
VRPUs and Turnout, Too

*The Challenge of Targeting Undergraduate Voters,
with Penn Leads the Vote '08 as Case Study*

Andrew J. Schiera
PSCI 399 Independent Study
Dr. Dilulio
May 9, 2009

Penn Leads the Vote (PLTV) is a nonpartisan, undergraduate-led get out the vote group serving undergraduates at the University of Pennsylvania in Philadelphia, Pennsylvania. Since 2004, Penn Leads the Vote has been committed to encouraging students to participate in civic life by encouraging registration, holding events and forums, engaging other student groups, and working polling places. For the 2008 general election, PLTV embarked on a new, more intense effort to encourage students to register (or re-register) and vote. In doing so, PLTV sought to craft a sophisticated, data-driven ground game that would target and mobilize Penn undergraduates one-by-one.

We started where any self-respecting political operative would: identifying those in our target group, Penn undergraduates. All effective registration and get out the vote (GOTV) campaigns require the organization to be able to name the individuals in the population of concern. Numerous scholars, including Donald P. Green and Alan S. Gerber, have quite methodically chronicled the relationship between various tactics and voter turnout, but I would submit that effective targeting both precedes these efforts and enhances turnout rates in its own right.

Targeting is not easy for the average campaign, to be sure. But because of basic aspects of undergraduate life, it is even harder on college campuses. This paper will explore the challenges undergraduate GOTV groups face in accurately identifying target group of voters and obtain accurate contact information for them. These aspects of undergraduate life—rather than simple attributions of undergraduate apathy—also provide explanations for lower turnout among undergraduates.

Throughout, I will use PLTV's 2008 efforts as a case study, discussing the difficulties we faced, our strategies for solving them, and the effectiveness of those strategies. Specifically, I

will discuss our efforts to isolate *Verified Registered Penn Undergraduates (VRPUs)* and obtain proper contact information for them. Of course, PLTV 2008 is far from a perfect case study. First, American universities are so diverse that no one college could serve as a case study for all. The University of Pennsylvania does present a mix of factors which make it a good middle ground: a large undergraduate size, but not too large; set in a highly populated area, but with distinct boundaries for what is Penn and what is not. Second, the 2008 election was far from an average election. A high salience Democratic primary did affect Penn undergraduate turnout in the general election (see Appendix A), and the high salience general election prompted higher-than-normal levels of interest among students and higher-than-normal levels of activity among partisan groups on campus. Nevertheless, future cadres of PLTV leaders can absolutely benefit from our experiences in 2008, and thus my remarks are often very specific to Penn's campus. Additionally, there are lessons here about the challenges of targeting undergraduates generally that could be helpful to undergraduate GOTV groups at other universities.

Typical GOTV Targeting & Tactics Meet Undergraduate Voters

In their groundbreaking work *Get Out the Vote: How to Increase Voter Turnout*, Green and Gerber very neatly identify seven GOTV tactics, describe how to implement each, and analyze their cost-effectiveness at turning out votes. The authors are wise to recognize that different combinations of tactics will suit different campaigns, characterizing their work is a “shoppers’

guide.”¹ Nevertheless, many of these tactics cannot be as neatly applied to college campuses as they might be to your typical neighborhood.

Some behavioral patterns unique to college students require GOTV campaigns to adapt their tactics. For example, because finding students’ phone numbers can be a challenging endeavor, phone banks do not work as easily as they might for adult voters. College students operate in a cordless world where landline phones are a thing of the past. A recent survey of college students observed that while 94% of students have a cell phone, only 33% had a landline.² Direct mail often does not work as planned either. Many students check their mail irregularly, if at all. This is especially true of students living in dormitories, who have fewer bills or other regular pieces of mail to worry about. And even though students are much more tuned in to their e-mail inboxes than their mailboxes, they can easily discriminate between relevant and irrelevant messages by the first few words in the subject line, and can quickly relegate that e-mail and all subsequent ones from the same sender to the spam folder. All of this is to show that basic ways of living on college campuses can upend conventional GOTV tactics.

The most important *structural* element of university life, one which easily thwarts conventional GOTV tactics, is residency. “Young Voter Mobilization Tactics,” produced by the Graduate School of Political Management at George Washington University, suggests that “canvassing is especially beneficial in dense student neighborhoods and apartment buildings

¹ Donald P. Green and Alan S. Gerber, *Get Out the Vote: How to Increase Voter Turnout* (Washington, D.C.: Brookings Institution Press, 2008), 10.

² Harvard Institute of Politics, “The 14th Biannual Youth Survey of Politics and Public Service,” http://www.iop.harvard.edu/var/ezp_site/storage/fckeditor/file/spring%20poll%2008%20-%20topline.pdf.

where you can reach more people in less time.”³ In reality, college campuses can hardly be approached as neighborhoods. They are more likely to have a high number of apartment buildings, which can be hard to canvass or leaflet because of their increased security. Further, George Washington University’s assessment completely omits dormitories, which are like apartment buildings but with even more restricted access. At Penn, “dormstorming”—the practice of soliciting students door-to-door or dropping flyers at every door—is completely prohibited by university policy and results in severe consequences for the offending group. This would render traditionally implementation of the time-tested strategies of door-to-door canvassing and leafleting out.

Not only do college students tend to reside in harder-to-broach buildings, but they move from one hard-to-broach building to another nearly every year, and then graduate and move away after four (or five) years. Any residential information or contact information about an undergraduate obtained through public records goes stale by the next academic year. These factors make conventional GOTV tactics harder to apply when the target group is undergraduate students.

This challenge of pinning them down tactically brings us to figuring out how to target them in the first place. Green and Gerber first describe the importance of targeting in their discussion of canvassing but stress its importance to all GOTV tactics. Door-to-door canvassing, leafleting, and direct mail require addresses of the target population. Phone banks require phone numbers. E-mail efforts require e-mail addresses. And all of these efforts

³ George Washington University, Graduate School of Political Management, “Young Voter Mobilization Tactics: A Compilation of the Most Recent Research on Traditional & Innovative Voter Turnout Techniques” http://www.civicyouth.org/PopUps/Young_Voters_Guide.pdf, 9.

benefit from keeping the target population as slim and trim as possible so as not to waste time and money.

Green and Gerber define a target population as “a set of potential voters whom you think it worthwhile to mobilize.”⁴ For PLTV, our initial target population was all undergraduates who meet the legal requirements to participate in elections in Pennsylvania. Simply finding the *names* of Penn undergraduates proved to be a challenge for us. It required a complicated process of submitting a request to the Office of the Provost detailing what data is requested, for what purpose it will advance, and how that purpose advances the mission of the university. The official in the Provost’s Office emphasized that they “rarely gather and release information like this to student groups,” but he could “think of some good reasons to make an exception in this case.” With this accomplished, we identified 10,098 total Penn undergraduates we sought to mobilize.⁵

It is important to note that those 10,098 undergraduates do not *exactly* compose our target population because all of them do not meet the legal requirements to participate in elections—that is, on Election Day 2008, they would have been at least eighteen years of age, a United States citizen for at least one month, and a resident of Pennsylvania for at least 30 days. According to state law, all college students are considered residents of Pennsylvania, so all meet the residency requirement. However, we have no way of knowing how many precocious undergraduates were seventeen or younger on Election Day. Likewise, regarding citizenship,

⁴ Green and Gerber, 28.

⁵ How accurate is this figure? The admissions office identified 9,823 undergraduates initially admitted in the classes of 2009, 2010, 2011, and 2012, 275 short of our data. However, this figure would not account for transfer students (both in to and out of the university). Off-campus services identified 10,771 undergraduates in Fall 2008 whose local address was either “off-campus” or “on-campus,” 613 more than our data set.

the university would not provide us with the names of those students who were non-U.S. citizens—or even the names of those who were international students. If we had the names of those individuals who failed to meet any of these criteria to be electors in Pennsylvania, we could have removed them from our list of 10,098 undergraduates. Having not received this information, however, we could not pare down our list of individuals to target. Various sources provided different figures for the number of international students, in both percentage terms and absolute terms; the only figure we found specific to Fall 2008 stated that 14% of the student body was “from outside the U.S.”⁶ When we reported registration and turnout figures, we took this proportion of international students out of the denominator, but this hardly helped for targeting individual voters.

