The subgroup reports are part of this document and attached at the end.

The Polaris Plan (Winter 2017)

By the Committee On Undergraduate Caltech Housing (COUCH)

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Subgroup reports

All Frosh Housing Summary
Colonies
New Houses
Unaffiliated
All Frosh Housing
Themed Housing (added Feb 2, 2018)
Caltech is scheduled to open a new residence hall - the Bechtel Residence - in the fall of 2018. A committee of seven students representing three classes and five houses was convened to study using Bechtel as an all-freshman dorm. This document summarizes the work and findings of the committee.

The committee interviewed dozens of staff and faculty members throughout the summer and fall of 2017. Members interviewed resident associates, residential life coordinators, and staff members in housing, dining, the counseling center, and various other offices within student affairs. Throughout the process, the committee strove to balance student opinion with faculty and staff input in order to form a holistic view of all-freshman housing. Data from surveys and from the results of rotation were also taken into consideration.

There are several themes that reoccurred during the research phase. The current house system is generally popular among students, and comes with several advantages. Houses offer a ready made community for incoming freshman, and are often instrumental in helping students acclimate to Caltech. Interclass relations in the houses also promote mentoring and cultivate community support. The self governing structure gives an abundance of leadership opportunities to students. However, the houses can be insular and isolated from each other, effectively breaking an already small community even smaller. Rotation, a process where upperclassmen systematically judge and rank an incoming class, was heavily criticized by numerous staff members and some students.

Staff members consistently brought up several advantages and disadvantages of all-freshman housing. The most commonly cited advantage, especially from staff who had worked at institutions with all-freshman housing, is the opportunity to create a more cohesive experience and community for freshmen. Housing students of the same year together makes it easier to support students who are going through a common experience. All-freshman housing also circumvents the problems with rotation and potentially alleviates the negative influence that upperclassmen may have on freshman. However, Bechtel was not designed to house the entire freshman class; all-freshman housing would demand isolating part of the freshman class, a solution that is both problematic and ungainly. The positive influences that upperclassmen have on freshman - mentoring, support, and academic advice - may be severely curtailed.

Of all the housing schemes, all-freshmen housing provides the greatest opportunity for reforming the House System. If implemented correctly, all-freshmen housing comes with several beneficial properties, such as creating a unified freshman experience.

However, all-freshmen housing is the riskiest, most disruptive, and most challenging housing scheme to implement by the fall of 2018. Successful all-freshmen housing will depend on a web of support networks and programs, most of which are untested or nonexistent.

All-freshmen housing may be seen as a tempting option unless the fundamental flaws of Rotation are corrected. The current House System and Rotation has a plethora of challenges and weaknesses that must be addressed. Regardless of how Bechtel is filled, Rotation in particular should be thoroughly examined and decisively revised.
The Bechtel Residence: House Colonies Report

1 Background

The Bechtel Residence, named for Caltech Life Trustee Stephen D. Bechtel Jr., will provide undergraduate housing to 212 students, allowing 95% of undergraduate students to live on campus and fully participate in residential life at Caltech in the Fall of 2018. However, approximately 137 beds in Caltech-owned off-campus housing will be unavailable to undergraduate students, as the House OCAs, 150 Chester, and 1170 Del Mar buildings will become graduate housing in Fall 2018. In May of 2017, three groups were formed to provide input on which students would live in Bechtel: a group of faculty members, Housing staff, and a coalition of student-led groups. The student groups were organized to investigate and generate proposals on the institution of a residential system in the newly established Bechtel Residence. Students at-large were surveyed and solicited for different residential life schemes including: themed housing, unaffiliated housing, sophomore-priority housing, all-freshman housing, and house-affiliated suites. Here, we investigate the feasibility of assigning some number of Bechtel suites to each House to be filled by members of that House, resulting in House “Colonies” in the Bechtel Residence.

2 History of Caltech Housing

We will begin by establishing the core values with which the residential systems were built, and then examining whether these values are met through the current system and whether these values should be maintained and/or augmented. Caltech was established as the Throop University in 1891. From the first year of courses in 1892, Throop University provided housing for a portion of students in the original Wooster building. A dining hall was established to “make the total cost of living less than is usually possible in California.” The South Houses, including Dabney House, Ricketts House, Blacker House, and Fleming House were erected by 1934. The completion
of these first four houses were part of an original plan to develop a series of 8 “residential halls” each with “its own distinctive atmosphere, each to be the center about which the loyalties developed in student days and the memories of student life shall cluster.” In 1934, students were required to stay on-campus, unless a special exception was granted. When the North houses were established (Page, Ruddock, Lloyd) it was mentioned that each of the seven Houses will have “their own elective officers and [were] given wide powers in the matter of arranging their own social events, preserving traditions, and promoting the general welfare”.

3 Values

The values mentioned in the charter for the original Caltech houses from the original donors are those that are reflected in nearly every collegiate residential life system. They should be cost-effective, offer students to form groups by their interests and to form atmospheres that will be the center for student life. These values and values mentioned by contemporary students, faculty, and staff will be the values that should be implemented in the final housing solution.

- Cost effectiveness
- Distinct group atmospheres
- Multi-generational mentorship
- Integrity
- Diversity
- Friendship
- Leadership
- Academic Success

3.1 Cost effectiveness:

Affordable housing and board are very important to students. Caltech students come from a variety of backgrounds, and some will incur significantly more debt by staying on campus. A plurality of juniors and seniors who are living off-campus are living off-campus because of the cost and quality of on-campus housing and board options. The total cost of living on-campus
in the 2017-2018 school year is $4879.00 per term (74 days, or about 2.5 months). In contrast, an independently rented furnished residence shared among students can cost approximately $1800 per term, and spend $600.00 per term in groceries (according to average grocery prices in Pasadena). The residences that will be eliminated in Fall 2018 provided an option for students to save about 1,400 dollars a month on board. The cost/quality of housing and board make up a large portions of the reasons why students choose to live off-campus (Figure 1).

3.2 Distinctive atmosphere and traditions:

By and large, each House has fulfilled the challenge of creating a distinctive atmosphere. Since the early 1930s, freshmen and sophomores in Ricketts House compete for a metallic brakedrum in a cathartic competitions called Piles. Every year on Halloween Dabney House drops a pumpkin from the top of Millikan tower as a parody of Millikan’s famed oil-drop experiment.
In many cases, just by walking into a House’s courtyard, one can begin to understand that House’s atmosphere. Over the years, Caltech as a whole has developed many significant traditions, such as Ditch Day which occurs in every House. These traditions, at heart, create occasions for students to collaborate with each other on something other than academic work. In addition, Houses have regularly competed with each other athletically since their institution in games such as Dodgeball, Basketball, Spike ball, Floorball Ultimate Frisbee, and Table Tennis.

3.3 Multi-generational mentorship:

The Caltech’s symbol and seal since 1891 has been that of a person passing on the torch to another. This principle is represented at Caltech in many ways: not only a passing of the knowledge from the professors to the students or giving trust and responsibility to students to conduct original research, but also the guidance provided from the existing students to the new students. Freshmen entering Caltech are faced with a number of challenging tasks: making new friends, doing laundry, scheduling, challenging coursework, and for some, impostor syndrome. The Houses were in fact designed to help new students handle this transition, for every new freshman there are almost 3 upperclassmen who have each been in their shoes and are eager to help (perhaps because they were helped by upperclassmen when they were freshmen). It is also generally upperclassmen’s responsibility to host events and traditions aimed to welcome and incorporate freshmen into the Caltech community.

3.4 Integrity

The Honor Code is a principle that is both unique to Caltech and ubiquitous at other institutions. It is ubiquitous in the sense that nearly every college in the United States has a form of the Honor Code. However, at these institutions, it seems to merely be an empty promise. Many institutions of high academic caliber such as MIT, Harvard, Stanford and Yale have been plagued by “course-bibles”, distribution of old exams, copying off of other students, and texting during exams. Some of these instances have been caught [1,8], but many of these methods are surreptitious enough to avoid detection by the institution’s administration. At Caltech, the Honor Code is unique in the sense that it is omnipresent, followed stringently, and rigorously enforced socially. The preservation of the Honor Code seems to follow from the interactions between the freshmen and the upperclassmen.
The freshmen observe that all of the upperclassmen in their House hold the Honor code highly, and follow suit.

### 3.5 Diversity

Diversity comes in several forms, from diversity of ideology, major, gender, race, and interests. At times, Houses can suffer from a lack of diversity between particular Houses (Figure 2), and therefore limit exposure to groups with different interests. However, the House system excels in the sense that it forces people who would create small homogenous groups to interact with those different than them in House events and dinners all four years.

![Figure 2: Table of cross House interaction. The House of the respondent is given on the X-axis. Each table entry is the fraction of respondents from a House that reported “consistently-interacting” with a member of another House.](image)

### 3.6 Independence

For some time, OCAs offered an option for students to live outside the House system. Many students displayed the desire to remain affiliated (around close House-members) but away from distractions, with the ability to cook for themselves, and remain more independent.
3.7 Leadership

The current housing system allows for strong student representation that is focused on enhancing the experience of every Caltech student, whether they live on-campus or off-campus. Each House elects officers to several positions including President, Vice President, Secretary, Social VPs, etc. These officers organize events, act as liaisons to administration, faculty, and staff.

3.8 Friendship

Even if a student only interacted with those in their House, and not with students from other Houses, classes, or clubs, they would develop friendships with approximately 200 people over four years. The current system allows each student to be affiliated with multiple Houses, allowing them to participate in events with a whole new set of people.

3.9 Academic Success

Academic success is difficult to compare. Caltech is notorious for making students earn their grades, and GPAs are, on average, lower than those at other institutions. However, it is important to remember that adherence to the Honor Code has an impact on GPAs, if students no longer follow the Honor Code, their performance is likely to be better.

4 Residential Life in Other Institutions

4.1 Massachusetts Institute of Technology

MIT has 10 existing Residence Halls (not including Senior House). 5 of the Halls require meal plans, and all except the all-female McCormick Hall are coed. Traditionally, MIT had a week called “R/O week,” which was similar to Rotation and involved freshmen visiting and evaluating all the different living options at MIT before deciding. This ended with a fraternity death in 1997, after which freshmen were required to live on campus (unless they live in the greater Boston area). After freshman year, students can continue living on campus or choose to live in a fraternity, sorority, or Independent Living Group, which are on or off campus. With the exception of Kappa Alpha Theta, Kappa Sigma, and Pi Beta Phi, FSILGs, as they are abbreviated, are all independently owned and operated by alumni.
house corporations not affiliated with MIT administration, and MIT is not responsible for the governance, operations, and maintenance of the facilities.

MIT has several tight-knit communities that could be analogous to the Caltech Houses. For instance, New House, a coed on campus dorm, is composed of 3 “Numbered Houses” and 3 “Cultural Houses”, each with its own community and culture. East Campus is also broken down into several sections that are further broken down by floors. FSILGs are also similar to Caltech Houses but are markedly different in that they are much more independent.

Students can also choose to live unaffiliated in off-campus housing, for which MIT devotes a website and office to help find affordable prices.

MIT does not have the equivalent of House “Colonies”, since Houses are not the predominant social structure any “House-like” community is small enough to not require another section elsewhere on campus. It is interesting to note that although freshmen are not allowed to rush fraternities or sororities their first year, they do not have any equivalent of all-freshmen housing, since upperclassmen advice and guidance is seen as critical for a smooth adjustment to the intense academics of MIT education.

4.2 University of Cambridge

Housing is allocated on student preferences, year, and price range. At some colleges, there are “staircases”, much like alleys, to create more of a community feel. One’s major, age, and gender identity does not seem to be a big influence to their dorm, much like Caltech. Freshmen do seem to be grouped together in certain dorm buildings, but spread out afterwards. Housing accommodations drift away from dorm style and are more like renting out an apartment/house. The housing lifestyle does not really seem focused on creating a community, but more of just giving students a place to live within their price range. There is also a ballot system in place for sophomores and higher and freshmen do not really have much of a choice of where they want to live initially. For the ballot system, a group of students can enter the ballot together to live close to each other the next year, which could be a possible method of figuring out who gets to live in Bechtel within each house. All these smaller colleges within university of Cambridge are about the same size as Caltech so it’s a good comparison in terms of size. Housing buildings range from being on campus (which are usually given to freshmen) as well as college owned houses/apartments outside near the college (older students). There is guaranteed housing all four years for most colleges Colleges at Cambridge have something somewhat similar to colonies. This could
look similar to placing students from the same house in one alley of Bechtel or assigning sections of Bechtel to different houses. Also a ballot system like theirs could be used to choose which group can go live in Bechtel.

4.3 Yale University

Yale’s residential college system was established more than 70 years ago and is composed of fourteen residential colleges, each of which are “close-knit communities.” Each of the colleges provide several amenities through which students can interact and develop relationships, including a dining room, gym, courtyard. Students also benefit from a “Buttery” that is similar to Chouse. The colleges have formal FIRs known as the Heads and Deans. Students are randomly assigned to one of these colleges, and remain affiliated with their colleges throughout their years at Yale and beyond. The selection process is an effort to create a microcosm of the larger student population. Yale also exposes their students to different life experiences and perspective by assigning roommates based on a short survey that consists of questions like “How do you think other would describe you?” “What do you like to do for fun?” “What was your favorite class in high school?” “What is your major?” The goal is to provide compatible yet complementary pairings between roommates. Anecdotally, a friend who is focused in Mathematics and Biology was paired with a Japanese chess champion majoring in English. In many ways, these residential colleges are quite analogous to the houses at Caltech, with some caveats: the houses are much more informal, with no faculty imposed events or faculty leadership. In addition, roommate selection usually occurs by choice, if necessary. In recent years, more Yale students prefer to move off-campus for a number of reasons including high on campus housing prices, inflexibility in the board program. Yale does not have off-campus residential college-affiliated houses/apartments (OCA).

Statistics: 84% of Yale undergraduates live on-campus, which is nearly identical to Caltech’s ratio of students (85%) living on campus versus off campus (including the OCAs). Without the OCAs, this ratio falls dramatically to 71%.

5 Suite Style living

Suite-style living provides a number of benefits that are desired by Caltech’s sophomores, juniors, and seniors. Suite style living offers students a higher degree of privacy and control over their interactions. This privacy can be useful if students want to be away from noise or other disturbances (which
was a concern for some students living in unaffiliated housing). Suites have been shown to provide more independent living for upperclassmen as “apartment style residences, with individual private spaces, allow upperclassmen to feel independent while still living on campus to help mentor freshmen and sophomores” [5]. Additionally, we expect that the members of the suite may form closer friendships, which can provide a tight-knit support network for physical and emotional health encompassing a range of college majors, interests and houses.

This style of living also presents important challenges that must be overcome throughout the year. Several studies have shown that one of the primary challenges of suite style living has been to find “means to avoid social isolation due to the physical segregation of suite-style halls” [3]. This concern is confirmed by students who feel “awkward walking into someone else’s suite” [1]. Bechtel should have suite-inclusive events to prevent students from only interacting with their suitemates. The architectural design also poses a challenge for counseling because it takes “more time and effort to discover students who may need help in suite-style or apartment style residence halls where there is a higher degree of privacy” [2]. Suite-style living will limit interactions between students, but this is only particularly damaging to freshmen residents. “... if housing professionals want to place first year students in an environment where the possibility for interaction is the highest, then regulations that limit housing options for first year students to traditional residence hall environments might be advisable” . Since freshman year is an important transitionary period in which students must quickly acclimate to difficult coursework, receive mentorship, and build a strong social and support networks, these challenges will have a particularly damaging effect on freshmen.

6 Colonies

6.1 Logistics

The logistics of the Colonies plan is quite similar to the current system. Assuming that the cost of Housing and Board remains similar, the proportion of students that lived in OCAs should live in Bechtel in the same proportion. There are sixteen 8-membered suites, two 12-membered suites, four 6-membered suites, five 4-membered suites, and 16 detached singles. Each suite has double-vanity bathrooms at a ratio of 4 students per bathroom. Between these suites will be lounges and other common areas. Therefore the rooms that need to be filled will mostly be in the 27 suites.
Each of the Houses will be assigned 1 suite to fill through their internal roompicks process. The House will inform the Housing office of the suite picks.

After the house internal picks, groups of students (without restriction on house affiliation) will submit a combined application for suites to the Housing office. Suite groups applications will be selected at random to fill Bechtel.

A small number of singles will be reserved for special circumstances, including UCCs.

### 6.2 Ratio of Sophomores, Juniors, and Seniors

In this plan, freshmen will rotate, as before, into one of the other eight houses, and will be joined by the remaining juniors and seniors. The students who live in these suites will be determined through the House’s internal picks system, but we would urge House leadership to adopt a system of mandated class ratios. For example, in Ricketts House the ratio of juniors to sophomores living in the House cannot exceed 3 to 2. This prevents sophomores from being absent in the original house (Figure 1). We expect that about 70-80% of suites will be filled in this manner. This process is most similar to the general off-campus lottery, and helps to support the loss of all Caltech-owned off campus housing.

### 6.3 Positioning of Colonies

The positioning of the colonies has the potential to mend a lack of interaction between particular houses (Figure 2). However, this must be balanced with incompatible interests. For example, a colony that appreciates a quiet and serene environment should not be placed alongside a colony that enjoys to have loud activities. For this reason, the positioning decision will be left to the IHC and the Housing office.

### References


Bechtel Residence: New Undergraduate Houses

Committee on Undergraduate Caltech Housing
New Houses Subcommittee

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1 Introduction

With the construction of new housing to increase the amount of on campus spots for undergraduates while increasing the amount of Caltech housing for graduate students, we have to decide how to structure new residences to best accommodate the student population. This plan aims to present the data collected last year regarding student concerns, as well as explore the potential benefits and issues of forming new Houses.

1.1 The Bechtel Residence

Bechtel House is a student residence that is under construction which will be completed by the fall of 2018.\(^1\) It will be located on the north end of campus, directly west of Avery and north of Moore Laboratory. When completed it will have 212 beds across 3 floors. Unlike previous Houses, the majority of the rooms in Bechtel will be organized suite style. This means that groups of 4-12 students will live together in one unit which consists of a number of single rooms and a shared bathroom, shower, and lounge area. Additionally, there will be 16 detached single rooms which are not part of a suite and have their own individual bathrooms. The Residence also features seven RA and RLC apartments and two faculty-in-residence apartments.

By 2018, the Bechtel Residence will be home to its first cohort of undergraduate students, graduate student RAs, and Faculty in Residence. However, it is unclear specifically who will make up the undergrad portion of the Bechtel community. A number of proposals have been brought to the table including all-freshman housing, ”off campus” alleys or House-affiliated colonies, or themed halls. This document will discuss the option of creating a new undergraduate House or Houses in Bechtel.

1.2 Brief history of Houses and their creation

The modern House System consists of eight undergraduate Houses, which are commonly grouped into three categories based on their order of creation. The South Houses were formed in 1931 upon the abolishment of the Institute’s Greek life (fraternity) system. The dissolved fraternities were converted into the original four Houses. The North Houses were added in 1960 to accommodate the needs of a growing student body, which could no longer fit in the original Houses. The original occupants of the new North Houses came from the current student body, 96 students coming from the off-campus students, while 63 came from the south Houses. Most of the students that came from the south Houses were doing so for political reasons. Page was populated mostly by members of Ricketts House, Ruddock mostly by members of Dabney House, and Lloyd being populated mostly by off-campus students. Additionally, rotation was initially suspended during this time for three years, and the freshman were assigned their House by the current MOSH\(^2\). The final expansion, Avery House, was initially created as unaffiliated housing for both undergraduates and graduates, but later became a House and rotated freshmen in 2005.

