

Bechtel Residence: All-Freshmen Housing

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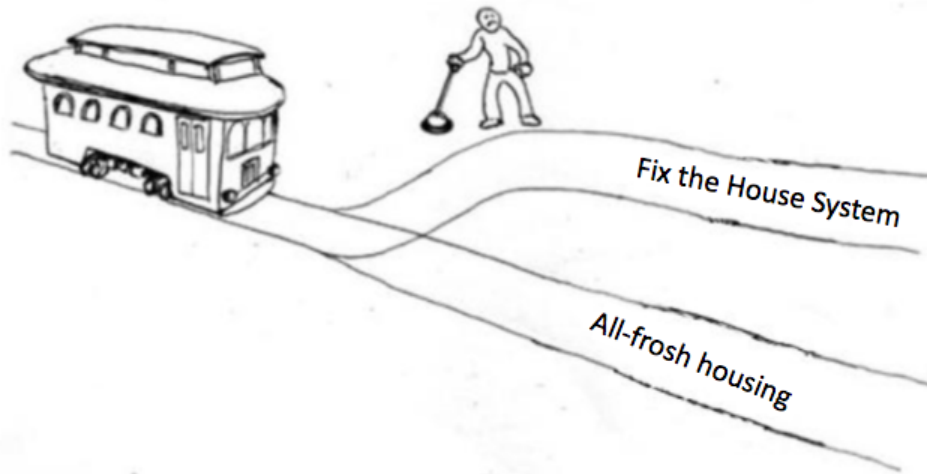
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1 Introduction

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 freshman seminars. Fidler and Moore concluded that both freshman 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 assess 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 moved 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 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 prefrish 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?

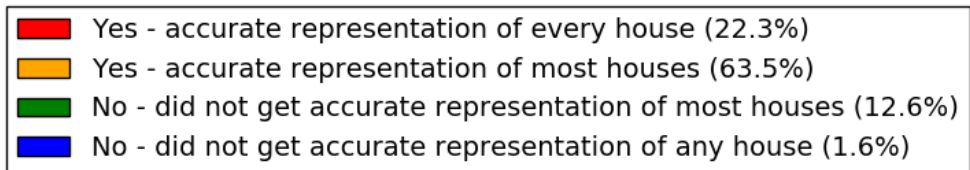
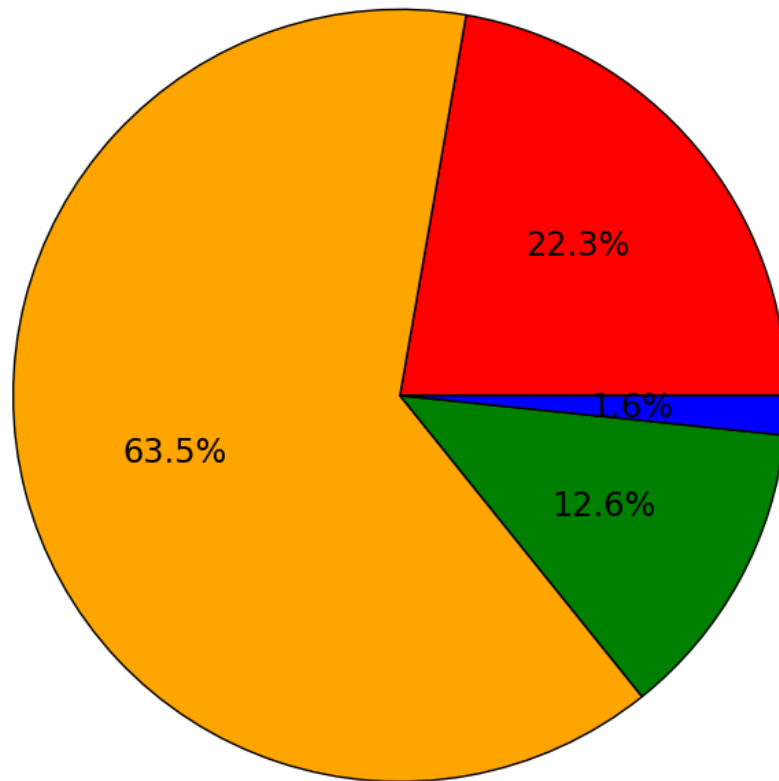


Figure 1: The majority of students report that they got an “accurate representation” of **most houses** during Rotation. Respondents include students from all academic years.

