Alumni Donations:

An Analysis of the W.P.I. Contribution Trend

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Submitted By:

Shanna Infantino

Lindsay Brown

Karen Teague

Minh Le

Submitted To:

Professor Jon Abraham, Advisor

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ABSTRACT

The Alumni Donation 2010-2011 MQP focused on discovering and analyzing trends for those individuals who have both donated and not donated to Worcester Polytechnic Institute (WPI). These trends aided in determining how to maximize donations to the school and in determining if an individual has the potential to give in the future. This project planned to examine the effects that gender, age, and other possible contributing factors of the WPI alumni has on one's probability of donating. It was a hope that by the end of this project, we would be able to create a model that would enable the Alumni Office to determine the probability of an alumni giving to the school. In addition, this project analyzed activities that have been done in the past, trying to determine which activities promoted more donation and participation, as well as looking for other activities that encourage people to become more active with the school.

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1. EXECUTIVE SUMMARY

At the time of our project, the Office of Development and Alumni Relations was a department on the WPI campus who worked on receiving and increasing donations to the school. They looked at prospective donors and previous donors and worked on reaching out to present alumni for donations. They did this by e-mail, phone, on campus get-togethers, and personal meetings.

The goal of this project was to analyze alumni description aspects to find trends. This was done by creating banana graphs which were used to determine relevancy of each category. From this, models were developed to determine the probability of an alumni giving and to get an idea of how much and how often they give. Additionally, we came up with recommendations for the Alumni Office on future events for getting alumni more involved with WPI.

Process:

- Collected and reviewed data from Alumni Office and choose categories for analysis
- Reconstructed data
- Graphed Data in Excel- PivotTable, banana graphs
- Created Student and Alumni Survey
- Created Population Distribution Maps
- Created Models

Data was acquired from the Alumni Office that consisted of information from surveys, phone calls, and e-mails. After looking at the size of the data, we decided to use a Unix PC to rearrange the data by splitting it up and getting rid of repetitive entries. Once the data was minimized, we were able to use Excel to construct graphs. The categories we used for these graphs were gender, age, marital status, number of children,

state region, number of activities, legacy, primary ethnicity, WPI loan or scholarship, department of first major, and second major status. The team first constructed plain bar graphs to look at the data and then created banana graphs to determine the effect each category had on donation behavior. By creating these banana graphs we were successful in finding trends and came up with a modern, usable model. Also, by creating surveys to give to current seniors and alumni, we were able to come up with a list of suggestions for events in the future that would bring back alumni. From the population distribution maps, we were able to suggest areas in the United States where the Alumni Office could hold functions based on the survey results.

The purpose of this project was to determine trends in the alumni data and come up with a usable, sensible model. Using this information on our model, the Alumni Office will be able to use it in the future and make more accurate predictions for future potential donors.

2. INTRODUCTION

As WPI continues to grow and the number of alumni increases, the WPI Alumni Office wanted to try to engage more alumni and increase the number of alumni donations to WPI. By looking at trends in the information available for current alumni, the Alumni Office hoped to identify which alumni are more likely to donate. The Alumni Office was also looking to improve alumni involvement and increase attendance at alumni functions. This would help increase donations and improve alumni relations. They were also looking into which specific functions would most appeal to alumni and where these functions should be held to accommodate those who live all over the world.

In the past, the Alumni Office has used a program called Blackbaud, which focused on ratings based on public information such as real estate and credit score. While this was useful financial information, the Alumni Office wanted to focus more on relevant personal information they collected, such as one's legacy, ethnicity, activities, and location.

In the past, another MQP team analyzed information that the Alumni Office had. This MQP suggested a scoring system on a scale of one to twenty that ranked alumni who were more likely to give. The MQP focused on specific fields such as marital status, non-WPI degree, participant in Greek life, etc. (See Background 3.1.2). This scoring system was based on a book by Peter B. Wylie, which uses techniques such as data mining and list scoring. While the Alumni Office was pleased with the rating system generated by this team, the data analyzed is now out of date. This set the stage for our MQP.

The Alumni Office requested a more recent analysis of the new data. This MQP has done this by reconstructing the data (making it smaller and more workable in Excel), by finding the maximal difference on the banana graphs, and ultimately creating three models that predict the probability of giving, the approximate amount of giving, and the approximate number of times an alumni may give. The team also used surveys to identify more personal thoughts on how alumni look back on WPI.

3. BACKGROUND

3.1 Alumni Scoring System: A Past Major Qualifying Project on the Alumni Database

The likelihood of alumni donations was a topic that WPI explored before. Previously in 2007, WPI students Kirsten Murphy and Onalie Sotak, with help from the WPI Office of Development and Alumni Relations, studied and analyzed the Alumni database in an effort to construct and evaluate a scoring method. In this scoring method, individuals received a number one through twenty which indicated the likelihood of them donating, one being the lowest likelihood and twenty being the highest likelihood. The spreadsheet used, *Donor Score System*, looked at several factors pertaining to the past and present life of all the alumni, such as social interactions, past donation activities, and other involvement criteria within the school. With these assigned numbers, the alumni were prioritized for the fundraising activities.[1]

3.1.1 The WPI Alumni Database

When analyzed in 2007, the Alumni database contained 48,604 individuals, 24,204 of whom contributed donations totaling $99,387,742. The database contained one hundred and one categories of information and ranged from the years of 1983 to 2007. The average donation, from those who donated, was $4,106.25. For the purpose of avoiding outliers within the data, Murphy and Sotak omitted the largest sixty-two donors and conducted an analysis only of the remaining 23,965 alumni.[2]

3.1.2 Donor Scoring System

The scoring system used by Murphy and Sotak was modified from many of the same methods used that were developed by Peter B. Wylie, using data mining and list

[1] (Murphy, and Sotak)

[2] Ibid

scoring.[3] Each variable being analyzed was assigned a score and contributed to the overall score factor assigned to the individual in the end. The system considered how heavily each factor should be weighted on the likelihood of one's donor donation score. For example, marital status and gender were both contributing factors to donor behavior, and each could be assigned a different weight other than the score of zero or one.[4]

While the Alumni Office acquired several different categories of information over the years, the main categories the *Alumni Scoring System* focused on were the following:

1. Marital status	12. Attendance at a Reunion
2. Non-WPI degree	13. Alum Volunteer
3. Participant in Greek Life	14. Participant of a Project Center
4. Participant in Varsity Sports	15. GPA (GPA equivalent)
5. Residential Zip Code	16. Participant in International Club
6. Gender	17. Participant in Club Sport
7. WPI Spouse	18. Participant in Music Related Clubs
8. Number of Children	19. Participant in Undergraduate Professional Societies
9. Preference Class	20. Participant in School Involvement Clubs
10. Had a Scholarship	21. Honor Society
11. Involved in Solicitation Structure	22. Graduation Distinction

Table 1: Main Categories for past MQP - *Alumni Scoring System*.

The scoring spreadsheet itself included twelve different tabs whose functions were to either help calculate the alumni score or to help model the behavior of alumni.[5] A specific explanation of each tab's function can be found in Appendix H: User's Manual provided for Donor Score System, located in the *Alumni Scoring System* project.[6] For example, the

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[3] Data mining extracts the hidden predictive information from a large database. List scoring is a means of organizing a data set based on what one is trying to find, in this project's case, donation behavior. List scoring was used by ranking individuals based on their donations, which are then organized into list form.

[4] For demonstration purposes, allow the marital status to have a score of 4, if married, and 2, if not married, and allow gender to have a score of 2, if male, and 1, if female. The score of a married female would then be 5, while the score of a single male would be 4. This shows how marital status would carry more weight on donor behavior than gender would.

[5] These twelve tabs are Data, Top Scorers, Data 2, Zip Codes, Score Factors, Scoring, Scoring 2, Metrics, Total People, Total Donated, Average Donated, and Percentage Donating.

[6] A copy of *Alumni Scoring System* is provided on the zip file handed in with the final report of this 2010-

Metrics tab analyzes how accurate the scoring system is using the following methods:

- The R-Squared method, which compared the data with the best fit line;
- The Sum of Slopes method, which compared how increasing the values are;
- The O.K. method, which also compared how increasing the values are.

The analysis previously done on the Alumni database centered largely on the creation of a scoring system for the data. Previous analysis identified how likely individuals were to donate. Additionally, for seventeen of the twenty-two variables (out of the one-hundred and one categories) used, the donation behavior was determined by whether or not the value was blank. Table 4 displays an example of how the blank/non-blank variables were analyzed. As seen below, 73.91% of those who reported to be in Greek life gave, while only 50.47% of those who were either blank or did not bother to answer the question gave. If the alumni took the time to fill in the answers to more specific questions about themselves, it predicted a closer relationship between them and the school than if the alumni only answered the most basic questions.

	# People	# People Donated	% People Donated	$ Donated	Average Donation	Median
Non Blank	9,416	6,959	73.91%	$26,566,269.58	$2,821.40	$175.00
	# People	**# People Donated**	**% People Donated**	**$ Donated**	**Average Donation**	**Median**
Blank	14,549	7,343	*50.47%*	$9,396,696.52	$645.87	*$3.00*

Table 2: Statistics for the FRAT variable from Donor Scoring System.

The five remaining variables (Marital Status, Bachelor's Degree Major, Grade Point Average, and Preference Class) were analyzed by subcategory, as shown in Table 3.

	Married	Single	Other	Blank
Total # Of	12,899	10,260	728	140
Total $ Donated	$66,289,522.44	$2,728,014.51	$7,203,267.70	$4,641,256.02
Total # Donated	9,929	3,797	604	34
Percent Donated	76.97%	37.01%	82.97%	24.29%
Average Donation	**$5,139.12**	**$265.89**	**$9,894.60**	**$33,151.83**

Table 3: Distribution of Donation Size by Marital Status Variable from Donor Scoring System.

All of the variables were assigned a score factor, which the members of the past MQP team then developed into a scoring system based on how many of the people within each variable gave. The Alumni Donations team hoped to extend the analysis of the Alumni database in such a way where trends can be found on donation behaviors.[7]

3.2 Blackbaud, Inc. Ratings

Prior to 2007, the Alumni Office contracted Blackbaud, Inc. to rate alumni donation and behavior.

3.2.1 Company Background

Blackbaud, Inc., established in 1981, was a public company that worked exclusively with nonprofit organizations. Organizations and companies used Blackbaud for many different uses including, but not limited to, prospect research and donor acquisition and development. Blackbaud's Donor Acquisition and Development sector helped organizations be "more efficient in contacting prospects [that would] become donors."[8] This was done through acquisition lists, the use of the nonprofit cooperative database, and the use of staff members who helped companies develop customized lists suited towards their needs.

Blackbaud's acquisition list "allow[ed] you to find new donors, identify best prospects, improve efficiency, and maximize the lifetime value of your donors."[9] This was done by using the nonprofit cooperative database to build lists tailored to one's specific organization. Using target analytics, Blackbaud compiled more than 550 nonprofit organizations in their Nonprofit Cooperative Database. This database, with more than 2 billion transactions, became "the largest national cooperative database

[7] (Murphy, and Sotak)

[8] ("Donor Management: Donor Acquisition and Development")

[9] ("Manage Donor Mailing Lists, Acquire New Donors, Donor Modeling Services")

designed exclusively to help nonprofits." [10] Using different demographic variables, Blackbaud used this database to "build a relevant picture of philanthropic giving patterns for nearly 70 million households around the country."[11] Using statistical models, they predicted, using these variables, which households would be the most and least likely to respond to solicitations.

For organizations who needed a more in-depth, specific analysis, Blackbaud employed Target Analytics who specialized in this area. Organizations could either chose from rapid response lists, list fulfillment services, value enhanced acquisition modeling, long-term value and donor conversion explorer, or target list optimization. Value enhanced acquisition modeling helped organizations figure out how to properly select and treat new donors who were likely to give large gift amounts. Long-term value and donor conversion explorer helped organizations identify long-term value and retention trends. This helped organizations figure out how to best cater to the diversity of each member and their ability to help the organization. Target list optimization used a person's solicitation history in order to identify people who have an extremely low probability of contributing long-term value to an organization. This allowed organizations to be more efficient by lowering costs and increasing response rates.

3.2.2 Blackbaud ratings in the WPI Alumni Database

According to an Alumni Office representative, WPI used Blackbaud to rate alumni donations and involvement, but the ratings were based upon public financial information such as real estate and stocks. As seen in Appendix A, individuals that are given the code ABC fell into three different categories: do not have a primary manager, are not in an anniversary class, and "have not made a gift within the past six years and graduated more than 20 years ago."

Persons, not given the code ABC, were given six different Blackbaud ratings. For each of these ratings, a higher score indicated a higher likelihood of a person making a

[10] ("Largest Donor Database: The Nonprofit Cooperative Database")

[11] Ibid

donation. The first rating, BB AF, predicted "the likelihood of an individual to give an annual gift of any size in a 12 month period." The second rating, BB MG, predicted "the likelihood of an individual to give a major gift of $50,000 or more" over a five-year period. The BB PG Annuity rating predicted "the likelihood an individual to make an annuity donation." The BB PG Bequest rating predicted "the likelihood of an individual making a bequest." The BB PG CRT rating predicted "the likelihood of an individual to set up a charitable remainder trust donation." Finally, the BB TG rating was "the suggested ask amount for an annual philanthropic gift." This rating was based on an "individual's relationship to WPI, giving history, financial information, and demographic data."[12]

3.3 Wallace & Washburn Inc. Survey Inquiries

In 2008 and 2010, Judith Jaeger, the Director of Development Communications for the Office of Development and Alumni Relations, worked with Wallace & Washburn Inc. to produce two large surveys. One survey addressed the creation of the WPI Sports and Recreation Center while the other concerned alumni giving and the importance of WPI to alumni.

In the "WPI Sports and Recreation Alumni Opinion Survey", conducted in January 2010, the objective was to gain an understanding of alumni opinion and potential support for the new Recreational Center. Of the 17,516 Alumni surveyed, 1,987 surveys were completed and returned (about one tenth). Although this survey focused mostly on alumni opinion regarding the Recreation Center, it also hit upon some points regarding alumni giving to WPI. One important conclusion reached by Wallace & Washburn Inc. regarding alumni giving was that current donors do not seem very inclined to increase their giving in support of the Recreational Center. They did, however, note some appealing reasons given by alumni for financially supporting this endeavor:

72% "It will help provide a balanced education on WPI's residential campus of academic and opportunities for recreation."

[12] Further information about the Blackbaud ratings can be found in Appendix B.

61% "Sports teaches teamwork."
60% "WPI can remain competitive and attract the best students and faculty."
56% "Sports teaches teamwork and how to grow as leaders." [13]

Additionally, of those who completed the survey, it is reported that fifty percent of the alumni came back to WPI a year after graduating while twenty percent visited two to three years after graduating. As seen in Figure 1, the amount of time that passed since alumni have returned to campus has a decreasing trend where the majority of alumni return to campus closest to their date of graduation. This survey also included data about how alumni have been involved in WPI. Some of these activities are:

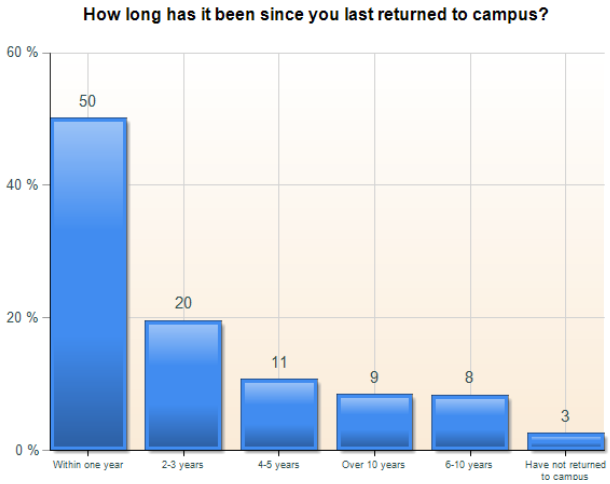

Figure 1: Results from the WPI Alumni Sports and Recreation Center Alumni Opinion Survey on last attendance to campus.

81% "read the WPI magazine"
19% "attended homecoming"
18% "attended a sporting event"
12% "attended a reunion"
10% "attended an academic event" [14]

Even though this survey was mostly about the Recreation Center, it also provided some insight into why alumni donate and, most notably, what activities alumni are most interested in participating in after they graduate. It also provided insight into which times alumni are most interested in coming back to visit WPI.

In 2008, Wallace and Washburn, Inc. sent out the "WPI Alumni Opinion Survey," which primarily researched how alumni participation and giving could be maximized at WPI. The survey was issued to alumni in three waves to maximize participation with an incentive of winning one of one-hundred WPI t-shirts. In the end, 1,503 alumni

[13] ("WPI Sports & Recreation Center Alumni Opinion Survey" 16)

[14] ("WPI Sports & Recreation Center Alumni Opinion Survey" 25)

participated. The survey focused on why alumni donate or do not donate to WPI. Recommendations for improvements were then generated from the company and from the alumni themselves. As to why alumni donate:

52% "think is the appropriate thing to do"
40% "feels like the right thing to do"
8% "looks like the right thing to do" [15]

Further key reasons as to why alumni donate were:

57% "scholarships"
53% "had an excellent academic experience"
41% "help hire best faculty" [16]

Major reasons from alumni for not giving back to WPI were:

23% "not sure where the money is going"
17% "money might not go to a valued program"
14% "don't feel connected" [17]

Of the important recommendations that Wallace & Washburn Inc. came up with, the most relevant to this project are:

- "build involvement";
- "promote project-based curriculum stories in all areas among alumni (online magazine, mail)";
- "create WPI stories in the media, e.g. share stories of 'WPI in the News'";
- "increase emails and mail contact with alumni";
- "prove the need for more support in detail including graphs and numbers (explain the potential downside if lack of support occurs)"; and
- "share key findings with alumni." [18]

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[15] ("WPI Alumni Opinion Survey" 5)

[16] Ibid

[17] Ibid

[18] ("WPI Alumni Opinion Survey" 7)

Significantly, the survey findings also included all of the comments alumni had given to certain questions. The most relevant to this project are the comments alumni made regarding alumni involvement and how it can be improved. This was important because, if the Alumni Office could generate more interest and involvement from alumni, then there would hopefully be a corresponding increase in the amount of money donated. Some suggestions for improving involvement that were seen multiple times from alumni included:

- "more family events so kids can get involved"
- "have better follow up with alumni who express interest"
- "consider work schedules when planning events"
- "more events outside of Worcester (potentially in other large cities, e.g. NYC, Boston, San Diego)"
- "more sporting events"
- "more interaction with undergraduates with similar interests"
- "more personal recruitment styles like making phone calls" [19]

There were other good suggestions that were only made once but should still be considered because they may have a high potential of getting more alumni involved. These were:

- "send out schedules further in advance";
- "attractions like alumni only concerts where tickets are the donation";
- "more casual gathering";
- "an Alumni Day where alumni can come back and have casual lunches with students of their major";
- "wine tasting"; and
- "sponsor a freshman." [20]

Each of these recommendations should be investigated further to determine whether they could be implemented in a cost-effective manner and whether they produced the desired improvements in alumni involvement and alumni giving.

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[19] ("WPI Alumni Opinion Survey" 330-412)

[20] Ibid

3.4 The WPI Alumni Development and Alumni Relations

The Office of Development and Alumni Relations at WPI "spearheads a wide range of alumni events and communications vehicles such as The Hill, The Bridge and the alumni Web site."[21] The office also worked closely with the Alumni Association which was a volunteer organization devoted to providing different benefits and services to the WPI graduates.

3.4.1 Departments

The Office of Development and Alumni Relations was composed of nine different offices:

- Alumni Relations
- Alumni Giving
- Corporate and Foundation Relations
- Development Technology
- Development Operations and Research including Donor Relations and Special Events
- Planned Giving
- Major Gifts
- Development Communications and Development in the Life Sciences.

Each office worked "interdependently to carry out the community outreach and philanthropic needs of the university."[22] The Alumni Relations Office coordinated programs, such as annual class reunions, homecoming, and parents' weekend, while the Office of Donor Relations and Special Events coordinated events, such as the annual scholarship dinners and endowed professorship celebrations. The Alumni Giving Office coordinated the senior class gifts and the Parent's Fund.

The Office of Development and Alumni Relations worked hard to keep WPI alumni active in their alma mater. In the past few years, the Office of Development and Alumni Relations started reaching out to those alumni who live farther away, such as in Europe. The office occasionally conducted surveys with the alumni in order to determine

[21] ("Office of Development and Alumni Relations")

[22] Ibid

how best to reach out to a majority instead of a minority.[23] Keeping alumni involved is a great way to enhance the life of current WPI students and the generous donations solicited by the Office of Development and Alumni Relations helped continue to make it possible for students to receive a WPI education.

[23] A copy of both surveys is provided in the zip file handed in with the final report of this 2010-2011 project.

3.4.2 The Distribution of Donations

As previously stated, possible donors were hesitant to give since they did not know where their money would be going. They may have wanted it to specifically go to a certain department instead of the general fund. The same had been inquired about current donors, who had contributed to the WPI community, but did not know where their money was specifically going. On November 15, 2010, the Office of Development and Alumni Relations reviewed their current progress in the commitments they had set for the distribution of money that had been generously given to the school. Alumni Relations chose five categories in which they set designated amounts of money for each category.

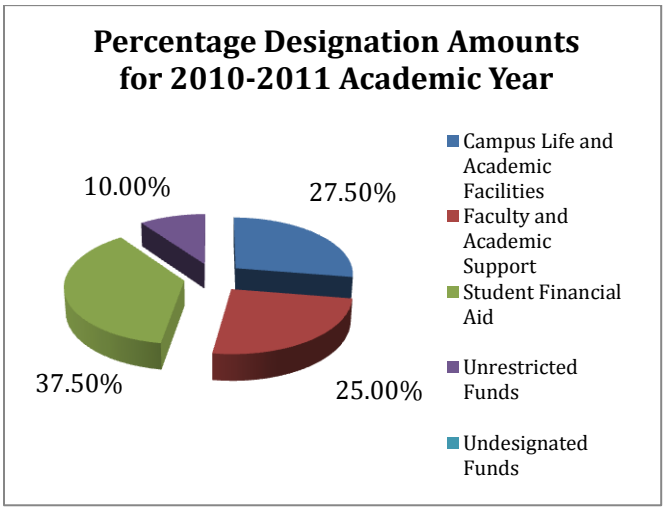

Figure 2: Money Designation Percentages[24]

Category	Money Designated
Campus Life and Academic Facilities	$55,000,000.00
Faculty and Academic Support	$50,000,000.00
Student Financial Aid	$75,000,000.00
Unrestricted Funds	$20,000,000.00
Undesignated Funds	$0.00
Grand Total	$200,000,000.00

Table 4: 2010-2011 Academic Year Money Designation Amounts.

Collectively, the total commitment goal equated to $200,000,000. At the beginning of this project, 44.1% of the goal for Campus Life and Academic Facilities, 38.5% of the goal for Faculty and Academic Support, 30.9% of the goal for Student Financial Aid, and 33.5% of Unrestricted Funds had been met. While no goal was set to

[24] While Undesignated Funds is listed in the legend, there was no money designated to this category, which is why it does not appear on the pie chart.

be designated to Undesignated Funds, $3,045,092 had been committed to this category.[25] A more in depth look into how funds are distributed is provided in Appendix B, which breaks down the fund commitment by purpose. [26]

The Alumni Office also broke down who has donated to WPI into eighteen categories. Those people classified as anything other than alumni have provided 62.9% of the donor commitment for the current year.[27] While it was greatly appreciated to have the contribution by those who are not alumni, this project wanted to find those contributing factors that would increase the percentage of alumni giving in the overall total population. (See Appendix C)**.**

3.5 Examples of Negative Actions of Fundraising

In effort to build a strong behavioral pattern for soon-to-be alumnus to donate to the school, it was important to recognize the mistakes that other schools have made on reaching out to the current students. In the past, schools such as Cornell University and Dartmouth College had organizations that essentially resorted to pressuring students to donate. Instead of building donor loyalty to the school, the constant emails and badgering from friends and other students forced graduating seniors to donate so they could be left alone. While it was important to establish a good relationship early on with those students leaving, approaches such as these "can actually undermine the gift program," as stated by Rob Henry.[28] One of the first relationships that the Alumni office would establish with their soon-to-be alumni would be their involvement in the senior class gift. While the programs for encouraging participation in the senior gift through peer-to-peer contact was a good way to start a relationship with seniors, releasing a name list of those who did not donate, as what happened at Cornell and Dartmouth, negated the comfortable feeling of

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[25] ("Campaign Commitment Progress Reports and Graphs" 3)

[26] ("Campaign Commitment Progress Reports and Graphs" 5-7)

[27] Ibid

[28] Rob Henry is the executive director of emerging constituencies for the Council for Advancement and Support of Education.

donating money that students got from having that peer-to-peer contact. Students who were on these lists were for all intents and purposes solicited to donate. Where Henry stated "The goal is not to raise money, but to begin a pattern of behavior," a student commented that the senior gift program had "made it nearly the equivalent of a tax, so it no longer mean[t] very much."[29]

The fundamental messages of this article were not to have a 100% participation goal, but to ask for larger, multiyear gifts and provide positive recognition. Having a 100% participation goal forced students' hands to feel pressured into donating and could actually deter them to not donating in the future for the sole reason that they were hassled to do so before even graduating. Those who had already pledged to donate may be easier to ask for a donation. Conclusively, positive recognition to those who had already donated highlights the significance of how important donations are and how appreciative the school was to those donating.[30] It was a hope that input from current seniors here at WPI would help determine how the students felt about donating at this point in time and how they felt about donating in the future.

3.6 Banana Graphs Background

The concepts of banana graphs came from a previous MQP done called "Predicting Policyholder Behavior and Benefit Utilization," by Jie Bai, Ashleigh Smeal, Heather Standring, and Xinyi Zhang. The team took clusters of characteristics and tried to determine if the variables used inside the clusters were effective in defining policyholder behavior. They were able to do this in a few steps; first, a control was established in order to evaluate each cluster set on the same level. Then, the control was plotted against each clustering set. The control was a straight diagonal line in the graph (blue line). The clusters were graphed in increasing order to make a banana looking

[29] (Ensign)

[30] Ibid

graph. Then, a numerical difference between the clustering sets and the control was calculated.

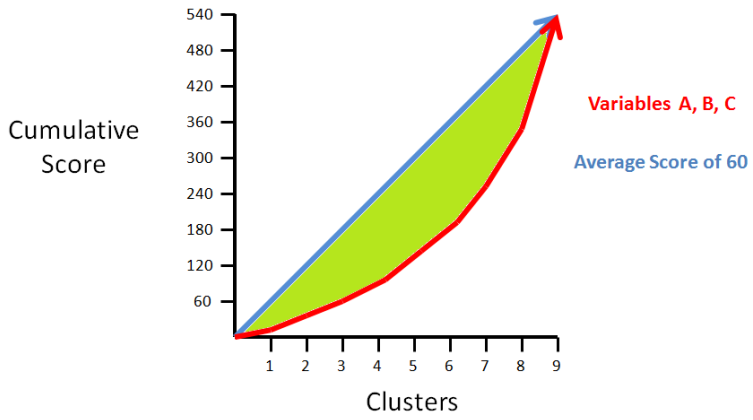


Figure 3: Example of Banana Graph Predicting Policyholder Behavior and Benefit Utilization

Finally, the differences calculated between controls and each clustering sets were compared to one another. When it came to calculations and finding the weights for each factor in each cluster, they had to find the area between the curves. This was done by first calculating the area under the straight line (the average line). Then, they calculated the areas under the curve made by the clustering sets. This was done by breaking the variable lines into trapezoids and finding the area. These trapezoid areas were then added up and subtracted from the area under the average line. The larger the areas between the curves, the more significant the variable will be in the prediction.[31]

[31] Predicting Policyholder Behavior and Benefit Utilization: An Analysis on Long-Term Care Insurance, 33-37

4. METHODOLOGY

4.1 Choosing the Categories for Our Analysis

The Office of Alumni Relations provided us a list of 194 categories to which they have gathered information on those who have graduated. (Appendix D) Realistically, there are several categories which the team assumed as not having a huge relation to predicting future donations to the school, such as Prefix, which indicated the prefix of a person's name. Additionally, there were several categories that have a similar nature, such as the PIDM and Banner_ID, therefore we did not need both in order to analyze the data provided. (Refer to Appendix E for specific category descriptions) The team sat down and went through every category discussing the relevancy each category would have to the project and narrowed it down to the following 45 categories to be in the file:

PIDM	Major Gift Prospect
Pref_Donor_Catg	Activity_Desc
Has_a_Prospect_Mgr	First_Year_of Activity
Gender	Last_Year_of_Activity
Age	Total_Activity_Years
Primary_Resd_Zipcode	Leadership_Role
Seasonal_Addr_Ind	Leadership_Begin_Date
Number_of_Children	Leadership_End_Date
Trustee_Code	Degree_From
Inwill_Flag	First_Major
Position_Title	Second Major
Onlive_Giver_Ind	Special_Purpose_Type
Legacy	Special_Purpose_Type_Desc
Primary_Ethnicity	Special_Purpose_Date
Marital_Status	Special Purpose_Group
Class_Year_for_WPI_Spouse_Grad	Special_Purpose_Group_Desc
Nation_of_Birth	Gift_Date
Nation_of_Citizenship	Gift_No
Native_Language	Gift_Amount
I_am_legacy	Match_Amt_from_Employer
WPI_loan_or_scholarship	Gift_Description
OK_to_email	Current_Pledge_Balance

Table 5: List of 45 categories from the Alumni Office which were included in the data file.

From this list, the team chose 11 categories to analyze the effect on giving each one had. These categories are the following:

Gender
Age
Number_of_Children
Legacy
Primary_Ethnicity
Marital_Status
WPI_loan_or_scholarship
First_Major
Second Major
Primary Location of Residency
Number of Activities

Table 6: Chosen Categories for Analysis

The team felt that while a closer relationship could be inferred from providing the specific information such as nation of birth or nation of citizenship, not everyone in the file will take the time to answer these questions. Because of this, there were many blanks within this kind of data, making the category insufficient to analyze. However, more general categories, such as the ones listed above, are broad enough that the data file would have the most information about them per person, but specific enough in their subcategories that the team could determine the effect each one has on donation behavior. These are the categories that the team thought people would be the most likely to answer.

4.2 Reconstructing Data

Before starting the data analysis, the team found it was necessary to clean the data received. The data produced by the Alumni Office was a single large file of 5,761,901,850 bytes and containing more than 20,000,000 rows. This file was too large for simple analysis in Excel and a quick look at the data showed a large amount of redundancy, or repetition, in the data. The team wanted to work with only the data that was truly necessary and to use Excel if possible.

