

The Development of the Baker Building and the Long Road Towards Its Completion

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Abstract: This paper focuses on the history and development of the Baker Building.

There are three main stages to the history of this building. The first stage was coming up with the idea of having a new science center with the main reasoning being that the old Science Building (also known as the Spider Building) couldn't accommodate the growing student population. The second stage of this history was the funding problems the project had and how they had to focus on public-private partnerships as well as donations from Cal Poly alumni and the San Luis Obispo community to receive their funding. The third stage is the construction and the completion of the building.

Keywords: Math and Science; Academic Building; Cal Poly; Phil Bailey; Warren Baker; Public-Private Partnerships

Cal Poly's Math and Science Department describes the Warren J. Baker Center for Science and Mathematics as "located at the heart of Cal Poly."¹ This building is specifically located in this area because it is supposed to symbolize the central nature of math and science in the school's curriculum. This building "contains classrooms, lab space and department offices for Physics, Chemistry, and Biochemistry, and Natural Resources Management and Environmental Sciences."² The building also contains scientific institutes such as the Institute for Advanced Technology and Public Policy. It is considered not only one of the biggest buildings at the university, but also one of the biggest buildings in San Luis Obispo. Former Dean of the College of Science and Mathematics Phil Bailey, the creative mind behind the development of the Baker Building project, envisioned that every student would have to "take at least one lab or course in the center."³

There were several factors that contributed to the development and completion of the project. One was simply the desire to have a new science building on campus that would accommodate even more laboratories, academic resources, and classrooms than the science building that preceded it. This center would also bring technological and architectural designs to the campus. Four secondary sources that addresses advancements and upgrades at other academic buildings are "Transformation of Classroom Spaces", "Learning Spaces in Higher Education", "A Place for Materials Science", and "The Future of the University and the University of the Future". "The Transformation of Classroom Spaces" addresses student input in

¹ "Warren J. Baker Center for Science and Mathematics", *Cal Poly, San Luis Obispo*, https://web.archive.org/web/20131218122317/http://www.cosam.calpoly.edu/content/center_sci_math, accessed February 13, 2018.

² *Transforming Cal Poly|180: Warren J Baker for Science and Mathematics* (San Luis Obispo: California Polytechnic State University,2013), 47.

³ Nick Wilson, "A Giant Step for Higher Education at Cal Poly", *The Tribune* (San Luis Obispo, CA), September 15, 2011, <http://www.sanluisobispo.com/news/local/article39164046.html>, accessed February 1, 2018.

building development. In “Learning Spaces in Higher Education”, the author addresses how learning spaces should form and be functioned. In “A Place for Materials Science”, the author discusses how a science building at the University of Pennsylvania had designs that called for central facilities and shared laboratories back in 1965. “The Future of the University and the University of the Future” talks about how the university has adjusted to the increasing knowledge-based society. In terms of the Baker Building’s layout and design, the secondary source, “Greening of the Campus”, is being used in this paper to give some historiographical context on this subject. In terms of funding, this paper is focusing primarily on public-private donor partnerships. President Warren J. Baker, Bailey, and the Cal Poly Foundation depended mainly on public funding rather than public-private partnerships alone to fund for this building project. This paper will look at the fundraising efforts made during the Baker Building project and compare that with secondary sources such as “Why People Give”, “The Appeal of Public-Private Partnerships”, and “Inviting the Donor to Give”. These sources offer the reasons why people donate, how to persuade people to donate, and why there is more of an appeal to receive donations from public-private partnerships.

This building was an ambitious project. It was going to be seen as a major upgrade on the old science building with the Baker building being able to hold more classrooms and contain new technological and architectural innovations that hadn’t been seen on campus before. However, it would take seventeen years to develop and plan out this project. This is due in large part to the project looking more towards receiving funding from the public rather from a public-private partnership alone.

