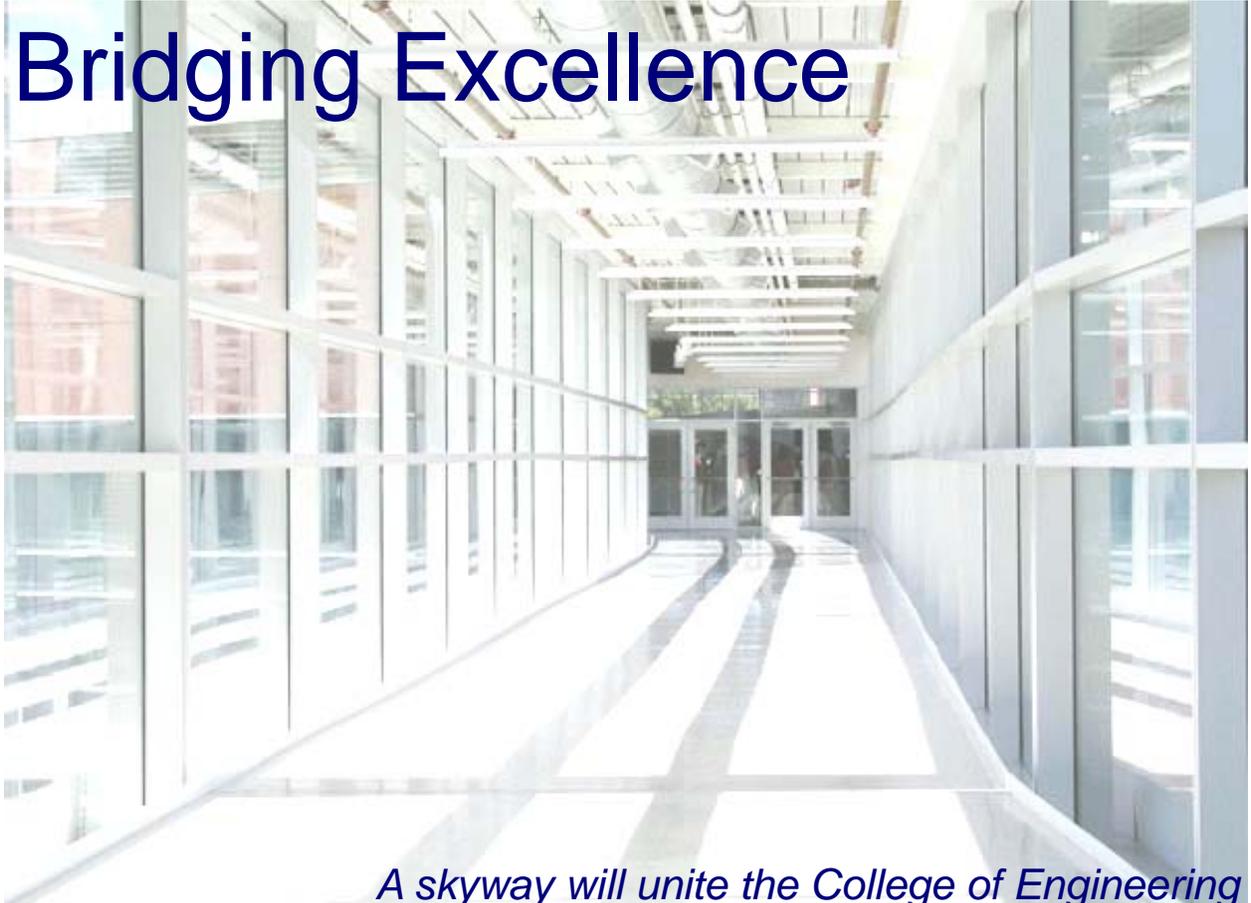


# Bridging Excellence

A long, bright, modern skyway with glass railings and large windows, leading to a set of glass doors at the end. The skyway is clean and well-lit, with a polished floor that reflects the light. The railings are made of glass and metal, and the windows on the left side offer a view of the surrounding buildings. The skyway is a symbol of modern architecture and engineering.

*A skyway will unite the College of Engineering  
and serve as a symbol of creativity and  
innovation for future generations*

# Bridging Excellence

---

*A skyway will unite the College of Engineering  
and serve as a symbol of creativity and  
innovation for future generations*

Submitted To:

Iowa State University Foundation  
25050 Elwood Drive  
Ames, IA 50010-8644

Prepared By:

Tyler Clifton, Former President USA  
Deanna Ralston, CEO John Deere  
Ana Valdez, CFO Walt Disney

November 16, 2006

Tyler Clifton  
Deanna Ralston  
Ana Valdez  
P.O. Box 4494  
Washington D.C. 20001

Thursday, November 16, 2006

Iowa State University Foundation  
2505 Elwood Drive  
Ames, IA 50010-8644

Dear Foundation Staff Member:

As distinguished alumni of Iowa State University, we share a common loyalty to the College of Engineering. We represent three of the top programs: mechanical, electrical, and industrial engineering. Our successful careers can be attributed to what we learned and accomplished here, and we wish to support our alma mater in return for the experience we received at Iowa State. Our pooled gift to the university will collectively benefit each engineering department. With our financial support, we propose to build a skywalk that will connect the central buildings in the College of Engineering.

An engineering skywalk system will facilitate pedestrian passage among five main engineering buildings: Hoover Hall, Black Engineering, Sweeney Hall, Durham Center, and Coover Hall. This will not only benefit current students and faculty, but also attract future engineering prospects by providing a four season route between buildings, and ultimately between classes.

Buildings are traditionally dedicated to commemorate notable alumni and exceptional benefactors of their construction. The skywalk is no exception. We plan on fully financing the estimated \$19.5 million dollar project and any additional costs associated with the proposed skyway.

Thank you for your consideration.

Sincerely,

Tyler Clifton  
Former President USA

Deanna Ralston  
CEO John Deere

Ana Valdez  
CFO Walt Disney

# Table of Contents

Abstract.....	1
Beneficiaries.....	2
Tyler Clifton	
Deanna Ralston	
Ana Valdez	
Background.....	3-4
Building Identification	
Faculty Stories	
Opinion Survey	
Problem Definition.....	5
Commute	
Unpredictable Weather	
College of Engineering Disconnect	
Evidence to Substantiate the Problem.....	6
Skywalk Usage Related to Weather Conditions	
Increased Safety Measures	
Plan of Proposal.....	8-9
Objective	
Skywalk Layout	
Benefits.....	10
Improving the Commute	
Weather Shelter	
Uniting the College	
Approach.....	11
Student Design Competition	
Student Internship Program	
Counter-Arguments.....	12-13
Modern Meets Traditional	
Enhancing the View	
Indirect Benefits	
Leading Unity	
Accepting Change	
Qualifications.....	14
Building Integrity	
Financial Support	
Evaluation.....	14
Conclusion.....	15
Appendix.....	16-20
Floor Plans for Proposed Connection Sites	
Gantt Chart for Construction Time Estimates	
Sources	

This proposal is submitted to the Iowa State University Foundation to offer private funding for a skywalk system connecting the main buildings in the College of Engineering: Hoover Hall, Black Engineering, Sweeney Hall, Durham Center, and Coover Hall. A skywalk system will provide a sheltered pathway for the students, faculty, and staff that pass through these buildings on a daily basis, simplifying pedestrian and vehicular traffic. Ultimately, a skyway will unite the College of Engineering and exhibit creativity and innovation in its design.



