

REPORT ON
**THE STATE OF
THE INSTITUTE**

PREPARED BY THE STUDENT SENATE AND THE
STATE OF THE INSTITUTE AD-HOC COMMITTEE



**STUDENT
SENATE**

Published 1 December 2011

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INTRODUCTION

“I have established a school at the north end of Troy...for the purpose of instructing persons, who may choose to apply themselves, in the application of science to the common purposes of life.”

— Stephen van Rensselaer,
5 November 1824

The Student Senate is the chief representative body of the students of Rensselaer Polytechnic Institute (RPI). Comprised of elected senators and appointed representatives, the Student Senate strives to enhance the Rensselaer Student Experience both during their years of study at Rensselaer and after their graduation. Inherent to the responsibility of the Student Senate is the promotion of the Student Experience, provide input on RPI’s ability to attract and retain new students, and to ensure the continued excellence of RPI.

On October 17, 2011, the Student Senate responded to concerns regarding the current state and direction of the institute with a motion (printed below) presented by Russell Brown, '14, and seconded by Jessica Jones.

Whereas *as members of the RPI community have expressed concern about the current state and direction of the institute*

Whereas *the Student Senate is charged with representing the student body and protecting the student experience*

The student senate resolves *to create an ad-hoc committee to investigate the current state and direction of the institute.*

This committee should bring a report of their investigation to the Student Senate no later than Nov 14th 2011 (amended on 11/14/11 to extend the charge of the committee to the end of the calendar year.)

Citing concerns raised by students, faculty and other members of the RPI community, the Student Senate resolved to investigate the concerns, paying particular attention to the impact of such issues on students.

Since students have a vested interest in the continued success of RPI, the Student Senate motivation behind the report is solely to improve RPI for students, both for the present and future.

It should also be noted that, while this report intends to be a strong representation of the current state of RPI, due to the constraints on student access to data and information sources and inability to directly quote many sources due to requests of anonymity, this report should not be considered a full analysis of the current state of the Institute. Rather, it has been produced as an internal document to the Student Senate in order to form the basis for recommendations and actions moving forward.

As information continues to come to light regarding the current state of Rensselaer, it is the intent of the committee to continue to update this report. To this end, we would welcome any additional comments or testimony that may strengthen the breadth, depth, and completeness of our findings. Comments may be submitted digitally to gm@rpi.edu or in person to any member of the Student Senate.

In this report, the Student Senate seeks to present the results of an unbiased investigation into the current state of Rensselaer followed by conclusions based on these findings for the continued excellence of RPI. The report is broken into four major sections: Programs & Initiatives; Institutional Rankings; Work Environment and the Academic Climate; and Institutional Finance. Following these sections, the Student Senate will present its position statement and recommendations which were passed in a motion on 28 November 2011.

I. PROGRAMS AND INITIATIVES

“I am inclined to believe that competent instructors may be produced in the school at Troy who will be highly useful to the community in the diffusion of a very useful kind of knowledge, with its application to the business of living.”

— Stephen van Rensselaer,
5 November 1824

One of the most integral ways to affect the student experience in college at an administrative level is through the creation of programs and initiatives. For colleges around the world this “residential college” model has been used to foster community growth, creation of a diverse culture, and provide a full educational experience. Within the time frame of the *Rensselaer Plan*, student life programs have changed in structure, direction, and scope as new services were provided to students and new ideas came to fruition. This portion of the document will

outline the changes that have occurred during this recent transition and how they have impacted student life at RPI.

For the purposes of this discourse, the Student Senate study begins in the summer of 2000 at the start of the *Rensselaer Plan*. This starting point was selected for the previous state of the institute with regards to programs and initiatives is not strongly documented in literature. The overall US News Best Colleges Ranking (Undergraduate) was much lower in 2000 than in 2010, however it is hard to make an assessment of student experience over a ranking which does not take into account defined factors and interrelations. The *Rensselaer Plan* was an attempt to make the school on par with other medium sized research institutes. To quote from the current online version of the plan, the goals of the *Rensselaer Plan* are “to achieve greater prominence in the 21st century as a top-tier world-class technological research university with global reach and global impact” [1]. These goals are split into the categories of: Education, Research Enterprise, Scientific and Technological Entrepreneurship, Diversity, Communities, and Enabling Activities. These goals tie in to the actual changes that were made to help reach them. To assess how effective the programs have been, metrics used in Performance Planning material are used.

