



Building for the Block

**The Center for Immersive Learning
and Engaged Teaching & Tutt Library**

Executive Summary

MASS Design Group was contracted by Colorado College to complete programming and conceptual design for the renovation and expansion of the Tutt Library. The team was led by MASS co-founder Alan Ricks, a Colorado College alumnus (2005).

Project partners include *brightspot strategy* on programming work, *Mazzetti* on mechanical electrical and plumbing engineering and sustainability analysis, *AKT* on structural engineering, and *JE Dunn* on cost estimating and construction phasing.

We began this project by immersing ourselves in the CC experience and sought to answer the question, ‘How is this new building imperative for the future of CC, and what would its impacts be?’ The following executive summary represents the process we went through as well as the conclusions we have reached together.

Why change the library?

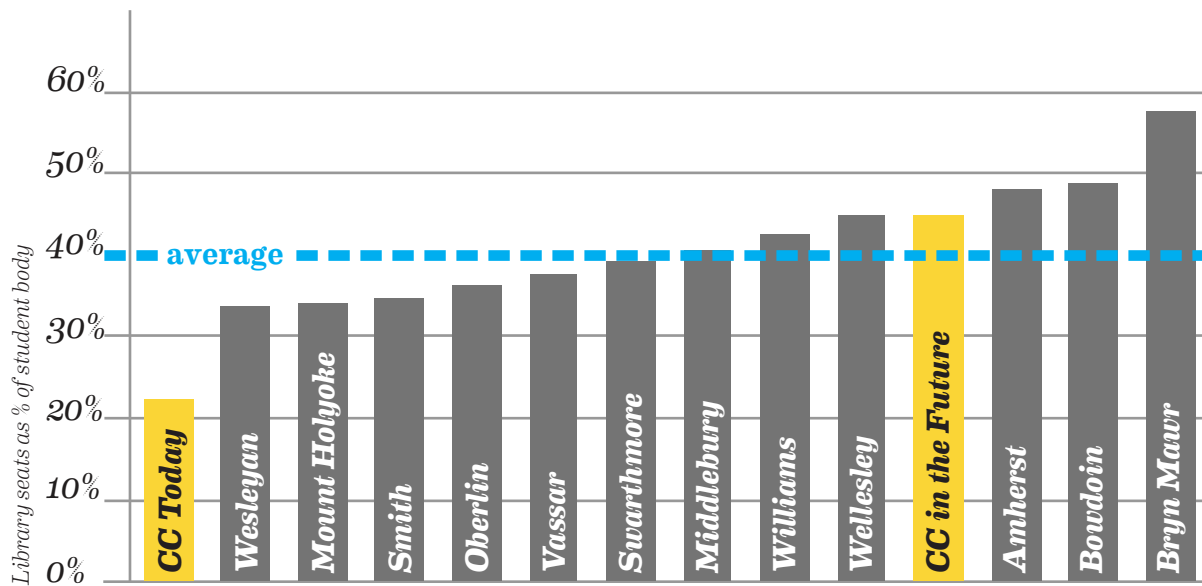
“There has never been a library designed for the Block Plan.” Despite this fact, the library is the only shared space on campus dedicated to intellectual discovery. As a result, it serves as the intellectual heart, or hub, for students, faculty, and staff and will continue to be a vital component of learning at the college. As a renowned liberal arts university, CC’s capacity to evolve as libraries progress globally will demand a customized solution.

What is wrong with the current library?

Currently, the Tutt Library is not meeting the unique demands of the Block Plan. In the Block Plan, distinct peaks in demand are contrasted by significant periods of under-use. Additionally, the immersive nature of learning at CC demands a library that minimizes barriers to discovery and boundaries between learners.

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**“There has never
been a library built
for the Block Plan.”**

—
-Dean Mike Siddoway



Colorado College trails comparable colleges in accommodating its students in the library. To change this, the project will double the number of seats available in the library.

Now
425
seats

Future Goal
850
seats

How is Tutt Library not meeting the demands of the block plan?

1. Tutt library is not big enough

The current library can only accommodate 20% of the student body, putting limits on its effectiveness and placing CC at a competitive disadvantage to similar liberal arts schools. The average proportion among similar institutions is around 40%.