### **Tyler Clifton, Former President of the United States**

With a bachelors of science in Electrical Engineering, Tyler began his career with John Deere. After three years in the private engineering sector, Tyler developed a passion for politics. He graduated at the top of his class from the University of California at Berkley with a Juris Doctorate. He was successful as governor of Iowa for one term and then continued accomplishments for the country as President of the United States from 1996 to 2004.



### **Deanna Ralston, CEO of John Deere**

The first of this committee to graduate from Iowa State University, Deanna graduated with a bachelors of science in Industrial Engineering on May 4<sup>th</sup>, 1978. Beginning her career in supply management with John Deere, Deanna continued her education while developing her career and raising a family. She received an MBA from St. Ambrose's University and a Masters in Industrial Engineering from Iowa State. Through her exceptional work developing a manufacturing facility in Africa, Deanna continued to prove her capabilities. She continues to make history as the first female and youngest CEO of John Deere.



### **Ana Valdez, CFO of Walt Disney**

After graduating with a bachelors of science in Mechanical Engineering, Ana Valdez began as a design engineer for Disney. Through her success for the company, Ana obtained management level positions. She received her Masters in Business with a finance focus, and was soon after appointed CFO of Walt Disney.

### Building Identification

There are eight main buildings dedicated to the individual majors in the College of Engineering (see **Table 1** for a breakdown of student enrollment). Students and faculty, regardless of discipline, commute among many of these buildings on a daily basis. Students walk to multiple engineering buildings to go to classes, assemble study groups, attend meetings, and participate in club activities. Faculty members often have offices in one building and teach in several others, requiring frequent outdoor walks. All of these routines involve navigating a fifty-three-acre span, shown on the map in **Figure 1**.



**Figure 1:** Black, Hoover, Sweeney, Durham, and Coover all sit along Engineering Row, shown as the green arrow. Howe and Town both lie to the west of Bissell Road. Davidson sits to the north, across Osborn Drive [8].

Department	Building	Students	Percent of College
Aerospace	Howe	434	10.82
Agricultural	Davidson	149	3.71
Chemical	Sweeney	377	9.40
Civil and Construction	Town	778	19.40
Electrical and Computer	Coover and Durham	866	21.59
Industrial and Mechanical	Black	1265	31.54
Material	Hoover	142	3.54
		4011	100.00

**Table 1:** This table details student enrollment and building assignments by department [5].

## Faculty Stories

PhD graduate student and teaching assistant, Matthew Heying, works at the Virtual Reality Applications Center at ISU. Heying has a B.S. and M.S. in Mechanical Engineering and is currently obtaining his PhD in Human Computer Interaction. Heying clearly stated discomfort in walking between classes with Iowa's windy weather. Heying daily utilizes the skywalk between Howe, where he works, and Hoover, where he teaches. Heying is optimistic about the convenience an engineering skyway would provide, as the future semesters may have him traveling further distances.

Post Doctorate Matthew Hagge is a Mechanical Engineering professor at Iowa State University. He currently parks in a general staff lot, commuting through Howe and Hoover via the existing skywalk. He primarily walks between Black and Hoover for lectures. He agrees that a skywalk system would be beneficial on colder days. Hagge believes a skyway would improve the aesthetics of the campus by providing a unique, modern design the campus could market.

## Opinion Survey

One hundred eighteen surveys (see **Table 2**) were distributed to engineering students to research their opinions about where they would like to have a skyway and how often they would use it. A representative student from each of the Industrial, Mechanical, and Electrical departments randomly asked other students in their senior design classes to take the survey (see **Figure 2**). This evidence shows that current students would support and use an engineering skywalk. Of the 105 positive responses, Black (66.67%), Hoover (67.62%), and Coover (40.95%) were most frequently suggested for connection sites.



**Figure 2:** Students walking to class who are in favor of a skyway.

Would you use a skywalk system connecting the buildings in the college of engineering?							
Industrial Engineers		Mechanical Engineers		Electrical Engineers		Other Engineers	
Yes	No	Yes	No	Yes	No	Yes	No
35	8	30	1	31	3	9	1

**Table 2:** Shows the number of students who would use the skywalk.

*The current situation at Iowa State University defines a need for an engineering sky-walk system: student and faculty commute between buildings, unpredictable Iowa weather, and the desire for unity in the college's departments.*

### Commute

Iowa State University provides its students with the flexibility to complete a curriculum that fits their individual interests. Therefore, many engineering students are not solely taking courses within their major. On average, a student will have four to five classes a day and enter three separate buildings. This yields a general commute of at least three quarters of a mile per day. For example, industrial engineering students are required to take multiple mechanical and electrical engineering courses. This increases the frequency of students commuting between buildings. Any visitor can easily see the rush of traffic during the ten minute intervals between class times. This rush

“Walking between classes is refreshing in the spring and fall, but mostly unbearable in the summer and winter.”  
-Christina Erickson

of students is also correlated with a rush of vehicular traffic and creates an unsafe situation at sidewalk crossings.

### Unpredictable Weather

On a nice day, this commute can be somewhat enjoyable and refreshing after a fifty-minute statistics lecture. However, Iowa almost never has consistent

weather. Many students spend all day on campus and see an immense difference in the climate throughout the day. A climate-controlled path between buildings would allow students to avoid unexpected weather changes and lessen the effect that weather has on class attendance. Weather can also present unsafe conditions, such as slipping on ice. In addition, the commute between lectures is a networking opportunity for students to socialize with each other. A rainy or bone-chilling day, which three out of the four seasons almost guarantee, inhibits this necessary connection students have with each other.