Plan Priorities

THE CLASS INITIATIVE

The first change to mention is the CLASS initiative. CLASS stands for Clustered Learning, Advocacy, and Support for Students. It is an initiative which Student Life under Eddie Knowles first implemented which builds on the First Year Experience, elevates the quality of the student experience; draws together faculty, student life professionals, upper-class and graduate students as a support team, redefines and expands living and learning communities and finally integrates Greek Life and Off-Campus students while adapting facilities to a new cluster model. The First Year experience office was created in 2001, and was charged with “nurturing student excellence, building community, and helping students succeed” [2]. The CLASS Initiative builds on the safety net provided by the First Year Experience and Student Orientation, and helps to support the student through the upper class years. This is all achieved through the Resident Assistant, Resident Director, and Learning Assistant model and corresponding coordinating staff members.

The CLASS Initiative builds on the safety net provided by the First Year Experience and Student Orientation, and helps to support the student through the upper class years.

To look at the changes that the CLASS initiative has brought about, let's first look at the most recent Performance Plan for guiding “we will” statements to outline the purpose of the CLASS initiative. The two main statements which apply to the CLASS Initiative are: 1) “Engage students in collaborative learning experiences” and 2) “Enliven campus life.” The goals of the CLASS Initiative as applied to Student Life

were to promote communiversity, media and the arts, leadership, personal and professional development. These are the topics used in programming in residence halls to bring the resources available at RPI to the students. The CLASS program aimed to create a clustered learning environment where the programming space would also support the programs goals to reach; this was set up structurally by requiring the first-year and sophomore students to live on campus. These changes stem from an original assessment of “residential college” style living. The benchmarking institutions we used were Yale, Dartmouth, Middlebury, UPenn and Lehigh [4]. The models of each of these colleges are slightly different, but they all contain common areas and differentiated hall or house systems as part of a bigger whole campus system. These different houses or halls provide a way to distribute resources widely and facilitate inter-personal learning and communication. In the CLASS Benchmarking document, there were common elements between the schools visited which lead to suggestions for the program's structure. Integration of the Deans with the students, and the lifestyle of the residence halls with the “academic portfolio” was paramount. Also, “a proactive customer service mentality involving all staff” was listed. These are the experience-based goals of CLASS, and this is where the most work is needed [4].

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1. “The *Rensselaer Plan*” Rensselaer Polytechnic Institute. <http://www.rpi.edu/president/plan/> Accessed 11/11/2011.
2. Heffner, Samuel F. “Renaissance at Rensselaer: A President, A Plan, A University Transformed.” Rensselaer Polytechnic Institute, 2011. Accessed 11/9/2011.
3. “Student Life Proposed Performance Plan Fiscal Year 2012” Rensselaer Polytechnic Institute, 2011. Accessed 11/11/2011.
4. “The CLASS Initiative: Benchmarking and Preliminary Results.” President's Retreat, The Sagamore Resort. July 2008.
5. “US Colleges News Ranking: Rensselaers Overall Institutional Research, Office of the Provost, RPI. Website. <http://.u/node/88> Accessed 11/11/2011.

BIOTECHNOLOGY CENTER & INFORMATION TECHNOLOGY INITIATIVES

Beyond the student experience, we needed to move forward to the forefront of research. One of the newest research fields was biotechnology. This opportunity along with the general need recognized for an increase in the facilities available for research at RPI led to the building of the Center for Biotechnology and Interdisciplinary Studies in 2004, also known as the Biotechnology Building which cost \$82 million dollars to build. The goals in the FY12 Student Life Performance Plan were to increase the ability for students to both present research and interact with others' research, and to increase employers in that field. The 218,000 square foot building does not directly relate to those goals, but may assist in the recognition of the institute by multinational companies which could allow students the possibility for better access to jobs and other resources, although this is not assured. This push into a field is organized by the Office of Research, which was created through the *Rensselaer Plan*.