Before the idea of the Baker Building came into fruition, there was Building 52. Building 52, which was referred to as the Science Building, was completed in 1955.⁴ After the building was completed, students and faculty affectionately gave this building a nickname. This nickname was the “Spider Building” and was called this due to its spidery hallways. This building “faithfully housed chemistry, physics, and soil science laboratories,”⁵ and the majority of science classes were taught in this building for 55 years. During the first couple decades after the completion of this building, students and faculty seemed to be divided on their opinions with this building. There weren’t any problems with the classrooms themselves and Phil Bailey even notes in an interview that the Spider Building “was actually remodeled after the Baker Building was built.”⁶ However, there were problems with the aesthetic look of the building. In an interview with Dr. Tom Bensky (a Physics professor who was teaching when the Baker Center was being built), Bensky says that “the Spider Building was really awful from an aesthetic perspective. It was really smelly and there wasn’t a lot of room for lab space.”⁷ Due to these dividing issues, there was talks that a new center for science and mathematics should replace the Spider Building.

These talks would first commence back in 1983 after Phil Bailey was named the new Dean of the College of Science and Mathematics. The idea on why there should be a new science and mathematics mainly had to with the increasing student population. At the time when the Spider Building was completed, the student population at Cal Poly was only 5,000 and comprised entirely of men. However, the campus would quickly grow in the next couple

⁴ “Dean of University Building, Building Data Sheets”, University Building Folder (Special Collections and Archives, California Polytechnic College, San Luis Obispo, California), June 15, 1977.

⁵ *Transforming Cal Poly|180: Warren J. Baler for Science and Mathematics* (San Luis Obispo: California Polytechnic College, 2013), 13.

⁶ Phil Bailey, interview by Connor Petterson, February 16, 2018.

⁷ Tom Bensky, interview by Connor Petterson, March 1, 2018.

decades. An example was in 1956 when women were readmitted to campus.⁸ Combine this with Cal Poly's growing acceptance of minority students and the school's population would soon double in size. The Spider Building also had to deal with the School of Applied Sciences becoming the School of Science and Mathematics in 1970. The almost 110,000 square foot Spider Building couldn't adapt to these population and school change factors and as a result of this, Dean Bailey came to the realization that there should be a new center that accommodated both science and math classrooms.

Bailey decided that if he wanted to get this project off the ground, he was going to need some faculty advisors who would help plan out what the building would look like. So, in 1983, Bailey "quietly put a group of people together for the project."⁹ Bailey realized that this ambitious and expensive project couldn't be the first project of his tenure. So, to show that he would have the experience to take on a project like the Baker Building, he decided to take on a smaller building project. This building project would be the College of Science and Mathematics Faculty Office building (also known as the Clyde P. Fisher Building) and "he would propose this to President Baker in 1985."¹⁰ Fortunately for Bailey, President Baker approved of this office building proposal and in 1992, many science professors, including Bailey, would move their offices into this new building. After the success of this proposal, Bailey decided to move towards working on the new science and math center. He estimated that this project would cost around \$132 million. He proposed this idea to President Baker in 1993. In his proposal, "the building's name would be the Molecular Science Building"¹¹ and 11% of the school's curriculum would be

⁸ *Transforming Cal Poly|180: Warren J. Baler for Science and Mathematics*, 13.

⁹ Phil Bailey, interview by Connor Petterson, February 16, 2018.

¹⁰ Phil Bailey, interview by Connor Petterson, February 16, 2018.

¹¹ Phil Bailey, interview by Connor Petterson, February 16, 2018.

taught in this building. He also believed students should feel comfortable every time they come into the building. Bailey said this building would try to provide this comfortable setting with the addition of scientific artwork. Bailey notes that this artwork would “include a hallway devoted to and honoring scientists who made scientific breakthroughs that went largely unnoticed in history and lounge areas on each floor of the building where students could socialize and study.”¹² This idea of allowing students to comfortable in an academic building would, as Bailey notes, inspire more lounging areas to be added to the University Union.