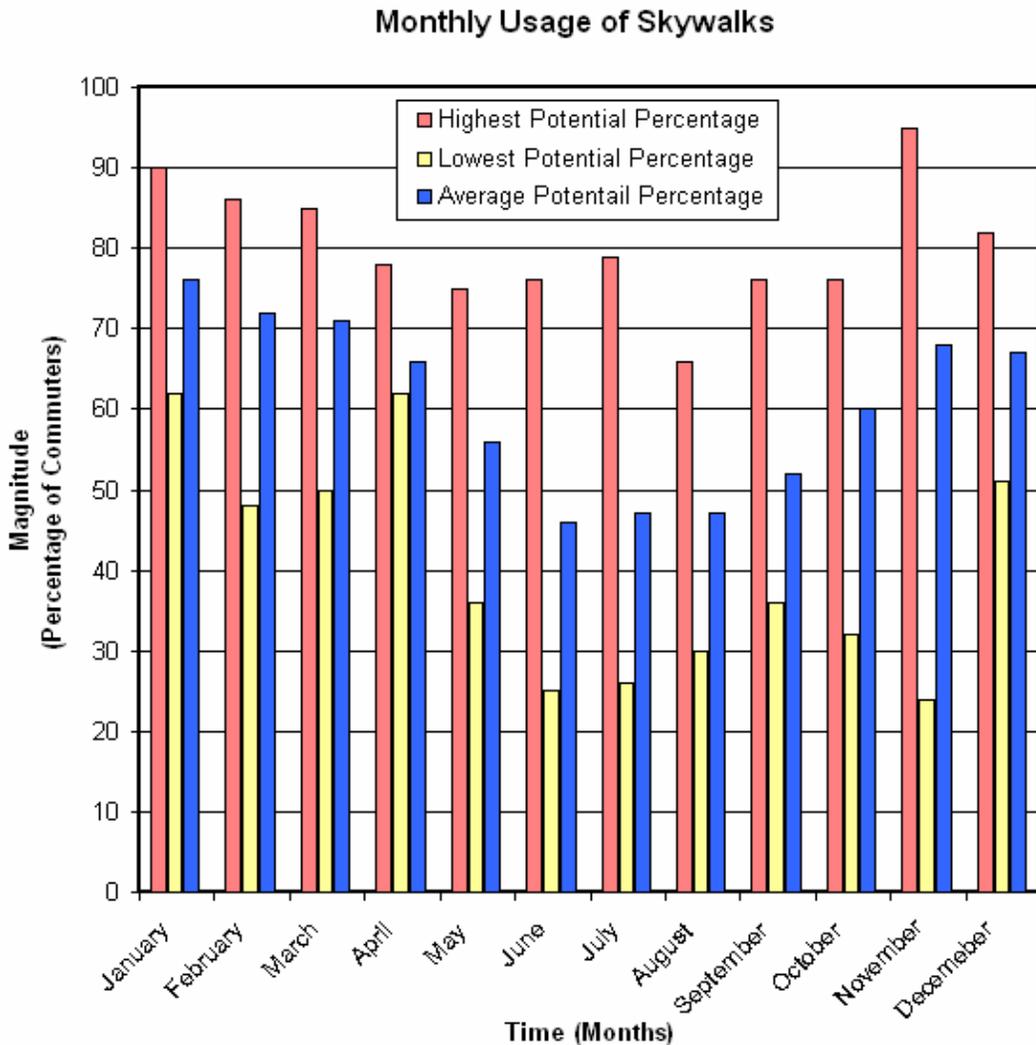
“Towards the end of the fall semester, my classes dwindle in attendance because an 8am time slot doesn't pair well with freezing temperatures. Somehow, a warm bed is more appealing than thermodynamics?!”  
- Anonymous Professor

### College of Engineering Disconnect

Similar to the need for students to connect, the engineering departments also benefit from a unified environment. The College of Engineering's strategic plan initiative clearly displays the desire to unite its individual departments: “We will better engage our constituents by strategically aligning our academic and administrative departments to deliver a consistent and compelling message of our goals and values [3].” The separate disciplines within the College of Engineering are not only disconnected in their methods, but also physically by building isolation. The Dean's initiative to make the College of Engineering seamless in both technology and general practices will be enhanced by physically uniting the buildings.

## Skywalk Usage Related to Weather Conditions

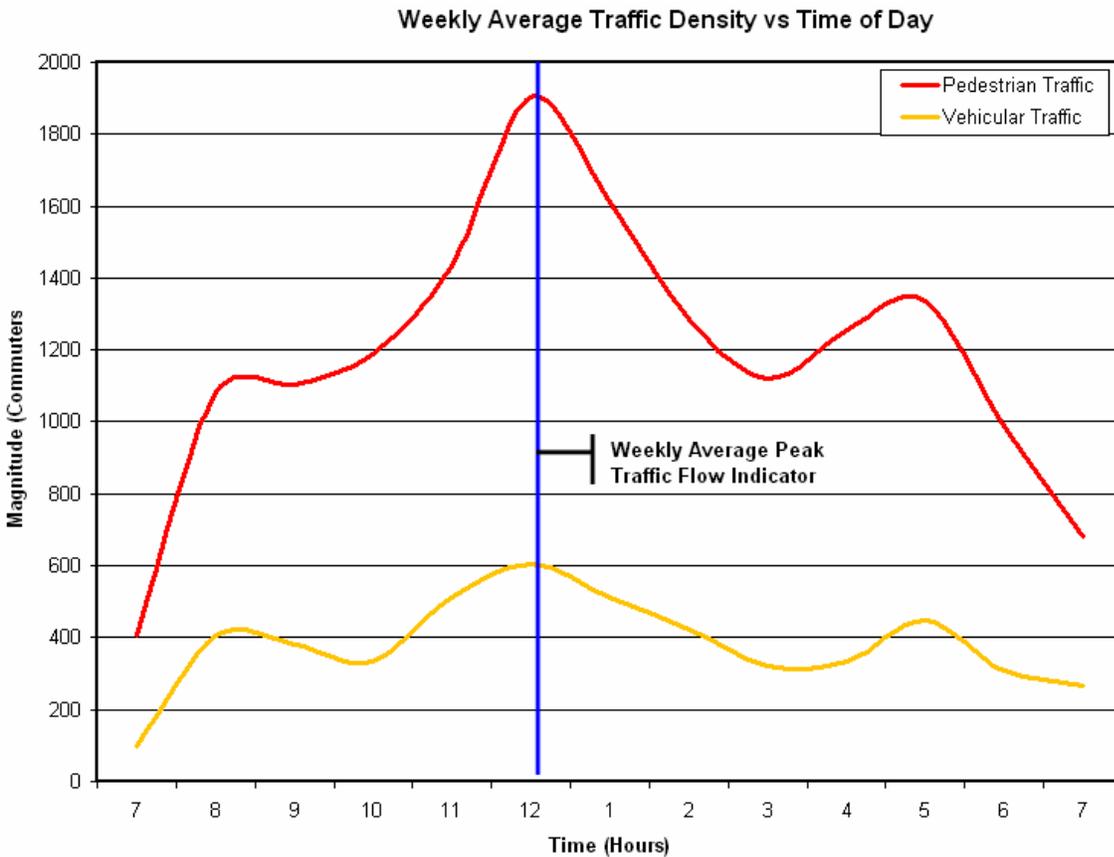
Studies show the use of skywalks increases with undesirable weather conditions. Using the Des Moines skywalk system as precedence, **Graph 1** displays the monthly usage of skywalks due to seasonal variation [9]. The highest and lowest potential percentages are given to demonstrate the best and worst case scenarios. The average is also shown to approximate the trends during seasonal conditions. During the winter season, skywalk usage is higher as pedestrians avoid facing the elements. As spring approaches and the weather becomes more desirable, skywalk usage decreases. The summer months show a significant difference in high and low skywalk usage. If the summer is hotter or more humid than usual, pedestrians choose to retreat to an air conditioned skyway. Inversely, an enviable summer temperament leads to decreased usage. Lastly, as fall approaches and temperatures cool off, usage increases once more. This table demonstrates the seasonality of usage expected at Iowa State University.