FIRST YEAR EXPERIENCE & STUDENT ORIENTATION

The *Rensselaer Plan* also created the First Year Experience office, and an enriched Student Orientation program. The main changes were in the philosophy and structure of the program. The students were contacted much before they came to RPI, through social media and the Internet. The Navigating Rensselaer and Beyond aims to create affinity groups, or small friend-groups which share a common interest and experiences which create a initial social nucleus for integration into Rensselaer. This transitions into the CLASS model as the student gets used to the school, and the safety net is provided.

EXPERIMENTAL MEDIA AND PERFORMING ARTS CENTER

Finally, the *Rensselaer Plan* also created the Experimental Media and Performing Arts Center (EMPAC). Part of the initial focus of research and development that spawned the Biotech Center, EMPAC was created. The goal of these

interdisciplinary creations was to "work at the intersections of disciplines and forge exciting individual and political contexts in which they will be expected to lead." This creation was meant to host on-campus events as a performance space for all media, from within the campus and from outside. This provides students with a way to experience a cultural diversity which will create a more complete student experience.

COMPUTATIONAL CENTER FOR NANOTECHNOLOGY INNOVATIONS

One of the less widely spoken of changes from the *Rensselaer Plan* is the Computational Center for Nanotechnology Innovations (CCNI). The CCNI is a large supercomputer worth over \$100 million, and was a project between RPI, New York State, and IBM. This provides a structural background for the research initiatives that are also being started in other initiatives.

EAST CAMPUS ATHLETIC VILLAGE

Finally, the East Campus Athletic Village (ECAV) was created to help create a complete student experience at RPI, especially for the athletes. This is a great way to view Rensselaer's sports, as well as better practice facilities for the sports team members. The construction of ECAV began in 2007 and cost \$92 million.

Plan Implementation

RESEARCH & SCHOLARSHIP

The *Rensselaer Plan* included a remarkable push to be on the front lines of research with global and industrial implications. There have been facilities built to support student and faculty interaction, but the accessibility of these buildings for students (Biotechnology Building, EMPAC) have been in question.

PHYSICAL INFRASTRUCTURE

Along with the infrastructural changes outlined in the above Plan Priorities section, we also saw upgrades to the Physical Plant.

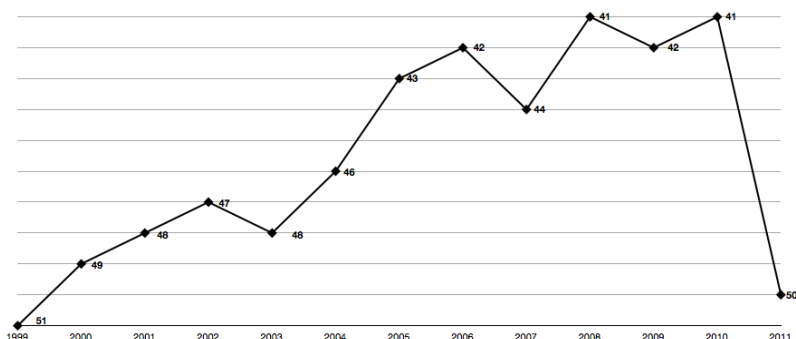
II. INSTITUTIONAL RANKINGS

“My principal object is, to qualify teachers for instructing...in the application of experimental chemistry, philosophy and natural history, to agriculture, domestic economy, the arts and manufactures.”

— Stephen van Rensselaer,
5 November 1824

Rankings are a method by which RPI can compare itself with other institutes in an attempt to obtain an objective view on the state of the institute. Most literature today questions the significance and impact of ratings, several of which argue rankings have very little

Chart showing RPI's US News and World Report rankings from 1999–2011



impact rather than beyond the quantity and quality of applicants. However, rankings can indicate deeper problems or strengths. Often, in fact, the battle to “play the rankings game” in an attempt to increase rankings causes questionable prioritization decisions. This section contains an overview of recent changes in RPI’s rankings, what they mean for the school, how they impact the student experience, and what RPI is doing in response to these changes.

Changes

In the past 10 years, RPI’s *US News and World Report* ranking has risen fairly consistently. In the past year, however, RPI’s ranking has fallen dramatically. While RPI has consistently been given the high honor of being in the top 50 schools in the nation since Dr. Jackson became president, this year’s drop put that in jeopardy.

The chart to the left shows the changes in RPI’s overall *US News and World Report* Rankings over the past 12 years. This year, RPI fell from 41st to being tied with 2 others for 50th. This puts RPI onto the third page of the College Rankings Website, which will potentially impact applicant numbers.