1.3 Observations from Other Residential Systems

The residential systems at several peer institutions were examined previously during the Student Experience Trip in 2008. In addition, an overview of several other schools’ systems was generated for this report.\(^3\)

\(^1\)For the layout/floorplans of Bechtel, see the Appendix at the end of this report.

\(^2\)A History of UG Self-Governance at Caltech, 16-18
institutions were selected for a variety of reasons – some have similarly-sized undergraduate populations compared to Caltech, many have systems that allocate students to residences at the start of their first year, and most are centralized living communities with an established cultural and social framework. Schools were chosen to allow for comparison with systems similar to Caltech’s as well as further exploration into alternative models. Of particular interest were the systems at MIT, Harvard, Oxford, and Cambridge.

MIT’s housing system offers many easy comparisons to the one at Caltech. At the beginning of the year, each frosh is sorted into halls on a lottery based off their own hall preferences. Before matriculating, each frosh submits their rankings and is placed into a hall. After entering they have the option of changing their hall or moving to Greek life. After the first year a majority of students at MIT who choose to live on campus will end up in a Greek system.

The main takeaway of MIT’s housing system is the ability to have communities and cultures within the confines of one singular building. The halls are often confined within a singular floor, and often the halls within a single building associate together. The halls still maintain their cultures throughout the year despite not having a singular building. This means that a Bechtel House that is partitioned into separate Houses may still preserve some semblance of a House culture.

We also looked into a number of other schools, Swarthmore, Yale, and Harvard all have housing systems but they differ greatly from Caltech’s in that they all involve some sort of random arrangement. As a result none of the Houses/communities have a strong sense of culture. This doesn’t offer a good comparison since people are rotated.

Oxford and Cambridge also offer some interesting comparisons. Their communities have identities but are much more based off traditions. They also differ in that there are many more Houses (roughly 30) and are much larger (60-300). But we cannot truly compare with these two institutions since the nature of the Houses are much more based off of tradition of history.
2 Addressing the needs of off-campus students

As the primary social and residential system of Caltech currently centers on the House system, creating a desirable residential experience for students who do not live in the Houses remains a challenge. Off-campus students can have varying degrees of luck accessing campus services, campus social events, the safety net, and student government such as ASCIT, the BoC, and the CRC. The availability of such resources, various social factors (especially those related to the House system), and the cost of off-campus living and dining in turn influence the decision of students to live outside their Houses or outside Caltech owned Housing altogether. The Bechtel Residence will provide a critical opportunity to “[allow] all undergrads to live on campus and fully participate in residential life here,” regardless of their House affiliation status. As the construction of Bechtel would shift a large number of students onto campus, any system of residence for Bechtel would require consideration of the needs of the segment of population of students residing in present day off-campus housing and on-campus unaffiliated Housing.

2.1 Bechtel Occupancy Survey

In Spring of 2017, a survey of the undergraduate population was conducted to investigate the reasoning that influences student choice in housing, determine the demand for various forms of housing, and inform the decision making process on Bechtel occupancy. The survey showed that the majority of students preferred living where they currently are as opposed to a Bechtel OCA, although a sizable portion would prefer to live in an unaffiliated room or an OCA in Bechtel over their current housing. Notably, 15.4% of students living in one of the eight UG Houses said they would prefer living in an unaffiliated room in Bechtel, and 29.6% would prefer to live in an OCA in Bechtel.

When asked about whether they preferred living on campus vs. off campus, most students preferred to live on campus. It is notable that more than half of students in the Chester apartments would prefer to

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3Caltech Design and Construction Office
4For the purposes of this report, “unaffiliated” housing is housing that is not connected officially with a House and is open to all undergraduate upperclassmen through the external lottery. Currently, this includes Marks and Braun, the Del Mar and Chester apartments, and the portion of Avery that is assigned through the campus-wide lottery.
live on-campus, but do not, suggesting that these students were not able to access on-campus housing when desired.

The Bechtel Occupancy survey indicates that there is a notable demand for on-campus housing in the undergraduate population. Currently, the options for on-campus or almost on-campus housing include the eight UG Houses, Marks and Braun, the portion of Avery which is assigned during the at-large housing lottery, and the Del Mar apartments (which are technically off-campus but are immediately adjacent to campus and several lab/instructional buildings). The latter two of these options will be eliminated in the coming year, leaving only Marks-Braun for students who wish to live on-campus but outside the Houses. The data also indicates that students are interested in non-house options for on-campus living in Bechtel. Nearly a third of respondents currently living in the Houses said that they would prefer to live in a House-affiliated “colony” in Bechtel\(^5\) over their present living arrangement. Additionally, 15% of those students said that they would prefer to live in an unaffiliated single room in Bechtel over their current residence. This indicates that a non-negligible number of students currently living on-campus in the Houses would express a desire for on-campus options other than the House system in Bechtel.

\(^5\)These “colonies” will be similar to OCAs. Currently, “off-campus alleys” (OCAs) are communities of students who are affiliated with a specific House, living off campus together in a Caltech-owned apartment or small house. Their occupancy is determined by the House’s internal roompicks process. These will be eliminated beginning in 2018, with most of the space being re-purposed for graduate student housing.
3 The Rotation Process

3.1 Current System

Currently, the Rotation process seeks to maximize the potential for prefrosh-upperclassmen interactions in a short period of time. Rising first-year students attend a dinner (or lunch/“linner”) at each of the eight Houses, and most attend the optional desserts hosted by the Houses. Furthermore, the Houses have the option to host events for prefrosh to attend. Two extra dinners at the end of the Rotation period can be used as free dinners so prefrosh can revisit a House if necessary. The process takes ten days.

3.2 Potential Issues

With the creation of new Houses, the Rotation process would be affected regardless of the number of new Houses created. At minimum, the process would need to accommodate the additional dinners and activities that the new Houses would bring. This would require careful scheduling to ensure that the process can be completed in a timely manner. This could be remedied by adding additional “l gymn” during the week before classes start. Furthermore, the Bechtel Residence will House nearly a quarter of the on-campus population, meaning that each House would receive a smaller number of freshman than they currently do. In the long run, this would slightly shrink the size of each House since each successive class of freshmen after such a change would be smaller than the current numbers. This would, however, allow each House to accommodate more of its upperclassman members on campus.

For example, if all 212 Bechtel beds are allocated to the creation of new Houses, the total number of House-affiliated beds on campus would be 883, enough for 90% of Caltech’s current undergraduate body of 979 to live in House-affiliated rooms. To give each House the fairest share of frosh would be to divide the Freshman class proportionally among the Houses. If the Bechtel Houses were added to this, the distribution of a class of 236 incoming freshmen after a rotation would look like Table 1 (regardless of how Bechtel is divided into Houses):

<table>
<thead>
<tr>
<th>House</th>
<th>Total</th>
<th>Frosh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avery</td>
<td>134</td>
<td>36</td>
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<tr>
<td>Blacker</td>
<td>64</td>
<td>17</td>
</tr>
<tr>
<td>Dabney</td>
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<td>Ricketts</td>
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<td>Ruddock</td>
<td>91</td>
<td>24</td>
</tr>
<tr>
<td>Bechtel</td>
<td>212</td>
<td>57</td>
</tr>
<tr>
<td>Total (non-Bechtel)</td>
<td>671</td>
<td>179</td>
</tr>
<tr>
<td>Total (incl. Bechtel)</td>
<td>883</td>
<td>236</td>
</tr>
</tbody>
</table>

Table 1: Estimated number of freshman residents by House

In this case, all of the existing Houses would see a decrease in their incoming freshman class. Whether this would be beneficial or detrimental to inter- and intra-class bonding, as well as the effect on the House communities as a whole, is unclear.
4 Creation of a Bechtel Living Community through Houses

4.1 Safety Net and Community

One of the benefits of adding additional Houses is that Caltech already has a tried-and-true framework for offering mental health support and establishing a sense of community in the context of a House. Bechtel will have a total of seven RA and RLC apartments. The roles of these members of the safety net are well-established; adapting them to new houses would be straightforward if not trivial. Bechtel actually has a higher ratio of RAs to residents than most of the Houses do currently, which should help solidify that network of resources.

Bechtel will also have Peer Advocates (PAs)\textsuperscript{6} As of the writing of this report, the plan is to have six PAs for Bechtel. It has been recommended that the PAs be given rooms in the detached singles within Bechtel to make them easier to access and provide more privacy when students are meeting with PAs for guidance. If Bechtel were used for the creation of new Houses, they would presumably divide the six PAs evenly between them; that is, if there are two Houses, each would have three PAs, and if there were three Houses, each would have two. If there were four houses in Bechtel, it becomes more difficult to adequately divide PAs between them. Currently, most of the eight Houses will be getting four PAs, with a few exceptions. This would possibly create some challenges for the Bechtel PAs, who would have a more limited scope and smaller numbers.

It is currently planned to have a Bechtel representative on the Stewardship Committee, regardless of the chosen model. StewComm acts as an interface between the undergrad Houses and the Housing and Maintenance Offices, and is a forum for discussing concerns on both sides relating to the upkeep and conservation of the building and common resources. If Bechtel is partitioned into multiple houses, then each one would be given a spot on the Committee to adequately address the needs of each House, although it would be highly recommended that these reps be in close contact with one another due to their shared living space.

Each of the new Houses would be required to elect two Board of Control (BoC) representatives and a Conduct Review Committee (CRC) representative as the eight Houses currently have. They would also have a representative on other student government committees like the IHC or Review Committee.

4.2 Seeding the New House(s)

One of the challenges of creating a new community in Bechtel is the method for initially filling (or “seeding”) the Houses so they grow into cohesive communities. There is no modern-day example from Caltech which we can emulate; as mentioned above, Avery House was created as unaffiliated housing and had already organically developed a sense of community before petitioning to become a House. The North House creation process, which is more analogous to the Bechtel situation, was clunky and time-consuming for the administrators and students involved.

An alternative method for seeding the Houses would be to allow the Bechtel Houses to be filled via a lottery (either separate from or part of the general unaffiliated lottery). This could be done as single

\textsuperscript{6}For context, the PA program will be training its inaugural class in the spring and fall of 2018. It is similar to the old Upperclassmen Counselor (UCC) program, except the training is more intensive - a two term class rather than a two day seminar. The PA program, unlike the UCC program, will be open only to rising sophomores and juniors, and will have a predetermined number of Advocates per House/residence, unlike the UCC program which had flexible numbers per House (typically 6-12 UCCs per house).
students, although this may cause difficulty with establishing a clearly-defined culture or support network, especially in the early years.

One can perhaps draw inspiration from Harvard’s House sorting process - when Harvard freshmen are assigned to Houses, they are assigned in blocks with students they already know to help foster a community right off the bat. The Bechtel House lotteries could therefore be filled by suite rather than by individual room, with groups of students entering the lottery as a block to acquire a suite together. This would still leave room for potential issues if the suite groups become too modularized and fail to connect with those in the suites around them.

4.3 Potential Logistical Challenges

The prospect of dividing the Bechtel Residence into new Houses offers unique challenges, given the design of the building. There are a number of features that necessarily make any Bechtel House(es) different from the existing Houses.

The most obvious challenge is the building’s size. Bechtel’s design has 212 beds for students, not including RA and Faculty in Residence apartments. Compare this to bed counts in other Houses, and the challenge is evident; Bechtel is 2-3 times larger in terms of bed count than most of the other Houses, whose most recent bed counts are given in Table 2.

<table>
<thead>
<tr>
<th>Avery</th>
<th>Blacker</th>
<th>Dabney</th>
<th>Fleming</th>
<th>Lloyd</th>
<th>Page</th>
<th>Ricketts</th>
<th>Ruddock</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>134</td>
<td>64</td>
<td>64</td>
<td>80</td>
<td>80</td>
<td>88</td>
<td>70</td>
<td>91</td>
<td>671</td>
</tr>
</tbody>
</table>

Table 2: Bed counts of the eight UG Houses at the conclusion of the 2016-2017 school year

In terms of community building, Bechtel’s size also presents a challenge. Caltech’s residential life model strongly values the establishment of a community support network and the nurturing of relationships among peers. For many students, this takes place through the House system. It is necessary, therefore, to consider the size of any proposed Houses, and their distribution throughout the building.

This introduces another key difference between any proposed combination of Houses in Bechtel and the existing 8 Houses. While there are connections between the current Houses, there are fairly clear boundaries between each House. This would not be true for the Bechtel Residence, which cannot be easily divided into self-contained Houses. Any reasonable division of the Bechtel Residence into Houses would necessarily involve an unprecedented boundary system. The implications for the development of House culture in these cases are unknown and largely unpredictable, as will be discussed on a case-by-case basis.

In addition, any proposal for Bechtel House(s) would need to contend with the problem of distributing amenities among the Houses. This is to say, each House should have approximately equal access to kitchens, lounge spaces, and laundry facilities. The distribution of each of these shared resources would be in contrast to the existing House system. Some spaces, such as laundry facilities, study rooms, and activity spaces (in the Student Activity Center beneath the South Houses) are currently shared between the Houses without issue. However, each House retains agency over their own kitchenettes, lounge, and courtyard, and is given a fair amount of control over the contents of these spaces (communal “alleyware” or cooking supplies, gaming consoles in common areas, etc.) in exchange for a heightened level of responsibility for the maintenance of these spaces. Houses can negotiate improvements to their common areas or atone for damages through the student-run Stewardship Committee. If Bechtel becomes more than one House, the allocation of shared
spaces would be an issue that has not before been addressed in the student Houses. How would these spaces be divided? Would they be divided up and assigned to the individual Houses, or be treated like inter-House resources (e.g. the laundry facilities and study rooms in the SAC)? How would the new Houses handle collective responsibility for these spaces with respect to the Stewardship Committee?
5 Proposals for Partitioning the New House(s)

By examining the floorplans for the Bechtel Residence, several potential allocation plans have been devised for the new House or Houses. The number of Houses in these plans ranges from one to four, with different features accentuated in each plan. There were three main subtypes for the plans: those that kept the proposed House sizes as equal as possible, those that sought to divide common areas equally, and those that prioritized geographic unity (either by floor or by "connectedness" of House segments). The proposed layouts are certainly not exhaustive; that said, these were determined to be the most reasonable potential layouts for building lasting communities.

The Bechtel Residence was purposefully designed in a series of connected subunits such that the building can be divided into multiple zones to be used for different purposes. To facilitate our explanation below, we assigned letters to each zone in the building. Additionally, we will use a letter-number tuple to describe each floor within a particular zone.\(^7\) As an example, C2 would refer to the section of the second floor that is in zone C. These zones can be seen on the map below.

We assessed the distribution of common resources (laundry facilities, lounges, kitchenettes, RA apartments, etc.) as well as the number of beds in each of the subunits, summarized in Table 3.

Using this information, the House plans were created to try to spread these resources as evenly as possible. The seven plans can be briefly summarized as follows:

\(^7\)After composing the House layout plans, we became aware that the construction/design team for Bechtel used a similar method of assigning letters to the subunits of the building; readers who are familiar with that system should note that those designators are slightly different from the ones used here.
Table 3: Contents of Bechtel Residence by block and by floor. Note that Block D does not contain any common areas/resources (like RAs) and is consequently combined with other blocks in each of the plans below.

1. Floor-by-Floor: Each of the three floors becomes a House. Horizontal continuity and even distribution of lounges and kitchens.

2. Block Split: Each block becomes its own House. Vertical continuity, but significant disparity in distribution of common spaces.

3. Block Split with Floor 3: Same as Block Split, but Floor 3 is an additional House. Divides lounges evenly but not kitchens or laundry facilities.


5. Three-House (Two House + First Floor): Same as Two House, but Floor 1 is an additional House. Horizontal design with kitchens distributed evenly.

6. Three-House (Two House + Third Floor): Same as Two House, but Floor 3 is an additional House. Poor distribution of common spaces.

7. Four-House Hybrid: The first and third floors are Houses, and the second floor is divided as it is in the two-House plan. Even distribution of lounges and other common areas.

8. One House: Bechtel becomes one gigantic House, with several gigantic problems.
This plan divides Bechtel by floor so that each of the three floors is its own House. This design is fairly consistent with the current sizing ranges, with two of the new Houses being close in size to the South Houses (if a little on the small side) and one being roughly the same size as the North Houses. The RA/RLC apartments are divided evenly between the Houses, with an additional RA living in the larger of the three Houses. The kitchens, laundry facilities, and lounge areas are also evenly divided. It should be noted, however, that the layout of the kitchens is such that a student might be on the opposite side of the building from their House’s designated kitchen, and might be more inclined to use the nearby kitchens on the floor above or below them.

This plan was loosely modelled on MIT’s East Campus dorms, where students feel a strong affiliation and sense of community to their floormates. The often-cited reason for this is the ease of interacting with others on your own floor rather than between floors (where stairwells created a closed barrier). The East Campus halls are, however, different from those of the Bechtel Residence due to their linear layout.
5.2 Block Split

<table>
<thead>
<tr>
<th>Houses</th>
<th>Beds</th>
<th>RA/RLC</th>
<th>Kitchens</th>
<th>Laundry</th>
<th>Lounges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>44</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bravo</td>
<td>62</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Charlie</td>
<td>58</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Delta</td>
<td>48</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

This plan splits the Houses vertically, based on the building’s five “blocks”, referred to as blocks A, B, C, and D. In this plan, each block becomes its own House. This results in four Houses, each of which would be smaller than any of the eight existing Houses (though “Bravo” House would be within a hair of the size of Dabney and Blacker). This split results in a House (Delta) without any RA apartments, kitchens, laundry rooms, or lounge spaces. This is clearly not optimal.
5.3 Block Split with Floor 3

<table>
<thead>
<tr>
<th></th>
<th>Beds</th>
<th>RA/RLC</th>
<th>Kitchens</th>
<th>Laundry</th>
<th>Lounges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>44</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bravo</td>
<td>40</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Charlie</td>
<td>62</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Delta</td>
<td>66</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

This plan splits Bechtel into the same Houses as the Block Split, except that the entire third floor becomes its own House. Under this split, two of the Houses are roughly the size of the smaller South Houses, and the other two are even smaller. These smaller House sizes could in theory promote the development of strong communities. While this plan splits utilities roughly equally, it does result in a House without a kitchen and a House without any laundry rooms, both of which would hurt the Houses’ ability to form an independent identity, as students from those Houses would be reliant on other Houses for those basic utilities.
This plan splits Bechtel into two large Houses, each roughly halfway between Avery and the North Houses in size. This split occurs between blocks B and C, resulting in one House (Alpha) composed of blocks A and B, and one House (Bravo) consisting of blocks C and D. The Houses are more self-contained and clearly divided than in some of the other plans, since entire blocks are devoted to each House, across all floors in that block. This plan results in two Houses that are equal in bedspace, but heavily unequal in RA and lounge distribution. “Bravo” House would be severely disadvantaged in terms of support for its students and spaces to study and/or relax in.
5.5 Three-House (Two House + First Floor)

<table>
<thead>
<tr>
<th>Houses</th>
<th>Beds</th>
<th>RA/RLC</th>
<th>Kitchens</th>
<th>Laundry</th>
<th>Lounges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>60</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bravo</td>
<td>64</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Charlie</td>
<td>88</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

This plan is a modification of the Two House plan that keeps the entire first floor as a single House, then divides the second and third floors by block. The House on the first floor (Alpha) would be roughly the size of the smaller south Houses, as would Bravo House (which includes the second and third floor portion of blocks A and B). The final House, Charlie, would be composed of blocks C and D and would be as large as a North House. This plan allocates resources nearly equally between the Houses, except that it gives Charlie House, the largest House, the least number of lounge spaces. Apart from this inequality, this plan is one of the more well balanced ones.
### 5.6 Three-House (Two House + Third Floor)

<table>
<thead>
<tr>
<th>Houses</th>
<th>Beds</th>
<th>RA/RLC</th>
<th>Kitchens</th>
<th>Laundry</th>
<th>Lounges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>84</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Bravo</td>
<td>62</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Charlie</td>
<td>66</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

This plan is another modification of the Two House plan, this time with the third floor as a House. This plan divides the first two floors along the same B/C split as the Two House plan, creating one House that is the size of the North Houses and one that is the same size as the South Houses. One of the Houses (Bravo) doesn’t have a kitchen, has only one lounge/study space, and only has one RA.
5.7 Four-House Hybrid

<table>
<thead>
<tr>
<th>Houses</th>
<th>Beds</th>
<th>RA/RLC</th>
<th>Kitchens</th>
<th>Laundry</th>
<th>Lounges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>60</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bravo</td>
<td>42</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Charlie</td>
<td>44</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Delta</td>
<td>66</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Under this plan, the first and third floors are each a House. The second floor is divided along the B/C split creating one House from A and B, and the other from C and D. One House (Charlie) lacks a kitchen, and has limited access to common areas. Both Bravo and Charlie are notably smaller than the other two, and significantly smaller than most of the existing Houses.
5.8 One House

One plan is to turn Bechtel into one large House. However, we must note that Bechtel would House roughly a quarter of the on-campus population, and is almost twice as big as the largest current House, Avery. A larger population would lessen the sense of community that the Houses strive to create, which would detract from the residential life experience at Caltech. Additionally, such a large student population would be difficult to manage and communicate with due to its size. Finding a location to hold House-wide events or dinners would also be difficult due to the sheer size.