Looking at the rows in the file, it was found that there were fields that contained "fixed" data, meaning data never changed across a group of rows, and "variable" columns that changed within the group of rows but were also repeated frequently. This repetition in the fixed columns, and also in the variable columns, made the file

unnecessarily large. It was decided to break the variable data out into its own categories or files so that there would not be any repeats. Phillip Brown was able to do this using Unix Tools on a Unix PC. The steps he took with these Unix tools were the following: first, the data into n files; next, *cut* was used to extract the unwanted columns; then, *sort* was used to sort the data into different categories; finally, *unique* was used to delete any identical rows.

The five files produced were: Donor Main Data (all the fixed data), Donor Activity, Donor Education, Donor Special, and Donor Gift (the last four containing the variable data). Donor Main Data included things like gender, age, marital status, and ethnicity. Donor Activity contained the list of activities a donor participated in, as well as the first and last years of activity and any leadership role. Donor Education contained the list of degrees the donor had received and where they were earned. Donor Special contained all of the Special Purpose activities or events that the donor had been involved in, including type, group, descriptions and dates. The last file, Donor Gift, was the record of giving for the donor, including gift date and number, amount given, any matching gift from an employer, the gift designation, any remaining pledge, and the fiscal year of the gift. Note that the team also placed the donor-specific PIDM number in each category so that it would be easy to figure out which parts of the data correspond to which donor. Appendix F contains the detailed break-up of each of the five categories.

By splitting the data in this manner, the team was able to remove most of the redundancy and ended up with only 30,756,749 bytes of data (or 0.5% of the original data size). The resulting number of rows was less than 600,000. The data was now small enough to work with in Excel.

4.3 Graphing Data in Excel

In effort to determine which of the categories would be the most effective factor in determining donation behavior, the adopted the “banana graph” technique used from a 2010 MQP team previously mentioned in Chapter 3.6. This concept could be used with any behavior being analyzed which, in this case, was those who give. The number of people in the database was reduced so that only those who were listed as ALUM, GRAD, and HONORARY DEGREE were analyzed, since the focus of this project was solely on

the alumni. These types graphs were initially used to get an idea on the effect the chosen categories would have on donation behavior.

A few extra columns were added into the main data sheet (the "fixed" sheet) that indicated the number of gifts, and number of activities, and had either a "Y" or "N" for whether or not each specific person donated. Using Excel PivotTable, and tabulating the 11 categories chosen, the number of people in each subcategory who donated was calculated (i.e. Gender has two subcategories: Female and Male).

An average line of giving was created that represented the percentage of the total population of the file who gave. Out of 36,858 people, 18,399 people gave (49.92%). The first step in using these graphs is to establish an ideal area of giving using straight lined scatter plots in Excel. The alumni were segmented into two basic categories, give or not give. The horizontal red line seen in Figure 4 indicates the number of alumni who did not give out of the 36,858 people in the file, whereas the upward sloping red line indicates the cumulative number of alumni who gave within the group of Yes, they gave. Based on the data, Figure 4 is the representation of the ideal area of giving.

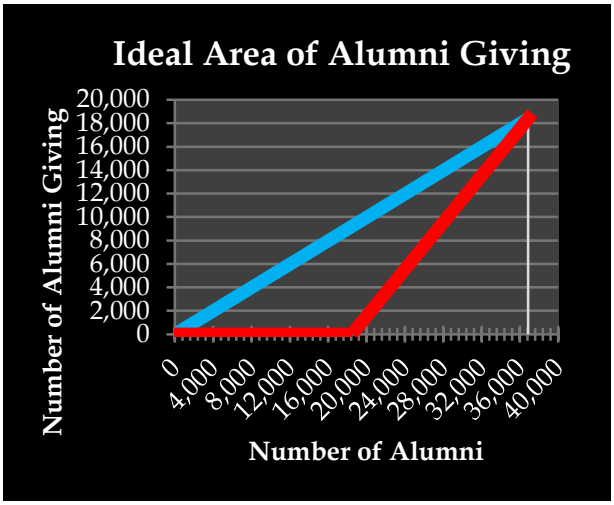


Figure 4: Banana graph of Ideal Area of Giving.

The average line was graphed with the data points from the categories to show the difference each category had relative to the average amount of people who donate. The alumni were re-segmented into different groups for each category. Figure 5 illustrates this re-segmentation, though the analysis for this and all the other categories are discussed in Chapter 5.1. The alumni were segmented into the number of activities they were involved in on campus. The categories were put into ascending order by number of people donated in the group over total people within the group. The steeper the slope between the lines, the more significant the factor is. One does, however, have to take into account that the slope itself could be very steep, but the number of people within the group should be a reasonable amount in order for it to have any effect. If a group only had one person, for instance, and that person gave, there would be less of a conclusion to draw compared to a group having 100 people donating out of 150 people.

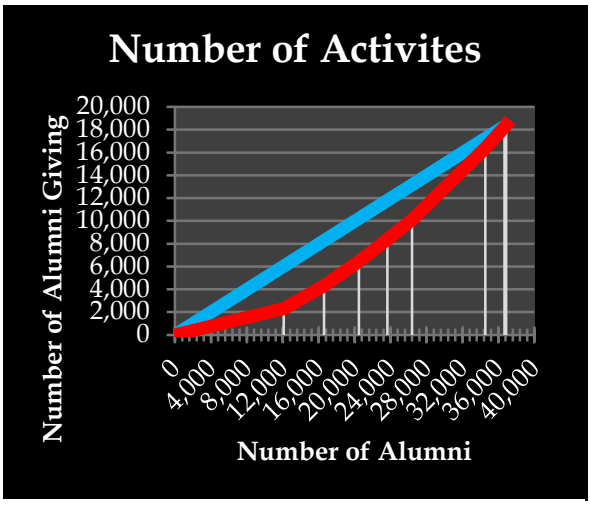
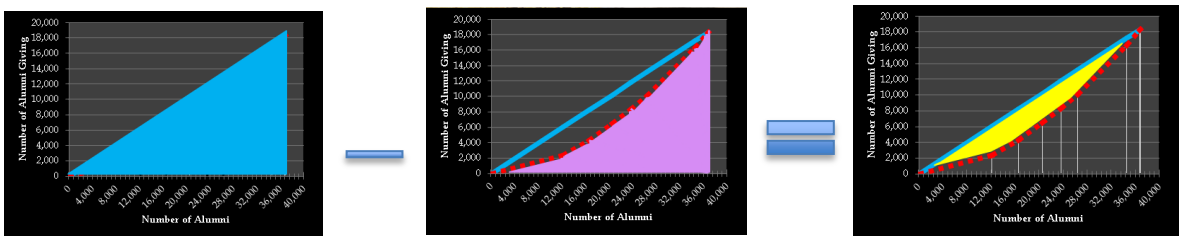


Figure 5: Banana Graph of Alumni Re-segmented by Number of Activities.

The areas between the average line and category line were calculated using the following basic formulas:

$$A_{triangle} = \frac{1}{2}bh \qquad A_{trapezoid} = \frac{1}{2}h(b_1 + b_2)$$

Equation 1: Area of a Triangle and Area of a Trapezoid.



Area under Average Giving Line | Area under Activities Curve | Area between Curves

Figure 6: Demonstration of how to calculate the area between the Average Giving curve and the Number of Activities curve.

Once the area under the average line and the area under all of the selected category curves were calculated, the area between the curves was calculated by subtracting the area under the category curve from the ideal area curve.

Essentially, if there was a factor that perfectly predicted whether or not a person would give and it was plotted against the number of people who gave in each subcategory, the best possible area that could be accomplished would be the ideal area. Each category area was compared to the ideal area of giving.

4.5 Creating the Alumni and 2011 Senior Surveys

4.5.1 Alumni Survey

A fifteen question survey (Appendix G) was developed using Survey Monkey. A link to this survey was sent out via the WPI Alumni Office, to each of the alumni on their mailing list on February 11, 2011. The survey requested information from each individual alumnus that included demographics, involvement in WPI, current donation status, the possibility of donating in the future, and whether or not there is anything WPI

could do to increase the possibility of donations towards the school or individual students in the future.

4.5.2 Student Survey

A ten question survey (Appendix H) was developed using Survey Monkey. A link to this survey was sent out to the current list of WPI seniors via the seniors@wpi.edu alias. The survey requested information from each individual that included information such as demographics, plans for donation and how those donations should be spent, and on campus involvement/enjoyment, as well as different ideas that might encourage donation after graduation and different events that might encourage more alumni involvement with WPI.

To thank participants of both surveys, participants had the option of leaving their e-mail address for a chance to be entered into a drawing. Each survey gave participants the opportunity to win a $20 gift card to Amazon.com. At the completion of both surveys, e-mail addresses were randomly sorted and a winner chosen from each survey. The winners of the surveys were notified and the prize distributed.

4.6 Creating the Alumni Distribution Maps

While the Office of Alumni Relations is well aware of the locations of where their major donors live, the team wanted to provide a visual that will help in recommending locations in the United States where the office can hold alumni events. There are two types of maps that were made by population distribution – one by state and one by postal code. The team needed to create two data files to upload into a website called Geocommons to map this data. [32] For the state map, a file was created off of Main Donor Data in Excel that included only those who provided a postal code to the Alumni office. Using Appendix I, an additional column was created that stated which state each postal code belonged to. The gift amount reported and the matching gift columns were combined because if a company was giving on behalf of someone else, it was decided that it would be reported as an association with the state that that particular person lived

[32] Please refer to Appendix J for directions on how to use Geocommons.

in. Using Excel PivotTable, the team was able to come up with the appropriate number of residents and total donation amount for each state. Pivot tables were also used in order to make the file for the population per postal code as well in a similar manor.

	A	B	C	D	E
1	State	Total Donations	Number of Residents	Latitude	Longitude
2	Alabama	44887.45	62	32.62481896	-86.6834839
3	Alaska	3259	23	61.49463401	-154.1049169
4	Arizona	205303.1	196	34.16978002	-111.9336881
5	Arkansas	36450	21	34.75148134	-92.13136815
6	California	8964210.49	1424	37.26898656	-119.2589342
7	Colorado	1395843.42	309	38.99618452	-105.5465344
8	Connecticut	12306236.88	2479	41.52291025	-72.75674326
9	Delaware	707214.67	76	39.1448606	-75.41835879
10	District of Columbia	103581.64	107	38.89088755	-77.0166165
11	Florida	5508098.99	853	27.97976682	-83.83831119
12	Georgia	268758.2	253	32.68082927	-83.2518569
13	Hawaii	25001	46	20.57545311	-157.5167511
14	Idaho	66269.25	30	45.49727496	-114.141846
15	Illinois	549895.17	236	39.74809298	-89.51209675

Figure 7: Excerpt from the State Geocommons file. This file can be downloaded from the details section of the Geocommons website for your data.

	A	B	C	D	E	F
1	State	Postal Code	Number of Residents	Total Donation	Latitude	Longitude
2	Massachusetts	01001	15	4037	42.06546035	-72.6271455
3	Massachusetts	01002	19	5141	42.376607	-72.45343
4	Massachusetts	01005	15	30060	42.4206115	-72.1162785
5	Massachusetts	01007	18	3385	42.2722835	-72.401951
6	Massachusetts	01008	1	0	42.182141	-72.9554525
7	Massachusetts	01010	15	155	42.1323	-72.20457
8	Massachusetts	01013	7	5665	42.1734925	-72.6020835
9	Massachusetts	01020	17	5966	42.1860925	-72.562824
10	Massachusetts	01026	2	0	42.47025	-72.917426
11	Massachusetts	01027	16	4824.95	42.2902795	-72.7180085
12	Massachusetts	01028	23	4996	42.06163612	-72.49890121
13	Massachusetts	01029	2	40	42.192033	-73.045339
14	Massachusetts	01030	16	1083	42.07033134	-72.67644702
15	Massachusetts	01031	1	0	42.335784	-72.1880095

Figure 8: Excerpt from the Postal Code Geocommons file. this file can be downloaded from the "Details" section of the Geocommons website for your data.

For the population by state file, three columns were uploaded into Geocommons – a state, a total donation, and a number of residents column. Figure 7 illustrates the type of file that is created *after* geocoding the data. Since the longitude and latitude of the states was not known, the website automatically geocoded the data when the "USA States" overlay provided on the site was selected.

For the population by postal code file, four columns were uploaded into Geocommons – a state, a postal code, a number of residents, and a total donation column. Figure 8 illustrates the type of file that is created *after* geocoding the data. Again, since the longitude and latitude associated with each of the postal codes was not known, the website automatically geocoded the data when the "Massachusetts Zip Code Boundaries" overlay provided on the site was selected.

A step-by-step instruction is provided in Appendix J for how to upload and create the maps that are displayed in this project.

4.7 Building the Models That Predict Donation Trends

As stated, one of the most important goals of this project was to come up with models to predict the giving trend of WPI alumni. To accomplish this goal, the team

developed three models: number of gifts model, amount of gifts model, and logistic model.

4.7.1 Number of Gifts Model

The purpose of the number of gifts model was to predict the total number of gifts an alumni will give, assuming that one is going to give. The team used a linear regression model for this model, thus it was assumed the number of gifts from an alumni could be expressed in the form of the following equation:

$$\boldsymbol{Number\ of\ gifts} = \boldsymbol{a_0} + \boldsymbol{a_1 X_1} + \boldsymbol{a_2 X_2} + \cdots + \boldsymbol{a_n X_n},$$

Equation 2: Multiple Linear Regression – Number of Gifts

where X_1, X_2, …, X_n are the factors included in the model and a_0, a_1, …, a_n are the weights that needed to be determined. The first step taken was to determine the numerical values for the factors, since most of the factors, such as marital status, did not have numerical values in the data. In order to do that, an Excel feature called PivotTable was used to sort the data according to a certain factor, to calculate the average number of gifts in each category of the factor, and to use those as numerical values for the factor being considered. For example, for the marital status factor, the following results were obtained:

Marital Status	Average of number of gifts
Divorced	10.8
Married	11.3
Other/Partner	13.2
Separated	15.0
Single	5.1
Widowed	18.5
(blank)	3.3

Table 7: Average Number of Gifts by Marital Status.

After obtaining numerical values for all the factors, the next step was to select the factors to be included in the model. This was done by calculating the Pearson correlation coefficient between each factor and the number of gifts from the past data, and then selecting the factors with highest correlations. The Excel function PEARSON was used

to execute the computation. Another step in selecting the factors to be included in the model was to avoid multi-collinearity, which means making sure that the factors were independent. This was done by regressing each factor on the other factors and calculating the coefficient of multiple determination for each case. If the coefficient of multiple determination is high, it means that the factors being considered significantly depends on other factors and should be discarded.

From the above steps, set of factors were selected for the use in the model. The next step was to figure out the weights associated with these factors based on the past data. To do this, the regression feature of the Analysis add-in of Excel was used.

The last step in this model was to test how well the model predicts. Fortunately, the regression feature mentioned above was able to pull out the two criteria needed to test the model, the coefficient of multiple determination and the p-value for the overall F test. If these values are high, it was concluded that the model was good in giving prediction on the number of gifts. Otherwise, it was concluded that the model was poor on predicting the number of gifts.

4.7.2 Amount of Gifts Model

The purpose of the amount of gifts model was to predict the total amount of gifts an alumni gives throughout their lifetime assuming that one going to give. The team used a linear regression model for this model, thus it was assumed that the amount of gifts from an alumni could be expressed in the form of the following equation:

$$Amount\ of\ gifts = a_0 + a_1X_1 + a_2X_2 + \cdots + a_nX_n,$$

Equation 3: Multiple Linear Regression - Amount of Gifts

where X_1, X_2, …, X_n are the factors included in the model and a_0, a_1, …, a_n are the weights that were needed to be determined. The first step taken was to determine the numerical values for the factors, since most of the factors, such as ethnicity, did not have numerical values in the data. In order to do that, PivotTable was used to sort the data according to a certain factor, to calculate the average amount of gifts in each category of

the factor, and to use those as numerical values the factor being considered. For example, for the ethnicity factor, the following results were obtained:

Ethnicity	Average of Total Amount
_A-PI (Not in Use)	592.8
American Indian,Alaskan Native	281.4
Asian	44.7
Black, non-Hispanic	1,681.4
Hispanic	237.4
Non-Resident Alien (Internatl)	817.4
Other	3,204.9

Table 8: Average of Total Amount by Ethnicity

After obtaining numerical values for all the factors, the next step was to select the factors to be included in the model. This was done by calculating the Pearson correlation coefficient between each factor and the amount of gifts from the past data, and then selecting the factors with the highest correlations. The PEARSON function executed these computations. Another step in selecting the factors to be included in the model was to avoid multi-collinearity. This meant making sure that the factors were independent. This was obtained by regressing each factor on the other factors and calculating the coefficient of multiple determination for each case. If the coefficient of multiple determination is high, it means that the factors being considered significantly depend on other factors and should be discarded.

From the above steps, the team obtained a set of factors for the model. The next step was to figure out the weights associated with these factors based on the past data. To do this, the regression feature of the Analysis add-in of Excel was used.

The last step taken for this model was to test how well the model predicts. Fortunately, the regression feature mentioned above was able to pull out the two criteria needed to test the model, the coefficient of multiple determination and the p-value for the overall F test. If these values are high, it was concluded that the model was good in giving a prediction on the amount of gifts. Otherwise, it was concluded that the model was poor on predicting the amount of gifts.

4.7.3 Logistic Model

The last model created was the logistic model. The purpose of this model was to predict the probability of giving from an alumnus, given one's characteristics. The logistic regression technique was used; thus it was assumed the probability of giving could be expressed in term of a logistic function:

$$p = \frac{1}{1 + e^{-z}}$$

Equation 4: Logistic Equation

with $z = a_0 + a_1X_1 + a_2X_2 + \cdots + a_nX_n$, where X_1, X_2, …, X_n are the factors included in the model and a_0, a_1, …, a_n are the weights that needed to be determined. The first step was to come up with numerical values for our factors since most of the factors did not have numerical values in the data. In order to do this, PivotTable was used to sort the data according to a certain factor and then the percentage of giving was determined for each category of each factor. From that, the inverse logistic function was used to obtain the numerical value for that category. The inverse logistic function is the following:

$$y = -\ln\left(\frac{1}{x} - 1\right)$$

Equation 5: Inverse Logistic Equation

For instance, from the data it was calculated that 50.27% of males gave back to WPI. Using the above transformation, the numerical value for the male category is 0.0108.

The next step was to determine the likelihood function. To do that, the data was divided into multiple groups of people sharing the same numerical values for all the factors. Then, the team hypothesized all the weights to obtain the guessed probability for each group based on the model. From that, the likelihood function for each group was formed as a binomial function with the following parameters: total number of people in the group, the number of people who gave in the group, and the guessed probability of giving of the group. The likelihood functions were multiplied to obtain the overall likelihood function of the model.

The next task was to adjust the values of the weights to maximize the value of the overall likelihood function. The Excel add-in called Solver was used to accomplish this task. From that, the values for all the weights in the model were obtained.

The last step was to test the model. The Hosmer-Lemeshow chi-squared test was used. The data records were first divided into five groups according to their probabilities obtained from the model. Then, in each group, the predicted number of people who give and who do not give was calculated based on the model. This was compared with the real data by using the formula:

$$diff = \frac{(O - E)^2}{E}$$

Equation 6: Hosmer-Lemeshow Chi-Squared test.

with O being the observed value (the real value) and E being the expected value. Then, all the differences were added to obtain the overall test statistic for the model. Since the data was divided into five groups, the degrees of freedom were two less than the number of groups, which is three. Then, chi-squared test statistic was looked up the chi-square table with three degrees of freedom to obtain the p-value.

The decision for the test was decided on a significance level of $\alpha = 0.05$. Thus, if the p-value was greater than 0.05, the model fit was good; otherwise the model fit was poor.

5. RESULTS AND ANALYSIS

5.1 Area Comparison Between Average Giving and Factors with Banana Graphs

The percentage of the ideal area that each category takes up gave an idea of which of the chosen categories the team would want to keep in mind when developing the models. For illustration purposes, below is an example on exactly how each area was obtained using Number of Activities as the factor. All other graphs and tables can be found in Appendix K.

Table 9: (below) Number of Activities table displaying the row percentages and area under the Activity curve.

Number of Activities	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Area under Activity Curve (People²)
0	12,107	2,320	19.16%	12,107	2320	14,044,120.00
1	4,500	2,011	44.69%	16,607	4331	14,964,750.00
2	3,872	2,134	55.11%	20,479	6465	20,901,056.00
3	3,163	1,907	60.29%	23,642	8372	23,464,715.50
4	2,746	1,733	63.11%	26,388	10105	25,368,921.00
5-10	8,156	6,250	76.63%	34,544	16355	107,903,880.00
11-20	2,151	1,896	88.15%	36,695	18251	37,218,753.00
21+	163	148	90.80%	36,858	18399	2,986,975.00
	36,858	18,399	49.92%			246,853,170.50

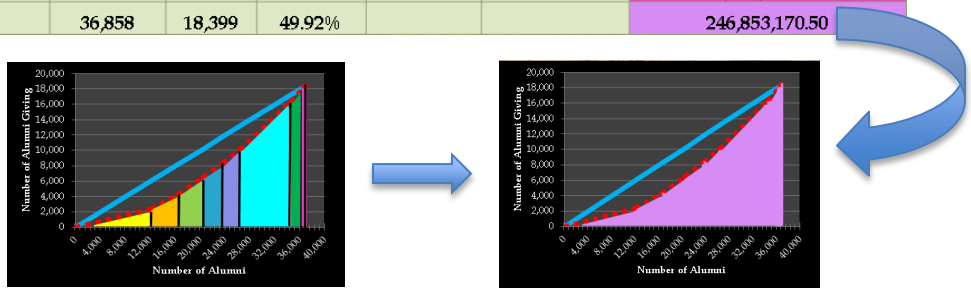


Figure 9: Visual on how to calculate the area under the category curve.

The number of activities was grouped into 1, 2, 3, and 4 activities and then 5-10, 11-20, and 21+ activities. The order on the x axis of the graphs is dependent on the percentage of those who gave over the total population of each group. The groupings were repeated in a similar fashion for the rest of the factors (For example, marital status was grouped by those who were single who gave, married who gave, etc.). These graphs were used to determine the effect that each of the chosen categories had against the average of giving, by comparing the area between the curves. As shown in Table 10,

compared to the ideal area of giving, number of activities, marital status, and number of children are high runners for the affect they would have on donation behavior. This was kept in mind when creating the models.

Category	Area from Average (People ^{2})	% of Ideal Area (People ^{2})
		169.8M
Number of Activities	**92.2M**	**54.31%**
Marital Status	84.0M	49.49%
Number of Children	72.3M	42.56%
State Region	43.1M	25.39%
Gender	42.4M	24.95%
Primary Ethnicity	34.8M	20.52%
Department of First Major	25.5M	15.05%
Legacy	14.9M	8.78%
Has a Second Major	0.7M	0.41%
WPI Loan or Scholarship	0.1M	0.06%

Table 10: Comparison between Category Areas and Ideal Area of Giving.

It is also seen how having a WPI loan or scholarship or having a second major would not have any affect at all due to the small area. The graphs of these categories were right on the average giving line. Of those who had given, 49.88% had a WPI loan or scholarship and 49.95% did not have a WPI loan or scholarship. A similar reading was seen with having a second major: 38.05% of those having a second major gave while 50.02% of those who did not have second major gave. It is important to note, however, that having a second major at WPI was a recent development. There are various amounts of graduating years in the main file where having a second major was rare. Lastly, it can be seen that state region, gender, primary ethnicity, and department of first major are expected to have relatively the same effect on donation behavior.

When analyzing age, a different approach was taken. Since people were able to give several times during their lifespan, they could be included multiple times in the

analysis of what effect age has on donation behavior. The number of gifts at the age of donating was compared to the amount of the donation that the alumni gave at that age.

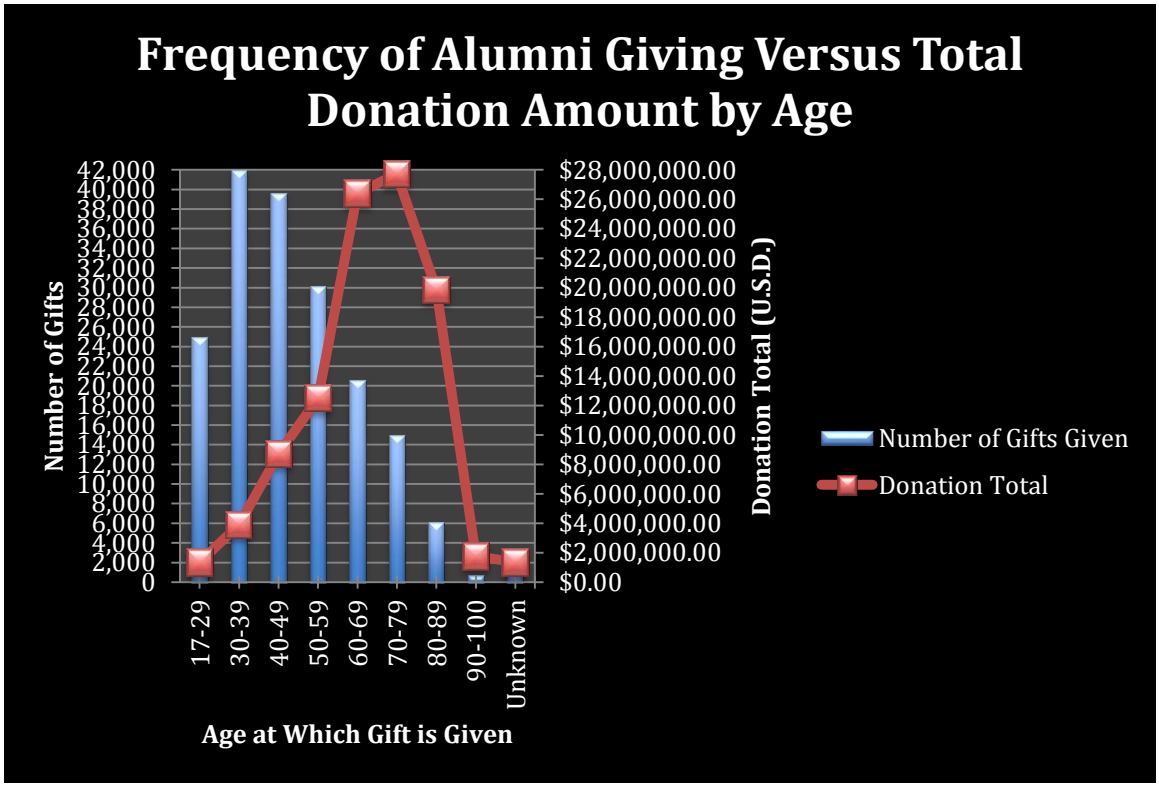


Figure 10: Frequency of Alumni Giving Versus Total Donation Amount by Age.

As seen in Figure 10, while the age range of 30-50 year olds gave more frequently, they were giving smaller gifts unlike those who were from the ages of 60-80, who gave less frequently, but with bigger donations.

5.2. Online Surveys

5.2.1 Student Senior Survey

The team received 144 out of 824 possible responses to the online survey sent out to current WPI seniors. This was actually a high response rate for a survey conducted on campus and sent out to WPI students. An in-depth analysis of certain questions can be seen below, while the results to the rest of the questions can be found in Appendix L.

When asked "Do you currently receive financial aid?" 52.4% of seniors said that they received financial aid and took out private loans, 25.2% received financial aid and did not take out private loans, and 22.4% did not receive any sort of financial aid. This was the only question students were able to skip, as the team thought it might be too personal a question for some students. Only one student chose to not answer this question.

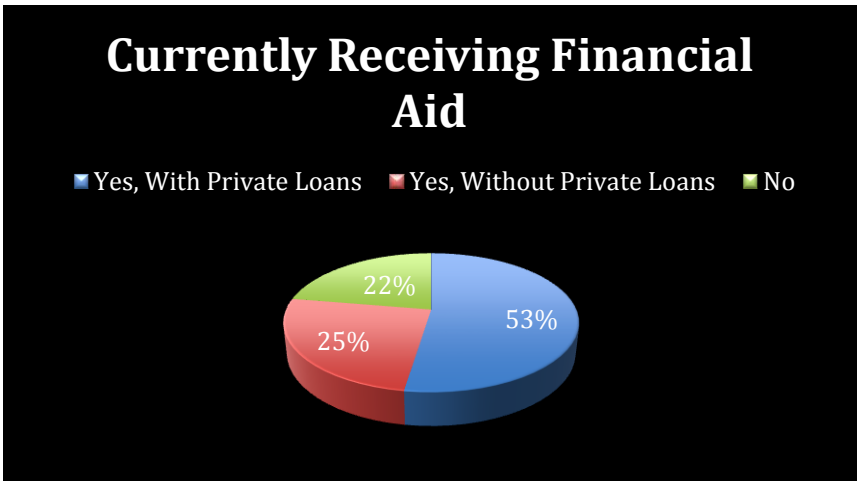


Figure 11: Do Seniors Receive Financial Aid?

Students were asked whether or not they received financial aid because the team thought there might be a correlation between giving and not giving to WPI based on one's own personal experience. For instance, the team thought that someone who received financial aid might be more likely to try and support incoming students financially than someone who did not have that same help themselves. Students were asked whether or not they had to take out private loans or not for the same reason. People who received more financial aid were thought to be more willing to help out students financially. Students, who had to take out private loans, were thought to take longer to donate to WPI as the assumption was that they would want to pay off their loans first.

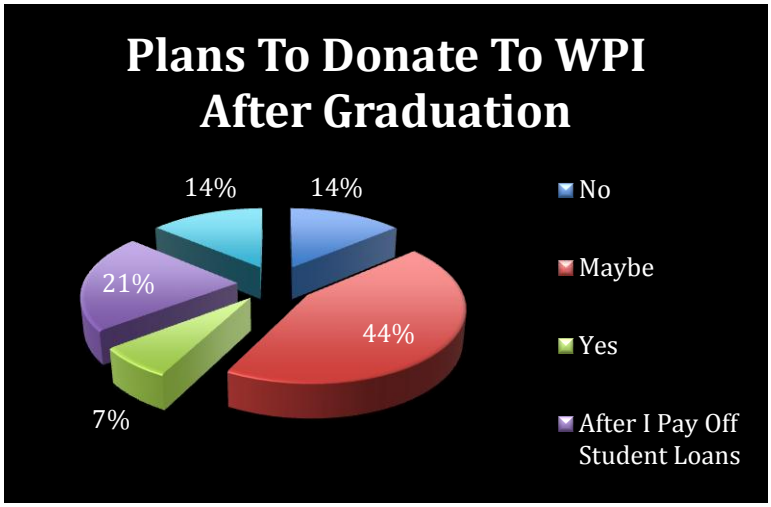


Figure 12: Do Seniors Plan to Donate After They Graduate?