Upon analyzing the ratings data, the cause for the rankings drop was primarily RPI’s “Faculty Resources Rank.” As its name suggests, this rank is an indication of the resources RPI gives to its faculty members. It is comprised

of factors such as class sizes, student-faculty ratio, and faculty salaries. This category score fell by 33 points. Because *US News and World Report* does not give detailed information on this calculation, one can only speculate on the causes of this drop. However, RPI's faculty to student ratio and class sizes are both at the higher (worse) end of Rensselaer's market basket. As seen in the graph to the right, RPI's overall student to faculty ratio is 16-1 as compared to the market basket average of 13-1.

ENGINEERING SCHOOL

While RPI's overall ranking has gone up over the past 11 years, the School of Engineering has not. As seen in the graph below from institutional research, RPI's engineering school ranking been steadily declining. In the past 11 years, the engineering school has dropped a total of 20 places.

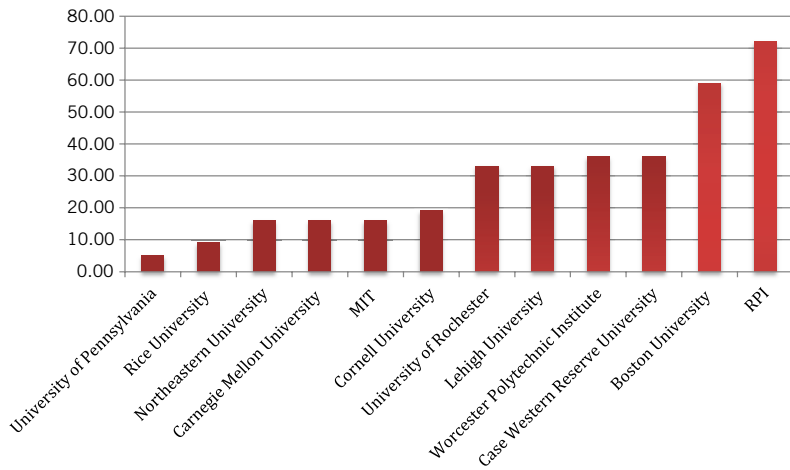
This clearly shows a lack of focus on our core-competency as we have sought to expand our scope as an institution. Beyond the problems this implies for the students in the engineering school, this trend has lead many of our alumni to believe that Engineering is not a priority for the school and left them feeling disheartened and un-invested.

Implications

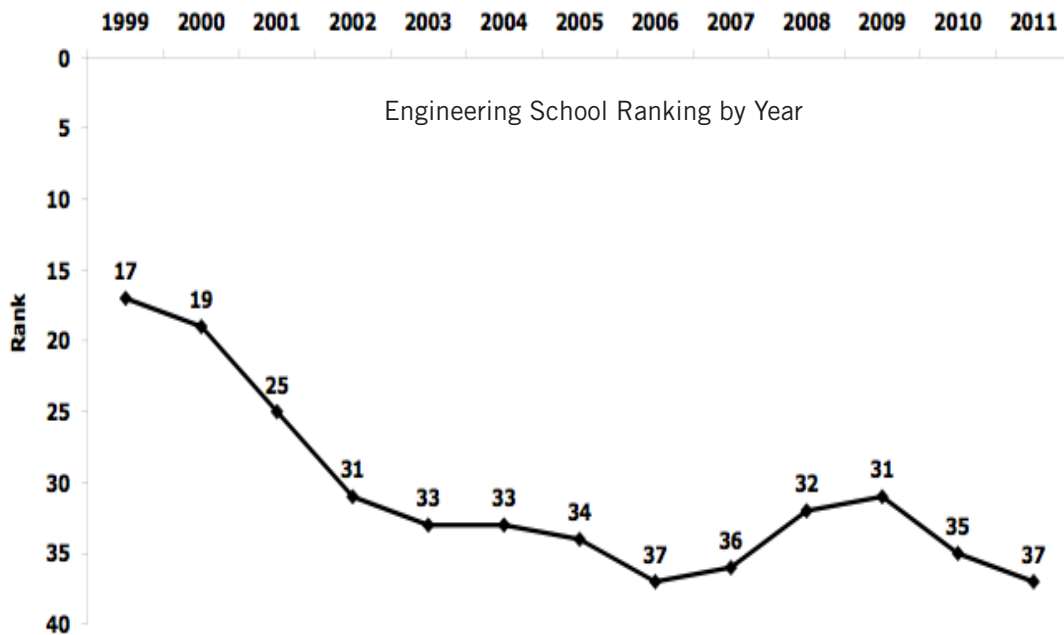
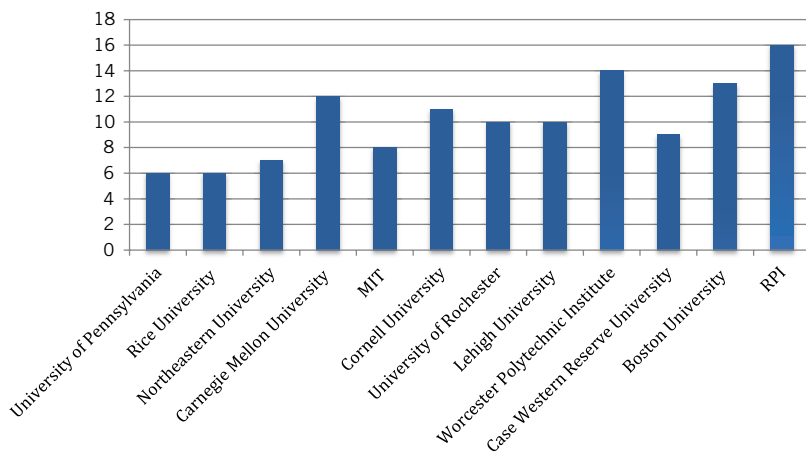
APPLICATIONS