Do you feel you had enough information after Rotation to rank your house preferences?

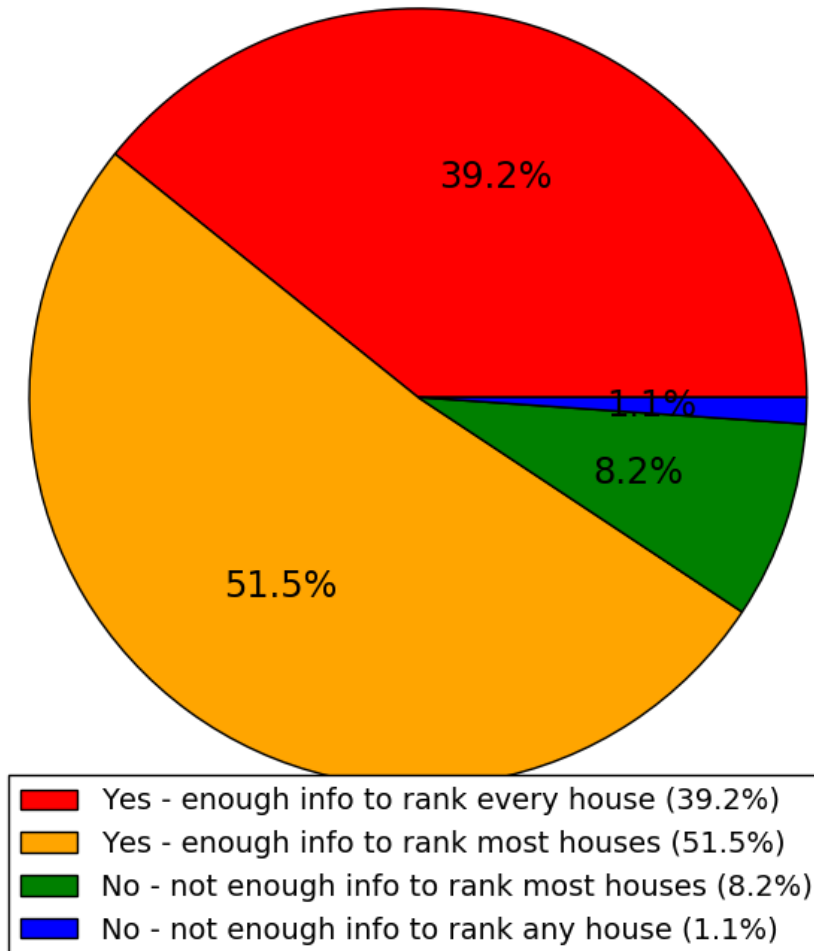


Figure 2: 90.7% of students felt they had enough information to rank every or most houses after Rotation. Less than 10% of students reported having insufficient information to rank most or all houses. Respondents include students from all academic years.

2.6.2 Utility of Upperclassmen

Consider your choice of major. Upperclassmen were:

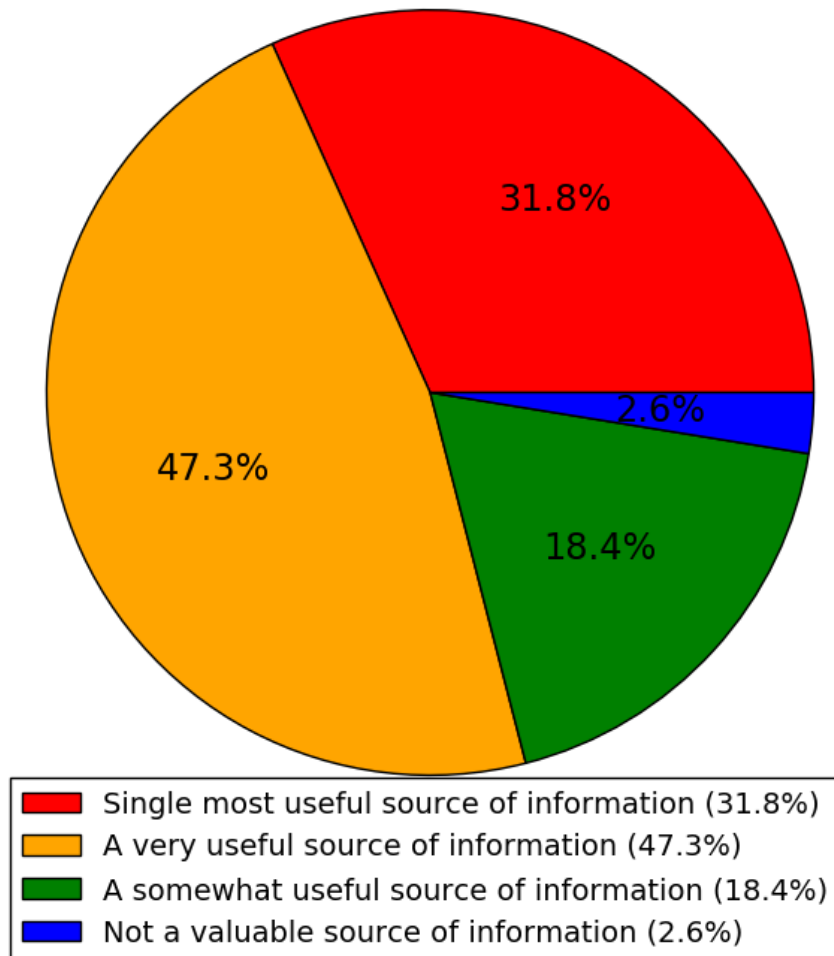


Figure 3: 79.1% of students believed upperclassmen were either “a very useful source of information” or the “single most useful source of information” concerning choice of major.

2.6.3 Sources of Interclass Interaction

Rank how much you interact with students outside of your year through each of the following:

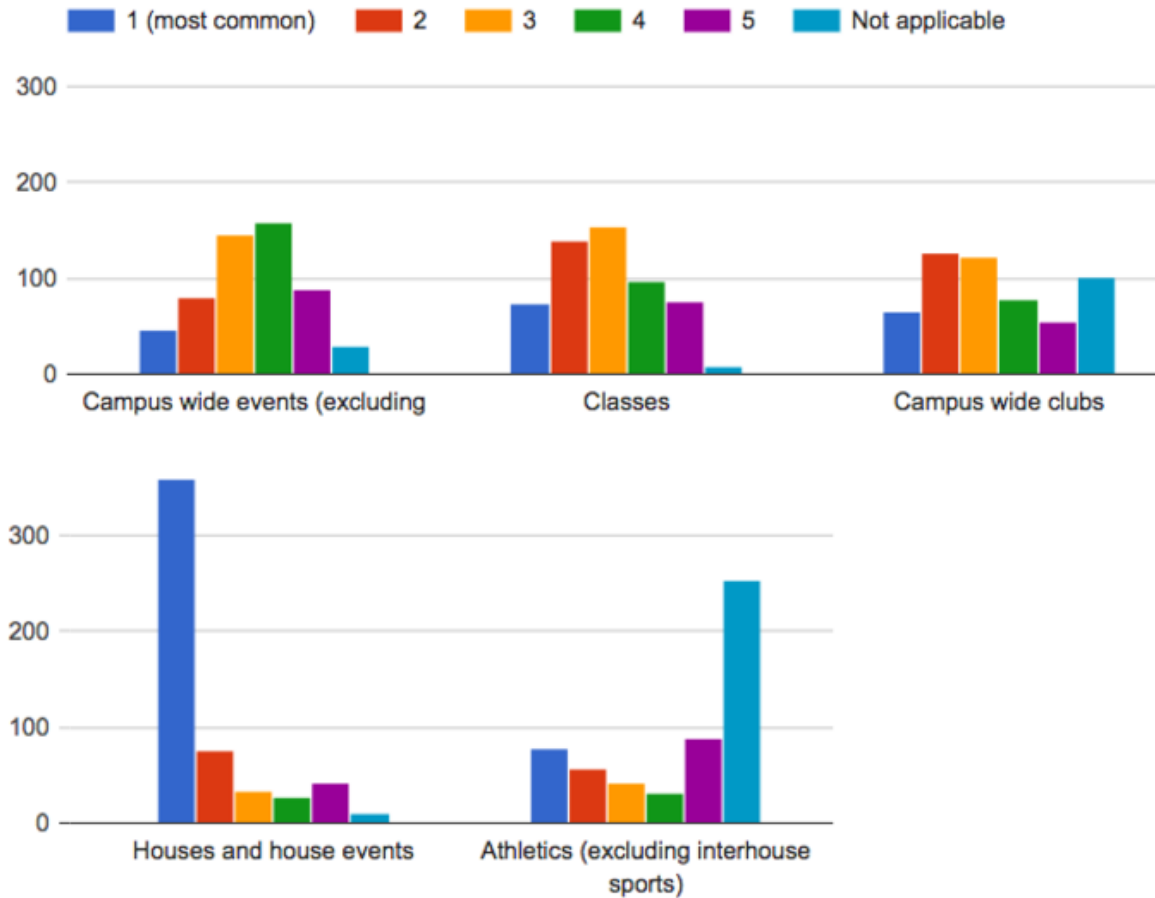


Figure 4: Respondents were asked to rank how much they interact with students outside of their year through 5 different choices. A large minority (20%) of students did not rank the choices and interpreted the question as a Lichert scale asking “On a scale of 1 to 5 how much do you interact with students 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

		Consistently Interacts with _____ House							
		Avery	Blacker	Dabney	Fleming	Lloyd	Page	Ricketts	Ruddock
Respondent House	Avery	0.951	0.306	0.209	0.129	0.403	0.274	0.177	0.516
	Blacker	0.366	0.977	0.644	0.1	0.188	0.155	0.611	0.488
	Dabney	0.355	0.627	0.932	0.05	0.101	0.05	0.576	0.355
	Fleming	0.156	0.093	0.078	0.937	0.39	0.75	0.265	0.406
	Lloyd	0.431	0.156	0	0.274	0.98	0.372	0.235	0.45
	Page	0.338	0.046	0.046	0.6	0.63	0.83	0.215	0.276
	Ricketts	0.223	0.477	0.567	0.208	0.343	0.223	0.97	0.388
	Ruddock	0.452	0.214	0.154	0.19	0.44	0.273	0.404	0.916

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.

		Consistently Interacts with _____ Block			
		Avery	North	South	Fraction Insulars*
Respondent Block	Avery	0.952	0.629	0.484	0.29
	North	0.41	0.96	0.575	0.235
	South	0.282	0.604	0.979	0.312
	*Respondents who only interact within their block (Avery, North House, South House)				

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.

