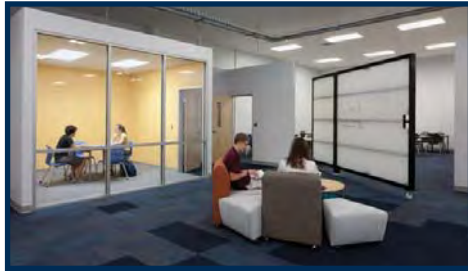


# Joplin High School

A4LE James D. MacConnell Award Submittal  
May 2, 2016



# Executive Summary



INCUBATOR  
August 2011 - May 2014



PRESIDENTIAL VISITS  
May 2011 & May 2012



GROUNDBREAKING  
May 22, 2012



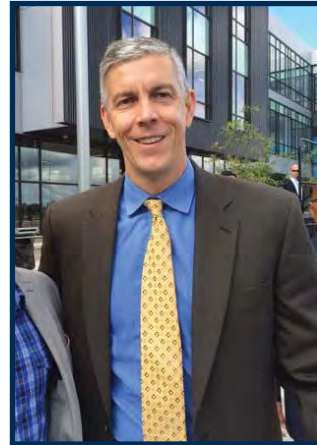
CRISIS  
May 22, 2011



PLANNING - SCHEMATIC DESIGN  
December 2011 - May 2012



OPENING  
September 2, 2014



DEDICATION  
October 3, 2014

CONSTRUCTION

One night, one tornado, and 11 horrifying minutes have forever changed not only the natural landscape, but the educational landscape of one small community in Southwest Missouri. From tragedy comes hope, and Joplin is now known around the world as a community that came together to rise from the rubble. Five years after an EF5 tornado destroyed one-third of the town, Joplin is celebrating a new beginning with new facilities, a new outlook on life and a new approach to education.

After a devastating tornado destroyed 10 Joplin schools in 2011, the District and community rallied to chart a

course for uninterrupted education for their students. This effort began with rapid design and construction of an interim high school, and continued with a permanent facility that is constructed on the site of the former Joplin High School campus.

Taking cues from the interim school, which served as an incubator to test forward-thinking educational concepts for three years, Joplin High School is the epitome of resilience. Students have a home base. They have a safe and secure facility where they can focus on learning, and they have a facility where they can be "normal" teenage students. Although stability and normalcy is the

foundation of recovery after such a tragic episode, Joplin High School is far from a normal high school. Every essence of the school is about the student experience, raising the bar for educational excellence, and creating an icon the entire community can be proud of.

"You can't change everything in one night,  
but one night can change everything."  
-Anonymous



A photograph of a modern, multi-story building with large glass windows and a dark facade, illuminated from within at dusk. The building is partially obscured by a semi-transparent blue rectangular overlay. In the foreground, a paved road with white crosswalk markings is visible. The sky is a deep blue with some light clouds.

# **SCOPE OF WORK + BUDGET**

## Scope of Work + Budget



"Simply rebuilding Joplin High School to the same size and quality as before the tornado is not acceptable. We have an opportunity to adapt to today's learning and teaching styles to prepare our students for a global society. Our students are our future leaders, making this effort critical for the recovery and economic future of Joplin Schools and the Joplin community."

**-Dr. C.J. Huff, Former Superintendent, Joplin Schools**



The scope of work included planning, programming, and design of a 500,000 SF public high school to accommodate 3,000 students. Design Services included educational planning, architecture, structural engineering, landscape architecture and interior design.

Construction cost for the new Joplin High School: \$120M.

"I felt like I had a lot of input as a student and that was nice because when you design a new school you need to have buy in. There is a large diverse group of students, parents and community members who came together to own Joplin High school, to own what went into it."

**-Rylee, former JHS student and Vision Team member**





# **COMMUNITY ENGAGEMENT**

# Community Engagement Process



## Community Engagement Process

The development of Joplin High School employed an extensive amount of research, exploration, implementation, collaboration, and resolution of 21st Century Learning Environments in order to elevate the educational environment to the next level. Stakeholders included everyone from current and future students, staff, community members, local business and industry partners and people around the globe who supported the Joplin community as it embraced an aggressive rebuilding strategy after the storm.

of discovery exercises and explored options and opportunities in the planning of their new facility. This 50-person Vision Team included students, teachers, administrators, community members, business partners and designers and represented all stakeholder groups. Hundreds of patrons, students and staff participated in community brainstorming sessions to provide additional input to the Vision Team during the planning and design phases. This input ultimately shaped the final design.

The design team engaged a smaller group of client stakeholders - dubbed the Vision Team - in a series



## Guiding Principles:

SPIRIT OF EXPLORATION  
CONNECTEDNESS  
COMFORTABLE, FUN AND COOL "VIBE"  
INNOVATION FOR ALL  
CAREER READINESS



## Personality Traits:

GATHERING COMMUNITY  
OUTSIDE IN  
NO "HALLWAYS"  
CLASSROOM OUTDOORS  
AREAS WERE "I BELONG"  
WHIMSICAL  
MODERN COMPOSITION  
APPLE-Y  
A CHANCE FOR EVERY STUDENT TO SHINE  
SMALL SCHOOL FEEL

### Guiding Principles + Personality Traits

The comprehensive Community Engagement Process provided data and input allowing the Vision Team to create a set of Guiding Principles to inform the design process as the project progressed. Both the Vision Team and the design team relied on the Guiding Principles when making critical design decisions.

The Vision Team also created one and two word Personality Traits for the new facility. These traits shaped the personality and feel for the new high school.

The Guiding Principles and the Personality Traits were instrumental in developing a Career Pathway Curriculum which defined the pedagogy for teaching and learning opportunities. The opportunity for all

3,000 students to see advanced classes on display every day was the ultimate goal of the school. All the highly active project based classes are located on the main floor of the five career pathways and are visible through transparency and glass. Some of these spaces open to a social commons, such as Eagle Alley where the entrepreneurial, creative and retail pop up activity occurs.