Given our estimate of the number of international students, we estimated that 8,684 of the 10,098 undergraduates would be eligible to register to vote. How we came to target those individuals who were registered to vote on Election Day, however, required much effort in and of itself.

Accuracy in Targeting I: VRPUs and only VRPUs

On targeting voters for Election Day, Green and Gerber advise,

It is important to think about what you need to do to find your target group. Can you just canvass certain neighborhoods, or do you need to identify the specific individuals or households that fit your target? If the latter,

⁶ QuestBridge, “University of Pennsylvania – Diversity Overview,” http://questbridge.org/cmp/partner_schools/upenn/diversity.html.

you will need to begin by creating or purchasing an accurate list of potential voters.... Ideally, your list should be accurate in two ways. It should accurately reflect the pool of individuals you want to contact, and it should provide accurate contact information for those individuals.⁷

Groups like PLTV that attempt to mobilize undergraduates cannot just canvass certain neighborhoods. As mentioned above, simply perusing student neighborhoods will not reach the vast number of students who reside in dormitories or apartments. Further, these groups cannot simply purchase an accurate list of potential undergraduate voters.

Of course, all campaigns have a hard time of making their list as accurate as possible. However, undergraduate groups have an especially difficult time affecting this accuracy. In states with party registration, the typical partisan campaign can pick up a copy of the “street list”—the list of voters in a given area organized by their street address—and go house-by-house to those voters with “Rs” or “Ds” next to their name. Nonpartisan campaigns can, of course, pick up the street list and try to mobilize everyone. For campaigns targeting specific racial or ethnic groups, Green and Gerber add that a campaign can use Census data to target certain census blocks with the desired traits, or purchase the services of list vendors which use of name-matching software to help campaigns target individual registered voters of specific ethnic backgrounds.⁸

Organizations like PLTV that seek to mobilize Penn undergraduates require a list that includes all VRPUs and excludes all non-VRPUs. Unlike the head-start partisan campaigns get,

⁷ Green and Gerber, 28, 30.

⁸ Green and Gerber, 29.

our task was not as simple as picking up a street list and looking for voters with “VRPU” magically marked next to their name. This same problem of targeting also manifests itself in reporting turnout results: how do you claim what the turnout rate of Penn undergraduates was if you do not know which voters were Penn undergraduates?

In this section, I will highlight the special challenge undergraduate GOTV groups face in producing a list that meets the first criterion on accuracy above, a list which “accurately reflect[s] the pool of individuals” undergraduates want to target. First, I suggest two proxies campaigns might use to target undergraduates: narrowing the street list to certain precincts or to the addresses of dormitories only. The most accurate list, however, would be much narrower than these proxies: it would be completely *inclusive*, in that it would all members of the target group, and also highly *efficient*, in that it would exclude all those not in the target group. In 2008, PLTV integrated public voting records with our list of undergraduates provided by the Provost’s Office to create such a list, identifying a population including VRPUs and only VRPUs. This process, though time- and labor-intensive, represents the best way to maximize the inclusiveness and minimize the inefficiencies of targeting undergraduates.

Proxies for Undergraduates

In the past, PLTV has relied on two proxies to approximate the Penn undergraduate population: targeting certain divisions designated as *on-campus divisions* and targeting only those registered at college houses. Each of these proxies fails to fully and accurately encapsulate the Penn undergraduate population. These parameters included some non-undergraduates, which reduced the efficiency of the proxy, and left many undergraduates out, which reduced the inclusiveness of the proxy. They also included many registrants who no longer live there. All

three of these reasons made these proxies unhelpful for targeting Penn undergraduates specifically.

From 2004 to 2006, PLTV used the turnout figures of certain divisions within Ward 27 as proxies. This method suited our needs at the time because PLTV's tactics stressed broader strategies to mobilize campus—decorations, events, speakers series—and did not target individual voters. However, we did need some way of identifying “Penn” turnout on Election Day, so we identified the six divisions which included “college houses” (dormitories) and called them *on-campus divisions*. We then reported our turnout results among the six divisions so designated. Other divisions in Ward 27 were categorized as “off-campus divisions” and turnout in those divisions was not reported.

However, picking and choosing which divisions are “on-campus” and which are not produces a paradox. A more liberal definition of on-campus divisions would increase the likelihood that 100% of undergraduates are included, but would also increase the number of non-undergraduates in the population. This would make for a highly inclusive list, because a higher proportion of VRPUs included in the proxy. However, it also produces a lower degree of efficiency, since the campaign would be spending time and effort mobilizing a large number of non-VRPUs. Conversely, a more stringent definition of on-campus divisions would limit the divisions to the ones with the greatest concentration of undergraduates, increasing the number of undergraduates that are left out. This would result in higher efficiency, since the campaign

would waste less time mobilizing non-VRPUs, but also lower inclusiveness, since a greater number of VRPUs are left out.⁹

Given that a unit of analysis as large as a division does not work, one might consider targeting dormitories specifically—that is, only attempting to mobilize those voters registered at college house addresses. However, the same problems would apply to this effort, too. At Penn, 5,914 of the 10,098 undergraduates (58.6%) lived in a college house in Fall 2008.¹⁰ This means that 41.4% of undergraduates would be excluded from this proxy, making it drastically exclusive. Moreover, a handful of non-undergraduates also live at college houses, making it somewhat inefficient. At Penn, a college house is also home to a house dean (and family), a faculty master (and family), GAs (residential advisors who are not undergraduates), and sometimes a few residents who are enrolled in graduate school programs.

Both proxies are also inefficient because many of the registered electors included no longer live at the address at which they are registered. Some have graduated, thus are no longer undergraduates; others are still undergraduates but have moved to other locations on campus without updating their registration. (This is exacerbated by the high mobility of college students; it is treated in detail in the next section.) Thus the perceived number of undergraduate residents in a given division or at a given address can be drastically overstated. The number of registered voters at college houses sometimes exceeded the capacity of the

⁹ This predicament may be a greater or lesser problem at other campuses, given its isolation from the broader population, how concentrated its student residents are, and how the state or local government drew the division boundaries.

¹⁰ Nationally, it should be noted, the percentage is much lower; only 38% of college students reported living in an “on-campus dorm” in a 2008 survey. See Harvard Institute of Politics survey results.

building. In Summer 2008, PLTV found that there were fully 5,209 individuals registered in college houses—just a hair shy of the total building capacity of 5,648.

These drastically inflated rates of registration, not seen since the Gilded Age, were largely due to a high volume of registrants designated as “inactive.” In Pennsylvania, a registrant gains “inactive” status when they do not participate in two consecutive federal elections. Among those registered in college houses as per the Summer 2008 street list, nearly half—47.3%—were designated as inactive voters. (Interestingly, as of Election Day, four-fifths of these inactive voters had registered in 2004.¹¹) This problem also plagued the “on-campus division” proxy, where Summer 2008 records indicated that 42.4% of the registered voters were listed as inactive.

Thus, college voter mobilization groups must go further in their targeting efforts than simply obtaining a street list and identifying individuals registered in certain divisions or at specific addresses if they want to avoid making tradeoffs between the inclusiveness of their list and the efficiency of their list. PLTV solved the problem by hand-creating a list of VRPUs: those registered voters in Philadelphia County’s 27th ward who PLTV verified were Penn undergraduates.

¹¹ Over the period between Summer 2008 and Election Day, the percentage of inactive voters had been drastically reduced because (1) new students properly registered to vote at their dorm address and (2) the county and state may have removed some inactive voters from the rolls. On Election Day, there were 1,118 inactive voters registered at college houses, 886 of whom (79.2%) had registered to vote in 2004. The large number of voters who registered in 2004 makes sense: they would have just missed their second consecutive federal election—the criteria for being designated as inactive—in 2008. However, they would not yet have failed to return the three notices that are required before one is removed from the rolls.