**Graph 1:** The above graph depicts the usage of skywalks by month. Overall, the skywalk proves to be used often, and averages more than fifty percent usage nine months out of a year [9].

## Increased Safety Measures

**Graph 2** below shows the relationship between pedestrians and vehicles commuting across Osborn Drive [1]. At noon, the highest pedestrian and vehicular traffic flow occurs. The traffic increase is likely related to faculty and students traveling to their next classes and the noon lunch hour. The intention of the skywalk is to capture as much of this pedestrian traffic as possible. Impacts related to pedestrians and vehicular commuters are decreased pedestrian and vehicle delay from uninterrupted flow in the skyway, lower exposure to undesirable weather and emission-filled air, and lower number of pedestrian-vehicle accidents [11]. See **Figure 3** for the location of the crosswalk.



**Graph 2:** This graph shows average pedestrian and vehicular traffic flow from 7 am to 7 pm [1].



**Figure 3:** View of Osborn Drive crosswalk between Coover and the Armory.

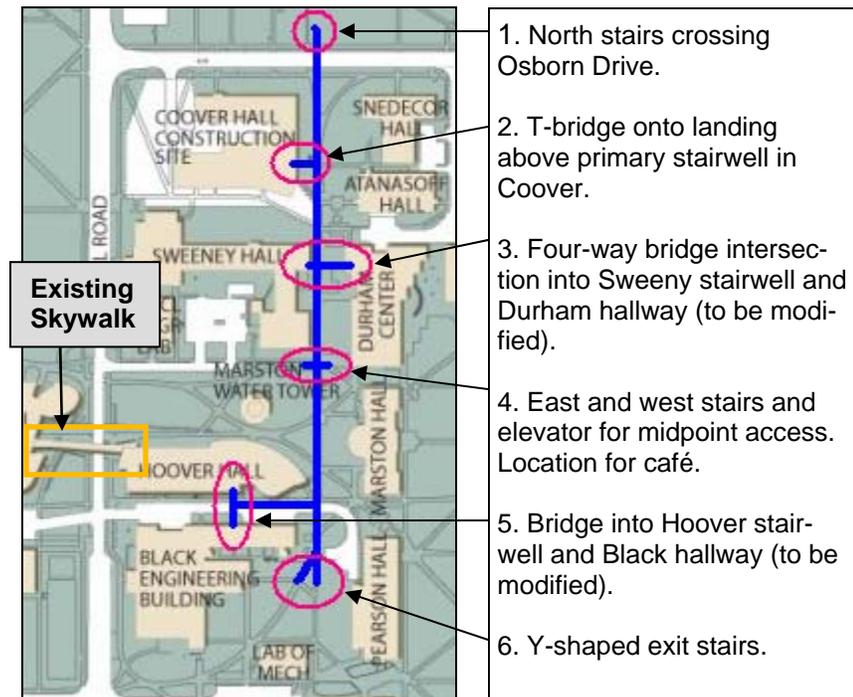
## Objective

After careful studies of existing urban skywalks, student and faculty polls, and the Weitz Company’s preliminary structural integrity assessment, we propose to finance a new skywalk that will connect the most central engineering buildings on campus. Our complete monetary gift will provide for all design, construction, and implementation costs. We expect full consideration and support from the ISU College of Engineering Development Board to build the skywalk system. Building a skyway will provide a pathway that facilitates pedestrian and motor vehicle traffic, guards against weather, and symbolizes unity in the College of Engineering.

## Skywalk Layout

We suggest the following layout: building a central skywalk above Engineering Row that branches out into bridges connecting Black, Hoover, Durham, Sweeney, and Coover. At this time, we do not suggest connecting to either Town or Davidson. Logically, both buildings require connecting to the Armory, which is not dedicated to engineering and is scheduled for future remodeling [6]. This could interfere with skywalk connection sites. Town and Davidson could certainly be added to the main skyway structure if it is expanded in the future.

The total length of the main skyway, bridges, and overlaps into existing buildings will be approximately 1625 feet. From a structural perspective, the minimum distance the skywalk must protrude into buildings is five feet. This distance is needed to make proper building-skywalk connections. The skywalk’s capacity will be able to comfortably allow 1200 people per hour to use the system. **Figure 4** shows the intended skywalk layout.



**Figure 4:** The circles show key features in the main skyway, designed according to skywalks in downtown areas, professional structural analysis, and input from ISU planners, faculty, engineers, students. See the Appendix for floor plans pictorially detailing each of these connection sites.

The descriptions below correspond to their numbered counterparts in **Figure 4** on the previous page.

1. The north end of the engineering row skywalk will cross Osborn Drive and drop to a single stairway leading towards the Armory parking lots. We considered attaching to Davidson, but there are classrooms along the west wall on both first and second floors. It is more cost effective to end the skywalk just in front of Davidson, rather than demolish these classrooms unnecessarily.
2. The first bridge will be a single T-intersection into Coover, which will enter at an open landing in front of the stairs and elevator leading to the first floor lobby.
3. A bridge into both Sweeney and Durham will create the next intersection in the skyway. This will span the sidewalk shown in **Figure 5**. The bridge will enter Sweeney's north-east stairwell and merge into a conference room in Durham. This room can be partitioned into a smaller meeting room, which will allow the skywalk to lead into a major hallway with stairs and an elevator to Durham's first floor.
4. We recommend that an elevator and double-sided stairwell exiting east and west drop down at the midpoint of the skyway, where the corners of Sweeney, Durham, and Marston meet. Although this will not directly lead into another building, it will create access to and from the skywalk at a midpoint location. This especially benefits handicapped users who may not want to enter or exit the skywalk from one of the building's elevators. Also, this spot will present an ideal location to open a new satellite for the dining service. Engineering, which makes up nearly 22% of the undergraduate student body, is currently not serviced by a dining facility [5]. Therefore, a snack and coffee center will be incorporated into the design of this portion of the skywalk to offer users food service and social interaction.
5. The last junction off the main skywalk will be a connection to a perpendicular passageway leading to a bridge between Hoover and Black. Student surveys indicated (see the Appendix for complete statistics) this as the most desired skywalk connection. The bridge will connect Hoover's existing southeast stairwell with the north wall of Black, eliminating two offices. This connection will enter a major hallway with access to two stairwells and an elevator.
6. The south end of the main artery will drop to ground level with two stairwells, creating a Y-shape that follows existing sidewalks to the Union Drive Community area and Student Services.



