



CHERRY CREEK INNOVATION CAMPUS

Cherry Creek School District | Centennial, Colorado

Innovation Through Collaboration | Revolutionizing the Student Experience

Inspiring learners to think differently means teaching and learning must also think and look different. Cherry Creek School District launched a paradigm shift to reinvent its learning/workplace continuum that culminated when the ribbon was cut at the 117,000 SF **Cherry Creek Innovation Campus**. To support the District’s commitment to innovation and excellence, with support from the business community, this revolutionary campus is preparing students for the demands of their ever-changing world. Students are provided a personalized and reality-based experience which encourages them to explore, experiment, and celebrate and celebrate their educational journey.



2015



2019



The function of education is to teach one to think intensively and to think critically. Intelligence plus character - that is the goal of true education.

– Martin Luther King, Jr.

A Paradigm Shift: The 3 BIG IDEAS

The outcome of the District’s commitment to reinventing design and education is evident at CCIC. This progressive program moves beyond high school graduation and prepares students for a sustainable future where they are happy, healthy, and passionate about their career choice.

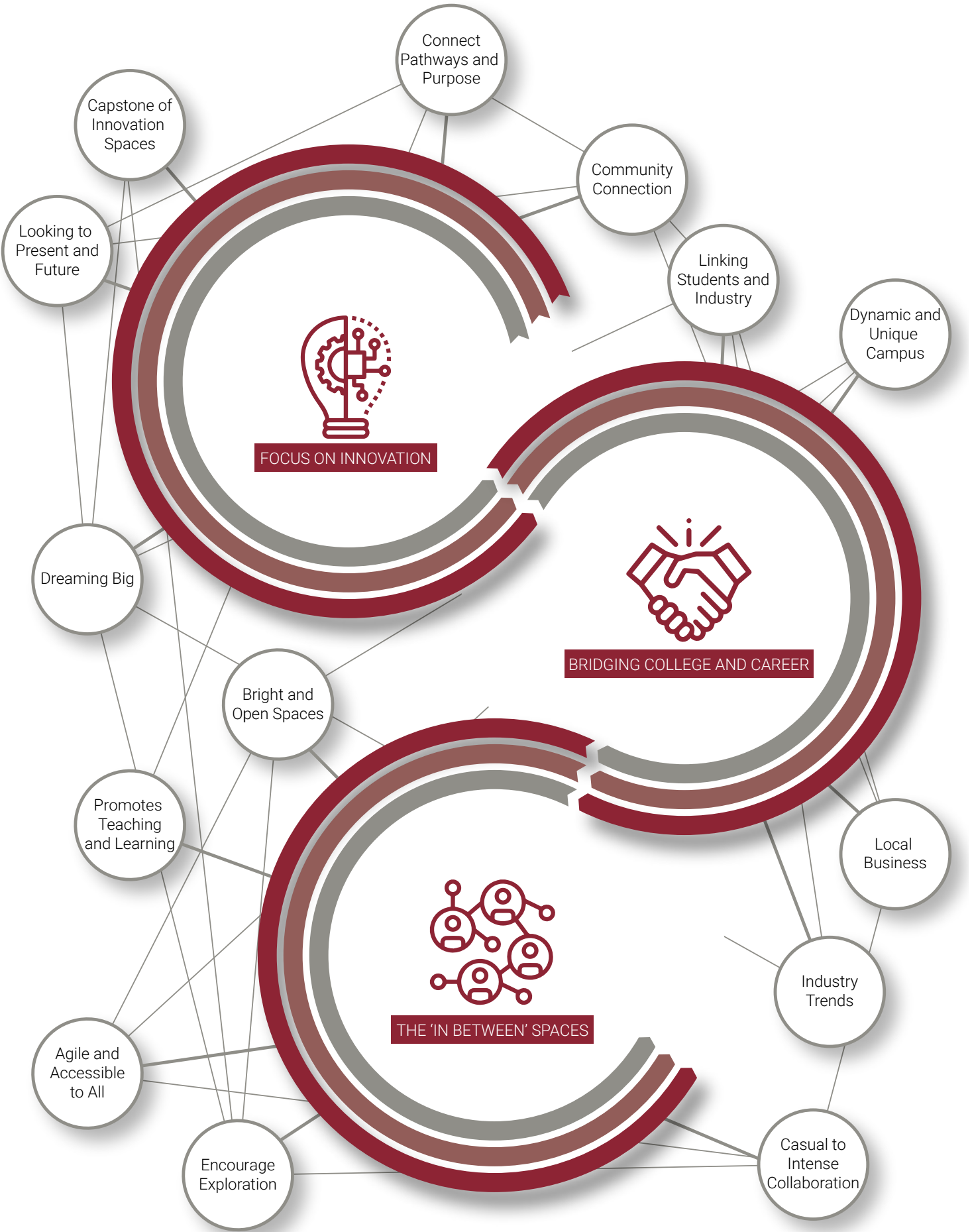
Focus on Innovation. Cherry Creek School District’s focus was to change the narrative of what effective post-secondary planning should look like now and in the future through innovative programming. This programming seeks to meet the needs of students who are not only college bound but for students who will be entering the workforce or military upon graduation from their home high school. This dynamic and unique campus serves as a capstone that allows every student to craft their own pathway of purpose. CCIC is the result of the entire District working together with an incredibly inclusive stakeholder engagement process that included students, teachers, administrators, community members, business and industry and governmental leadership and policy crafters. There is no longer just one path to success. **Cherry Creek Innovation Campus is the culmination of a vision that seeks to connect every student with their own pathway and purpose.**

Industry Partnerships and Community Businesses: A Bridge to College and Career. Understanding current and future trends of various industry partners is essential to harnessing the Community of Learners in Cherry Creek School District to spur on economic development regionally for both Denver and the State of Colorado. Partnerships with local businesses and industries are critical to the success of a career tech facility. It is the pull of industry that shaped the career pathways offered at CCIC. Linking students to industry through re-imagined applied learning programs allows students to dream big about their futures. There will no longer be just one path to success. **CCIC students have access to multiple pathways which enable them to evolve successfully into the entrepreneurs of tomorrow.**

The Space Between. There is growing recognition that the success of tomorrow will be grounded in the ability for individuals to come together as community to solve increasingly complex world problems. A facility that promotes teaching and learning must also allow for multiple levels of collaboration ranging from casual to intense. The allowances for interaction and incidental pathways created by an innovative i-Commons supports everything from drones to deliberations and was pivotal in the overall planning and design. **The fluidity of bright and open spaces immerses students into an environment that encourages exploration. Whether a student knows what they want, but wants to dive deeper, or a student who wants to explore a broad spectrum of opportunities, CCIC facility is agile and accessible to all.**

“*We challenged the architectural team to inspire students the moment they entered the building. Rather than thinking narrowly about participating in one pathway, we wanted students to see the possibility of creating their own trajectory through multiple pathways to meet their career exploration needs.*

– Dr. Harry Bull, former superintendent
Cherry Creek School District



Maximizing the Community’s Return on Investment | Project Data



Main Entrance

Date of Completion	June 2019
Project Context People	1,400 Students
Site Area	40 acres
Floor Area (GSF)	117,300
Number of Stories	2
Site Development Costs	\$5.9 million
Building Costs	\$38.4 million
Furnishing Costs	\$6.5 million
Technology Costs	\$0.6 million
Total Project Costs	\$45.1 million
Post Occupancy Evaluation	Scheduled Fall 2020
Type of Evaluation?	Student Engagement Index (SEI)/ Teacher Engagement Index (TEI)
% Minority and IEP at Cherry Creek School District Last Year:	Total Students in CCSD: 55,000+ African American: 11.2% American Indian/Alaska Native: 0.6% Asian: 9% Hispanic: 20.1% Native Hawaiian/Pacific Islander: 0.3% Caucasian: 51.6% Two or More Races: 7.2% 29% of Students Qualify for Free and Reduced Lunch 13% of Students on IEPs

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This is the first project that I have worked on that I truly believe will change education for tomorrow because we created a new building type that is neither education nor industry, but a combination of both.

*– Sarah Grobbel, assistant superintendent of career and innovation
Cherry Creek School District*

01 School and Community Engagement



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We are excited to bring this truly unique career and college preparedness facility to the Cherry Creek School District community. The Cherry Creek Innovation Campus simulates state-of-the-art work environments with a focus on putting learners in an industry-based culture and climate. We've had a lot of help from globally recognized companies to local industries located right here in our own backyard. It's an exciting time to be a student in the Cherry Creek School District!