2. The library space is underutilized

The proportion of collections to user space puts learners at a disadvantage, foregrounding underused collections, such as bound periodicals, at the expense of space for individual or group study. Furthermore, the user spaces available lack diversity and access to light: the only options include carrels for seniors only, a noisy reading room, or grim basement computer labs that discourage all but the most intrepid learners. This creates an environment that discourages collaboration and limits the range of user types.

3. The library is not flexible enough for the Block Plan

The Block Plan puts unusual stresses on a library. Daily, it has very low use in the morning and early afternoon, but is over capacity in the evening. Furthermore, Tutt experiences cyclical peaks, particularly at the end of each block, when demand far exceeds capacity.

What is great about Tutt?

As the intellectual hub of Colorado College, Tutt Library holds a special position on campus. Its central location draws students across the quad, and the atrium is appreciated as a social meeting place in the evenings.

The building itself is a significant example of the work of Walter Netsch, one of the leaders of the American modern movement. As a partner at the Chicago practice of Skidmore, Owings & Merrill, Netsch was responsible for some of the most iconic mid-century modern buildings in the United States. Projects such as the US Air Force Academy Cadet's Chapel and the Regenstein Library at the University of Chicago display the breadth of Netsch's work as it evolved from the use of a rectilinear grid that was typical of modernism to the flexibility and imagination of a new organizing device he invented. This was derived from overlapping grids to create more complex geometry, an approach he termed 'Field Theory' and would characterize his work moving forward.

Netsch's work at Tutt exemplifies the flexibility and idealism of American modernism, a library with an open plan achieved by the use of a grid of finely detailed concrete columns and coffered concrete ceiling. The renovation should honor the history of this architecture in the spirit of the liberal arts, while taking advantage of its flexibility to re-imagine (just as Netsch would have hoped for CC) a library in the 21st Century.



Examples of the work of Walter Netsch.

Above: atrium of the Tutt Library at CC

Below: US Air Force Academy Cadet's Chapel

What would a new building achieve?

It is the mission of Colorado College “to provide the finest liberal arts education in the country.” To satisfy this goal the new building must have a complimentary mission:

Amplify the liberal arts experience at Colorado College

How can we achieve this mission?

The Block Plan is uniquely situated to prepare the next generation of students for challenges that will need be solved by a combination of creativity, innovation, and intellectual rigor. As a result, we need to fully understand both the opportunities and challenges the Block Plan poses upon the ability of the library to enhance learning at CC. To achieve our mission we must:

- 1. Expand what is great about the Block Plan***
- 2. Respond to the challenges the Block Plan presents***
- 3. Showcase what is unique about CC***

How can we prove our success?

A mission-based approach demands that we measure impact to track our success. While buildings can have many tangible and intangible impacts, it is important to measure those direct impacts tied to our mission.

The desired impacts of this project are:

1. Improve student work
2. Increase academic & social interaction
3. Increase campus diversity

What about the books?

The Block Plan creates demand for immediate access to resources. Over the last 20 years, at least 70% of the collection has been checked out — a rate that significantly exceeds that of other comparable libraries. A decrease in on-site collections could still meet the school’s core needs and a flexible design can adapt as modes of access to resources evolves in the future.

How does the library shift to enhance learning?

Integrating *The Center for Immersive Learning and Engaged Teaching* with the library will leverage inherent synergies to concentrate resources and expertise and serve as a consistent source of support that creates continuity across the block plan. It will become a magnet attracting people from their daily path, improving their experience and making it easier to collaborate, learn, and interact while also helping lower stress.

New types of space will amplify this evolution in service offering and shift the emphasis of the library from content collection to content creation. Flexible user space, collaborative learning environments, classrooms, The Press, a technology sandbox, CAT Lab, and a data visualization space, among others, will contribute to the active creation of knowledge on campus.

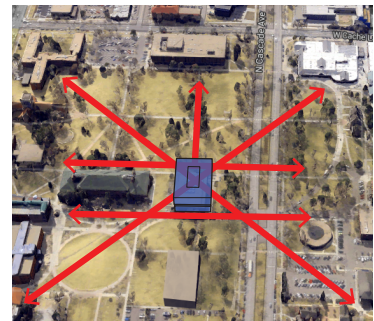
How does the building compliment the campus?

This design methodology is understood on three scales: the campus, the program, and the user.