When asked "Do you plan to donate to WPI after you graduate?", 43.8% of responding seniors stated maybe, 21.5% planned to donate after they paid off student loans, 13.9% planned to donate after they find a stable job, 13.9% did not plan to donate at all, and 6.9% said they would donate.

Despite the team's assumption, it was found that there seemed to be no correlation between individuals receiving financial aid, with or without private loans, and whether or not they planned to donate after graduation. The only difference was that more students with no private loans stated they planned to donate after finding a stable job, while more students with private loans or no financial aid stated they planned to donate after paying back students loans.

In the Wallace and Washburn survey, mentioned previously, it seemed that alumni wanted the Alumni Office, to hold more events that were outside of the WPI campus, but in areas that they would be willing to travel to. The same question was then posed in our survey to the WPI seniors, in

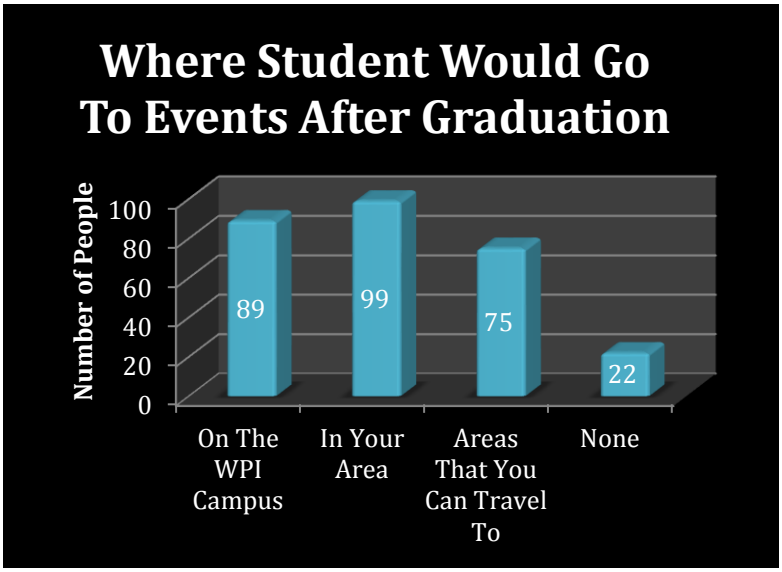


Figure 13: Where Student Would Go To Events After Graduation

which they could check off which areas they would be willing to go to for events. It was found that when asked “If you do not live in the Worcester area after graduation, would you go to events that are either: on the WPI campus, in your area, in areas that you can travel to (e.g. New York, Las Vegas, Boston, etc), or none” 68.8% of seniors would attend an event in their area, 61.8% would attend an event on the WPI campus, 52.1% would attend an event in areas they can travel to, and 15.3% said they would not attend a WPI event.

An open ended question was then posed to students asking "After graduation, what events, if any, would bring you back to WPI? (e.g., Reunions, Homecoming, Varsity Sports, Academic Event, Alumni Days, Mentoring Opportunities, etc.)." A list of complete responses can be found in the zip file handed in with this project, however it was interesting to note that while some individuals listed more than one event, 30% listed reunions, 20% listed homecoming, 12% listed mentoring opportunities, 8% listed alumni days/events, and only 4% listed that nothing would bring them back to WPI.[33]

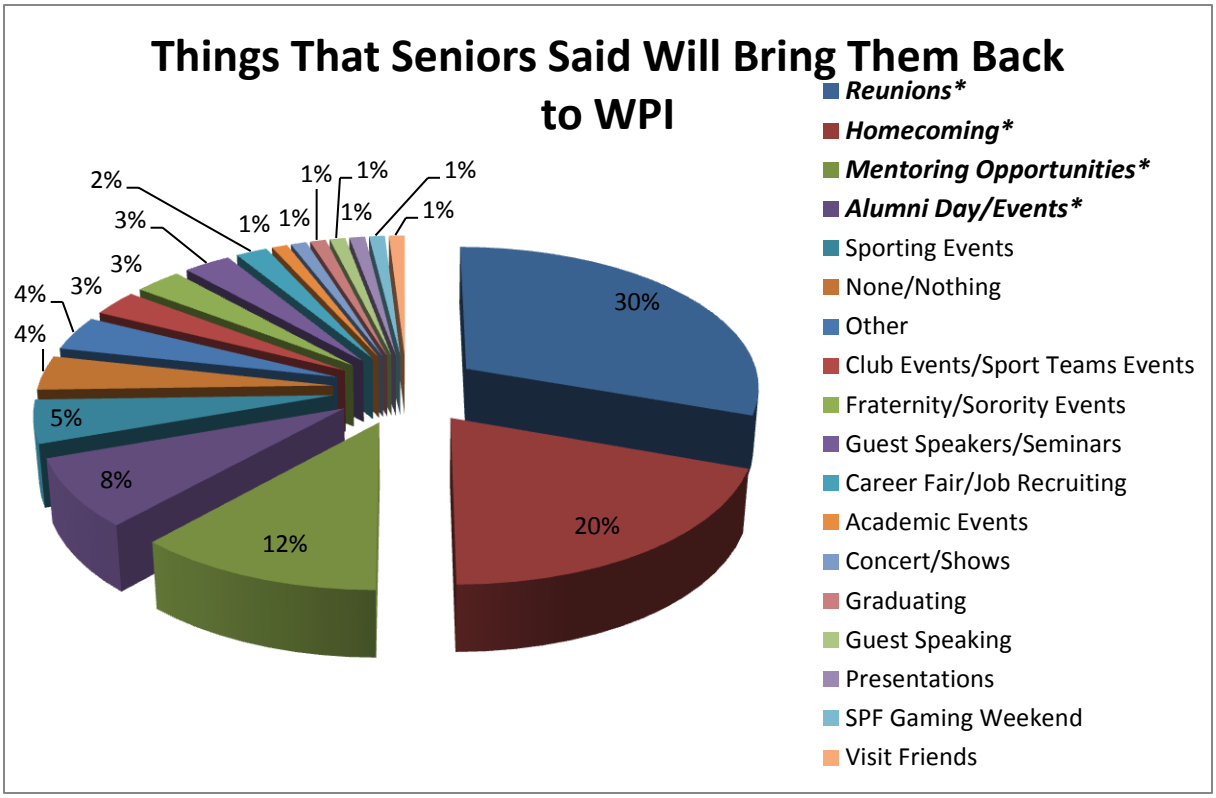


Figure 14: Bringing Seniors Back To WPI

[33] All responses to all the survey questions, both Senior Student Survey and Alumni Survey can be found on the zip file uploaded with this project.

5.2.2 Alumni Online Survey

The team received 1,754 responses to the survey sent out to the alumni. This was close to the 1,957 responses that the Wallace and Washburn survey received. As with the student survey, an in-depth analysis of certain questions can be found below, while a list of each of the questions and their results can be seen in Appendix M.

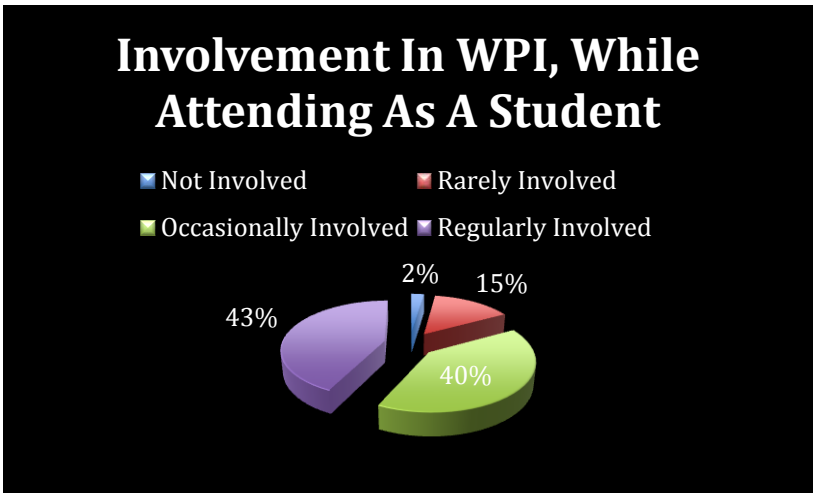


Figure 15: Involvement As A Student

When asked "How would you rate your involvement in WPI while attending as a student?" 42.8% of alumni considered themselves regularly involved, 40.1% were occasionally involved, 14.7% were rarely involved, and only 2.4% said they were not involved.

When asked "How would you rate your involvement in WPI related activities, presently?" 37.43% of alumni considered themselves not involved, 37.31% considered themselves rarely involved, and 18.23% were occasionally involved, while only 7.03% were regularly involved in WPI

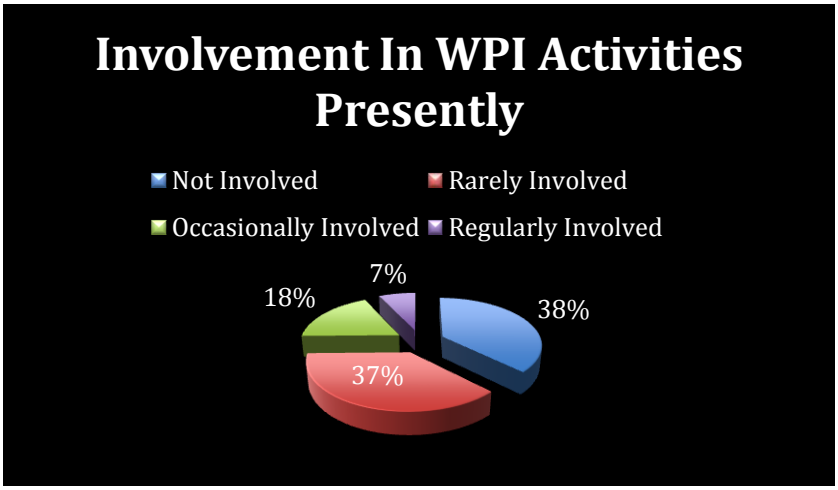


Figure 16: Involvement Presently

related activities. However, 70.3% of alumni surveyed stated they attended a function after graduation, while 29.7% stated that they did not.

From the Wallace and Washburn survey, it was mentioned that a major reason alumni gave was scholarships for students. The team thought it would be interesting to see if this was an area that alumni were still willing to donate to. When asked "How likely would you say you are to support current students at WPI financially?", 40.4% stated they might be willing to support current students, 27.6% stated they were not likely to support current students financially, 17.7% stated they would most likely support current students, 11.5% stated they would definitely support current students, and 2.8% they would never support current students.

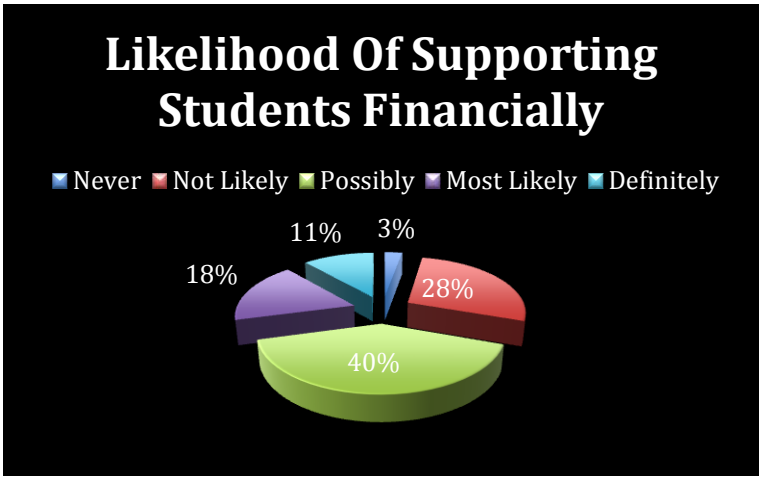


Figure 17: Supporting Students Financially

When asked "What is the likelihood of you attending another WPI function in the future?", 38.7% stated they might attend another WPI function, 21.2% said they would definitely attend, 20.9% stated they would most likely attend, 18.7% stated they were not likely to attend another WPI function, and only 0.5%

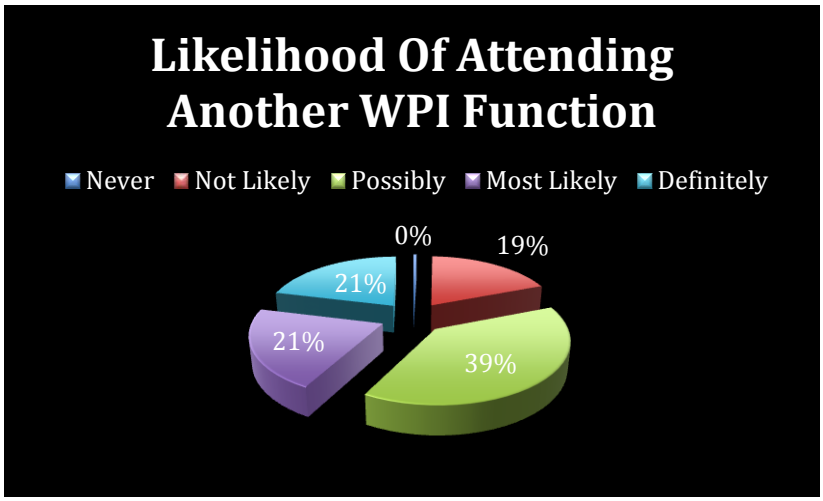


Figure 18: Likelihood of Attending Another WPI Function

stated they would never attend another WPI function in the future. This was interesting to note because the Alumni Office had mentioned that they received the majority of their donations from WPI related activities.

When asked "Have you ever donated to WPI?", 62.3% of the 1,735 people who answered stated that they had given to WPI while 37.7% stated that they had not. Four hundred thirty-two of the one thousand eighty one people who have given, 39.96% donated to the general fund. Below is a select few of the reasons that alumni stated they had not donated to WPI.

- 137 stated still paying back student loans
- "Two reasons, waiting to pay back student loans, and I remember that they said they didn't have the money to pay certain professors and had to lay off, and the very next year they started building all the new facilities so I think the money handling is mismanaged."
- "The economy hasn't been great lately. Also, with rising tuition costs it's difficult to donate to a school while at the same time saving for my children's future education."
- "No, Don't have excess funds"
- "First year out of school; not interested in donating for at least 5 years"
- "No, gave enough via tuition"
- "Constant bombardment of request for donation esp when I was first out of school, in grad school and broke - annoying when solicitor tells me that even a little bit can help - Really? I am barely getting by in grad school and you want me to donate??"

One of the questions asked was "What, if anything, would encourage you to donate to WPI? If nothing, please write 'nothing'.". This was an open-ended question posed to alumni. Listed below are some selected responses.

- Five hundred ninety stated that nothing could encourage donation to WPI
    - These are mixed responses; however. Some alumni stated nothing because they already donate, and some stated nothing because they are choosing not to donate
- "Occas[]ional solicitations - not as frequent as we currently receive them – [it's] too much!"
- "Maybe if I knew what the money was going to directly."
- "An email or letter explaining WPI's financial goals and a progress bar. That "Donate by Dec 31" email that Dexter Bailey sent out made my husband and I donate."

- "Understanding what the progress, successes, and needs are. Why do we need donations? What impact are donations making? Where would directed donations do the most good? What are the short- and long-term ambitions of the university? What goals are to be accomplished through capital campaigns?"
- "I would like to see a legacy scholarship program. I believe that many people my age who are facing college tuition in the next few years have difficulty setting aside funds for philanthropic purposes. However, I also believe that many of us would love to see our children attend our alma mater and would be willing to participate in a program that assists them in doing so. I think another area that should be explored is informing alumni about different methods of giving such as annuities. I would be interested in learning more about these."
- "The phone calls are cute, but it is SO hard for someone who has a lot of loans to pay to scrounge up any money for donations. I, and some others who graduated with me, get slightly turned off by the phone calls because we feel like we paid an enormous amount to the school for tuition alone, and we are still paying. I could be convinced to donate more if I could access a site where I could randomly make a donation in smaller amounts. For example, if I got an email every three months or so reminding me of a link where I could donate as small amount of money as I could, I would probably donate $5 every few months. When I get asked for one large lump sum it feels like too much and I shut down and just say no. There are other alums that feel this way too."
- "I will most likely donate to WPI when I am in a better financial situation to donate (ie finished paying off student loans) I think it would be more appropriate/effective to wait to contact alums after at least 5 years from their graduation date - I did not like being called and asked to donate the very first year after I graduated - I was still in major debt from student loans."
- "I already give. It would be great if WPI would make it easier to give on a sustaining basis. The yearly pledge cycle is so old fashioned. If I want to make a long term, regular commitment to WPI, it should be really easy. I find the process to be very inefficient."
- "Knowledge of where my money was going, what activities it was going to fund."
- "I currently live on the West coast and am very cut off from the WPI community. It seems the only time I'm contacted by the school is when they're asking for money,…"
- "A delay in the request for money upon immediately leaving the school. A lot of us don't have jobs quite yet and after paying $140,000 for an education, you tend to be a bit sore about giving more money to the institution."
- "… if you asked me for a small amount I could give. It sounds just like a cup of coffee, but 5 or 10 I can do. I am intimidated by the $25,000 requests…"
- "I'd like to give to WPI but I'm currently paying massive student loan bills and don't really have a lot of extra money. But maybe an email that just has a simple "here's the ways you can donate" because if I did want to donate I wouldn't know where. Paper mailings are nice but I don't tend to hold onto them or remember to follow through like I do with an email."

- “The ability to designate exactly where the money goes.”
- “Understanding how donations support undergraduate students and activities”
- “Tell me about current IQP and MQP projects - If there were a fundraising site for specific project proposals where I could pledge small amounts of financial support - modeled after donorschoose.org - I'd probably contribute”
- “I prefer to donate for a specific reason, not just to have my donation go into a large, general fund. For example, if a new building were being built or a specific academic program needed funding, I would be more likely to donate either money or my time.”
- “Knowing the money goes to activities or concerns that affected me while I was a student”
- “I like to know exactly where my money is going. I am more likely to donate to a specific cause. I am also especially willing to donate to students that have an especially challenging financial situation.”
- “If I got something in return. It can be something as small as a keychain, mug, or a stick. Anything. It also would help if someone matches my donation.”

The team hoped these responses and those provided in the zip file would help the Alumni Office gain ideas on how to increase participation.

5.3. Alumni Distribution Maps

As stated in the results of the student senior survey, 99 out of 144 people reported that they would attend alumni events in their area, and 75 out of 144 people reported that they would travel to popular destinations to attend alumni events. Since this project was looking into how to improve participation among the future alumni, along with how likely one was to give, the team decided to see just where current alumni were living within the United States.[34]

5.3.1 Distribution of Alumni by State

As seen in Figure 19, the most populated areas of alumni in the United States was in the New England area. While this was no surprise since WPI was located here, what did seem unexpected was that there was also a large population on the West Coast, specifically in California. While WPI was very diverse, the members of this team were not expecting to see a population that could rival some of the New England states. Additionally, there was a decent following through the southeastern coast of the United States.

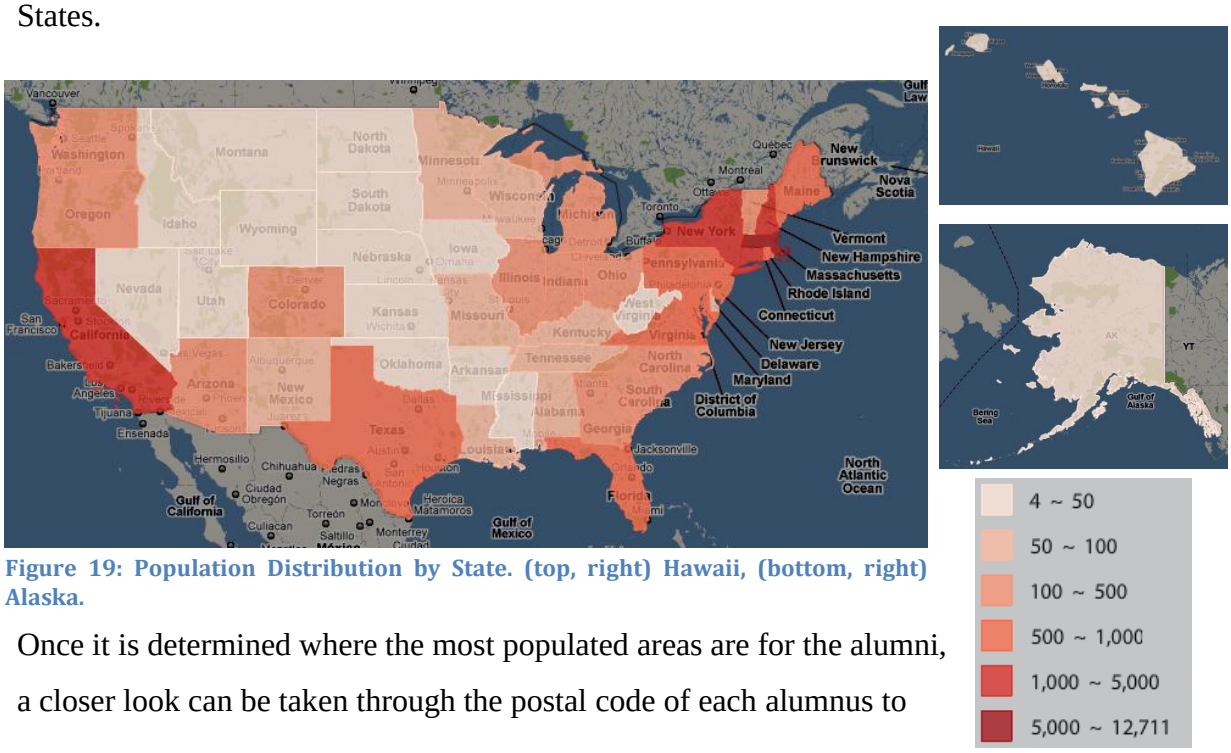


Figure 19: Population Distribution by State. (top, right) Hawaii, (bottom, right) Alaska.

Once it is determined where the most populated areas are for the alumni, a closer look can be taken through the postal code of each alumnus to

[34] Alumni are only included on this map if they provided his or her residential zip code.

determine optimal locations for events.

5.3.2 Distribution of Alumni by Postal Code – Massachusetts

For the sake of illustrating how these maps can be used, an example of Massachusetts is explained below. There are 12,530 out of the 36,858 alumni in our data file who listed themselves as residents of Massachusetts. It is seen below in Figure 20 that the Worcester area, northeastern Massachusetts, and southeastern Massachusetts were the most heavily populated areas of the state. By triangulating these areas as shown, the Alumni Office could pinpoint the locations that would be a relative distance to these points of interest. Boston, for example, would be an optimal place to hold an event. Whether it be Boston's thriving nightlife, popular sporting events, or a Boston Harbor Cruise, a location as such would give alumni an additional reason to reach out and establish a better relationship to WPI.

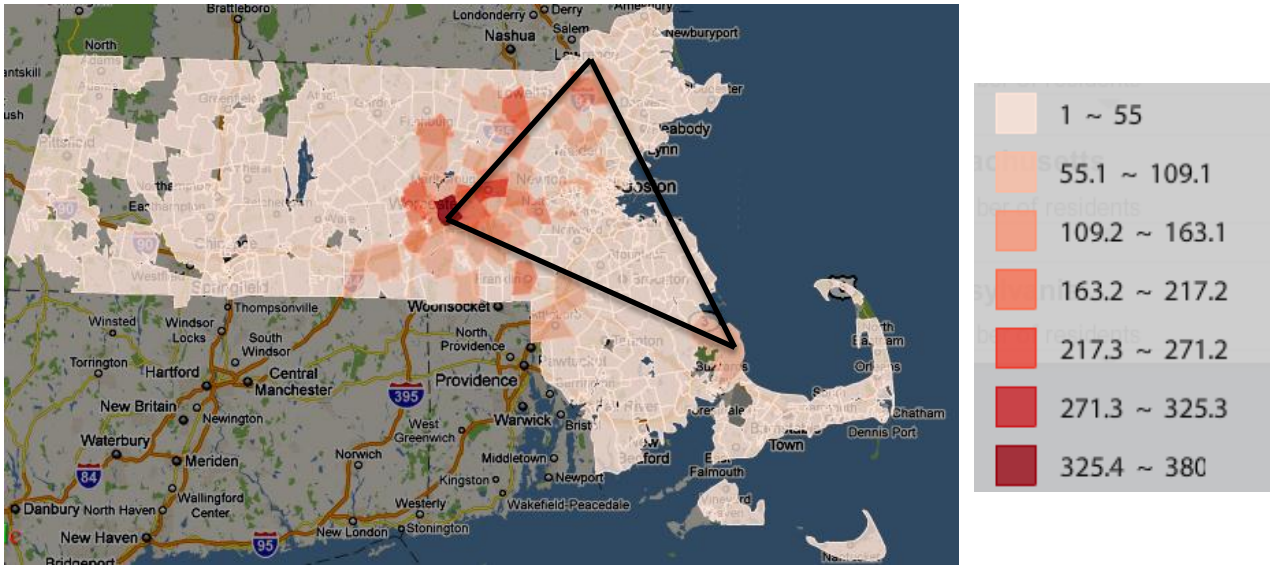


Figure 20: Example of triangulating heavier populated areas to find optimal places to have a function.

This process, as shown above, could be done with any state to get an idea of other popular destinations, such as New York City, Las Vegas, and Los Angeles, which were surrounded by a large population of alumni.

Furthermore, this process can also be used to determine the location in which the most money is being donated. Please refer to Appendix N for maps illustrating the distribution of donation totals by state and an example by postal code.

5.4 The Models

5.4.1 The Number of Gifts Model

After carrying out all the steps in the factors selection process discussed in Methodology 4.7.1, the team came up with four factors to be included in the model: age, number of children, marital status and number of activities. These factors had high correlation with the number of gifts in the past and were not significantly dependent on each other.

From that, the team ran the regression feature of the Analysis add-in to obtain the weights for the model. The results are shown below:

Intercept	-9.14
Age[35]	0.728
Number_Of_Children	0.174
Marital_Status	0.185
Number_of_Activity[36]	0.842

It means that our model had the form:

$$Number\ of\ gifts = -9.14 + 0.728 * Age + 0.174 * Number_{of\ children} + 0.185 * Marital_{status} + 0.842 * Number_{of\ activity}$$

Equation 7: Number of Gifts Equation

In addition to the model, the regression feature also provided the values for the test of fitness on the model. The coefficient of multiple determination for the model was 0.31, which means 31% of the variation in the data could be explained by the model.

[35] The age category was broken up into groups. Please refer to the charts in Appendix K for these groups.

[36] The number of activities category was broken up into groups. Please refer to the charts in Appendix K for these groups.

Since the coefficient of multiple determination was quite low, the p-value for the overall F test was very close to 0. It meant that the fit for this model was not good.

The reason for the poor fit was that the factors included in the model were not sufficient to fully explain the trend of the number of gifts. In other words, the team did not have enough information to accurately predict the number of gifts. Some missing factors may have been more relevant in determining the trend of number of gifts, such as information about income. However, the model still provided some useful idea about the number of gifts, such as giving an estimate on how many gifts an alumni was going to give assuming that one was going to give. Therefore, the team applied the model in real life by building a spreadsheet in which the Alumni Office staff could input the parameters needed for the model and the model would provide the predicted number of gifts for that alumni. Below is a screenshot for that spreadsheet:

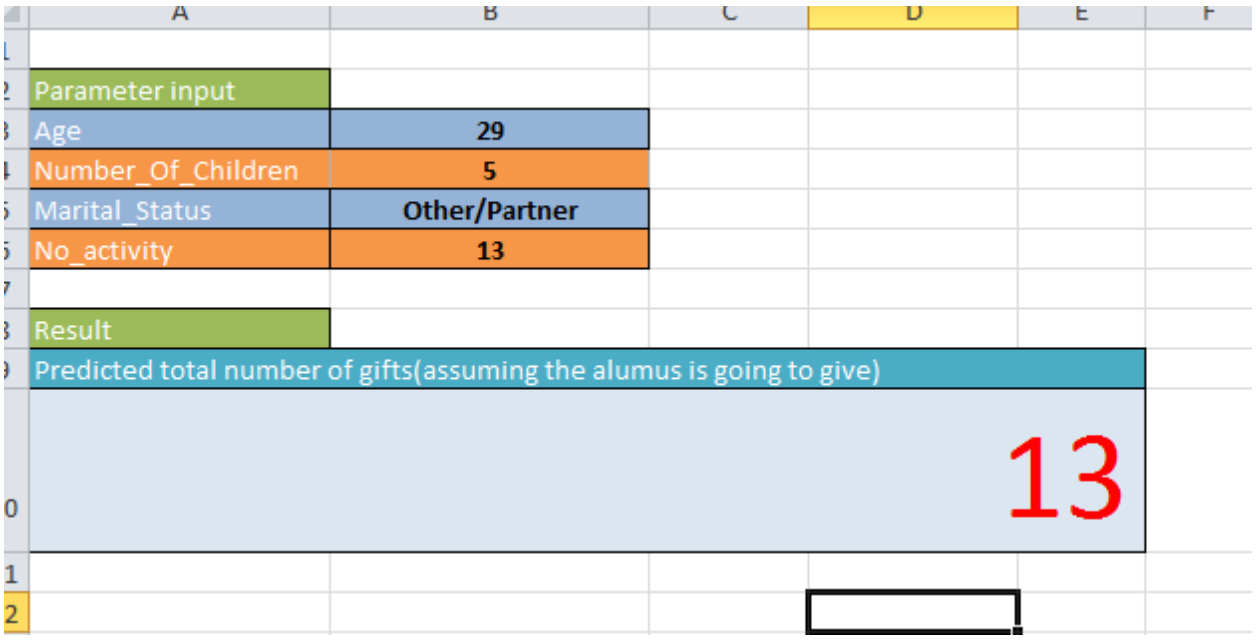


Figure 21: Screenshot for the Number of Gifts Spreadsheet

5.4.2 The Amount of Gifts Model

After carrying out all the steps in the factors selection process discussed in Methodology 4.7.2., the came up with four factors to be included in the model: age, legacy, number of activities, and department of the first major. These factors had high correlation with the amount of gifts in the past and were not significantly dependent on each other.

From that, the team ran the regression feature of the Analysis add-in to obtain the weights for the model. The result is shown below:

Intercept	-10,633
Age	0.779
Legacy	0.835
Number_of_Activity	0.936
Department_of_First Major	0.383

It means that the model had the form:

$$Amount\ of\ gifts = -10633 + 0.779 * Age + 0.835 * Legacy + 0.936 * Number_{of_{activity}} +$$

$$0.383 * Department\ of\ First\ Major$$

In addition to the model, the regression feature also provided the values for the test of fitness on the model. The coefficient of multiple determination for the model was 0.29, which means 29% of the variation in the data could be explained by the model. Since the coefficient of multiple determination was quite low, the p-value for the overall F test was very close to 0. This meant that the fit for this model was not good.