VRPUs: Inclusive and Efficient

Upon the request of a political group, the Pennsylvania Department of State will provide a Full Voter Export (FVE) of all registered voters in a given county. The FVE includes one's name, date of birth, date of registration, address of registration, voter status (active or inactive), voting history, and other sundry pieces of data. Having already received a list of 10,098 undergraduates from the Provost's Office, PLTV pulled out the records of Penn undergraduates from the FVE, allowing us to precisely target VRPUs and only VRPUs. Green and Gerber put matching individuals in lists obtained from other groups against registration lists in the "if all else fails" category, given the amount of time and effort required. Nevertheless, it is the only way to create a fully inclusive and highly efficient list of undergraduate voters.

The first hurdle was that, in Philadelphia County, there were 1,062,822 electors whose application for registration was processed by November 4, 2008 (Election Day). It would have been completely unmanageable to scour over one million names in hopes of finding records corresponding to the 10,098 Penn undergraduates. Even when we limited the registered voters to those in Ward 27, where the University of Pennsylvania is located, there were still 20,013 records to comb through. PLTV made two assumptions to further narrow this data: that the undergraduates of the 2008-2009 academic year would not have been born before January 1, 1984, and that they would not have registered before August 1, 2005.¹² With these limitations,

¹² Of course, it is possible that these parameters were too stringent and excluded a few bona fide undergraduates. We were playing the percentages that no undergraduates would be over 24 years of age, and that none would have registered before coming to campus in 2005.

the list was narrowed to a more controllable 7,702 records of registered voters to sort through.

PLTV then used specific heuristics to match records in FVE and the Provost Office's list of undergraduates to find VRPUs. First, we matched all records where the last name, first name, and middle name in the Full Voter Export matched that in the list of undergraduates. We then manually matched records where the individual clearly was the same, but the formatting of the name was different. For example, sometimes last names were clearly the same, but the list of undergraduates and list of registered voters differed in whether they used hyphens, spaces, or apostrophes. There were also cases where the two lists differed in how they recorded the first name (full or shortened), middle name (full, initial, or nothing), and suffixes like Junior (included or not included). We then scoured the records to match cases where one list clearly made a typographical error. Finally, with any remaining questionable records, we combed through ancillary information to see if we could verify that the two lists indeed were speaking of the same person—by date of birth, matching addresses, etc. The end result of this process was the list of 5,365 individual VRPUs, referenced earlier, who were registered in the 27th Ward of Philadelphia County. This list would mark our target group on Election Day.

Our ability to identify VRPUs clearly illustrated the inaccuracies of the two proxies we had used in the past. Table I (see next page) indicates the degree to which the two proxies maximized the proportion of VRPUs included (the proxy's *inclusiveness*) while and minimized the number of non-undergraduates included (the proxy's *efficiency*). As a baseline, the VRPU method includes every VRPU (100% inclusiveness) while excluding all non-VRPUs (100% efficiency).

Table 1. Accuracy of Proxies, with VRPUs as a Baseline

Method	Population Total	VRPUs included	VRPUs excluded	Non-VRPUs included	Inclusiveness	Efficiency
VRPUs	5,365	5,365	0	0	100%	100%
On-Campus Dvs	7,049	3,449	1,916	3,600	64%	49%
On-Campus Dvs (Active Voters Only)	5,617	3,449	1,916	2,168	64%	61%
College Houses	5,573	3,184	2,181	2,389	59%	57%
College Houses (Active Voters Only)	4,401	3,184	2,181	1,217	59%	72%

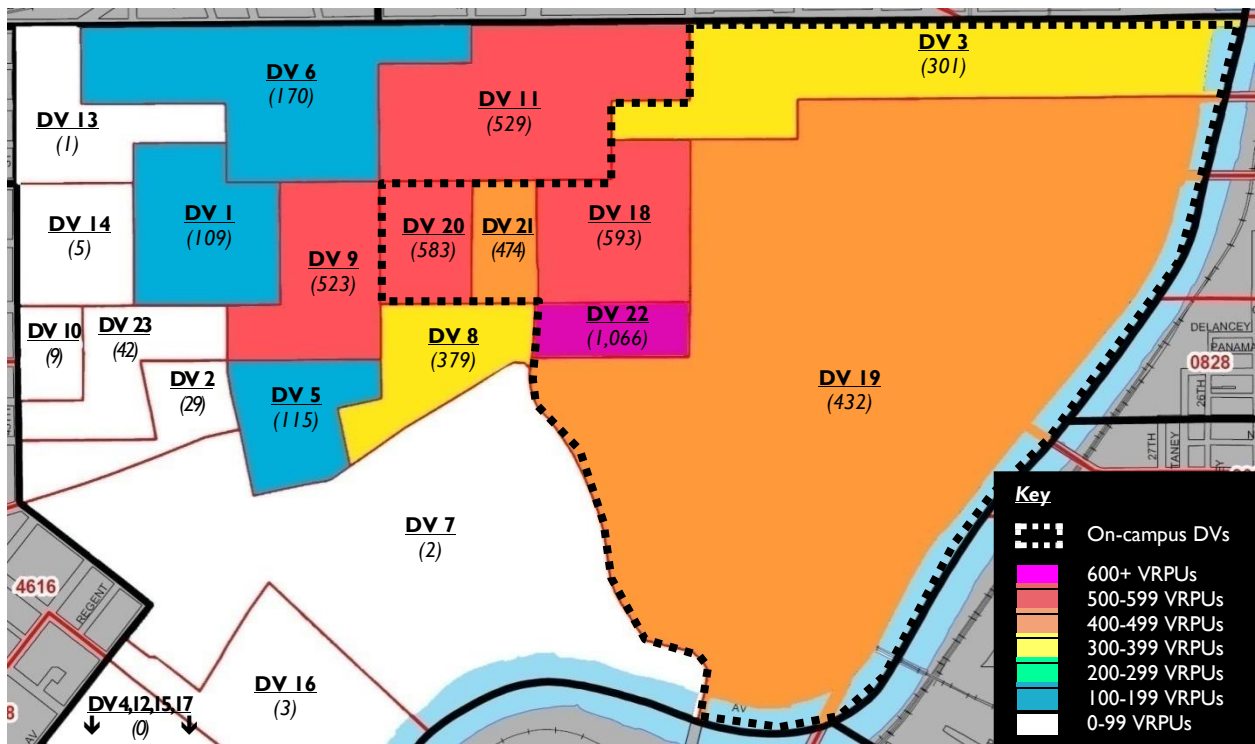
In 2004 and 2006, PLTV identified divisions 2703, 2718, 2719, 2720, 2721, and 2722 as on-campus divisions. In Fall 2008, the registration data for these divisions included 7,049 total registered voters, 3,449 of whom were VRPUs. Thus, the efficiency for this method was 49%. (When the proxy was limited only to active voters, the efficiency increased to 61%.) Additionally, this method left 1,916 VRPUs out, making it 64% inclusive.

The map on the next page (Figure 1) illustrates the number of VRPUs per division. (See Appendix C for VRPU registration and turnout in each division.) It demonstrates that three divisions that are excluded from the on-campus division category have had more VRPUs in November 2008 than division 2703, which is considered on-campus. If PLTV redefined “off-campus division” to include divisions 2708, 2709, and 2711 in addition to the six already included, 4,880 of the 5,365 VRPUs would be included in this parameter (91% inclusiveness). However, the efficiency score would drop dramatically, as a large number of non-undergraduates would now be included (down to 45% efficiency, or 56% if only active voters were included.) This is consonant with the paradox mentioned at the beginning of this section: expanding the turf included in the “on-campus division” designation both increases the number of undergraduates included (a desirable outcome) and the number of non-undergraduates included (an undesirable outcome).

As Table I further illustrates, the college house proxy was more efficient (57% efficiency, up to 72% when only active voters were included) but less inclusive (59% inclusiveness). This makes sense because college houses represent a space more likely to include undergraduate residents than non-undergraduates. However, the proxy excludes the many undergraduates who do not live in college houses, which might happen to be included in the on-campus proxy.