Consequently, there is no reason to make Bechtel one large House when there are other plans that foster a stronger sense of community and would be easier to organize.

5.9 Conclusions

There exist several notable challenges in partitioning the Bechtel Residence into individual Houses. The most significant is that it was designed to be a single cohesive residence, and is not partitioned directly into multiple distinct units with equal access to common areas and other facilities. Despite creating eight different possible layouts, the Committee was unable to find one that adequately addresses the needs of a multi-House model and creates a comfortable environment for students. An important part of House identity and stewardship is the sense of "ownership" a House’s residents take in their living space and the resulting feeling of unity and cohesive community that results. Under these plans, it is difficult to make sure students in each House have convenient access to a kitchen as well as other common spaces like lounges. The few plans that achieve this end up distributing RAs and other safety net resources disproportionately. A combination of several Houses coexisting in Bechtel would result in issues with stewardship and sense of House community, which is counter to the goals of the UG House system.
6 Recommendations

The Committee recommends that the Bechtel Residence not be used in its entirety for the creation of new Houses, due to the logistical issues associated with partitioning space within the building for the creation of House-like communities, the difficulty with building a community in a residence that lacks an established pool of residents, and the lack of strong demand amongst respondents to the Bechtel Occupancy Survey for such a large volume of in-House residential options. One potential alternative would be to divide the Bechtel Residence into multiple zones, each with a different type of housing. To do this, one of the partition plans described in this report could be selected, and one or more of the proposed Houses could be instead used for another purpose, such as unaffiliated housing or House-affiliated “colonies”. Caltech’s current housing options includes a system somewhat similar to this; Avery House includes both a House-affiliated section (the bulk of the available beds in the building) and an unaffiliated “off-campus” section which is filled through the external housing lottery.

The Committee cautions against the creation of additional Houses given the goal of improving or adding to the Caltech UG residential life system because it is not apparent what improvements this plan could bring about. Since this plan is an extension of the current UG House system, we do not anticipate that it will provide students with more varied options for their ResLife experience. Additionally, extending the House system into Bechtel limits the space available for other residential options. Given that some residential options (Del Mar Apartments, Chester Apartments, OCAs) will no longer be available to undergrads, the Committee believes that there are more effective and desirable housing options that the space could be used for. In particular, the ability for upperclass students to select on-campus housing options outside of the House system should be preserved. Furthermore, the Committee recommends exploring options that have the potential for positive change in the residential life system, rather than maintaining the status quo. As such, it is the recommendation of this subcommittee that the Bechtel Residence not be allocated for the creation of a new House or Houses.
7 Appendix

7.1 Tech Article: Guiding Principles for Undergraduate Residential Life

The following is the modified version of a Tech Article, Guiding Principles for Undergraduate Residential Life, which was published in the Fall of 2017 by the COUCH. The article details the guiding principles behind each COUCH report as well as the unified Polaris Plan developed by the committee.

Intellectual Growth
Caltech is a learning community first, and this includes learning from both inside and outside of the classroom. An ideal residential life system is one that supports diversity of thought, provides a safe space for conversation, and includes resources for furthering academic and personal excellence. Intellectual growth can be tied into almost every one of the other core values (especially mentorship and diversity), but is important enough to constitute its own value.

Mentorship
Caltech places unique value on the direct and individual mentorship of students. This characteristic is so prominent that it is embodied in the Caltech seal: the image of “passing the torch” to the next generation. While this symbolizes the formal education provided by faculty, it also represents the informal social and academic mentorship provided by peers and upperclassmen. Among the other forms of mentorship available, mentorship by upperclassmen is varied and individual. This mentorship is not only useful when working on particularly difficult problem sets, but also can help students choose a major, navigate scheduling, and adapt to the new challenges of being a college student. Respect for the Honor Code and lifelong friendships can also come out of mentorship. Many upperclassmen have gone through the same classes and difficulties that underclassmen encounter, which establishes an organic support network that is immediately available to new students. The experiences of multiple generations of Caltech students should continue to be incorporated into the student experience to promote academic excellence and social development.

Support
A supportive community is one where all members–students, RAs, and anyone else in the community–encourage and help one another. It is a living situation where students feel like other people care about them, and where students are more likely to care for others. It is also a safe space where students can achieve success, and also find support to grow from their failures. Community support can develop organically or through structured programs. RAs, peer advocates, and the services offered by the Counseling Center are all examples of formal programs. These systems can provide critical help from trained professionals dedicated to their jobs. A supportive network can also develop naturally: not everyone has, or needs to have, a title or a position. A close-knit residential system encourages individuals to look after each other, not out of obligation but from genuine empathy. A strong community should combine both types of support, both by being conducive to programming and by encouraging and enabling students to care for their peers.

Choice
Students should be able to choose a living environment that suits their needs, whether it be a quiet hallway, separation between academics and social life, or close friends next door. Since students have their own unique preferences and lifestyles, it is important to offer a variety of living options to choose from. A comfortable space provides the foundation for a productive, enjoyable time at Caltech. With great choice comes great responsibility. A sense of independence is grown out of the trust extended by administration to the students,
with the underlying expectation that students will be able to handle the responsibilities that accompany their decisions. Through shared governance, students can cultivate a student-driven system of decision-making and grow with the guidance of peers and support networks in the community.

**Diversity**
Student life and culture at Caltech should support a broad range of interests, hobbies, passions, and subcultures. Students diversify themselves into houses and across them, providing a rich and varied culture to all of campus. This variety in interests enables students to simultaneously find niches and challenge themselves, and it is core to the Caltech experience. Beyond the variety of academics available here, the wealth of interests in the student body is evident in day-to-day life through the events, projects, traditions, clubs, and conversations that form the non-academic portion of student life (that isn’t sleep). The residential life system at Caltech should stay focused on enabling students to pursue their interests and seek out new and/or like-minded communities that cultivate their ideas and stem from their ambitions.

**Identity**
When students come to Caltech, they arrive with a unique set of perspectives, including their academic interests, gender identity, hobbies, and beliefs. From these experiences, each student’s personal identity takes root. Where we live can contribute greatly to the development of identity, so it is essential that the residential life system promotes the respect and freedom people need to express themselves and grow as an individual. Access to programming that introduces students to new topics of interest is one way to ensure students can develop their identity, but collective identity grows through the everyday interactions between friends, peers, RAs, professors, and staff. The Bechtel residential model should foster the connections and support students need.

**Honor Code**
Through the Honor Code, the Caltech community strives to produce scientists and engineers with an education that goes beyond pure scholarship; Caltech students are given the opportunity to learn and grow in an environment that emphasizes integrity, honesty, and cooperation, three qualities that are integral to the larger scientific community. With students from a variety of backgrounds, each at a different place in their personal development, the community’s dedication to upholding the Honor Code ensures that all Caltech scholars are given the chance to embrace these principles in their own life. By exhibiting a commitment to integrity and fairness, the students, faculty, and staff of the Institute set an example for each new generation of Techers, passing these values onto others year after year. The Caltech undergraduate residential experience provides a crucial opportunity for students to learn from one another, ensuring that these values remain a central part of our community culture.

### 7.2 Bechtel Residence Floor Plans

The Bechtel Residence floor plans are included beginning on the next page. The three-story Residence will have 212 beds for undergraduate students, seven RA and RLC apartments, and two faculty-in-residence apartments. The building has its own dining hall and servery, as well as communal resources like laundry facilities, study areas, and kitchenettes.
Bechtel Residence as Unaffiliated Housing

Janice Jeon, Dillon Azzam, Charlie Nelson, Michael Rupprecht, Bethany Suter
December 2017

I. Introduction

The residential system at Caltech is a large part of the undergraduate experience, and with the addition of Bechtel, there are several factors to consider before deciding how to incorporate it into our current system. Our group researched the ‘unaffiliated housing’ option, and laid out its strengths, limitations, and practical implications. We understood ‘unaffiliated housing’ to be housing outside of the eight Houses, and not strictly housing for those not affiliated with the Houses. Based on our definition of unaffiliated housing, we proceeded to use data collected by our peers to better inform our suggestions.

In addition to analyzing Caltech-specific survey results, we also turned to other universities to learn more about how they handled students who wished to live off campus. Though we did not explicitly include details in our report about residential systems at these universities, having background on Harvey Mudd, MIT, Stanford, Yale, and Cornell was helpful in guiding our general thoughts during this process. Through this analysis, we gained additional insight into various styles of undergraduate housing, and how Caltech was different in its approach to residential life.

Using personal experiences and data from surveys and polls, we decided on a list of Caltech’s values for residential life that should be preserved regardless of the implementation of housing in Bechtel: intellectual growth, mentorship, diversity, identity, support, Honor Code, and choice. Then, we investigated how Bechtel could be structured within an unaffiliated scheme to fit with these expectations. In addition, we considered how the unaffiliated housing format had the potential to introduce new experiences that built on and extended beyond those currently offered.

We found it equally important to address the main logistical details regarding the impact of unaffiliated housing on Rotation, room picks, and the external lottery. Not only was it crucial to outline the general concepts and reasoning behind unaffiliated housing, but it was also essential to develop a plan for the actual implementation of such a proposed system.

Ultimately, we found that using an unaffiliated housing format for Bechtel would offer students the opportunity to form a community in Bechtel, without creating a sense of obligation or
commitment to “The House.” Rather, the community would be centered around connections between students who chose for themselves the living situation that best suited them.

II. Advantages and Disadvantages of Unaffiliated Housing

One of the greatest benefits of designating Bechtel as unaffiliated housing is that it allows students to design the housing experience they want. Currently, most unaffiliated housing options are static, and only allow for a single type of use. Marks-Braun allows for individual living or a suite with one other person. However, the suites are hard to obtain, and if a student wishes to live with several friends, it is difficult for all of them to pick adjacent single rooms. In the Del Mar and Chester apartments, suites of two or three people are the only option. While this provides somewhat more flexibility, the number of people one can live with is still restricted, and the distance from campus can limit interaction to only those who live in the same complex.

Allowing people to pick into Bechtel as individuals or in suite-sized groups makes Bechtel a great option for offering variety of housing experiences. Students who wish to remain with close friends, whether they share a House affiliation, background, or common interests, can do so by electing to all pick together into a suite. Those who would rather live away from House culture, or would like a place where they can separate themselves and focus on studies, can pick into individual rooms in designated suites. This means they can live more privately while still being around people they can interact with.

Having Peer Advocates (PA) available throughout Bechtel would create a safe and supportive environment regardless of one’s social situation. People who do not have a close group can choose an individual-style suite and potentially meet new people and make friends, while those who already have a group of close friends can pick into a group suite as a block.

A potential disadvantage of unaffiliated housing is the sense of detachment that may develop among residents. We thought about two possible such problems: a feeling of separation from the rest of the student population, and a general lack of community within Bechtel itself. With the exception of the Del Mar apartments, on average, ~70% of students living off campus visit the Houses at least “several days of the week,” and ~60% at least “most days of the week” (Figure 1). In addition, on average, the number of people who cited “House social environment” as their number one reason for living off campus was only ~10% of the total, although ~25% considered it as a contributing factor (Fig. 2 and 3).
Figure 1. The number of times students of given off campus residences visit the Houses per week. The column to note is the first column—“nonhouse.”

Figure 2. The fraction of students who cited the given factor as their number one factor when deciding whether to move off campus, by off campus residence. The factors to note are “Board Cost,” “Board Quality,” and “House Social Environment.”
Based on the data, detachment from the Houses is not likely to be a major problem with an unaffiliated Bechtel. In addition, Bechtel being physically closer to the Houses than the Chester apartments suggests there is little reason to expect lower visiting percentages from Bechtel residents.

Regarding the possible absence of cohesiveness within Bechtel, there can be a conscientious effort to plan events for the residents so they have occasions to get to know the other students living in Bechtel. However, in our research we found that in many schools with suite-style living, intra-suite relationships provide plenty of social interaction, and adjacent suites frequently become very close, and this would be especially true if students were allowed to choose suites by group.

At present, our system provides space in Del Mar and Chester for students who wish to live more separately from their House for reasons such as Board, amenities, etc. However, with these complexes no longer available for undergraduates in the coming years, Bechtel is the ideal space for these students.

By implementing the flexible option of unaffiliated housing, Bechtel will fulfill Caltech’s core values. With an unaffiliated model, students can mix with peers from other options and years, stimulating intellectual growth and mentorship. Furthermore, there will be a diverse group of

Figure 3. The fraction of students by off-campus residence who took into account the given factor when deciding whether to move off campus. The factors to note are “Board Cost,” “Board Quality,” and “House Social Environment.”

<table>
<thead>
<tr>
<th>Reason for Moving Off</th>
<th>Respondent Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Marks/Braun</td>
</tr>
<tr>
<td>Board Cost</td>
<td>0.67</td>
</tr>
<tr>
<td>Board Quality</td>
<td>0.67</td>
</tr>
<tr>
<td>Internal # (kicked off)</td>
<td>0.27</td>
</tr>
<tr>
<td>Friends Off</td>
<td>0.44</td>
</tr>
<tr>
<td>External #</td>
<td>0.70</td>
</tr>
<tr>
<td>Amenities (single vs. double living space)</td>
<td>0.42</td>
</tr>
<tr>
<td>House Social Environment</td>
<td>0.31</td>
</tr>
<tr>
<td>Cost of Housing</td>
<td>0.38</td>
</tr>
<tr>
<td># Responses</td>
<td>111</td>
</tr>
</tbody>
</table>

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By implementing the flexible option of unaffiliated housing, Bechtel will fulfill Caltech’s core values. With an unaffiliated model, students can mix with peers from other options and years, stimulating intellectual growth and mentorship. Furthermore, there will be a diverse group of
students in Bechtel if it is open to anyone, which can support new interactions between students and an exploration of different experiences and identities. It will be important to create a strong support system through peer advocates (PA) and resident associates (RA), in addition to cultivating an environment that fosters a natural support network among students that reinforces Caltech’s Honor Code. Bechtel can offer more choices for students seeking a different living environment outside of the Houses, such as a quiet hallway or suite of friends from different Houses.

III. Off-Campus Student Input

With the help of Tom Mannion, we were able to organize two dinners for students living off campus. These students met the following criteria: they were currently living off campus, and they had been living off campus in the spring of 2016. We wanted to reach the students who had lived off campus for more than one year. Around 30 students attended in total. The first dinner included Dean Gilmartin and VPSA Shepherd. For the second dinner, we also had Jon Webster and three other staff members from CDS.

In addition to the dinners, we collected around 80 survey responses from students living off campus. The responses have been collected and summarized, and the following is a summary of the results:

Some students do not want to be on Board because of food quality or cost. But, there is also an underlying desire to be more independent, which generally motivates students to move off, or it is discovered as a positive consequence. Even if Bechtel must have a meal plan, we can still try to provide opportunities for students to transition into the “adult world.” It may be beneficial to provide students with ingredients to cook on their own, an idea that is currently being discussed by Dining, even if an official food co-op is not established.

With the responsibility of cooking one’s meals comes the challenge of managing time more efficiently to schedule in trips to the grocery store, meal preparation, cleaning, etc. Some students feel this aspect of off-campus life is something they are not accustomed to and requires adjustment. To address this, it may be useful to have time management workshops aimed for students living off campus. However, with Bechtel, students will probably need less time for managing their living space and doing chores if Bechtel will be staffed with custodians.
Another important issue is the social disconnect between students living on campus and students off campus. Luckily, Bechtel will be closer to the Houses, which will address some of the dissatisfaction and concerns related to walking the far distance to apartments on Chester, for example. There should be opportunities for Bechtel residents to meet each other and become familiar with who is living there, in addition to events that help students remain connected with their House. There still needs to be a balance between social life and quiet time because many students enjoy having the privacy and more defined work-life separation off campus. Maybe there can be a hallway in Bechtel reserved for students seeking a quiet space.

The students who are living off campus because they are “forced off” may feel neglected and forgotten once they leave the House. For many students, the House is where the fun happens, where they can live next to friends, where there is a strong sense of community. If we can connect Bechtel more to the rest of campus and make students on campus realize the importance of staying connected to peers living outside of the House, we can help students feel more included. The addition of Bechtel will solve many of the current limitations of off-campus housing, namely physical/social isolation and the lack of beds最大的on campus. However, for students who are not motivated solely by the more affordable cost associated with living off campus, there are other issues to consider. It seems to come down to the following: students want more control over their food, environment, and time.

IV. Unique Housing Option

With the absence of Chester and Del Mar, there will be very few options available for students who wish to live outside of the House. Aside from Marks-Braun, there will only be Bechtel available as a Caltech-affiliated residence hall separate from the Houses. Rather than creating another Marks-Braun type environment in Bechtel, i.e. little interaction among residents, we can style Bechtel differently to promote new connections and communities.
With Bechtel as an unaffiliated residence hall, students can enter with a certain group they are familiar with, most likely consisting of friends they have made during their time at Caltech. Then, we can introduce students to peers they have not met yet. For example, when students first move in, they can fill out an interest sheet or write a brief paragraph about themselves. Then, RA’s or PA’s can connect students throughout Bechtel who share similar hobbies or interests. A living space that focuses on cultivating multiple different aspects of a student’s identity does not really exist at present. The way the Houses are structured, around common “personalities” and “cultures,” may even encourage conformity and keep students in their comfort zone because of self-selection. This has been an area of concern among some students and has also been brought up in discussions with administration. It is possible to address these issues with Bechtel, and it might best be done by making it unaffiliated housing. In the end, not only can students live in a suite with friends they are comfortable with, but they can also expand their network and meet new people.

Another potential issue with the current system is the lack of interaction between different Houses. Not only does each House interact with itself the most, but some Houses do not interact at all, e.g. Lloyd and Dabney (Fig. 4). By creating a space that is open to anyone, with room picks

Figure 4. The fraction of students who live in the House named on the left side that report that they consistently interact with students who live in the House named on the top. (For example, 35.5% of Dabney members consistently interact with Avery members.)
dependent on an external lottery, students from different Houses will most likely be living in neighboring suites, even if individual suites are filled by people from the same House. Another option is designating off-campus alleys, with the potential advantage being that X House can be forced to live next to Y House. However, though it may be nice if X and Y Houses are more social together, it may be more effective not to try to “force” anything. Furthermore, it is possible that having House-affiliated suites may just serve to remind students of their House affiliation, presenting a barrier to inter-suite connections that can be overcome if the suites are simply left unaffiliated.