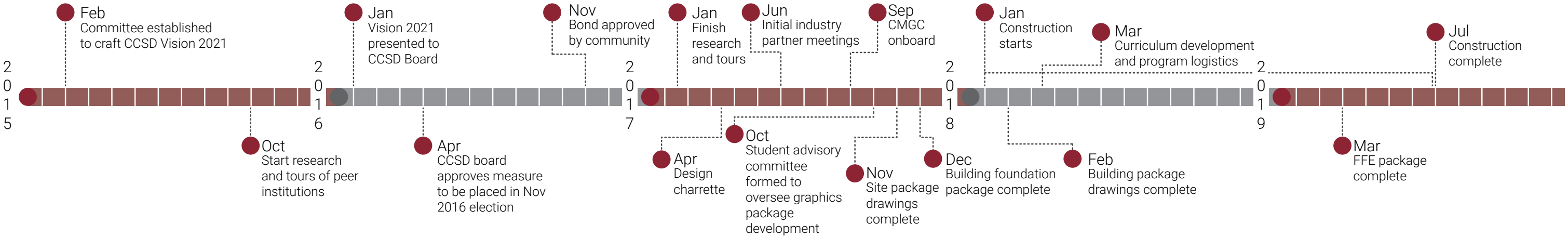
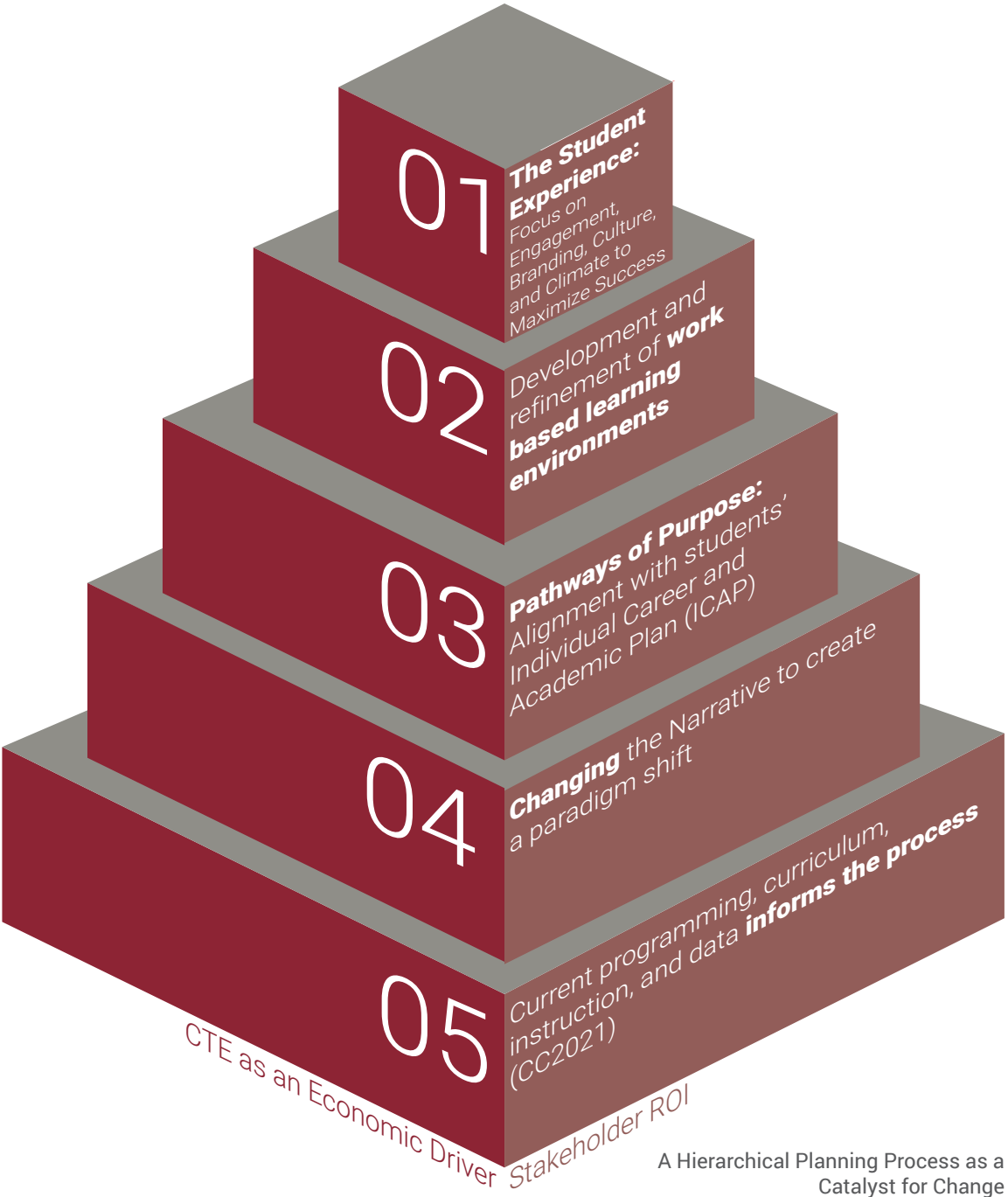
*— Mark Morgan, principal
Cherry Creek Innovation Campus*

Putting the Pieces Together

In 2015, the Colorado Department of Education announced changes to the graduation guidelines for the class of 2021, including proof of competency for multiple disciplines. As a result, the Cherry Creek 2021 initiative was formed to examine new means of delivering forward-thinking educational experiences to students. Community-based forums assembled to review structure and practice at all levels of the District, including graduation requirements. Approximately 300 parents, students, educators, staff, local business members, and industry owners collectively shared the same desire - to prepare students differently for the workforce they will enter in the future. Stakeholders agreed to focus on the following: innovation, critical thinking, real-world experiences, project-based learning, relevancy, communication skills, adaptability, and working in teams.

“*CCIC is a perfect illustration of the Cherry Creek School District’s continued commitment to innovation and excellence. Thanks to the support of our community, this cutting-edge facility will help prepare our students for the demands of their ever-changing world. Excellence is a moving target, and it’s always moving up; this groundbreaking is the first step in a project that will help us all keep up with the evolving demands of education.*

– Dr. Harry Bull, former superintendent
Cherry Creek School District



Changing the CTE Narrative

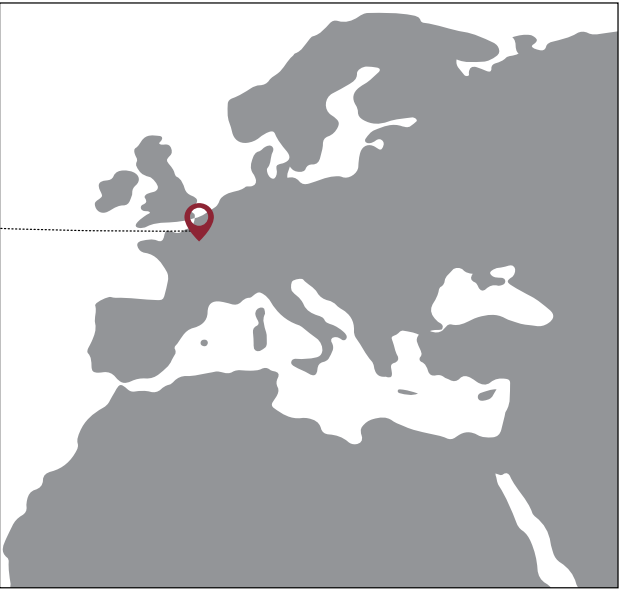
With innovation as the top priority, a key component of the planning process was discovering the elements that could act as true catalysts of change. This included additional research on exemplary programs that were being offered both nationally and internationally. Tours were a key component of the process intending to create a campus that was planned around innovation, not just the traditional CTE facility for “those kids”! How to structure the programs was a key component of discovery. Takeaways from these tours included:

- **The learning spaces should put students into a true work-based learning environment.**
- **The equipment itself and layout of equipment needs to be state-of-the-art to match environments found with our industry partners.**
- **The design of these spaces must naturally create opportunities for students to not only work on equipment and in spaces that are found in the workplace, but also let them experience the culture and climate of these industries.**
- **The space between each pathway must provide opportunities for students from all eight high schools to build community while on the campus.**
- **Teachers have the same kind of culture and climate experience as students.**
- **We must design a space that draws all stakeholders onto the campus... and keeps them there!**
- **A campus that promotes innovation and creativity that naturally creates opportunities for all stakeholders’ needs to connect with each other. You don’t schedule time to be creative and innovative... the environment must inspire you.**
- **The space should provide natural opportunities for industry partners, students, and teachers to connect with one another in a natural format... nothing contrived... nothing that needs to be planned and scheduled. The concept of incidental contact occurs throughout the campus.**
- **This campus must be like no other that our stakeholders have ever experienced.**

Industry partners were challenged to create authentic pathways that are relevant and meaningful for students’ career/college-ready careers. However, the creation of pathways quickly became a component of a more lofty goal of empowering students to reach beyond CTE to invent pathways of purpose that rejected the true spirit of innovation that CCIC has become!

“*Thank you, Cherry Creek School District, for setting an example for the rest of the country.*

– Noel Ginsburg, CEO
CareerWise Colorado




Tour Locations Included:

- ★ Denver, CO (Multiple Buildings)
 - Boulder Valley School District
 - Metro State University
- Lake Washington School District, WA (Multiple Buildings)
- Tacoma School District, WA (Multiple Buildings)
- West-MEC, Phoenix, AZ
 - Central, Northeast and Southwest Campuses
- Alexandria Area High School, MN
- Adlai Stevenson High School, IL
- Blue Valley Caps, KS
- Johnson County Community College, KS
- Natrona Pathways Innovation Center, WY
- Plano Independent School District, TX (Multiple Buildings)
- Poway Unified School District, CA (Multiple Buildings)
- Zurich, Switzerland (Multiple Buildings)
 - Swisscom – telemarketing company
 - Migros Talent Management – retail company
 - libs - Industrielle Berufslehren Schweiz – training center (school & leading training facility in Switzerland for engineering, electrical, and metal industries)
 - CYP Smart Education – banking and finance training facility
 - KV Business School – competency center for commercial and business education
 - SwissMem – Swiss mechanical and electrical engineering industry center
 - Swiss Counseling Center for Youth


Pathways of Purpose

With curriculum rooted in real-world skills and trade certifications ranging from the computer sciences to aviation to health sciences, this facility offers students a new kind of bridge to college and viable, successful careers. Under the Career and Technical Education umbrella, CCIC expands the District’s commitment to preparing students for the academic and professional demands of the 21st century. The student learning experience simulate state-of-the-art work environments, with a focus on putting learners in an industry-based culture and climate.


CCIC is geared toward students who are:



Looking for concurrent enrollment or dual enrollment opportunities to earn credit toward a college degree.

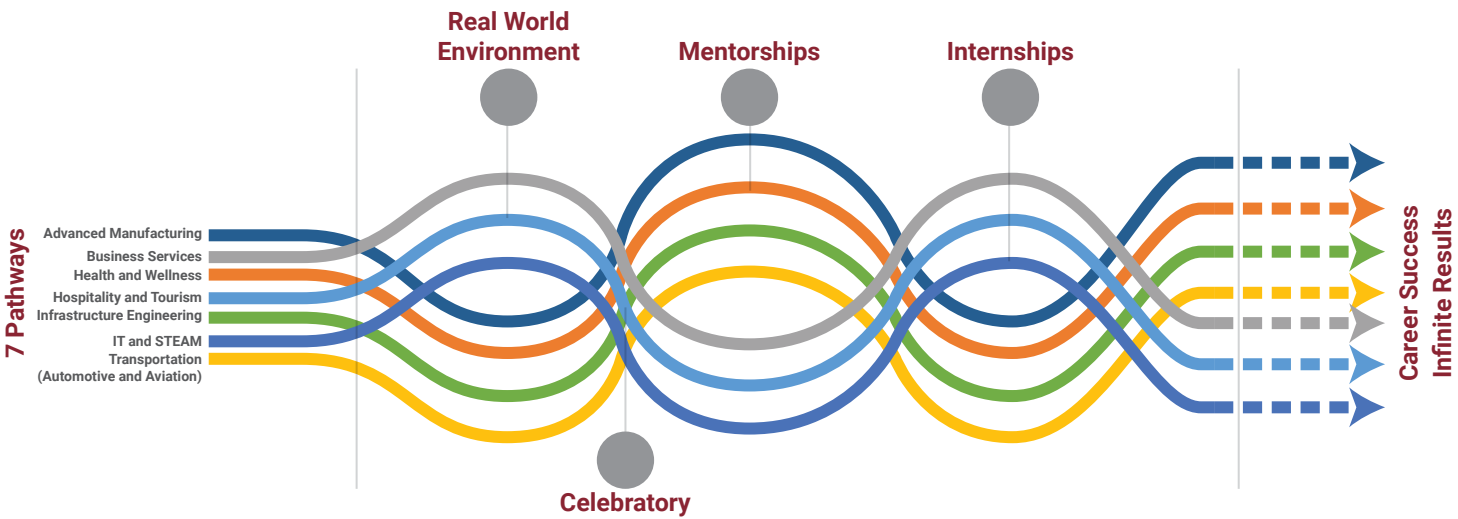


Wanting to learn a skill set or trade that will make them more competitive for career preparedness.



Wanting to further explore their interests and skill sets to enhance their college and career preparedness.