**Figure 5:**  
Engineering row  
sidewalk, looking  
north.

## Improving the Commute

Students, faculty, and staff will benefit from a centralized skyway that simplifies travel throughout the College of Engineering. Walking to interdisciplinary classes and teaching in multiple fields will become more enjoyable and encourage social interaction. The skyway will additionally provide a link over Osborn Drive between Coover and the Armory parking lots, increasing traffic efficiency. This bridge will reduce vehicle delay at pedestrian crosswalks. CyRide will benefit from cost savings due to reduced idling time at crosswalks. Lower levels of pollutants will be emitted from vehicles spending less time idling while pedestrians cross streets [4]. Furthermore, increased travel in a safe, enclosed area will reduce pedestrian traffic and accidents involving students.

## Weather Shelter

The climate-controlled skyway will present a popular choice for navigating among buildings, providing a pleasant commute during harsh Iowa weather. The skywalk system in Minneapolis has performed studies to prove this statement. Barton-Aschman Associates, a consulting firm, made three important observations about the Minneapolis system that can be applied to Iowa State's potential skyway [9].

- Under most favorable conditions for pedestrians, a well-designed skywalk could expect one-third of total inter-block pedestrian traffic.
- During typical summer conditions, a well-designed skywalk could expect one-half of the inter-block pedestrian traffic.
- During freezing or other harsh winter conditions, a well-designed skywalk could expect two-thirds to three-fourths of the inter-block pedestrian traffic.

Des Moines also performed studies on its skywalk system to confirm the success of their implementation. Due to their proximity, the Des Moines skywalk success can closely predict the success of a skywalk in Ames. Des Moines noted skywalk flows exceed at-grade pedestrian flows about nine months out of the year in blocks where skywalks provide an alternate route [2]. Rerouting pedestrian flow to a skyway will minimize weather-related hazards, such as slipping on ice, walking in rain, and battling Iowa wind. It will also promote better class attendance on cold or rainy days.

## Uniting the College

A skyway will help the College of Engineering fulfill its strategic plan initiative to align the academic departments and deliver consistency in teaching and methodology. Skywalk connections will physically tie the buildings together, which encourages better interaction and communication among the departments and ultimately symbolizes unity. Students and faculty alike will benefit from the connected environment in many ways. Classes can be more easily offered to multiple majors, sensitive equipment can be transferred indoors to other buildings, professors can transfer fragile models or displays for meetings due to indoor accessibility to other buildings, and students will be able to more readily interact with multiple engineering majors. These are only a few of the practical benefits that a skywalk will deliver. In addition to physical proximity improvements, a skyway will aesthetically provide modern appeal to the ISU campus, which will increase the university's marketability for recruiting new students.

## Student Design Competition

In an attempt to increase student participation, the sponsoring committee proposes a competition among the College of Design and other majors. Students will have the opportunity to design the engineering skyway. Applicants should maintain the precedence of the Howe-Hoover skywalk in **Figure 6**, but the design may be unique in materials choice, lighting setups, flooring, roofing, and color scheme. There are three major requirements for submitting a design:

- Entry must be made by an Iowa State University student or student team.
- Entry must be sponsored by a professor from the College of Design.
- Students must follow proposed path for the engineering skyway.

The College of Design will recommend the top three designs to the ISU Development Board for selection. Representatives from the engineering departments and members of the Development Board will make the final decision and select a winner for the competition. The winner(s) will receive academic scholarship(s) and recognition at the opening ceremony of the skyway. Their design will be part of the bidding package sent to the professional architecture firms that will correct omissions and confirm feasibility.



**Figure 6:** The Howe-Hoover skywalk blends well into the architectural features of both buildings. The proposed skyway will maintain this motif.

## Student Internship Participation

In an attempt to increase students' development as engineers, the sponsoring committee proposes a program with the contracted commercial building company to provide semester internships for engineering students. As part of the contract, the company must select five students from any field of engineering for internships. Building a large skyway will provide many opportunities for different types of experiences. For example, construction engineers can assist with project management, electrical engineers specializing in power can draw designs for electrical utilities, civil engineers can assess structural integrity, and mechanical engineers specializing in HVAC can develop heating, cooling, and sprinkler systems. Students must apply in the fall term before construction is to begin. Applicants will be narrowed down by their respective departments and the remaining will be submitted to the contracted company for selection. The sponsoring committee will provide compensation to the contracted company for hiring these interns.

*Although much has evolved over the one hundred and fifty year life of the university, change is still met with opposition. An engineering skywalk may have some initial resistance, but there are possible steps to minimize any negative effect a skywalk might seem to have.*

### **Modern Meets Traditional**

One might think that a skywalk would not be capable of looking anything but modern. However, a skywalk structure will compliment our architecturally appealing engineering campus. The red, brick cohesion of Black, Howe, and Hoover, as well as the brown stone of Marston and Durham, as shown in **Figure 7**, distinguish the engineering college. To encourage a cohesive style with the present structures, the proposal design incorporates a scholarship competition, previously described in the Approach.

### **Enhancing the View**

Although the idea of a skyway may seem enclosing and distracting to Iowa State's magnificent landscape, it could be also be a stage in which even more spectacular views of the university are seen. From a sidewalk commute, students and visitors avoid the freezing chill of winter, or the raining downpour of spring, and do not truly appreciate the beauty of this campus. A skywalk will offer a view just as amazing as the current sidewalk allows, but provide enjoyment year round.



**Figure 7:** The tradition of Marston's stone is reflected in Hoover's modern glass and brick exterior.

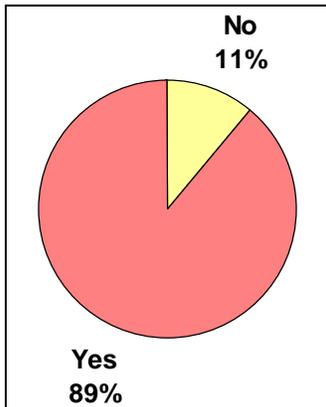
### Accepting Change

Iowa State is a university of tradition and excellence, which has always looked into the future to further develop its success. A skywalk system not only aligns with the university's strategic initiatives, but also elevates the university to a new level of superiority among other colleges. The College of Engineering specifically documents: "State-of-the-art research and educational facilities will be continuously improved through strategic maintenance, renovation, and new construction to enable our faculty, students, and staff to pursue their scholarship in the best possible environments," as a priority in their strategic plan [3]. The historical significance of structural symbols will not be ignored in the design of the skywalk. Entrance to the buildings will adhere to their current design with as little disruption to function as possible. Each new step the university takes toward structural improvements serves to mark a future historical symbol of creativity and innovation.