Create relationships and relevancy that inspires personalized innovation and achievement for continual transformation of our youth, staff and community.

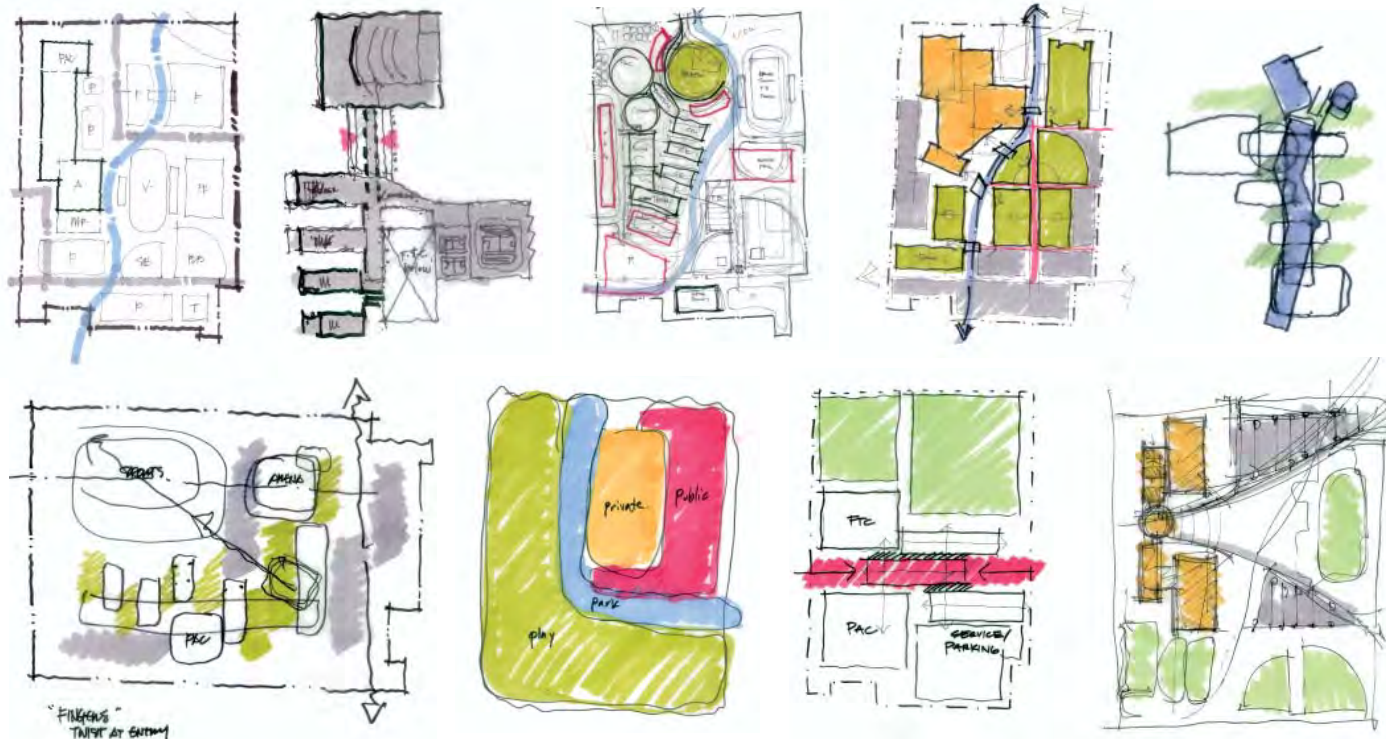
The design team and District faced three primary challenges and opportunities during the planning and design of this new high school:

- 1 Fast-track design a 500,000 SF high school in nine months.
- 2 Achieve buy-in for a systemic change in the educational delivery model at Joplin High School.
- 3 Create a unique student experience.