This initiative focuses on linking students to industry through re-imagined applied learning programs that allow students to dream big about their futures. There will no longer be just one path to success – multiple pathways enable students to evolve successfully into the entrepreneurs of tomorrow. Cherry Creek School District created a one-of-a-kind facility and program that supports their community of learners to explore, experiment and celebrate pathways of learning in preparation for life. Every learner is different. Every pathway should likewise respond to these differences. While seven strands were identified, infinite combinations that are in direct response to the learner are possible.



“The goal is to inspire kids to think differently with an understanding of pathways to be career ready.”

– Mark Morgan, principal
Cherry Creek Innovation Campus



Planning Curriculum with Partners/Deep Dives

As soon as CCIC was green-lighted by the Cherry Creek School District community, a team of teachers within the District was commissioned to begin the process of:

- Confirming pathways and partners
- Identifying the soft skills and technical knowledge required to succeed in each pathway
- Constructing curricula
- Determining equipment and learning spaces to meet the needs of the curricula

This process involved deep dives with industry and higher education experts. Members of the teacher team were tasked with scheduling intensive meetings with these experts and the architect to draft recommendations. Many times the deep dives spurred lively debates, with differing opinions initially emerging from each group. Through a process of sharing experiences, reflecting on current practices both good and bad, and making predictions for the future in each industry, each pathway began to take shape. The successful coalescence of ideas came from a common goal – to create an experience for Cherry Creek School District students like no other. Not only were pathways developed, they were shaped into 2 hour and 45 minute programs that merge core curriculum, general workplace soft skills and protocols with the more technical requirements of each certification.

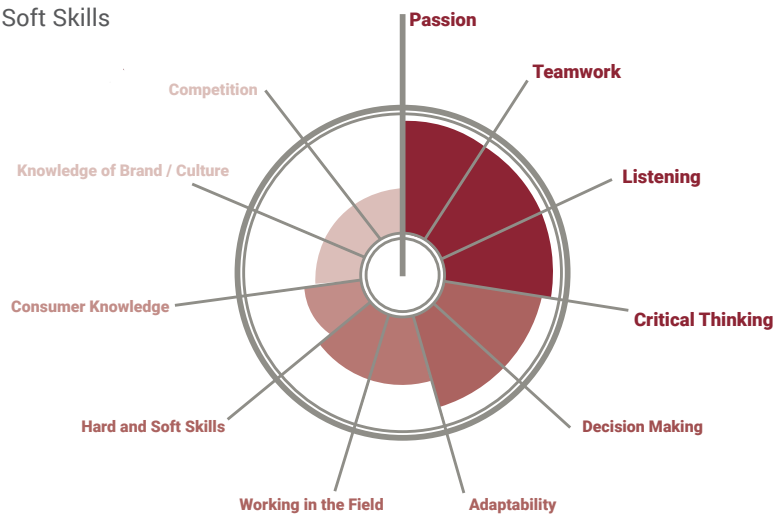
Strategic partnering with industry was the result. At a ratio of about 1:25, only the industry partners that were committed to ongoing relationships; to support in crafting curriculum, to internships and externships, and ultimately to jobs in the future were selected as Founding Partners.

Behavioral Health: The design and implementation of the Behavioral Health Program in the Health and Wellness Pathway at CCIC was a true response to industry needs. HealthONE, a large network of hospitals and clinics in the Denver metro area, and one of the industry partners, advocated for a program that would address growing concerns re: mental health. In their industry, mental health jobs continually go unfilled both in entry-level positions and college graduate levels. As a team committed to innovation and creativity, it decided to find a way to meet this need. In Colorado, there is not a comprehensive training program at the high school level for behavioral health.

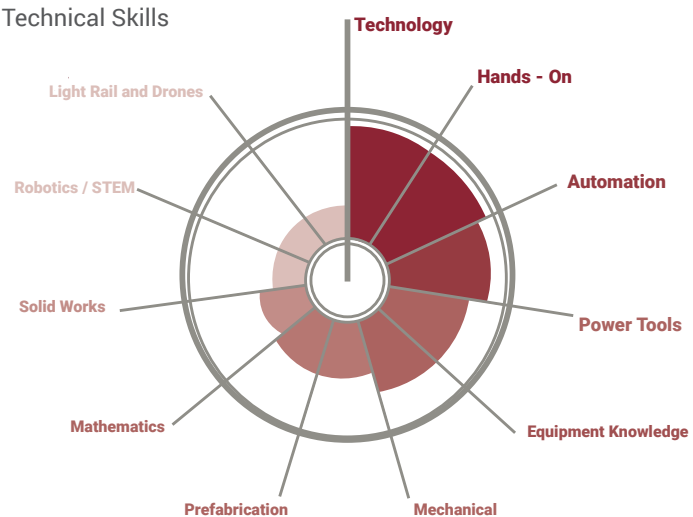
Infrastructure: Within the infrastructure track, juniors design tiny homes that will be donated to the City of Denver to address a growing homeless population. Seniors construct modular homes for Habitat for Humanity in their community. The design of a gantry lift was just one of the many design components that was required as the curriculum continued to evolve and inform the overall design and fit out of this high bay space. It is this attention to detail that has made CCIC such a success.

Advanced Manufacturing: Once the programming and planning led to the location of Advanced Manufacturing at the front door, there was a deeper dive of how to keep to facility current. This conversation led to the inclusion in the design of an enhanced slab that is actually colored differently to identify where a fork lift can be used to change out equipment in order to be responsive to industry needs not just when the building opens but into the future. This extraordinary level of planning throughout the process is what has led to a building that is responsive to all of the industry partners.

Soft Skills



Technical Skills

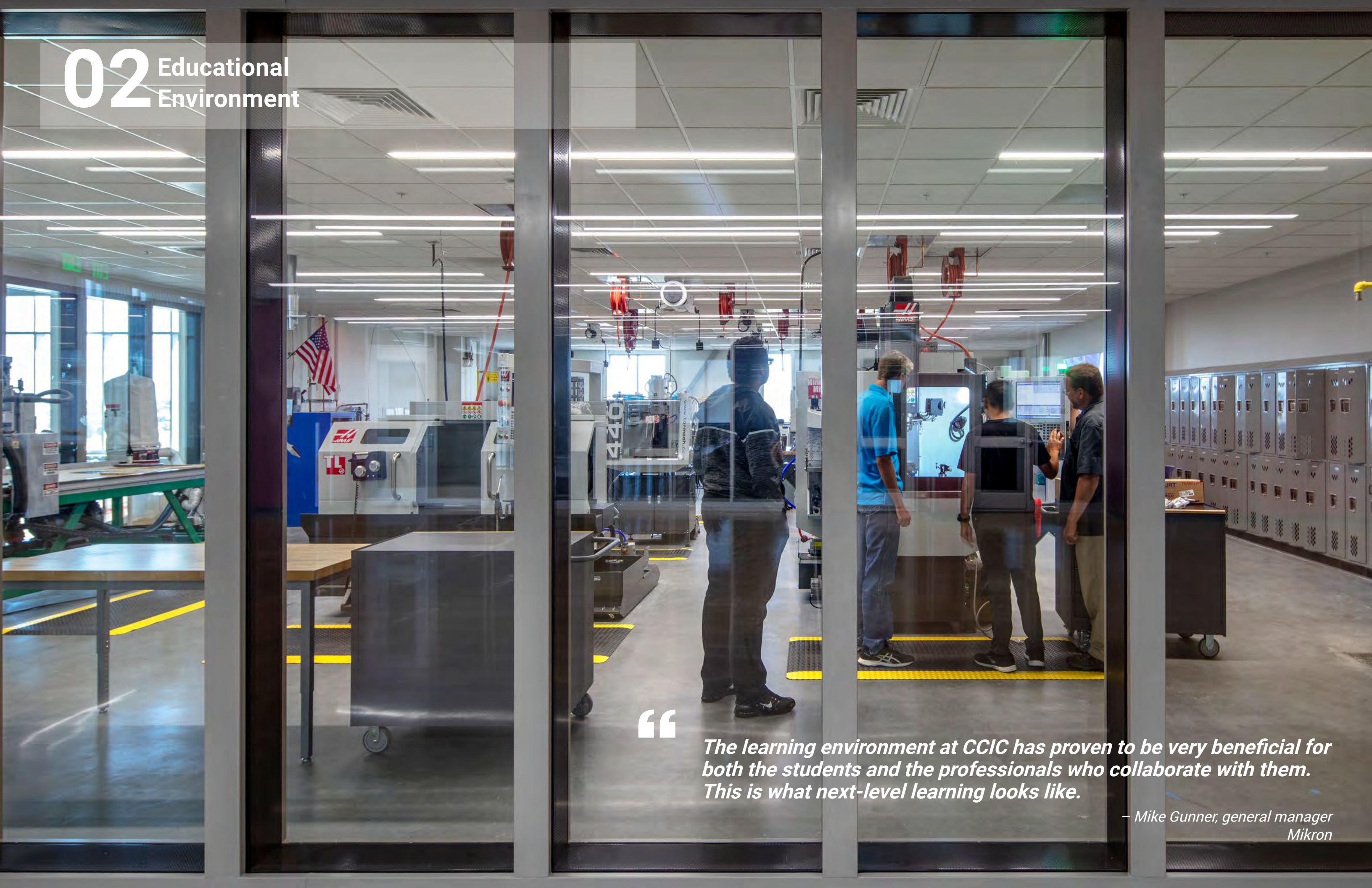


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This facility was designed with industry officials, higher education experts, teachers and students at the same table. It’s about creating opportunities for our kids in business and industry. As we’re constructing and building the place, we really want to own that and put our kids in connection with the industry folks.

*– Mark Morgan, principal
Cherry Creek Innovation Campus*

02 Educational Environment



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The learning environment at CCIC has proven to be very beneficial for both the students and the professionals who collaborate with them. This is what next-level learning looks like.

*– Mike Gunner, general manager
Mikron*

Programming the Student Experience

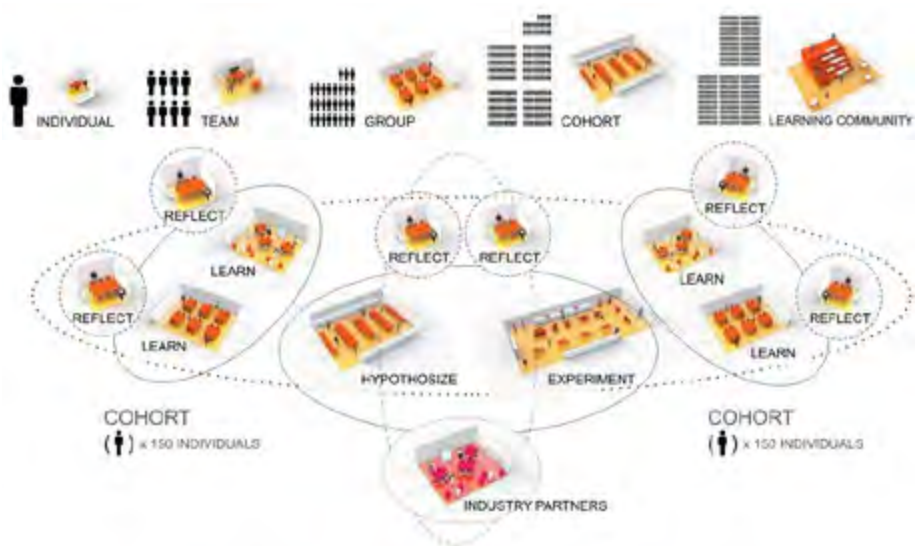
Programming: Aligning general parameters for the pathways at CCIC with Colorado’s Career Clusters allowed the design team and District to fully understand the goals and needs of each career pathway/industry partnership. Critical design elements such as square footages, heights, loading on the floor, access and the specific space, FFE, and equipment needs were appropriately defined. Other areas outside academic spaces and lab environments were designed for socialization and demonstration abilities.