There are three secondary sources that can be used as comparison to the building’s planning. One of these sources is an article titled “Transformation of Classroom Spaces”. This source is about SoongSil University in Korea and the school’s attempt to change the classroom design at their university. To understand how they could do this change, they give a questionnaire to students asking them for any suggestions on how they could change the classroom environment. One of the suggestions that the students give is better classroom space design. The author writes that schools could improve classroom design if they answer the following three questions: “(1) What is the institution's vision for education and is it willing to deploy effective classroom space? (2) Does the university and do its professors and students consent to experiencing a newly-designed classroom? and (3) Would the new space fit within the budget, coexist with the notion of providing enough classrooms, and blend naturally with the student population and culture?”¹³ This source is similar to the planning of the Baker Building in that Bailey held the same vision from the start that this building would accommodate every student, regardless of whether or not they were in science or math majors. The building also

¹² Phil Bailey, interview by Connor Petterson, February 16, 2018.

¹³ Elisa L. Park and Bo Keum Choi, “Transformation of Classroom Spaces: Traditional Versus Active Learning in the Classroom”, *Higher Education* 68, no. 5 (November 2014): 769.

answers the third question in that it contained lounging areas and artwork that gave a sense of comfortability to any student that walked into the building.

The second of these secondary sources is a 2015 article, “Learning Spaces in Higher Education”. This source is about higher education spaces and how these spaces can be considered in various different ways. One of these ways are the forms and functions of learning spaces. When writing about laboratories, the author writes “that laboratories, workshops, studios, and so on should be seen as spaces with important social dimensions, and that their designs should facilitate social interactions, as well as meeting standard operational requirements.”¹⁴ This includes nearby refreshment spaces and semi-private meeting spaces. The Baker Building follows the suggestions of this source in that the planning of this building not included scientific artwork, but study areas where students can socialize and work on assignments. These study areas also appear right next to classrooms and laboratories.

The third one of these secondary sources is a 2015 article, “A Place for Materials Science”. This source is about the development of the Laboratory for Research on the Structure of Matter (LSRM Building for short) at the University of Pennsylvania and some of the heated debates that went over interdisciplinary research at colleges and university. The authors write in this source that the planning of this building included shared laboratories and “central facilities”. The authors also note that “In addition to these shared ‘central facilities,’ the committee also made plans for specialized laboratories and private offices, to be occupied by individual faculty members.”¹⁵ Considering that this building was completed in 1965, it becomes evident that there

¹⁴ Paul Temple, “Learning Spaces in Higher Education: An Under-Researched Topic”, *London Review of Education* 6, no. 3 (November 2008): 234.

¹⁵ Hyungsub Choi and Brit Shields, “A Place for Materials Science: Laboratory Buildings and Interdisciplinary Research at the University of Pennsylvania”, *Springer Science + Business Dordrecht* (2015): 27.

were already buildings that shared the design of the Baker Building before this project was even conceived. Like the LSRM Building, the design of the Baker Building included shared laboratories and private faculty offices.

The last secondary source that can be used as comparison to the planning of the Baker Building is “The Future of the University and the University of the Future”. This source is about the developing role of the university in increasingly knowledge-based societies. The authors argue that the entrepreneurial paradigm, which is an academic structure and function that “is revised through the alignment of economic development with research and teaching as academic missions”¹⁶, can be enacted at teaching and research universities. This, the author states, can be done by innovations in undergraduate and continuing education. The Baker Building accomplished this idea just by being seen as an improvement over the outdated facility that was the Spider Building. The Baker Building offered more classroom and laboratory space that the Spider Building wasn’t able to offer which would result in better classroom environments. This allowed the Baker Building to follow the entrepreneurial paradigm in that the school was following the revised academic structure model that was used in this source.