The campus

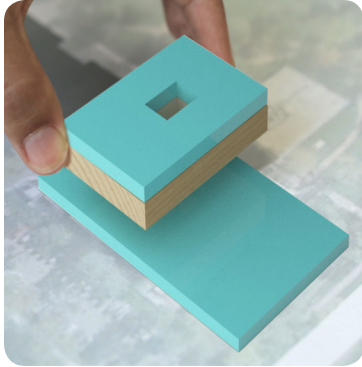
Currently, Tutt is the geographic center of the campus, and as such has the potential to create key connections between the north (Palmer Quad) and south (Armstrong Quad) of the campus, as well as a visual connection across Cascade connecting the east and west. However, the addition of Tutt South and the single entrance to the west limit these potential connections. By creating new entrances in each direction the New Tutt can become a campus cross-roads. An iconic, accessible library will become a beacon of learning on campus and a symbol of Colorado College.

A radical increase in quantity and diversity of user space



New services and space will draw users to the building. Improved access will allow people to pass through the library, better connecting the rest of the campus, as illustrated by the red lines highlighting primary movement patterns.

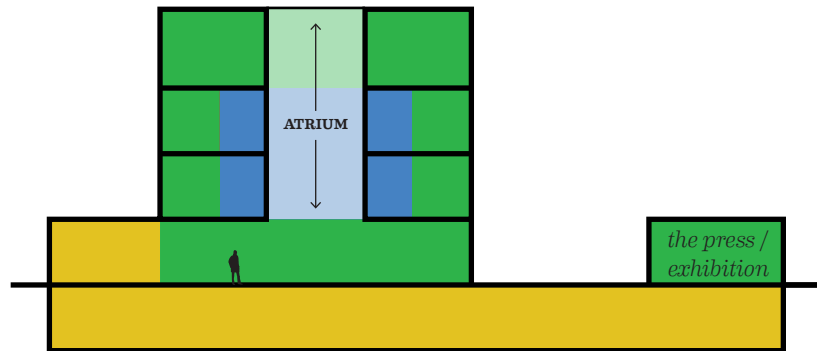
We propose adding a new ground floor, extending the basement, and adding a new top floor, while upgrading Tutt in-between.



Flexible spaces that meet the needs of the block plan

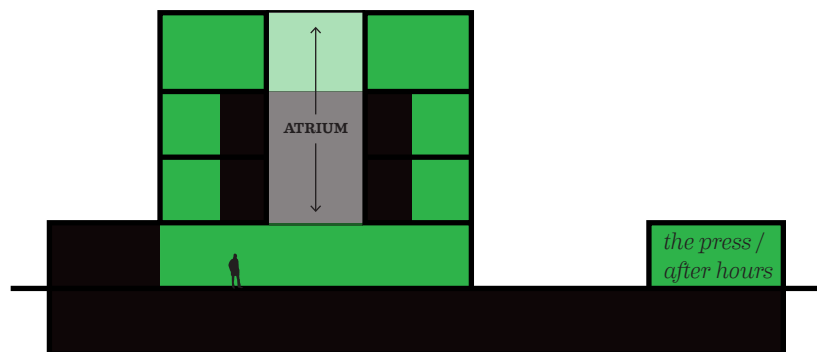
Typical Business Hours (ex. 9am-5pm)

- flex space shared between users (students, Center, staff, faculty)
- Collections areas and library service points
- Offices (Center, Library)



Bottom: Late Night (ex. 12am-9am)