There are limits to the VRPU method, of course. As mentioned before, we identified 5,365 VRPUs but estimated that there were 8,684 eligible undergraduates, yielding a registration rate of 61.8%. This underwhelming figure is partly the result of the fact that the VRPUs we identified were registered in *Ward 27 of Philadelphia County, Pennsylvania*. Because college students have the right to register in their home state, there are presumably many more Penn students eligible to vote who elected to register elsewhere. Niemi and Hanmer’s 2004

Figure I. VRPUs by Division, Ward 27.



study reports that 88% of college students were registered to vote;¹³ a Fall 2008 study by Harvard University's Institute of Politics reported that 83% of the respondents enrolled in a four-year college were registered to vote.¹⁴ If we take the lower figure and assume turnout rates at Penn reflect this survey's estimate, we could roughly infer that 21% of undergraduates registered to vote at their permanent residence, though we could never identify which individual undergraduates did so.¹⁵

The astronomical amount of effort required to identify these voters renders any effort impossible. It would require obtaining lists of registered voters from all counties in all 50 states (plus the various territories) and a very, very powerful computer. Even then, the GOTV organization would have to sift through these millions upon millions of records for a handful of names of the undergraduates at the institution of concern. Future PLTV groups should conduct surveys to assess just how many Penn undergraduates elect to register abroad rather than at their Penn address provide them support as they complete absentee ballots in other states.¹⁶

Nevertheless, the legwork required to identify VRPUs registered in Philadelphia's Ward 27 certainly justified the accuracy of having a list that so precisely reflected the target group. Simply having this list of 5,365 VRPUs, however, does not necessarily mean that this inclusive and efficient data is fully accurate.

¹³ Richard Niemi and Michael Hanmer, "College Students in the 2004 Election," CIRCLE (Nov. 2004), http://www.civicyouth.org/PopUps/FactSheets/FS_College_Voting.pdf.

¹⁴ Harvard Institute of Politics.

¹⁵ Furthermore, these figures would be complicated by the small but not unsubstantial number of students who registered in multiple states, another statistic we cannot track but by survey data.

¹⁶ Of course, surveys will produce errors of their own, especially in terms of self-selection and possible instances of lying. Our preliminary estimate of the percentage of Penn students who registered in another state is 30%.

Accuracy in Targeting II: Contact Information

All this work having been done, the list of VRPUs does not necessarily satisfy Green and Gerber's second condition of accuracy, that it "provide[s] accurate contact information for those individuals" the group seeks to mobilize.¹⁷ This second element is equally if not more important, because the contact information a key factor in the success of mobilization tactics like canvassing, phone banks, and mailers.

Many scholars have implicitly assumed that a list of target voters will be as accurate for college students as the data received for residents of a typical neighborhood. This assumption is false, especially as it relates to residency. Adults are more likely to spend five, ten, fifteen years at their residence; for college students, many of whom move yearly, the contact information is much less likely to be accurate. Specifically, the address at which one is registered to vote is not guaranteed to be the same as the current address of the undergraduate's residence.

The Resident/Registrant Gap and Student Mobility

Let us differentiate between a resident of a place and a registrant of a place. A *resident* of place is an individual who currently resides at a given address. This does not necessarily imply that the individual is registered to vote at that address. A *registrant* of a place is the address at which an individual is registered to vote. This does not necessarily entail that the individual currently resides at that place. In a typical neighborhood, marked by a general stability in its members, a campaign organizer can look at her street list and assume that most of the addresses on the list of registered voters correspond to their addresses of current

¹⁷ Green and Gerber, 30.

residence—that is, there is little discrepancy between residents and registrants. On a college campus, students move nearly yearly, from dorm to dorm to fraternity to off-campus apartment. A college student's residence is frequently changing. However, if she does not update her voter registration with the county, the address at which she is registered does not follow. This produces the resident/registrant gap.

On each college campus, there is generally a predictable progression of student residences. There are freshman-heavy places, conveniently close to campus and with a high concentration of first year students to maximize mingling and ease the adjustment to university life. Then there are the upperclassmen-heavy places, further away from campus so that they can escape the sophomore nature of the freshman-heavy areas and begin to live more independently with a smaller yet tighter-knit group of friends. At the University of Pennsylvania, Hill College House and the three college houses in the Quad (Fisher-Hassenfeld, Riepe, and Ware) are the freshman-heavy places. Students then progress to the high-rise college houses (Harnwell, Harrison, and Rodin), as well as to fraternities and sororities and off-campus apartments and homes. PLTV has had a very successful history in registering freshman to vote when they first arrive on campus, when they are in our sight at the Student Services Expo and their parents stand behind them strongly encouraging them to do so. However, as students move away from the freshman-heavy dorms, students often do not update their registration at their new address, especially in odd-numbered non-election years. Thusly do they march from residence to residence while their address of registration remains the same.

Our data bear out these patterns and illustrate a large resident/registrant gap. It is manifested in the higher proportion of inactive voters at freshman-heavy college houses, who registered there in their first year and graduated without ever cancelling or changing that initial

registration. Looking at our initial data from Summer 2008, we found that there were more registered voters than building capacity in three college houses. Two of the three where this occurred were those dominated by freshmen (Hill College House, 117.2%, and Fisher-Hassenfeld College House, 133.2%).¹⁸

It can also be found among those registered voters who are still undergraduates—that is, in our VRPU population. For our 5,365 VRPUs, there were 3,184 college house *registrants* (people registered at college house addresses in Fall 2008) and just 2,950 *residents* (people living in college houses in Fall 2008). In the freshman-heavy dorms, registrants outnumbered residents by 77 in Hill College House and by 160 in the three college houses in the Quad. On the other hand, at the upperclassmen-heavy college houses (the three High Rises) residents outnumbered registrants (though just by 23). Furthermore, the fact that there were 234 more college house registrants than residents in total indicates that there were many individuals who were still registered in college houses but have moved off-campus to apartments, fraternities, sororities, and private homes. (See Appendix D for full results.)

At the level of the individual VRPU, we can see just how many undergraduates failed to update their registration to reflect their new residence. Through the data from the Provost's Office, we put VRPUs into three categories: those lived in a college house in Fall 2008 and were properly registered at the same college house; those who lived in one college house but were registered in another; and those who did not live in a college house (that is, lived off-campus) but were still registered at a college house address.¹⁹ As Table 2 on the next page illustrates, of

¹⁸ How building capacity was determined?

¹⁹ The university did not provide us data for those who lived off-campus, thus we have no results for three additional conceivable categories: those who live off-campus and are properly registered at the same off-

Table 2. The VRPU Resident/Registrant Gap and Its Effect on Turnout

Category	VRPUs	Voters	Turnout %	Vs. Penn Avg.
Live in CH, registered in same CH	2,582	2,435	94.3%	+ 4.7%
Live in CH, registered in different CH	222	174	78.4%	- 11.2%
Live off-campus, still registered in CH	526	339	64.4%	-25.2%

the 5,365 VRPUs, 222 (4.1%) were registrants of one college house and yet residents of a different one. Additionally, 526 VRPUs (9.8%) were registrants of a college house but had moved to an off-campus residence. Thus, 13.9% of the undergraduates on PLTV's list of potential voters would have had inaccurate records, in that their address of registration was no longer the same as their address of residence.

In their "Lessons Learned" from studies of door-to-door canvassing, Green and Gerber admit, "Contacting eligible voters can be difficult. If your campaign is trying to reach a target group that frequently changes address—young voters living off campus, for example—expect to reach roughly one in six of the people you are looking for on each pass through the neighborhood."²⁰ However, this obscures the extent to which all young voters on college campuses are hard to reach, in ways that multiple passes through the neighborhood will not cure. Green and Gerber recognize that five out of every six voters will not be reached in each pass through the neighborhood. They do not recognize that one out of every seven voters on the canvasser's list does not even live there anymore.