"I can't wait to have an engineering skywalk! I won't have to go outside except to go home."  
-Carissa Overstreet, Industrial Engineer

### Indirect Benefits

A skywalk system will be a second level in which students, faculty, and staff would need to climb stairs or use elevators to access. For some, this level change is unnecessary or impossible and presents an indirect course from one classroom to the next. Although a direct path is the most efficient, eighty-nine percent of engineering students surveyed attested that they would use an elevated skywalk connecting the engineering buildings (see **Figure 8**). The skywalk will accommodate people with disabilities through each connected building's elevator system as well as the café elevator. A skyway will benefit disabled persons, providing a direct level passage across traffic versus unlevelled pavement and curb hurdles. An indirect skywalk above grade will also save the landscape and open green areas from students not walking on the current designated pathways.



**Figure 8:** Student survey response for skywalk usage.

### Leading Unity

A skyway exclusively connecting engineering buildings may concern other colleges of the university; however the engineering skywalk is intended to unite the college of engineering, not to separate it from the rest of the university. Open malls already divide the university into distinct sections. A skywalk system among engineering buildings will serve as a precedent for other colleges to follow and for the university as a whole. The use of the sidewalk is not exclusively for engineering students, faculty, and staff, and therefore is open for all university citizens to enjoy and embrace.

### **Building Integrity**

The committee invited the Weitz Company, a respected commercial contractor founded by an ISU Construction Engineer and based in Des Moines, to perform a preliminary structural analysis of the existing buildings. Using drawings from the university's archives, Weitz concluded that the loading capacities for all structural beams and columns are acceptable to carry the additional loads imposed by the skywalk connections. Girt and purlin spacing is also approved. The Universal Building Code will apply to new construction. Snow load and wind ratings are outdated for Sweeney and Coover, but because the square footage of the bridge connections does not significantly increase the new total square footage, the buildings will not need to be upgraded. The new skywalks, however, will need to meet the current wind and snow load ratings and sprinkler density requirements set by the university's insurance carrier. All electrical utilities must be Underwriters' Laboratories approved and abide by NFPA-79 codes. Emergency exit routes must be modified and visibly posted after construction is complete. Weitz has further agreed to complete a full structural analysis of the proposed skyway after the designs and contractor's bid documents have been submitted and approved. The cost for Weitz's services will be included in the financial support this committee provides.

### **Financial Support**

In a study performed by Todd Heglund, the Des Moines skywalk system cost was broken down into a rough estimate per hundred-foot section [9]. This cost was \$300,000 in 1982 and is estimated to be \$1.2 million today [9]. The total length of the proposed skyway is 1,625 feet and will approximately cost \$19.5 million dollars. The sponsoring committee proposes to finance the entire project regardless of price. This includes costs for design and construction, modifications to existing buildings, scholarship(s) for the winning architecture student(s) skyway design, and the five internships awarded to engineering students.

## Evaluation

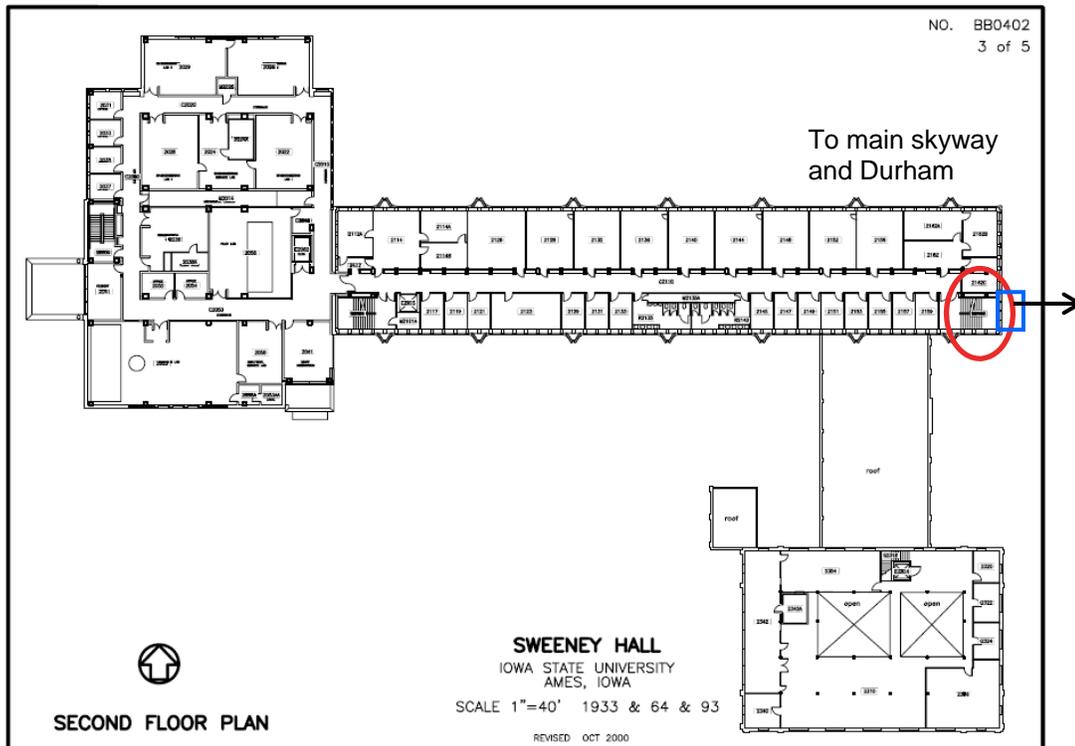
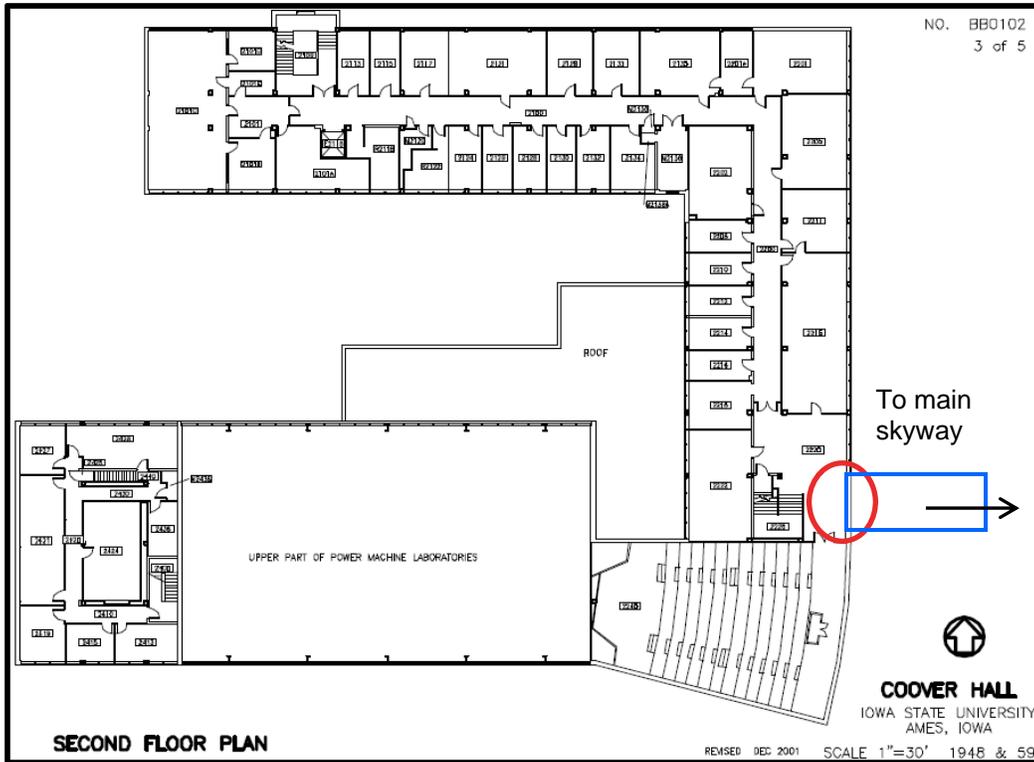
A successful skywalk system will not only be utilized by current students, faculty, and staff, but also become a notable structure among other academic centers and the surrounding community. The Des Moines skywalk system is partly deemed a success because of its functionality and use, but also because it is publicized as an asset of the city, attracting visitors, new residents, and future businesses to its downtown area [12]. "An extensive, 4-mile skywalk; the largest skywalk system per capita in the world! Links downtown meeting facilities, shopping, hotels, restaurants and entertainment." –Des Moines urban planner [12]. The College of Engineering has this opportunity to attract future students and faculty with a skywalk system. The marketing possibilities to attract students and reverse the trend in enrollment with an engineering skywalk stem from the appearance of growth and the willingness of the university to include students and faculty in its concept and design. An engineering skyway, like the Des Moines skyway, would be deemed a success because of its functionality and marketability.