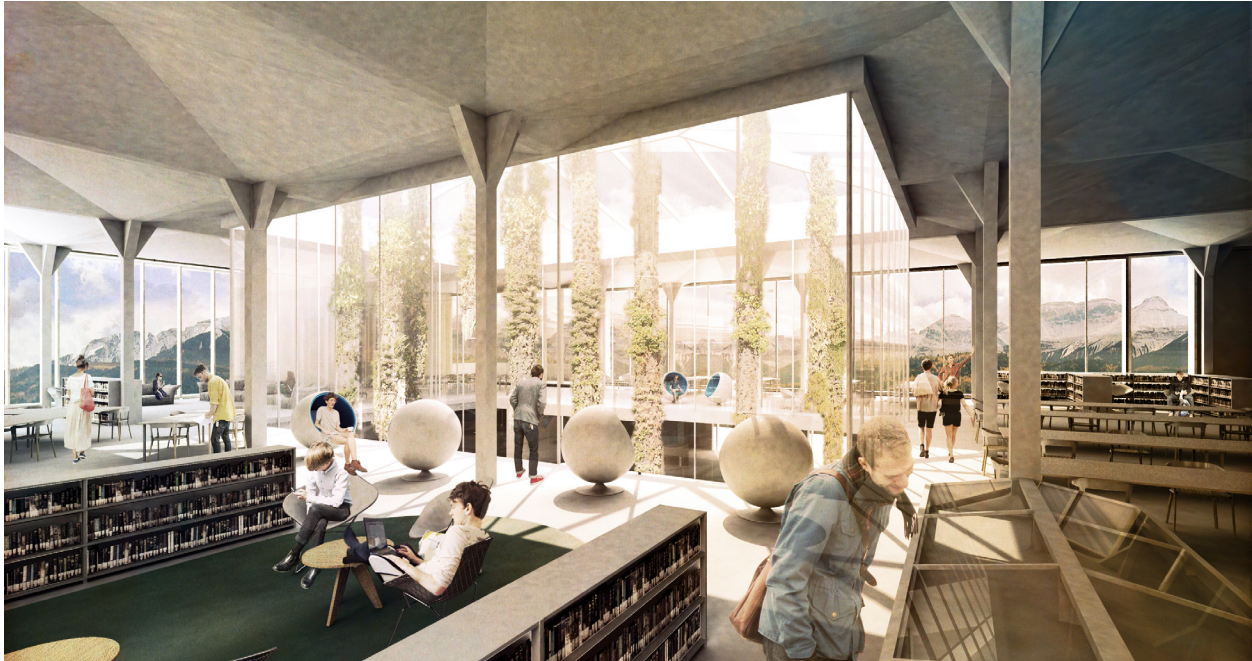
- flex space becomes virtually 100% student work space after business hours
- Collections area and offices closed after-hours



The program

The organization of the program is intended to compliment fluctuations in use throughout the day. By incorporating classrooms, technology, event space, and staff user space the new library will host a diverse array of learning activities at the same time.”

Space is used more efficiently by co-locating library staff and Center services with flexible user space that can shift along with evolving needs throughout the day, block, and year. During the day, this flex space is used by library and Center staff, as well as for other college functions and activities, while in the evening it transfers over to dedicated student use. Finally, library space is optimized by allowing for more than 50% of the building area to be accessible 24 hours a day while maintaining physical separation from areas requiring greater security and staffing. (see diagram below)



What is the experience of the user?

The building **expands what is great** about the Block Plan by amplifying the experience of immersive learning and discovery. Supplementing the collections with new digital resources, technology, and user space increases the amount of time each person will spend in the library each day. Instead of being defined by collections, the new library will offer a wide array of spaces for group and individual study that can adapt to changing needs throughout the day, block, and year.

The building **responds to challenges the Block Plan presents** by placing an emphasis on accessibility, transparency, and comfort. All the resources are made visible by extending the existing atrium to the entry level. The new atrium becomes an organizing device for the building, providing a cross section of all the available resources and activities. Accessibility is further enhanced by new entries on each side of the building, inviting users from across the campus. Spaces such as a cafe and other flexible interior and exterior spaces are designed to further encourage building use by creating 'lily-pad', or stop-over, spaces between other activities that will encourage informal interaction among students, staff and faculty. Finally, comfort is enhanced through extensive daylighting, options for passive ventilation, and a mix of quiet and active study areas. The new building will invite and accommodate a wider variety of user types and learning habits.

A new fourth floor creates an opportunity to look out on not only Pikes Peak, but the surrounding campus and city as well. The atrium could be extended to become a winter garden that could be occupied at the ground level. Additionally, there could be a roof deck facing the western and southern views.

Flexible spaces adapt to changing user needs: from a conference or new student reception in the day to quiet study space at night.

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'Lily-pad', or stop-over, spaces will facilitate informal interaction among students, staff, and faculty.
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Top: The lower level becomes a retreat from the active spaces of the floors and services above. Distributed among the stacks, user space is immersed in natural light. A sunken garden as well as views through a clerestory to the west provide connections to the landscape.

Above: In-line with existing access patterns a new entrance is created into a cloistered courtyard space. Views to the collections, the Press, and other activities in the floors above are on display. Roof deck access to the first level is provided

The project **showcases what is unique about the Block Plan** by highlighting the adventurous and inquisitive nature of its students and creating a connection to the surrounding natural landscape of Colorado. Spaces for the creation and display of student work promote interdisciplinary awareness and exchange. A connection to the landscape of Colorado is enhanced by a new roof deck, outdoor terraces, and a new fourth-floor reading room with sweeping views connecting both the eastern plains and Pikes Peak to the west. As much as possible, the building will employ both local materials and craftsmen to showcase what is unique about Colorado while returning an investment in the local economy. Local sandstone, limestone and timber will be incorporated by local craftsmen for the walls, floors, and furniture of a building that is implacably local and tactile.