V. Shared Governance

We envision Bechtel as a residence hall that has social activities planned by students and RA’s, but does not have an executive committee, e.g. President, VP, etc. Social events can largely be organized by RA’s and PA’s, with sign-ups early in the year for students interested in helping with activity planning. It may be beneficial to plan three or four events per term, and then depending on interest, there can also be events with Houses. The “social team”/“advisory group” can also be responsible for receiving complaints or suggestions from students about life in Bechtel and relaying these comments to administration or RA’s. PA’s will most likely be focusing more in personal issues and situations, while the RA’s will be overseeing serious problems related to student offenses. With Bechtel, RA’s should have a more involved role than they currently do in off-campus housing.

VI. Practical Implementation

In terms of how people will be assigned to rooms in Bechtel, the traditional external lottery can be adapted with minimal effort. By designating some suites as group suites where a sizeable group can elect to pick into an entire suite as they currently can in off campus houses, larger groups can stay together and form their own communities inside Bechtel. Other suites, designated as individual suites, can be available on a room by room basis similar to the implementation for singles in Marks and Braun. These can then be used by those wanting more separation from social pressures on campus.

We suggest having a first round where all groups submit an application form to Housing. Then, based on the highest external lottery number in each group, Housing can place groups in the
appropriate suites. Then, there can be a second round where students can pick into individual suites based on external lottery number. However, this will have to be monitored to ensure that there are not empty rooms in various suites scattered around Bechtel.

One of the strengths of the unaffiliated proposal for Bechtel is that it is in many ways an iterative improvement on previous policies and options available at Caltech. Many of these have been proven to work and should not be scrapped in order to implement proposals for more unfamiliar schemes. This conserves resources and allows students to smoothly adjust to the reality of the new residence. By designating Bechtel as unaffiliated housing, there will be fewer problems that arise during the transition and initial implementation of Bechtel, and it is more likely that students will react positively to its addition to campus.

Based on the Bechtel Occupancy survey, students who live off campus interact less frequently with the Houses than do students who are on campus (Fig. 1). And, House-affiliated students spend much of their time with people in their own House, as mentioned earlier, which can lead to a less dynamic social environment for those living off campus. We believe that maintaining a room pick system based off of an external lottery (such as the current system), can be a way to encourage diverse social interactions by introducing an aspect of randomness when groups are placed into suites around Bechtel. This will ensure that students will have the chance to live with and meet new people.

Rotation can remain the same throughout the process, and will likely see an increase in participation due to Bechtel’s closer proximity to the Houses. And, there should be little concern with filling Bechtel under this proposal as long as Institute policy to provide housing at below market rates continues. Once Bechtel opens, everyone who has been living in off-campus alleys, Chester, or Del Mar will need to find another place to go. Since the only other housing besides Marks-Braun will be off-off arrangements, we predict students will choose to live in Bechtel.

The PA system is intended to provide competent and standardized peer help to students who need it. If Bechtel is designated unaffiliated housing, the PA system will most likely be similar to Marks-Braun’s PA implementation. In Marks-Braun, there will be two PA’s with one PA in each residence. Based on a discussion with Dr. Felicia Hunt, it is likely that the suite system in Bechtel can be utilized to provide more support to students than would otherwise be available. Each suite can have a representative who provides an interface to the PA system, through meetings with the PA’s on an intermittent basis. As a result, students needing support can find it without
stress. This can improve the frequency of interactions between students and sources of support, as well as the efficacy of the system as a whole.

After discussions with Dr. Jennifer Howes from the Health and Counseling Center about how the PA system might be implemented in an unaffiliated residence hall, it seems that because the PA system is new, we can shape it to best fit the unaffiliated model. And, to build a sense of community, we can include intentional programming to encourage connections between students and with faculty. It will be important to appeal to a broad audience and support interactions based on new experiences, rather than a House identity.

Given HA’s important role in the physical and mental health of students, we have also thought about how Bechtel as unaffiliated housing will affect the distribution and number of HA’s on campus. Given the recent expansion of the HA program, we believe that there will be a sufficient number of trained HA’s present by the time Bechtel is complete. In addition, the current off campus population consists largely of juniors and sophomores, who will have the opportunity to become HA’s before or during their time in Bechtel, so we are confident that there will be enough present throughout the suites.

Other issues include how Board will be merged with Bechtel. Through our conversations with Jon Webster, it seems that the unaffiliated option allows the most flexibility and least impact on how Board can be implemented. ~10% of students in off-campus residences (except Marks-Braun) cited Board cost as the primary factor in moving off campus (Fig. 2), with ~56% citing it as a contributing factor (Fig. 3). So, we deemed it important to gauge the impact of any housing option on possible Board cost increases. After discussions with Jon Webster, it seems that students will need to be on Board, though Dining is open to modifying Board as a whole to create a more desired meal plan.

Because student waiters present a significant part of the cost of undergraduate dinners – ~10% of the non-dBal Board price, according to Jon Webster – the presence of student waiters in Bechtel will be a significant cost. Especially because of the upcoming minimum wage increase, housing options that require student waiters (such as making Bechtel its own House), might result in undesired Board cost increases. Having Bechtel as an unaffiliated residence will require no student waiters, making it a cheaper option, which would better appeal to the 56% of students citing Board cost in moving off campus.
VII. Freshmen?

There are pros and cons associated with having all freshmen, or a subset, live in Bechtel. These points have been investigated by the focus group for the all-freshman housing option. We have mainly thought about the absence of appealing opportunities for students who want to “opt out” of the House system. This is an especially important topic to consider when deciding whether freshmen should have a place in Bechtel, since a common argument against freshmen living in Bechtel is that they do not know what they are opting out of, they could be missing out. These are certainly relevant concerns given the current residential system—so much of student life revolves around the Houses. However, this reasoning does not necessarily justify making freshmen take part in the House system if they do not want to. Rather, we can strive to offer new opportunities with this concern in mind and work around the challenges if we wish to let freshmen opt out. Another point to emphasize is that freshmen living spaces in Bechtel does not only have to be for the students who do not wish to be involved in the Houses; it can also be for students who still want to be associated with a House, but also are interested in adding to their social life outside of the House. There are several logistical issues with freshmen living in Bechtel including Rotation, reserving bedspaces, etc., and we have included more information later in the report.

If we decide to let freshmen live in Bechtel, we will need to reserve a certain number of bedspaces without the guarantee that all of those spaces will be filled. However, the alternative is having incoming freshmen decide whether they would like to live in Bechtel before we have our external lottery. So, we can save X rooms for the X number of freshmen who have expressed interest. But, this is not ideal because our housing process begins as early as April, and most incoming freshmen may not have even committed to Caltech before they must make a decision regarding Bechtel. If we keep around 10 rooms, or one or two suites, we should be able to fill them if we aim to offer these spaces to freshmen who have rotated into a House they did not rank highly. The main idea is that freshmen will have the chance to go through Rotation, then depending on the outcome, can choose to live in Bechtel. This is different from letting students rank the eight Houses plus Bechtel during Rotation. Though this is an option, it is a different scenario that may be trickier to control. Also, when we save a suite for freshmen, it is possible that some students will not want to live with each other. So, another route is saving these bedspaces in Marks-Braun, which usually has one reserved room for freshmen with circumstances that prevent comfortable living within the Houses.
VIII. Future Direction

We would like to continue discussing how we can improve Board to satisfy students’ expectations based on feedback from students living off campus. A few options are making dinner more Chandler-style vs. family-style, adjusting dBal, shifting dinner times, etc.

In addition, we plan on working with other focus groups, such as themed housing, to consider how to add something new to Caltech’s current residential system. Then, we can form a cohesive plan for Bechtel that can be evaluated and adjusted in the coming years.

IX. Conclusion

We believe that Bechtel should bring students back on campus while preserving a sense of independence that comes with living outside of the Houses. Bechtel should be used as a residence hall independent of House affiliation that fosters communities based on new experiences and common interests. Our proposed system involves having students apply as individuals or in groups to live within Bechtel, with few modifications to the current external lottery system. However, we recommend giving additional thought to whether we should allow freshmen to live in Bechtel. And, if we decide to open it to freshmen, whether it will largely serve as an “opt out” option, or one that will add to the House experience.

The strength of creating Bechtel as an independent, unaffiliated residence hall is that it offers flexibility for students to develop their own social environments. This flexibility allows students to make Caltech comfortable in their own way. Students may not feel satisfied with the House system and find that living with a smaller group of friends in Bechtel suits their social needs better. They may also find that Bechtel encourages a broader range of discussion and mingling between options and years.

Caltech is a unique place for students to grow and develop their technical talents. For students to flourish academically and emotionally, they need to feel like they belong. Students should have the freedom to create social spaces in Bechtel that meet their needs, and we believe unaffiliated housing meets this criterion.
Bechtel Residence: All-Freshmen Housing

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1 Introduction

Caltech is scheduled to open a new residence hall - the Bechtel Residence - in the fall of 2018. During the spring of 2017, the Interhouse Committee (IHC) organized six “focus groups” to study six separate proposals for filling Bechtel. The focus groups are composed entirely of undergraduates who were charged with studying a specific proposal in consultation with staff and faculty members. This report is the product of the all-freshman housing committee.

All-freshman housing, by nature, would require many changes to the current housing system. Because freshmen would receive housing independent of the houses, rotation could change, as could the ability of freshmen to obtain house membership. Upperclassmen would be impacted as well, as the loss of off-campus alleys and the Del Mar Housing Complex would reduce the availability of Caltech-affiliated off-campus housing. Bechtel is also too small to host the entire freshman class, so additional housing would have to be found. Aside from the practical changes to living arrangements, the loss of freshmen in the houses themselves would change house traditions designed to integrate freshmen into the community; even Ditch Day would be affected.

With so many changes to consider, our data-driven analysis primarily covered the implications of separating the freshmen from upperclassmen, with other changes addressed in the potential schemes as necessary. The reason for focusing on the freshman is to provide them with the best first-year experience, day in and day out. All of the more nuanced, logistical details will have to be worked out later on.

The data was gathered through interviews with resident associates, the counseling center, and former members of the Interhouse Committee, surveys sent out to the Caltech undergraduate community, and research on other colleges and in scientific literature. While much of this data collection was focused on determining whether all-freshman housing would be the best system for Bechtel, we also evaluated the values that all-freshman housing seemed to uphold and compared them with the Caltech values we wish to preserve.

Ultimately, we aim to put forth a proposal which takes into account the results of our data, but we also look to raise debate over particular aspects of our current house system. Our look into freshman housing has led us to consider fundamental issues with the house system, be it the secrecy of rotation or the division of an already small student population into eight subsets. While we could have spent many pages discussing the merits of the house system as a whole, our purpose is to evaluate the idea of Bechtel as freshman housing, and we have done so here.

Section 2 summarizes the research that was done. Section 3 details the current freshman residential experience and enumerates its successes and shortcomings. Section 4 discusses the pros and cons of using Bechtel as an all-freshman house, and Section 5 raises questions that will need to be answered if Bechtel is an all-freshman house.
2 Research

This section reports on the research done regarding all-freshman housing and provides important background information. While the emphasis is on how all-freshman would work in the context of Caltech, we also examined residential life at other institutions.

The committee drew on the following resources:

- Literature on all-freshman housing
- Interviews with resident associates
- Interviews with staff members
- Interviews with former Interhouse Committee (IHC) members
- Comparisons with peer institutions
- Results from the Bechtel Residency Survey
- Results from the Bechtel Occupancy Survey
- Data from the IHC Rotation Survey
- Historical rotation data

2.1 Literature

2.1.1 A Comparison of Effects of Campus Residence and Freshman Seminar Attendance on Freshman

In 1996, Paul Fidler and Phillip Moore examined the effects of freshman seminars and living on-campus on freshmen dropout rates. Using dropout rates from the University of South Carolina from 1986 to 1993, they found that both freshman seminars and living on-campus had a positive effect on students. Freshmen that lived on campus and attended the seminars had the lowest dropout rate of 14.4%. The study found that 7.3% of dropouts could be attributed to not living on-campus, while 4.1% could be attributed to failing to attend the freshmen seminars. Fidler and Moore concluded that both freshmen seminars and living on-campus individually benefit freshmen and decrease dropout rates.
2.1.2 Is there a case for the freshman women’s residence hall?

James Schoemar and Liam McConnel conducted a study for Colorado State University at Fort Collins in 1970 to access the potential benefits and drawbacks of an all-freshman women residence hall. They compared academic achievement, attitudes towards campus environment, and conduct of women in an all-freshmen women hall, an all-undergraduate women hall, and a co-ed hall in order to determine if the all-freshmen women hall was more beneficial to students. The all-freshmen women hall was designed to have highly trained staff in order to create the best possible environment. Academic achievement was quantified using GPA, Campus environment was quantified using Stern’s College Characteristics Index, Conduct was measured based on the number of students who made two or more appearances before a judicial board or higher authority. The halls were evaluated during the 1966-67 school year and they found that women in the all-freshmen hall did no better than the women in the other halls. However, women in the all-undergraduate hall had significantly better grades than in the other halls (which highlights the importance of upperclassmen). Women in the all-freshman hall had a higher self-expression and aspiration score, but there were no other distinctions. Furthermore, there was no significant difference in conduct between the halls. Schoemar and McConnel concluded that all-freshman halls did not have a greater benefit on students.

2.1.3 A Comparison of the Developmental Impact of Homogeneous and Heterogeneous Housing Conditions on Freshman

Sharon M. Cade conducted a study in 1979 on the impact of housing conditions on freshman at Ohio Wesleyan University. This involved studying the developmental growth of freshman living in three different types of residence halls - freshman residing in an all-freshman hall with a Faculty Fellows program (i.e. faculty residing in the residence hall), freshman in an all-freshman hall without a Faculty Fellows program and freshman residing in residence halls which were mixed by class. The study assessed the changes in students’ sense of autonomy and their ability to manage their emotions. The study found that all-freshman, regardless of their residence hall, moved equally along the autonomy scale. However, freshman residing in mixed-class halls mover further along the Impulse Expression scale, “implying a greater readiness to express impulses, to seek satisfaction, and to place a greater value on sensual reactions and feelings” (Cade, 1979).

2.1.4 Peer Effects with Random Assignment: Results for Dartmouth Roommates

In 2001, Bruce Sacerdote conducted a study of peer effects on freshmen from college roommates and dormmates at Dartmouth. He specifically studied the impact of peers on GPA and
one’s decision to join social groups such as fraternities. While there are no all-freshman halls at Dartmouth, freshmen are randomly paired with another freshman roommate and randomly assigned a dormitory. He finds that roommates have a strong effect on each other’s GPAs, i.e. if one roommate has a high GPA, the other is also likely to have a similarly high GPA, and vice versa. However, this effect dies off by senior year. He finds that dormmates do not have much of an effect on GPA. They do, however, have a stronger effect than roommates on a student’s decision to join a fraternity or sorority. He concludes that neither there is no influence of peers on a student’s choice of major at either the dormitory or room level.

2.2 Resident Associate Interviews

Since Resident Associates (RA’s) live full-time with undergraduates, they were able to offer nuanced perspectives on student life and the anticipated effects of all-freshman housing. All RA’s were asked the same set of questions (see Appendix) and their responses are categorized and presented here faithfully.

2.2.1 Effects of Multiple Years Living Together

Positive Effects

- Age Diversity: In an extremely rigorous academic environment, the proximity of upperclassmen to freshmen is valuable because it allows freshmen to know that generations have struggled and overcome freshman obstacles in previous years. The variety in ages and options is a positive influence on freshmen.

- Advising: Upperclassmen have more experience, both in terms of academics and of living independently. More so than Caltech advisors, they help guide freshmen in which classes to take, which professors to talk to, and how to obtain research internships. Freshmen often mention to RA’s that upperclassmen have helped guide them through Caltech academics. The UCC program allows freshmen to get support and advice directly from upperclassmen when needed.

- Established Culture: For students who want to feel comfortable in a new community immediately, the house system provides established cultures for them to integrate into.

- Ease of Social Interaction: The system makes it easy to find friends, especially in the beginning, and for students who haven’t had community-building experiences.

- Support Network: In times of distress, having a family of supportive people around you can be very useful.
Negative Effects

- Improper Fits: Some people just don’t adjust perfectly to the house culture, and this creates a lot of friction and difficulty for themselves and others.

- Class Segregation: Students tend to feel a weaker connection with other members of the class. There is no unity among the class because the houses divide each class.

- Peer Pressure: House culture can pressure students into doing things they would not otherwise do, sometimes related to alcohol.

- Lack of Individual Personality: Students may struggle to define themselves outside the expectations presented by upperclassmen.

- Insularity: By cutting off different cultures from each other, the house system can create a smaller range of opinions and thus an unhealthy lack of diversity.

2.2.2 Anticipated Effects of All Frosh Living Together

Positive Effects

- Perspective of Class: The freshmen gain a better holistic view of their own class, without being restricted by the subsection of peers in their own house.

- No Rotation Process: Freshmen do not have to immediately go through the stress of rotation. They will have time to settle into Caltech and begin classes stress-free without commitments to house activities.

- RA’s and UCC’s Specific to Freshmen: With RA’s and UCC’s in a freshman-only house, freshmen can receive advice and guidance tailored to their needs. The advisors can be trained specifically to handle issues that arise for freshmen instead of four classes of students, all with varying concerns.

- Freshmen Leave Comfort Zone: By being exposed to a wider variety of students, freshmen will be forced to expand their social circles and gain a better perspective of the world outside their friend groups.

- Upperclassmen Gain Better Perspective of Freshmen: Since upperclassmen students will spend more time getting to know the freshmen, house placements will become a much more refined process, tailored to better suit each student.

Negative Effects
• Fewer Mentor Relationships: By isolating the freshmen into one group, there will be far fewer opportunities for them to find guidance from upperclassmen in both academic and personal situations.

• Isolation of Class: The freshmen class will feel that they are a separate entity than the remaining students at Caltech. The remaining three classes will have unity among themselves, but will not view the freshmen as part of “them”.

• Lack of Community: By putting all the freshmen together, there will be no bond within the community due to lack of organized social interaction.

• Houses Lose Culture: Without a new class of freshmen to uphold the customs and traditions of a house, each house may start to lose its culture.

• Fewer Social Obligations: Without any social obligation to maintain a house culture, some members of the class will be isolated and not have the opportunity to develop support networks.

• Less Diverse Friend Groups: Freshmen will naturally congregate in groups that are like themselves, which leads to less diversity than a house, which has a more diverse group of students.

2.2.3 Rotation

Positive Aspects

• Upperclassmen have the opportunity to meet the entire incoming class, in the beginning of the school year.

• It is well-optimized in sorting most students into their preference of house, as it seems the results are mostly positive.

• All the houses have opportunities to present themselves and their cultures in fair and positive lights, which may not be the case without rotation rules.

• It would be very hard to come up with an alternative, given all the constraints in the situation.

Negative Aspects

• Social interaction is forced between upperclassmen and incoming freshmen, which may be both stressful and awkward.
• Freshmen have to be judged in a relatively short period of time, which reinforces prejudice and discrimination.

• There can be bias against introverted students, as upperclassmen may think they are poor fits for the house, simply because they did not interact as openly.

2.3 Additional Staff Interviews

The committee interviewed several staff members to gain more perspectives on rotation and all-freshman housing. Below are summaries of the interviews.

2.3.1 Staff Panel

On August 8th, 2017 Tom Mannion, Felicia Hunt, Taso Dimitriadis, and Vanessa Tejada met with students to discuss residential life at Caltech and their experiences at other institutions. Below are several points brought up. Bullet points are paraphrased and not direct quotes.

• Compared to some other schools, the house system promotes leadership and encourages students to be invested in their house.

• Mentorship and leadership are some of the strongest points of the house system.