Engagement: Stakeholder groups that included students, teachers and industry leaders from each of the career pathways participated in a series of sessions that were organized in multiple “deeper dives.” The intent of these sessions was to capture the hopes and aspirations of all involved. In addition, understanding the current and future trends of the various industry groups was another crucial component of these sessions. Industry partnerships are critical to the success of a career tech facility. It is the pull of the industry that really drives the career pathways offered at a career tech facility.

User Experience: Key to CCIC was the focus on providing variety in the programs, pathways, and architecture in order to allow for every individual student to craft their own experience. Allocating time for lunch on campus was also a key decision to allow social time for casual collisions and knowledge sharing. The inclusion of a Student Advisory Board was instrumental in ensuring that the student experience was part of the dialogue from programming, to design, to graphics. The Student Advisory Board became the ambassadors to welcome students to the facility when it opened.

“No matter their passion, their skill set or their path after graduation, our students will have a chance to flourish in new and exciting ways in this building.

– Dr. Scott Siegfried, superintendent
Cherry Creek School District



A Focus on the Student Experience



Student Advisory Board

PROGRAM	NET SF	STUDENT CAPACITY	RATED CAPACITY	NSF/STU
ADMINISTRATION / INDUSTRY PARTNERS	10,700	–	–	–
ASSEMBLY	4,000	–	–	–
BUSINESS / MARKETING	2,700	50	43	54
STEM / IT SERVICES	8,200	75	64	109
HEALTH SCIENCES + WELLNESS	5,800	100	85	58
CULINARY + HOSPITALITY	7,650	75	64	102
ADVANCED MANUFACTURING	6,500	75	64	87
INFRASTRUCTURE ENGINEERING	7,300	75	64	97
TRANSPORTATION LOGISTICS	24,100	150	128	161
NSF Subtotal	76,950	600	510	128
Unassignable	40,350			
GSF Total	117,300	600	510	196

Program Summary



Program Adjacencies

Designing a Workplace Learning Environment

An Intense 3-Day Workshop Process

Design: Once the vision and program were established, the District purchased 40 acres centrally located within the District to provide easy access to all students. A site-specific design process with launched with an intensive three-day design charrette governed by the framework of Cherry Creek School District’s vision.

On **Day 1**, the emphasis was to define design principles and goals for the new Cherry Creek Innovation Campus. In addition, various design concepts were explored and investigated to leverage opportunities afforded by the proposed programs and the picturesque Dove Valley site. The core design principle developed was: *“Inspire kids to think differently with an understanding of pathways to be career ready.”*

Day 2 was about refining the Big Idea. The outcome from Day 2 was the selection of a general direction moving forward by developing a more tangible building diagram that guided the overall development of the plan. An emphasis was placed on how the building could encourage and enable discovery.



The Strand scheme was selected and this diagram quickly became iconic in describing the weaving together of the various pathway strands to create limitless opportunity and innovation.



Why the selection of the Strand scheme? Comments from the charrette included:

- **This is it! I want to walk in and see 10 different things going on!** Activities open to each other but not just one big space.
- **Hybrid commons that can do a lot of things.** Likes the potential options of how the plan can evolve.
- **Lots of interaction, and incidental meetings.** Can see some great fundraising spaces. Centralize admin area, so it can be integrated into the student experience. Further up on the hill allows for more future flexibility.
- **Building a sense of community while also providing areas that are more individually scaled.** Be sure to included outside areas/porches for skilled trades.
- **Think about how the commons can support everything from drones to drama.**

The takeaway from **Day 3** and the finalization of the concept design charrette was a simple building diagram where the building flowed north-south along the site topography and roof forms contrasted the building by going in an east-west direction.



A 3-Dimensional Design Process

Woven pathway strands centered around the i-Commons continue to shape the architectural outcome and allow students to create their own trajectories based on their individual experiences within the building. At each iteration of the design process, through conceptual, schematic, and design development, there were deeper dives that combined industry partner priorities, developed unique curricula with the cadre of educational leaders, and finalized equipment layouts with manufacturers. This was an intensive, iterative process that constantly layered the need of all stakeholders and continued to refine design priorities:

- “Strands” between pathways incubate interaction, invention, and innovation
- “Iconic Presence” on landscape creates sense of intrigue and fascination
- “Good Stewards” of the land to allow future expansion and new buildings

Because of the complexity of the overlapping priorities, the use of 3D animations allowed all stakeholders to participate in design conversations equally.

“It doesn’t remotely feel real. I looked at the fly through video for so long. At every event I was at, I was presenting a film. I was showcasing and talking about it. Now, I feel like get to walk into the artwork. I still pinch myself when I pull up every morning.

– Mark Morgan, principal
Cherry Creek Innovation Campus



Conceptual Massing

View the animation on Vimeo: <https://tinyurl.com/ybz3amvy>



Schematic Development to Construction

View the animation on Vimeo: <https://tinyurl.com/yc5xyprq>



Design Development

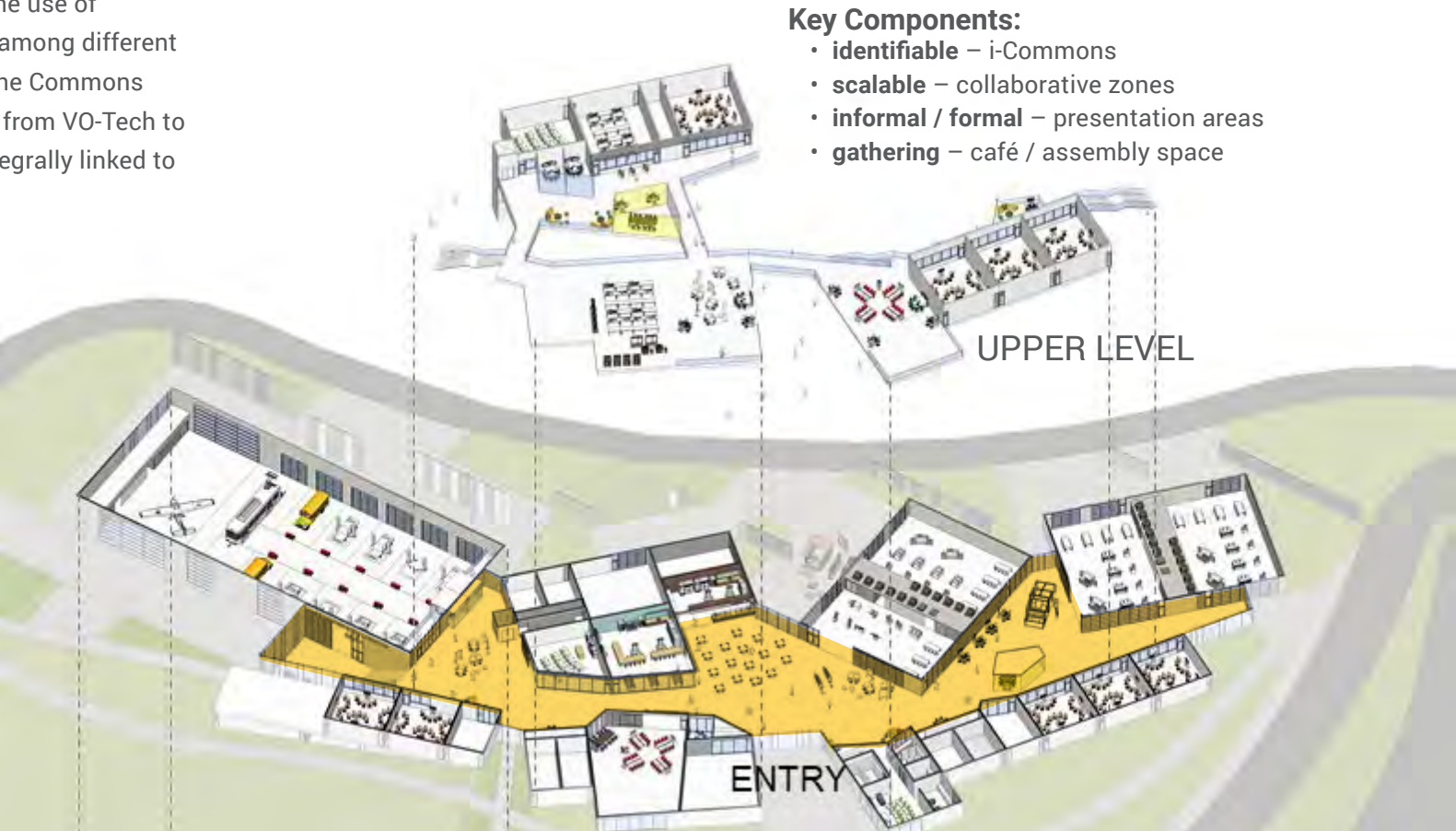
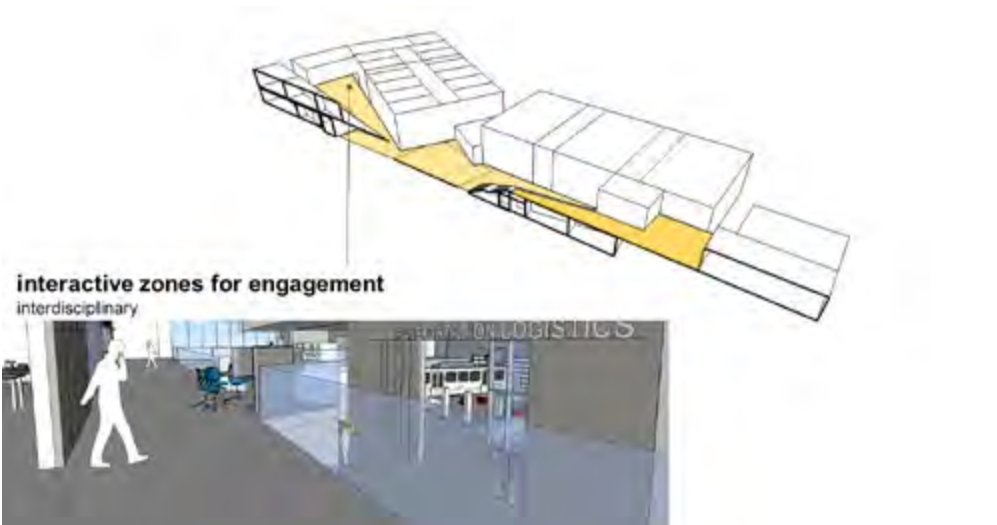
View the animation on Vimeo: <https://tinyurl.com/y8fxbzhr>

