Program Study for New Welcome Center
Missouri University of Science & Technology
March 2020
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acknowledgments

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Vice Provost for Enrollment Management

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Visitor Center & Student Ambassador Coordinator

Ted Ruth
Assistant Vice Chancellor for Facilities Services
introduction

As part of a strategic initiative to increase enrollment from the current 8,000 students to 12,000, this new facility will improve the University’s ability to attract the best and brightest students and improve matriculation rates among those that visit campus. Recent survey results have indicated that facilities currently utilized in the campus visit recruitment process fall short of student and parent expectations, resulting in lower enrollment rates following a campus visit.

Recently constructed facility improvements including new student housing, an expansion and renovation to the student recreation center, and an expansion to the renowned student design center have received high praise from students; however, their location across US Highway 63 makes them too remote for campus tours. In addition, campus recruiting and on-boarding events occur primarily in three separate facilities on campus: Parker Hall, Havener Center, and Leach Theater.
**Parker Hall** is the current location of the University Visitor’s Center and serves as the origin point for campus tours. Although Parker Hall has a stately, historic presence on the campus quadrangle, its location in the heart of campus makes it difficult for visitors to locate and lacks intuitive, convenient parking.

Interior space dedicated to the current visitor’s center is very limited and lacks the ability to inspire.
**Havener Center** provides a large floor area with flexible banquet rooms that is used for assembling 500 students and parents for Discovery Days (20 times per year) and Open House events (4 times per year). An assembly this large on a flat floor means sightlines for visitors to the platform are limited, at best, leaving students feeling disconnected. Presentations are made to this large assembly via portable A/V equipment, a seemingly contradictory statement at one of the highest ranking science and technology institutions in the country.

Discovery Days typically consist of the following events:

1. Tables are set up similar to a vendor expo where prospective students can learn about a variety of student activities and departmental majors.
2. Assembly of approximately 500 for:
   a. Faculty presentations
   b. Admissions presentations
   c. Financial Aid presentations
   d. Panel Discussion
3. Campus Tours
4. Meetings with faculty advisors

Following the campus tours and meetings with faculty advisors, Havener Center is reconfigured to accommodate a banquet for 300 at the subsequent Parent Social event, which has received low marks from participants due to the uninspired conditions of the space.
**Leach Theater** has the capacity to seat upwards of 550 people. It is currently used for Pro Days, a new-student orientation and engagement session, 7 times per year from February to August. Access to restrooms are limited in this location, with only four available. In addition, the space is not branded in such a way as to inspire prospective students.

Pro Days typically consist of the following events:

1. Welcome presentations
2. Math placement testing
3. Meet with academic advisors
4. Parent social event
The vision for this new Welcome Center facility will combine the uses of these three facilities into a single, highly branded environment, that is prominently located in a new campus arrival district as identified in the campus master plan. It will be equipped with high quality audio/visual technology combined with static and interactive exhibits that tells the story of Missouri University of Science & Technology. These multimedia exhibits will expose visitors to the richness of student life on campus, exceptional facilities and programs that a campus tour may not include, and the remarkable achievements of alumni.

Undoubtedly, the facility will also provide a branded environment for a variety of other community outreach events, such as press conferences, open houses, visits from the governor, lectures, fundraising dinners, institutional celebrations, training, or other noteworthy events.

The design of the facility itself will celebrate the rich history of the institution, while expressing aspirational optimism for the future of the modern world. The architecture will be expressive, sustainable, and welcoming with strong connections between inside and outside.

1. Parker Hall
2. Havener Center
3. Leach Theater
4. The Rolla Building
5. Toomey Hall
programmatic needs

The primary space needs for this new facility include large gatherings, exhibit gallery, and small meeting rooms. Minimal administrative space will be required, since these functions will be retained in Parker Hall.

In the interest of keeping overall square footage of the facility down, the program relies on the ability of the large meeting areas and gallery to be transformed and shared for multiple uses. The lobby is large enough to accommodate both static and interactive exhibits while large groups gather for staging campus tours. Some exhibits should be movable in order to reconfigure the space for other uses with flexible furniture.