After President Baker heard what Bailey proposed, he approved of the project. At the time, Bailey “thought it would be a relatively easy task [to build the center]; after all, the faculty office he had just proposed was approved and built within two years.”¹⁷ However, it would take another five years before funding began on the project. This was due in large part because of other building projects like the PAC and Cerro Vista that were being funded and being built at

¹⁶ Henry Etzkowitz, Andrew Webster, Christiane Gephardt, and Branca Regina Cantisano Terra, “The Future of the University and the University of the Future: Evolution of Ivory Tower to Entrepreneurial Paradigm”, *Research Policy* 29, (2000): 314.

¹⁷ Leslie, Kaytlyn, “Cal Poly’s New Science Building Opens”, *The Tribune*, (San Luis Obispo, CA), September 27, 2013, <http://www.sanluisobispo.com/news/local/education/article39456453.html>, accessed February 1, 2018.

the same time. When the time came to start fundraising for the project, Bailey and President Baker sent their building proposal to the CSU system. After looking over this proposal, the project received funding approval with Bailey noting that it was “the best proposal the CSU system had ever seen.”¹⁸ The project would receive \$100 million from the state system and established a public-private partnership. The problem with this however was the money was slowly being rolled out. Bailey and President Baker hoped to have construction of the new building to take place in October 2009. However, “construction of a center was delayed when a state general obligation bond stalled because of California’s budget crisis.”¹⁹ As a result of this slow rollout, several parts of the proposal including the installation of math education facilities had to be cut. Due to this slow rollout, the project had to look elsewhere for funding.

President Baker and Bailey decided to look towards getting funds from the public. They expected that they could raise fundraise \$20 million from this type of funding. Instead, they were able to raise \$25 million. This was due in large part to the ambitious ideas of this project. President Baker and Bailey would present this project to Cal Poly Alumni and members of the San Luis Obispo community. At these presentations, they would show images of the Baker Building, how every student at Cal Poly would be allowed to take at least one course in the building and “point on the Baker Building images where students were expected to take classes by the year they were in.”²⁰ While the bulk of these funds came from non-faculty members, there was still a good percentage of funding that came from the school. An example of this is Phil

¹⁸ Phil Bailey, interview by Connor Petterson, February 16, 2018.

¹⁹ Nick Wilson, “Cal Poly to Start Building Center for Science and Mathematics”, *The Tribune* (San Luis Obispo, CA), July 8, 2010, <http://www.sanluisobispo.com/news/local/article39128403.html>, accessed February 1, 2018.

²⁰ Phil Bailey, interview by Connor Petterson, February 16, 2018.

Bailey and his wife. The two of them donated a combined \$250,000 to the project and had their paychecks deducted to donate this large sum of money.

In a 1995 article, “Why People Give”, Henry Drucker explains what leads someone to donating towards a project and how Oxford University could adopt a new style of fundraising. The reasoning why people donate include inspiration, audacity, investment, donor focus, and inclusivity. The writer also mentions that the best way to fundraise is near where the project is taking place. The author of this source talks about the temptations someone may have in getting money from an outside source and writes, “It would be much better to draw on our own indigenous philanthropic reserves before we travel abroad.”²¹ This source can be compared to the Baker Building’s funding. The Baker Building project relied heavily on funds from the public and received the majority of funding from people who lived in the San Luis Obispo community or were Cal Poly alumni. This project is also similar to this secondary source in that it focused on inspiring donors with the ambitious vision that this building would accommodate every student, regardless of their major.

In a 1998 article titled “The Appeal of Public- Private Partnerships”, Joan Price Boase attempts to show the benefits of taking part in public-private partnerships and why it’s better to do this type of funding where the government sends money to a private sector project. An example this source uses is a public private partnership between Chrysler Canada and the University of Windsor. In this example, the university and Chrysler Canada are agreeing for the latter to conduct primary research on the campus with the construction of an automotive research project. The combined investment for this building was “over \$30 million, which included a

²¹ Henry Drucker, “Why People Give”, *RSA Journal* 143, no. 5456 (January/February 1995): 48.