• Vanessa: The first three weeks of rotation can be really hectic and people get burned out. That can be really hard for some of the first years.

• Taso: (worked at schools with all-freshmen housing) The community - parents and students - asked for an all-freshmen community. The other housing options were suite style living which takes more maturity and people wanted a more traditional dorm experience freshmen year.

For first year students, [the benefits of a common cohort] are that it allows you to engage around transitioning to college, providing resources like tutors for core classes, providing co-curricular opportunities that enhance common academic courses, relationship building with faculty members teaching common classes. In some ways this is similar to FSRI, where we have students with similar needs all together. With FSRI, having people from similar backgrounds and going through the same experiences enables us to cater to those needs more easily.

The same principles apply to living/learning communities or themed housing, in that you can provide information, experiential learning, relationship building, co-curricular programming, academic support around the theme of the community.
• Felicia: At Cornell there was all-freshmen housing. The motivation was creating a community of like timing, where students are in the same age group. One advantage was this let us give more freedom and privileges to the upperclassmen.

• Taso: I’d be concerned about having some freshmen effectively in exile.

### 2.3.2 Residential Life Coordinators

During an interviews with the Residential Life Coordinators (RLCs), they stressed the following points:

• When one RLC worked in an all-freshmen housing system in the past, they had reservations about the idea, but upon seeing the ways in which freshmen bond through that experience, they saw the value in such a system.

• An advantage of the house system is that you build a cohort across multiple years, and have the opportunity to learn from upperclassmen. Nobody can give you advice (both personal and academic) as an undergrad better than somebody who has already been in that position. However, this can also be a disadvantage, as upperclassmen can give poor advice, and people can get caught up in the experience that upperclassmen have instead of finding their own experience. Some upperclassmen can perpetuate harmful perceptions about things at Caltech.

• Another disadvantage of the current house system is that people can have a variety of experiences, which means that some may be more positive than others.

• One RLC felt that the current system is very insular, as students are almost encouraged not to experience other houses. While everyone says they don’t stereotype, a lot of unproductive stereotyping often persists because of a perception that people don’t want students to be a part of another house.

• This RLC also felt that some house traditions are problematic, but students cling to traditions and refuse to improve them.

• The RLCs believed that rotation, in theory, has some advantages. It helps build connections, and create peer groups. It also encourages upperclassmen to invest in the integration of the freshmen into the community.

• However, rotation also has significant disadvantages. There is a lot of pressure on freshmen to immediately impress upperclassmen, and find where they fit in before they have a chance to transition to college in general. The system doesn’t leave a chance for freshmen to get acclimated to college life and being an adult.
• Furthermore, rotation doesn’t accurately portray houses, and the activities encourage houses to show an exaggerated version which then makes it hard for prefrosh to make their decision.

• During rotation, upperclassmen also play an important role in the decision making process of which house freshmen are sorted into, but this is done based on a very limited understanding of each individual freshman.

• The advantages of having Bechtel as all-freshmen housing at Caltech are that it gives students time to transition to Caltech and adult life before beginning rotation.

• Since most students experience the same issues when transitioning and as they go through college, all-freshmen housing offers the opportunity to target programming and resources around freshman to help them establish themselves and get to know each other. This could be akin to the FSRI program where strong bonds are built between the entire freshman class because they are all living together and going through the same experiences.

2.3.3 Counseling Center: Jennifer Howes

Jennifer Howes is the director of Health and Counseling Services and has been at Caltech since 2011. Prior to taking on the director role, she served as liaison to residential life and helped coordinate the UCC program, and provided training, support, and consultation to the RAs, RLCs, and deans.

• The house system at Caltech is unique, and offers both positive elements as well as challenges to the undergraduate student experience. Many students reap the benefits of entering communities that offer group identity, social experiences, and access to the support of upperclassmen. For other students, the house system can limit opportunities to build relationships that extend beyond their primary house affiliation.

• A primary limitation of the current system is the lack of ability of incoming students to make an informed about participation in rotation and the house system. While they are aware of some elements of rotation, the process is opaque and they aren’t fully able to appreciate the inner workings until they experience the other side of it during their second year. While students are told they can “opt out” of rotation, the social capital costs are prohibitively high, and they must elect to do this before they have the chance to orient to the environment.

• Access to upperclassmen can be very useful to new students, particularly when older students can share adaptive coping strategies, assist with academics, and provide mentorship. Some of the less helpful and high-risk aspects of the current multi-year housing
model is the readily available access to drugs and alcohol, cultural norms around lack of sleep, study habits, and high-risk activities, and when well-intentioned older students elect to try and support peers with more serious mental health concerns “in-house.” This has, at times, resulted in students delaying access to professional support and a more protracted path to recovery.

• Students who decide that the house system is not a good fit often choose off-campus or “off-off” housing options. The high cost of rent in the Pasadena area, and the loss of off-campus apartments to graduate housing will restrict access to options outside of the houses, unless Bechtel offers an alternative. Currently, students who exit the house system don’t have many good options for living in communities with an active peer support network, activities and programs, faculty in residence, etc.

• A freshman house necessitates a revision to the current rotation process, to ensure that the challenges of the current system aren’t simply postponed to sophomore year. A cohesive first year experience program would be a significant opportunity to build skills, create social opportunities, intentional peer academic and emotional support, and mentorship opportunities. A simple replication of the current support structures within the house system would not be sufficient.

• Ultimately, I favor a system that integrates the positive, adaptive elements of the current system within a framework of choice and transparency for students, so that they can choose the residential environment that best meets their needs.

2.4 Former Interhouse Committee Members

Members of the Interhouse Committees from 2014-15 to 2016-17 were interviewed. The main points from those interviews are grouped below. The quotes presented below represent a small sample of the original interviews.

2.4.1 Advantages of the House System

• “Upperclassmen provide a strong support system – the ”safety net” is helped by having more upperclassmen than RAs and RLCs could ever replace."

• “For the freshmen, the upperclassmen are able to provide academic and behavioral, mental and academic. This is when the freshmen need the most support from people who have gone through such issues and hardships so that they know that everyone else has struggled. In a freshman only environment, no one will be able to give them this reassurance and often times freshmen will try to hide their struggles.”
• “I definitely would have transferred out because I was struggling so much in classes, and I couldn’t tell other freshmen were too. [However,] upperclassmen who I talked to reassured me and helped me through!”

• “The freshman advisor system, while I was there, was highly variable at best and useless at worst. Since most Houses have upperclassmen from practically every major, freshmen who are unsure about planning coursework or [are] deciding between two majors can get excellent advice.”

• “Being in the Houses is very important for reinforcing the Honor Code to students who haven’t been in a place as “trusting” as Caltech. Having multiple upperclassmen, including BoC and CRC reps, is helpful for students to understand the limits of what is acceptable behavior.”

• “Upperclassmen provide tons of incredibly practical advice that the rest of the Institute did not provide, even though it probably could have. For example, some students might want to change the lock combo on their door – Housing did not provide instruction or even mention that was a possibility. Upperclassmen pass that knowledge down. Even simpler, I was never told by Housing or an RA where the laundry facility was when I moved in, I had to wait until an upperclassmen in my alley told all the incoming freshmen!”

2.4.2 Disadvantages of the House System

• “Plenty of upperclassmen encouraged doing the bare minimum required to pass...Additionally, in my experience it was never a strong negative pressure, so strong proactive action from a few upperclassmen (e.g. the president / head UCC / etc organizing study groups that meet 2 days before Core assignments are due instead of the night before) can and did overcome some of those issues.”

• “The disadvantages [of upperclassmen living with frosh]are pretty closely related to the advantages. Upperclassmen advice can be helpful if it’s good advice, but if it’s bad advice, it’s detrimental (duh). Healthy traditions enrich the freshman experience, but unhealthy ones will make it unpleasant.
But this isn’t really surprising. The nature of power means it can be wielded for good or for bad. Your boss can help you with your career, or keep you trapped in entry-level hell. Your teachers can grade with helpful and fair comments, or they can nitpick and play favorites. All the House system does is make it easier for upperclassmen to have an effect on freshmen.”

• “The main disadvantages I would argue are that frosh are highly impressionable and might try extra hard to fit in. This might have them doing actions they normally
wouldn’t, but I suppose that’s part of the college experience. Basically the sense of community comes at a cost (but in my opinion it’s probably worth it).”

• “One disadvantage I see is for those students that fall through the cracks. Those students who aren’t welcomed into their community and fail to find a group they can rely both socially and academically can be negatively impacted by the housing system. I think this a major disadvantage to the house system and not just frosh in general, but as a frosh trying to figure things out it can seem hopeless at times.”

2.4.3 Rotation

• “I think Rotation, despite some individuals in every House who do not present accurate examples of the House as a whole, is actually extremely good at presenting the Houses...It is imperfect, but the vast majority of students ’get it right.’”

• “Rotation, since it’s a focused time before the burn of school starts and because it matters so much to upperclassmen, is a time when Caltech students put more effort into being social and establishing new connections than we generally do.”

• ”Rotation can artificially break up friend groups that start during Frosh Camp / Pre-season / the actual week of Rotation.”

• The advantages of rotation is that every frosh truly ends up in a house that is good for them. A lot of work gets put into making this happen, and no algorithm or automatic sorting would do this to the degree that the rotation process does. The input of the houses and the freshmen into the process lead to an end that may not be the most idea for each house or each freshmen, but is overall the most ideal accounting for everyone’s wants and needs (and I think, usually the best solution).

• “First, keep a minimum length – Rotation can’t be a two-day tour of the Houses over one weekend, and I think one week is really necessary. 7 vs 10 days is “negotiable”, but less than 7 would be very difficult and I think would not give students the accurate impressions of all the Houses they need to make good choices. Secondly, upperclassmen need to be around for most to all of Rotation – Houses can generally not be summarized in a descriptive post, and people matter. Third, keeping upperclass students involved in making assignments is important.”

• “I don’t know how helpful this is, but one observation I had between two different IHCs was that many of the issues between Houses, including insularity or active “isolation” of new freshmen, really boiled down to relationships between House Presidents. When presidents get along, their Houses almost always followed suit – more events happened between Houses, more people from the respective Houses informally hung out or got to know people, and issues were dealt with more smoothly.”
• “There are simply not enough beds for everyone to get their first choice. When you add in the house opinion aspect, it becomes a two body problem of sorts and makes it even more difficult for all parties involved to be happy. I have had to talk to many freshmen who after rotation are crying from the rejection of being put into their second or third choice houses. For the ones that were unfortunately put into their fourth choice house, well they often felt rejected from the system entirely and you cannot blame them. For incoming freshmen this process starts as they try to tackle dealing with Caltech. These students are more high schoolers than college students and rotation can create a stressful burden on their transition.”

2.4.4 All-Freshman Housing

• “I think a potential advantage would be that as sophomores, they may be far more mature and ready to deal with the process, since they’re more self-sufficient and have friends (which would mean that they aren’t desperately in need of house love), so they can make more rational decisions.”

• “One disadvantage I can think of right now: you could lose some formative experiences from freshman year. You wouldn’t know the seniors from that year very well and wouldn’t have the same kind of memories. However, other experiences, more with your year than with your house, would replace those.”

• “Rotation violations would mean less. Students would have already been at Caltech for a year so they wouldn’t, for example, choose to rank a house lowly because they worry about whether people in that house ever work. At least we wouldn’t have situations with people ranking based on rumors or very froshy concerns as frequently. This would make it so the rotation process was easier for the houses.”

• “As long as the houses can still play a role in students’ lives, the house system can live on without freshmen in them. If frosh go to one house each week, for example, they’ll still get to know them.”

• “I feel very strongly that all frosh housing is really bad for the frosh’s mental health and for Caltech’s culture. Having an all frosh dorm would be taking one of the best things about Caltech and making it the worst.”

2.5 Comparisons of Peer Institutions

To supplement the research into the pros and cons of all-freshmen housing, we also selected six peer institutions and analyzed their methods of housing freshmen. Of the selected peer institutions, four of the six do not have any all-freshmen housing (Harvey Mudd, uChicago,
MIT (up until 2020), and Swarthmore). Instead, these institutions have mixed grade levels in the same dorm. Only Stanford and Harvard have any form of all-freshman housing. Additionally, five of the six institutions have some form of greek life which closely resembles Caltech’s house system.
2.6 Bechtel Residency Survey Data

On March 12th 2017, a survey was sent to the undergraduate population to collect data relevant to the discussion on Bechtel Residence. The survey was authored by two students, independent of the IHC. 548 responses were recorded (a response rate of 57%). The goal of the survey was to collect data on:

1. How important is interacting with upperclassmen?
2. How effective is rotation?
3. Do students talk to people outside of their house?

Below are figures that summarize findings relative to this report. Analysis of the survey is presented in sections 3 and 4.

For a full list of questions asked in the survey, please see Appendix C. The complete Bechtel Residency Survey report can be found on the IHC website ihc.caltech.edu.
2.6.1 Rotation

Do you think that you got an accurate representation (personality and character) of the houses during Rotation?

Figure 1: The majority of students report that they got an “accurate representation” of most houses during Rotation. Respondents include students from all academic years.
Figure 2: 90.7% of students felt they had enough information to rank every or most houses after Rotation. Less than 10% of students reported having insufficient information to rank most or all houses. Respondents include students from all academic years.
2.6.2 Utility of Upperclassmen

Consider your choice of major. Upperclassmen were:

![Pie chart showing the utility of upperclassmen in choosing a major.]

- **Single most useful source of information (31.8%)**
- **A very useful source of information (47.3%)**
- **A somewhat useful source of information (18.4%)**
- **Not a valuable source of information (2.6%)**

Figure 3: 79.1% of students believed upperclassmen were either “a very useful source of information” or the “single most useful source of information” concerning choice of major.
2.6.3 Sources of Interclass Interaction

Figure 4: Respondents were asked to rank how much they interact with students outside of their year through 5 different choices. A large minority (20%) of students did not rank the choices and interpreted the question as a Lichert scale asking “On a scale of 1 to 5 how much do you interact with students outside of your year” through each of the following (1 being most common). There is strong evidence that the houses are the most important sources of interclass interaction, and that all other sources are secondary.
2.6.4 Cross House Interaction

![Table of cross house interaction.](image)

Figure 5: Table of cross house interaction. The house of the respondent is given on the X-axis. Each table entry is the fraction of respondents from a house that reported “consistently interacting” with a member of another house. For example, 30.6% of Avery members reported consistently interacting with a member of Blacker, and 36.6% of Blacker members reported consistently interacting with a member of Avery.

![Table of cross block interaction.](image)

Figure 6: Table of cross block interaction. The data is the same as the data from Figure 7, grouped by “Block” (North house, South house, Avery). 28.4% of respondent report only interacting with students within their block.
Figure 7: Distribution of the number of houses that respondents reported “consistently interacting” with. The mode is for students to interact with students from 3 houses. 16.5% of respondents report only interacting with members of a single house.
2.7 Bechtel Occupancy Survey Data

During spring term of 2017, two students surveyed the undergraduate population to learn why students move off campus. The same two students also executed the Bechtel Residency Survey. The goal of the Bechtel Occupancy Survey was to understand why different cohorts move off campus and if students will live in Bechtel. The survey was sent out on May 22nd. The authors distributed roughly 15 pounds of chocolate (paid for by the IHC) to off campus students to boost the off campus response rate. 578 students responded to the survey, representing 60.1% of the 961 students enrolled as of add day spring term.

The questions asked on the survey that are relevant to this report include:

1. Demographic info (matriculation year, primary house affiliation).

2. Would you have been happier living in an unaffiliated single (i.e. Marks-Braun) during freshman year over the house you rotated into?

3. Would you have been happier living in an unaffiliated single (i.e. Marks-Braun) during freshman year over your TOP house choice?

The second question is a gauge of what fraction of students would have been better off ("happier") had they opted out of the house system. The third question is the same as the second, except it asks students to speculate how they would have felt had they rotated into their top house. The difference between the second and third questions gives a rough idea of how “ideally” rotation sorts students into houses.

Several important notes regarding how data was collected:

- The number of responses for question 6 is fewer than the number of responses for question 5 because the question was originally misstated in the survey. Response for the mistakenly worded question were thrown out.

- This survey was sent to the ug-list mailing list and the authors sought responses from all students. The authors made special efforts to boost the response rate from students unaffiliated with houses or living off campus. The response rate for students living off campus appears to be similar to the overall response rate.

- All error bars denote 1 standard deviation of error. These bars only account for random sampling error. Systematic biases are not bounded by these errors. It is generally assumed that respondents in a cohort are representative of a cohort, though this may not always be true.

The complete Bechtel Occupancy Survey report can be found on the IHC website ihc.caltech.edu.
2.7.1 Freshman in Houses

These questions try to gauge if students feel they would have been better off opting out of the House System during their freshmen year. The first question pertains to the house students actually rotated into. The second question attempts to answer the same question under ideal circumstances (if everyone was placed in their top choice house). 8.3% of students felt they would have been happier their freshmen year had they opted out of the house they rotated into. 5.3% of students felt they would have been happier their freshmen year had they lived in an unaffiliated single over their top choice.

Figure 8: Happier in an unaffiliated single over the house you rotated into, sorted by rotated house.
Figure 9: Happier in an unaffiliated single over your top choice, sorted by rotated house.
2.8 Rotation Survey Data

The IHC conducts an annual post-rotation survey to gauge freshmen opinion on rotation. Below is a subset of data from the 2016 rotation survey. The survey was conducted in the winter of 2017.

![Figure 10: Self reported satisfaction with the results of rotation. Data collected from the class of 2020 (rotation 2016)]
2.9 Historical Rotation Data

The data and figure below gives the fraction of prefrosh sorted into their first, second, and third choice houses in the past several years.

Figure 11: Graph of the fraction of prefrosh sorted into their first, second, or third choice houses. In 2017, 96% of prefrosh were placed into one of their top three choices.

<table>
<thead>
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<th>First Choice</th>
<th>Second Choice</th>
<th>Third Choice</th>
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<td>0.102</td>
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<tr>
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<td>0.682</td>
<td>0.198</td>
<td>0.079</td>
</tr>
</tbody>
</table>
3 Current Freshmen Residential Experience

3.1 Rotation

Rotation is a two week long process that sorts incoming freshmen (referred to as prefrosh throughout rotation) into one of the eight houses. Rotation typically begins the Wednesday before classes commence, and overlaps with the first week of instruction.

One of the most important influences on Rotation is the presence of Rotation Rules. The Rules are designed to provide each freshman a chance to get to know all of the houses in an unbiased manner. As a result, no upperclassman may talk about houses other than their own, and no upperclassman can provide freshmen with excessive favors or gifts that may bribe them into preferring their house. Because of the Rules, freshmen visit each house to obtain a fuller picture of the house system.

During Rotation, freshmen attend a house dinner at each of the houses, and each dinner is preceded by a reception for the freshmen to meet members of the house. Each freshman is assigned a dinner for each evening, and they must attend or provide the Interhouse Committee with the reason they are unable to make it. Additionally, freshmen have the opportunity to visit each house again for a dessert, which are similarly assigned to each freshman, but are recommended, rather than mandatory. The dinners and desserts are meant to give everyone ample opportunity to learn about each house directly from members of that house.

Every house also holds at least one Rotation event, to which all of the freshmen are invited. In addition to allowing freshmen to interact with upperclassmen, the events also display what houses enjoy doing as a house. As examples, Ricketts House hosts Open Mic Night, which is a concert in their courtyard in which any upperclassman or freshman is welcome to perform, and Lloyd House offers Capture the Flag and Milkshakes, with the game played across the entire campus at midnight by teams made up of a mix of freshmen and upperclassmen.

Towards the end of rotation, there are two ”free dinners,” and the freshmen choose which houses’ dinners they would like to attend. Through these final two dinners, freshmen are able to get to know their favorite houses even better, and they may start forming friendships with upperclassmen in just their second week on campus.