Conceptualizing the i-Commons

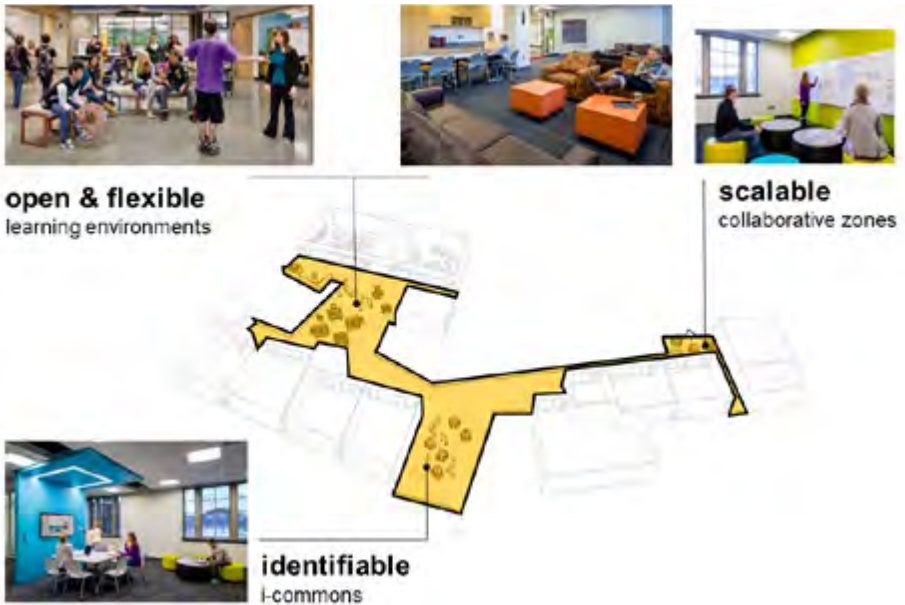
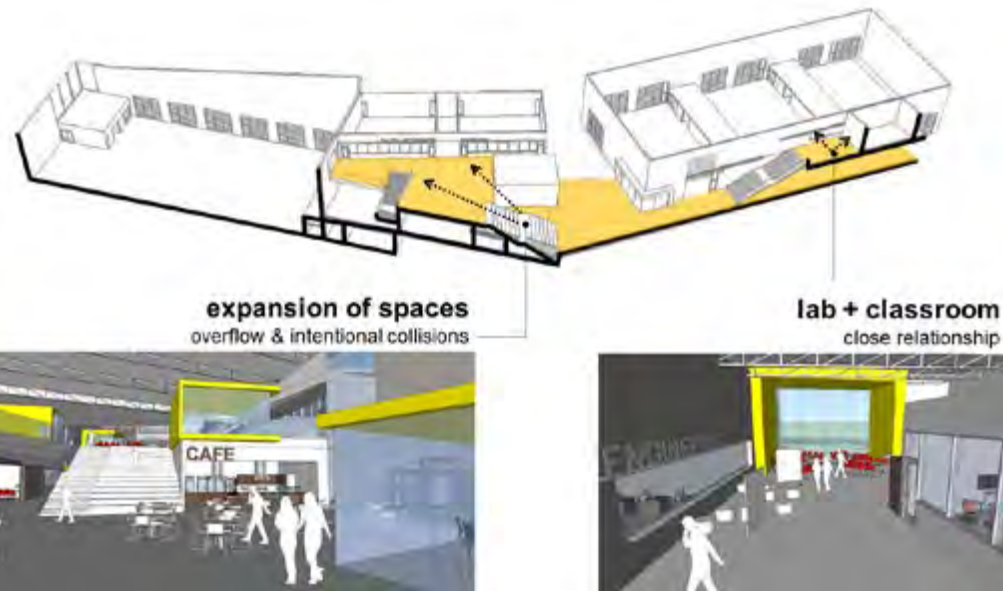
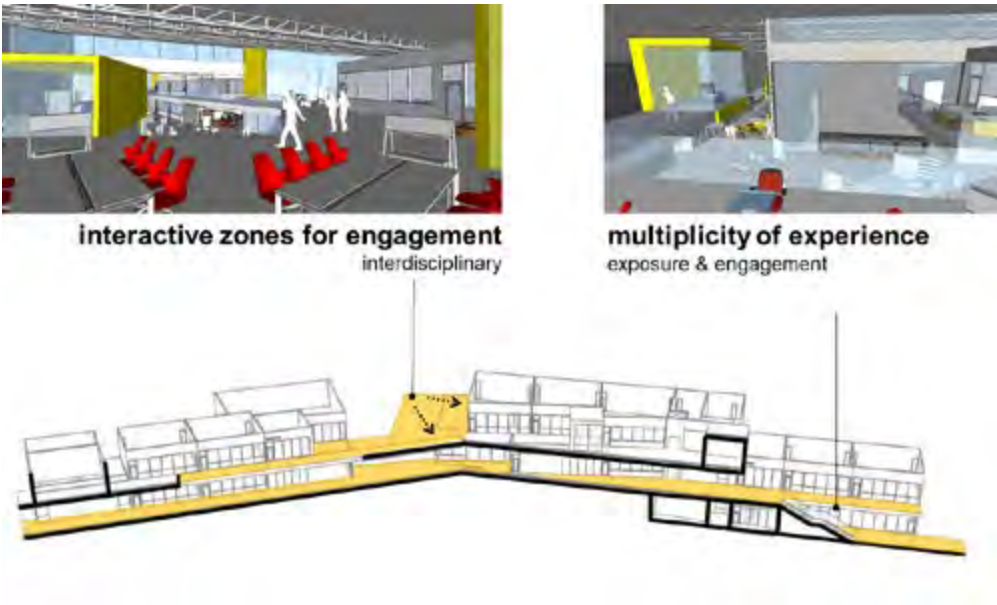
The i-Commons is the heart of the campus and is celebrated by the dynamic building plan layout that combines circulation and learning spaces. This space is an extension of the corridor spaces that link the programs together and includes specific i-Commons flex spaces dispersed throughout the design to promote strategic interaction and intentional collisions. This is not just about CTE, it is about innovation and 21st century learning.

The desire to maintain transparency and curiosity throughout the campus is reinforced through the use of glazing to provide visual accessibility throughout the programs and to encourage the interaction among different pathways. The i-Commons is further activated by the Café/Culinary program which is located in the Commons and is anchored by the main learning stair connecting the two levels of the facility. The transition from VO-Tech to Career and Technical Education (CTE) to Innovation that supports a work force of the future is integrally linked to the aspirations of this facility.

“ This is the 21st century equivalent of a vocational center ... I can't remember the last time I've seen something like this; it's so exciting.
 – Jared Polis, governor, Colorado



- Key Components:**
- **identifiable** – i-Commons
 - **scalable** – collaborative zones
 - **informal / formal** – presentation areas
 - **gathering** – café / assembly space



The i-Commons is the Heart



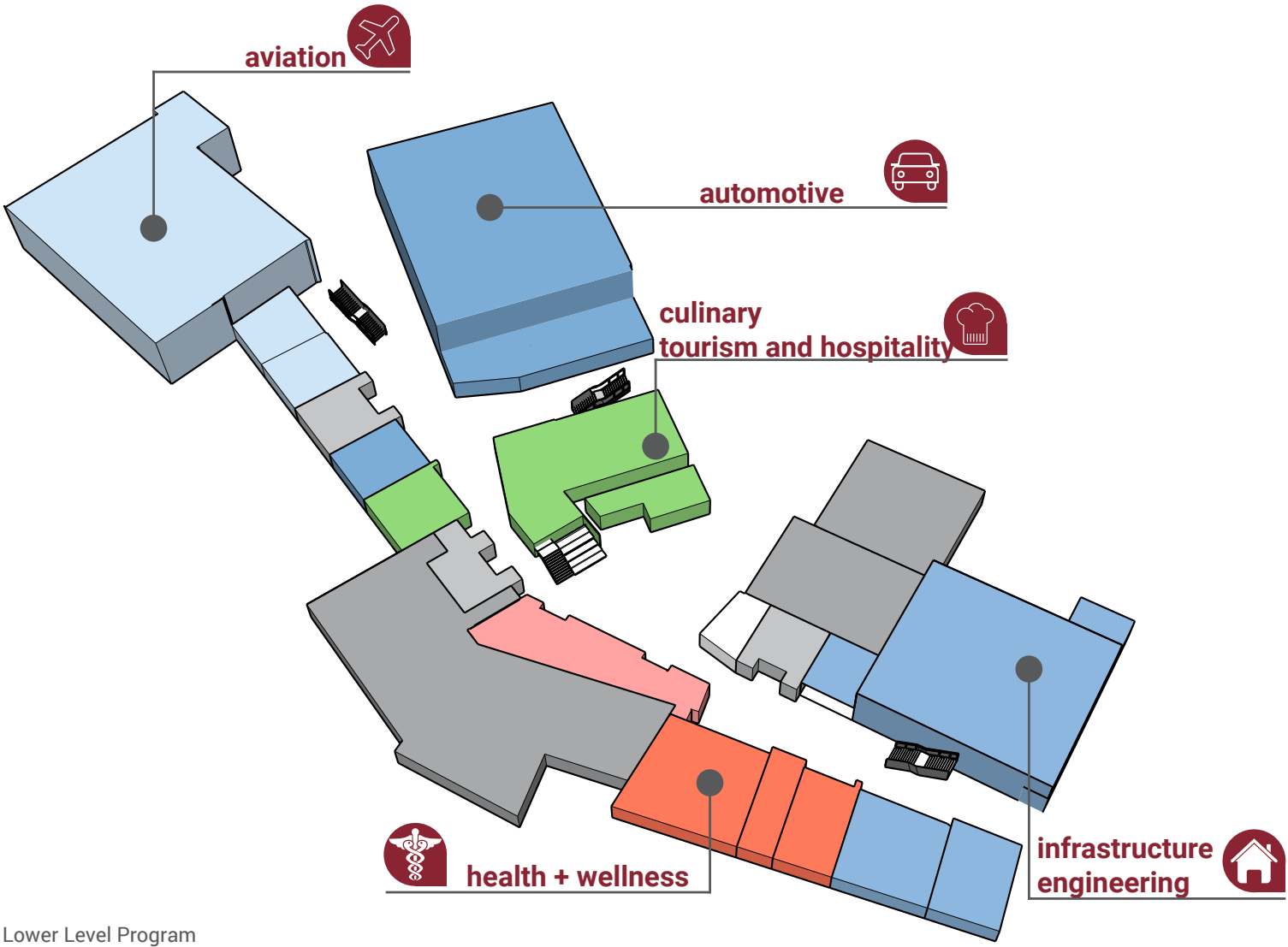
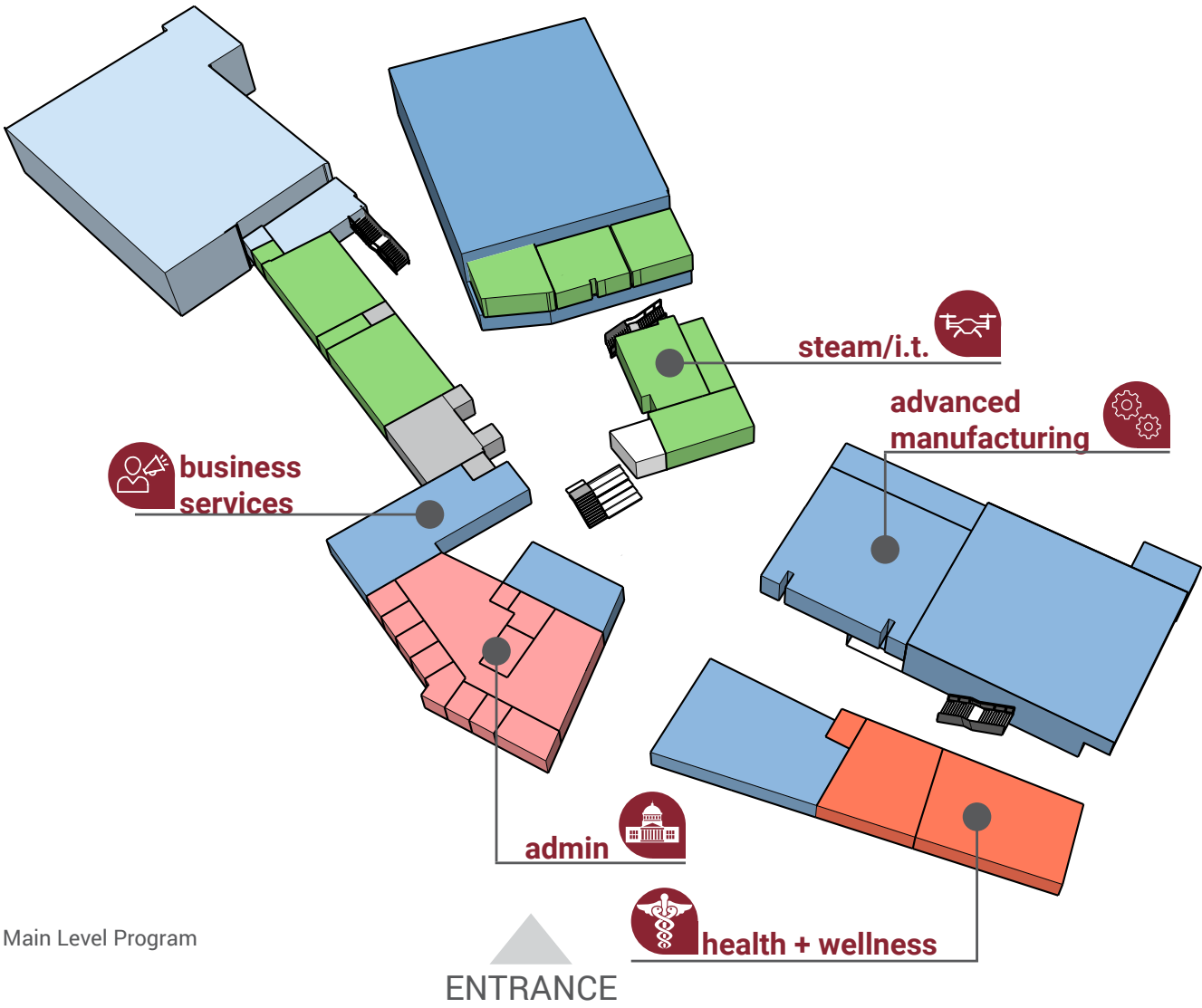
Building Diagram | Pathways of Purpose