The reason for the poor fit was that the factors included in the model were not sufficient to fully explain the trend of the amount of gifts. In other words, the team did not have enough information to accurately predict the amount of gifts. Some missing factors may be more relevant in determining the trend of amount of gifts, such as

information about income. However, the model still provided some useful ideas about the amount of gifts, such as giving an estimate on how much of a donation an alumni was going to give assuming that one was going to give. Therefore, the team applied the model in real life by building a spreadsheet in which the Alumni Office staff could input the parameters needed for the model and the model would provide the predicted amount of gifts for that alumni. Below is a screenshot for that spreadsheet:

	A	B	C	D
1				
2	Parameter input			
3	Age	64		
4	Legacy	Aunt is Alumnus		
5	Number of activities	3		
6	department of first major	Mechanical Engineering		
7				
8	Result			
9	Predicted total amount of giving assuming the alumnus is going to give			
10	close to 0			
11				
12				
13				

Figure 22: Screenshot for the Amount of Gifts Spreadsheet

5.4.3 Logistic Model

After carrying out all the necessary steps discussed in Methodology 4.7.3., the team came up with the weights associated with the factors:

Intercept	-0.65
Gender	-2.641
Region	0.597
WPI_Loan	-191
Number_of_Activity	0
Ethnicity	0.625
Legacy	0.461
Number_of_Children	0.528
Age	0.843

The weight of zero for the number of activities meant that the number of activities factor did not play a significant role in determining the probability of giving. From the result above, the model had the form:

$$probability = \frac{1}{1 + e^{-z}},$$

where

$$z = -0.65 + -2.641 * gender + 0.597 * region + (-191) * wpi\ loan +$$

$$0.625 * ethnicity + 0.461 * legacy + 0.528 * Number\ of\ children + 0.843 * age$$

Equation 8: Logistic Equation

Next, the team conducted the test on the accuracy of the model. The procedure of the test could be seen in Methodology 4.7.3. The result of the test is presented below:

probabilit	Sum of exp y	Sum of y	Sum of exp n	Sum of n	total	pi i	test
0-0.2	405.6521213	443	6006.347879	5969	6412	0.06326452	3.670803692
0.2-0.4	2861.885379	2826	6481.114621	6517	9343	0.30631332	0.64866355
0.4-0.6	3020.758446	3009	2981.241554	2993	6002	0.50329198	0.092147315
0.6-0.8	4704.628953	4719	2006.371047	1992	6711	0.70103248	0.146834269
0.8-1	7395.064882	7391	983.9351181	988	8379	0.8825713	0.019027407
Grand Total	**18387.98978**	**18388**	**18459.01022**	**18459**		test statistic	4.577476233
						p-value	0.205482821

Table 12: Test of Accuracy of Logistic Model

From the test, it could be seen that the p-value was 0.2055, which was greater than 0.05. Thus, it was concluded that the model fit was good and this model could be used to model the probability of giving effectively. Since the result indicated the effectiveness of the model, the team built a spreadsheet for this model, in which the Alumni Office staff could input parameters from alumni and obtain both the probability and the likeliness of giving of those alumni. The screenshot of the spreadsheet is presented below:

Parameter input	
gender	M
region	New England
wpi loan	N
ethnicity	White, Non-Hispanic
legacy	randfather(F) is Alumnus
no_children	1
age	54
Result	
probability	0.708765698
likelihood	likely

Table 13: Screenshot of Logistic Model Spreadsheet

6. Recommendations

6.1 Surveys

After reviewing the responses from both the Student and Alumni surveys, the team came up with the following recommendations for the Alumni Office.

- Hold more events away from the WPI campus
    - These events could be in different states, or countries, where there is a significant alumni population or in larger cities (such as: New York City, Las Vegas, Boston, etc.) that alumni might like to travel to. The alumni distribution maps are a tool that can be used to help determine these locations.
- If possible, be more specific as to where money in the general fund is going.
    - For instance, maybe send out a quarterly newsletter highlighting the area(s) on the WPI campus needing donations for improvement, or current projects, needing donations, that the administration is tackling.
    - Also, if possible, briefly explain how improving each area would benefit students. Alumni have stated they would like their donations to benefit students and possibly have those donations better student experiences.
- If possible (and if there is not already a system in place), make an easy to use online system that would allow alumni to make donations.
- Remind alumni that, while large donations are much appreciated, any amount they are able to give would help immensely.
    - Additionally, if possible, have incentives for donations. For instance, for one-hundred dollars (accumulated) that an alumni donates they receive a WPI t-shirt, and for five hundred dollars (accumulated) donated an alumni receives some other gift, etc.
- If possible, ask current students where they would most like donations to the school to go. The donations do not necessarily have to be spent here, but sometimes students can provide a greater insight of what areas might need to be helped. Also, the alumni might be more willing to donate to these areas because

as mentioned previously, many alumni's goal is to improve student's experiences at WPI.

- Implementing a grace period, possibly up to five years after an alumni's last graduation date, in which they know they are welcome to donate, however they are exempt from the periodic phone calls and e-mails asking for donations. This would allow alumni to settle in with their job and start paying off student loans.
    - As seen in Figure 23, the majority of alumni have an estimated graduation date later than 1980. The majority of student loans have a repayment period of 20 years which would mean that the majority of alumni are still making student loan payments.

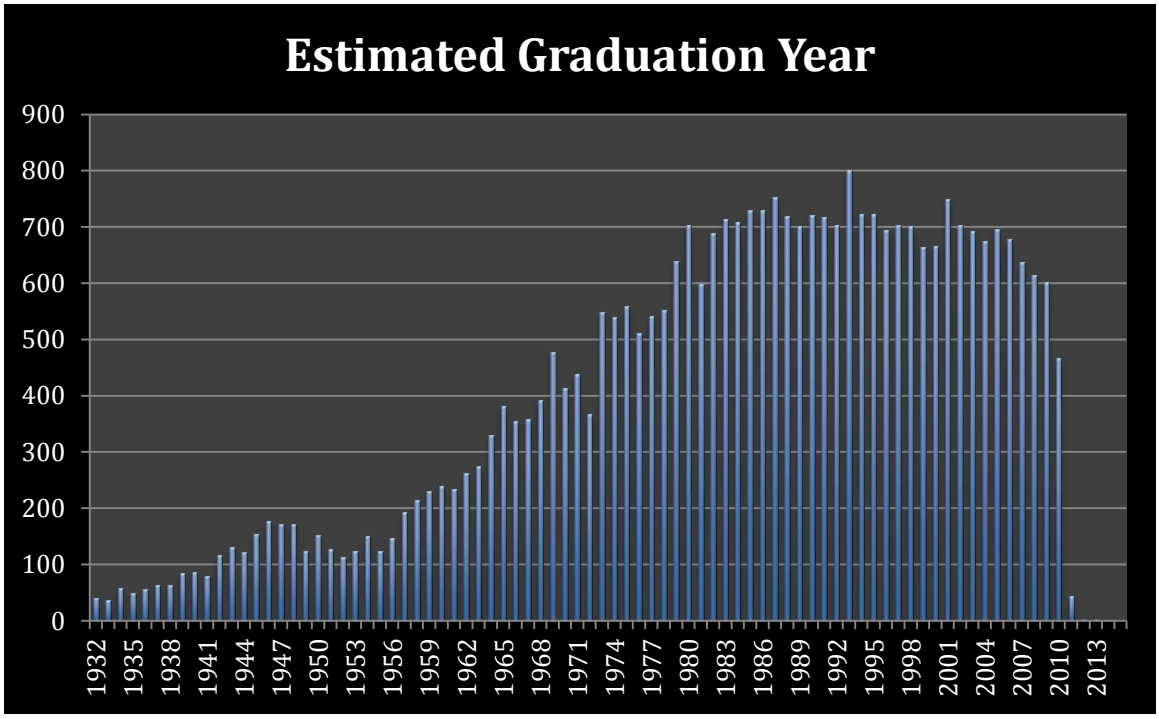


Figure 23: Estimated Graduation Year[37]

[37] The team was not given the last graduation year of each alumni. Therefore, the graduation year was estimated based on if the alumni graduated at the age of 21.

6.2 Model Analysis

Since the logistic model was shown to be significantly accurate in predicting the probability of giving of WPI alumni, the team highly recommends the use of the logistic model in the Alumni Office. The team believes this model will help the WPI Alumni Office have an effective way to categorize the alumni's likeliness of giving, thus allocating their resources more efficiently.

Although both the Number of Gifts and Amount of Gifts models are not as accurate as the Logistic Model in predicting giving trends, the models are still able to provide useful ideas about the giving behavior of the alumni. Thus, the team recommends the use of these two models as supplemental tools for the WPI Alumni Office. The team believes these models, the Number of Gifts Model and the Amount of Gifts Model, when used, in addition to the Logistic Model, will provide a more complete picture of the giving trend of WPI alumni.

Since the models are relatively complicated and require a significant amount of computation, it is recommended to use technology application in the models. The team has built Excels spreadsheets for all these models, in which the WPI Alumni staff can input the values for the parameters and obtain the result automatically. The team believes this kind of application will considerably reduce the amount of work for the WPI Alumni staff; thus it is highly recommended to use the Excel spreadsheets. The team also encourages other technological applications for the models, such as software applications that are written based on the models, since these applications will increase the usefulness of the models.

The team already performed some statistical tests on our models to verify their accuracy. However, it is crucial for a model to pass as many tests as possible. Thus, it is recommended to perform extra tests on the models to determine their level of accuracy. The extra tests can be either other kinds of statistical tests or the same tests the team performed, but based on another set of data. One way of testing, that is highly recommended, is to record the trend of giving of the alumni in a certain period of time,

such as in the next five years, and then compare that with the prediction from each model. If the models, especially the Logistic Model, still show a significant accuracy, they should be used extensively. If they show any problem with the extra tests, the team endorses any revision to the models to improve their accuracy. One possible revision the team suggests is to add additional data into the original data and then adjust the model according to the procedure described in the Methodology.

7. CONCLUSIONS

As WPI continues to grow, the number of graduating students increases while the Alumni Office stays relatively constant. Due to the limited number of staff, the Alumni Office was not able to focus equal time and attention on every individual alumnus. Thus, they were looking for different ways to best optimize the time spent on soliciting donations and holding events. It was the hope of the Alumni Office to be able to focus more on alumni that have a greater chance of donation rather than exhausting time on alumni who are not able or willing to donate. Judging from the responses of alumni who were not able or willing to donate, less frequent solicitations seemed to be their wish as well.

It was the hope that this project, and its recommendations, would help to accomplish this task. By using the surveys and alumni distribution maps, it was the team's hope that the Alumni Office could determine different types of ideas and events to help encourage more alumni involvement with WPI. By using the different models, the Alumni Office could better predict the likelihood that an individual was going to give. By listing the methods used to determine each model, it will be possible for them to be changed. This will allow the Alumni Office to implement them, if they wish, in the future with updated data, despite the ever changing factors that may encourage one's donation.

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APPENDIX A: Additional Description Supplement[38]

Related Term	Code	Business Defintion	Business Unit
Geographic Area	ZNE02	120 mile radius around New York City	Advancement
Preferred Donor Category	ALND	Attended WPI as undergraduate, completed at least one credit course	Advancement
Preferred Donor Category	ALUM	Awarded undergraduate degree from WPI	Advancement
Preferred Donor Category	BUSI	Legacy corporate constituents from prior system. All have primary donor category of 'CORP'	Advancement
Preferred Donor Category	CERT	Earned certificate from WPI program	Advancement
Preferred Donor Category	CHOR	A tax exempt entity that is organized and operated for purposes that are beneficial to the public interest.	Advancement
Preferred Donor Category	CORP	For-profit corporations, partnerships, businesses, cooperatives & company-sponsored foundations	Advancement
Preferred Donor Category	DADF	Entity that receives donations from individuals or corporations then makes charitable gifts under advisement of those individuals or corporations. All have primary donor category of 'CHOR'. Can also have a secondary category of 'MGCO'.	Advancement
Preferred Donor Category	EDUC	School, college, university	Advancement
Preferred Donor Category	ESTA	Estate of WPI ALUM, ALND, GRAD	Advancement
Preferred Donor Category	ESTF	Estate of individual not ALUM, ALND, GRAD	Advancement
Preferred Donor Category	FACT	WPI faculty and staff	Advancement
Preferred Donor Category	FFOU	Foundation established and operated as a conduit for charitable donations of an individual or family	Advancement
Preferred Donor Category	FOUN	Private tax-exempt entity established and operated exclusively for philanthropic purposes	Advancement
Preferred Donor Category	FRCS	Entities formed by a cooperative group of institutions or organizations to faciliate their fundraising activities (United Way)	Advancement
Preferred Donor Category	FRND	Individual without formal affiliation with WPI	Advancement
Preferred Donor Category	GOVT	Governmental entity or individual who functions in a capacity as a government official	Advancement
Preferred Donor Category	GPAR	Grandparent of a WPI undergraduate student	Advancement
Preferred Donor Category	GRAD	Awarded postgraduate degree from WPI	Advancement
Preferred Donor Category	HOND	Awarded an honorary degree by WPI	Advancement
Preferred Donor Category	MGCO	A Charitable organization that facilitates corporate matching gifts. All have primary donor category of 'CHOR'	Advancement
Preferred Donor Category	MPAR	Parent or guardian of current or former Mass Academy Student	Advancement
Preferred Donor Category	NEIG	Individual with address adjacent to WPI campus pursuant to a prior assessment	Advancement
Preferred Donor Category	OTHR	Non-profit organizations, excluding 'CHOR', 'FOUN','FFOU'	Advancement
Preferred Donor Category	PRNT	Parent or guardian of current or former WPI student	Advancement
Preferred Donor Category	RELO	Church, synagogues, temple, mosques and their denominational entities	Advancement
Preferred Donor Category	STDT	WPI undergraduate	Advancement
Preferred Donor Category	TRUS	WPI Trustee, Emeritus Trustee	Advancement
Preferred Donor Category	VEND	WPI vendor corporations who are also constitutens. All have primary donor category of 'CORP'	Advancement
Preferred Donor Category	WIDO	Surviving spouse of a WPI ALUM, ALND, GRAD	Advancement

Blackbaud Ratings

Related Term	Code	Business Defintion	Business Unit
BB TG Rating (BBATG)	1	$1 - $50	Advancement
BB TG Rating (BBATG)	2	$51 - $100	Advancement
BB TG Rating (BBATG)	3	$101 - $250	Advancement
BB TG Rating (BBATG)	4	$251 - $500	Advancement
BB TG Rating (BBATG)	5	$501 - $1,000	Advancement
BB TG Rating (BBATG)	6	$1,001 - $2,500	Advancement
BB TG Rating (BBATG)	7	$2,501 - $5,000	Advancement
BB TG Rating (BBATG)	8	$5,001 - $10,000	Advancement
BB TG Rating (BBATG)	9	$10,001 - $25,000	Advancement
BB TG Rating (BBATG)	10	$25,001 - $50,000	Advancement
BB TG Rating (BBATG)	11	$50,001 - $100,000	Advancement
BB TG Rating (BBATG)	12	$100,001 +	Advancement
Exclusion	ABC	Individuals coded as ABC fall into one of the following categories: Have not made a gift within the past six years and graduated more than 20 years ago. Are not in an Anniversary class Do not have a primary manager.	Advancement
Geographic Area	CLB01	Boston	Advancement
Geographic Area	CLB02	Cape Code	Advancement
Geographic Area	CLB03	Chicago	Advancement
Geographic Area	CLB04	Colorado (entire state)	Advancement
Geographic Area	CLB05	Hartford/Springfield	Advancement
Geographic Area	CLB06	Metropolitan DC (States of Delaware, Virginia, Maryland and Washington D.C.)	Advancement
Geographic Area	CLB07	Metropolitan New York City	Advancement
Geographic Area	CLB08	Northern California	Advancement
Geographic Area	CLB09	Philadelphia	Advancement
Geographic Area	CLB10	Portland, OR	Advancement
Geographic Area	CLB11	Providence, RI	Advancement
Geographic Area	CLB12	Raleigh, NC	Advancement
Geographic Area	CLB13	Southern New Hampshire	Advancement
Geographic Area	CLB14	Worcester	Advancement
Geographic Area	MET01	60 mile radius around Atlanta, GA	Advancement
Geographic Area	MET02	60 mile radius around Boston, MA	Advancement
Geographic Area	MET03	60 mile radius around Hartford, CT	Advancement
Geographic Area	MET04	60 mile radius around Miami, FL	Advancement
Geographic Area	MET05	60 mile radius around Naples, FL	Advancement
Geographic Area	MET06	60 mile radius around New York City	Advancement
Geographic Area	MET07	60 mile radius around Palm Beach, FL	Advancement
Geographic Area	MET08	60 mile radius around Worcester, MA	Advancement
Geographic Area	RGHN11	Other/Unassigned (state code of AE or blank)	Advancement
Geographic Area	RGN01	Central Plains (states of IA, KS, NE)	Advancement
Geographic Area	RGN02	Great Lakes (states of IL, IN, MI, MN, OH and WI)	Advancement
Geographic Area	RGN03	Mid-Atlantic (states of DC, DE, MD, NJ, PA and WV)	Advancement
Geographic Area	RGN04	New England (states of CT, MA, ME, NH, RI, VT	Advancement
Geographic Area	RGN05	Northeast (states of CT, MA, ME, NH, NY, RI and VT)	Advancement
Geographic Area	RGN06	Pacific (states of CA, HI, NV and AZ)	Advancement
Geographic Area	RGN07	Pacific Atlantic (states of AK, ID, OR, WA)	Advancement
Geographic Area	RGN08	Rocky Mountain (states of CO, MO, MT, NM, SD, UT and WY)	Advancement
Geographic Area	RGN09	Southeast (states of AL, FL, GA, KY, NC, SC, TN and VA)	Advancement
Geographic Area	RGN10	Southwest (states of AR, LA, OK, TX)	Advancement
Geographic Area	ZNE01	120 mile radius around Boston, MA	Advancement

APPENDIX B: Campaign Commitment by Purpose to 12-Nov-10[39]

Purpose	Department		Cash	Deferred Gifts	Gifts in Kind	Pledge Balance	Revocable Death Bequests	Total Commitment
A. Unrestricted Purpose	Current Use Unrestricted		6,695,666		-	-		6,695,666
	Endowments		229,990		-	50,000	1,000,000	1,279,990
B. Academic Support	Diversity & Women's Programs		186,196		-	4,084		190,281
	Information Technology		343,497		13,104	-		356,601
	K-12 Outreach		1,553,673		-	6,500		1,560,173
	Library		29,217		102,541	4,247		136,004
	Minority Affairs		76,020		-	200,000		276,020
	Other Academic Support		448,075		-	1,517,232		1,965,307
	Physical Education & Athletics		223,698		1,900	-		225,598
C. Academic Departments	Biology/ Biotechnology		1,649,835		108,950	800,200		2,558,985
	Biomedical Engineering		3,720		-	560		4,280
	Chemical Engineering		52,240		8,500	-		60,740
	Chemistry and Biochemistry		3,131,760		-	-		3,131,760
	Civil & Environmental Engr		2,176,175		-	37,500		2,213,675
	Computer Science		77,977		44,590	-		122,566
	Corporate Education		-		75,000	-		75,000
	Electrical & Computer Engr		451,232		375,000	100		826,332
	Fire Protection Engineering		129,278		101,340	380,250	3,000,000	3,610,868
	Humanities and Arts		223,740		-	13,283		237,022
	Management		1,106,082		290	56,800		1,163,172
	Mathematical Sciences		535,974		-	-		535,974
	Mechanical Engineering		734,335		183,456	-		917,791
	Physics		107,275		53,500	-		160,775
	Social Science/ Policy Studies		275		-	-		275
	Social Science/Policy Studies		50		-	-		50
D. Centers & Interdisciplinary Programs			126,590		1,500	800		128,890
E. **Other Restricted Gifts	Endowments		1,452		-	-		1,624,282
			15,991,996	1,622,830	193,022	11,135,148	9,598,971	46,341,077
Totals		$	36,286,016	9,421,940	1,262,693	14,206,703	13,598,971	76,399,153

Notes:

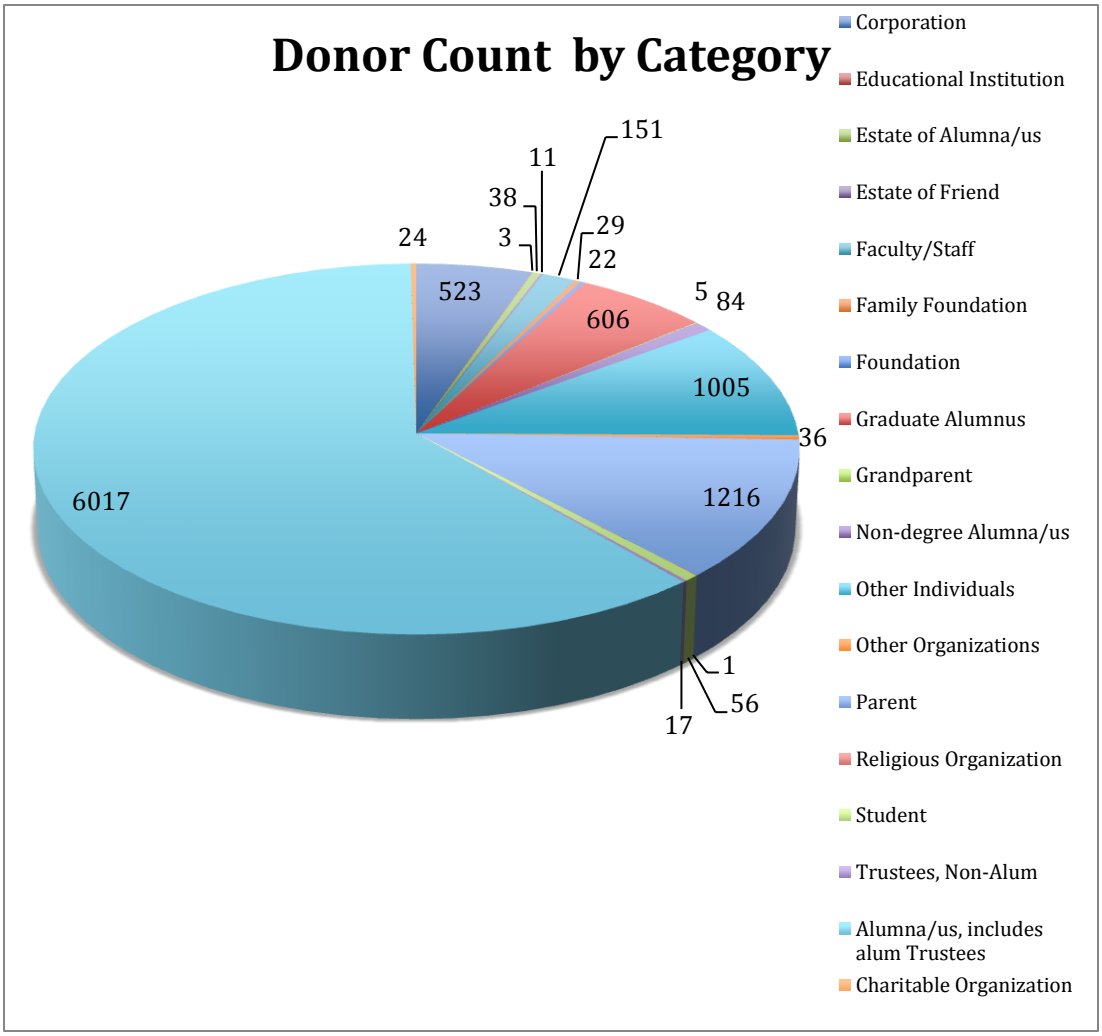
** Includes Capital Gifts

Unrestricted Funds do not include outstanding pledge balances.

The Centers and Interdisciplinary Section includes Project Centers, Robotics and Interactive Media.

[39] ("Campaign Commitment Progress Reports and Graphs" 4)

APPENDIX C: Donor Count by Category



Commitment	Donor Count	Primary Donor Category
$ 4,860,737	523	Corporation
$ 7,215	3	Educational Institutiion
$ 11,178,410	38	Estate of Alumna/us
$ 2,618,547	11	Estate of Friend
$ 136,278	151	Faculty/Staff
$ 7,902,485	29	Family Foundation
$ 10,156,791	22	Foundation
$ 265,060	606	Graduate Alumnus
$ 2,895	5	Grandparent
$ 120,144	84	Non-degreed Alumna/us
$ 6,562,615	1005	Other Individuals
$ 348,659	36	Other Organizations
$ 339,149	1216	Parent
$ 500	1	Religious Organization
$ 35,322	56	Student
$ 4,026,330	17	Trustees, Non-Alum
$ 25,097,137	6017	Alumna/us, includes alum Trustees
$ 2,740,880	24	Charitable Organization
$ 76,399,153	9844	Total

APPENDIX D: Donor Category Descriptions Supplement[40]

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Activity Code	Common	Activity recorded for the student or alumnus. Activities may include leadership councils, seminars, fraternity or sorority, chess or debate clubs, etc.	ACTIVITY	ACTIVITY.ACTIVITY or use ARGOS_A.WF_GET_ACTIVITY (see functions tab)
Activity Description	Common	Activity description.	ACTIVITY	ACTIVITY.ACTIVITY_DESC or use ARGOS_A.WF_GET_ACTIVITY (see functions tab)
Address Name	Advancement	Name to be used with the preferred address type. Name is in the format: Michael A. Buckholt, PhD	AWVCONS	AWVCONS.AWVCONS_ADDRESS_NAME.
Address Type	Advancement	Type of address for this address record. For example, address types of mailing, temporary summer, billing and permanent.	ADDRESS	ADDRESS.ADDRESS_TYPE.
Alden	Advancement	Y/N indicator to signify if constituent is an Alden Society member or not.	AWVCONS	When SPECIAL_PURPOSE_GROUP = 'ALM' then set AWVCONS_ALDEN_MEMBR to 'Y', else 'N'
Alumni of Record	Advancement	Living alumni for whom we have a valid Preferred Address on record.		ALUM, ALND and GRAD with active Preferred Address.
Amount Group	Advancement	One of the categorizations used within the campaign report to identify a major grouping, such as Annual Fund or Class Anniversary gifts. Used on the CPTD (Campaign Progress To Date) pages of the Campaign report to report progress by funding area.	Calculation	CASE WHEN ("Awvgfmm (Giving)".Camp Type = 'AA') THEN 'Annual Fund' WHEN ("Awvgfmm (Giving)".Desg = 'ANNIV') THEN 'Class Anniversary Gifts' WHEN ("Awvgfmm (Giving)".Desg Dept Code IS NOT NULL) THEN 'Department Restricted Gifts' ELSE 'Other Restricted Gifts' END
Annual fund	Advancement	Annual Fund - Unrestricted donations including those made to the Friends' Fund, Parents' Fund, President's Circle scholarships, Annual Fund scholarships and other unrestricted gifts. Dollar totals do not include outstanding pledge balances.	Calculation	Campaign Type = 'AA' and Type Flag = 'G'
Annual fund New Donors	Advancement	Dollar amount for donors who have never given before.	Calculation	Annual Fund counting instructions.docx
Annual fund Reactivated Lapsed Donors	Advancement	Dollar amount for donors who have given sometime in the past, but not in the last fiscal year, and have given in the current fiscal year.	Calculation	Annual Fund counting instructions.docx
Annual fund Renewed Donors	Advancement	Dollar amount for donors who gave in the last fiscal year and also have given in the current fiscal year.	Calculation	Annual Fund counting instructions.docx
Awards Code	Advancement	Lists type of award that constituent has received, if any (otherwise blank). Examples: Goddard award, Taylor award.	AWVCONS	SPECIAL_PURPOSE_TYPE = 'AWD', then use SPECIAL_PURPOSE_GROUP_DESC to build AWVCONS_AWARDS_CODE
Banner ID	Advancement	Person's or organization's current identification number in Banner.	AWVCONS	AWVCONS.AWVCONS_ID
BB AF rating	Advancement	Predicts the likelihood of an individual to give an annual gift of any size in a 12 month period. Higher scores indicate higher likelihood.	MAT_ADVANCEMENT_RATING	RATING_AMOUNT from MAT_ADVANCEMENT_RATING for BBAs where RATING_TYPE = 'BBAAF'
BB MG rating	Advancement	Predicts the likelihood of an individual to give a major gift ($50K or more over 5 years). Higher scores indicate higher likelihood.	MAT_ADVANCEMENT_RATING	RATING_AMOUNT from MAT_ADVANCEMENT_RATING for BBAs where RATING_TYPE = 'BBAMG'
BB PG Annuity rating	Advancement	Predicts the likelihood of an individual making an annuity donation. Higher scores indicate higher likelihood.	MAT_ADVANCEMENT_RATING	RATING_AMOUNT from MAT_ADVANCEMENT_RATING for BBAs where RATING_TYPE = 'BBAPA'
BB PG Bequest rating	Advancement	Predicts the likelihood of an individual making a bequest. Higher scores indicate higher likelihood.	MAT_ADVANCEMENT_RATING	RATING_AMOUNT from MAT_ADVANCEMENT_RATING for BBAs where RATING_TYPE = 'BBAPB'
BB PG CRT rating	Advancement	Predicts the likelihood of an individual to set up a charitable remainder trust donation. Higher scores indicate higher likelihood.	MAT_ADVANCEMENT_RATING	RATING_AMOUNT from MAT_ADVANCEMENT_RATING for BBAs where RATING_TYPE = 'BBAPC'
BB TG rating	Advancement	Target Gift Range is the suggested ask amount for an annual philanthropic gift. The dollar value reflects a target range for a single gift or for a 12 month period. To obtain the Major Gift value, multiply the TGR dollar value high end by 5. This rating is based on the individual's relationship to WPI, giving history, financial information and demographic data.	MAT_ADVANCEMENT_RATING	RATING_AMOUNT from MAT_ADVANCEMENT_RATING for BBAs where RATING_TYPE = 'BBATG'
Campaign Designation	Advancement	One of the categorizations used within the campaign report to identify a major grouping, such as Faculty and	Calculation	Fund' WHEN ("Awvgfmm (Giving)".Desg IN ('CGGPR','CGGPU', 'GPRES')) THEN 'Undesignated Funds' WHEN ("Awvgfmm (Giving)".Desg Vse IN
Campaign Goals	Advancement	A calculation used to "plug in" campaign goals to various categories for reporting (as these goals in not identifiable within Banner).	Calculation	CASE WHEN (("Fund Use " = 'Sports and Recreation Center' AND Designation Types = 'Facilities')) THEN TO_NUMBER(30000000) WHEN (("Fund Use " = 'Academic Buildings' AND Designation Types = 'Facilities')) THEN TO_NUMBER(60000000) WHEN (("Fund Use " = 'Unrestricted' AND Designation Types = 'Spendable Current Use')) THEN TO_NUMBER(20000000) WHEN (("Fund Use " = 'Scholarships and Financial Aid' AND Designation Types = 'Endowment')) THEN TO_NUMBER(40000000) WHEN (("Fund Use " = 'Professorships' AND Designation Types = 'Endowment')) THEN TO_NUMBER(30000000) WHEN (("Fund Use " = 'Academic Programs' AND Designation Types = 'Endowment')) THEN TO_NUMBER(15000000) WHEN (("Fund Use " = 'Departmental Funds' AND Designation Types = 'Endowment')) THEN TO_NUMBER(5000000) ELSE NULL END
Campaign Type	Advancement	Campaign Type	AWVGFMM	AWVGFMM.AWVGFMM_CAMP_TYPE
Capacity	Advancement	Capacity range rating of a prospect	AWVPRSP	Cap Rate Desc