Table 2 above indicates how the resident/registrant gap negatively affected VRPU turnout. In an essay focusing on targeting, the lessons we learned from turnout are critical.

campus address; those who live off-campus but are improperly registered at a different off-campus address; and those who live on-campus but are currently registered at an off-campus address (which is, given the progression, a negligible population). For perspective, the three categories included above represent 3,330 of the 5,365 VRPUs (62.1%).

²⁰ Green and Gerber, 37.

Lower turnout among different undergraduate populations illuminates the manifestations of the targeting and mobilizing challenges on campus. As a baseline, of the 5,365 VRPUs registered in Ward 27, 4,807 (89.6%) turned out in the November 2008 election.²¹ Those VRPUs properly registered—that is, those for whom the address of registration matched the address of the current residence—overperformed the Penn average by 4.7%. The other groups, those with a resident/registrant gap, turned out at 68.6%, fully 21% below the Penn average. Said another way, a student whose registration did not match their residence *almost seven times less likely* to vote than a student living on-campus and properly registered. Specifically, those who moved to a different college house without updating their registration turned underperformed the Penn average by 11.2%, while those who moved off-campus without updating their registration underperformed by 25.2%.

We might hypothesize some causes for the effects of the resident/registrant gap on turnout which provide important lessons for targeting and mobilizing undergraduates. First, individuals who do not reregister as they move from place to place are less frequently tied to the electoral system, which either belies less awareness and knowledge of the process or less motivation to participate in it (or both). These attributes would naturally correlate with lower turnout rates. GOTV groups should seek to ensure their undergraduate constituents are as frequently engaged in the electoral process as possible. Additionally, individuals who do not reregister are more prone to confusion on Election Day. The polling place one is assigned to is based on the individual's address of registration. If an elector did not update his registration, he

²¹ By turnout, I refer to the percentage of VRPUs who participated in the 2008 general election by voting at the polls, casting a provisional ballot that was ultimately counted, or mailing an absentee ballot back to Philadelphia County.

may go to a polling place based on his current address of residence, when his address of registration would require him to go to a different polling place. Or, he may have trouble recalling which address he registered at two or three years back. With such high mobility, undergraduate GOTV groups must help individuals identify their polling place based on their *address of registration*, even if it is different from their current address of residence, and point them in the right direction on Election Day. All of these suggested efforts require PLTV to identify those VRPUs with a resident/registrant gap and design strategies for them at the outset of the semester.

However, Fall 2008 was the first time PLTV explicitly pushed re-registration, and we should not discount our success in this effort.²² Our data indicate that between August 28, 2008 and November 4, 2008—from the first day of New Student Orientation to Election Day—the records of 3,822 VRPUs were changed in some way by the Pennsylvania Department of State. There were 2,523 new registrations in this period. Thus, we can surmise that 1,299 VRPUs had their records changed without making a new registration. Presumably, a large number of these records would be changes in one's address, as the number of students who may have corrected their name or changed their party would likely be relatively few. When we compare these 1,299 VRPUs who made changes to the 748 who were improperly registered (as reported above), we can conclude that PLTV did a relatively good in encouraging re-registration but still has plenty of room for improvement.

²² In past years, PLTV never called for students to re-register, and if they asked, we had told students merely to fill out a new registration form rather than going through the proper steps to change one's address.

Study Abroad: A Variation on Mobility

Just as the mobility of undergraduate students from residence to residence decreased the accuracy of contact information and thus makes undergraduates harder to target, students participating in study abroad programs had a similar effect. The Penn Abroad office estimates that more than 600 undergraduates partake in such programs every year.²³ With some students spending both semesters abroad, let us estimate that 350 students were abroad in Fall 2008.²⁴ That implies that 3.5% of PLTV's target population of undergraduates (registered and unregistered) were elsewhere on Election Day 2008.

Suppose a typical campaign was trying to mobilize its voters but found out that a few hundred of its target voters were on extended vacations for three months or more. Green and Gerber remind us that some elections may be decided by “the ability to mobilize a few hundred supporters,”²⁵ so forfeiting 5% of one's target population is no small risk. However, the contact information of these voters is essentially unusable since they are not physically present at their home address when the campaign is in full swing. The GOTV group would have to mount a painstaking effort to identify which voters were on vacation and how they could be reached, thereby making their contact information accurate. Beyond that, the campaign would have to engage in a robust operation to mobilize these absentee voters, helping them apply for absentee ballots, ensuring that they receive the absentee ballots, and

²³ Penn Abroad, “Introduction to Penn Abroad,” *University of Pennsylvania*, http://sa.oip.upenn.edu/index.cfm?FuseAction=Abroad.ViewLink&Parent_ID=65F0E917-0F09-A7B1-D319C188CF37FDF5&Link_ID=CBB609B3-A992-3B01-CEBFCBC1B18BA90A&pID=1&IID=1.

²⁴ The number would likely be higher, since of the 600 undergraduates, some participate in full-year programs.

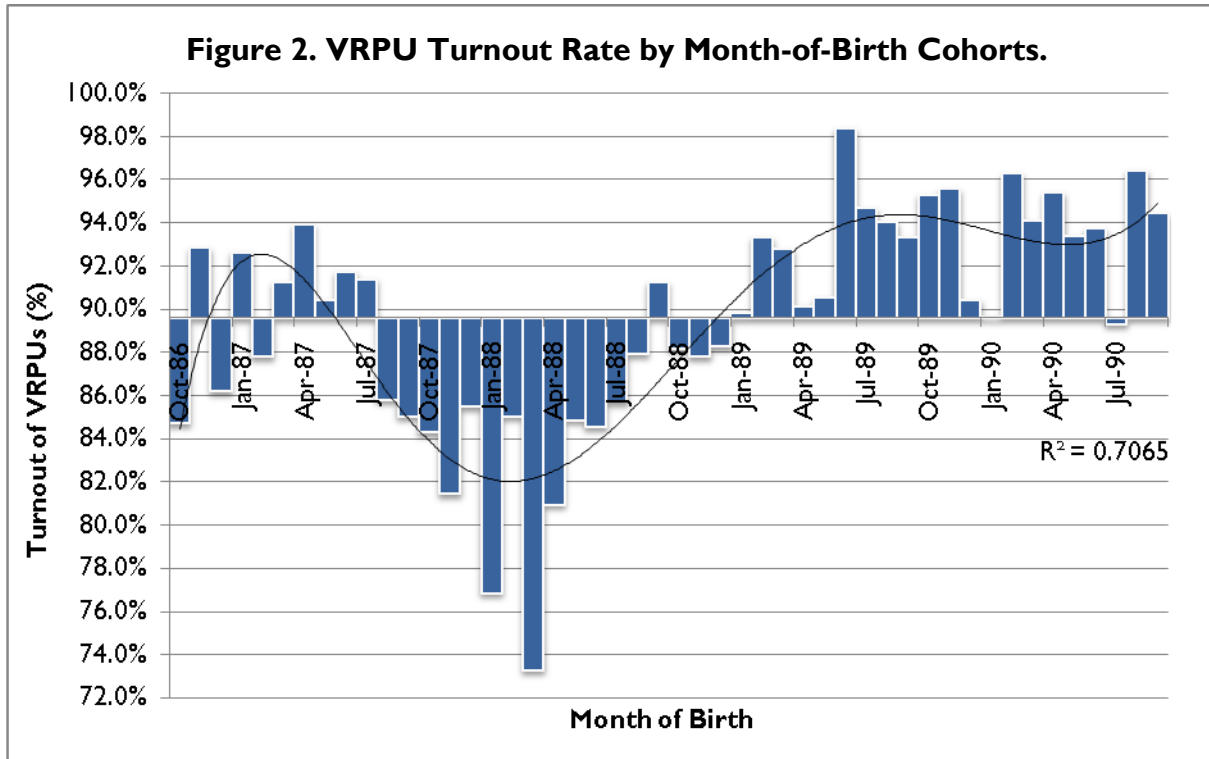
²⁵ Green and Gerber, 3.

encouraging them to return the ballots before Election Day. This, in effect, is what would be required of an undergraduate GOTV group seeking to mobilize students studying abroad.