### A Collection of Ideas- Sketches developed during the predesign charrette, Dec. 19-20, 2011

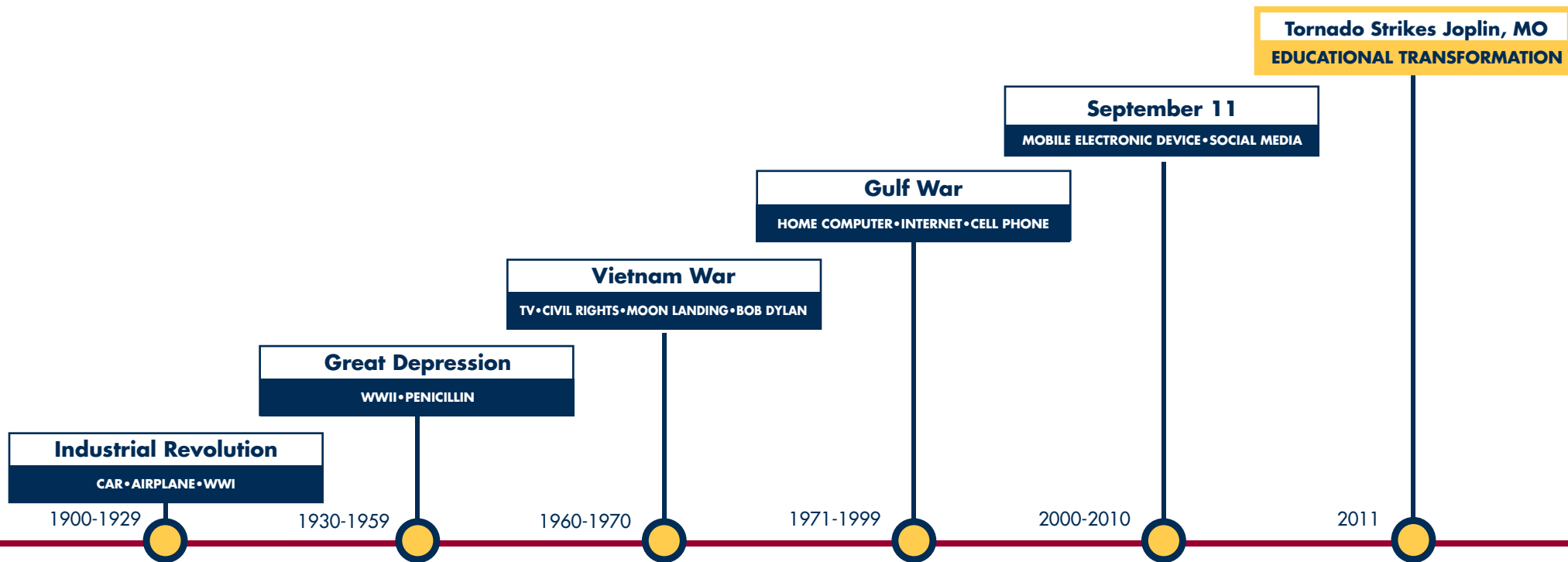


#### Fast-Track Design

The design team faced a career defining challenge to plan, program, and design the most modern, comprehensive high school in the world in nine months. To keep on track, designers hosted a two day pre-design and eco-charrette that gave client stakeholders a chance to react and provide input on the memorable goals and Guiding Principles for the project. Through this exercise the design team had opportunity to receive valuable input to inform the program and design of the new school. Spatial types and organizational strategies for this new learning environment were developed along with a program of spaces. The information gathered at this charrette became the backbone upon which all future design and curriculum decisions were

based. The culmination of all the efforts of the project team, community members, teachers and students directly affected the layout and programmatic spaces within the final design.





History has shown us that crisis and innovation have resulted in systemic change. In the case of the New Joplin High School- innovation and crisis occurred simultaneously resulting in a national model for the design of resilient learning environments.

## Systemic Change

The systemic change in educational delivery at the new Joplin High School didn't occur overnight. It was the culmination of three years of study and evaluation of alternative and innovative experimentation at Joplin Interim High School.

After the May 2011 tornado destroyed the original Joplin High School, the same design team transformed an abandoned 88,000 square foot retail space in a mall into a 21st Century incubator high school in 55 days. 11th and 12th grade were held in the interim high school for three years. During this time, constant conversation with staff and administrators about their experiences in the incubator spaces was invaluable research that informed the pre-design process. Many of the concepts tested as incubator spaces in the interim school were improved and integrated into the new high school design, including think tanks, pop up retail spaces, generous use of Eagle (the school mascot) graphics, and connective info link spaces. Based on

feedback from students and staff, designers removed the concept of large pivot doors and incorporated alternative sliding doors to allow classrooms to spill into larger group spaces adjacent to the classroom.

In 2011, as the design of interim school was developed, achieving buy-in for the proposed alternative approaches to education delivery had been straightforward. The community had little opportunity to debate the merits of transitioning from a traditional cells and bells model to education delivery based on project based learning, flexible spaces, and one-to-one instruction. Because a new school needed to be operational in 55 days, these innovative methods were the obvious solution.

In 2012, the design team committed to further innovation of the spaces and models used in the interim high school into the new high school. However, the Vision Team felt it needed

additional proof to validate the design decisions that were being made with stakeholders in the Joplin community. As a way to gather additional data about the use and effectiveness of current innovative school design, the Vision Team proposed facility tours to personally experience 21st Century facilities in use.

In February and March 2012, Joplin Educators and Administrators toured 25 schools around the country, along with Apple Headquarters in Cupertino, Calif., to learn the pedagogy of each and how that translated into a physical facility. The tours allowed team members to examine alternative education methodologies and environments, and explore global trends relevant to student's futures. Teams reported back and identified the successful elements of each program, which became the basis for discussion when developing the Career Pathway model for Joplin High School.

# Systemic Change

## CALIFORNIA

Bayside STEM Academy, San Mateo, CA  
Valley View Christian Junior High, San Jose, CA  
American Canyon High School, American Canyon, CA (1)  
Apple Headquarters, Cupertino, CA

## ARKANSAS

Fayetteville High School, Fayetteville, AR

## INDIANA

Decatur New Tech High School, Indianapolis, IN

## KANSAS

Blue Valley School District, CAPS Program, Overland Park, KS (2)  
Olathe Middle School, Olathe, KS  
Olathe South High School, Olathe, KS  
Olathe West High School, Olathe, KS

## MISSOURI

Staley High School, North Kansas City, MO  
Belle Prairie Elementary School, North Kansas City, MO  
Summit Intermediate, Nixa, MO  
High Pointe Elementary, Nixa, MO  
Hickory Hills K-8 School, Springfield, MO  
Raymore-Peculiar Middle School, Raymore, MO  
Little Blue Elementary School, Kansas City, MO  
Maple Grove Elementary School, Warrensburg, MO

## NEBRASKA

Westside School District, Omaha, NE

## NEVADA

Advanced Technologies Academy, Las Vegas, NV

## TEXAS

Manor New Tech High School, Austin, TX  
Dell Headquarters, Austin, TX  
Cedar Ridge High School, Round Rock, TX  
Cedar Hill Elementary School, Round Rock, TX  
Carl Wunsche High School, Spring, TX  
Dubiski Career High School, Grand Prairie, TX

## WASHINGTON

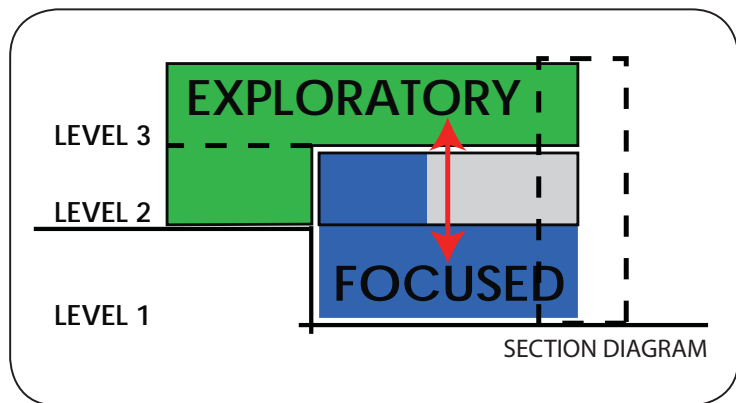
Marysville Getchell High School, Marysville, WA (3)