From the upperclassmen perspective, houses encourage upperclassmen to meet and interact with as many freshmen as possible during rotation. Houses then have some process by which upperclassmen can share their perception of the freshmen they met, and whether they believe that these freshmen would fit in well with the house. Comments made by upperclassmen are usually saved in an online system. Each house has a system to rank how well someone would fit into the house (usually either a 0-10 scale, or a an excellent/good/fair/poor rating system). Houses compile these ratings and individual comments to create a either a ranked list of freshman, in order of how much upperclassmen would like them to be in the house, a set
of bins (ex: ideal 30 freshmen/good fits/fair fits/would not fit in at all), or some combination
of these two. This information then gets passed on to each house’s “picks team”. The picks
teams from each house meet and use the information they were given from the houses, along
with the freshmen’s ranking of houses, to determine the optimal sorting of freshmen into
each house. Information about exactly how the picks process works is kept confidential.

After freshmen rotate into a house, there is usually some sort of welcome activity for freshmen
to get to know upperclassmen, and vice versa. Some examples of these activities include a
scavenger hunt, a house dinner, or a trip to the beach. During this time the freshmen in each
house also get the opportunity to meet each other and begin choosing roommates. Freshman
usually have their roommates decided by the end of the last day of rotation. The next day,
assisted by upperclassmen, freshmen move into their new rooms and settle into their new
house.

A large part of many house cultures involves integrating freshmen into the house community.
Houses often encourage upperclassmen-freshmen interaction at house dinners (some houses
don’t allow all-freshmen or all-upperclassmen tables), house events and on a day-to-day
basis. In some houses, freshmen are equally divided among hallways (alleys), and each alley
has an Upperclassmen Counselor (UCC), and many other upperclassmen. UCCs organize
events with the entire alley (like dinners, ice-skating or escape rooms) and these events are
a good opportunity for freshmen to interact with upperclassmen. Other house events may
involve freshmen working with upperclassmen to pull off a prank, or going on a trip to the
beach together. However, the most upperclassmen-freshmen interaction often takes place on
a day-to-day basis. Many houses have an open-door policy, where residents are encouraged
to leave the door to their room open when they are inside and don’t mind others stopping
by. This means that upperclassmen will stop by freshmen rooms from time to time to check
in with them, and freshmen can always find upperclassmen to talk to or get advice from.

The process of rotation doesn’t decisively determine house membership. Students can always
drop their house membership and become a member of another house, be a member of
multiple houses, or choose to be unaffiliated to a house. Many houses offer both full and
social memberships status. A social member can participate in house events, and go on
house trips. In addition to this, a full member can vote in house elections and reside in
the house. Houses which do not offer social membership still allow students to become full
members. To get membership of another house, one has to go to a house dinner or meeting
and announce that they would like to run for full/social membership. A poll is then sent
out to the house (most houses require either a simple majority or 2/3 majority to grant
membership). Social membership is almost never denied. However, even without running
for membership, students are always welcome to hang out in any of the houses, attend any
house dinner, and often participate in many house activities.
3.2 Advantages

Several advantages of the current freshmen residential experience include:

- **Strong community:** A commonly cited strength of having freshmen in a house is that it places them in an already extant community. The house system formally provides students with a smaller community of people with somewhat similar personalities and strengths. Former IHC members, RAs, and staff members often listed the tight knit community of the houses as one of its strengths.

- **Multigenerational:** Placing freshmen in houses gives students easy access to upperclassmen. Sections 2.6.2 and 2.6.3 suggest that upperclassmen are an important source of information for freshmen selecting an option. 79.1% of respondents reported that upperclassmen were either “A very useful source of information” or the “single most useful source of information” regarding their choice of major. Section 2.6.3 provides evidence that the houses are the single most important avenue for interclass interactions.

- **Students are Generally Satisfied:** In the Bechtel Occupancy Survey, 8.3% of students reported they “would have been happier their freshmen year had they lived in an unaffiliated single over the house they rotated into.” Although the sampling error is relatively insignificant, there are possible response biases that may skew this number. Nonetheless, the data strongly suggests that the majority of students are satisfied with living in a house their freshman year.

- **Academic Support:** By facilitating access to other grade levels, living in a house encourages freshmen to seek upperclassmen help for classwork. Section 2.3.2 states that freshmen in the all-undergraduate hall had significantly higher GPAs than those in the all-freshman hall. This suggests that upperclassmen are an important resource for academic support. According to survey data found in section 2.6.2, 79% of students believed upperclassmen were either “a very useful source of information” or the “single most useful source of information” concerning choice of major. Figure 4 suggests that House System is by far the most significant source of cross-year interaction.

- **Opportunities for leadership and Self Governance:** Several staff members (Mannion, Hunt, Dimitriadis, Tejada) cited leadership and self governance as one of the strengths of the existing residential system. The 8 houses are self governing and each have a leadership apparatus, comprised of an Executive Committee (Excomm) and additional positions. The current house system and governance structure gives students, including freshmen, ample ways to be involved in governance.

- **Rotation (generally) works:** Two commonly cited concerns about rotation is that students don’t have enough information to rank houses and that students don’t re-
ceive an accurate representation of the houses. However, the survey data supports neither of these conclusions. Over 80% of students felt they had an accurate representation most houses, and 90% felt they had enough information to accurately rank most or all of the houses. As a mechanism for informing students about houses, rotation is largely successful.

• Majority of students are placed into one of their top choices: Figure 11 illustrates the fraction of students who are placed into one of their top house choices from rotation. In recent years the fraction placed in their first choice has hovered between two-thirds and three-quarters of students. The fraction placed into their first or second choice has consistently remained above 80%. Placing all prefrosh into their top choice is a demanding task, as the distribution of beds and the distribution of prefrosh first choices is unlikely to match.

3.3 Disadvantages

Several disadvantages of the current freshmen residence experience include:

• Poor Upperclassmen Advice: There is an abundance of evidence that upperclassmen are a source of advice, both academic and non-academic, for underclassmen. However, the quality of the advice can be highly varied. At a Town Hall meeting on March 13th, 2017 Professor Catherine Jurca pointed out that upperclassmen sometimes give poor advice, and that freshmen accept it at face value. Several former IHC members expressed similar concerns.

• Potential for Hazing: Systems with multiple years living together may increase opportunities for hazing or initiation rituals.

• Social Compartmentalization: Figure 7 illustrates cross house interactions and the fraction of members of each house regularly interacting with another house. A common criticism of the House System from staff members is that it takes an already small community and divides it even smaller. Roughly one in six students report only interacting with members of a single house. Whether the one in six number is high or low is open to interpretation.

• Rotation overlaps with classes: Currently, rotation overlaps with the first week of instruction. This can add to the stress of rotation.

• Rotation is stressful: Almost all staff members and RAs that were interviewed described rotation as a stressful time period. Rotation involves an intense amount of social interaction over a short time period. Prefrosh often feel pressured to present themselves well to upperclassmen for the duration of the period, and upperclassmen
also tire out. Prefrosh are also expected to decide which house they will fit well with within two weeks of arriving on campus. A former IHC member noted that during rotation “prefrosh are still more high school students than college students.”

- **Systematic Judgment of Incoming Class:** Part of rotation involves each house providing input on which prefrosh they want in their house. This often manifests as meetings public to members of the house where prefrosh are individually voted and commented on.

- **Potential Inhibition of Identity** Several RAs expressed concern that the houses may inhibit students from creating their own identity. The concern is that freshman attempt to conform to a house identity, rather than forming their own.

- **Lack of Housing Options** The current house system requires that students live in one of the eight houses. The houses vary in personality and character, but ultimately the majority of the students must live in one of these houses and there are few alternatives.

- **Lack of Transparency:** Several staff members criticized rotation for its lack of transparency. Incoming prefrosh are informed that they can opt out of rotation, but to quote Jennifer Howes: “they don’t really know what they’re opting out of.” Incoming prefrosh are kept in the dark about house rotation meetings and often don’t realize that upperclassmen meet in public meetings and openly discuss prefrosh.
4 Pros and Cons of Freshmen Housing

This section presents several possible advantages and disadvantages of all-freshmen housing. Effects surrounding all-freshman housing are difficult to forecast, and the list below is a “best guess” of what will happen. Whenever possible, the data and sources supporting the following statements are cited. The points below are presented in no particular order.

4.1 Freshmen Housing: Pros

- **Bechtel will be guaranteed to fill:** All-freshman housing is the only housing scheme that guarantees that the building will be filled.

- **Potential for coherent freshman experience:** Placing freshmen in the same area may make it easier to craft a single freshmen experience. Programs on topics such as study habits and mental health are easier to run when freshmen are concentrated; the current fragmentation of freshmen in the houses has posed logistical challenges for programming.

- **More independent development of identity:** Having freshman only living with freshmen may allow students to develop their own identities, outside the pressures of House identities.

- **Simplifies start of year logistics:** Freshmen will move directly into Bechtel at the start of the year, rather than living in a house and rotating to (usually) another house.

- **Negates disadvantages of rotation:** All-freshmen housing will either have a diminished rotation period, or no start of year rotation at all. The stress and challenges that accompany rotation will largely vanish. Students will not be tired out from attending events and presenting themselves. Currently, some fraction of students are placed into a low ranked house and are often disappointed. This will no longer occur with all-freshman housing. Regardless of how it is implemented, all-freshman housing will thoroughly change how Rotation is executed. This opens the door to addressing the challenges and flaws with Rotation.

- **More informed choice of house:** Under the current system, students must make a decision about which house they wish to live in after a fairly short period of time. The majority of students felt that they had enough information to rank at least the majority of houses following rotation. However, placing freshmen in houses will give even more time to select which house they wish to live in. Having students choose a house later in their academic career may also allow students to develop their own identities before entering a house.
• **Curated advice:** Upperclassmen are an important source of advice to freshmen, both good advice and poor advice. Selecting which upperclassmen live in Bechtel - whether as peer advocates, health advocates, or tutors - may improve the quality of upperclassmen advice.

4.2 **Freshmen Housing: Cons**

• **Insufficient size:** Bechtel is too small. Bechtel has 212 beds, and the remaining students will have to be housed separately, likely in Avery. The students who lived in Avery will be more isolated from the rest of the freshman class, and may not benefit from the positive effects of living in the same building as all-freshman. The requirement of splitting the freshman class across two buildings may negate several of the strongest advantages of all-freshman housing.

• **Weaker interclass interactions:** According to the Bechtel Residency Survey, the houses are by far the strongest sources of interclass interaction. All other sources - sports, clubs, etc. - were found to be second order effects. The data on interhouse interaction, which demonstrated the relative insularity both between houses and housing blocks, can be extrapolated to Bechtel. The data suggests that, *ceterus paribus*, a significant fraction of freshman will have little interaction with upperclassmen outside Bechtel. Bechtel will likely be stocked with upperclassmen health advocates, peer advocates, and possibly other roles. However, having majority freshmen living in Bechtel will almost certainly attenuate the influence of upperclassmen - both positive and negative influence - relative to the current House System.

• **Weak enforcement of cultural norms:** Cultural norms - both positive and negative ones - are enforced by the House System. Several IHC members and students have expressed concern the honor code will weaken with all-freshman housing, as there will no longer be upperclassmen educating freshmen on the spirit of the honor code. However, other IHC members expressed the opposite opinion and suggested that freshmen “are pretty into rules” and would follow the honor code even without guidance.

• **Loss of leadership development:** Several staff members noted that a fairly unique aspect of the House System is leadership development and leadership mentoring. The houses offer a large number of leadership and student government positions for freshmen, and there is an abundance of upperclassmen who can serve as leadership role models. An all-freshman dorm will not have this benefit.

• **Dependence on non-existent programs:** All-freshmen dorms at several other schools are sometimes characterized by programs such as faculty advising and freshman seminars. Several staff members cited the advantages of all-freshmen housing as
being able to craft a unified freshman experience with various programs. Placing freshmen into the same building is, by itself, not a unified experience; all-freshman housing depends on having programs that currently do not exist, and that would have to be successfully implemented in a relatively short span.

- **Difficulty of community buy-in:** All-freshmen housing is strongly opposed by a large number (possibly a majority) of students.

- **Reduction in alumni donations:** One IHC member speculated that alumni donations may be curtailed if Bechtel is made an all-freshman house. A survey sent to alumni suggested that alumni identify most closely with their house, rather than to the Institute. Changing the House System by designating Bechtel an all-freshman house may damage alumni donations.

- **Diminution of interclass mentoring and support:** A small number of upperclassmen will still live in Bechtel if it is designated all-freshmen housing. However, the influence of upperclassmen on freshmen will be much less than it currently is. The mentoring and support that upperclassmen provide will also be much weaker. Although there will be designated mentors in Bechtel, currently much of the mentoring provided by upperclassmen is informal.

- **Lack of housing choices for upperclassmen:** If Bechtel is made into an all-freshman house, then the bulk of upperclassmen will have to live in one of the current 8 Houses (a small number of rooms will be available to upperclassmen in Marks, Braun, and Bechtel). A sizable number of upperclassmen do not wish to live in a House, and an all-freshman house will leave these upperclassmen with few other options.
5 Known Unknowns

This section discusses some of the details of all-freshman housing that will need to be worked out. This section attempts to raise the questions that will need to be answered, and suggests possible solutions.

5.1 Rotation

Under all-freshman housing, rotation will be need to be changed. Students will still need to be sorted into a house in time for the housing lottery in May. There are several possible ways this can be done:

1. Students go through an abbreviated rotation at the start of the year and are granted a social membership. These members can later evolve into a full membership.

2. Rotation takes place as it does now, but shifted into second term.

3. Rotation is spread over several months and each house puts on an event. The events are spaced so that one occurs roughly each week.

4. Students pick into whichever house they like and they become members after they move in.

5.2 Excess Freshmen

Depending on how many upperclassmen live with freshman, roughly 15% of the freshmen class will not live in Bechtel. They will most likely be housed in Avery. Several questions that will need to be resolved include:

- Which students live in Avery.
- Which rooms in Avery will be given to freshmen.
- How the upperclassmen and freshmen in Avery will be “separated”
- Explaining to the community why Avery is permitted to have freshman.
- How the freshman in Avery will be integrated with the rest of their class.
5.3 Safety Net and Peer Advocates

The number of peer advocates, health advocates, and other undefined roles living in Bechtel will need to be determined. If new roles such as tutors or undergrad RAs are implemented, these programs will also need to be developed.

As an example, the current ratio of students to UCCs in living Ruddock is 15:1. Maintaining a similar ratio implies about 15 peer advocates living in Bechtel. However, there will likely need to be more than 15 peer advocates to maintain the same degree of coverage since much of the mentoring and support responsibilities currently fall on upperclassmen who do hold titles. A ratio of 10:1 may be more advantageous.

Another challenge will be persuading enough peer advocates to live in Bechtel. It is an open question as to whether upperclassmen will want to live in Bechtel with mostly freshmen.

5.4 Programming

Freshman housing at other schools includes additional programming to create a comprehensive freshman experience. Placing freshmen into the same building by itself does not create a freshman experience. Some of these programs may include

- Integration with freshman seminars.
- Dedicated tutoring programs.
- New support networks made up of upperclassmen in some undefined roles (such as undergraduate resident associates).
- Faculty in residence events.
- Seminars on mental health, college life, and self care.

It is worth emphasizing that successful all-freshman experiences at other schools depend on having dedicated and targeted programming. Many of these programs do not yet exist at Caltech, or are otherwise untested.
6 Conclusion

Of all the housing schemes, all-freshmen housing provides the greatest opportunity for reforming the House System. It offers the potential to make sweeping changes and address the challenges associated with the existing system, particularly Rotation. *If implemented correctly*, all-freshmen housing comes with several beneficial properties, such as creating a unified freshman experience.

However, all-freshmen housing is also the riskiest, most disruptive, and most challenging housing scheme to implement. Successful all-freshmen housing will depend on a web of support networks and programs, most of which are untested or nonexistent. The size and capacity of Bechtel is also incongruous with all-freshmen housing. Separating a subset of the freshmen class may negate some of the advantages of all-freshmen housing. Using Bechtel as an all-freshman house demands having a comprehensive program in place by the fall of 2018. The compressed timeline would prevent Bechtel from providing the potential benefits that this report has found. Furthermore, if the decision is made to make Bechtel an all-freshmen house, the decision must be communicated to the incoming class of 2022 well before they can begin to commit.

All-freshmen housing may be seen as a tempting option unless the fundamental flaws of Rotation are corrected. The current House System and Rotation has a plethora of flaws and weaknesses that must be addressed. It is beyond the scope of the committee to present solutions to the House System’s challenges. Regardless of how Bechtel is filled, Rotation should be thoroughly examined and decisively revised.
7 Appendix A - RA questions

1. What are beneficial aspects of different years living in the same house that you’ve seen?

2. What are some negative aspects of different years living in the same house that you’ve seen?

3. What do you think are advantages and disadvantages of all-freshmen housing, specifically for Caltech?

4. Where did you live as a freshman in undergrad? (university + housing style)
   - Did you have a choice of housing?
   - Did you feel adequately supported during your freshman year?
   - Do you feel that more or less upperclassmen interaction would have benefited you?

5. What is your view of rotation? What are some downsides you see?

6. What were your main sources of academic/social/mental health support as a freshman?

7. What was your main source of upperclassmen interaction when you were a freshman?

8. If all-freshman housing,
   - How many people matriculated with you?
   - How many people were in your dorm?

9. Have you ever lived in the following types of housing?
   - All-freshman dorm
   - Upperclassmen dorm
   - Other grade-specific dorm
   - Mixed-class dorm
   - Communal housing
   - Apartment
   - Shared house
   - Greek housing
   - Other?

10. How integral was your housing as a freshman or otherwise to your experience with...
    - Friends?
• Academics?
• Extracurriculars?
• Your choice of major?
• General support network?

11. Is there anything else you’d like to add?
12. Is there anyone else you think we should talk to?

8 Appendix B - IHC Questions

1. What are the advantages to have freshmen in the house systems?
2. Disadvantages?
3. Advantages and disadvantages of freshmen going through rotation as freshman instead of as sophomores?
4. What was your experience like as a freshman going through rotation?
5. What was your experience like as a freshman in the house system?
6. How do you think that would have been different without upperclassmen in both cases?
7. Did you decide to pick up multiple house memberships? Why or why not?
8. Having run rotation as a member of the IHC, what do you see as the advantages and disadvantages?
9. What aspects of rotation are important to keep? Which aspects can or should be changed?
10. Anything else you’d like to add?
Appendix C - Bechtel Residency Survey Questions

Students were asked the following questions:

1. Demographic info (house affiliation, year).
2. Do you feel you had enough information after Rotation to rank your house preferences?
3. Do you think that you got an accurate representation (personality and character) of the houses during Rotation?
4. Rank how much you interact with students outside of your year through each of the following:
   (a) Campus wide events
   (b) Classes
   (c) Campus wide clubs
   (d) Houses/house events
   (e) Athletics
5. Consider your choice of major. How useful of a source of information were upperclassmen?
6. Select the houses for which you consistently interact with several members of that house.
7. How did the House System influence your decision to come to Caltech?
Abstract

In the spring of 2017, six focus groups were formed to research different ways of populating Bechtel. Each focus group had a unique topic: themed housing, all-freshmen housing, sophomore-priority housing, house affiliated colonies, new houses, and unaffiliated housing. These groups conducted interviews with staff and faculty, surveyed the Caltech undergraduate population, visited other schools with pertinent residual life models, and read relevant literature. Together, the groups came up with a list of core Caltech values that an ideal residential life system would encourage and framed their investigation in context of these values. They also discussed common issues with the current residential life system, the viability of each of their options in the Caltech community, and possible residential life system implementations. This document proposes one of these implementations, the Polaris Plan, a three part program for Bechtel residential life. The Polaris Plan would be a viable system to implement in the coming fall, and would provide a test bed for several different ways of populating Bechtel. The paper details how such an option would fit into the Caltech community, some of the mechanics behind its implementation, and an outlook on the future of Caltech's residential life system.
I. Bechtel Overview

The Bechtel Residence is scheduled to be opened in the fall of 2018. It will have 212 student beds organized into four, six, eight, and twelve bedroom suites along with several singles. The building will have seven apartments for resident associates (RA) and two faculty in residence (FIR) apartments. There will be three kitchens and a dining hall, and all students will be on a Caltech-affiliated board plan. Other amenities include three laundry rooms and nine common lounges/study rooms. The current plan is for Bechtel to have six peer advocates in the first year. As of December of 2017, there are no finalized plans for who will live in Bechtel.