[40] Provided by the Office of Development and Alumni Relations

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Capacity Rating	Advancement	Code used to define the "ultimate" philanthropic gift(s) that an individual can make based upon research data from public sources and personal information provided by the donor or those who know him/her well.	AWVPROS	AWVPROS_CAP_RATING
Capacity Rating Desc	Advancement	Description of the "ultimate" philanthropic gift(s) that an individual can be expected to make based upon research data from public sources and personal information provided by the donor or those who know him/her well.	AWVPROS	AWVPROS_CAP_RATING_DESC
Child Age	Advancement	Child's age	Function	Function: WF_GET_CHILD using 'FAG' or 'WAG'. Tables/views: RELATED_BIRTH_DATE from RELATIONSHIP where AWVCONS_PIDM = RELATIONSHIP.ENTITY_UID and RELATED_CROSS_REFERENCE = 'CHL'. Use RELATED_BRITH_DATE to calculate age. If child has an ID, CURRENT_AGE from PERSON_DETAIL.
Child Class Year	Advancement	Child's Preferred Class Year if child is a WPI graduate.	Function	Function: WF_GET_CHILD using 'WAG'. Tables/views: AWVCONS_PREF_CLASS where AWVCONS_PIDM = RELATIONSHIP.ENTITY_UID and RELATED_CROSS_REFERENCE = 'CHL' and RELATED_UID = AWVCONS1_PIDM
Child Name	Advancement	Child's first name	Function	Function: WF_GET_CHILD (see function tab for choices). Tables/views:RELATED_FIRST_NAME from RELATIONSHIP where AWVCONS_PIDM = RELATIONSHIP.ENTITY_UID and RELATED_CROSS_REFERENCE = 'CHL'
Children Dead	Advancement	Number of deceased children per constituent	AWVCONS	AWVCONS_NUM_DEAD
Children Info	Advancement	First Name,(age), gender,Pref Class, (D) for each child of consituent, presented in a columnar format.	Function	Function: WF_GET_CHILD using 'FAD'
Children Living	Advancement	Number of living children per constituent	AWVCONS	AWVCONS_CHLD_NUM
Children Total	Advancement	Total number of children (living and dead) per constituent.	AWVCONS	NVL(AWVCONS_CHILD_NUM, 0) + NVL(AWVCONS_CHLD_NUM_DEAD, 0)
City	Advancement	Address city, town or municipality.	AWVADDR	CITY from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Class Anniversary gifts	Advancement	Gifts from anniversary classes that have not been designated to a specific purpose.		Desg = 'ANNIV'
Class Board	Common	Y/blank (Y= Constituent is a current member of the Class Board of Directors)	ACTIVITY	Y when ACTIVITY.ACTIVITY = 'LDRBORD'.
Combined Mailing Name	Advancement	Combined mailing name. Name is in the format: Brigitte and Herman Servatius, and only exists on one member of the combination.	AWVCONS	AWVCONS.AWVCONS_COMB_MAIL_NAME
Constituent	Advancement	An individual or an organization with a Banner ID and an assigned Donor Category.	Calculation	Donor category <> null
Current Fiscal Year	Advancement	Current fiscal year	Calculation	Select YEAR_CODE from YEAR_TYPE_DEFINITION where SYSDATE >= YEAR_TYPE_DEFINITION.START_DATE and SYSDATE <= YEAR_TYPE_DEFINITOIN.END_DATE and YEAR_TYPE = 'ADV_FISC'
Current FY Giving	Advancement	Total of (Gift Amount + Spouse Amount + Third Amount) per constituent for most recent fiscal year.	AWVCONS	AWVCONS_TOT_FY_GIV_CURR
Deceased Ind	Advancement	Y/N to indicate whether a constituent is deceased.	AWVCONS	AWVCONS.AWVCONS_DECEASE_IND
Degree	Common	Degree code associated with the academic study for all degrees held by a constituent (Will produce one row per degree.)	DEGREE	DEGREE.DEGREE
Degrees All	Advancement	List of all known degrees and associated first majors per constituent, presented in a columnar format.	Function	ARGOS_A.WF_GET_DEGREE (3,1)
Degrees WPI Only	Advancement	List of all WPI (only) and associated first majors per constituent, presented in a columnar format.	Function	ARGOS_A.WF_GET_DEGREE (1,1)
Department Restricted gifts	Advancement	Those gifts that have been specifically designated to a department.	Calculation	Desg Dept Code IS NOT NULL
Designation (Gift)	Advancement	Designation associated with the gift.	AWVGFMM	AWVGFMM.AWVGFMM_DESG for gifts.
Designation (Pledge)	Advancement	Designation associated with the gift.	PLEDGE	PLEDGE.DESIGNATION for pledges.
Designation Desc (Gift)	Advancement	Designation description associated with a gift.	AWVGFMM	AWVGFMM.AWVGFMM_DESG_DESC for gifts.
Designation Desc (Pledge)	Advancement	Designation description associated with a pledge.	PLEDGE	PLEDGE.DESIGNATION_NAME for pledges.
Designation Type(s)	Advancement	One of the categorizations used within the campaign report to identify a grouping, such as Endowment, Facilities and Spendable Current Use. Used within the campaign to set goals and track progress against goals.	Calculation	CASE WHEN ("Awvgfmm (Giving)".Desg Type IN ('ES','EN'. 'FPUNI', 'FPANN', 'FPPIF')) THEN 'Endowment' WHEN ("Awvgfmm (Giving)".Desg Type IN ('CAP','GIK')) THEN 'Facilities' ELSE 'Spendable Current Use' END
Donor Catg	Advancement	A list of all donor categories associated to a constituent.	AWVCONS	AWVCONS_ALL_DONR
Donor Ind	Advancement	Y if constituent has made a gift, or has third party or spousal credit. Otherwise N.	AWVCONS	AWVCONS_DONOR_IND
Employer	Advancement	Employer's Name	AWVCONS	AWVCONS_EMPLOYER_NAME
Event Attendance	Advancement	Indication if constituent attended an event (FY2007 and forward).	ACTIVITY	ACTIVITY_TYPE = 'EVENT'
Exclusion Description	Advancement	Exclusion code description.	EXCLUSION	EXCLUSION.EXCLUSION_DESC for field. VALIDATION where TABLE_NAME = 'ATVEXCL' for parameter.

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Exclusion List	Advancement	List of the types of solicitations or forms of contact from which the constituent should be excluded.	AWVCONS	AWVCONS.AWVCONS_EXCL_LIST for field. VALIDATION where TABLE_NAME = 'ATVEXCL' for parameter (See code following) SELECT 'None' "Value", 'No Exclusions' "Value_Description" FROM DUAL WHERE : CheckBox_Excl = 'N' UNION ALL select VALIDATION.VALUE, VALIDATION_VALUE_DESCRIPTION from ODSMGR.VALIDATION.VALIDATION where VALIDATION.TABLE_NAME = 'ATVEXCL' and VALIDATION.VALUE <> '001' and :CheckBox_Excl = 'Y' order by 1
Financial Aid Recipient	Common	Indication if constituent was the recipient of financial aid while at WPI.	Calculation	Select distinct PERSON_UID from AWARDS_BY_AID_YEAR where AWARDS_BY_AID_YEAR.PERSON_UID = AWVCONS_PIDM and TOTAL_ACCEPT_AMOUNT > 0
First Name Legal	Advancement	Formal/legal first name (ie. Benjamin instead of Ben)	AWVCONS	AWVCONS_FIRST_NAME (sourced from APAIDEN, First Name)
Fiscal Year	Advancement	Fiscal year associated with the gift.	AWVGFMM	AWVGFMM. FISC_CODE for field. For parameter – VALIDATION where TABLE_NAME = 'ATVFISC'
Fiscal Year - VSE	Advancement	One of the standard calculations used within DAR. Includes Gift Amounts (Outright gifts and pledge payments) for a fiscal year.	Calculation	Gift amount where Fiscal Year = XXXX.
Founders	Advancement	Y/N Indicator set to Y when individual is a member of the Presidential Founders Society.	AWVCONS	AWVCONS_PRES_FNDR (Set to Y when SPECIAL_PURPOSE_GROUP = 'PRF')
Frat Activity Code	Common	Code associated with fraternity or sorority of which alumnae was a member. (Will produce one row per fraternal organization.)	ACTIVITY	ACTIVITY_CATEGORY = 'FRSO', then ACTIVITY.ACTIVITY
Frat/Sor	Advancement	Fraternities or sororities of which constituent was a member.	Function	ARGOS_A.WF_GET_ACTIVITY (5,2)
Fund Use	Advancement	One of the categorizations used within the campaign report. Fund Use identifies groupings such as Professorships or Sports and Recreation Center, that fall within the Campaign Designation major categories. Used on the section of the Campaign report to measure progress against goals.	Calculation	
FY Minus 1, 2, 3 or 4	Advancement	Current fiscal year minus 1, 2, 3 or 4	Calculation	(Select YEAR_CODE from YEAR_TYPE_DEFINITION where SYSDATE >= YEAR_TYPE_DEFINITION.START_DATE and SYSDATE <= YEAR_TYPE_DEFINITOIN.END_DATE and YEAR_TYPE = 'ADV_FISC'))-1_
Gave or Pledged in Current Fiscal Year	Advancement	Individuals who have made a gift (credited with a gift amount, third party amount or spousal credit) or a pledge in the current fiscal year.	Calculation	AWVCONS.AWVCONS_TOT_FY_GIV_CURR > 0 or PLEDGE_STATUS in ('A', 'F', 'P') for current fiscal year.
Gender	Advancement	M/F/N for Male, Female, Not Reported	AWVCONS	AWVCONS.AWVCONS_GENDER
Geographic Area	Advancement	Geographic region, metro, club or zone.	SOAGEOR_ODS	VALIDATION where TABLE_NAME = 'STVGEOR' for parameter. SOAGEOR_ODS for comparing Address zipcodes to Georgraphic zone, metro or club
Gift Amount	Advancement	Gift amount (includes cash plus pledge payments)	AWVGFMM	AWVGFMM_GIFT_AMOUNT
Gift Classification	Advancement	First, second or third classification of the gift/payment, such as anonymous, memorial, etc.	AWVGFMM	AWVGFMM_CLAS_CODE, AWVGFMM_CLASS_CODE2, AWVGFMM_CLASS_CODE3
Gift Date	Advancement	Date a gift is received. Date defaults to the system date if no date is entered.	AWVGFMM	AWVGFMM.AWVGFMM_GIFT_DATE
Gift Society Name	Advancement	Formated name that constituent wishes to use when being recognized as a donor or member of a gift society, such as: Lor J. and Curtis W. Clark	AWVCONS	AWVCONS_SOCIETY_NAME. For entities = 'P', sourced from APBCONS_SOCIETY_NAME. For entties = 'O', sourced from AOBORGN_SOCIETY_NAME, and if null, sourced from SPRIDEN_LAST_NAME (Non-Person section in APAIDEN).
Gift Society Member	Advancement	Constituent may be a member of one of the following gift societies: · The Stephen Salisbury Club · The President's Society · The President's Circle · Pres. Circle – Benefactor · Reunion PAC (3 year) · Pres. Circle – Patron · The President's Club · Pres. Circle – Fellow · Pres. Circle – Associate · Anniversary PAC (3 year) · Pres. Circle – Ambassador · The President's Assembly · Founders Society · The Dean's Club · Continuous PAC · Continuing PAC Member · The John Boynton Club · PAC Annual Member · Previous Anniversary Society	GIFT_SOCIETY	VALIDATION where TABLE_NAME = 'ATVDCNP' and VALUE not in ('GOLD', 'OLDL', 'OLDP', 'OLDY', 'THOM', 'TTWR', 'WASH') for parameter. GIFT_SOCIETY where GIFT_SOCIETY_YEAR = current fiscal year, for field.
Given online?	Advancement	Y/N indicator if constituent has made on online gift.	AWVGFMM	AWVGFMM_CLAS_CODE, or AWVGFMM_CLASS_CODE2 or AWVGFMM_CLASS_CODE3 = 'CCOL', then 'Y', else 'N' (Used to build AWVCONS_ONLINE_GIVER_IND.)
GOLD - AF dollars and donor counts	Advancement	Unrestricted (Annual fund) dollars and donor counts for Graduates of the Last Decade	Calculation	Annual Fund counting instructions.docx
Highest Gift Amt	Advancement	Amount of the largest single gift on record per constituent. (Gift = Gift or Spouse or Third amounts)	AWVCONS	AWVCONS.AWVCONS_HIGHEST_GIFT_AMT
Highest Gift Date	Advancement	Date (MM/DD/YYYY) of the largest single gift on record per constituent. (Gift is defined as one of the following fields is greater than zero: Gift Amount, Third Amount, Spouse Amount).	AWVCONS	AWVCONS.AWVCONS_HIGHEST_GIFT_DATE

Term	Business Unit	Business Defintion	View	Technical Definition/Source
In Will	Advancement	Y or N to indicate if WPI is included in individual's will.	AWVCONS	SPECIAL_PURPOSE_GROUP = 'IN' and SPECIAL_PURPOSE_TYPE = 'FIN' used to create AWVCONS_INWILL_FLAG
Inclination	Advancement	Description of constituent's inclination towards giving to WPI, such as "Moderate interest".	AWVPROS	AWVPROS_INCL_RATING_DESC
Inclination	Advancement	Inclination rating of a propsect	AWVPRSP	Inc Rate Desc
Individual Giving	Advancement	One of the standard calculations used within DAR. Includes Gift Amount + Spouse Amount + Third Amount.	AWVCONS	All summarized amount fields within AWVCONS.
Joint Salutation	Advancement	Combination of constituent's Pref First Name "and" spouse's Pref First Name, such as "Don and Amy"	AWVCONS	AWVCONS_PREF_FIRST_NAME||decode (AWVCONS_SPS_FIRST_NAME, ' ', '' , ' and ' || AWVCONS_SPS_FIRST_NAME)
Lead	Advancement	DO presenting the ask/proposal	AWVPROP	Staff Name
Leaders	Advancement	List of leadership roles in which a constituent has been or is currently involved.	Function	ARGOS_A.WF_GET_ACTIVITY (2,5) or ACTIVITY where ACTIVITY_CATEGORY = 'LEADR'
Legacy (I am legacy)	Advancement	An individual who graduated from WPI and has a relationship of any of the following kinds: Grandparent Parent Step-Parent Aunt/Uncle Step-Sibling Cousin Sibling Relative In-Law Sibling Great Aunt/Uncle In-Law Parent Great Grandparent Child Niece/Newphew In-Law Child Step-Child, to a constituent who has a Preferred Class Year <> '0000' and that individual's class year is greater than their related constituent's class year.	Function	Function: ARGOS_A.WF_GET_AM_LEGACY. Tables/views: (Select distinct 'Y' From CONSTITUENT,RELATIONSHIP where AWVCONS_PIDM = RELATIONSHIP.ENTITY_UID and RELATIONSHIP.RELATED_UID = CONSTITUENT.PERSON_UID and AWVCONS_PREF_CLASS > '0000' and CONSTITUENT.PREF_CLASS > '0000' and CONSTITUENT.PREF_CLASS < AWVCONS_PREF_CLASS and RELATED_CROSS_REFERENCE in ('GPA', 'GGP', 'GAU','STP', 'COS', 'STS', 'PAR', 'SIB', 'AUN', 'ILP', 'ILS', 'REL', 'CHL', 'NIN', 'STC', 'ILC'))
Legacy (I have legacy)	Advancement	An individual who graduated from WPI and has a relationship of any of the following kinds: Grandparent Parent Step-Parent Aunt/Uncle Step-Sibling Cousin Sibling Relative In-Law Sibling Great Aunt/Uncle In-Law Parent Great Grandparent Child Niece/Newphew In-Law Child Step-Child, to a constituent who has a Preferred Class Year <> '0000' and that individual's class year is less than their related constituent's class year.	Function	Function: ARGOS_A.WF_GET_HAVE_LEGACY. Tables/views: (Select distinct 'Y' From CONSTITUENT,RELATIONSHIP where AWVCONS_PIDM = RELATIONSHIP.ENTITY_UID and RELATIONSHIP.RELATED_UID = CONSTITUENT.PERSON_UID and AWVCONS_PREF_CLASS > '0000' and CONSTITUENT.PREF_CLASS > '0000' and CONSTITUENT.PREF_CLASS > AWVCONS_PREF_CLASS and RELATED_CROSS_REFERENCE in ('GPA', 'GGP', 'GAU','STP', 'COS', 'STS', 'PAR', 'SIB', 'AUN', 'ILP', 'ILS', 'REL', 'CHL', 'NIN', 'STS', 'STC', 'ILC'))
Legacy Definition for Current Students	Common	A legacy student is defined as an individual who is enrolled in the current term and who is also not one of the following types of student: Continuing Ed Mass Academy and has a relationship of any of the following kinds: Spouse Child Grandparent Parent Step-Child Step-Parent Aunt/Uncle In-Law Child Great Niece/Nephew Step-Sibling Cousin Sibling Relative In-Law Sibling Great Grandchild Niece/Newphew Grandchild Great Aunt/Uncle In-Law Parent Great Grandparent, to a constituent who has a class year.	Calculation	RELATIONSHIP.RELATED_UID = MV_PROD.SWBMAST.SWBMAST_PIDM and MV_PROD.SWBMAST.SWBMAST_ENROLLED_IND = 'Y' and MV_PROD.SWBMAST.SWBMAST_TERM_CODE = '200901' and MV_PROD.SWBMAST.SWBMAST_LEVL_CODE <> '70' and MV_PROD.SWBMAST.SWBMAST_COLL_CODE not in ('HJ', 'HS') and RELATIONSHIP.ENTITY_IND = 'P' and RELATED_CROSS_REFERENCE in ('CHL', 'GPA', 'GGC', 'GGP', 'STP', 'ILC', 'COS', 'STS', 'PAR', 'SIB', 'AUN', 'STC', 'GNN', 'SPS', 'ILP', 'ILS','NIN', 'PTN', 'GAU', 'REL', 'GCH') and RELATIONSHIP.ENTITY_UID = AWVCONS_PIDM and AWVCONS_PREF_CLASS > '0000')
Legacy Student Birthdate for Current Students	Common	Birthdate of current student who is a legacy.	RELATIONSHIP	Using the Legacy definition for current student, RELATED_BIRTH_DATE from RELATIONSHIP

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Legacy Student Classification Description for Current Students	Common	Current year of student, such as "freshman".	MV_PROD.SWBMAST	Using the Legacy definition for current student, SWBMAST_CLASS_DESC from MV_PROD.SWBMAST.
Legacy Student Deceased Indicator for Current Students	Common	Y/blank (Y= deceased) for constituent who is a legacy.	RELATIONSHIP	Using the Legacy definition for current student, RELATED_DECEASED_IND (Y or null)
Legacy Student Email Address for Current Students	Common	Legacy student mailbox number.	MV_PROD.SWBMAST	Using the Legacy definition for current student, SWBMAST_MAILBOX from MV_PROD.SWBMAST.
Legacy Student First Name for Current Students	Common	First name of legacy student	RELATIONSHIP	Using the Legacy definition for current student, RELATED_FIRST_NAME from RELATIONSHIP
Legacy Student Gender for Current Students	Common	Gender of legacy student (M/F/N for Male, Female, Not Reported)	RELATIONSHIP	Using the Legacy definition for current student, RELATED_GENDER from RELATIONSHIP
Legacy Student ID for Current Students	Common	WPI Banner ID for legacy student	RELATIONSHIP	Using the Legacy definition for current student, RELATED_ID from RELATIONSHIP.
Legacy Student Last Name for Current Students	Common	Last name of legacy student.	RELATIONSHIP	Using the Legacy definition for current student, RELATED_LAST_NAME from RELATIONSHIP
Legacy Student Marital Status for Current Students	Common	Legacy student marital status. (D/M/O/S or W)	RELATIONSHIP	Using the Legacy definition for current student, MARITAL_STATUS from RELATIONSHIP
Legacy Student Middle Initial for Current Students	Common	Legacy student middle initial.	RELATIONSHIP	Using the Legacy definition for current student, RELATED_MIDDLE_INITIAL from RELATIONSHIP
Legacy Student Suffix for Current Students	Common	Legacy student suffix.	RELATIONSHIP	Using the Legacy definition for current student, RELATED_SUFFIX from RELATIONSHIP.
Lifetime Commitment	Advancement	One of the standard calculation used by DAR. This calculation measures an individual's total lifetime	Calculation	Total (Gift Amount + Spouse Amount + Third Amount + Matching Gifts + Outstanding Pledge Balance).
Lifetime Total AF	Advancement	Total of (Gift Amount + Spouse Amount + Third Amount) given to support the WPI Annual Fund, per constituent	AWVCONS	AWVCONS_TOT_OPS (includes Campaign Types 'AA' and 'AF' (AF is historical and not used go-forward).
Lifetime Total Giving	Advancement	Total of (Gift Amount + Spouse Amount + Third Amount) given to WPI per constituent.	AWVCONS	AWVCONS_LIFE_TOTAL_GIVING
Lifetime Total Restricted	Advancement	Total of (Gift Amount + Spouse Amount + Third Amount) given to WPI to other than the Annual Fund campaign, per constituent	AWVCONS	AWVCONS_TOT_NON_OPS (AWVCONS_LIFE_TOTAL_GIVING minus AWVCONS_TOT_OPS)
Lost Alumnus Ind	Advancement	Y/N to indicate if an alumnus is lost or not. An alumnus is considered to be lost when all related addresses are either marked inactive or have an end date that is past.	CONSTITUENT	CONSTITUENT.LOST_ALUMNUS_IND
LYBUNT	Advancement	People who gave Last Year But Unfortunately Not This year. Most often used when referring to Annual Fund donors.		
Major	Common	Concentration of study or emphasis attached to the major for this academic study.	DEGREE	MAJOR1 or MAJOR2 or MAJOR 3 from DEGREE for field. VALIDATION where TABLE_NAME = 'STVMAJR' for parameter.
Major 1 for Excel	Common	First concentration of study attached to a WPI (only) degree	DEGREE	DEGREE>INSTITUTION = '003960', then MAJOR1
Major Gift Prospect	Advancement	An individual who has been identified as a prospect for giving a major gift. (>= $50,000)	MAT_ADVANCEMENT_RATING	RATING_TYPE = 'C' and RATING between '01 and '09' from MAT_ADVANCEMENT_RATING
Marital Status	Advancement	Code indicating constituent's current marital status. (as in M for married).	AWVCONS	AWVCONS_MARRIED
Matching Gift Co	Advancement	Y/N (Y= Company is a matching gift company)	AWVCONS	AWVCONS_MATCH_GIFT_IND
Matching Gifts - AF dollars and donor counts	Advancement	Unrestricted (Annual fund) dollars and donor counts for Matching gifts	Calculation	Annual Fund counting instructions.docx
Middle Initial	Advancement	Constituent's middle initial	AWVCONS	AWVCONS_PREF_MI
Most Recent FY of Giving	Advancement	The most recent fiscal year in which the constituent made a gift. (Gift defined as (Gift Amount + Spouse Amount + Third Amount))	AWVCONS	AWVCONS_MOST_RECENT_GIFT_FISC
Most Recent FY Total	Advancement	Total amount of gifts (Gift Amount + Spouse Amount + Third Amount) for the most recent fiscal year in which the constituent made a gift.	AWVCONS	AWVCONS_RECENT_FY_TOT
Most Recent Gift Amt	Advancement	The amount of the most recent gift (Gift Amount or Spouse Amount or Third Amount) received from the constituent.	AWVCONS	AWVCONS_MOST_RECENT_GIFT_AMT
Most Recent Gift Date	Advancement	Date (MM/DD/YYYY) of the most recent gift on record per constituent. (Gift is defined as one of the following fields is greater than zero: Gift Amount, Third Amount, Spouse Amount).	AWVCONS	AWVCONS_MOST_RECENT_GIFT_DATE
Most Recent Gift Desg	Advancement	Designation description of the most recent gift on record per constituent. (Gift is defined as one of the following fields is greater than zero: Gift Amount, Third Amount, Spouse Amount)	AWVCONS	AWVCONS_RECENT_DESG_DESC
Nation	Advancement	Address nation/country description.	AWVADDR	NATION from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Never gave	Advancement	Constituents who have never made a gift to WPI.	AWVCONS	AWVCONS_DONOR_IND = 'N'
Nickname	Advancement	Constituent's nickname (most often what an ALUM was called when attending WPI). Like "Jimbo"	AWVCONS	AWVCONS_NICKNAME (Sourced from APANAME, Nickname)

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Number of Deceased Children	Advancement	Count of child relationships recorded for the person where child is deceased.	Function	Function: WF_GET_CHILD_FUNCTION using 'NUM' and Deceased Indicator = 'Y'. Tables/views: (Select distinct 'Y' From CONSTITUENT,RELATIONSHIP where AWVCONS_PIDM = RELATIONSHIP.ENTITY_UID and RELATIONSHIP.RELATED_UID = CONSTITUENT.PERSON_UID and AWVCONS_PREF_CLASS > '0000' and CONSTITUENT.PREF_CLASS > '0000' and CONSTITUENT.PREF_CLASS > AWVCONS_PREF_CLASS and RELATED_CROSS_REFERENCE in ('GPA', 'GGP', 'GAU','STP', 'COS', 'STS', 'PAR', 'SIB', 'AUN', 'ILP', 'ILS', 'REL', 'CHL', 'NIN', 'STS', 'STC', 'ILC'))
Number of Living Children	Advancement	Count of child relationships recorded for the person where child is currently alive.	Function	Function: WF_GET_CHILD_FUNCTION using 'NUM' and Deceased Indicator = 'N'. Tables/views: AWVCONS_CHLD_NUM or AWVCONS.AWVCONS_CHLD_NUM) minus number of occurrences where AWVCONS_PIDM = RELATIONSHIP. ENTITY_UID and RELATED_CROSS_REFERENCE = 'CHL' and RELATED_DECEASED_IND = 'Y' F
Ok to Email	Advancement	Y/N (Y= ok to email)	Calculation	When constituent has EXCLUSION.EXCLUSION in ('ESO', 'EML') then 'N', else 'Y'.
Online Giving - AF dollars and donor counts	Advancement	Unrestricted (Annual fund) dollars and donor counts for people who gave online.	Calculation	Annual Fund counting instructions.docx
Other Activities (when appearing on a banded report)	Advancement	List of activities (other than sports and fraternal organizations) in which alumnae was involved while at WPI or has been involved in since graduation, presented in a columnar format.	Function	Function: ARGOS_A.WF_GET_ACTIVITY (2, 3)
Other Activities (when chosen as a parameter)	Common	Constituent is a member of, or a participant in various activities other than Sports or Fraternities/Sororities, such as Music, Honor Society, Class Officer, ROTC, Project Center.	ACTIVITY	ACTIVITY.ACTIVITY_CATEGORY IN ('CLUB','SOLIC','CLAS','ICLUB','LEADER','MUSIC','VOLS','ARTS', 'SPROG', 'HONR','ROTC','UPS')
Other Restricted gifts	Advancement	Gifts received with restrictions not related to a specific department, such as capital gifts.	Calculation	CASE WHEN ("Awvgfmm (Giving)".Camp Type = 'AA') THEN 'Annual Fund' WHEN ("Awvgfmm (Giving)".Desg = 'ANNIV') THEN 'Class Anniversary Gifts' WHEN ("Awvgfmm (Giving)".Desg Dept Code IS NOT NULL) THEN 'Department Restricted Gifts' ELSE 'Other Restricted Gifts' END
Outstanding Pledge Bal	Advancement	The total of any remaining balances on all pledges, per individual or as report is summarized. (Original amount of all pledges minues all payments made on those pledges.)	AWVCONS	AWVCONS.AWVONCS_TOT_PLEDGE_BAL
Parents - AF dollars and donor counts	Advancement	Unrestricted (Annual fund) dollars and donor counts for givers who are parents of current students.	Calculation	Annual Fund counting instructions.docx
PC	Advancement	Y/N indicator identifying when a constituent is a President's Circle member (including Gift Society codes of PCAS, PCAM,PCPA, PCFE and PCTR)	Calculation	NVL((Select distinct 'Y' from GIFT_SOCIETY where GIFT_SOCIETY in ('PCAS', 'PCAM', 'PCPA', 'PCFE', 'PCTR') and GIFT_SOCIETY_YEAR = Fiscal Year chosen as a parameter).
Phone Number	Common	Active phone number related to a Phone Type.		Function: ARGOS_G.WF_GET_PHONE for desired Phone Type. Tables/views: TELEPHONE, where PHONE_PRIMARY_IND is 'Y', and PHONE_STATUS_IND is null. When PHONE_INTL_ACCESS is not null, use PHONE_NUMBER_COMBINED. Else use PHONE_AREA plus PHONE_NUMBER (as XXX-XXXX). OR 'UNLISTED" when PHONE_UNLIST_IND is not null.
Phone Type	Common	Phone type associated with phone number. Note: Phone Type is always tied to an Address Type except for cell phones.	TELEPHONE	TELEPHONE. PHONE_TYPE where AWVCONS_PIDM = TELEPHONE.ENTITY_UID and PHONE_PRIMARY_IND is 'Y', and PHONE_STATUS_IND is null.
PIDM	Common	System generated, unique, internal identification number assigned to each person or organization entity.	AWVCONS	AWVCONS_PIDM
Pledge Balance	Advancement	The unpaid balance on a pledge (Original amount of the pledge minus any payments on that pledge.)	AWVGFMM	AWVGFMM.AWVGFMM_PLEDGE_BALANCE