Every space is designed to enable and connect with each other. The location of each pathway within the building is intentionally designed to embrace the potential of combining pathways in unique ways. For instance, combining culinary, automotive and business services pathways allows a student to craft a future as a food truck entrepreneur. It has already happened!!

By locating Advanced Manufacturing at the front door, students and parents immediately recognize that today's manufacturing is no longer dirty, demeaning and dangerous!

By locating the Health and Wellness next to the clinic allows for internships within the school.

High bay spaces such as automobile, aviation and infrastructure are located on the lower level with overlooks from above.



“ Our success in the Cherry Creek Innovation Campus has been creating meaningful relationships with industry partners and higher education to provide our students with curriculum and instruction grounded in real-world experiences. – Sarah Grobbel, assistant superintendent of career and innovation Cherry Creek School District

Pathways and Curriculum

Advanced manufacturing pathway



- Careers**

 - CNC Machinist
 - CNC Programmer
 - Electromechanical Technician
 - Manufacturing Technician
 - Production Technician
 - Quality Inspector
 - Material Handler
 - Tool and Die Maker
- Industry Certifications**

 - National Institute of Metalworking Skills (NIMS) Job Planning, Benchmark and Layout Credential
 - National Institute of Metalworking Skills (NMIS) Measurement, Materials and Safety Credential

Business services pathway

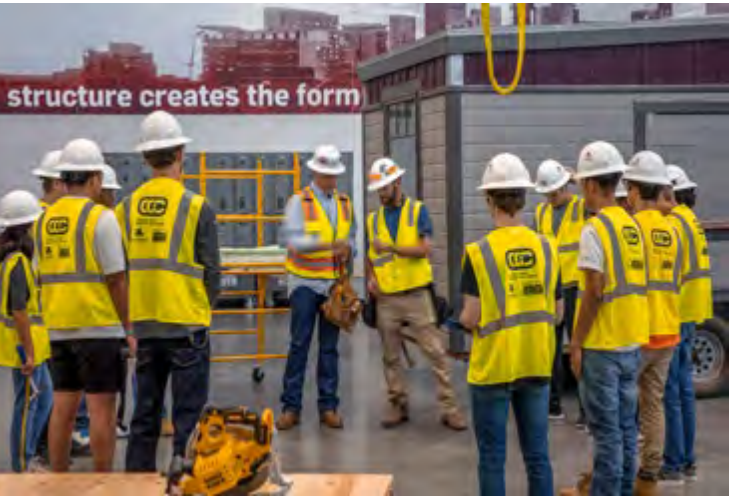


- Careers**

 - Project Manager
 - Sales Associate
 - Social Media Specialist
 - Marketing Associate
 - Human Resource Specialist
- Industry Certifications**

 - Certified Associate Project
 - RISE Up Customer Service and Sales Professional

Infrastructure engineering pathway



- Careers**

 - HVAC Technician
 - Forklift Operator
 - Electrician
 - Carpenter
 - Plumber
 - Roofer
 - Landscaper
 - Drywall
- Industry Certifications**

 - Occupational Safety and Health Administration (OSHA) 10-Hour Card
 - Home Builders Institute (HBI) Pre-Apprenticeship Certificate Training (PACT)
 - National Center for Construction Education and Research (NCCER) Credentials

I.T. and STEAM pathway



- Industry Certifications**

 - Network Administrator
 - IT or STEAM Educator
 - Mechanical Engineer
 - Computer Engineer
 - Product Designer
 - Data Analyst
 - Game Designer
 - IT Support Specialist
- Industry Certifications**

 - Certified SOLIDWORKS Associate (CSWA)
 - Certified Additive Manufacturing Associate (CSWA-MA)
 - CompTIA A+, Network+
 - TestOut PC Pro, Network Pro

Hospitality and tourism pathway



- Careers**

 - Executive Chef
 - Food Stylist
 - Marketing Director
 - General Manager
 - Catering Director
 - Executive Housekeeper
 - Restaurant Owner
 - Pastry Chef
- Industry Certifications**

 - ProStart National Certificate of Achievement
 - ServSafe National Restaurant Association Certifications
 - American Hotel and Lodging Educational Institute (AHLEI) Certifications
 - American Culinary Federation (ACF) Fundamentals Cook Certification

Health and wellness pathway



- Careers**

 - Physical Therapist
 - Registered Nurse
 - Counselor
 - Psychiatrist
 - Pharmacist
 - Social Worker
 - Occupational Therapist
 - Health Science Educator
- Industry Certifications**

 - Behavioral Health Technician Certificate
 - Certified Nurse Aide Certificate
 - CPR/First Aid, AED Certificate
 - Pharmacy Technician Certificate

Transportation pathway (Automotive)



- Careers**

 - Automotive Technician: local repair shop, dealerships, fleet maintenance, specialty shops
- Industry Certifications**

 - Snap-on: Multimeter, Torque, Precision Measurement, Scanner and Diagnostics, Wheel and Alignment, Starting and Charging, Pro-Cut Rotor Machining
 - Automotive Service Excellence (ASE) Entry-Level Certifications: Maintenance and Light Repair, Automobile Service and Technology

Transportation pathway (Aviation)



- Careers**

 - Aircraft Mechanic: major airlines, flight schools, air ambulance, cargo aircraft, corporate jets
- Industry Certifications**

 - Federal Aviation Administration (FAA): Mechanic Certificate with Airframe and Powerplant Ratings



Wherever the art of
medicine is loved,
there is also a love
of humanity.

Hippocrates







03 Physical Environment



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Functionally and aesthetically, it was done right. The design of the campus is top notch and we couldn't ask for more. Kiewit could not be prouder to be associated with such a great program.

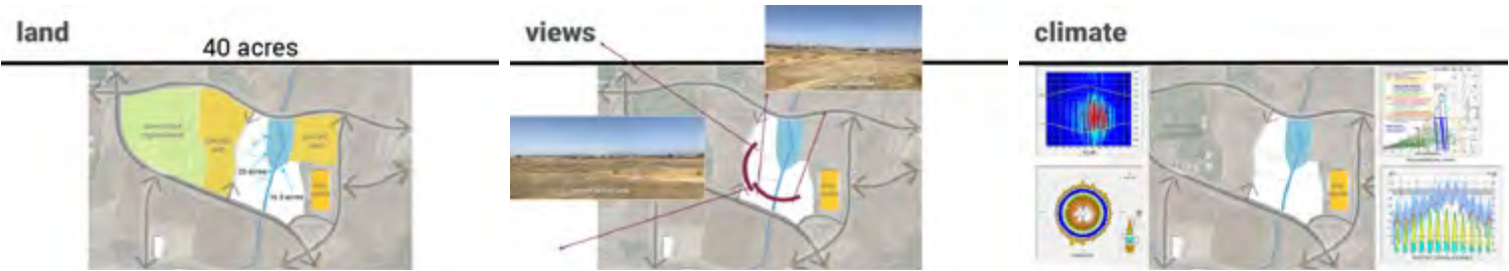
*— Brian Robinson, regional recruiting manager
Kiewit/The Industrial Company*

A Dramatic Site Demands Dramatic Results

Locating CCIC on 40 centralized acres in Dove Valley provides easy access to all Cherry Creek School District students. Bounded by East Broncos Parkway and South Chambers Road, the site slopes dramatically to a low point that run north to south at the center of the site. While this could be considered a challenge, it was an opportunity to create a design following the topography along the north/south axis with contrasting roof lines that step down the slope as an iconic structure that will engage the user in a one-of-a-kind experience.