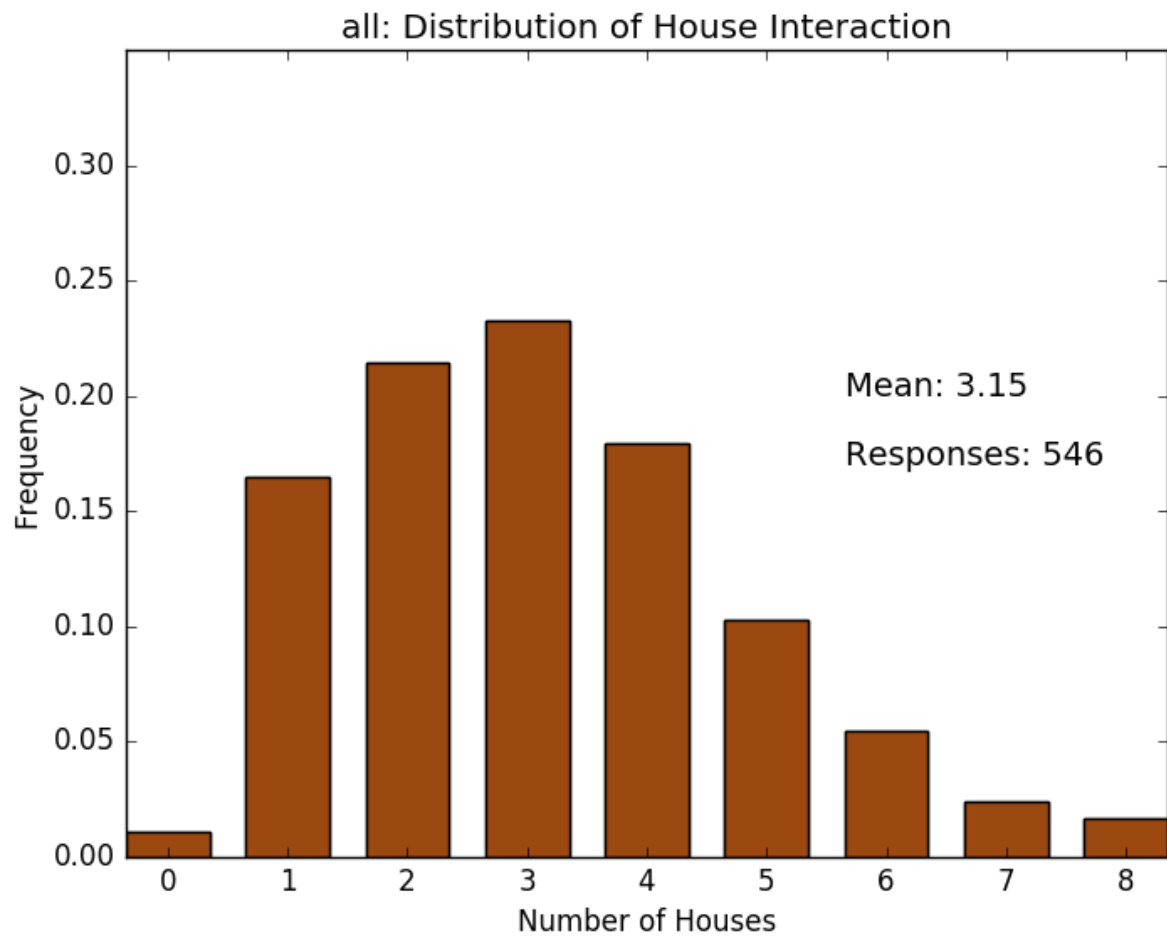


Figure 7: Distribution of the number of houses that respondents reported “consistently interacting” with. The mode is for students to interact with students from 3 houses. 16.5% of respondents report only interacting with members of a single house.

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.

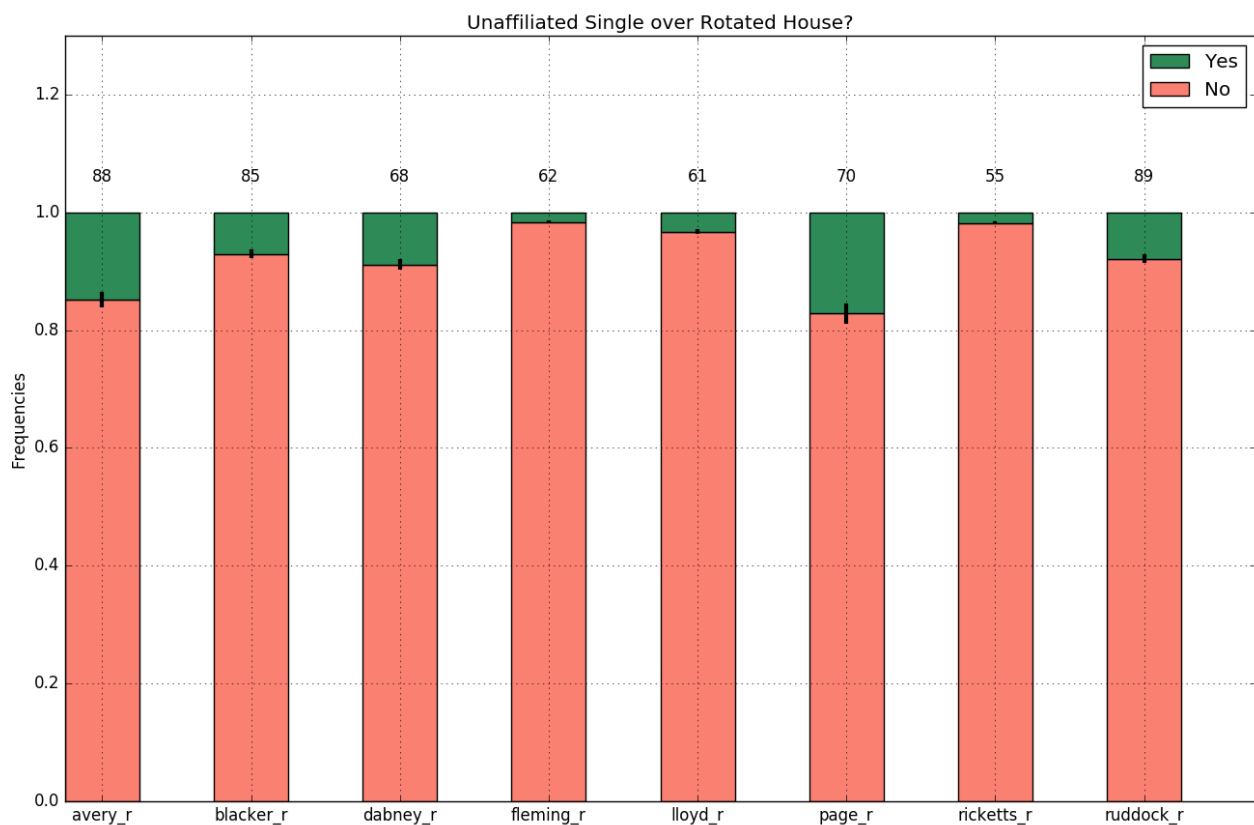
Several important notes regarding how data was collected:

- 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.

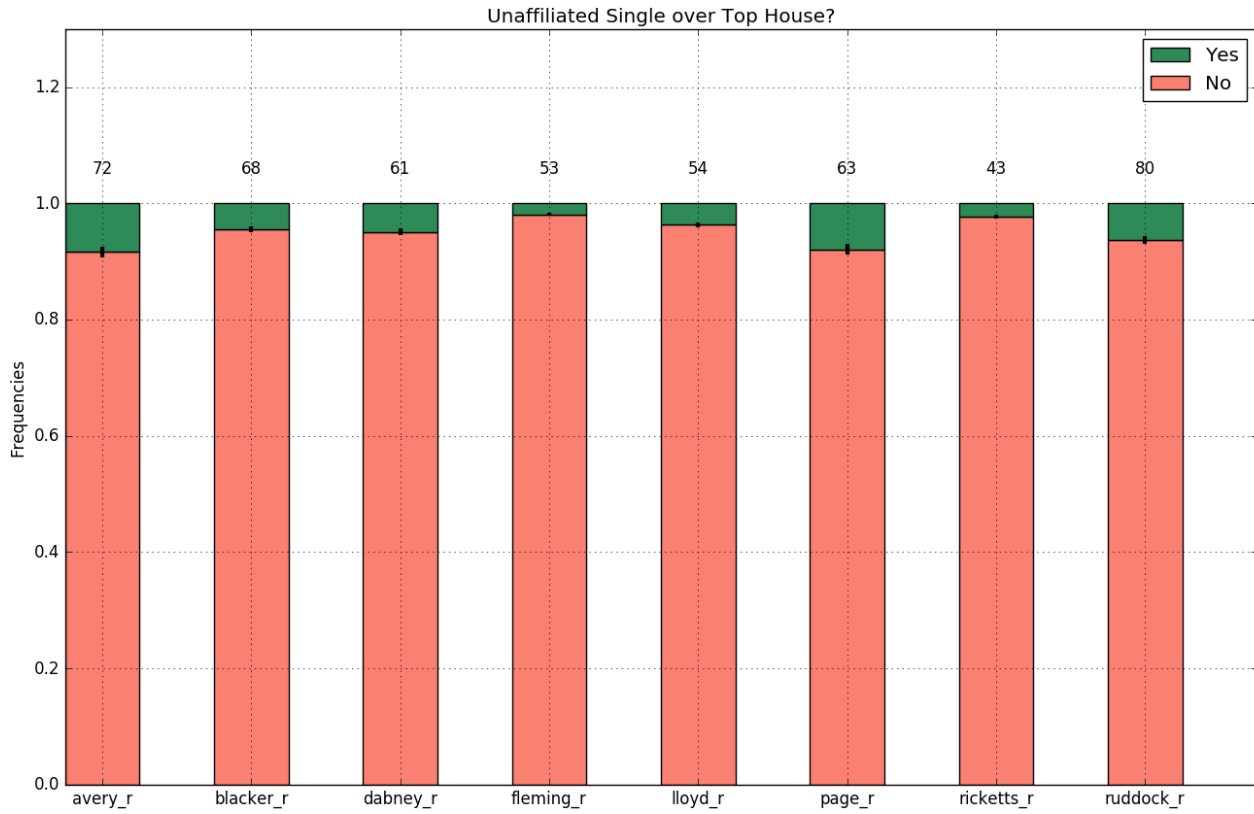
2.7.1 Freshman in Houses

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.