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Pledge Category	Advancement	Categorizes the pledge as Conditional ('COND') or Unconditional ('UNCON')	PLEDGE	
Pledge Status	Advancement	Denotes the pledge as: Active ('A'), Paid ('P'), Inactive ('I'), Cancelled ('C'), Future ('F')	PLEDGE	ODSMGR.PLEDGE_PLEDGE_STATUS
Pledge Type	Advancement		PLEDGE	
Position	Advancement	Employee's current position at the compary where they work.	AWVCONS	AWVCONS_POSITION_TITLE
Pref Addr Type	Advancement	Preferred address type	AWVCONS	AWVCONS_PREF_ADDR_TYPE or PREF_ADDR_TYPE in AWVADDR. Sourced from APBCONS_ATYP_CODE_PREF, but when associated address is inactive, this field (in AWVCONS and AWVADDR) will be null and there will be no Preferred Address information in AWVADDR.
Pref Class	Advancement	Alumnae's graduating class with which they prefer to be identified, in YYYY format	AWVCONS	AWVCONS.PREF_CLASS
Pref Class Short	Advancement	Alumnae's graduating class with which they prefer to be identified, in 'YY format	AWVCONS	''||substr(AWVCONS_PREF_CLASS,3,2)
Pref Donor Catg	Advancement	Primary or preferred donor category associated with constituent. Note: each constituent will have only one Primary Donor Category.	AWVCONS	AWVCONS_PRIM_DONR for field. For parameter, VALIDATION where TABLE_NAME = 'ATVDONR'
Pref Email	Advancement	Preferred email address of the person.	AWVCONS	AWVCONS.AWVCONS_PREF_EMAIL
Pref First Name	Advancement	Preferred first name of the constituent. Also known as Salutation.	AWVCONS	AWVCONS_PREF_FIRST_NAME (Sourced from APANAME, Alternate First Name)
Pref Last Name	Advancement	Preferred last name of the constituent.	AWVCONS	AWVCONS.AWVONCS_PREF_LAST_NAME
Pref Phone No.	Advancement	Constituent's preferred phone number	AWVONS	AWVCONS.PREF_PHONE_NUM_COMB
Pref Phone Type	Advancement	Constituent's preferred phone type (indicating phone number where they prefer to be contacted).	AWVCONS	AWVCONS.PREF_PHONE_CODE
Prefix	Advancement	Prefix associated with the constituent's name	AWVCONS	AWVCONS.PREFIX
Prefix	Advancement	Prefix associated with the person's name		AWVCONS_PREFIX
Prev 1-4 FY AF	Advancement	Current fiscal year minus 1, 2, 3 or 4 of total gifts given to the Annual Fund (Gift Amount plus Spouse Amount plus Third Amount) per constituent.	AWVCONS	AWVCONS_AF_FY_GIV_PRE_FY_1,2,3 or 4
Prev 1-4 FY Total	Advancement	Current fiscal year minus 1, 2, 3 or 4 of total gifts (Gift Amount plus Spouse Amount plus Third Amount) per constituent.	AWVCONS	AWVCONS_TOT_FY_GIV_PRE_FY_1,2,3 or 4
Primary Manager	Advancement	Primary manager assigned to a prospect	AWVPRSP	PRIM_IDEN
Project/Interest	Advancement	Project/Interest focus of a proposal for a prospect	AWVPROP	PROJECT_DESC
Proposal Code	Advancement	Proposal code for a prospect	AWVPROP	PROPOSAL
Prospect Mgr	Advancement	Name associated with the primary staff identification code.	AWVPROS	AWVPROS_PRIM_MANAGER_NAME
Prospect Status Code	Advancement	Status	AWVPROS	AWVPROS_STATUS
Prospect Status Desc	Advancement	Prospect status description (like "Qualification')	AWVPROS	AWVPROS_STATUS_DESC
PSL	Advancement	Y/blank (Y= constituent is a President's Circle prospect)	AWVCONS	AWVCONS_PSL
Relationship to Student	Advancement	Description of reverse cross reference relationship.	RELATIONSHIP	REVERSE_REFERENCE_DESC from RELATIONSHIP
Reunion - AF dollars and donor counts	Advancement	Unrestricted (Annual fund) dollars and donor counts for anniversary classes	Calculation	Annual Fund counting instructions.docx
Seasonal Address Effective Dates	Common	Address start and end dates for S1 (Seasonal) addresses	AWVADDR	S1_ADDR_START_DATE and S1_ADDR_END_DATE from AWVADDR
Solictable	Advancement	Used to count a group of individuals (such as alumni) who can be solicited. This number would not include people who choose to be excluded from solicitations and/or segments of the population that WPI choses not to solicit.	Calculation	See solicitable base calculation.
Sort Name	Advancement	Constituent's name presented as "Jones, Jennifer S." useful for sorting in spreadsheets	AWVCONS	AWVCONS_SORT_NAME
Sort Zip	Advancement	First five characters of postal code.	AWVADDR	*XX* _SORT_ZIP from AWVADDR where *XX* in ('S1', S1_ALL', 'PR', 'BU', 'PREF')
Sort Zip Excel	Advancement	First five characters of postal code, formatted to keep the leading zero when used in an Excel type workbook.	AWVADDR	Chr(61) || chr(34) || AWVADDR.*XX*_ SORT_ZIP || chr(34) preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Sports	Common	Constituent participated in a sports related activity, such as a varsity, intramural or club sport	ACTIVITY	ACTIVITY_CATEGORY in ('SPRI', 'SPRV', 'SPRC')
Sports	Advancement	List of sports which alumnae played while at WPI, presented in a columnar format.	Function	Function: ARGOS_A.WF_GET_ACTIVITY (2,1)
Spouse Address Name	Advancement	Spouse full name, as in "Jennifer S. Jones"	AWVCONS	AWVCONS_SPOUSE_NAME

Term	Business Unit	Business Defintion	View	Technical Definition/Source
Spouse Amount	Advancement	The memo amount from a spouse's gift	AWVGFMM	AWVGFMM_SPOUSE_AMOUNT
Spouse Class Year	Advancement	Preferred class year of spouse if spouse attended WPI in 'YYYY' format.	AWVCONS	AWVCONS_SPS_PREF_CLASS
Spouse Class Year Short	Advancement	Preferred class year of spouse if spouse attended WPI in 'YY' format.	AWVCONS	''||substr(AWVCONS_SPS_PREF_CLASS,3,2)
Spouse Deceased Ind	Advancement	Y/N to indicate whether a constituent's spouse is deceased.	AWVCONS	AWVCONS_SPS_DECEASE_IND
Spouse Donor Catg	Advancement	Primary donor category for spouse.	AWVCONS	AWVCONS_SPOUSE_PRIM_DONOR
Spouse First Name	Advancement	First name of spouse	AWVCONS	AWVCONS_SPS_FIRST_NAME
Spouse ID	Advancement	Spouse ID	AWVCONS	AWVCONS_SPS_ID
Spouse Last Name	Advancement	Last name of spouse	AWVCONS	AWVCONS_SPS_LAST_NAME
Spouse Prefix	Advancement	Prefix associated with the spouse's name	AWVCONS	AWVCONS_SPS_PREFIX
Spouse Suffix	Advancement	Suffix associated with the spouse's name.	AWVCONS	AWVCONS_SPS_SUFFIX
State	Advancement	State or province associated with the address.	AWVADDR	STATE from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Street Line 1	Advancement	First line of constituent address, determined by Address Type.	AWVADDR	STREET_LINE1 from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Street Line 2	Advancement	Second line of constituent address, determined by Address Type.	AWVADDR	STREET_LINE2 from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Street Line 3	Advancement	Third line of constituent address, determined by Address Type.	AWVADDR	STREET_LINE3 from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Suffix	Common	Suffix associated with the constituent's name	AWVCONS	AWVCONS_SUFFIX
Target Ask Amount	Advancement	Proposal ask amount	AWVPROP	PROJ_ASK_AMOUNT
Term Code	Common	Academic period or time frame for student enrollment record. In the format of YYYYTT where YYYY = fiscal year and TT is 01 (fall), 02 (spring) or 03 (summer) term.	MV_PROD.SWBMAST	SWBMAST_TERM_CODE from MV_PROD.SWBMAST
Third Party Amount	Advancement	Memo amount from third party, other than spouse or matching gift.	AWVGFMM	AWVGFMM_THIRD_AMOUNT
Title	Advancement	Employee's current job title	AWVCONS	AWVCONS.POSITION_CAT_DESC
Total Commitment - Campaign	Advancement	One of the standard calculations used by DAR. Includes Gift Amount + Outstanding Pledge Balance where: Fiscal Year >= 2008 Pledges and gifts were not counted in a previous campaign Note: Outstanding Pledge Balance is not included in Annual Fund figures.	Calculation	SUM(AWVGFMM_GIFT_AMOUNT + AWVGFMM_PLEDGE_BALANCE) where Fiscal Year >= 2008 Pledge Reference Date is null or is > June 30, 2004 Campaign <> CC-97 Camp Type IN 'AN', 'AR', 'NC', 'OM' and Type Flag IN 'G', 'P' OR Camp Type = 'AA' and Type Flag = 'G' and gifts where Gift Number in ('0197095', '0197857', '0197461', '0199274', '0199548', '0200268', '0200342', '0200486', '0200796', '0201718')
Total Commitment	Advancement	One of the standard calculations used by DAR. Includes Gift Amount (Outright gifts and payments on current pledges) + Outstanding Pledge Balance (Note: Annual Fund figures do not include Pledge Balance)	Calculation	Gift Amount + Pledge Balance where Fiscal Year = XXXX and Pledge Reference date is null or is between July 1 and June 30th of current fiscal year.
Trustee Code	Advancement	Code indiciating if an individual is currently or was previously a Trustee, otherwise blank. Includes current Trustees, past Trustees and Trustee Emeritus.	AWVCONS	SPECIAL_PURPOSE_GROUP in ('TRE', 'TRC', 'TRP') used to build AWVCONS_TRUSTEE_CODE
Trustee Giving	Advancement	Includes Gift Amount + Spouse Amount + Third Amount + Outstanding Pledge Balance (including Annual Fund Pledge Balance). Used to measure Trustee's total commitment, either by campaign or by fiscal year.	Calculation	Gift Amount + Spouse Amoutn + Third Amount + Outstanding Pledge Balance. If used for campaign, include all campaign conditions except Campaign Type = AA and Gift Type = G. If used for fiscal year,
Varsity Athlete Ind	Advancement	Y/N indicator if alumnae played a varsity sport while at WPI.	ACTIVITY	NVL((Select distinct 'Y' from ACTIVITY where ACTIVITY_CATEGORY = 'SPRV' and AWVCONS_PIDM = ACTIVITY.ENTITY_UID), 'N')
WPI Degrees for Excel	Common	Degree code associated with the academic study for WPI only (Will produce one row per degree.)	DEGREE	DEGREE_INSTITUTION = '003969', then DEGREE.DEGREE
XX Phone	Advancement	Constituent's phone number determined by phone type, where *XX* = S1, S1 All, PR, BU, Pref or Cell.	Function	Function: ARGOS_G.WF_GET_PHONE
Zip	Advancement	Address postal code	AWVADDR	ZIPCODE from AWVADDR preceded by S1, S1_ALL, PREF, BU or PR to designate address type.
Zip Excel	Advancement	Address postal code, formatted to keep the leading zero when used in an Excel type workbook	AWVADDR	Chr(61) || chr(34) || AWVADDR.*XX*_ZIP || chr(34) preceded by S1, S1_ALL, PREF, BU or PR to designate address type.

APPENDIX E: 101 Donor Categories[41]

1 PERSON_NUM Person number for data extract

2 CATEGORY Constituents best (primary) donor category

3 GENDER M/F/NA

4 BIRTH_YEAR 4-digit year of birth

5 MARRIED Married/Single/etc.

6 LEGACY Yes: the person's admission record indicated a legacy relationship (no details available)

7 GPA [1] Number for those available, spaces for those unavailable, "N/A" for those not applicable

8 BS_YEAR WPI B.S. year

9 BS_MAJOR WPI B.S. major

10 MS_YEAR WPI M.S. year

11 MS_MAJOR WPI M.S. major

12 PHD_YEAR WPI Ph.D. year

13 PHD_MAJOR WPI Ph.D. major

14 CERT_YEAR WPI certificate year

15 CERT_MAJOR WPI certificate major

16 HONOR_YEAR WPI honorary degree year

17 HONOR_DEG WPI honorary degree

18 NON_WPI_DEG value if known (formatted as institution : degree code : year : major)

19 WPI_SPS Yes: the spouse is a constituent

---

[41] (Murphy, and Sotak 23)

20 NUM_OF_CHILD Count of children

21 PREF_CLAS Preferred class year

22 HAD_SCHOLARSHIP Yes: had scholarship while at WPI

23 PRES_FND Yes: a Presidential Founder

24 LIFETIME_PAC Yes: a lifetime PAC[2] member

17

25 TRUSTEE Yes: a trustee of WPI

26 ADM_VOL Yes: involved in alumni/admissions

27 CLS_AGENT Yes: involved in solicitation structure

28 REUNION Yes: constituent attended reunion(s)

29 ALUM_VOLUNTEER Count of distinct number of activities (involved in/as

department advisory board, gold council, ˜, 42

possibilities)

30 ALUM_CLUB Count of distinct number of activities (Tech Old Timers,

Polyclub, ˜)

31 ALUM_LEADER Count of distinct number of activities (involved in/as class

officer, trustee search committee, fund board, ˜, 30

possibilities)

32 FRAT Name of fraternity/sorority, blank otherwise

33 SPORT_COUNT Count of varsity sports

34 VARSITY_SPRTS Concatenated list of varsity sports

35 WPI_AWD Yes: constituent received this award at WPI

36 TAYLOR_AWD Yes: constituent received this award at WPI

37 SCHWIEGER_AWD Yes: constituent received this award at WPI

38 GODDARD_AWD Yes: constituent received this award at WPI

39 GROGAN_AWD Yes: constituent received this award at WPI

40 BOYNTON_AWD Yes: constituent received this award at WPI

41 WASHBURN_AWD Yes: constituent received this award at WPI

42 RES_CITY Home city (permanent address)

43 RES_STATE Home state code

44 RES_ZIP Home zip code (5 or 9-digit format)

45 RES_COUNTRY Home country

46 TITLE Job title if known, blank if unknown

47 WORK_CITY Work city (business address)

48 WORK_STATE Work state code

49 WORK_ZIP Work zip code (5 or 9-digit format)

50 WORK_COUNTRY Work country

51 STU_CLUB Count of clubs (Outing Club, Science Fiction, Sport

Parachute, ˜)

52 STU_ARTS Count of arts and literature organizations (Masque,

Pathways, Peddler, ˜)

53 STU_INTL_CLUB Count of international clubs (Indian Students

Association, ˜)

54 STU_CLUB_SPORT Count of club sports (scuba, bowling, autocross, ˜)

55 STU_PROF_SOC Count of undergrad professional societies

56 STU_MUSIC Count of music band: glee club, baker's dozen, ˜

57 STU_CLS_OFF Count of class officer (freshman, sophomore, ˜)

58 STU_SCH_INVOLVE Count of school involvement (student activities board,

18

resident advisor)

59 STU_SPEC_PROG Count of special programs (undergraduate employment

program, exchange, ˜)

60 STU_INTRAMURAL Count of intramural sports (basketball, softball, table tennis, ˜)

61 STU_HONOR_SOC Count of honor societies (Pershing Rifles, Sigma Mu Epsilon, Skull, ˜)

62 STU_PROJECT_CTR Project Center Info (from the student courses)

63 ALU_PROJECT_CTR Project Center Info (from alumni activities)

64 GRAD_DISTINCTION H: graduated with high distinction, D: graduated with distinction, and blank

65 ALUM_CONTACTS Contacts made as an alumnus (phone calls, personal visits, ˜)

66 FISCAL_YEAR_X

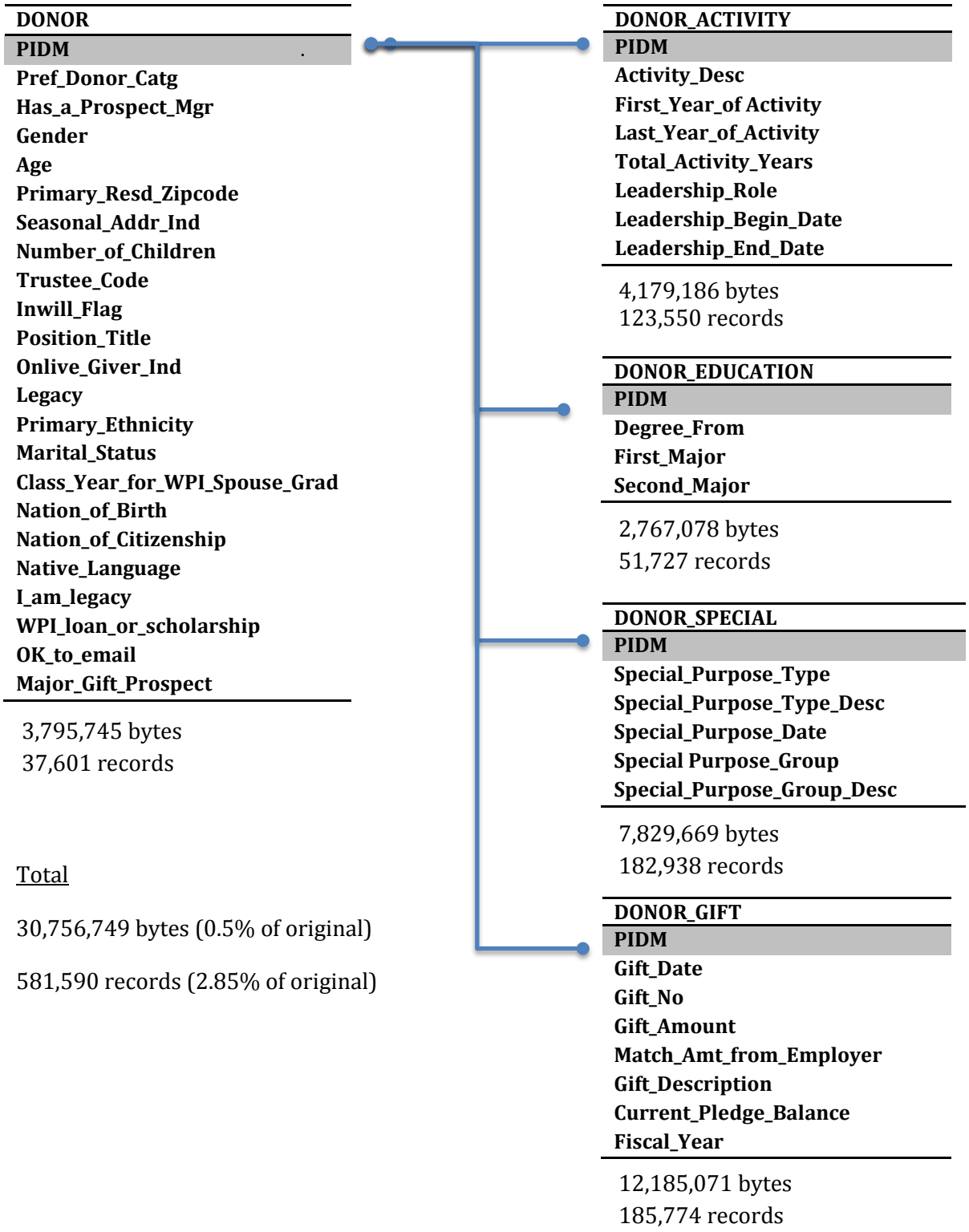
(X: 1983~2007)

Total gift and memo for the specific fiscal year [3]

67 GIFT_CLUB_X

(X: 1996~2007)

APPENDIX F: Reconstruction Categories for the Alumni File



Total

30,756,749 bytes (0.5% of original)

581,590 records (2.85% of original)

APPENDIX G: Online Alumni Survey Questions

1. What is your gender?
   - Male
   - Female
2. What degree(s) did you receive from WPI? (Please Check All That Apply)
   - Undergraduate
   - Graduate
   - Ph.D.
   - Certificate
3. With what major did you graduate WPI?
4. In what year did you last graduate from WPI?
5. Please list the activities that you were actively involved in while attending WPI? (including sports, fraternity/sorority, clubs, etc.) If none, please list "none".
6. How much did you enjoy your WPI experience?
   - Not At All
   - Very Little
   - Neutral
   - Mostly
   - Very Much
7. How would you rate your involvement in WPI while attending as a student?
   - Not Involved
   - Rarely Involved
   - Occasionally Involved
   - Regularly Involved
8. How would you describe your involvement in WPI related activities presently?
   - Not Involved
   - Rarely Involved
   - Occasionally Involved
   - Regularly Involved
9. Have you ever donated to WPI?
   - No. Why not?
   - Yes. To what specific area and why? (If not to a specific area, please respond with “none”)
10. Have you ever attended a WPI function after graduating (e.g. Reunions, Homecoming, Varsity Sports, Academic Events, Alumni Days, Mentoring Opportunities, etc.)?
    - No
    - Yes (Please Specify)
11. What is the likelihood of you attending another WPI function in the future?
    - Never
    - Not Likely
    - Possibly

- Most Likely
- Definitely

12. Did you receive financial aid while attending WPI?
    - Yes
    - No
13. How likely would you say you are to support current students at WPI financially?
    - Never
    - Not Likely
    - Possibly
    - Most Likely
    - Definitely
14. What, if anything, would encourage you to donate to WPI? If nothing, please write "nothing".
15. What activities, events, and/or other communication outreach strategies, if any, would bring you back to WPI? If none, please write "none".
16. If you would like to be entered into the drawing to win a $20 gift card to Amazon.com, please enter your email address in the space provided. Please note only the winner will receive an email about claiming his or her prize. Thank you for your participation!

APPENDIX H: Online Student Survey Questions

1. What is your gender?
   - Male
   - Female
2. What is your major?
3. Do you currently receive financial aid?
   - Yes, With Private Loans
   - Yes, Without Private Loans
   - No
4. Please list the activities that you are actively involved in. (including sports, fraternities/sororities, clubs, etc.) If none, please write "none".
5. How much do you enjoy attending WPI?
   - Not At All
   - Very Little
   - Neutral
   - Mostly
   - A Lot
6. How do you think donations to WPI should be spent?
7. Do you plan to donate to WPI after you graduate?
   - No
   - Maybe
   - Yes
   - After I Pay Off Student Loans
   - After I Find A Stable Job
8. If you do not live in the Worcester area after graduation, would you go to events that are either: (please check as many as apply)
   - On The WPI Campus
   - In Your Area
   - In Areas That You Can Travel To (e.g. New York, Las Vegas, Boston, etc)
   - None
9. After graduation, what events, if any, would bring you back to WPI? (e.g. Reunions, Homecoming, Varsity Sports, Academic Events, Alumni Days, Mentoring Opportunities, etc.)
10. If you would like to be entered into the drawing to win a $20 gift card to Amazon.com, please enter your email address in the space provided. Please note only the winner will receive an email about claiming his or her prize. Thank you for your participation!

APPENDIX I: United States Postal Code Ranges

State	Postal Code Range
Alaska	990501-99950
Alabama	35004-36925
Arkansas	71601-72959 75502-75502
Arizona	85001-86556
California	90001-96162
Colorado	80001-81658
Connecticut	06001-06389 06401-06928
District of Columbia	20001-20039 20042-20599 20799-20799
Delaware	19701-19980
Florida	32004-34997
Georgia	30001-31999 39901-39901
Hawaii	96701-96898
Iowa	50001-52809 68119-68120
Idaho	83201-83876
Illinois	60001-62999
Indiana	46001-47997
Kansas	66002-67954
Kentucky	40003-42788
Louisiana	70001-71232
Massachusetts	01001-02791 05501-05544
Maryland	20331-20331 20335-20797 20812-21930
Maine	03901-04992
Michigan	48001-49971
Minnesota	55001-56763
Missouri	63001-65899
Mississippi	38601-39776 71233-71233
Montana	59001-59937
Nevada	88901-89883
New Jersey	07001-08989
New Hampshire	03031-03897
New Mexico	87001-88441
New York	06390-06390 10001-14975

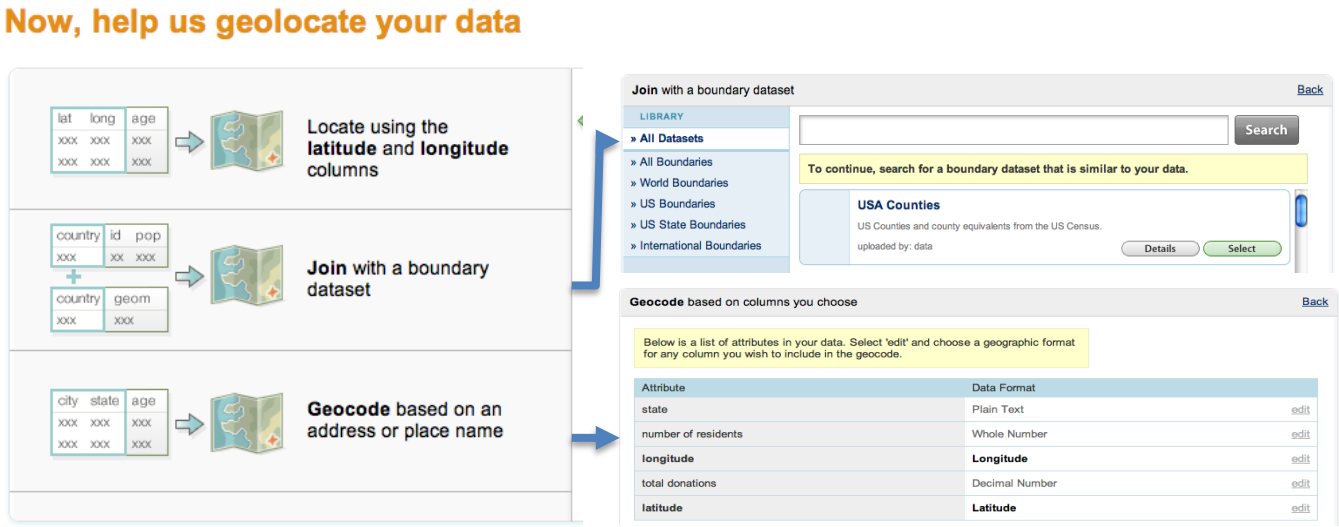
North Carolina	27006-28909
North Dakota	58001-58856
Nebraska	68001-68118 68122-69367
Ohio	43001-45999
Oklahoma	73001-73199 73401-74966
Oregon	97001-97920
Pennsylvania	15001-19640
Rhode Island	02801-02940
South Carolina	29001-29948
South Dakota	57001-57799
Tennessee	37010-38589
Texas	73301-73301 75001-75501 75503-79999 88510-88589
Utah	84001-84784
Virginia	20040-20041 20040-20167 20042-20042 22001-24658
Vermont	05001-05495 05601-05907
Wisconsin	53001-54990
West Virginia	24701-26886
Wyoming	82001-83128
Washington	98001-99403

APPENDIX J: How to Use Geocommons

Geocommons is a mapping website that allows one to either upload their own data and create maps or to view maps that others have uploads and posted. The main website is located at http://geocommons.com/. The following directions is if you desire to create a map similar to the ones displayed in this project.

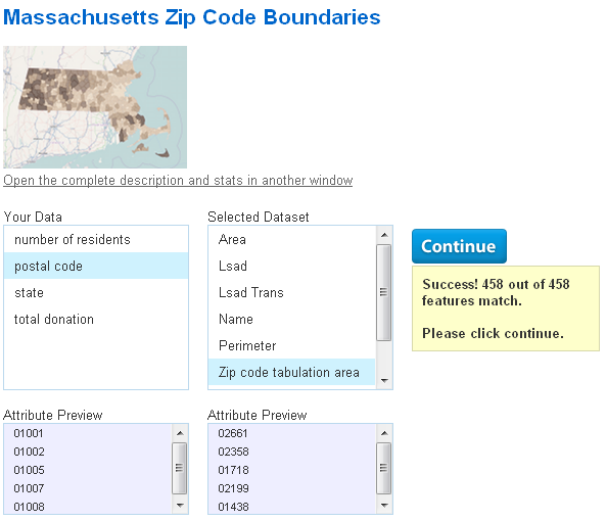
1. Register with the website
2. Click the "Upload Data" button about halfway done the main page. You will see a layout like the one below. Click the appropriate location for uploading the data (in this case, we are going to choose "Upload Files from your computer"

3. Click "Add File," which will bring up a box that will allow you to browse through your computer for the data file you are looking for. The data file should be either a text file or a windows comma separated (.csv) file. After uploading the file, click Next and Geocommons will transfer you to "Your Library". Your uploaded file will be listed under "Pending Datasets" the first time you upload it. Click Next Step on your dataset, which will bring you to a screen like the one below.



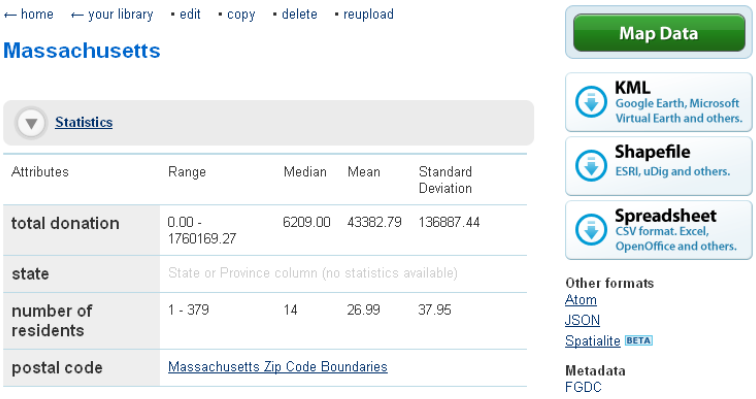
If you provided the longitude and latitude, there will be an option to locate your data using those columns. If you did not provide this information, you need to Geocode your data so that the website can find the longitude and latitude for you. Above, the right hand displays are examples of what you are going to see when you click the respective options. It is recommended that you first choose "Geocode based on an address or place name" to make sure that the website is reading your data correctly. If you data is not listed correctly, you can click on the "Edit" button near each attribute and change the setting of it. After you check over that each data point is label correctly, click "Back".

4. Specifically for the maps displayed in this project, the boundary datasets that were available on the website already were joined with our data. Click on "Join with a boundary dataset". For the State map, go under the "US Boundaries" tab and click on "Select" for the overlay named "USA States". For the Postal Code map, go under the "US State Boundaries" tab and click on "Select" for the overlap for whichever state you are working with. For this project, we only looked at those who lived in Massachusetts, so we used the "Massachusetts Zip Code Boundaries". Choose postal code from "Your Data" and Zip code tabulation area from "Selected Data". The website will indicate if all of your data point have been found. Click "Continue".