In 2008, PLTV was not able to obtain the names of the individuals who were abroad during the fall semester. Thus, we could not help them register, and we could not encourage those who were registered to turn in their absentee ballots. Moreover, since we did not have their names, we cannot identify which individual study abroad students actually voted. However, because most study abroad students are juniors, we can look at the turnout of those VRPUs who were born in months associated with the Class of 2010 and compare their turnout rates to those of other classes.²⁶ Of course, this inference creates some error: some study abroad students are sophomores or seniors, and some juniors might have dates of birth outside this realm. We used the broadest possible range of these “month-of-birth cohorts,” August 1987 to December 1988, so as to include the greatest number of juniors. In this range, one can observe the decreased levels of turnout (see Figure 2, next page). Among those VRPUs born in this seventeen-month range, the turnout rate was 84.6%, a full five percent below the campus wide average. 16 of the 17 month-of-birth cohorts in this set performed below the Penn average. Furthermore, turnout rates are lowest in those month-of-birth cohorts at the center of this range, the ones least likely to include younger seniors or older sophomores. The figures reach a low of 73.3% for those born in March 1988, 16.3% below the Penn average.

We can also infer that students born in this range were more likely to be abroad by observing the number of absentee ballots cast by each month-of-birth cohort. Students born

²⁶ Unlike freshmen and sophomores, juniors have already selected their majors, planned how they will complete their required curriculum, and thought about which abroad programs will fit this trajectory. And seniors tend to stay around campus to enjoy their final year with friends.



between August 1987 and December 1988 sent in 64 absentee ballots that were ultimately counted; those born in months before and after this range only turned in 17 absentee ballots. Ultimately, given one’s month-of-birth cohort, the correlation between turnout percentage and number of absentee ballots successfully cast was fairly strong ($r=0.65$). (See Appendix E for full results for each month-of-birth cohort.)

In sum, frequent student mobility and students studying abroad represent common aspects of undergraduate life that make it difficult for campaigns to produce accurate lists of target voters. Specifically, these two elements of university life produce a resident/registrant gap which increases the likelihood that the contact information listed is incorrect. These discrepancies do affect voter turnout among undergraduates, providing an example of the ways basic elements of university life, apart from the behaviors of undergraduates or their interest in the political system, shape their turnout rates. Undergraduate GOTV groups like PLTV must

design specific strategies to deal with the resident/registrar gap if they are to increase voter participation among their constituents.

Conclusion

Registering and turning out undergraduate voters is harder than other voters, and this difficulty is not solely attributable to the perceived apathy of college students. Common elements of university life, like frequent mobility and the ability to study abroad, make it harder for undergraduate GOTV groups to target their constituents.

PLTV has grown tremendously since its inception in 2004. Encouraging registration on campus and tracking registration in other states will always pose challenges to our organization. However, to accurately create a list of potential voters in Philadelphia, I strongly urge future editions of PLTV to make the effort necessary to obtain a list of undergraduates from the university and cross-list it with the list of registered voters to create a list of registered undergraduates and *only* registered undergraduates. Furthermore, PLTV should help facilitate students re-registering every time they change addresses on campus, as well as make an effort to identify and mobilize students studying abroad.

Penn Leads the Vote is barely five years old and yet has accomplished so much in that short span. Moreover, it was only this year that PLTV first met the street list, Full Voter Export, pollwatcher, Google Mail and Google Documents, Microsoft Access, YouTube, and the War Room. 2008 marked the first year of a new and improved, data-driven PLTV. It is my sincerest hope that future groups will refine our efforts to target individual Penn students and continue increase voter participation in ways that reflect our dedication to serving our fellow Penn undergraduates.

Appendices

For all charts:

- VRPU counts the total number of Verified Registered Penn Undergraduates

Voting Method

- <> identifies those VRPUs who were registered but did not vote.
- AB identifies those VRPUs who voted by absentee ballot.
- AP identifies those VRPUs who voted at the polls.
- P identifies those VRPUs who cast provisional ballots which were ultimately counted.

Analysis

- NO totals all VRPUs who did not vote (and NO %, the percentage of all VRPUs who did not vote).
- YES totals all VRPUs who voted (and YES %, the percentage of all VRPUs who voted).
- Vs. Penn compares the voter turnout percentage of a certain subset of VRPUs to the average turnout among all VRPUs (89.6%).

Appendix A. VRPU Registration and Turnout by Participation in the 2008 Pennsylvania Primary

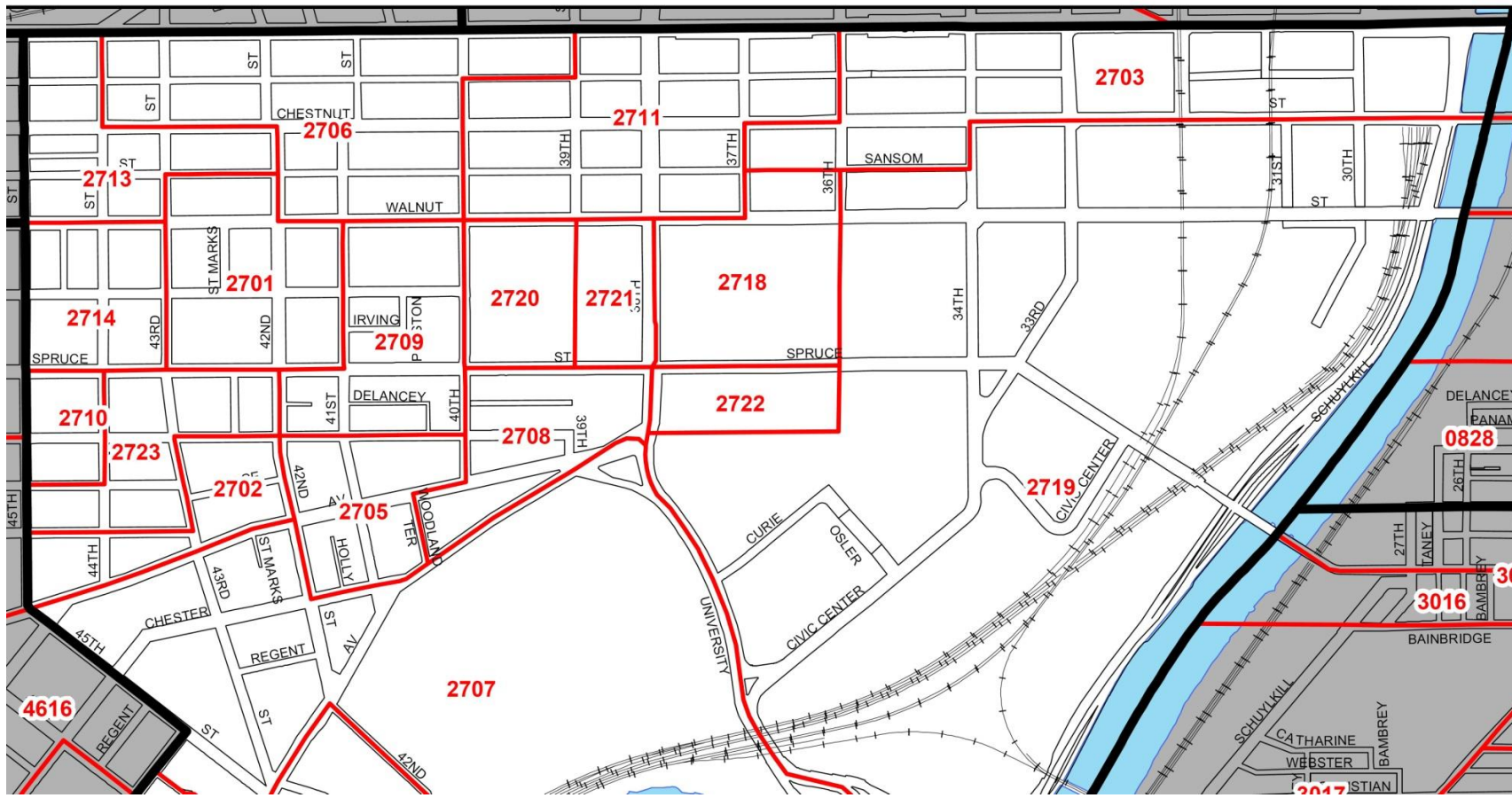
In this chart, “DOR” refers to the date of registration of an individual VRPU. 8/28/08 was the first day of New Student Orientation, marking the first day in the Fall 2008 semester that a Penn undergraduate may have registered or re-registered.