Unaffiliated Single over Rotated House								
	avery	blacker	dabney	fleming	lloyd	page	ricketts	ruddock
Yes	0.148	0.071	0.088	0.016	0.033	0.171	0.018	0.079
No	0.852	0.929	0.912	0.984	0.967	0.829	0.982	0.921

Figure 8: Happier in an unaffiliated single over the house you rotated into, sorted by rotated house.

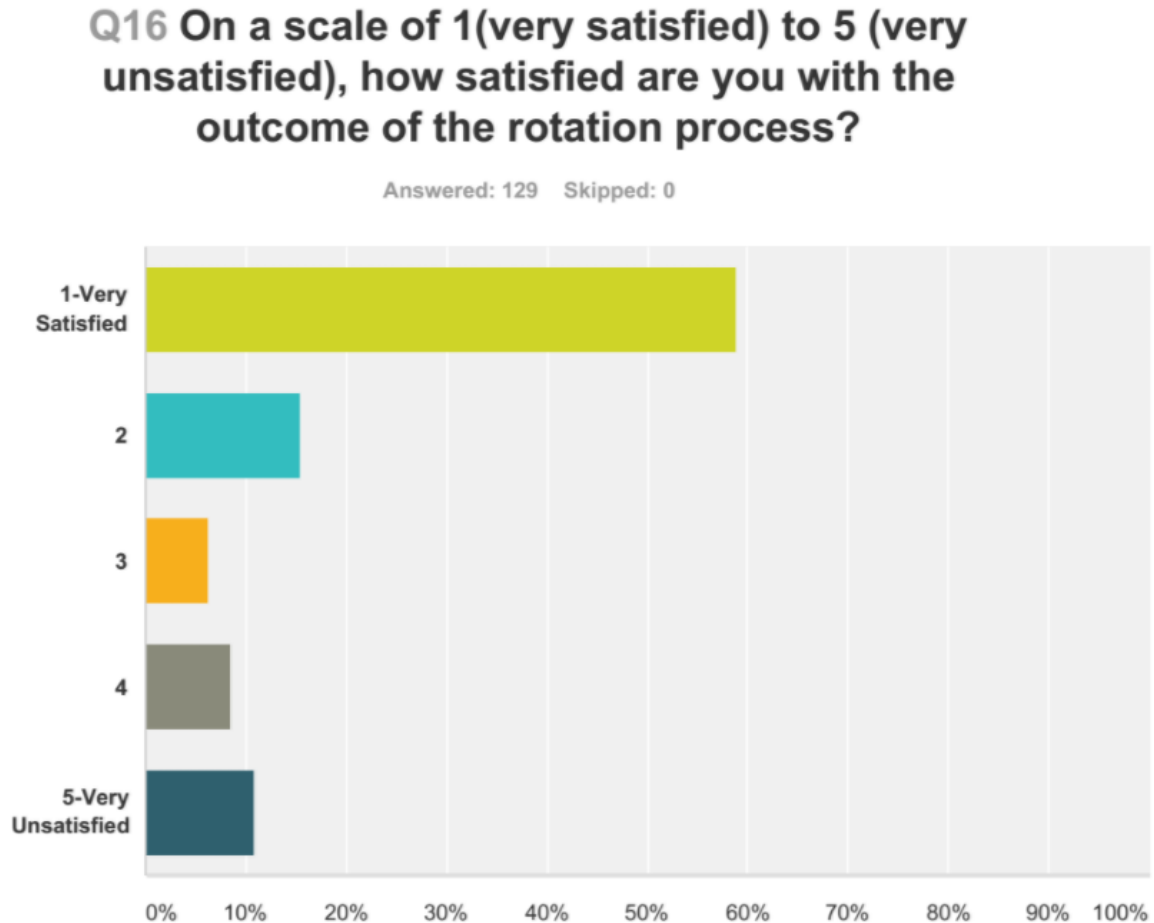


Unaffiliated Single Over Top Choice								
	avery	blacker	dabney	fleming	lloyd	page	ricketts	ruddock
Yes	0.083	0.044	0.049	0.019	0.037	0.079	0.023	0.062
No	0.917	0.956	0.951	0.981	0.963	0.921	0.977	0.938

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.