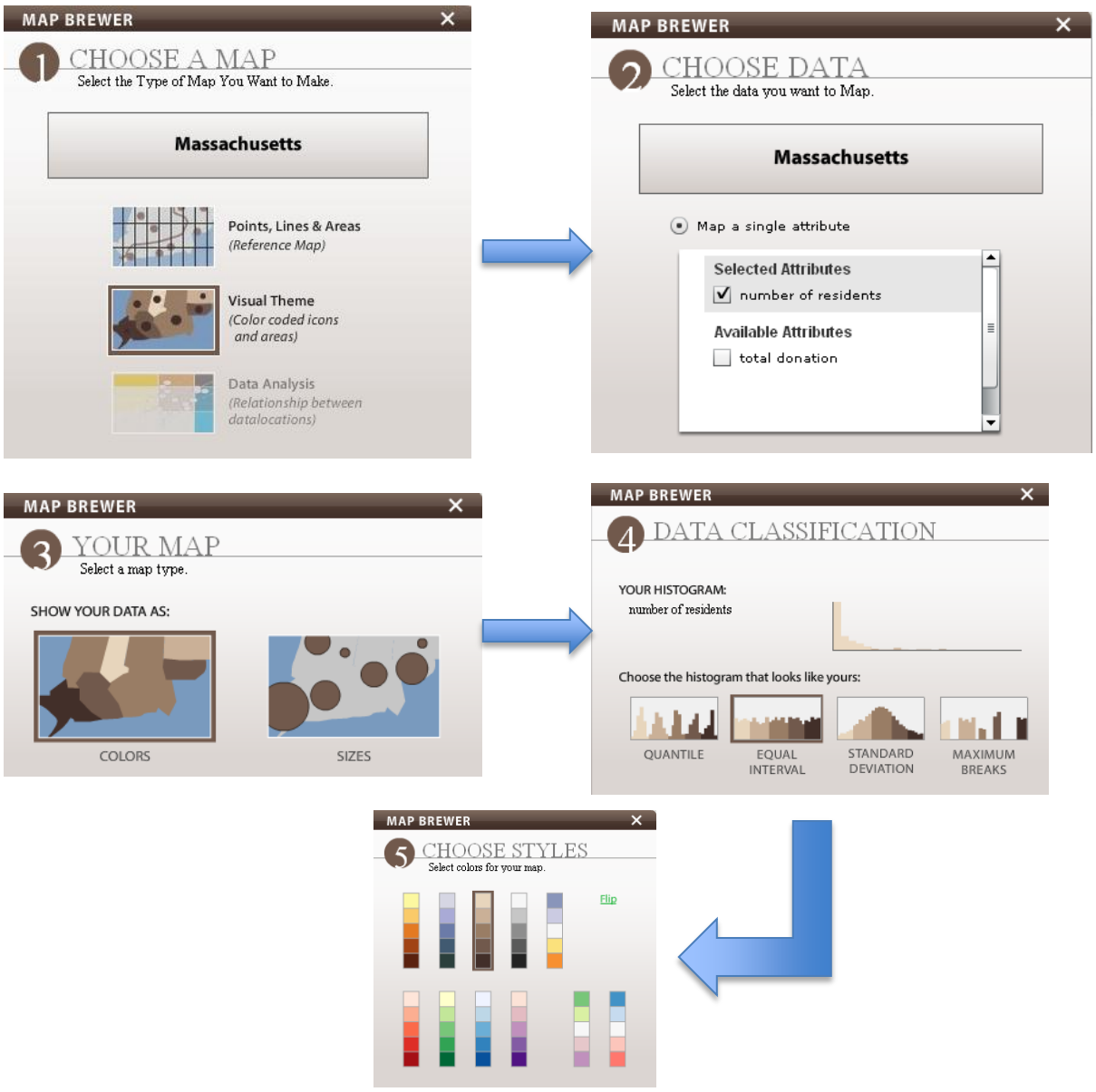


You will be lead to a "Review your data" screen. If there are errors with your data, this screen will display them and allow you to edit and resend the information. The process is similar if you are mapping by state instead of postal code. If there are no errors, scroll down and click "Continue."

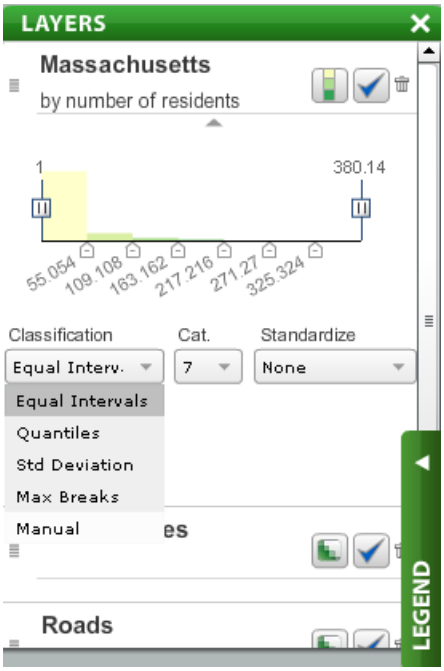
5. You will then be transferred to a page where you can describe your data. This is optional. Once finished, scroll down and click "Save". You will be redirect to a statistics page of your data. The statistics pages holds a variety of information about your data. You can also download a KML, Shapefile, or Spreadsheet of your updated data file with the longitude and latitude (or with whichever overlay you chose) information in it. Click "Map Data."



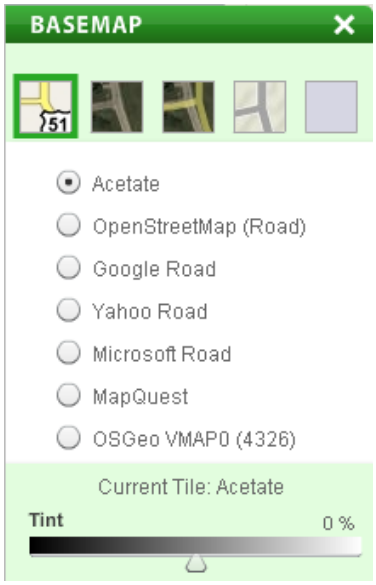
6. You will be down a series of map options in the order below. The first step is to choose a map. The maps used in this project are "Visual Theme." The second step is to choose your data. Since two sets of data, number of residents and total donation, were uploaded, you can choose either depending on the map you are trying to make. For this demonstration, we are going to go with the number of residents parameter. The third step is to select the map type. The maps used in this project are "Colors." The last two steps are to choose a data classification and to choose a color that you want the information to be displayed as. There are 4 options on how you can have the scale of your data appear. If you want to set your own intervals, choose any of the data classifications and this guide will show you how to manual set your intervals later on. Click "Finish."



7. Depending on how big you data file is, it may take a few seconds to load. Once loaded, the right hand side of the screen will display the Layers of data. Click the small triangle under the parameter at which you are viewing, in this case number of residents, to expand the layer characteristics. Here, under classification, you can choose to manually set the intervals, as well as the number of intervals (the highest is 7). Click on the numbers in the histogram chart above these settings to change the numbers.

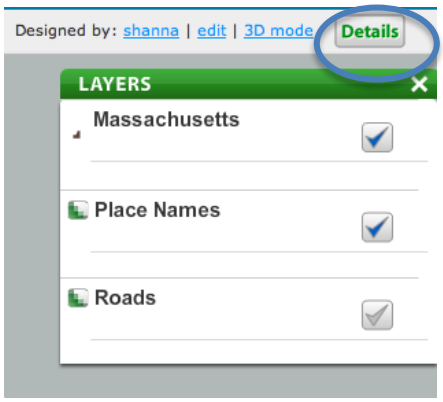


8. If you wish to change the type of map that is in the background, there is a tab called “Basemap” on the top left hand side of the map. If you click on it, the website will pop a window like the one below were you can change the type of background map and the tint of the map.



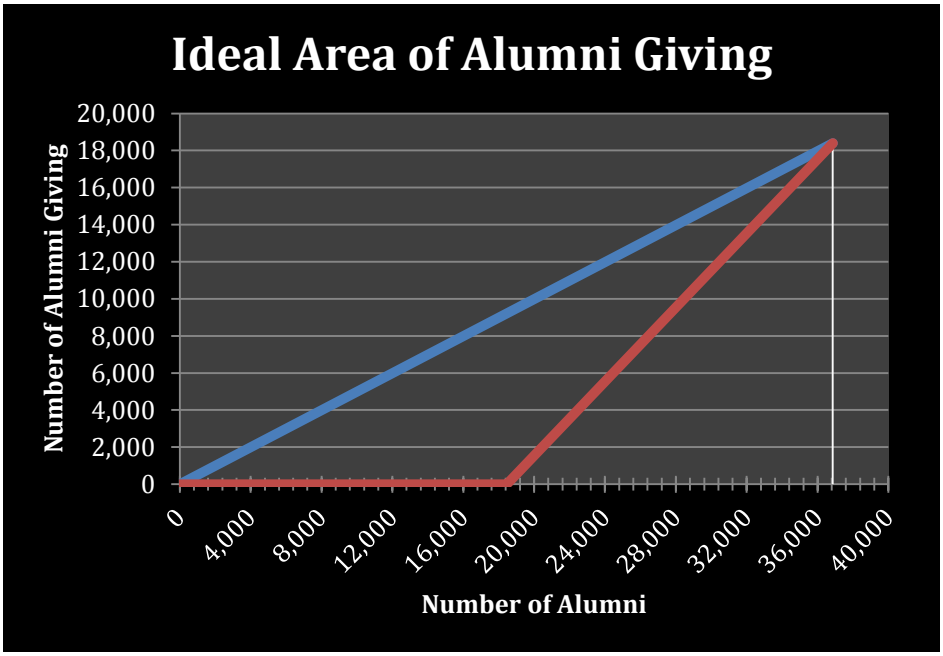
9. To change the title of your map, clock on the small box that has a pencil in it near the top of the map, it will highlight the current title and you can change it.
10. Once you are satisfied with your map, click “Save.” The map gets saved into “Your Library.”

ENDNOTES: You can add several layers to one map by clicking “Add Data”. Once the map is saved, you can also get the website link to embed into a personal website or to send to another person. While you are at the viewing page of your map, click “Details” in the upper left corner to get the website. Furthermore, if you need to edit the map, there is a selection to edit the map as well.



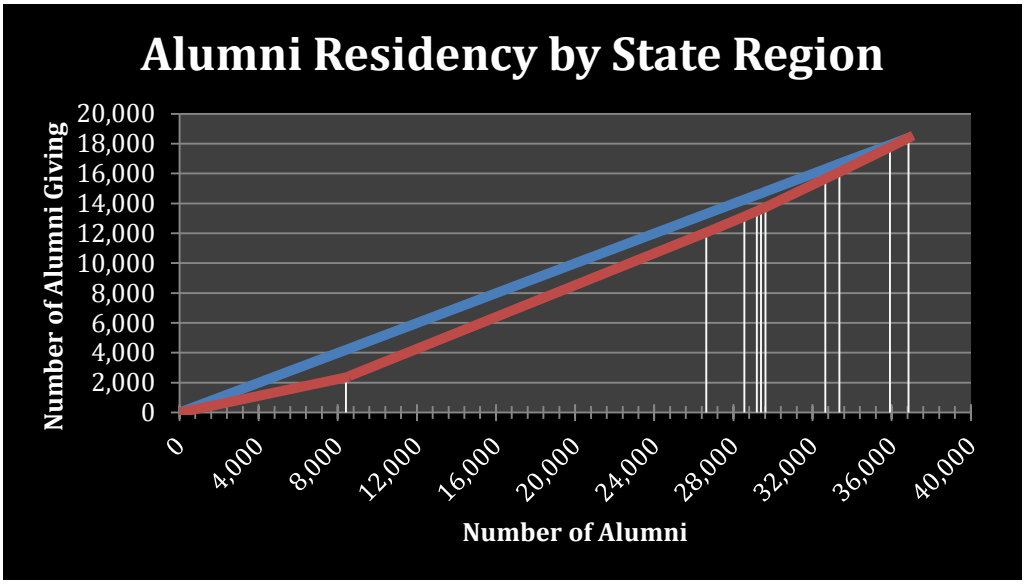
APPENDIX K: Banana Graphs and Tables by Category Factor

Ideal Area of Giving



Yes/No to Gift	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Y/N Curve (People^2)
No	18,459	0	0.00%	18,459	0	No	18,459	9,214	0
Yes	18,399	18,399	100.00%	36,858	18,399	Yes	36,858	18,399	169,261,601
	36,858	18,399	49.92%						**169,261,601**

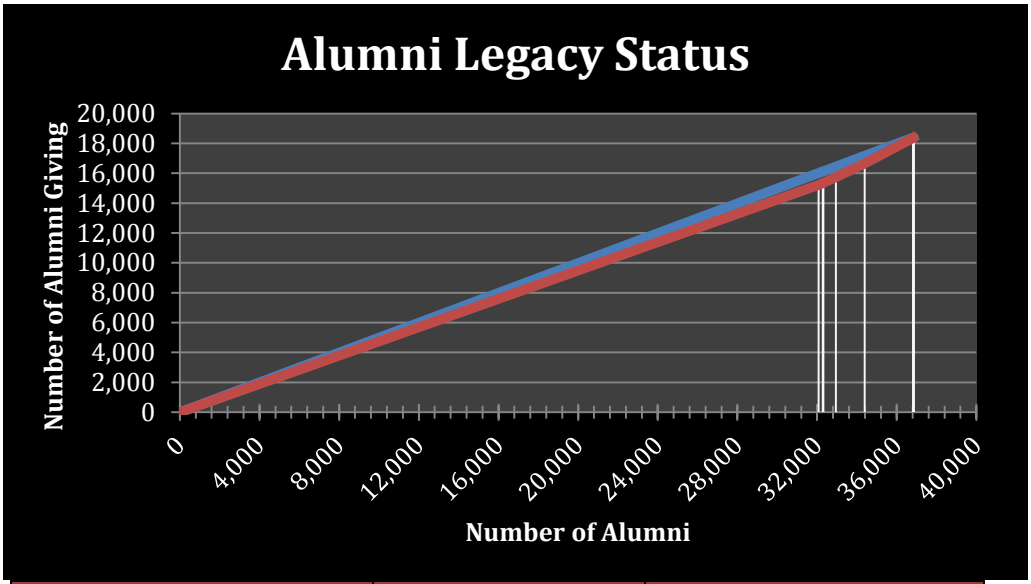
State Region[42]



State Region	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under State curve (People^2)
Unknown	8,414	2,355	27.99%	8,414	2,355	Unknown	8,414	4,200.152	9,907,485.00
New England	18,213	9,709	53.31%	26,627	12,064	New England	26,627	13,291.827	131,306,623.50
Pacific	1,934	1,061	54.86%	28,561	13,125	Pacific	28,561	14,257.253	24,357,763.00
West South Central	628	369	58.76%	29,189	13,494	West South Central	29,189	14,570.742	8,358,366.00
East South Central	208	123	59.13%	29,397	13,617	East South Central	29,397	14,674.573	2,819,544.00
West North Central	228	139	60.96%	29,625	13,756	West North Central	29,625	14,788.387	3,120,522.00
South Atlantic	3,018	1,894	62.76%	32,643	15,650	South Atlantic	32,643	16,294.931	44,373,654.00
Mountain	709	450	63.47%	33,352	16,100	Mountain	33,352	16,648.854	11,255,375.00
Middle Atlantic	2,568	1,678	65.34%	35,920	17,778	Middle Atlantic	35,920	17,930.763	43,499,352.00
East North Central	938	621	66.20%	36,858	18,399	East North Central	36,858	18,399.000	16,967,013.00
	36,858	18,399	49.92%						**295,965,697.50**

[42] Refer to Appendix P for the Legend for the State Regions.

Legacy Status

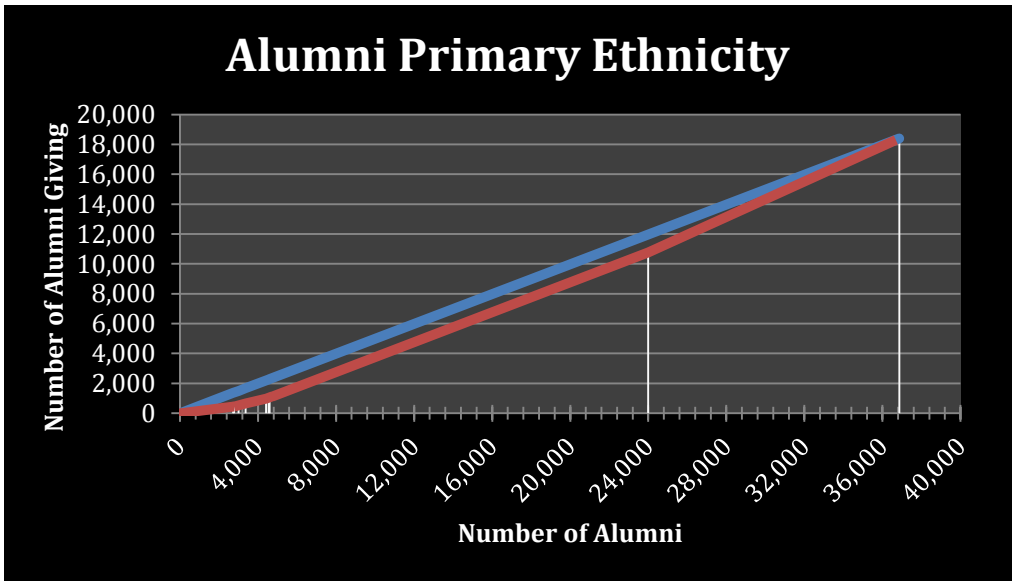


Immediate Family	Extended Family	In Laws
Brother is Alumnus	Aunt is Alumnus	Brother-in-law is Alumnus
Daughter is Alumnus	Cousin is Alumnus	Father-in-Law is Alumnus
Father is Alumnus	Nephew of Alumnus	Sister-in-law is Alumnus
Granddaughter is Alumnus	Niece is Alumnus	Son-in-Law is Alumnus
Grandfather(F) is Alumnus	Uncle is Alumnus	
Grandfather(M) is Alumnus		
Grandson is Alumnus		
Mother is Alumnus		
Sister is Alumnus		
Son is Alumnus		
Spouse is Alumnus		
Step-father is Alumnus		

Table 14: Legend for Legacy Status

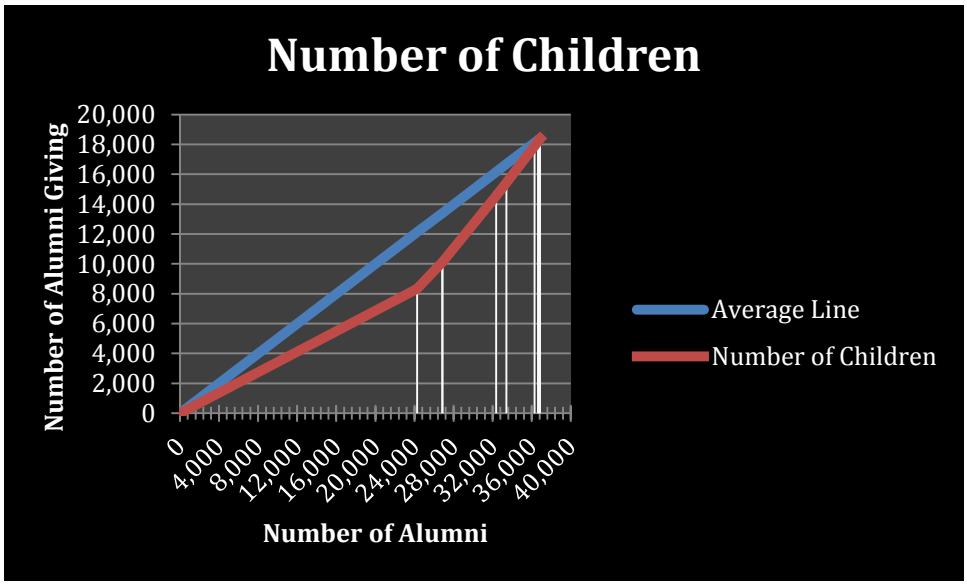
Legacy	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under legacy curve (People^2)
Unknown/(blank)	32,079	15,219	47.44%	32,079	15,219	Unknown/(blank)	32,079	16,013.390	244,105,150.50
Yes	203	112	55.17%	32,282	15,331	Yes	32,282	16,114.725	3,100,825.00
No	28	17	60.71%	32,310	15,348	No	32,310	16,128.702	429,506.00
Extended Family	639	392	61.35%	32,949	15,740	Extended Family	32,949	16,447.682	9,932,616.00
Many	1,445	918	63.53%	34,394	16,658	Many	34,394	17,169.006	23,407,555.00
Immediate Family	2,418	1,704	70.47%	36,812	18,362	Immediate Family	36,812	18,376.037	42,339,180.00
In Laws	46	37	80.43%	36,858	18,399	In Laws	36,858	18,399.000	845,503.00
	36,858	18,399	49.92%						324,160,335.50

Primary Ethnicity



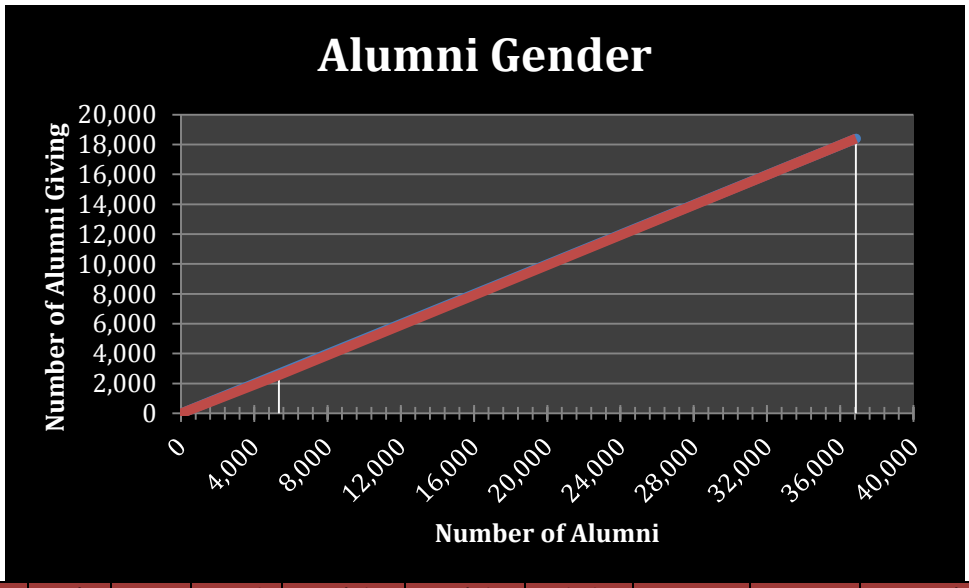
Primary Ethnicity	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Ethnicity Curve (People^2)
Non-Resident Alien (Internatl)	2,722	453	16.64%	2,722	453	Non-Resident Alien (Internatl)	2,722	1,358.784	616,533.00
Asian	45	12	26.67%	2,767	465	Asian	2,767	1,381.248	20,655.00
Black, non-Hispanic	242	73	30.17%	3,009	538	Black, non-Hispanic	3,009	1,502.051	121,363.00
Hispanic	360	114	31.67%	3,369	652	Hispanic	3,369	1,681.758	214,200.00
_A-PI (Not in Use), Native Hawaiian, Oth Pacific Is	1,047	335	32.00%	4,416	987	_A-PI (Not in Use), Native Hawaiian, Oth Pacific Is	4,416	2,204.406	858,016.50
Other	132	47	35.61%	4,548	1,034	Other	4,548	2,270.298	133,386.00
American Indian,Alaskan Native	45	18	40.00%	4,593	1,052	American Indian,Alaskan Native	4,593	2,292.762	46,935.00
White, Non-Hispanic	19,402	9,714	50.07%	23,995	10,766	White, Non-Hispanic	23,995	11,977.970	114,646,418.00
(blank)/Unknown	12,863	7,633	59.34%	36,858	18,399	(blank)/Unknown	36,858	18,399.000	187,574,697.50
	36,858	18,399	49.92%						304,232,204.00

Number of Children



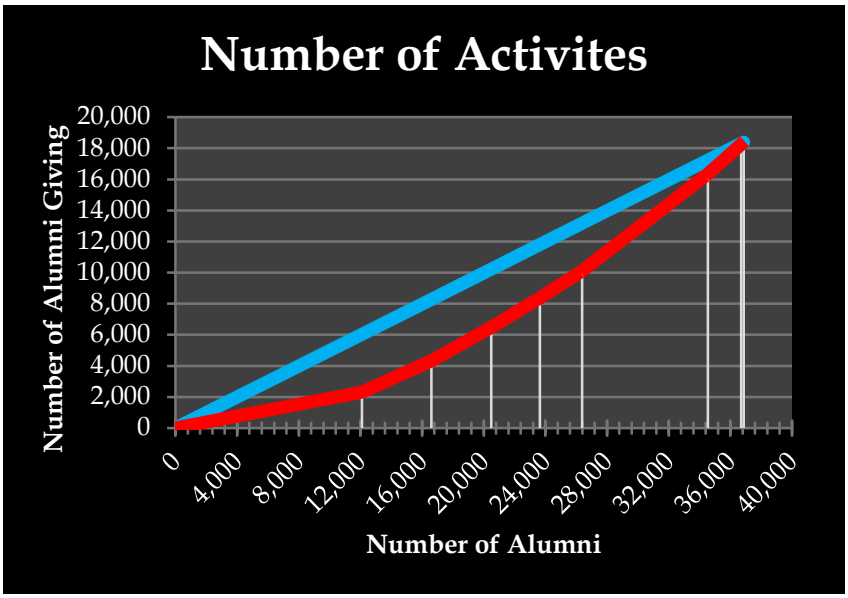
Number of Children	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Number of Child Curve (People^2)
0/N	24258	8322	34.31%	24258	8322	0/N	24258	12109.25558	100937538
1	2605	1805	69.29%	26863	10127	1	26863	13409.63528	24029822.5
10	4	3	75.00%	26867	10130	10	26867	13411.63202	40514
2	5485	4409	80.38%	32352	14539	2	32352	16149.66759	67654732.5
4	1052	885	84.13%	33404	15424	4	33404	16674.81133	15760538
3	2888	2474	85.66%	36292	17898	3	36292	18116.46069	48116968
5	364	317	87.09%	36656	18215	5	36656	18298.16441	6572566
8	20	18	90.00%	36676	18233	8	36676	18308.14814	364480
9	10	9	90.00%	36686	18242	9	36686	18313.14	182375
6	120	108	90.00%	36806	18350	6	36806	18373.04232	2195520
7	50	47	94.00%	36856	18397	7	36856	18398.00163	918675
12	2	2	100.00%	36858	18399	12	36858	18399	36796
	36858	18399	49.92%						266810525

Gender



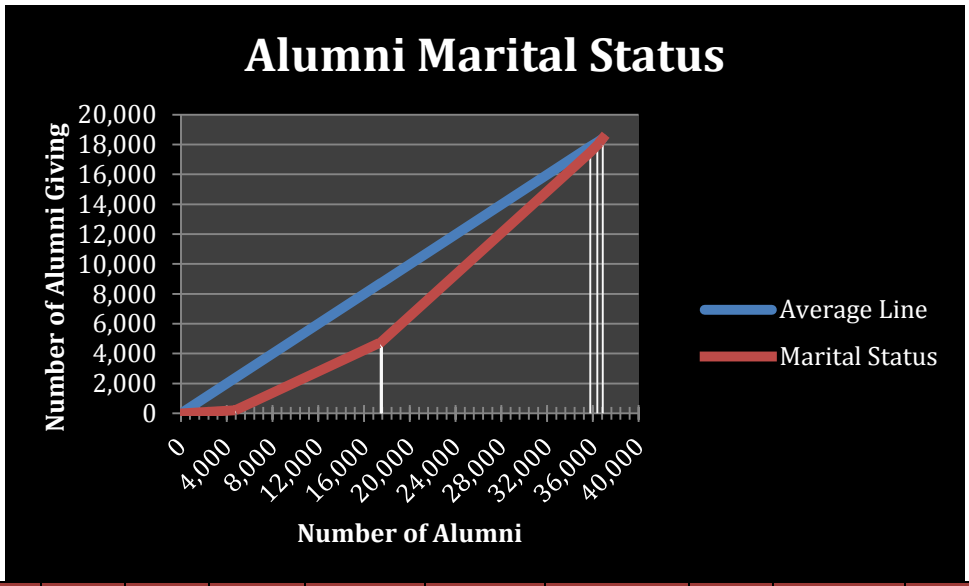
Gender	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Gender Curve (People^2)
Female	5351	2562	47.88%	5351	2562	Female	5351	2671.144636	6854631
Male	31507	15837	50.27%	36858	18399	Male	36858	18399	289848646.5
	36858	18399	49.92%						296703277.5

Number of Activities



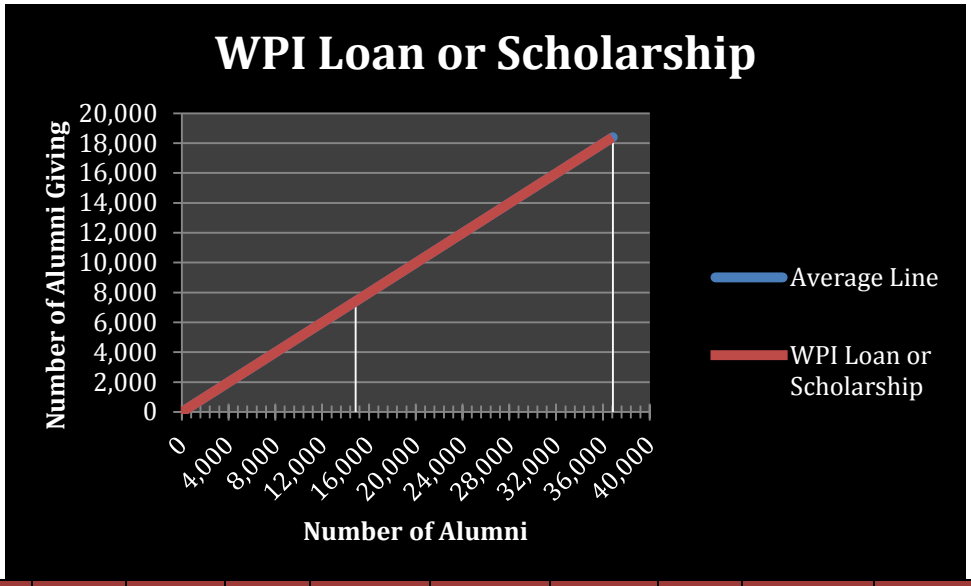
Number of Activities	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Activity Curve (People^2)
0	12107	2320	19.16%	12107	2320	0	12107	6043.645694	14044120
1	4500	2011	44.69%	16607	4331	1	16607	8289.982989	14964750
2	3872	2134	55.11%	20479	6465	2	20479	10222.83143	20901056
3	3163	1907	60.29%	23642	8372	3	23642	11801.75696	23464715.5
4	2746	1733	63.11%	26388	10105	4	26388	13172.52189	25368921
5-10	8156	6250	76.63%	34544	16355	5-10	34544	17243.88344	107903880
11-20	2151	1896	88.15%	36695	18251	11-20	36695	18317.63267	37218753
21+	163	148	90.80%	36858	18399	21+	36858	18399	2986975
	36858	18399	49.92%						246853170.5