\$7.4-million land and building purchase by the university (funded by Industry Canada, the Ontario Ministry of Education and Training, and the City of Windsor) and an initial investment by Chrysler of \$20 million in equipment and \$4 million in human resources.”²² This is similar to the Baker Building and the idea at the time that a public-private partnership would be beneficial when they received \$100 million from the state. However, the author leaves some dangers of getting into a public-private partnership. One of these is financial ambiguities which could include how fast a funding rollout from the government would be or whether the project was being built primarily for the private sector’s own financial gains. The financial ambiguity of how fast the CSU system’s funding rollout would be proved to be a problem for the project and is the main reason why the project looked towards receiving funding from Cal Poly alumni and people who lived in San Luis Obispo.

The last secondary source that is related to the funding of the Baker Building is “Inviting the Donor to Give.” This source is about how the library at the University of Amherst, Massachusetts received funding and provides examples of how outreach communications made by funding groups can receive donor support. One of the examples the author uses is stewardship mailings. The author writes, “We decided to create colorful postcards with photographs of the renovated promenade in its full glory and sent them to all donors.”²³ Although President Baker and Bailey didn’t send postcards to their donors, they did somewhat follow the suggestions of this source. For example, President Baker and Bailey would often meet with the public to show what the designs of the Baker Building would look like. In these presentations, they often

²² Joan Price Boase, “Beyond Government? The Appeal of Public-Private Partnerships”, *Canadian Public Administration* 43, no. 1, (June 1998): 87.

²³ Emily Silverman, “Beyond Luck and Money: Inviting the Donor to Give”, *The Bottom Line* 22, no. 4 (2009): 140.

mentioned how significant this project would be to Cal Poly and stated that this building would be located at the “heart of the campus.”

As the project was about to begin construction, there were several features that would be added to the Baker Building. One of these features was the environmental sustainability the building had to offer. This building utilized environmental, energy, and natural resources in its design and was one of the first buildings on campus that promoted the environment. One way the building was able to promote this sustainability was green roofs. According to the College of Science and Mathematics website, these roof gardens were built to “mitigate the building temperature, increase the lifespan of the roof, create new wildlife habitat, and mitigate stormwater runoff volume.”²⁴ Another unique feature was the building’s locking system. The Baker Building was the first building on campus that would enable electronic lock systems. This system would make it possible for the building to automatically lock and unlock itself whenever the building opened or closed for the day. Bailey stated that the reason why this building should enable this system is because “it would make it easier for students to study in this building during the weekend.”²⁵ Since it wouldn’t be necessary to hire someone who unlocked the Baker Building, students would just need to know what times the building was open until and show up without waiting to have someone grant them access to the building.

There is one secondary source that can be compared to the features of the Baker Building. This source is “The Greening of the Campus”. This source focuses on Ball State University and the whole-systems approach they used to promote the environment. One of the aspects of this

²⁴ “Center for Science and Mathematics”, *Cal Poly, San Luis Obispo*, https://web.archive.org/web/20130707053055/http://www.cosam.calpoly.edu/content/center_sci_math, accessed February 13, 2018.

²⁵ Phil Bailey, interview by Connor Petterson, February 16, 2018.

whole-systems approach this source focuses on is campus planning. In the source, the author writes that the university building construction is going to “accommodate green building practices by including recycled content materials, low-flow plumbing fixtures, high-efficiency lighting, and protection of existing ornamental trees and landscape features.”²⁶ Using this source, it’s clear that the planning of the Baker Building was similar to building construction at Ball State University. Both colleges were focusing on having buildings that were sustainable and promoted environmentalism. They even shared similar examples of green building practices like using recycled content materials to construct their academic buildings.