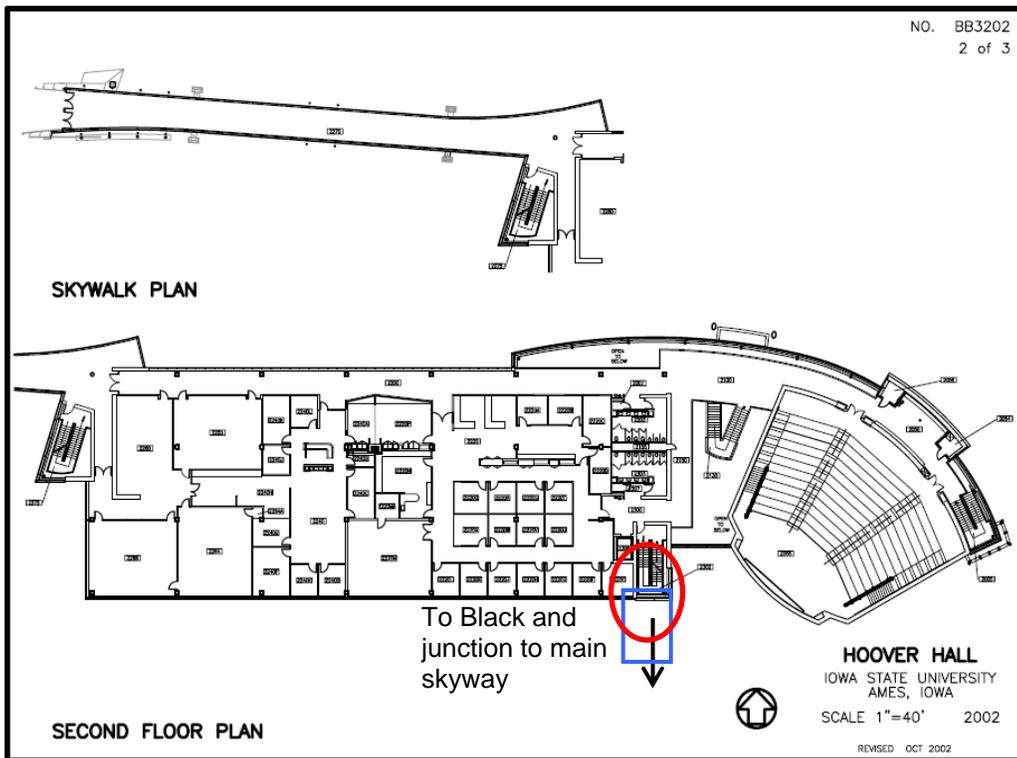
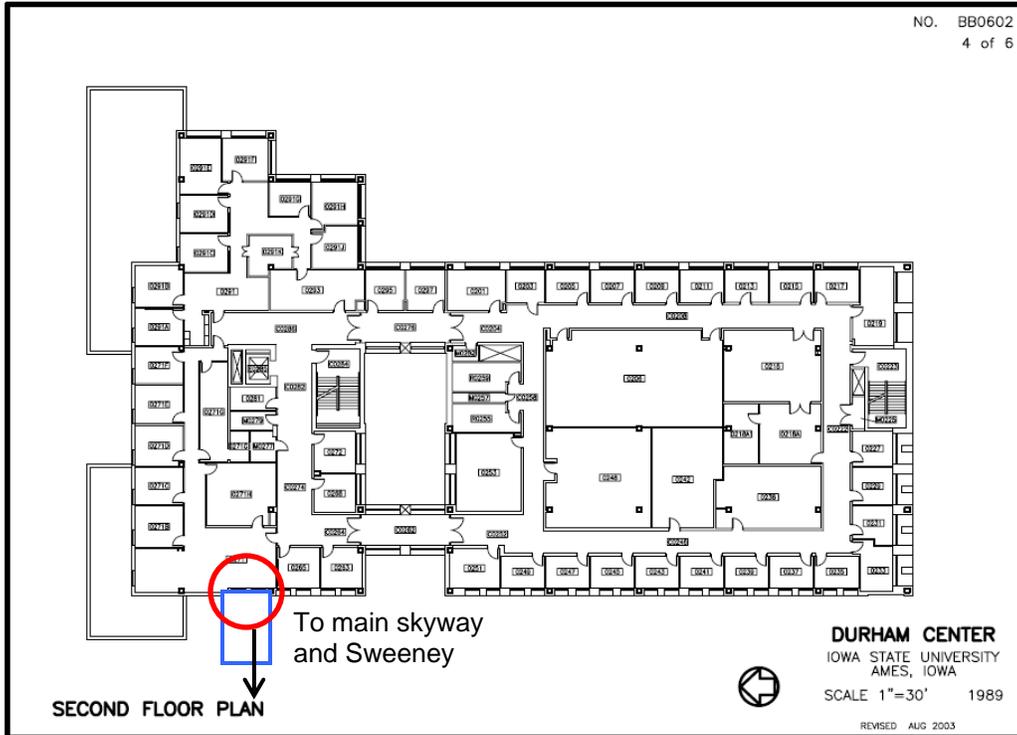
We trust that the Iowa State University Foundation will strongly consider our proposal to build a skyway for the College of Engineering. We believe the skyway will become a landmark for the university that represents the innovation and unity of the college. Our shared heritage at ISU inspired us to endow a lasting gift to the university that provided the foundation for our successful careers today. To inspire future engineers to accomplish their dreams, we hope to enhance the engineering learning environment and promote interdisciplinary teamwork. A skyway will cultivate these elements and improve the overall quality of an undergraduate engineering degree. Without question, our monetary gift to fund the skyway will benefit the College and Engineering and promote the creativity and innovation that represents Iowa State Engineering.