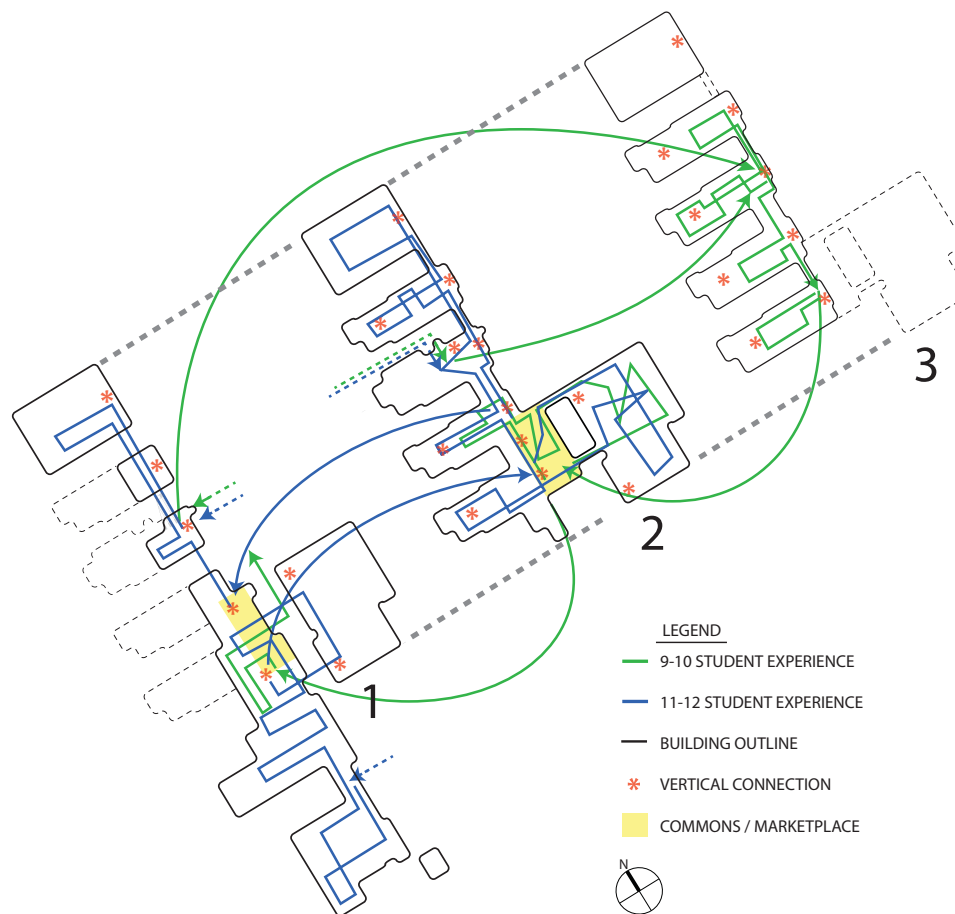
# Facility Tours







The section diagram illustrates how the stacking and overlapping of these exploratory and focused learning spaces occurs within the building. The overlap of core curriculum and career pathways occurs at the second level where highly interactive social spaces such as the commons and media center are located. This creates a central place in the building where a strong sense of connectivity and blending becomes instilled in the students.



## Creating a Unique Student Experience

Central to the success of this project and 21st century learning is to provide a personalized student experience creating greater opportunity for customized learning, connectivity and achievement. The building consists of three floors with five career pathways allowing for a filtering through the building of all students. The primary purpose of creating career pathways is to give students a deeper understanding of the career options and choices they have when entering the world of work. Each career pathway incorporates instruction about the skills needed for success in a chosen area of interest. This integrated approach to creating the educational environment fosters ownership by all. The career

pathways organizational model satisfies a student's desire to choose an interest-based learning environment in which to grow scholastically and personally. This builds healthy collaborative relationships with their peers and instructors. The Joplin High School Career Pathways include the following:

**Business/Information Technology**  
**Technical Sciences**  
**Human Services**  
**Arts/Communication**  
**Health Sciences**

The three level building design is organized to support this principle by locating the exploratory curriculum on the third level and the more focused/hands-on learning on the first level. This allows 9th and 10th grades to be exposed to the learning opportunities within the school. As the 9th and 10th grade students travel through the building, they have the opportunity to see a variety of programs and projects occurring in the specialized labs, building excitement as they select their career pathway.



Each CLS includes studios, workshops, labs, resource rooms, open boxes, think tanks, info links, and interdisciplinary rooms, allowing for the maximum flexibility for learning environments.