This table illustrates the differing rates of turnout in the general election based on whether (and how) one participated in the 2008 Pennsylvania Primary on April 22, 2008. Note that those VRPUs who didn’t vote in the primary but were registered at that point (NO didn’t vote in primary & DOR < 8/28/08) turned out at a much lower rate, 77.8%. Those VRPUs who did vote in the primary (YES voted in primary) were slightly more likely to than the average VRPU to participate again in the general election, turning out at 91.0%.

4/08 GEN. PRIMARY	VRPU	VOTING METHOD				A N A L Y S I S				
		<>	AB	AP	P	NO	NO %	YES	YES %	vs Penn
NO didn't vote in primary	3590	399	13	3146	32	399	11.1%	3191	88.9%	-0.7%
DOR < 8/28/08	1067	237	10	814	6	237	22.2%	830	77.8%	-11.8%
DOR > 8/28/08	2523	162	3	2332	26	162	6.4%	2361	93.6%	4.0%
YES voted in primary	1775	159	68	1547	1	159	9.0%	1616	91.0%	1.4%
AB in primary	5	0	0	5	0	0	0.0%	5	100.0%	10.4%
AP in primary	1741	152	68	1521	0	152	8.7%	1589	91.3%	1.7%
P in primary	29	7	0	21	1	7	24.1%	22	75.9%	-13.7%
TOTALS	5365	558	81	4693	33	558	10.4%	4807	89.6%	

Appendix B. Map of Ward 27

This map marks the political boundaries of Ward 27, excepting some of the divisions south of Chester Avenue. Divisions 2703, 2718, 2719, 2720, 2721, and 2722 have college houses in them, and thus in previous editions of PLTV were considered “on-campus divisions.”



Appendix C. VRPU Registration and Turnout by Ward 27 Division

In this chart, “DV” identifies the division within Ward 27. The divisions shaded in gray are the nine divisions 300+ VRPUs, which includes all six divisions once identified as “on-campus.” The colored turnout figures in the YES % column indicate the relative success in turnout among these nine Penn-dominated divisions.

DV	VRPU	VOTING METHOD				ANALYSIS				
		<>	AB	AP	P	NO	NO %	YES	YES %	vs Penn
2701	109	11	1	96	1	11	10.1%	98	89.9%	0.3%
2702	29	1	0	28	0	1	3.4%	28	96.6%	7.0%
2703	301	46	3	251	1	46	15.3%	255	84.7%	-4.9%
2704	0	0	0	0	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
2705	115	9	4	102	0	9	7.8%	106	92.2%	2.6%
2706	170	18	7	144	1	18	10.6%	152	89.4%	-0.2%
2707	2	0	0	2	0	0	0.0%	2	100.0%	10.4%
2708	379	40	8	329	2	40	10.6%	339	89.4%	-0.2%
2709	523	39	5	477	2	39	7.5%	484	92.5%	2.9%
2710	9	1	0	8	0	1	11.1%	8	88.9%	-0.7%
2711	529	45	12	470	2	45	8.5%	484	91.5%	1.9%
2712	0	0	0	0	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
2713	1	0	0	1	0	0	0.0%	1	100.0%	10.4%
2714	5	0	0	5	0	0	0.0%	5	100.0%	10.4%
2715	0	0	0	0	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
2716	3	1	0	2	0	1	33.3%	2	66.7%	-22.9%
2717	0	0	0	0	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
2718	593	52	12	515	14	52	8.8%	541	91.2%	1.6%
2719	432	54	3	372	3	54	12.5%	378	87.5%	-2.1%
2720	583	53	10	518	2	53	9.1%	530	90.9%	1.3%
2721	474	34	7	432	1	34	7.2%	440	92.8%	3.2%
2722	1066	151	9	902	4	151	14.2%	915	85.8%	-3.8%
2723	42	3	0	39	0	3	7.1%	39	92.9%	3.3%
TOTALS	5365	558	81	4693	33	558	10.4%	4807	89.6%	

Appendix D. VRPU Registration and Turnout by Address of Residence and Address of Registration

These two charts illustrate the differences between the registration and turnout of VRPUs who were *registrants* of a college house, and registration and turnout of VRPUs who were *residents* of a college house, in the aggregate. The third section identifies the differences between the first two, where positive figures reflect a greater number or proportion of registrants than residents.

COLLEGE HOUSE	I. REGISTRANTS					II. RESIDENTS					III. DIFFERENCE (Reg - Res)				
	VRPU	NO	NO %	YES	YES %	VRPU	NO	NO %	YES	YES %	VRPU	NO	NO %	YES	YES %
DuBois	108	4	3.7%	104	96.3%	101	2	2.0%	99	98.0%	+7	+2	+1.7%	+5	-1.7%
Fisher-Hassenfeld	382	56	14.7%	326	85.3%	272	20	7.4%	252	92.6%	+110	+36	+7.3%	+74	-7.3%
Gregory	138	16	11.6%	122	88.4%	135	8	5.9%	127	94.1%	+3	+8	+5.7%	-5	-5.7%
Class of 1925	48	6	12.5%	42	87.5%										
Van Pelt Manor	90	10	11.1%	80	88.9%										
Harnwell	394	30	7.6%	364	92.4%	396	23	5.8%	373	94.2%	-2	+7	+1.8%	-9	-1.8%
Harrison	442	36	8.1%	406	91.9%	435	33	7.6%	402	92.4%	+7	+3	+0.6%	+4	-0.6%
Hill	381	50	13.1%	331	86.9%	304	20	6.6%	284	93.4%	+77	+30	+6.5%	+47	-6.5%
Kings Court-English	207	28	13.5%	179	86.5%	190	15	7.9%	175	92.1%	+17	+13	+5.6%	+4	-5.6%
Riepe	295	35	11.9%	260	88.1%	256	14	5.5%	242	94.5%	+39	+21	+6.4%	+18	-6.4%
Rodin	399	40	10.0%	359	90.0%	427	46	10.8%	381	89.2%	-28	-6	-0.7%	-22	+0.7%
Stouffer	128	11	8.6%	117	91.4%	135	10	7.4%	125	92.6%	-7	+1	+1.2%	-8	-1.2%
Mayer Hall	66	4	6.1%	62	93.9%										
Stouffer Hall	62	7	11.3%	55	88.7%										
Ware	310	51	16.5%	259	83.5%	299	23	7.7%	276	92.3%	+11	+28	+8.8%	-17	-8.8%
TOT.	3184	357	11.2%	2827	88.8%	2950	214	7.3%	2736	92.7%	+234	+143	+4.0%	+91	-4.0%

The chart below collects the college house data above into four groups of college houses:

- “Hill” includes Hill College House
- “Quad” includes Ware, Riepe, and Fisher-Hassenfeld College Houses
- “High Rises” includes Rodin, Harrison, and Harnwell College Houses
- “Other” includes King’s Court-English, Stouffer, DuBois, and Gregory College Houses

BUILDING GROUP	I. REGISTRANTS					II. RESIDENTS					III. DIFFERENCE (Reg - Res)				
	VRPU	NO	NO %	YES	YES %	VRPU	NO	NO %	YES	YES %	VRPU	NO	NO %	YES	YES %
HILL	381	50	13.1%	331	86.9%	304	20	6.6%	284	93.4%	+77	+30	+6.5%	+47	-6.5%
QUAD	987	142	13.5%	845	86.5%	827	57	7.9%	770	92.1%	+160	+85	+5.6%	+75	-5.6%
HIGH RISES	1235	106	11.9%	1129	88.1%	1258	102	5.5%	1156	94.5%	-23	+4	+6.4%	-27	-6.4%
OTHER	581	59	10.0%	522	90.0%	561	35	10.8%	526	89.2%	+20	+24	-0.7%	-4	+0.7%
TOT.	3184	357	11.2%	2827	88.8%	2950	214	7.3%	2736	92.7%	+234	+143	+4.0%	+91	-4.0%

Appendix E. VRPU Registration and Turnout by Month-of-Birth Cohort

This table illustrates the differences in registration and turnout among those born in different month-of-birth cohorts.