The auditorium (225 seats) is arranged with tiered seating and opens up to the lobby, while the smaller theater (75 seats) does the same. By combining all three gathering spaces into one large one, the space can accommodate seating for 550 for a presentation, or 300 at round tables for a banquet. Some gallery exhibit panels are planned to pivot, allowing discreet access to smaller meeting rooms and service areas without disturbing a large presentation.
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<thead>
<tr>
<th>Ground Floor</th>
<th>occupants</th>
<th>sf/occ. or width</th>
<th>number of spaces</th>
<th>SF</th>
<th>notes</th>
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<tr>
<td>Reception</td>
<td>4</td>
<td>100</td>
<td>1</td>
<td>400</td>
<td>Generous space includes storage and display of print materials, etc. to provide welcoming first impression.</td>
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<tr>
<td>Permanent Gallery Area</td>
<td>1</td>
<td>1500</td>
<td>1</td>
<td>1,500</td>
<td>Gallery display space visible from exterior promenade for large objects not easily moved.</td>
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<tr>
<td>Lobby / Gallery / Tour Staging</td>
<td>300</td>
<td>15</td>
<td>1</td>
<td>4,500</td>
<td>This space will combine with Auditorium and Theater to seat up to 550 for largest presentations, and 300 for banquets at round tables. Equipped with state of the art technology for high quality audio visual presentations.</td>
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<tr>
<td>Auditorium (225 seats)</td>
<td>225</td>
<td>14</td>
<td>1</td>
<td>3,150</td>
<td>Equipped with state of the art technology for high quality audio visual presentations. Large operable wall will open space to Lobby/Gallery for largest events.</td>
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<tr>
<td>Theatre (75 seats)</td>
<td>75</td>
<td>14</td>
<td>1</td>
<td>1,050</td>
<td>Equipped with state of the art technology for high quality audio visual presentations. Large operable wall will open space to Lobby/Gallery for largest events.</td>
</tr>
<tr>
<td>Catering Kitchen</td>
<td>15</td>
<td>30</td>
<td>1</td>
<td>450</td>
<td></td>
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<tr>
<td>Information Technology</td>
<td>10</td>
<td>12</td>
<td>1</td>
<td>120</td>
<td></td>
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<td>Restrooms</td>
<td>20</td>
<td>46</td>
<td>2</td>
<td>1,840</td>
<td></td>
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<tr>
<td>Table / Chair Storage</td>
<td>300</td>
<td>1.5</td>
<td>1</td>
<td>450</td>
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<tr>
<td>Work Room</td>
<td>10</td>
<td>14</td>
<td>1</td>
<td>140</td>
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<td>Mechanical</td>
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<td>21</td>
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<td>420</td>
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</tr>
<tr>
<td>subtotal</td>
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<td></td>
<td></td>
<td>14,020</td>
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<th>notes</th>
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<tbody>
<tr>
<td>Small Meeting Room</td>
<td>14</td>
<td>14</td>
<td>6</td>
<td>1,176</td>
<td>Used primarily for faculty advisor meetings with prospective students and parents.</td>
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<tr>
<td>Medium Meeting Room</td>
<td>14</td>
<td>20</td>
<td>1</td>
<td>280</td>
<td>Used primarily for faculty advisor meetings with prospective students and parents.</td>
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<tr>
<td>Mechanical</td>
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<td>40</td>
<td>1</td>
<td>800</td>
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<td>Restrooms</td>
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<td>10</td>
<td>2</td>
<td>160</td>
<td></td>
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<tr>
<td>General Storage</td>
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<td>12</td>
<td>1</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>subtotal</td>
<td></td>
<td></td>
<td></td>
<td>2,580</td>
<td></td>
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| Total Assigned Space | | | | 16,580 | |

| unassigned | 30% | 4,974 | |

| TOTAL | | | | 21,554 | |
site analysis

The site of this new facility can be generally described as the location of the now decommissioned campus power plant in what will become a new “arrival district” per the new campus master plan. This location is strategically positioned along a new primary entry axis from the west with the potential to frame views of The Rolla Building as a campus icon, while working synergistically with Havener Center, and serving as the origin point for campus tours. This prominent location will be highly visible from Hwy 63, framing an outdoor, sloping lawn directly west of The Rolla Building, while linking to a new north-south pedestrian promenade (currently State Street). Care will need to be taken to ensure service access to Toomey Hall (directly to the east) is maintained, or otherwise accommodated.