With the cross sectional topography sloping from west to east, the building is organized in a manner to place the larger volume spaces along the east edge and one-story spaces along the west. In doing so the entry sequence offers an overview of the entire building both in volume and length in the north/south axis. Internally, from any given point in the building there is a multiplicity of visual experience.

“ Hopefully, this whole horizon will be filled with buildings of opportunity for our kids.
– Sarah Grobbel, assistant superintendent of career and innovation
Cherry Creek School District



Classroom/High Bay Labs



Centralized Core



Service/Support



Floor Plans

Located an hour south of Denver, Colorado, a new state-of-the-art facility emerges from the hillside with its red ribbon roofline that passersby can't help but remark, "what's that?" As you enter the main level you are greeted with the familiar scent of freshly baked goods from the hospitality/culinary classes mixed with the sounds of laughter of the i-Commons; the heart of the school where interaction and intentional collusions between students, educators and industry partners happen.

To the left is the administration area that provides support for CCIC and district wide CTE programs. The east face of administration is the midpoint of a ribbon of red paint highlighting the circulation spine that links programs and collaborative learning the entire length of the building. To the north the Main Level terminates at business services which serves an entrepreneurial connector of many of the pathways offered in the building. An overlook of aviation and automotive on the Lower Level allows for diagonal views of these pathways and the outdoor workspaces or "yards" beyond.

To the south, on the main level is Advanced Manufacturing and Health and Wellness. Advanced Manufacturing captured this prominent position early in the design process in order to elevate and educate the prominence of high-tech industries now dominating the emerging industries. Both parents and students need to understand the future opportunities inherent in this ever-changing industry where inventions occur almost every day! Health and Wellness is split between the main and lower levels. Upstairs is the clinic, wellness room and the allied health pathways that acknowledges the need of students and teachers to have the support to be healthy and happy! The lower level of Health and Wellness houses Operational and Sports Therapy programs. Should I mention that the Broncos training facilities are across the street?

The terminus of the main level is a conference room that is available for industry partners. It visually connects the inside with the outside and celebrates the unique great plains as they ascend to the Rockies that inspired the shapes and forms of the building.

A central wood learning stair connects the facilities two levels, acting as an assembly space and gather zone allowing students to connect, learn, reflect and cross pollinate to elevate the student learning experience. Adjacent to the i-Commons is a teacher drop zone that connects instructors directly to the students. This physical connection reflects the commitment to be there for students as they map their individual experiences.

To the south of the I-Commons are Infrastructure (Building Construction) and Health and Wellness. To the north are Automotive, Aviation and Hospitality/Culinary. Culinary students not only cook but also provide the management of the student run Café. While an unusual juxtaposition of pathways, this once again reflects the commitment to think outside of the box. Every pathway, every connection is encouraged by the policies and curricula of the district that are supported by an architecture that enables!

“*I am hopeful for the future because we are working together to revolutionize workforce development and create new and innovative school-to-business pipelines... The Cherry Creek Innovation Campus is a model for the country.*