Answer Choices	Responses	Count
1-Very Satisfied	58.91%	76
2	15.50%	20
3	6.20%	8
4	8.53%	11
5-Very Unsatisfied	10.85%	14
Total		129

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.

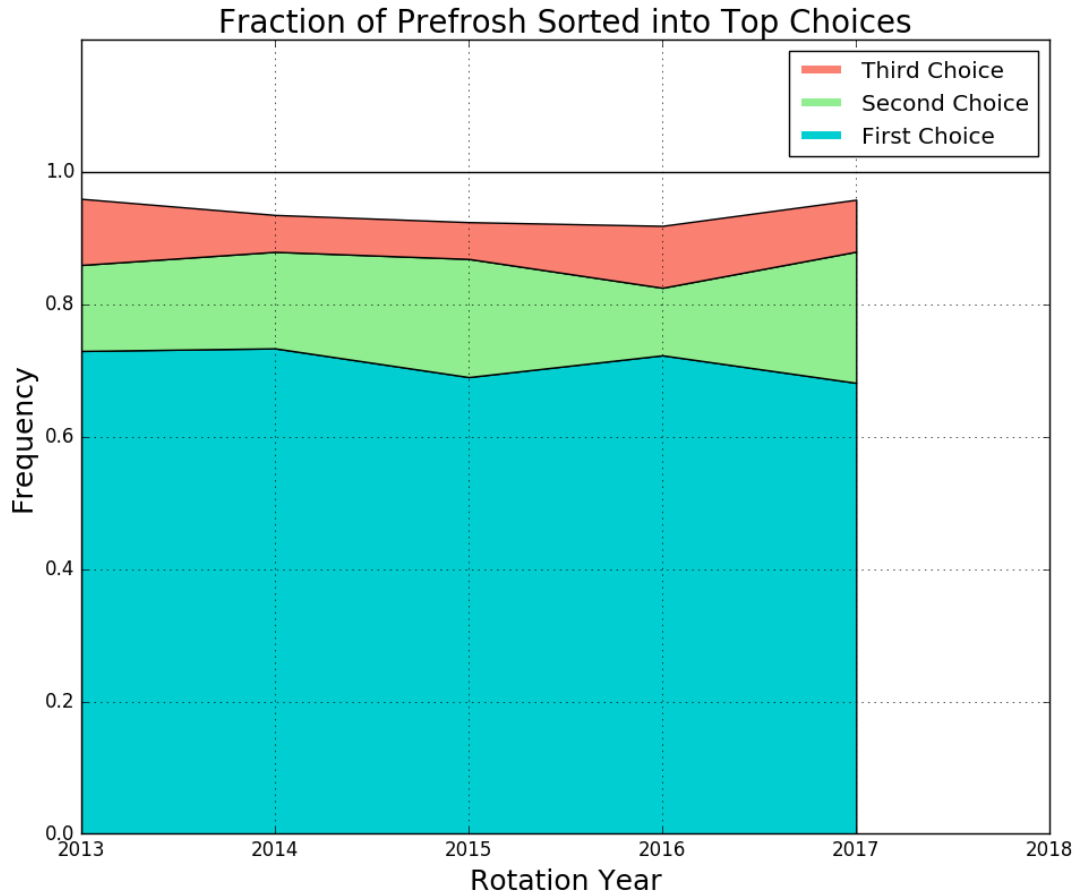


Figure 11: Graph of the fraction of prefrosh sorted into their first, second, or third choice houses. In 2017, 96% of prefrosh were placed into one of their top three choices.

Fraction of Prefrosh in Top Choices			
	First Choice	Second Choice	Third Choice
2013	0.730	0.130	0.100
2014	0.734	0.146	0.056
2015	0.691	0.179	0.056
2016	0.723	0.102	0.094
2017	0.682	0.198	0.079

3 Current Freshmen Residential Experience

3.1 Rotation

Rotation is a two week long process that sorts incoming freshmen (referred to as prefresh 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 an excellent/good/fair/poor rating system). Houses compile these ratings and individual comments to create 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. Freshmen 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 freshmen?
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?

9 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?