After raising enough funds to start building the Baker Building, ground was finally broken on May 4, 2010. This milestone in the project was celebrated with a ceremony where the donors and faculty were recognized for donating money to the project. The ceremony ended with a “symbolic demolition where Baker and others took swings at the outside wall of the Science Building with a green and yellow sledgehammer.”²⁷ In November 2010, demolition on the Spider Building began and it would take four months to complete this part of the project. A month after the demolition of the northern wing of the Spider Building was finished, the steel framework for the new center was starting to be set up with Gilbane Building Company, a family-owned company in San Luis Obispo, overseeing the framing of this project. The framework for this project would last until September 2011. Like the year prior, there was a ceremony to celebrate the placement of the final steel beam on the new center. According to *The Tribune*, this “event marked the finishing touches on the project’s foundation, framing and

²⁶ Robert J. Koester, James Eflin, and John Vann, “Greening of the Campus: A Whole-Systems Approach”, *Journal of Cleaner Production* 14, (2006):774.

²⁷ Alexandria Scott, “Ground Broken on \$132 Million Center for Science and Mathematics”, *Mustang Daily* (San Luis Obispo, CA), May 3, 2010, <http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=8055&context=studentnewspaper>, accessed February 2, 2018.

support structure.”²⁸ After the framing of the building, construction of the building began and it would take until September 2013 for the project to be completed.

The building was officially opened on September 25, 2013 and was immediately met with praise by the faculty. David Mitchell, a physics associate professor, was among these supporters and in an interview with *Mustang News* he said, “I was already teaching in a studio, but I will have the ability to teach other classes in the studio now with much more room, and I think that’s much better.”²⁹ Despite these praises, there were several controversies that emerged following the completion of the building. One of these controversies was the naming the building after President Baker. According to the Resolution on Naming Buildings, “presidents were allowed to have buildings named after them if they were out of office for at least two years.”³⁰ Baker had retired from the presidency in 2010, and so was allowed to have his name placed on the building. However, many people believed the building should have been named after Phil Bailey because he was the one that developed the vision for the project. However, Bailey believes Baker deserves to have the center named after him because it was Baker who approved of the project and helped out with the funding. This controversy was resolved when the main entranceway to the building was named after Bailey. Another controversy dealt with the math department and where they would be located. According to Dr. Bensky, “the Math Department were supposed to have their offices on the top floor, but due to budgetary concerns, they had to

²⁸ Nick Wilson, “A Giant Step for Higher Education at Cal Poly”, *The Tribune* (San Luis Obispo, CA), September 15, 2011, <http://www.sanluisobispo.com/news/local/article39164046.html>, February 1, 2018.

²⁹ Brooke Sperbeck, “Professors, Administrators Thrilled With New Math and Science Center”, *Mustang News* (San Luis Obispo, CA), September 27, 2013, <http://mustangnews.net/professors-administrators-thrilled-with-new-math-and-science-center/>, accessed February 2, 2018.

³⁰ “Resolution on the Naming of Building”, Academic Senate of Cal Polytechnic State University, San Luis Obispo, California, April 27, 1976.

move down to lower floors where there was less office space.”³¹ To solve this issue, some science professors, like Dr. Bensky, decided to leave the offices they held in the Baker Building and move back to the College of Science and Mathematics Faculty Office Building.

The Baker Building stands out as a symbol that represents the centralized nature of science and mathematics in the school’s curriculum. The building also has a fascinating history. The vision of this building developed because there was a need for a science building that could accommodate the growing student population. The project faced some setbacks in terms of funding and the construction of the building was delayed by a year. However, President Baker and Bailey never gave up on this project and received funding from both the state and the San Luis Obispo and Cal Poly communities. This determination to complete this project is one of the lasting legacies of this building and the Baker Building remains one of the greatest accomplishments in both President Baker’s and Phil Bailey’s careers.

³¹ Tom Bensky, interview by Connor Petterson, March 1, 2018.

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