It should be noted that topographic and underground utility information for this site was extremely limited at the time of this study, due in part to the ongoing deconstruction of the existing power plant. Topographic information is limited to visual observation by the design team combined with large scale USGS maps. Generally speaking, The Rolla Building was observed to be approximately 10 to 14 feet higher than State Street. Likewise, utility locations are assumed to be extensive in the area of the site and will need to be relocated, or otherwise addressed during the design phase.

The Rolla Building: Classes began in 1871, with an enrollment of 28 students. First graduating class in 1874 was 3 students.
View of Havener Center from Hwy 63 looking south.
View of the area identified for a new arrival district from Hwy 63 looking north.
1. Proposed site of former power plant
2. The Rolla Building
3. Sloped Lawn
4. Future Promenade
Understanding how visitors will move in their experience of campus informed design decisions moving forward. Vehicles approaching the new arrival district from Hwy 63 would enter with a framed view of The Rolla Building at the top of a sloped lawn. Visitors would park in a shared parking area with Havener Center, and approach the new Welcome Center from the west, suggesting that the entry should face west along the future promenade. Visitors would make their way through the building, and exit at its southeast corner for beginning a campus tour. The tour would proceed along the west side of The Rolla Building and then east through an improved pedestrian corridor into the heart of campus. Guided tours would ultimately arrive at the Havener Center, where visitors can purchase their first Missouri S&T branded apparel. Visitors would then return for wrap up events back at the Welcome Center.
Views to the Welcome Center upon arrival suggest that its west and south facades should be expressive and transparent, communicating a welcoming gesture for visitors.

Visual observations and USGS maps suggest that the site has a total of 10 to 12 feet of grade change from the future promenade (currently State Street) up to the Rolla Building. This provides a unique opportunity for the Welcome Center to incorporate this change in elevation as part of the visitor experience, maximizing the volume of its interior while celebrating the significance of The Rolla Building.
**adjacency diagrams**

**Option 1:** Orient the plan in a north south-direction, adjacent to the new pedestrian promenade, with the lobby / gallery / assembly area facing west, while a two-story stack of spaces (small meeting rooms over service spaces) is oriented to the east. The auditorium and theater are side by side and open to the lobby / gallery / assembly.
adjacency diagrams

Option 1

Pros:
- Long side faces promenade
- Service access maintained between buildings

Cons:
- Long side faces west making solar gain an issue.
- Too far from grade change
- Feels like a school gym
- Core lacks access to assembly
- Acoustic separation between auditorium and theater
- Platform background is parking area and entry
adjacency diagrams

Option 2: Orient the plan in an east-west direction, adjacent to the new pedestrian promenade, with the lobby / gallery / assembly area facing south, while a two-story stack of spaces (small meeting rooms over service spaces) is oriented to the north. The auditorium and theater are side by side and open to the lobby / gallery / assembly. A monumental stair negotiates the sloping grade of the site and frames views of The Rolla Building.
adjacency diagrams

Option 2

Pros:
- Long side faces lawn
- Service access maintained between buildings
- Interior negotiates grade
- Core accesses assembly

Cons:
- Acoustic separation between auditorium and theater
- Platform background is parking area and entry.
adjacency diagrams

Option 3 (preferred option): Orient the plan in an east-west direction, adjacent to the new pedestrian promenade, with the lobby / gallery / assembly area facing south, while a two-story stack of spaces (small meeting rooms over service spaces) is oriented to the north. The auditorium and theater are separated, facing each other, and open to the lobby / gallery / assembly. A monumental stair negotiates the sloping grade of the site and frames views of The Rolla Building.
adjacency diagrams

Option 3 (preferred option)

Pros:
- Long side faces lawn
- Service access maintained between buildings
- Interior negotiates grade
- Core easily accesses assembly
- Acoustic separation between auditorium and theater
- Platform background is lawn, away from entry

Cons:
This option appeared to satisfy a majority of the committee’s concerns, leading to its emergence as a preferred option to develop further.
planning concept &
3-dimensional studies

During the series of meetings with the planning committee, several qualitative discussions ensued regarding the experiential nature of the facility and its ability to attract and recruit students and faculty. The committee agreed that the facility should be architecturally expressive, inciting a sense of wonder and welcome. It should be both inspirational and aspirational. It should make a statement about the university’s core competencies in engineering and technology, while embracing and enhancing the institution’s commitment to sustainability and environmental consciousness. It should also integrate impressive technologies, particularly high quality audio/visual presentations, in order to communicate the story of Missouri University of Science & Technology.