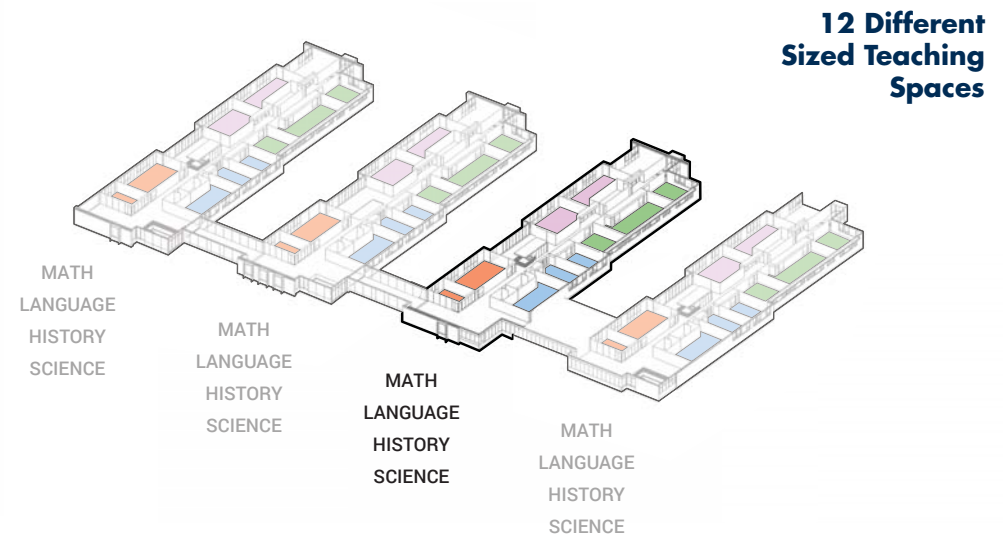
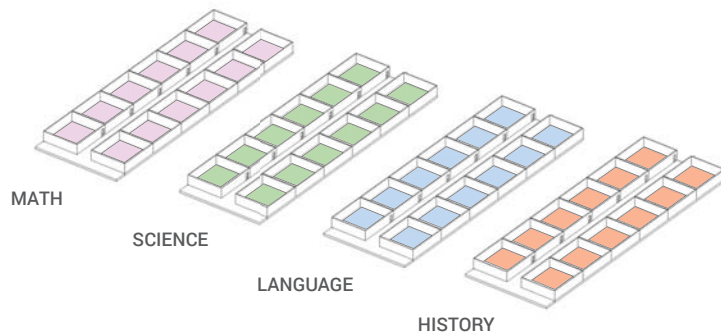
### Traditional Departmental Model

The departmentalized organizational model for schools has been based on optimizing operational and efficiency by locating similar uses/curriculum together in large clusters. This can make both student and staff collaboration difficult.



### Collaborative Learning Suite

In a large sized high school the traditional departmental model can create a challenge for personalized learning due to the enormity of the student population. The model for Joplin High School is a counter point to the traditional model. The building is organized into 4 separate collaborative learning suites of students and teachers for delivery of core subjects creating multiple “small schools.” The result is no student gets lost in the crowd.



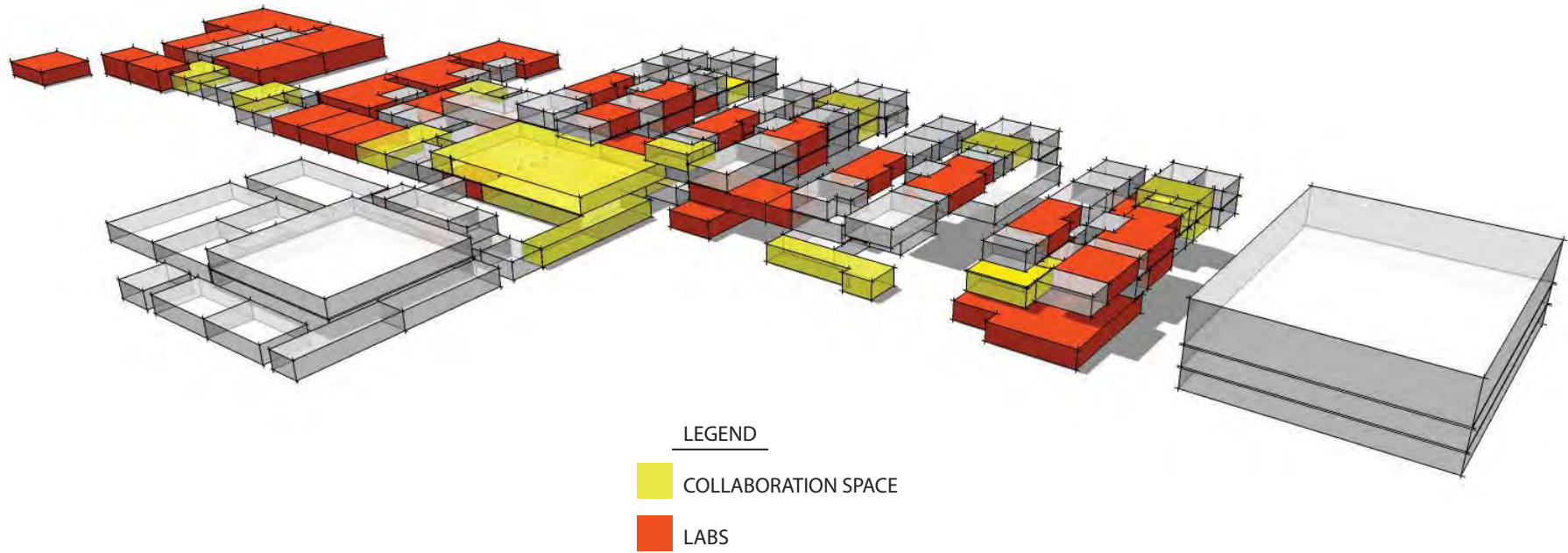
“Yesterday’s schools aren’t preparing students well enough for today’s world. Graduates today learn differently than decades ago, and therefore, our facilities should adapt to this new type of learning. By combining Joplin High School and Franklin Technology Center, we will provide career path choices to empower and motivate all students for success after high school.”

**-Dr. Angie Besendorfer, Former Assistant Superintendent, Joplin Schools**



A photograph of a modern, multi-story educational building at dusk. The building features large glass windows and a dark, angular facade. The interior lights are on, and the sky is a deep blue. A semi-transparent blue rectangle is overlaid on the left side of the image, containing the text "EDUCATIONAL ENVIRONMENT" in red. The foreground shows a paved area with white crosswalk markings.