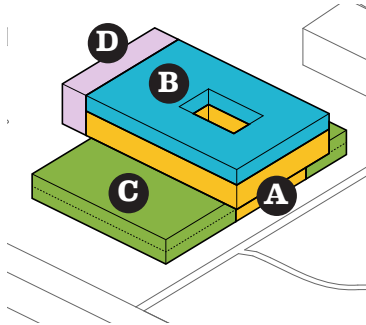
Budget Summary

CC Construction Cost Summary			
Description	Quantity	Unit Cost	Cost
Demolition of Tutt South	1	\$250,000	\$250,000
Site Work	1	\$2,000,000	\$2,000,000
Remodel of Tutt North	52,783 SF	\$222	\$11,743,101
Tutt North Vertical Expansion	14,158 SF	\$394	\$5,582,052
New Basement and West Addition	23,059 SF	\$401	\$9,247,458
Construction Subtotal	90,000 SF		\$28,822,611
Construction Contingency	5%		\$1,328,631
Escalation	5%		\$1,328,631
Total Construction Cost			\$31,479,872
<i>Optional Add-Ons</i>			
1. North 3-level Addition	4,871S F	\$456	\$2,440,970
2. Photo-voltaic System	1	\$500,000	\$500,000
3. Movable Glass Partitions	1	\$650,000	\$650,000
CC Soft Cost Summary			
Description	Quantity	Unit Cost	Cost
In-House Services -Allowance			\$525,296
Professional Services		12%	\$3,777,585
Contractor's Fee		6%	\$1,888,792
Fixed Equipment		1.5%	\$472,198
Movable Furniture and Equipment		7%	\$2,203,591
Relocation Costs - Allowance			\$720,000
Overall Project Contingency		15%	\$4,721,981
Total Soft Costs			\$14,309,443
Total Estimated Project Cost			\$45,789,314

Construction Schedule & Phasing

Schedule

There are two ways to schedule the construction. The first prioritizes speed and the second minimizes the disruption of library services on site. The final scheme developed and recommended in this report is consistent with the faster schedule, but could be modified to achieve the second.



Budget at left is based on calculations of the different types of construction and space.

- A. Renovation of existing
- B. New floor on top of existing
- C. New construction to E, and W.
- D. Expansion on floors to the north

Design and Construction Concept Schedule #1 – Library must move

- 31 months from start of design to Owner occupancy (12 design & 19 construction/occupancy)
- Earliest conceivable Design Notice to Proceed: July 2014
- Earliest possible Owner occupancy: April 2017
- Renovation of Tutt North and new construction proceed simultaneously
- Requires re-location and cost of library services from Tutt North for two years of construction
- Alternative Design and Construction Schedule #2 – Library stays on-site
- 51 months from start of design to full Owner occupancy (12 design & 39 construction)

Phasing

In Schedule #1 renovation work and new construction proceed simultaneously. Tutt South is used for collections during construction and demolished at the conclusion of the work.

Project Schedule	Duration	Timeline																																		
		1 - July 2014	2	3	4	5	6	7 - Jan 2015	8	9	10	11	12	13 - July	14	15	16	17	18	19 - Jan 2016	20	21	22	23	24	25 - July	26	27	28	29	30	31 - Jan 2017	32	33	34 - April	
Academic Calendar																																				
Preconstruction	15																																			
Renovation	17																																			
New Construction	15																																			
Demolition of Tutt	2																																			
Site / Landscaping	2																																			
Close Out	2																																			

An aerial photograph of the Colorado College campus. In the foreground, the red-tiled roof and two stone spires of a building are visible. The middle ground shows a green lawn with scattered trees and a path. In the background, a range of mountains with snow-capped peaks stretches across the horizon under a cloudy sky.

MASS

***Amplifying the liberal
arts experience at CC***

“At Colorado College our goal is to provide the finest liberal arts education in the country. Drawing upon the adventurous spirit of the Rocky Mountain West, we challenge students, one course at a time, to develop those habits of intellect and imagination that will prepare them for learning and leadership throughout their lives.”

-The Mission of Colorado College