Consequently, the planning concept takes advantage of the sloping site and proximity to The Rolla Building to choreograph an engaging experience for visitors that celebrates the history and achievements of the university. Visitors enter the lobby / gallery from the pedestrian promenade from the west, are greeted by staff and framed views of The Rolla Building. After exploring the exhibits (which may include large scale student projects such as a solar car, Mars rover, or experimental aircraft) and participating in a multi-media presentation, visitors ascend a monumental stair on axis with The Rolla Building to an outdoor patio at the southeast corner of the facility, where campus tours originate.
A series of 3-dimensional studies were also explored, each highly transparent at grade, encouraging views in and views out and suggesting an interior that is bright and airy during the day, becoming a glowing lantern during nighttime activities. Opportunities for S&T branded selfies are considered, as well as family photo ops, exterior places to rest and reflect, and moments of panoramic campus views.

Given the need for accommodating large gatherings of people with a flexible and transformable interior for a variety of events, the structure should consist of large spans of column free space. This requirement suggests a system of structural steel columns and beams or trusses; however, a system of mass timber could be considered as a more carbon-smart alternative, communicating a message of environmental consciousness, a value important to a new generation of prospective students. The auditorium and theater will require large operable walls that open those spaces up to the lobby/gallery, effectively combining them into one large presentation space. Likewise, display panels will be designed to open or close the gallery from the support spaces in order to allow access to smaller conference spaces without disturbing a large gathering. While supporting the overall campus planning initiatives, the design of the facility will express the university’s emphasis on engineering as a discipline, using an expressive structure to inspire students.
1. Service Access
2. Promenade
3. Site Seating
4. Signage
5. Rolla Building Info
6. Overlook
7. Lawn
ground level concept

A view of The Rolla Building is framed from the reception desk through the building.

1. Entry  
2. Lobby & Gallery  
3. Reception  
4. Catering  
5. Workroom  
6. Storage  
7. Restroom  
8. Auditorium  
9. Theater  
10. Platform  
11. Mechanical
Static and interactive displays tell the story of Missouri University of Science and Technology before ascending the monumental stair for a campus tour.
The auditorium and the theatre can be closed off from the lobby/gallery for simultaneous multi-media presentations.
ground level concept - seating for 500

The auditorium and theatre can be opened to the lobby/gallery for large multi-media presentations.
ground level concept - banquet for 300

Round tables & chairs can be set up for a banquet of 300.

1. Entry
2. Lobby & Gallery
3. Reception
4. Catering
5. Workroom
6. Storage
7. Restroom
8. Auditorium
9. Theater
10. Platform
11. Mechanical
upper level planning concept

Views of The Rolla Building and campus are framed on the second floor, as well.

1. Open to below
2. Small meeting rooms
3. Mechanical
4. Restrooms
5. Tour staging
6. Overlook
7. Auditorium
8. Theater
9. Platform below
upper level planning concept

Visitors can access the second floor in two locations.

1. Open to below
2. Small meeting rooms
3. Mechanical
4. Restrooms
5. Tour staging
6. Overlook
7. Auditorium
8. Theater
9. Platform below
interior studies

The interior volume frames a view of The Rolla Building through the lobby beyond. A large landing in the monumental stair servers as a platform for presentations with bold branding as a backdrop. The sloped lawn can be seen to the south beyond the glass.

High quality audio visual presentations with multiple screens transform the lobby / gallery into a presentation space for 550 people. The auditorium and the theater can be opened up to the lobby, maximizing the use of shared space.
exterior study 1

View from proposed Promenade looking north east.
exterior study 1

View from Promenade looking east
exterior study 1

Aerial view looking north
exterior study 2

- View from proposed Promenade looking north east.
- View from Promenade looking east.
- Aerial view looking north.
exterior study 3

View from proposed Promenade looking north east.

View from Promenade looking east

Aerial view looking north