Figure 1: The first level of Bechtel. Other levels of Bechtel are included in Appendix 1.

The Committee On Undergraduate Caltech Housing (COUCH) was formed to represent the undergraduate side of the discussion for who should live in Bechtel. The COUCH is a student group composed of the ten members of the Interhouse Committee (IHC) and six additional student leaders. Throughout the summer and fall of 2017, the COUCH explored several different concepts for structuring the residential system in Bechtel and how these proposals would fit into the bigger picture of residential life at Caltech.

II. Caltech Core Values

As part of the discussion on Bechtel, the COUCH developed a set of core values of residential life. These values are ideals that a successful residential life model should foster, and are presented below:

1. Intellectual growth - supporting learning and intellectual development
2. Mentorship - learning and receiving guidance from other students, both academically and non-academically
3. Diversity - exposing students to peers from different backgrounds and experiences
4. Identity - developing an independent identity and sense of self
5. Support - fostering a community that cares for students and where students care for each other
6. Honor Code - upholding the spirit of the Caltech Honor Code
7. Choice - having options for where to live in order to suit different wants and needs

The Bechtel proposals will be considered in the context of these seven core values, and each principal is elaborated in detail in Appendix 2. In order to meet these ideals, the COUCH developed the Polaris Plan, a proposal that describes how Bechtel will fit into Caltech residential life.

III. Current Caltech Community Issues

Throughout their research, the focus groups came across several recurring issues faced by the student body with regards to residential life. Ideally, whatever system is implemented in Bechtel would help relieve those issues.

Choice
Currently, there are only a few options with regards to residential living for Caltech students. They can live either on or off campus, and they can live as either unaffiliated or affiliated with a house. The on-campus options in particular are very limited, with Marks-Braun being the only choice for students choosing life outside of a house. Next year, with the removal of the Chester, Del Mar, and off-campus alley (OCA) residences, students will be left with even fewer choices. A good residential life model is one where students have many choices in their environment, and opening up more options for students in Bechtel will fix some of these issues.

Isolation
A limitation of the current residential life system is that it can be challenging for students to form connections outside of their house. The director of Caltech’s health and counseling center, Jennifer Howes, also identified this limitation to be one of the main difficulties with the residential system. Ideally, Bechtel would offer new opportunities for Caltech students to connect with their peers.

Freshman Experience
Under the current system, there can be pressure for freshmen to choose a house, regardless of whether they wanted to take part in the system. Although there is an option for freshmen to opt-out of the House system, the high social cost of opting out can make this choice unattractive. There are also concerns that the house environments are not beneficial for all freshmen. By restructuring the housing system through Bechtel, we hope to make new students feel more comfortable with where they live and ensure an adequate number of options.
IV. The Polaris Plan

The Polaris Plan seeks to enrich residential life at Caltech and uphold our core values by blending multiple housing models into one single residential community. The plan accounts for all Caltech-owned undergraduate housing (starting fall 2018) and assigns rooms in three stages: themed suites, suites chosen as a block, and individual rooms chosen in Bechtel, Marks, and Braun.

Themed Housing

Themed Housing Overview

We view themed housing as a two pronged system. Traditionally, themed housing is a type of living-learning community where students are given the opportunity to pursue interests in their residential life, such as art, music, language, and more. We have expanded this definition to include an additional prong: needs-based housing, such as quiet housing and substance free housing. Needs-based housing will not have a cap in order to ensure all students can feel comfortable in their housing environments.

To ensure the quality of themes and provide a good testbed for the option, we believe only a fraction of Bechtel should be themed housing. Based on interest gathered from survey data, 10-20% of Bechtel could be a good starting point for themed housing (Bechtel Occupancy Survey II, 2017). Depending on future demand, this percentage should be allowed to grow or shrink naturally. According to survey results, the most popular themed housing options are make your own theme (50% of respondents were interested), quiet housing, and food co-op. Graphs are included both below in this section, as well as in Appendix 3.

Food co-op themed housing would consist of students working together to plan out and cook meals. At Caltech, students in a food co-op would be “on board” and live in Bechtel, but be provided with ingredients to cook their own meals in Avery kitchen (which is in the process of being converted into a teaching kitchen). This idea has been discussed with Jon Webster, Director of Dining Services, as a viable extension of the board plan. In surveys sent out, there has been widespread interest for this type of housing and indications that it would be a popular option.
We envision that students would apply for make-your-own themed housing or needs-based housing at the beginning of second term, but this timeline would be adjusted for the first year. Students in make your own themed housing would apply, with a group of other students, in the form of a detailed plan explaining their theme, how they will uphold it, and the name of a faculty mentor. Such an application would be similar to the current club creation process. In studies, themed housing has been shown to have a significant benefit to students, but “lack of faculty and residential staff planning and accountability can significantly reduce the benefits” of themed housing (Frazier & Eighmy). Creating a formal process for the themed housing process will ensure students in this type of housing get the maximum benefits. We
also envision a forum where students could post about their theme ideas and have others from different residences express their interest and potentially join. This could be run on Donut, the ASCIT website. Housing would evaluate theme ideas as well as the needs-based applications before the normal suite filing process in order to determine the number of and which suites will be open.

For needs-based housing, there would be a brief application where students explain their needs. The Housing Office will also be able to evaluate these requests. If a needs-based suite does not fill, the theme would be canceled and students with demonstrated needs would be given alternative housing, potentially a single in Bechtel or Marks-Braun.

The food co-op would work in a similar manner to needs-based housing. However, the theme would be capped to one suite (most likely the 12 person suite due to perceived interest). Students would individually apply to the housing office to live in this theme. The housing office will either accept or reject their applications. We assume that due to the suite structure and perceived interest, there is a good chance that the theme will overfill, indicating that there will need to be a screening process.

Make-your-own themed housing would be open to sophomores, juniors, and seniors. Survey results show that the first two groups would be more interested, though there is still interest in the latter group. Including freshman within make-your-own themed housing seems difficult considering the current room picks process. Also, allowing freshmen to pick into small groups might limit their social interactions and integration. Needs-based housing may be a more viable option for freshman with need.

**Themed Housing Benefits**

Themed housing can have many benefits to the Caltech community. In our evaluations, we have noticed in the current system, there are only a few choices for current students regarding their residence: whether to live on or off campus and whether to be affiliated with a house. Themed housing would allow for a new type of housing, creating more options and flexibility for students, which can lead to more diversity and independence within the student body. It would also allow for students to be in housing that caters to their needs, which creates a supportive community of others who are in similar situations. Make-your-own themed housing creates a space where students can seriously focus on passions without feeling pressure to live in a certain house. The food co-op system can also potentially address limitations of the current board plan.

**Themed Housing Challenges**

There are a few challenges we see. For students in make-your-own themed housing, there is a chance that they may be isolated from the community. However, we think that having presentations and demonstrations put on by each theme open to the entire campus community would allow for cross-community interactions. Also, there is a worry that students will game the system to secure a spot early in Bechtel without following through on the theme. However, a careful screening process by the Housing Office along with the requirement for a faculty mentor would hopefully prevent this problem.
Suites

Suite-Style Living Overview
In the second stage of the Bechtel filling process, student groups will submit applications for a particularly sized suite. The order of suite selection could be determined through random lottery. Bechtel has (16) eight-membered suites, (2) twelve-membered suites, (4) six-membered suites, (5) four-membered suites, and (16) detached singles. We propose that about 70-80% of the suites be filled in this manner. This process is most similar to the general off-campus lottery and helps to support the loss of all Caltech-owned off-campus housing.

Suite-Style Living Benefits
Suite-style living provides a number of benefits that are desired by Caltech’s sophomores, juniors, and seniors. Suite style living offers students a higher degree of privacy and control over their interactions. This privacy can be useful if students want to be away from noise or other disturbances, a concern for some students living in unaffiliated housing. Suites have been shown to provide more independent living for upperclassmen: “apartment style residences, with individual private spaces, allow upperclassmen to feel independent while still living on campus to help mentor freshmen and sophomores” (Rutledge, 2012). Additionally, we expect that the members of the suite may form close friendships, which can provide a tight-knit support network for physical and emotional health encompassing a range of college majors, interests and houses.

Suite-style Living Challenges
This style of living also presents important challenges that must be overcome. Several studies have shown that one of the primary challenges of suite-style living has been to find “means to avoid social isolation due to the physical segregation of suite-style halls” (McCluskey-Titus). This concern is confirmed by students who feel “awkward walking into someone else’s suite” (Brandon et al.). Bechtel should have building-wide events to prevent students from only interacting with their suitemates. The architectural design also poses a challenge for counseling because it takes “more time and effort to discover students who may need help in suite-style or apartment style residence halls where there is a higher degree of privacy” (Fulcher et al.). Suite-style living will limit interactions between students, but could be particularly damaging to freshmen residents. As research shows,“... if housing professionals want to place first year students in an environment where the possibility for interaction is the highest, then regulations that limit housing options for first year students to traditional residence hall environments might be advisable” (Brandon et al.). Since freshman year is an important transitional period in which students must quickly acclimate to difficult coursework, receive mentorship, and build a strong social and support networks, these challenges will have a particularly damaging effect on freshmen.

Singles

Singles Overview
The Bechtel rooms available to pick into as singles would be the rooms that are not chosen during the themed housing and group suite phases. Specifically, these rooms are one of the 16 detached singles or rooms within the suites that are empty following the first two stages. After the themed housing and group
suites are filled, the Bechtel singles would be filled at the same stage as Marks-Braun as an extension of the off-campus lottery.

A Bechtel single would be a valuable option for the student who wishes to live on campus outside of the houses, wants a single, but does not want to form a suite group during the second stage. Though Caltech currently offers singles in Marks-Braun, a Bechtel single would provide a greater sense of community for those who may feel isolated from the safety net, e.g., students with smaller friend groups, students who have been on leave of absence, or students who want to meet new people as part of their residential experience. Being part of Bechtel would allow them to create diverse connections with people they might not meet in their classes and house, especially if they choose to pick into a room within a suite.

**Singles Benefits**

As mentioned in previous sections, there are a multitude of benefits associated with suite living. By offering singles within suites in Bechtel, we hope to provide choices and benefits to students who may not initially move into Bechtel with a group of friends, but would like to try suite living and are interested in meeting new people. Additionally, this provides more opportunity for students who would like to live on campus in a single room.

**Singles Challenges**

The main challenges with singles echo the challenges covered in the suite-style living section. The separated style of the suites can lead to self-isolating behaviors, which may be even more marked among those picking into a single (especially if they pick into a single within a suite of unfamiliar peers).

**Special Case Housing**

In order to accommodate students who require a specific living arrangement, a subset of rooms and suites in Bechtel and/or Marks-Braun will be reserved for them. The individual singles in Bechtel (those outside of suites) are good candidates for rooms that should be reserved. These students include those who require disability accommodations or other circumstances deemed fit by the deans.

**Optional Freshmen Residence**

A subset of rooms in either Bechtel and/or Marks-Braun would also be reserved for freshmen who have decided to seek out a different experience separate from Rotation and the House system. In order to enrich the experience of those freshmen during their first year at Caltech, they would live in close proximity to each other as well as to an RA apartment. Specially-trained PAs could reside with the freshman students in the program, and help with any events or programming that take place. It should be noted that Marks-Braun is preferred for this option because it will have a PA and RA system to give the freshmen a stronger support network.
Students would be able to request placement in the optional freshman residence before, during, or after Rotation. It is suggested that information about the optional freshman residence be made available through the Deans’ office or the IHC leading up to Rotation and at the end of Rotation before students submit their House rankings. It is important to note that it will be difficult to accurately determine the number of freshmen who will choose the optional freshman experience. The number of freshmen who have chosen to reside outside the House system has been around a handful each year. The benefit of the Polaris Plan’s flexibility is that this program could be implemented in various locations depending on the number of beds required.

V. Logistics

Pragmatically, a residency model for Bechtel should take the form of a well defined procedure and set of policies for filling and maintaining the residence. To this end, the COUCH proposes the following logistical timeline for filling Bechtel each year:

1. Application for Themed Housing released (February)
   1.1. Application and selection process must take place before House-by-House room-pick proceedings occur. This is to ensure unsuccessful theme bids do not negatively impact the other residence options available to students making said bid.
   1.2. The applications are assessed by the Housing Office, in consultation with students and other groups.
2. Themed Housing Suites are formed (March)
   2.1. Initial target population in non-needs-based themes should be ~10-15% of the total Bechtel population at maximum (~20-30 students). This is to ensure the quality of the themes and provide a good testbed for the option in early years. Depending on future demand, this percentage should be allowed to grow or shrink naturally.
   2.2. A successful bid must be binding. i.e a student cannot back out of a theme-group under normal circumstances, otherwise a theme may significantly underfill if students are later able to get more personally desirable picks elsewhere.
   2.3. We recommend that any quiet/substance free themes which arise or are created be placed on the 3rd floor. We anticipate that this will minimize conflict with other suites which are not compatible with these themes, and aligns with the selection of special-case singles, which we anticipate will also potentially desire quiet/substance free living.
3. House Room-Picks Proceed as usual. (April)
   3.1. “Off-Campus”-like lottery numbers are assigned just prior to this, as they are currently.
4. Suite Housing Picks take place (Early May)
   4.1. Groups of students place “bids” for a suite of a given size with a pick number which is randomly assigned among the bids.
   4.2. Bids accepted in order of pick number proceeding in suite size from small to large (e.g. the 4-member suites are filled first, 6-member next, etc…). A successful bid must be binding, but students may participate in multiple bids and “fall-back” on larger suite bids if their smaller suite picks are not successful.
4.3. 12-member and 8-member suites should be allowed to underfill (i.e. submit a bid with a smaller number of members than the suite has beds), but 6-member and 4-member should not unless there are not enough small-suite applications to fill the smaller suites with complete groups.

5. Single Housing Picks take place (Mid May)
5.1. After suite housing picks are completed, students may pick into singles not reserved for special cases. Picks are determined by off-campus lottery number.

VI. Safety Net

In considering the overarching mental health and safety net of the future Bechtel Residence, there are a few things we believe important to preserve from the current system. Currently, some of the benefits of the safety net system include the beneficial and reliable coverage of students by the RAs, Upperclassman Counselors (UCCs), and many other resources, as well as the strong development of unofficial peer support networks. Each house has a Counseling Center liaison, RAs, and their own set of UCCs. Current off-campus housing, such as the Chesters and Marks-Braun, also have RAs and UCCs. Starting in 2018, the UCC system will be replaced with the Peer Advocate (PA) system, which seeks to provide similar coverage and support from trained peer resources. At the moment, the plan is for each house to have roughly four PAs trained per year, with some number of PAs designated for Bechtel and Marks-Braun. We would like to utilize many of these resources for the future Bechtel Residence in order to create and build up a strong support network.

As part of our research, we considered how the safety net would function in each residential model. It is important for the Bechtel PAs to be conscious of the unique needs that the residence will have. Certain concerns arise with incorporating PAs in all-freshman housing. For example, all-freshman housing would preferably have PAs as a larger presence than those in the houses. PAs who have specialized training would be beneficial in building an overall program to help freshman adjust to life at Caltech. Since the PA program is just starting, it won't be feasible to implement a strong specialized PA presence before 2018. One benefit of the Polaris Plan is the flexibility with which the safety net can be incorporated within the Residence, which can help us solve many of these issues.

The Bechtel Residence’s format will create unique challenges for mental health support. Notably, the large size will pose a challenge in how to best support students who might be less assertive about seeking help; it is imperative that a solid and accessible support network be established so that struggling students do not fall through the cracks. Another concern is the suite-style living. The additional door of the suite provides a literal and metaphorical barrier between the residents and any resources living outside the suite, which might limit familiarity with resources. Furthermore, a PA or Health Advocate living in a suite would be difficult for other students to access.

We propose a number of actions to help promote an accessible support network. First, social events at both the residence-wide scale and smaller (a floor or even a few suites) coordinated by RAs, PAs, and/or FIRs can help students become familiar with these resources. One potential solution to the issue of PAs
being inaccessible to others outside their suite is to ensure that some of them live in the detached singles in Bechtel. Additionally, we recommend that the Bechtel Residence has a counselling center liaison(s) like the houses do, and that this individual works closely with the RAs and PAs in the building to create helpful programs and strategies for supporting Bechtel.

VIII. Details to Consider

In addition to the safety net and student leadership in Bechtel, there are other mechanics that will have to be worked out if it is implemented.

**Board**
Based on surveys sent to the student body, many students are adverse to living in Bechtel if they are required to enroll in the current board plan (survey data in Appendix 3). Given how much space is in Bechtel, it is unclear if it will be able to fill, especially if all students must be on board.

**Programming**
Campus resources such as the counseling center, diversity center, and Title IX office currently offer some of their programming through regular presentations and visits at each of the eight houses. It is important that these programs will also be available to students in Bechtel, home to students both affiliated and unaffiliated with a house.

**Stewardship and Student Government**
Prior to Bechtel’s opening, a committee of students, in consultation with administrators, should decide what Bechtel’s student government will look like. Bechtel should have a Stewardship Committee with representation on the campus wide StewComm to manage the building and ensure it is well kept. Additional representatives that we suggest could be a part of Bechtel include Health Advocates, Board of Control (BOC) Representatives, Conduct Review Committee (CRC) Representatives, Food Committee Representatives, Academics and Research Committee (ARC) Representatives and IMSS Representatives. We believe that all of these positions will be invaluable to the Bechtel community and help to improve the general quality of life. The exact shape of Bechtel’s student government should be decided by a follow-up committee of students and staff.
IX. Extended Future of Bechtel

In an ideal experiment, we would be able to test out every possible residential life option Caltech over the course of several years, and see which one produces the happiest and healthiest community. This is unrealistic in implementation, largely because of the small and variable size of the Caltech community. We believe that the Polaris Plan is a good option for the upcoming year because it enables us to test three styles of picking into rooms, is flexible in its exact proportions and structure and is relatively easy to transition to. Additionally, the Polaris Plan introduces more choice for students in their on campus housing options. This plan would also allow, in multiple ways, for students to make new connections to peers that they might not necessarily encounter in the current housing system.

Regardless of how Bechtel is structured in 2018, the residence should be reevaluated and its performance assessed in the coming years. Before implementation in 2018, a committee of administrators, staff, and students should decide on a several indicators of success that they hope to see in several years. If appropriate, a “baseline” measurement of these indicators should be taken before Bechtel opens and compared to future results.

This student, staff, and administrator committee should also re-evaluate residential life models that were infeasible due to time constraints. In regards to all-freshman housing, this committee could analyze if it should be implemented over a longer time scale and/or if freshman-specific programming should be incorporated into the current residential life model.

