.

- Nearly 300 students apply for enrollment; a randomized lottery selects 110 students for enrollment into the inaugural class.
- Five veteran teachers are hired from the three partner school districts.
- Facility renovations are completed, thanks to \$800,000 in funding from the state of Washington.
- **Delta High School opens September 1, 2009.**



calculus. Health standards are embedded in biology, world history, and advisory. Full implementation of the ninth and tenth grade operational plan includes 1) standards-based grading; 2) short-cycle assessments; 3) curriculum implementation, integration, and alignment; 4) student advisory systems/support; 5) student interventions (i.e., mentoring); 6) student leadership opportunities; and 7) career guest speakers.

- The junior year features required coursework in American literature, including an option for “honors” level studies; U.S. Government and history; trigonometry; and pre-calculus or calculus. Elective classes are offered to both eleventh and twelfth grade and include advanced chemistry and physics topics, biotechnology, multimedia arts, computer science, career choices, advanced drama, advanced media literacy, history in film, and college-level Spanish. Implementation of the eleventh grade operational plan includes 1) financial literacy instruction; 2) job shadows; 3) preparation for college and scholarship applications, including entrance exams; 4) resume reviews and mock interviews; 5) preparation for internships; and 6) career-focused field trips.
- The senior year includes required coursework in British and world literature, with an AP literature and composition and advanced literacy option and pre-calculus, calculus, or advanced topics in calculus and analytic mathematics, with senior-only electives that include topics such as scientific research and design, contemporary U.S. issues, college-level Spanish 2, and work-based learning. Implementation of the twelfth grade operational plan includes 1) internship options, 2) research on post-secondary options (college, military, work, etc.), 3) mentoring for college and scholarship applications, 4) a senior culminating project, 5) completion of the high school and beyond plan, and 6) support for completion of specific graduation district requirements.
- Delta staff, community partners, and STEM career speakers continue their efforts to broaden and deepen the “Delta experience” by connecting academics to the world beyond the classroom. Students engage in collaboration projects, such as Options in STEM Day; the Girls Learning About Manufacturing (GLAM) program and the boys Learning About Food Science (LAFS) workshops; integrated, curriculum-focused projects, such as the Ice Age Floods and sustainable landscape design projects; after-school STEM clubs led by STEM professionals from the community; STEM-focused competitions, such as Cyber Challenge and picoCTF (computer security), Sumo-Robots, Science Olympiad, Science and Engineering Fair, Math is Cool and Rocket City Math, National History Day, and Poetry Out Loud; as well as a culminating spring event called STEMcon.

## 2009-2013

### Program of Study

- “Big Ideas” and “Enduring Understandings” drive learning and teaching and establish “Content Integration in Action” as a school-wide focus.
- The freshman year emphasizes an integrated academic focus, including physics and chemistry, pre-engineering, algebra 1 or 2, geometry, statistics, and the humanities (English/language arts, drama, and social studies), and features project-based learning, a standards-based grading system, critical thinking through advisory tutorials, freshman orientation, and student-led conferences.
- Sophomore curriculum emphasizes an integrated program featuring biology and environmental science, drafting and design, world history, geography, introduction to theatre, literature and a variety of writing styles, algebra 2, geometry and statistics, and the option to accelerate mathematics instruction with trigonometry and pre-

### Parent & Community Engagement

- Parent engagement is a high priority, emphasized through activities such as student-led parent/teacher conferences, community service days, and special events designed to inform and engage parents.
- Community members engage with Delta students through activities such as academic tutors, advisory group facilitators, competitions, guest speakers, and field trips to special events at regional colleges and universities.
- Pacific Northwest National Laboratory (PNNL) assigns a STEM education expert to support the day-to-day programmatic efforts and focus on enabling and supporting STEM learning at the school.
- Washington State STEM Education Foundation, through a contract with PNNL, provides support to Delta by 1) convening partners; 2) making plans for student internships; 3) coordinating community volunteers; 4) communicating with a broad range of community/legislative stakeholders; 5) conducting “knowledge capture” efforts; 6) organizing tours/visits; 7) leading efforts to design, raise funds, and build a new facility; 8) working on grant research and writing efforts; and 9) providing additional information technology resources.

### Governance

- Kennewick, Pasco, and Richland School Districts establish an initial inter-local agreement for the joint operation of the school in 2009. The districts sign a new ten-year inter-local operating agreement in December 2012.
- Washington State STEM Education Foundation is formed and receives a 501 [c] [3] designation. With a mission to “create a substantial and sustainable impact on the quality of STEM education in the Mid-Columbia,” the foundation’s first project is assisting with the implementation of Delta High School.
- A Joint Partners Agreement between the school districts, Battelle and PNNL, CBC, WSU-TC, and the Washington State STEM Education Foundation is established.