# **EDUCATIONAL ENVIRONMENT**



Joplin High School is a dynamic showpiece that reinforces the community's emphasis on creating a 21st Century School tailored for its community. The school incorporates the latest technology and a related teaching approach that reinforces the student experience through exploration, flexibility and connectivity.

The student experience has driven the design's ability to support the curriculum. The diagram above illustrates how hands-on learning spaces are incorporated throughout the school. The laboratories, shown in orange, dispersed throughout the school provide an understanding of how a student may experience the

building. As students move through the school, they are exposed to various types of learning and levels of curriculum. They are then able to share these ideas in the collaborative spaces, shown in yellow, which are dispersed throughout. With this, students see different career pathways and are instilled with ideas exploration, hands-on learning and creativity.

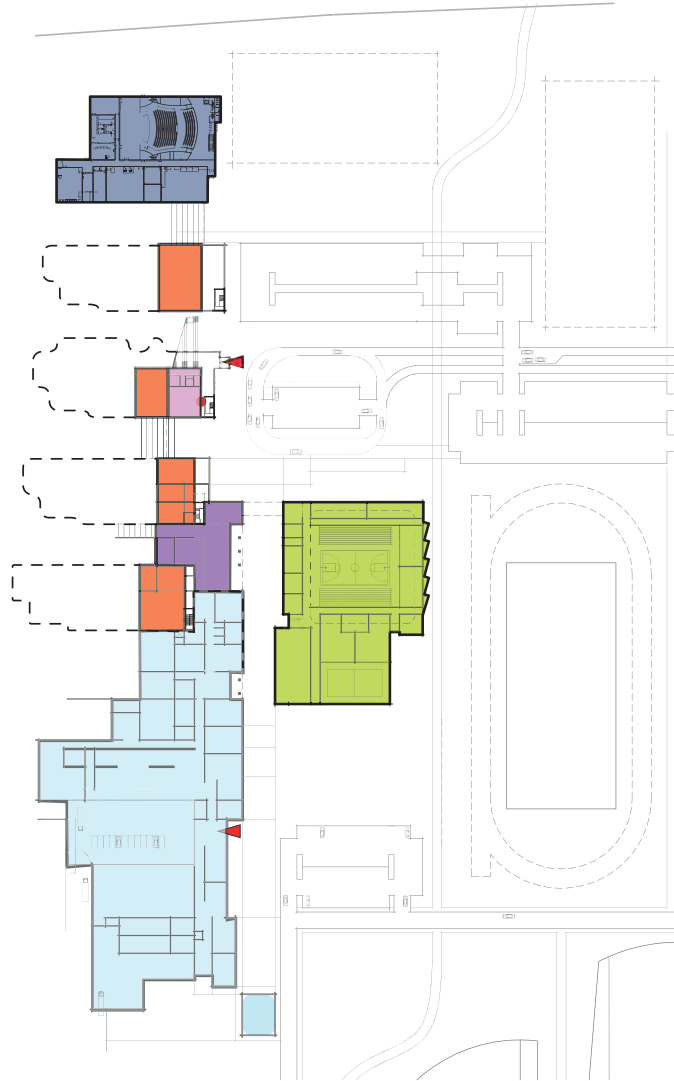
"Most people are blown away when they see Joplin High School. It defies the odds. It defies what people think of as a traditional high school. The common thread in education today is the idea of 21st Century learning and that vision is apparent in the design of this school."

**-Rylee, former JHS student  
and Vision Team member**

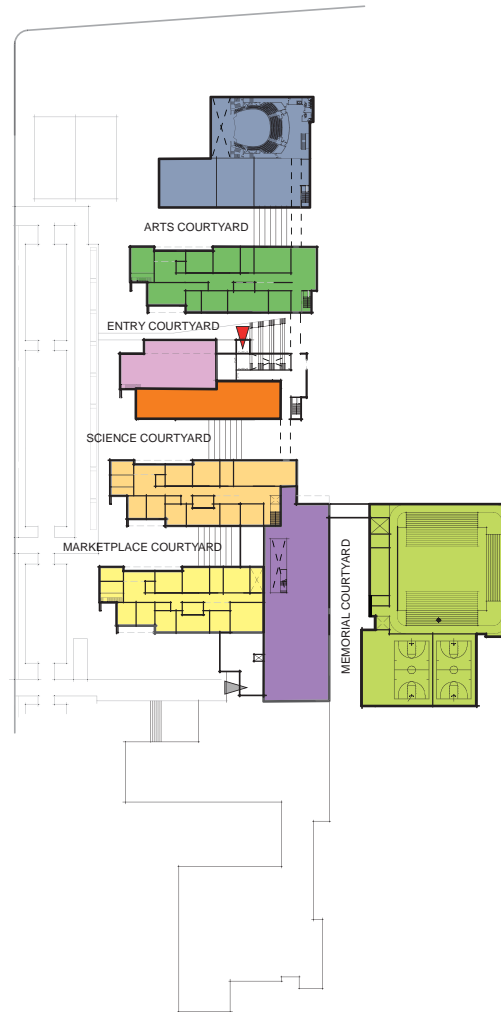




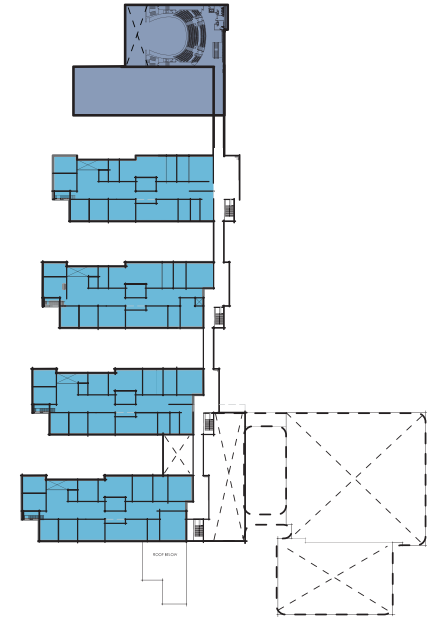
## Level 1



## Level 2



## Level 3



### LEGEND

- CAREER TECH CENTER
- FEMA SHELTER
- PERFORMING ARTS ACADEMY
- ATHLETICS
- HEALTH SCIENCES
- HUMAN SERVICES
- SPECIAL EDUCATION
- ARTS AND COMMUNICATION
- COMMONS
- ADMIN
- SMALL LEARNING COMMUNITIES (CORE SUBJECTS)
- MAIN ENTRY

One of the guiding principles of the design was to prepare students for a Career to College experience. The program allows students to experience all types of career options through five different educational pathways.