Marital Status



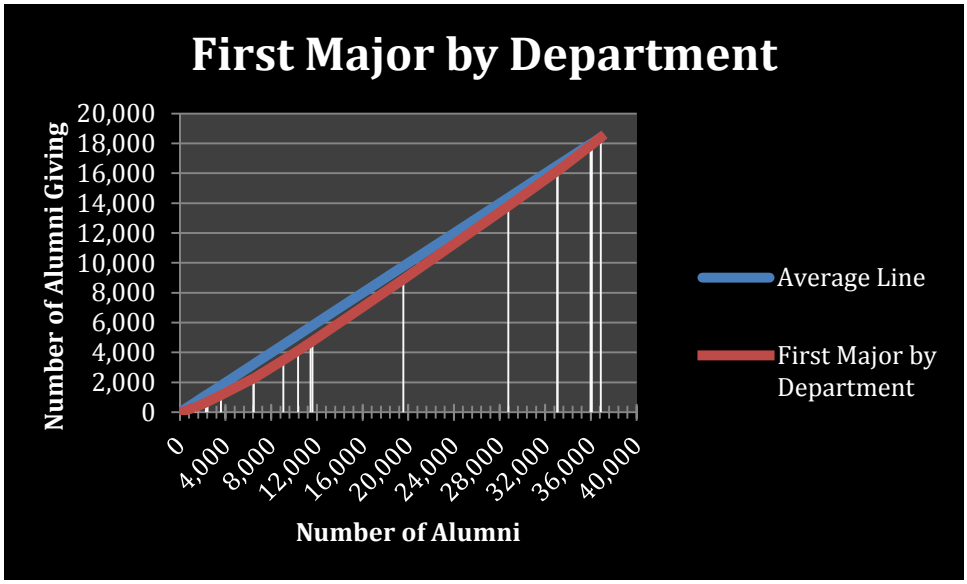
Marital Status	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Marital Status curve (People^2)
(blank)	4738	200	4.22%	4738	200	(blank)	4738	2365.143578	473800
Single	12713	4556	35.84%	17451	4756	Single	17451	8711.296028	31502814
Other/Partner	95	57	60.00%	17546	4813	Other/Partner	17546	8758.718704	454527.5
Separated	8	5	62.50%	17554	4818	Separated	17554	8762.712193	38524
Married	18212	12657	69.50%	35766	17475	Married	35766	17853.88882	203000058
Divorced	626	488	77.96%	36392	17963	Divorced	36392	18166.37929	11092094
Widowed	466	436	93.56%	36858	18399	Widowed	36858	18399	8472346
	36858	18399	49.92%						255034163.5

WPI Loan or Scholarship



WPI Loan or Scholarship	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Loan Curve (People^2)
Yes	14850	7407	49.88%	14850	7407	Yes	14850	7412.913072	54996975
No	22008	10992	49.95%	36858	18399	No	36858	18399	283969224
	36858	18399	49.92%						338966199

First Major by Department[43]

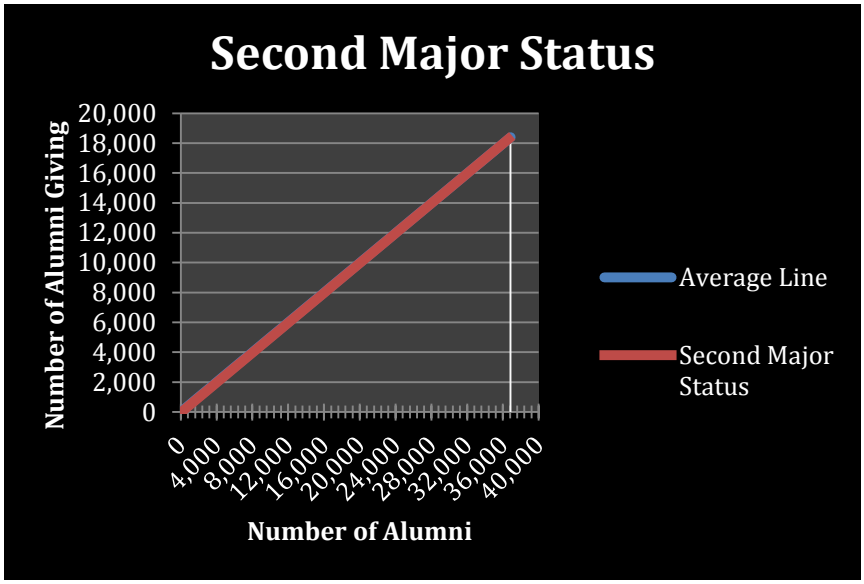


Department of First Major	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	X	Y	Area under Department curve (People^2)
Power Systems Management	4		0.00%	4	0	Power Systems Management	4	1.996744262	0
Robotics Engineering	10		0.00%	14	0	Robotics Engineering	14	6.988604916	0
Systems Engineering	25		0.00%	39	0	Systems Engineering	39	19.46825655	0
Industrial Engineering	177	41	23.16%	216	41	Industrial Engineering	216	107.8241901	3628.5
Interdisciplinary and Global Studies	193	46	23.83%	409	87	Interdisciplinary and Global Studies	409	204.1671008	12352
Environmental and Sustainability Studies	4	1	25.00%	413	88	Environmental and Sustainability Studies	413	206.163845	350
Fire Protection Engineering	430	115	26.74%	843	203	Fire Protection Engineering	843	420.8138532	62565
Social Science and Policy Studies	446	120	26.91%	1289	323	Social Science and Policy Studies	1289	643.4508384	117298
Interactive Media and Game Development	69	19	27.54%	1358	342	Interactive Media and Game Development	1358	677.8946769	22942.5
Aerospace Engineering	95	31	32.63%	1453	373	Aerospace Engineering	1453	725.3173531	33962.5
Environmental Engineering	104	35	33.65%	1557	408	Environmental Engineering	1557	777.2327039	40612
Biomedical Engineering	726	248	34.16%	2283	656	Biomedical Engineering	2283	1139.641787	386232
None	123	45	36.59%	2406	701	None	2406	1201.041673	83455.5
Biology and Biotechnology	1192	458	38.42%	3598	1159	Biology and Biotechnology	3598	1796.071463	1108560
Computer Science	2845	1101	38.70%	6443	2260	Computer Science	6443	3216.25582	4863527.5
Engineering Physics	23	9	39.13%	6466	2269	Engineering Physics	6466	3227.737099	52083.5

[43] See Appendix Q for the Legend for First Major by Department

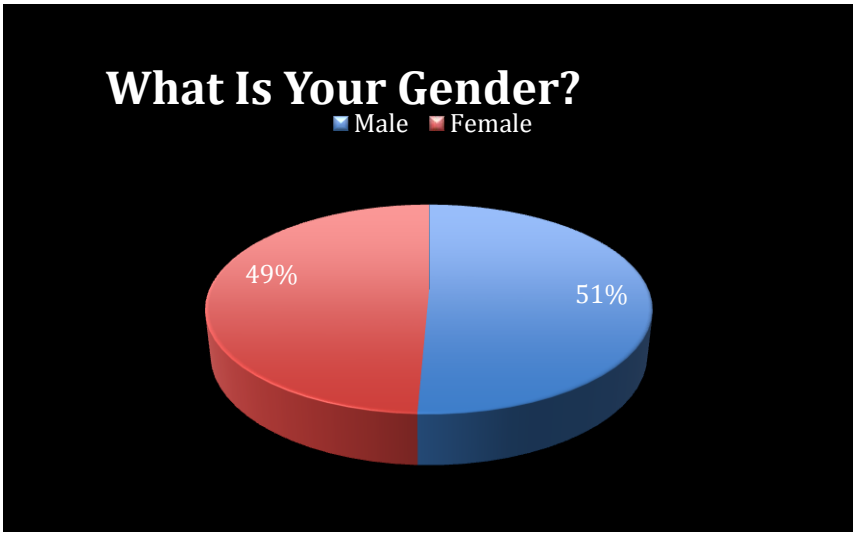
Business	2589	1220	47.12%	9055	3489	Business	9055	4520.129823	7453731
Chemistry and Biochemistry	1305	642	49.20%	10360	4131	Chemistry and Biochemistry	10360	5171.567638	4972050
Mathematical Sciences	1073	539	50.23%	11433	4670	Mathematical Sciences	11433	5707.194286	4721736.5
Humanities and Arts	175	88	50.29%	11608	4758	Humanities and Arts	11608	5794.551848	824950
Electrical and Computer Engineering	7969	4156	52.15%	19577	8914	Electrical and Computer Engineering	19577	9772.565603	54476084
Mechanical Engineering	9194	4893	53.22%	28771	13807	Mechanical Engineering	28771	14362.08229	104448437
Civil and Environmental Engineering	4285	2346	54.75%	33056	16153	Civil and Environmental Engineering	33056	16501.09458	64189300
Nuclear Engineering	40	22	55.00%	33096	16175	Nuclear Engineering	33096	16521.06202	646560
Chemical Engineering	2881	1687	58.56%	35977	17862	Chemical Engineering	35977	17959.21708	49030298.5
Life Sciences	110	65	59.09%	36087	17927	Life Sciences	36087	18014.12754	1968395
Physics	771	472	61.22%	36858	18399	Physics	36858	18399	14003673
	36858	18399	49.92%						313522784

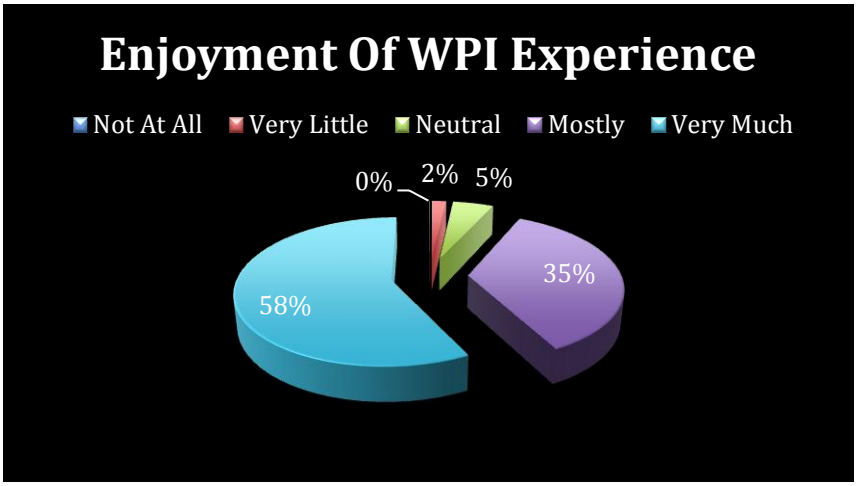
Second Major Status

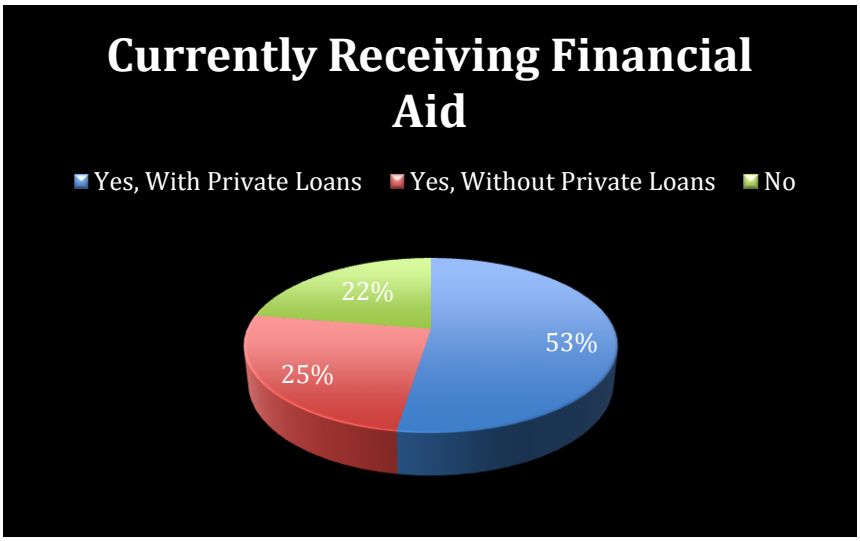


Has a Second Major	Total #	# Giving	Row % Giving	Cumulative Total	Cumulative Giving	Main Line	x	y	Area under Y/N Curve
Has Second Major	318	121	38.05%	318	121	Has Second Major	318	158.7411688	19239
(blank)	36540	18278	50.02%	36858	18399	(blank)	36858	18399	338360400
	36858	18399	49.92%						338379639

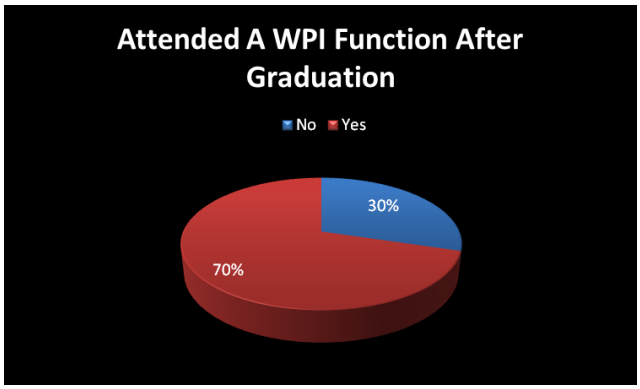
APPENDIX L: Charts and Graphs of Senior Survey Answer Results

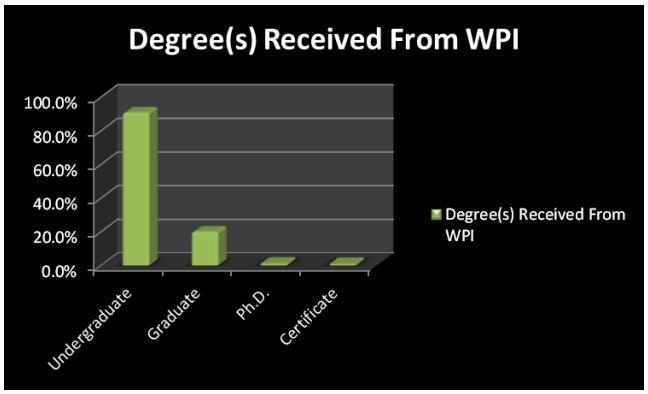


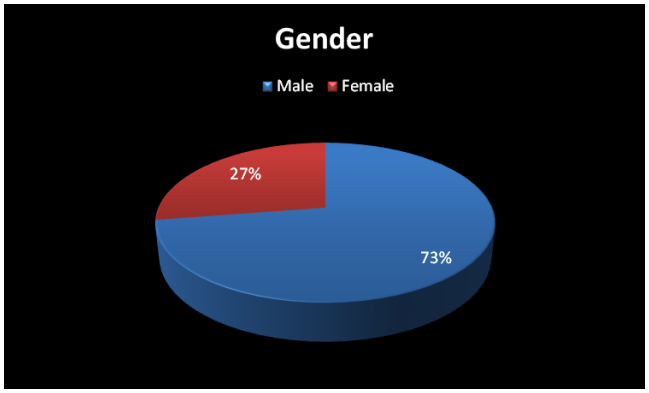


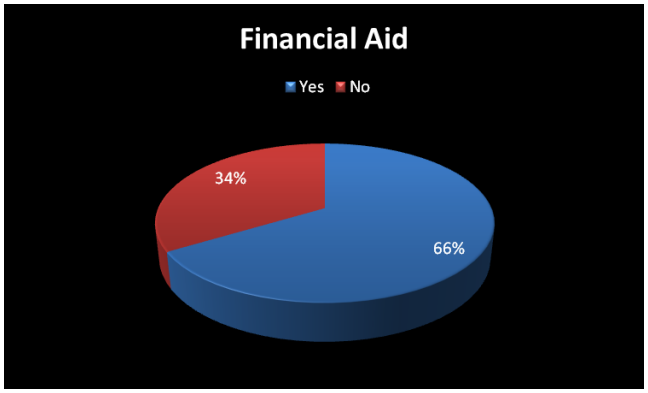


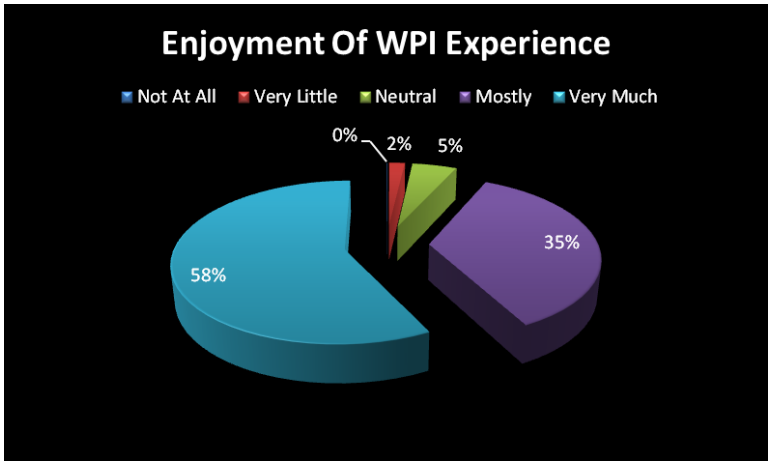
APPENDIX M: Charts and Graphs of Alumni Survey Answer Results





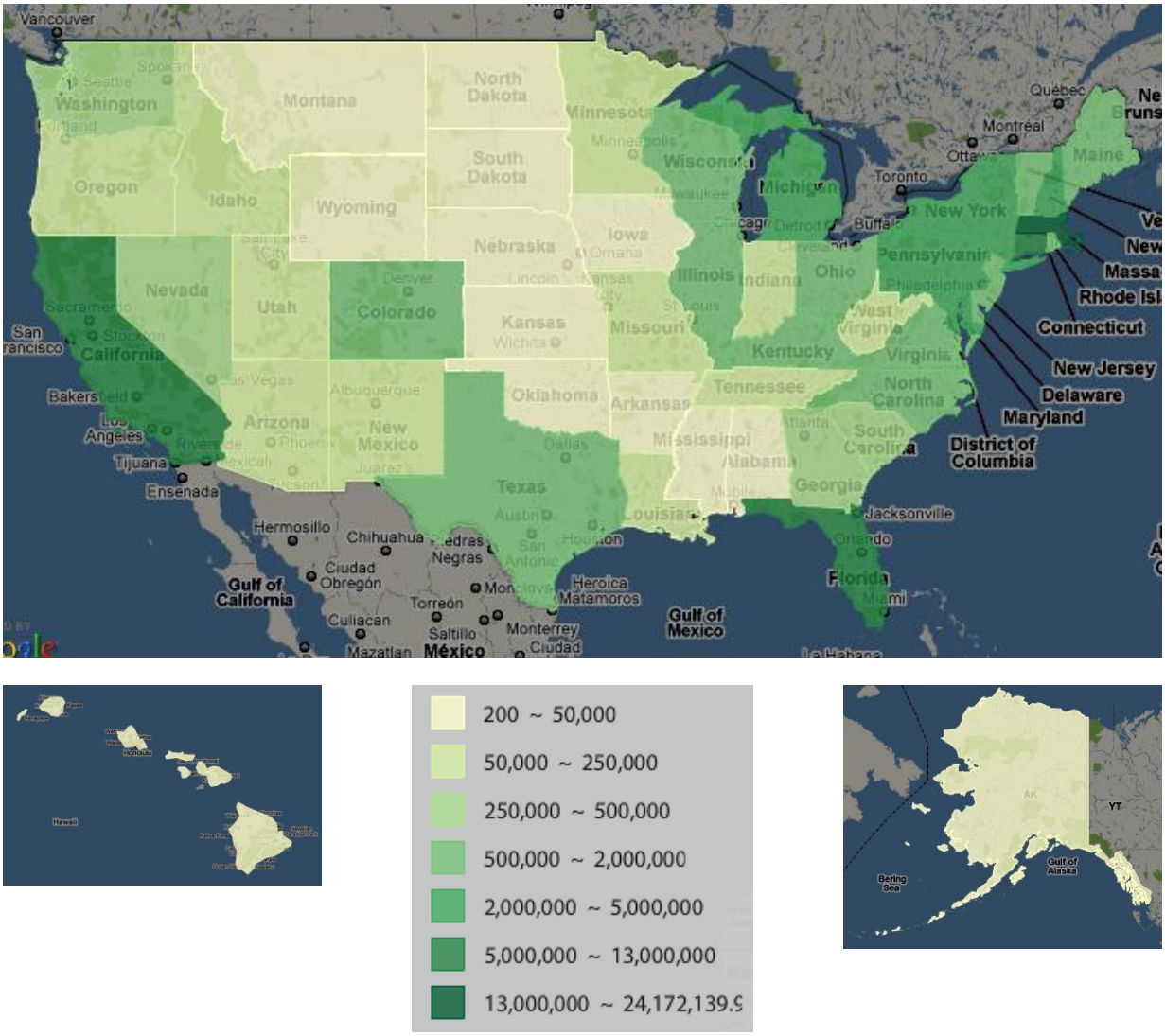




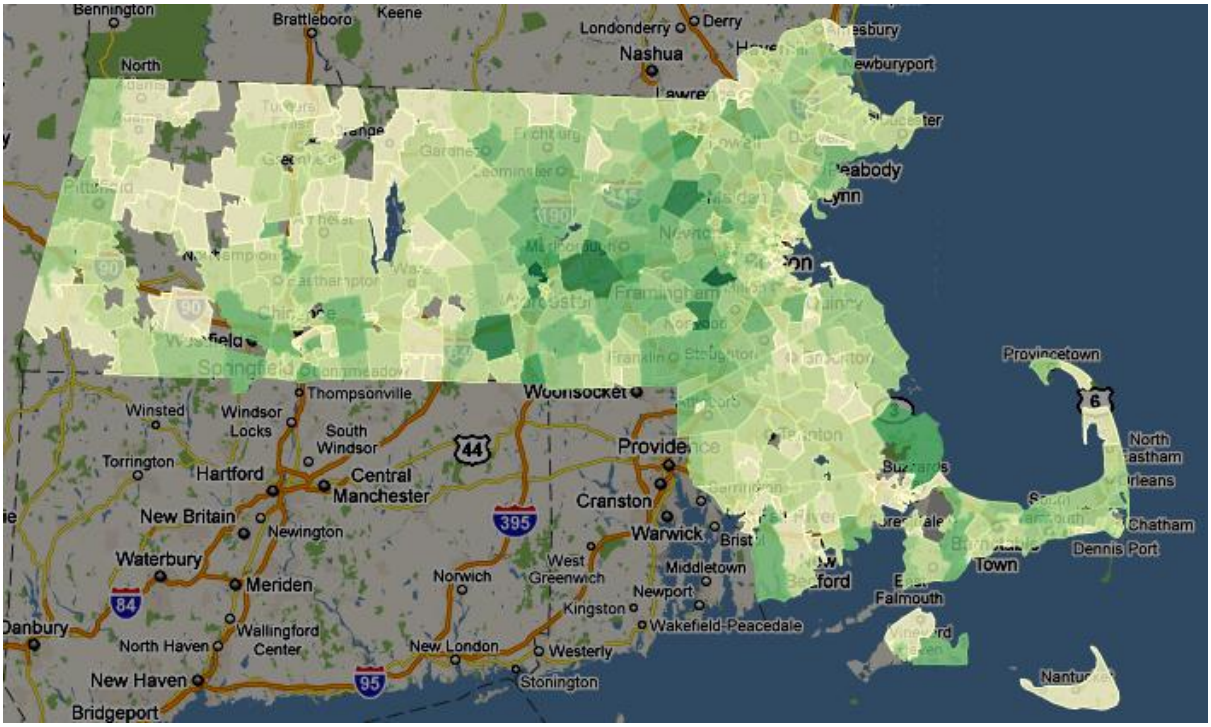


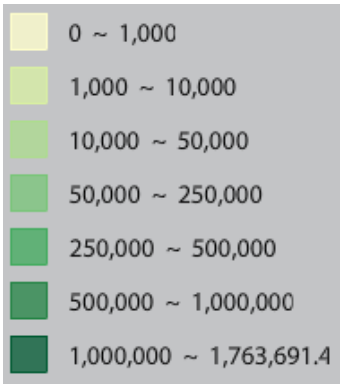
APPENDIX N: Total Donation Distribution by State

The team wanted to see how the amount of gifts was distributed throughout the United States as well. Between the population distribution and the amount distribution maps, the Alumni Office can look for correspondingly locations were both population and giving is high and plan events in those locations. This can also be done by postal code, much like the population distribution maps, as seen in Appendix O.



APPENDIX O: Total Donation Distribution in Massachusetts by Postal Code





APPENDIX P: Legend for State Regions

State	Region
Illinois	East North Central
Indiana	East North Central
Michigan	East North Central
Ohio	East North Central
Wisconsin	East North Central
Alabama	East South Central
Kentucky	East South Central
Mississippi	East South Central
Tennessee	East South Central
New Jersey	Middle Atlantic
New York	Middle Atlantic
Pennsylvania	Middle Atlantic
Arizonia	Mountain
Colorado	Mountain
Idaho	Mountain
Montana	Mountain
Nevada	Mountain
New Mexico	Mountain
Utah	Mountain
Wyoming	Mountain
Connecticut	New England
Maine	New England
Massachusetts	New England
New Hampshire	New England
Rhode Island	New England
Vermont	New England
Alaska	Pacific
California	Pacific
Hawaii	Pacific
Oregon	Pacific
Washington	Pacific
Delaware	South Atlantic
District of Columbia	South Atlantic
Florida	South Atlantic
Georgia	South Atlantic
Maryland	South Atlantic
North Carolina	South Atlantic
South Carolina	South Atlantic
Virginia	South Atlantic

West Virginia	South Atlantic
Nebraska	West North Central
Iowa	West North Central
Kansas	West North Central
Minnesota	West North Central
North Dakota	West North Central
South Dakota	West North Central
Missouri	West North Central
Arkansas	West South Central
Louisana	West South Central
Oklahoma	West South Central
Texas	West South Central

APPENDIX Q: Legend for Department of First Majors

First Majors List	Department
(blank)	None
**** Unknown ****	None
Actuarial Mathematics	Mathematical Sciences
Advanced Manufacturing Eng.	Mechanical Engineering
Aerospace Engineering	Aerospace Engineering
Applied Mathematics	Mathematical Sciences
Applied Statistics	Mathematical Sciences
Biochemistry	Chemistry and Biochemistry
Biology	Biology and Biotechnology
Biology and Biotechnology	Biology and Biotechnology
Biomedical	Biomedical Engineering
Biomedical Eng/Medical Physics	Biomedical Engineering
Biomedical Engineering	Biomedical Engineering
Biomedical Sciences	Biomedical Engineering
Bioscience Administration	Biology and Biotechnology
Biotechnology	Biology and Biotechnology
Business	Business
Chem. Eng w/Biomedical Int.	Chemical Engineering
Chem. Engr. w/Nuclear Int.	Chemical Engineering
Chemical Engineering	Chemical Engineering
Chemistry	Chemistry and Biochemistry
Chemistry-Interdisciplinary	Chemistry and Biochemistry
Civil Engineering	Civil and Environmental Engineering
Civil Engineering-Interdiscipl	Civil and Environmental Engineering
Clinical Engineering	Biomedical Engineering
Computer Sci w/Biomedical Int.	Computer Science
Computer Science	Computer Science
Computers w/Commercial Appl.	Computer Science
Computers w/Mathematical Appl.	Computer Science
Computers with Applications	Computer Science
Construction Project Mgmt.	Civil and Environmental Engineering
Economic Science	Social Science and Policy Studies
Economics	Social Science and Policy Studies
Economics & Technology	Social Science and Policy Studies
Elec Engr w/ Nuclear Int	Electrical and Computer Engineering
Elec. Eng. w/Comp. Eng. Spec.	Electrical and Computer Engineering
Elect. Eng w/Biomedical Int.	Electrical and Computer Engineering
Electrical & Computer Eng.	Electrical and Computer Engineering

Electrical Engineering	Electrical and Computer Engineering
Engineering Physics	Engineering Physics
Environmental Engineering	Environmental Engineering
Environmental Policy & Develop	Environmental and Sustainability Studies
Environmental Studies	Environmental and Sustainability Studies
Financial Mathematics	Mathematical Sciences
Fire Protection Engineering	Fire Protection Engineering
General Science (OldTimer)	Life Sciences
Greater Worc Exec Prog	Interdisciplinary and Global Studies
History of Science & Technol	Humanities and Arts
Humanities and Arts	Humanities and Arts
Humanities/Technology-English	Humanities and Arts
Humanities/Technology-History	Humanities and Arts
Industrial Engineering	Industrial Engineering
Industrial Mathematics	Industrial Engineering
Information Technology	Business
Interactive Media & Game Dev	Interactive Media and Game Development
Interdisciplinary	Interdisciplinary and Global Studies
International Studies	Interdisciplinary and Global Studies
Life Sciences	Life Sciences
Life Sciences-Interdisciplin	Life Sciences
Management	Business
Management Development	Business
Management Engineering	Business
Management Information Systems	Business
Management Science & Engr.	Business
Management with Computer Appl.	Business
Manufacturing Engineering	Mechanical Engineering
Manufacturing Management	Business
Marketing & Tech. Innovation	Business
Master of Business Admin.	Business
Master of Mathematics	Mathematical Sciences
Master of Mathematics for Educ	Mathematical Sciences
Master of Natural Sciences	Social Science and Policy Studies
Master of Science in Mgmt.	Business
Materials Process Eng	Mechanical Engineering
Materials Science and Eng	Mechanical Engineering
Materials Science and Eng.	Mechanical Engineering
Materials Systems Engineering	Mechanical Engineering

Mathematical Sciences	Mathematical Sciences
Mech. Eng. w/ Aerospace Int.	Mechanical Engineering
Mech. Eng. w/ Biomedical Int.	Mechanical Engineering
Mech. Eng. w/ Nuclear Int.	Mechanical Engineering
Mechanical Engineering	Mechanical Engineering
Nuclear Engineering	Nuclear Engineering
Operations & Information Tech.	Business
Operations Design & Leadership	Business
Physics	Physics
Plant Eng. Certificate	Environmental Engineering
Power Systems Management	Power Systems Management
Professional Writing	Humanities and Arts
Project Management	Business
Psychological Science	Social Science and Policy Studies
Robotics Engineering	Robotics Engineering
School of Industrial Managemnt	Industrial Engineering
Social Science	Social Science and Policy Studies
Social Science & Technology	Social Science and Policy Studies
Society, Technology & Policy	Social Science and Policy Studies
System Dynamics	Social Science and Policy Studies
Systems Engineering	Systems Engineering
Tech, Sci & Prof Communication	Humanities and Arts
Technical Writing	Humanities and Arts
Technology Marketing	Business
To Be Declared	None
Urban & Environmental Planning	Civil and Environmental Engineering