## Professional Learning & Growth

- During the final design phase of the school, EdWorks, a nationally recognized leader in small school start-ups, assists Delta leadership with its focus on improving student achievement through implementation of a “results-based framework.” The four fundamental components of the framework are 1) establishing a rigorous curriculum and employing “high pay-off” instructional strategies, 2) establishing a supportive climate and culture within the school, 3) aligning the curriculum and instruction with a well-structured assessment plan, and 4) establishing a comprehensive student support system.
- In the first years of implementation, staff engage in strategic and comprehensive professional learning and growth opportunities that focus on student learning, including 1) writing across the curriculum, 2) use of Socratic seminars, 3) instructional design focused on the rigor and relevance framework, 4) strategies for improving instructional practice, 5) examining student work, 6) professional conferences and webinars, 7) visits to other high-performing classrooms, 8) teacher collaboration time, 9) individual mentoring and coaching sessions based on teacher needs, 10) collaborative assessment, and 11) presentations and workshops for other educators.
- As the school moves from implementation to maturation, staff professional learning and growth opportunities expand to include 1) further deprivitization of teacher practice; 2) mentoring of teachers new to Delta as they adapt to a new way of teaching, learning, and collaborating; 3) working with teams from other schools to develop STEM integrations in their curriculum, including ongoing coaching during the school year; 4) collaboratively reviewing and revising Delta curriculum to meet new standards and address developing issues in education and predicted workforce needs; and 5) identifying and addressing the emerging professional development needs of staff.

## Facilities

- Improvements after the first school year include finalizing renovations to the “F” Building, enhancing information technologies (e.g., net books, smart boards, and desktop computers), and completing work on engineering technology labs.
- Columbia Basin College provides three additional classrooms, for use through 2014, at the CBC Health Science Center located across from the Delta High School campus.
- In December 2012, Kennewick, Pasco, and Richland School Districts sign an inter-local agreement to jointly construct a permanent Delta High School campus in Pasco, WA. The 45,000 sq. ft. campus will continue to be centrally located in the Tri-Cities to provide easy access to Delta for all students and community partners.

## Funding & In-Kind Contributions (Beyond Basic Education Act Funding)

- Community investment in Delta totals ~\$8M dollars by March 2013. This includes ~\$4.3M in private cash investments and ~\$3.7M in private, in-kind donations (source: Washington State STEM Education Foundation).

## Communications & Outreach

- The STEM Education Foundation reaches out to the community to cultivate and recruit volunteers. Foundation staff members make presentations within the community to build advocacy for the project. Lockheed Martin sponsors production of a professional video about the project, which debuts at the U.S. News & World Report’s STEM Solutions Conference in Dallas, TX. The Foundation launches a social media campaign to build awareness of Delta’s local impact. These community outreach efforts lead to internships, job shadows, career guest speakers, mentoring, additional volunteers, and community advocacy and support for Delta.
- The STEM Foundation conducts tours of Delta High School to highlight its innovative STEM education program.

## Project Evaluation

- During the first year of implementation, an EdWorks site review assessment team notes that Delta is making expected progress in implementing the framework.
- EdWorks’s site review assessment team’s second-year visit documents Delta’s performance as moving from “Basic-to-Emerging” to “Effective-to-Exemplary”—in the span of one year—in the areas of 1) rigorous curriculum and instruction, 2) aligned assessments, 3) systems of student support, and 4) supportive climate and culture.
- Washington State University, with a grant from the Paul G. Allen Family Foundation, conducts a two-year study on the context, outcomes, and impacts of Delta High. Researchers report consistent implementation of “best practices” in teaching, deep student learning, and high achievement on state assessments.
- In 2013, the University of Chicago, Center for Elementary Mathematics and Science Education, selects Delta to participate in a five-year nationwide study of “inclusive” STEM High Schools funded by the National Science Foundation (NSF).

## Awards/Recognition

- The Office of Superintendent of Public Instruction provides a special recognition award to Delta for innovation and leadership in STEM education (2010).
- Delta is designated a Washington State Innovative School (2011).
- Delta wins Washington State LASER Science Education Advocate Award (2012).
- Delta students pass the Washington State High School Proficiency Exam and End-of-Course Exams in 2011 and 2012 at higher rates than state averages. The pass rates of Delta students on mathematics and science exams are 15-30% higher than state averages.
- Delta is selected for Washington State Lighthouse School designation (2013).
- Delta is highlighted in a STEM Smart brief prepared by the Community for Advancing Discovery Research in Education, Education Development Center, Inc. The STEM Smart briefs were funded by NSF (2013).
- A Special Achievement Award is given in recognition of the energy, dedication, and vision of the Delta High School partnership (2013).

[www.thedeltahighschool.com](http://www.thedeltahighschool.com)



highlights  
2006 – 2013