## Career Pathway Curriculum

The entire facility has been programmed and designed around the concept of a Career Pathway Curriculum. The building is designed to showcase the most exciting hands-on project-based spaces on the entry levels. These maker spaces are strategically located so that underclassmen pass by every day and visually experience the exciting opportunities their futures hold as they progress from 9th to 12th grade.

Career and technical education classrooms are intentionally placed in high traffic areas, allowing students to view the activity every day even if they

are not in that particular pathway. The spaces are programmed and placed adjacent to learning and social commons to spark the interest of students and become a catalyst for exploration.

"Joplin High School is not built on a 2015 idea; it is built on a 2030 or even 2050 idea. Everything is tailored to student needs. You don't have students in a building, you have a building that fits the students."

**-Rylee, former JHS student  
and Vision Team member**





## Student Centered Commons

The student commons is split on two levels providing a variety of spaces to socialize. The lower level commons is more experiential and dedicated to entrepreneurial programs including a culinary arts space, mock-up restaurants, coffee shop, and pop-up retail space - all run by students. The upper level commons is directly connected to the school servery providing the majority of the general seating.

"We look at how we can bring people together to create meaningful relationships and spaces, and that is exemplified at Joplin High school. There are so many common spaces that allow students to collaborate."

**-Rylee, former JHS student and  
Vision Team member**



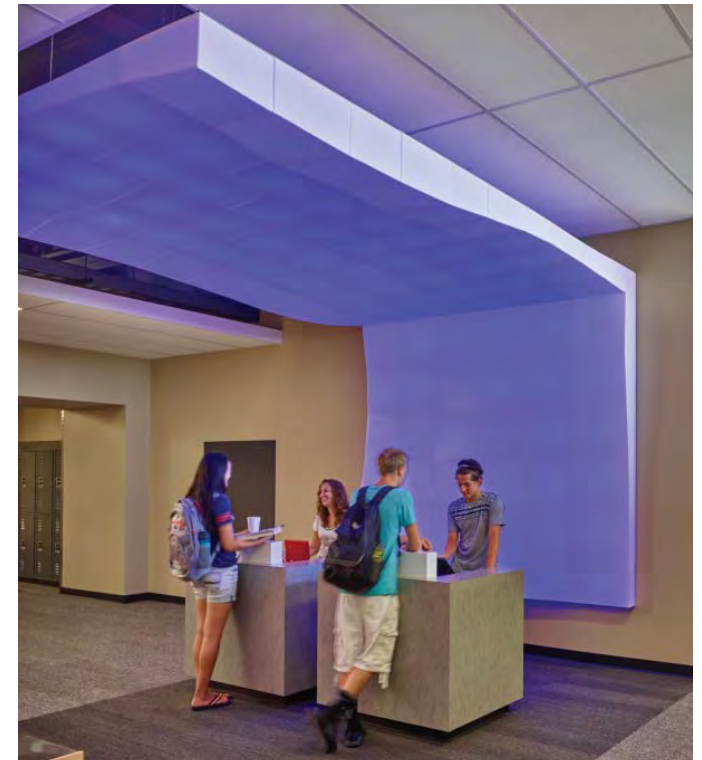




"In the cafeteria we not only have tables but we have these really cool, long booths. We fit a lot of students in the booths like we are at a restaurant."

**-Luke, JHS Senior**

Throughout the school, students engage in real world experiences. A student-run coffee shop provides a social space within the school; and a hotel front desk staging area gives students in the hospitality career pathway hands-on customer service experience.





## Transparency & Variety of Spaces



Transparency creates a learning environment that supports a stronger sense of community and provides visual and experiential connections to a larger group. High levels of transparency at Joplin High School improve supervision and security, and create an environment where learning is pervasive and visible.

"I like to go into the think tanks, put in my headphones and just be by myself."

**-Jennifer, JHS Senior**

Open boxes-Think Tanks-provide flexible studio-like environments to support a variety of configurations including but not limited to group gatherings, presentations, demonstrations, project-based learning activities. These flexible learning areas provide teachers and students a space that can be adaptable and personalized for immediate/daily user modifications. Shown at right, Think Tanks give students the ability to escape into or not a quiet environment for small group activities.







"We can open the door in the Black Box Theater to an outdoor concert area with large stone steps. Even at some colleges they don't even have areas like this."

**-Luke, JHS Senior**

The Performing Arts Center provides 1,200 seats and serves the needs of the District and Community. The Black Box Theater opens up to a courtyard amphitheater.





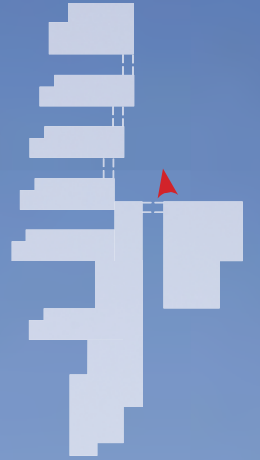
A photograph of a modern, multi-story building with large glass windows and a dark facade, illuminated from within at dusk. The building is partially obscured by a semi-transparent blue rectangular overlay. Overlaid on this blue area is the text "PHYSICAL ENVIRONMENT" in a bold, red, sans-serif font. The foreground shows a paved road with white crosswalk markings and a sidewalk. The sky is a deep blue with some light clouds.