– Jason Crow, U.S. Representative



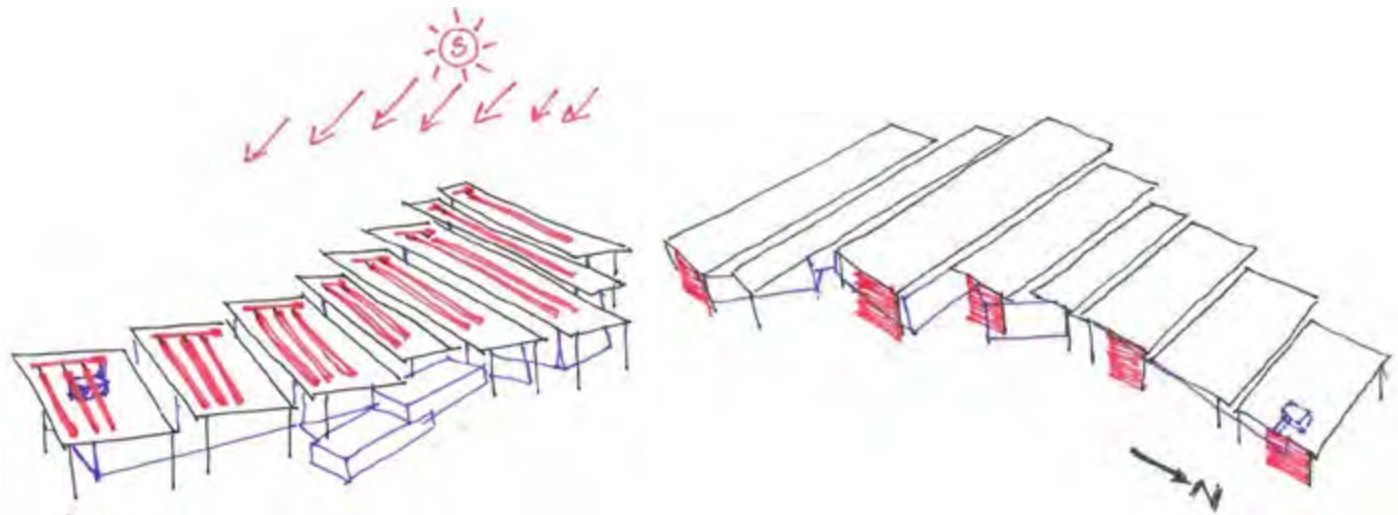
Main Level Plan



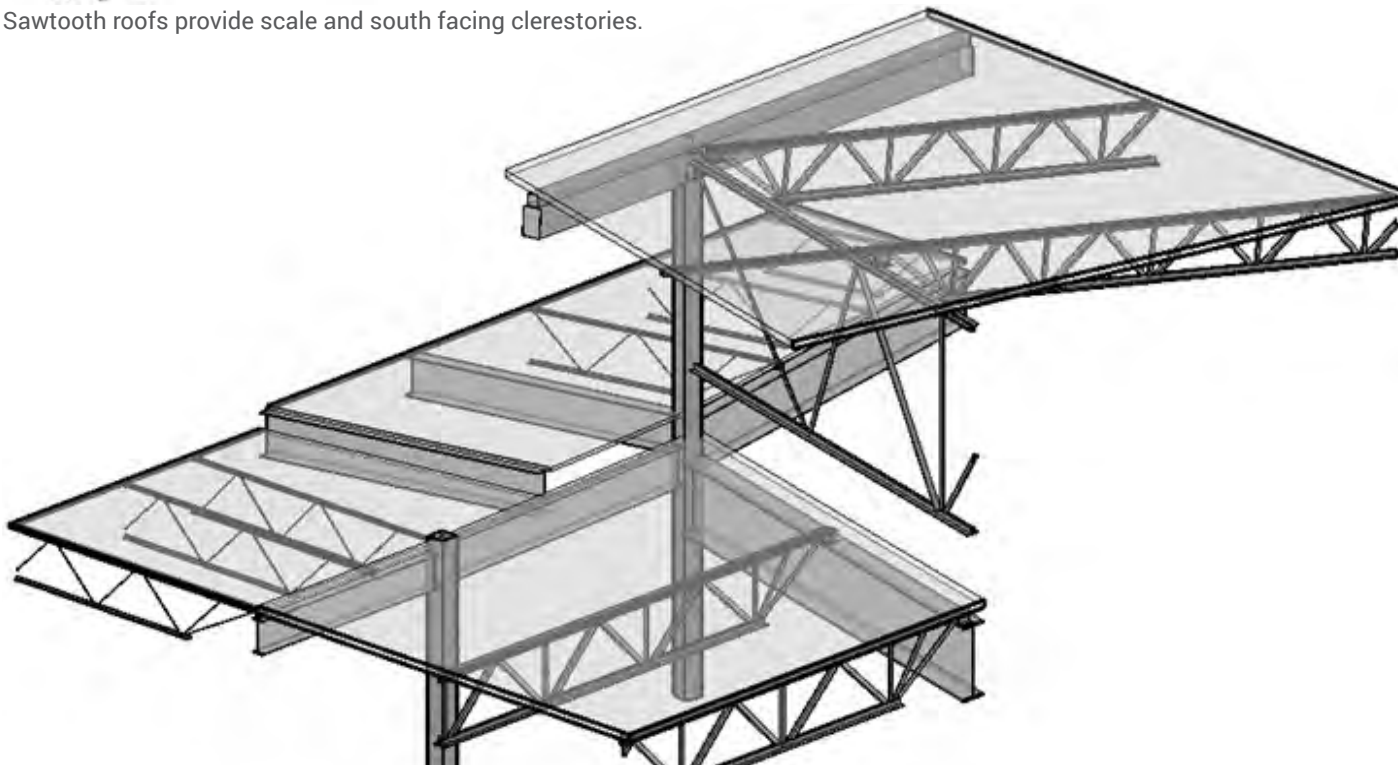
Lower Level Plan

An Expressed Building Structure

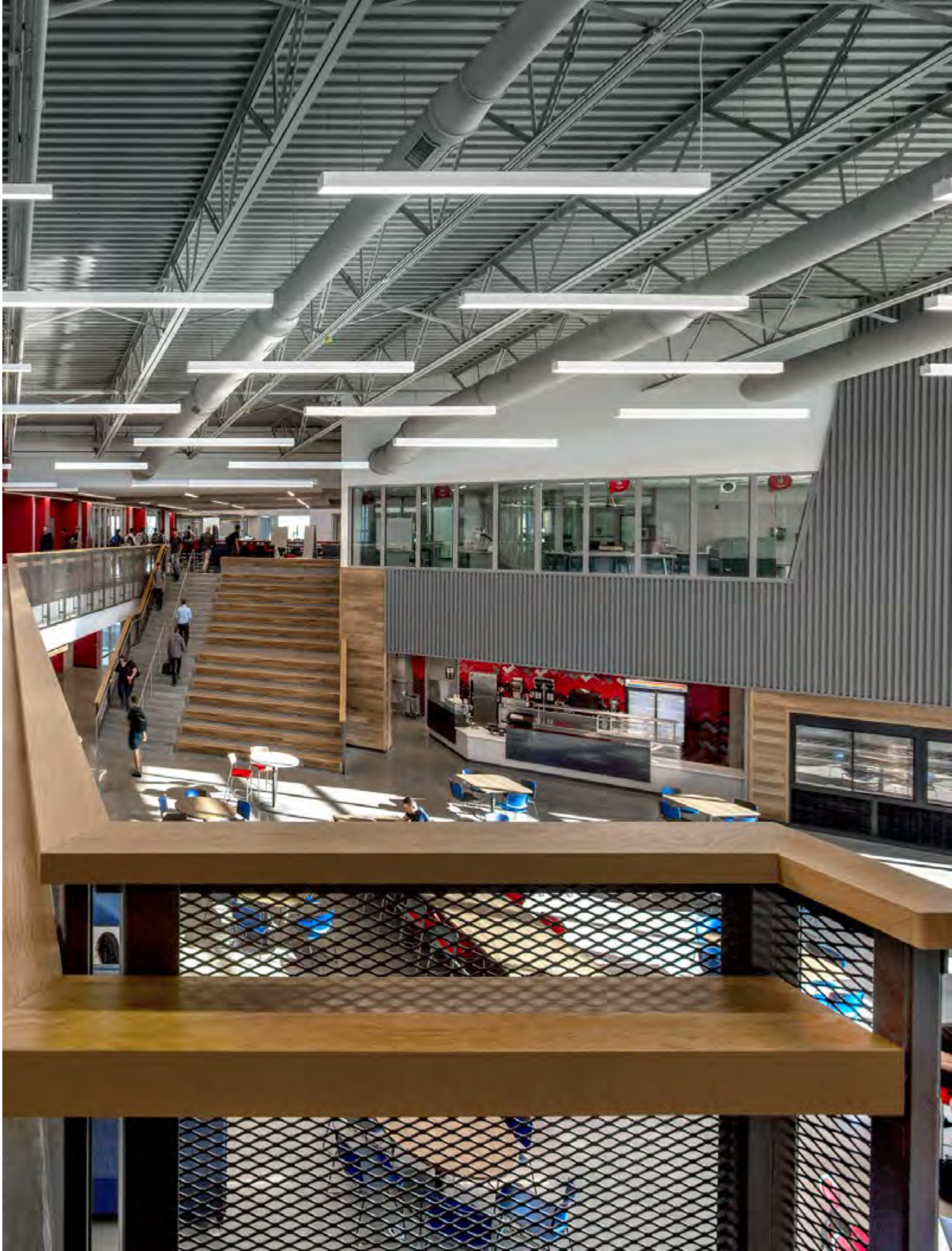
The programming of the school was intentionally organized so that the educational programs stacked, overlapped, and flowed together. Whether it is horizontally or vertically throughout the space, the different educational programs operate within communal spaces or within reach of one. This overlap and meshing of programs are seen in the form of the building and echoed in the structural design. The beams, joist, and columns of the structural system follow the slopes and angles of the architectural form, and where these architectural forms collide, so does the structure. This required unique detailing of connections and some structural gymnastics. Three different building areas, three different roof slopes, and three different framing directions come into one common point. The extra detailing and structural coordination ensured that the architectural forms, and the intent of overlapping programs could be achieved in this area, and throughout the building.



Sawtooth roofs provide scale and south facing clerestories.



Structural detailing celebrates stepped volumes and planes.



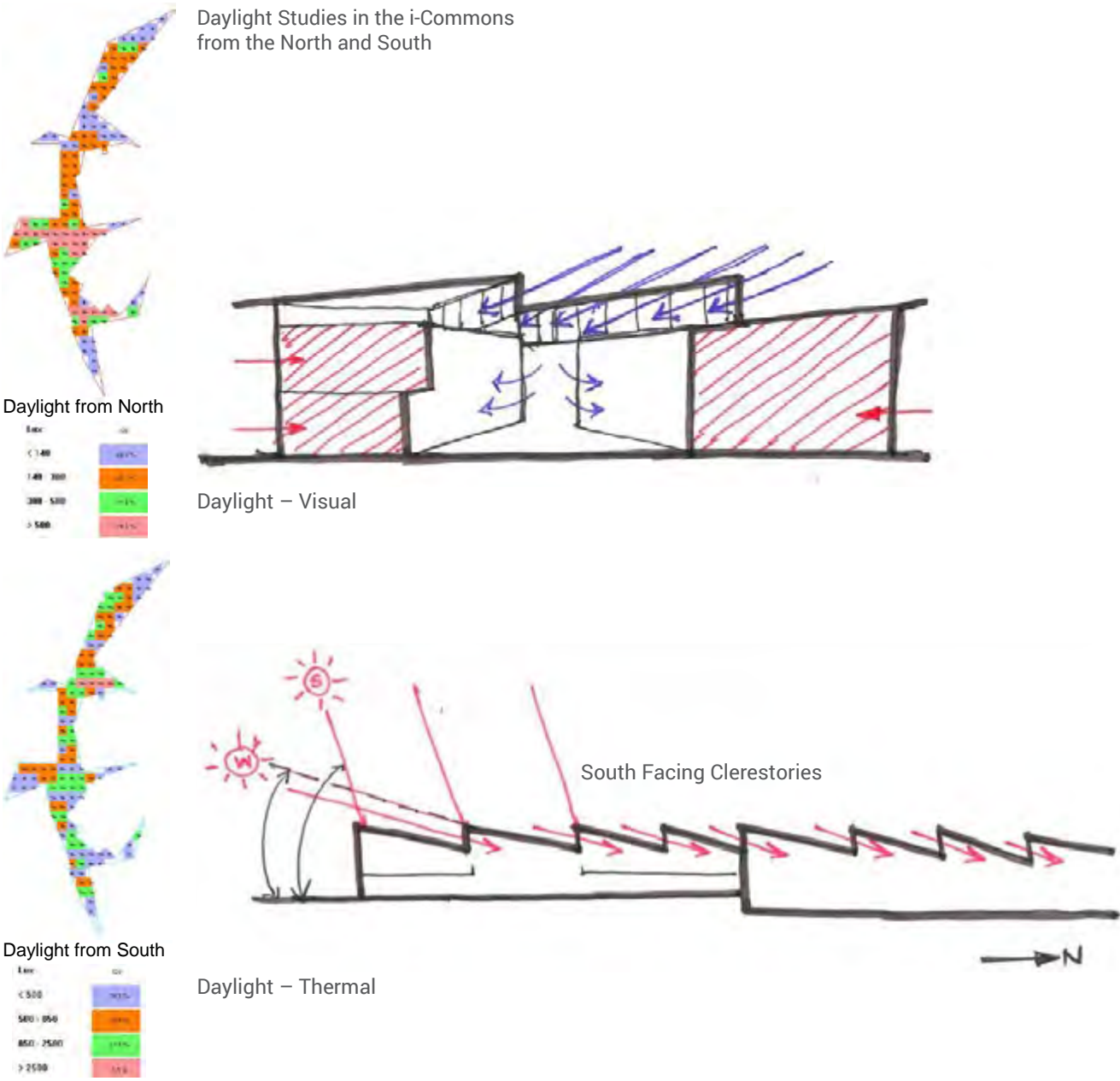
Massing and Materials that Make a Difference

Building Massing + Materials: Contrasting roof forms placed along an east/west axis offers the opportunity to use natural daylight using south facing clerestories to highlight the internal volumes of the i-Commons and into the lower level. Exterior materials complement and contrast the building massing from the existing topography. A large portion of the building exterior is concrete masonry contrasted with accents of Cherry Creek red metal wall panels that reinforce the roof forms that emerge from the Colorado plains. Masonry banding, varying roof forms and use of color within the different materials positions the building to truly announce itself as being a place you want to be!

Sustainable Design and Performance Strategies: Thermal cooling and lighting were two targets that were prioritized to minimize operating costs. During the summer, 15% of the occupied hours take advantage of natural ventilation during the day by using the building HVAC systems to bring colder outdoor air to sub-cool the building. This option has

reduced the need for cooling the building the majority of the summer days. Earth temperature at 10 feet below grade is relatively stable. We took advantage of the stable temperature of earth by building a labyrinth below the first floor to pull outdoor air through it and temper that air.

Primary teaching spaces borrow indirect light from the clerestory windows in the i-Common space. A clerestory design at the i-Common space facing south brings in an average of 35-foot candles with more than 50% of the space above 50-foot candles. This clerestory design also provides the opportunity to heat the i-Common space through passive solar heating which offsets 30% of heating energy for the i-Common space.






CHERRY CREEK INNOVATION CAMPUS




Post Occupancy Outcomes

 **55,000+**
TOTAL STUDENTS

 **89%**
GRADUATION RATE FOR THE CLASS OF 2019


 **13%**
STUDENTS ON INDIVIDUALIZED EDUCATION PLANS

Videos for Cherry Creek Innovation Campus:



The opening of CCIC was marked with community celebrations that acknowledge a new building type has emerged.

<https://youtu.be/bHQzgbRctbw>



Cherry Creek Innovation Campus is preparing students to move straight into good paying jobs without a college degree or trade school.

<https://youtu.be/iRsXnnyklo8>

“*I’m very proud of all the work you’re doing... This (school) meets needs not just in Colorado, but across the country. (said to students during a roundtable conference)*

– U.S. Senator, Cory Gardner

“*I had many great experiences at CCIC that set me in motion for my career. I learned how to start up a plane and make sure everything was running properly. In addition, I had the opportunity to figure out a solution on how to get unused fuel out of the helicopter. After high school, I will join the Air Force and specialize in environmental and electrical systems while getting my degree. My goal is to earn my commission as an officer and become a pilot within five years.*

– Isaiah Bowen, student
Cherry Creek Innovation Campus

“*CCIC has provided me the opportunity to push the bounds of what traditional K-12 education looks like. It has inspired me to not only experiment with my content and teaching practices, but also to refocus my attention on everything else that happens within an educational institution.*

– Jocelyn Nguyen-Reed, IT and STEAM/cybersecurity instructor
Cherry Creek Innovation Campus

“*Cherry Creek Innovation Campus is a school built around hands-on instruction. Everything we do in our building revolves around practical life skills. Therefore, having to conceptualize how that could be transferred to remote learning was a major challenge. Fortunately, I work with an incredibly creative and dedicated staff. In a matter of hours, the staff had shared numerous resources and ideas for how they intended to keep construction hands-on.*


– Michael Degitis, mathematics instructor
Cherry Creek Innovation Campus

March 2020 changed lives. The closure of the Cherry Creek schools was no exception. While the formal student and teacher engagement surveys used for post occupancy evaluation of the first year of use will be deferred until this fall, there have been several noted outcomes:

- Stories continue to be shared teachers and students;
- The commitment of 66% of the students enrolled in internships have elected to continue their jobs. A lot of the positions are in essential businesses, so students are being exposed to industry changes because of COVID in a real time way.
- Connecting with the community through social endeavors such as making masks for medical workers, delivering food to students, puppets for smiles, just trying to stay connected really reflects not just the academic impact of the Innovation Center but also the social connectivity that has united the district.


This building is all about meeting students and parents where and who they are. A commitment to providing even more community services in the 2020/2021 school year and beyond has been reinforced and included in Cherry Creek’s future trajectory.

Videos for Cherry Creek Innovation Campus:



Cherry Creek Innovation Campus Instructors creating PPE with equipment inside CCIC for healthcare professionals during the COVID-19 pandemic.

<https://youtu.be/9GjBKc4Q7IM>



Learning and construction continues in CCIC’s tiny homes project. Cherry Creek Innovation Campus is committed to providing tiny homes for people experiencing homelessness.

<https://youtu.be/zV16mrp1Az0>





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The separation between teaching and learning is blurred as illustrated by the i-Commons to the easily accessible teacher drop zone.

— Michael Degitis, mathematics instructor
Cherry Creek Innovation Campus