A. One Year Vision

The first year of the Polaris Plan will be useful in seeing the interest and success of several different options. With regards to themed housing, there will be a better idea of the interest in themed housing after the theme application process completes. Within a year of implementation, themed housing can be evaluated to see which themes were successful in engaging their students and what kind of framework and mentorship was best for their development. New challenges and benefits will also be made clear for non-themed suite style living and singles. Concerns about the possible isolation with living in suites and singles is something that should be examined. The interest and success of needs-based housing will also be evaluated. The first year will give some picture of the interest in the optional freshman experience. The first year will also give us an idea of the viability of filling Bechtel, especially given the current board plan. If it does not fill, it may be necessary to revisit talks on adjusting the student board plan.
B. Five Year Vision

Within five years of the Polaris Plan being implemented, the three part system will have become more established. With regards to themed housing, within five years it should be easier to evaluate which themes thrive in Bechtel. Some of the themes may last for more than a year and develop their own traditions and events. Within five years, a better understanding of the interest and success of needs-based housing in Bechtel, as well as suite style and singles living, will also develop. At this point, a much better idea will also have been gained of the interest in and the success of the optional freshman experience. As the freshman experience program matures, we will be able to see if interest in it grows, and how the experience of freshman inside the program compares to those of their peers.

This five year timeline most importantly gives time for safety net frameworks to grow and settle into place. During the first five years of Bechtel’s introduction to the Caltech community, the PA program will be much better established, and more than the currently proposed six PAs will hopefully be assigned to Bechtel. Within that time the RA, RLC, and faculty residents will have been more firmly established in Bechtel. Additionally, the frameworks for programming (by the counseling center, diversity center, and others) within Bechtel will have been established.

In this time, if the safety net framework and programs seem viable, the foundation for other options (such as an all-freshman house) can be explored.

C. Ten Year Vision

Within ten years of the Polaris Plan being implemented, it should be evident whether or not the mixed system of themed housing, suite-style living, and singles is successful, and the mechanics of the system will have been worked out. The success of the freshman experience will also measure whether or not it is viable to have an all freshman house.

Programs with both freshman seminars and on-campus residences have been shown to have a positive effect on students and correspond to decreased dropout rates (Fidler and Moore). During our discussions with Dr. Jennifer Howes, director of the Caltech Counseling Center, an all freshman house would demand a more cohesive first year experience and would make it easier to craft programming for the freshman class. These citations can be found in the attached All-Freshman Housing Focus group report, as well as briefly in Appendix 4. An all-freshman house could be beneficial to Caltech students, if it came along with structured programming and changes in the safety net to accommodate a house of all freshmen. In the past few years, different small scale programs for freshmen have been attempted (freshman dinners and events), but they have not been sustained. Within ten years of the Bechtel Residence being introduced to the Caltech community, if sufficient groundwork for the programs needed to sustain an all-freshman house was made, and the optional freshman experience was successful enough, a transition to an all-freshman house could be possible.
X. Conclusion

We conclude that a system similar to the Polaris plan would address current challenges in the Caltech community, while also being a reasonable option given the fast-approaching transition. We have outlined the details of its implementation, the challenges and benefits it would bring, as well as some of the details to consider. We have also offered a one-, five-, and ten-year vision of how the Polaris Plan could grow. We believe that the Polaris Plan is a good option for the upcoming year and that its implementation could herald an exciting period of new choices for the Caltech student body.
References


Appendices

Appendix 1: Bechtel Layout
Appendix 2: Caltech Core Values Expanded

The following is taken from a Tech Article published in the Fall of 2017, detailing the core values. Since then, we have also added an explanation for the value Intellectual Growth.

Intellectual Growth
Caltech is a learning community first, and this includes learning from both inside and outside of the classroom. An ideal residential life system is one that supports diversity of thought, provides a safe space for conversation, and includes resources for furthering academic and personal excellence. Intellectual growth can be tied into almost every one of the other core values (especially mentorship and diversity), but is important enough to constitute its own value.

Mentorship
Caltech places unique value on the direct and individual mentorship of students. This characteristic is so prominent that it is embodied in the Caltech seal: the image of “passing the torch” to the next generation. While this symbolizes the formal education provided by faculty, it also represents the informal social and academic mentorship provided by peers and upperclassmen.

Among the other forms of mentorship available, mentorship by upperclassmen is varied and individual. This mentorship is not only useful when working on particularly difficult problem sets, but also can help students choose a major, navigate scheduling, and adapt to the new challenges of being a college student. Respect for the Honor Code and lifelong friendships can also come out of mentorship. Many upperclassmen have gone through the same classes and difficulties that underclassmen encounter, which establishes an organic support network that is immediately available to new students. The experiences of multiple generations of Caltech students should continue to be incorporated into the student experience to promote academic excellence and social development.

Support
A supportive community is one where all members--students, RAs, and anyone else in the community--encourage and help one another. It is a living situation where students feel like other people care about them, and where students are more likely to care for others. It is also a safe space where students can achieve success, and also find support to grow from their failures.

Community support can develop organically or through structured programs. RAs, peer advocates, and the services offered by the Counseling Center are all examples of formal programs. These systems can provide critical help from trained professionals dedicated to their jobs. A supportive network can also develop naturally: not everyone has, or needs to have, a title or a position. A close-knit residential system encourages individuals to look after each other, not out of obligation but from genuine empathy. A strong community should combine both types of support, both by being conducive to programming and by encouraging and enabling students to care for their peers.
Choice
Students should be able to choose a living environment that suits their needs, whether it be a quiet hallway, separation between academics and social life, or close friends next door. Since students have their own unique preferences and lifestyles, it is important to offer a variety of living options to choose from. A comfortable space provides the foundation for a productive, enjoyable time at Caltech.

With great choice comes great responsibility. A sense of independence is grown out of the trust extended by administration to the students, with the underlying expectation that students will be able to handle the responsibilities that accompany their decisions. Through shared governance, students can cultivate a student-driven system of decision-making and grow with the guidance of peers and support networks in the community.

Diversity
Student life and culture at Caltech should support a broad range of interests, hobbies, passions, and subcultures. Students diversify themselves into houses and across them, providing a rich and varied culture to all of campus. This variety in interests enables students to simultaneously find niches and challenge themselves, and it is core to the Caltech experience. Beyond the variety of academics available here, the wealth of interests in the student body is evident in day-to-day life through the events, projects, traditions, clubs, and conversations that form the non-academic portion of student life (that isn’t sleep).

The residential life system at Caltech should stay focused on enabling students to pursue their interests and seek out new and/or like-minded communities that cultivate their ideas and stem from their ambitions.

Identity
When students come to Caltech, they arrive with a unique set of perspectives, including their academic interests, gender identity, hobbies, and beliefs. From these experiences, each student’s personal identity takes root.

Where we live can contribute greatly to the development of identity, so it is essential that the residential life system promotes the respect and freedom people need to express themselves and grow as an individual. Access to programming that introduces students to new topics of interest is one way to ensure students can develop their identity, but collective identity grows through the everyday interactions between friends, peers, RAs, professors, and staff. The Bechtel residential model should foster the connections and support students need.

Honor Code
Through the Honor Code, the Caltech community strives to produce scientists and engineers with an education that goes beyond pure scholarship; Caltech students are given the opportunity to learn and grow in an environment that emphasizes integrity, honesty, and cooperation, three qualities that are integral to the larger scientific community. With students from a variety of backgrounds, each at a different place in
their personal development, the community’s dedication to upholding the Honor Code ensures that all Caltech scholars are given the chance to embrace these principles in their own life.

By exhibiting a commitment to integrity and fairness, the students, faculty, and staff of the Institute set an example for each new generation of Techers, passing these values onto others year after year. The Caltech undergraduate residential experience provides a crucial opportunity for students to learn from one another, ensuring that these values remain a central part of our community culture.
Appendix 3: Relevant Survey Data

Interest in Themed housing

The above graph was taken from a survey with 278 respondents, who were asked to check off the options they were interested in.
Interest in Make-Your-Own Themed Housing

The above graph was taken from a survey with 278 respondents, who were asked to choose one of the options regarding their interest in make-your-own themed housing.

Reasons for Living Off Campus

The above graph shows the motivations for students living off campus, grouped by year. It is evident that Board related reasons are a heavy factor.
Appendix 4: Literature Citations for Vision Plans

From the All-Freshman Housing Focus Group Final Report (further citations relevant to their work are included in their attached report):

**A Comparison of Effects of Campus Residence and Freshman Seminar Attendance on Freshman**

In 1996, Paul Fidler and Phillip Moore examined the effects of freshman seminars and living on-campus on freshmen dropout rates. Using drop rates from the University of South Carolina from 1986 to 1993, they found that both freshman seminars and living on-campus had a positive effect on students. Freshmen that lived on campus and attended the seminars had the lowest dropout rate of 14.4%. The study found that 7.3% of dropouts could be attributed to not living on-campus, while 4.1% could be attributed to failing to attend the freshmen seminars. Fidler and Moore concluded that both freshmen seminars and living on-campus individually benefit freshmen and decrease dropout rates.
Themed Housing Group Report
Sarah Crucilla

Abstract

In the United States, several top colleges offer themed housing in the form of “li to undergraduates. This model of housing offers a living-learning community surrounding a certain topic to students. Themes can enrich a student’s social, cultural, and/or academic university experience. In this report, we examine the structure and content of themed housing, specifically within the context of the Bechtel residence. We have concluded that themed housing is a viable option for Caltech, especially if we expand the definition to include needs-based housing, such as quiet housing or substance free housing.

Introduction

Themed housing. Themed housing, also known as “living-learning communities,” consists of a group of students with similar interests living together. Some common themes at other universities include food co-ops, LGBTQIA+ housing, language housing, ethnicity housing, service- or environmentally-themed housing, and academically focused housing. Specifically at Caltech, we have seen a demand for a different type of housing, needs-based housing. Approximately 31.1% of Caltech students are interested in substance free housing and 34.4% are interested in quiet housing (Bechtel Occupancy Survey II, 2017). We think expanding the definition of themed housing to include these students will make this type of housing more inclusive.

Unlike most larger-scale dorms at other schools, themed housing communities seem to be relatively small and specific. We have found, on average, there are roughly 43 students living in themed housing for every 1000 students. That being said, there are some successful small schools that have a higher rate of students in themed housing. Reed College, which has 1400 undergraduates, has 122 students in themed housing. Stanford has nearly one-fifth of students in some sort of themed house.

Ultimately, themed housing plays a crucial role for those students who would like a themed living situation or more cohesive dorm, but are not interested in Greek life. These communities vary in size and intensity. We will examine most of the common options in our report.

Caltech. The Bechtel residence will be opening in the fall of 2018, and we need to decide who will live in it. One of our main goals is to use the addition of a new on-campus residence to help solve some of the current problems with the housing system as well as maintain the core values all students love about Caltech.

To many students, the cost of Board is a hindrance to living on campus (Bechtel Occupancy Survey, 2017). If we alter the way board works, we might make campus a more desirable option for students on campus. Also, cross-house interaction is not as high as it could be; there are some houses with no interactions (Bechtel Survey, 2017). We would like Bechtel
to help create a new social atmosphere where we can increase the ability for students to interact with a more diverse group of people.

We also have a set of core values we determined integral to the current Caltech housing system:

1. Intellectual growth - supporting learning and intellectual development
2. Mentorship - learning and receiving guidance from other students, both academically and non-academically
3. Diversity - exposing students to peers from different backgrounds and experiences
4. Identity - developing an independent identity and sense of self
5. Support - fostering a community that cares for students and where students care for each other
6. Honor Code - upholding the spirit of the Caltech Honor Code
7. Choice - having options for where to live in order to suit different wants and needs

Our goal is to make sure Bechtel continues to uphold and add to these values.

Data/Results

**Types of themes.** We examined several different types of themed housing at peer institutions by talking to students, administrators, and visiting various campuses. We prioritized schools of similar size, caliper, student demographics, or location. One of the main things we looked at was the individual options at each school as well as their success.

One popular model is the food co-op, which often revolves around specific culinary tastes. In a food co-op, residents share chores like cleaning, taking out the trash, cooking, and doing the dishes. Some co-ops are vegetarian- or vegan-friendly, others are more organically focused, and others focus on mindfulness, sustainability, or other food-related themes. At Stanford, one of the schools that has a successful program, these communities range in size from 30-60 people. They have around seven residences participating in this program, which comes out to 3-6% of the student population.

At Caltech, the price and quality of board is a major factor in one’s decision to live off campus. In 2017, 13% of students said it was the biggest reason they lived off campus and 33% said it was a contributing factor (Bechtel Occupancy Survey, 2017). Therefore, we think a food-based themed suite would likely be a good option for future Caltech housing.

After speaking to the Director of Dining Services, Jon Webster, we confirmed that this idea would be possible if done within the board system. Students could enroll in board as normal, but be provided with the ingredients they want and the cooking space they need. Since Avery’s kitchen is becoming a test kitchen, the food co-op could have a large, professional kitchen to cook in. When this idea was proposed to the student population, 34.1% of students were interested in potentially living in that type of housing (Bechtel Occupancy Survey II, 2017). 19.4% of the respondents would be more interested in living in food co-ops than the current off-campus system (Themed Housing Group Questions, 2017, showing that this type of housing could be an improvement on what we currently have to students.
Another series of options of themed housing were more interest-based. In UCLA, HSU, and the University of Alabama, among others, a popular option is fitness/wellness oriented housing. Similar to food co-ops, people in this type of housing encourages students to work together to maintain a healthy lifestyle. Students have the ability to cook healthy foods and work out together. This type of housing also organizes events such as student-lead hiking trips or canoe trips. Some other themes we saw were more academically-oriented. Many schools, such as MIT, have language houses where students can practice a certain language and be more immersed within its culture. Some have housing based around humanities disciplines or science. When we visited Occidental College, we saw that in order to ensure these themes had members, they had only a few established themes. The rest of their themed housing fell under the category of “make-your-own theme” housing. In this system, students would come up with a theme they’re interested in and apply with a group of other students. Then, the housing office would read through all of the applications and choose the best themes. During the year, students would get a bit of funding to put on programs for the campus. At the end of the year, students could decide whether they wanted to apply for the theme again.

Since two of our values are choice and diversity, we believe that the best model for interest-based themed housing would be make-your-own themed housing. These suites would allow for people from across houses to come together over common interests. We foresee a few problems with this type of housing, but we believe they can be easily solved. First, some comments we have gotten is that it is too close to the current housing system, as each of the houses have their own “personalities.” However, we think that themed housing is different. The requirement to put on events for other members of campus, the specific focus on a particular theme, and even the nature of the theme (not every interest is represented in every house) would be different than the house system. Another possible problem is ensuring students stick to a theme. However, we propose that requiring a faculty mentor (similar to the club application process, and could potentially be one of the faculty in residences) would solve this problem. Themed housing has been shown to have a significant benefit to students, but “lack of faculty and residential staff planning and accountability can significantly reduce the benefits” of themed housing (Frazier & Eighmy). When surveyed, around 50% of Caltech students were interested in this type of housing (Bechtel Occupancy Survey II).

We also saw housing centered around identity groups like ethnicity or gender identity at many schools (Amherst, UCSD, Stanford, Occidental, and more). However, instituting this option might not be the best thing for Caltech. At Occidental, a similar sized school, they had a very successful women’s house, but their queer house was unpopulated, as many queer people felt isolated living there and felt that the general campus was accepting of their orientation. When we talked to the Caltech feminist club, they felt similarly to the members of the Queer house; if we were to separate people by identity, they might feel like they do not belong in the general Caltech community. However, members of PRISM seemed interested, stating that they tend to clump together anyway, and having the option to live together for a year would be very beneficial to their community. In a campus-wide survey, only 4.9% of Caltech students think they would live in identity-based housing. Ultimately, we think that if students want identity-based housing, they should apply through the “make-your-own theme” option.

Another important topic we discussed was allowing for clubs to have suites in Bechtel. However, this option was not popular amongst clubs. As mentioned, the feminist club is against
this idea. Also, members of the Caltech Y did not want a themed house for themselves. To them, the Y’s purpose is to bring together students from different backgrounds and houses while ensuring that there is no bound on commitment: students should be able to contribute as much or as little as they would like, and the Y leadership does not want to be all from the same group of friends.

Implementation. Because of Caltech’s smaller size, we envision that each theme would be able to occupy its own suite in Bechtel, rather than the typical 40-50 person communities at other schools. From our surveys, we concluded approximately 10-20% of Bechtel should be make-your-own- theme housing and there should be an unlimited number of needs-based themed housing spots.

We think that both groups should apply to the housing office before the normal housing lottery. If their theme is selected or they are approved to live in needs-based housing, then they would receive their rooms early and those rooms/suites would be taken out of general roompicks.

In order to ensure that students follow through with their theme in make your own themed housing, they should fill out a relatively extensive application with their theme ideas along with a supportive faculty member.

Though this implementation structure, especially regarding make-your-own themed housing, may not be possible this year due to the time constraints, this process could potentially begin for the 2019-2020 school year.

Discussion

A common concern about themed housing is insularity; when people surround themselves with only people who have similar interests, it can be hard for them to branch out. However, for communities based around identity, it can ensure that students have the ability to feel safe and welcome. At Stanford, students in the latino house Casa Zapata feel a very strong sense of community, being able to participate as much or as little as the please (Stanford Cross Cultural Blog, 2008). UCSD opened up new identity-based housing in 2016. The vice chancellor of housing at the school explained it was helping to create a positive image on campus. According to him, this move will increase grades, retention rates, and graduation rates, as people (Warth, 2016). However, according to a survey completed on campus, 81.8% of students did not think that identity based housing would be effective at Caltech, citing potential divisions between students it would create. Also, some students thought it would make the other residences in the community appear less accepting.

We also want to make sure that we have diversity within the themed houses; we do not want them to become “on campus allies” of the already existing houses nor do we want them to be exclusive entities. One proposed way to solve this problem is to put some sort of distribution requirement on each house. We recommend that there are members of at least two different houses (or some unaffiliated students) in each themed house.

There are many ways a theme can be created, but we feel strongly that all themes should come from the students themselves, as this will ensure that people would actually live in the houses. We also expect some in themed housing to want the theme to last longer than a year;
they should indicate their continued interest to the Housing office when the applications for new themed housing come out.

For themed housing to work, the lottery/rotation system might have to be changed. A few options we have are to include themed houses as part of rotation, have themed housing only available to upperclassmen via application, filling themed housing in the regular unaffiliated lottery, or some mix of the three.

One option, implemented at Stanford, is to have the ability to “pre-reserve” a spot in a themed house. Basically, students would write an application to the themed house’s leadership (in Stanford’s case, the RA) if they are very interested. If accepted, this procedure reserves them a spot in the house for the coming year. The unfilled spots then become part of the general campus-wide lottery. With this system, Caltech can keep a familiar lottery and rotation system (unless, of course, freshmen are admitted into the themed house).

If we include themed houses in rotation, though, then there would definitely have to be some changes. There are some benefits (such as comfort/a safe space) to allowing freshmen in identity-based housing, but we hope freshmen feel welcomed in every community on campus. We are continuing to look into how this option may work, but having freshmen in themed housing before entering the regular housing system might hinder their social development, as they will not be able to interact with as many upperclassmen.

As mentioned above, we think that an application process would be the most effective way for themed housing to be implemented.

We also think it is very important to extend the idea of a safety net into themed housing. Some possible options could be to have a UCC/peer advocate/health ad/title IX advocate in each themed option. We could also have a cross-themed housing “excomm/safety net” that includes peer mentors that any student in themed housing can access, regardless of their house. We plan on talking to the counseling center to hear about what they have planned with the new peer advocate program, and how it might fit into the new Bechtel system.

**Conclusion**

Our current recommendation for Bechtel is to allow for some fraction of Bechtel to be themed housing. The other fraction, we believe, should go to other housing models. Depending on the long-term success of themed housing, our model can be extended or shrunk as necessary. We think that themed housing will be able to create new social groups for those who get kicked out of their houses due to their internal lottery number or are uncomfortable with the house system. Themed housing will interact well with the current system, as it will still allow for the rotation process.