# **PHYSICAL ENVIRONMENT**

# Student Entry Plaza



A student entry plaza creates a gathering and social area for students before and after the school day.

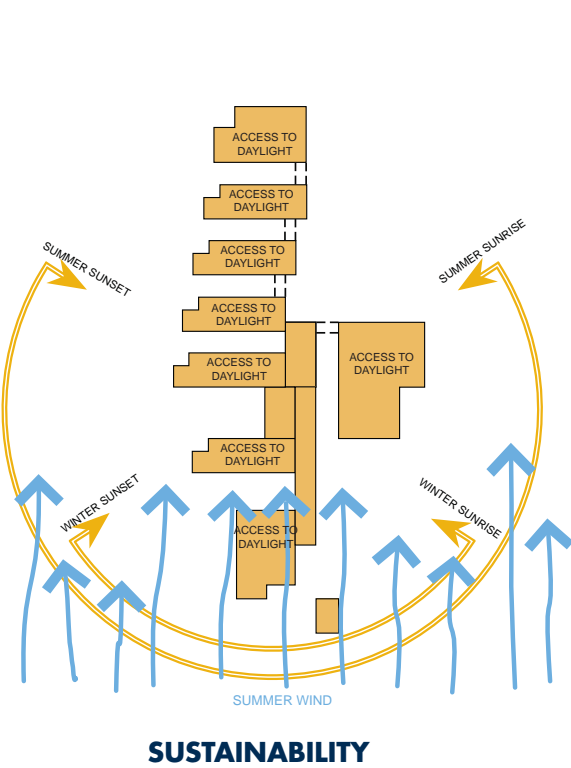




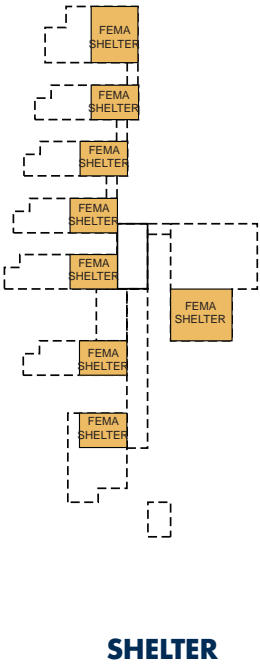


Orientation

The siting and orientation for the new school is all about collecting north and south light. The environments are organized into slender bars facing north and south and connected with a main circulation spine running north/south and facing east. Sustainable strategies include efficient systems, rain water harvesting, gravity flow system for landscape irrigation.



Efficient Systems  
Rain Water Harvesting  
Gravity Flow System





## Daylighting



### North Light

The design for the new arena incorporates top-loaded seating which is accessed on game-day through the Legacy Gardens. The arena is oriented to capture north light through a long glass tube stretching the entire length of the gym and by a series of filleted north facing lanterns.

### Amenities include:

- 2,500 seat top-loaded Arena
- 500 seat auxiliary gym
- 1,200 seat performing arts center
- Masterplan for 5,000 seat multiple sport stadium, natatorium and fieldhouse





JOPLIN STUDENT SECTION

HOME	VISITOR
PTS	PTS
REB	REB
AST	AST
STL	STL
BLK	BLK
FOUL	FOUL
TIME	TIME





## Outdoor Learning



### Internal- External Connections

Stepped landscape amphitheater forms extend from the Entry Courtyard into the building— connecting a lower and upper entry while providing single-point supervision for safety. The entry is also a student centered, technology-rich hang-out.

A guiding design comment from a student was:

"I just want to go outside for five seconds  
on my way to class."







Centrally located at the junction of the commons and the arena is Legacy Garden and it's centerpiece, a historical rock from the original High School Rose Garden. The courtyard contains sculptures, memorial trees and artwork which celebrate those who lost their lives in the tornado.





# RESULTS





## Results



Notable results from 2011 to 2015 include:

Four-year graduate rate  73.87 to 83.99%

Career and college ready grads  70 to 88.7%

Dropout rate down from 4.1 to 2.8 

Disciplinary actions down 70 to 29 

On May 22, 2011, an EF5 tornado tore through Joplin, leaving a 13-mile path of destruction. The tornado damaged or destroyed more than one-third of the city, including thousands of homes and businesses and half of the school district. Most tragic, 161 lives were lost, including seven Joplin Schools' students and one staff member. On Sept. 2, 2014, a three-year journey to build back bigger, better, and safer schools culminated with the opening of Joplin High School. The new school provided a home to more than 2,200 students who had been attending classes at three temporary facilities since the disaster.

The new Joplin High School focuses on each individual student's education and career interests. The facility is designed to support 21st century learning through collaborative work, experienced-based study, inquiry-based problem solving, real-world application, and student-led study. The school also features flexible spaces for students and staff, several indoor and outdoor areas that encourage social interaction, and amenities that support increased parent and community engagement.



"For me, getting to spend my senior year at Joplin High School was a great final scene. The building provided a home for everybody. I didn't know any freshman or sophomores and they didn't know me. But the building brought everybody back together and for me that was a big deal."

**-Rylee, former JHS student and  
Vision Team member**

## Results



Wearing a Joplin High School baseball cap at the dedication ceremony

**Vice President Joe Biden** notes:

“The community and school have come back stronger than before with a commitment and a passion to envision a new Joplin.”

In a guest column in the Joplin Globe,

**former U.S. Secretary of Education Arne Duncan** wrote:

“School leaders in Joplin continue to think creatively about how to best serve students as they rebuild their classrooms, and the ideas are phenomenal - from establishing high school career paths to rethinking course schedules and classroom dynamics. They don’t want to just re-create the old system; they want to transform and modernize schools so Joplin can continue to be a model for the country.

With a modern, world-class school system, Joplin will continue to be a symbol of what’s possible when a community comes together to secure the American Dream for the next generation.”