Month of Birth Cohort	VOTING METHOD					A N A L Y S I S				
	VRPU	↔	AB	AP	P	NO	NO %	YES	YES %	vs Penn
1985 & earlier	32	9	0	22	1	9	28.1%	23	71.9%	-17.7%
Jan-86	3	0	0	3	0	0	0.0%	3	100.0%	10.4%
Feb-86	2	0	0	2	0	0	0.0%	2	100.0%	10.4%
Mar-86	5	1	0	4	0	1	20.0%	4	80.0%	-9.6%
Apr-86	5	1	0	4	0	1	20.0%	4	80.0%	-9.6%
May-86	6	0	0	6	0	0	0.0%	6	100.0%	10.4%
Jun-86	11	2	0	9	0	2	18.2%	9	81.8%	-7.8%
Jul-86	11	1	0	10	0	1	9.1%	10	90.9%	1.3%
Aug-86	15	2	0	13	0	2	13.3%	13	86.7%	-2.9%
Sep-86	49	4	0	45	0	4	8.2%	45	91.8%	2.2%
Oct-86	72	11	0	61	0	11	15.3%	61	84.7%	-4.9%
Nov-86	70	5	0	65	0	5	7.1%	65	92.9%	3.3%
Dec-86	87	12	1	72	2	12	13.8%	75	86.2%	-3.4%
Jan-87	109	8	0	101	0	8	7.3%	101	92.7%	3.1%
Feb-87	123	15	3	105	0	15	12.2%	108	87.8%	-1.8%
Mar-87	126	11	4	111	0	11	8.7%	115	91.3%	1.7%
Apr-87	99	6	2	91	0	6	6.1%	93	93.9%	4.3%
May-87	115	11	1	99	4	11	9.6%	104	90.4%	0.8%
Jun-87	109	9	2	97	1	9	8.3%	100	91.7%	2.1%
Jul-87	93	8	2	82	1	8	8.6%	85	91.4%	1.8%
Aug-87	141	20	1	118	2	20	14.2%	121	85.8%	-3.8%
Sep-87	107	16	1	88	2	16	15.0%	91	85.0%	-4.6%
Oct-87	121	19	1	101	0	19	15.7%	102	84.3%	-5.3%
Nov-87	97	18	6	73	0	18	18.6%	79	81.4%	-8.2%
Dec-87	124	18	3	102	1	18	14.5%	106	85.5%	-4.1%
Jan-88	108	25	2	81	0	25	23.1%	83	76.9%	-12.7%
Feb-88	107	16	7	83	1	16	15.0%	91	85.0%	-4.6%
Mar-88	101	27	7	66	1	27	26.7%	74	73.3%	-16.3%
Apr-88	105	20	5	80	0	20	19.0%	85	81.0%	-8.6%
May-88	119	18	3	98	0	18	15.1%	101	84.9%	-4.7%
Jun-88	110	17	4	88	1	17	15.5%	93	84.5%	-5.1%
Jul-88	105	15	4	86	0	15	14.3%	90	85.7%	-3.9%
Aug-88	116	14	6	96	0	14	12.1%	102	87.9%	-1.7%
Sep-88	103	9	4	88	2	9	8.7%	94	91.3%	1.7%
Oct-88	110	13	5	91	1	13	11.8%	97	88.2%	-1.4%
Nov-88	82	10	2	69	1	10	12.2%	72	87.8%	-1.8%
Dec-88	111	13	3	93	2	13	11.7%	98	88.3%	-1.3%
Jan-89	118	12	0	106	0	12	10.2%	106	89.8%	0.2%
Feb-89	90	6	1	83	0	6	6.7%	84	93.3%	3.7%
Mar-89	125	9	0	115	1	9	7.2%	116	92.8%	3.2%
Apr-89	122	12	0	108	2	12	9.8%	110	90.2%	0.6%
May-89	106	10	0	96	0	10	9.4%	96	90.6%	1.0%

Jun-89	125	2	0	123	0	2	1.6%	123	98.4%	8.8%
Jul-89	132	7	0	125	0	7	5.3%	125	94.7%	5.1%
Aug-89	118	7	0	111	0	7	5.9%	111	94.1%	4.5%
Sep-89	105	7	1	97	0	7	6.7%	98	93.3%	3.7%
Oct-89	107	5	0	101	1	5	4.7%	102	95.3%	5.7%
Nov-89	113	5	0	108	0	5	4.4%	108	95.6%	6.0%
Dec-89	115	11	0	103	1	11	9.6%	104	90.4%	0.8%
Jan-90	116	12	0	104	0	12	10.3%	104	89.7%	0.1%
Feb-90	108	4	0	104	0	4	3.7%	104	96.3%	6.7%
Mar-90	102	6	0	94	2	6	5.9%	96	94.1%	4.5%
Apr-90	109	5	0	103	1	5	4.6%	104	95.4%	5.8%
May-90	106	7	0	99	0	7	6.6%	99	93.4%	3.8%
Jun-90	96	6	0	90	0	6	6.3%	90	93.8%	4.2%
Jul-90	103	11	0	91	1	11	10.7%	92	89.3%	-0.3%
Aug-90	113	4	0	109	0	4	3.5%	109	96.5%	6.9%
Sep-90	72	4	0	67	1	4	5.6%	68	94.4%	4.8%
Oct-90	47	2	0	45	0	2	4.3%	45	95.7%	6.1%
Nov-90	8	0	0	8	0	0	0.0%	8	100.0%	10.4%
Dec-90	0	0	0	0	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
1991 & later	0	0	0	0	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!
TOTALS	5365	558	81	4693	33	558	10.4%	4807	89.6%	

Bibliography

- George Washington University, Graduate School of Political Management. “Young Voter Mobilization Tactics: A Compilation of the Most Recent Research on Traditional & Innovative Voter Turnout Techniques.”
http://www.civicyouth.org/PopUps/Young_Voters_Guide.pdf (accessed May 9, 2009).
- Green, Donald P. “The Effects of an Election Day Voter Mobilization Campaign Targeting Young Voters.” CIRCLE. Sept., 2004.
- Green, Donald P., and Alan S. Gerber. *Get Out the Vote: How to Increase Voter Turnout*. 2d ed. Washington, D.C.: Brookings, 2008.
- Harvard Institute of Politics. “The 14th Biannual Youth Survey of Politics and Public Service.”
http://www.iop.harvard.edu/var/ezp_site/storage/fckeditor/file/spring%20poll%2008%20-%20topline.pdf (accessed May 9, 2009).
- Kiesa, Abby et al. “Millennials Talk Politics: A Study of College Student Political Engagement.” CIRCLE.
- Niemi, Richard, and Michael Hanmer. “College Students in the 2004 Election.” CIRCLE (Nov. 2004). http://www.civicyouth.org/PopUps/FactSheets/FS_College_Voting.pdf (accessed May 9, 2009).
- Penn Abroad. “Introduction to Penn Abroad.” *University of Pennsylvania*,
http://sa.oip.upenn.edu/index.cfm?FuseAction=Abroad.ViewLink&Parent_ID=65F0E917-0F09-A7B1-D319C188CF37FDF5&Link_ID=CBB609B3-A992-3B01-CEBFCBC1B18BA90A&pID=1&IID=1 (accessed May 9, 2009).
- QuestBridge. “University of Pennsylvania – Diversity Overview.”
http://questbridge.org/cmp/partner_schools/upenn/diversity.html (accessed May 9, 2009).