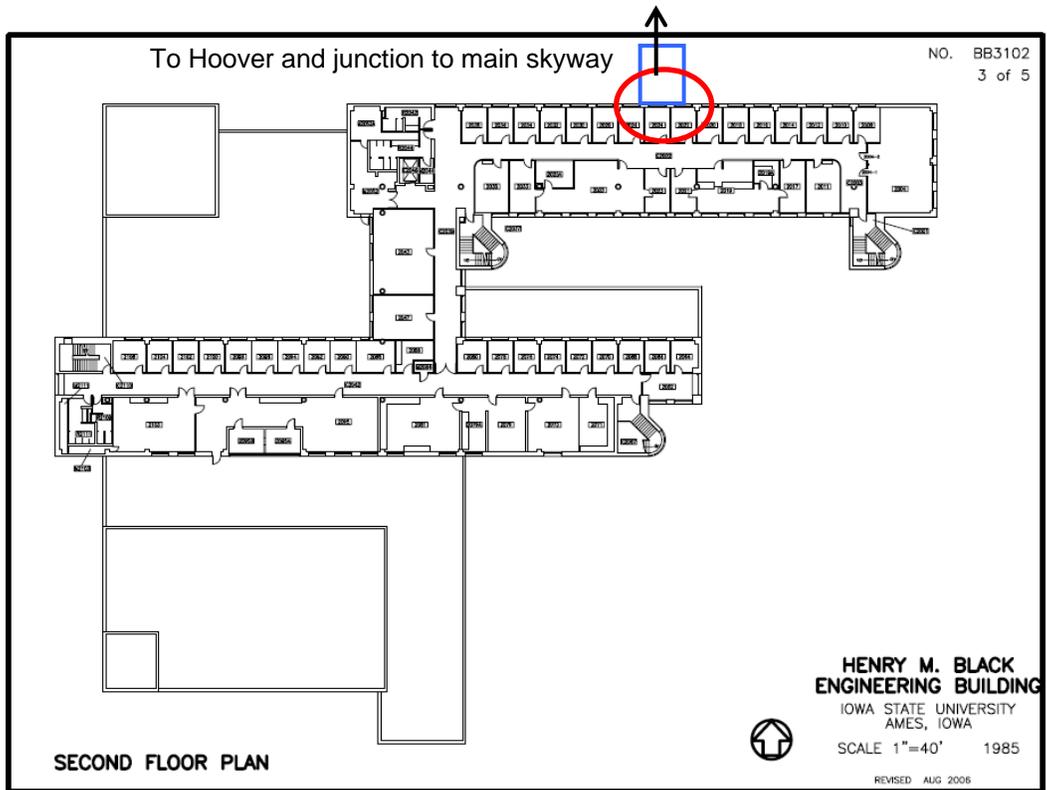


Central engineering campus and skywalk

A. Floor Plans and Proposed Connection Sites [7]







**C. Sources**

- [1] "2003 Biennial Report." Center for Transportation Research and Education. Iowa State University.
- [2] Brewer, Jeb E. Council Communication. City of Des Moines. 10 July 2006. [http://www.dmgov.org/mayor\\_council/agendas/2006\\_as/blue/06-438.htm](http://www.dmgov.org/mayor_council/agendas/2006_as/blue/06-438.htm). 29 October 2006. 5 November 2006.
- [3] "College of Engineering Strategic Plan." College of Engineering Assessment and Accreditation. Iowa State University. 2004. <http://www.eng.iastate.edu/hlc/stratplan.asp>. 1 November 2006.
- [4] Cornwall, Lisa. "Urban Skywalk System Brought Down to Earth." *The Boston Globe*. 26 January 2006. [http://www.boston.com/news/nation/articles/2006/01/29/urban\\_skywalk\\_concept\\_brought\\_down\\_to\\_earth/](http://www.boston.com/news/nation/articles/2006/01/29/urban_skywalk_concept_brought_down_to_earth/). 6 November 2006.
- [5] "Enrollment Statistics for Fall 2006." Office of the Registrar. Iowa State University. 21 September 2006. <http://www.iastate.edu/~registrar/stats/report-f06.pdf>. 29 October 2006.
- [6] Facilities Planning and Management. Iowa State University. 2006. <http://www.fpm.iastate.edu/maps/>. 24 October 2006.
- [7] Facilities Planning and Management. Iowa State University. 2006. <http://www.fpm.iastate.edu/maps/buildings/floorplan.asp?id=163>. 25 October 2006.
- [8] Google Maps Search: Iowa State University. <http://www.google.com/maps?ie=UTF-8&oe=UTF-8&hl=en&tab=wl&q=>. 19 October 2006.
- [9] Heglund, C. Todd. "Des Moines Skywalk System." *ASCE Journal of Transportation Engineering*, Vol. 108. January 1982. Pg 1-13.
- [10] Powers, D.J. "Description of Applicable Codes." City of Des Moines. 2 November 2006. <http://www.ci.des-moines.ia.us/departments/CD/P%20D%20C/descriptionofcodes.htm>. 2 November 2006.
- [11] Robertson, Kent A. "Pedestrianization Strategies for Downtown Planners: Skywalks Versus Pedestrian Malls." *Journal of the American Planning Association*, Vol 69. Summer 1993. Pg. 361-369.
- [12] "Welcome Planners! Plan Memorable Meetings." Greater Des Moines Convention and Visitor's Bureau. 2006. <http://www.seedesmoines.com/asp/planners/>.

Photographs courtesy of Benjamin Curtin.