According to several studies, the largest impact on a school which rankings have is on the applicant pool. One such study has found that for every one place a school drops in the rankings, the applicant pool drops .9%. Beyond this, the biggest drops in applicant pools come when a school moves from one page of the *US News and World*

Faculty Resource Rank



Faculty-Student Ratio



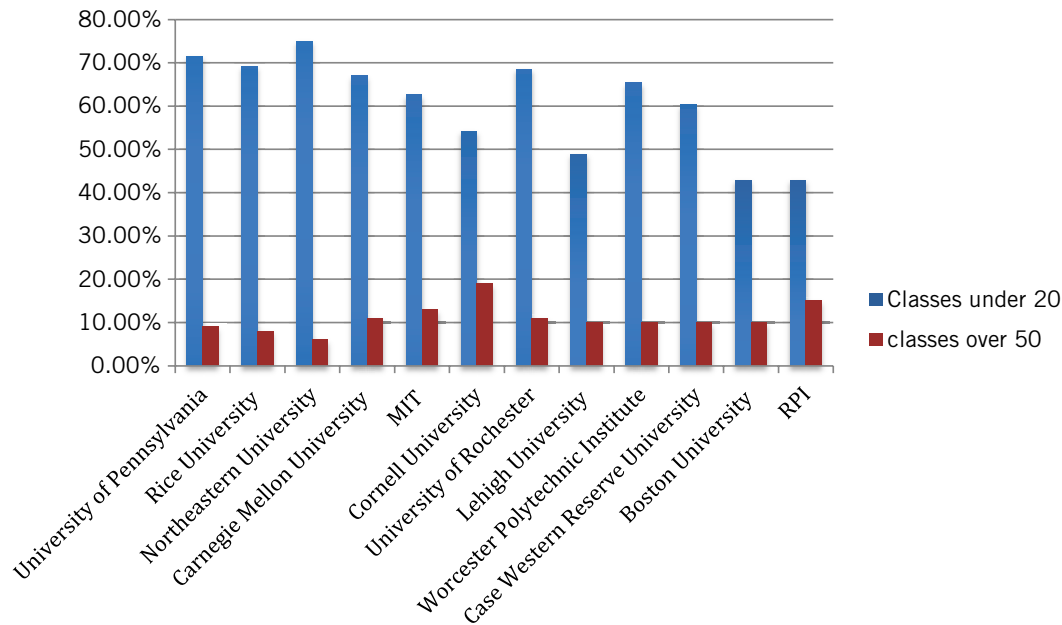
Report website to the next. In the latest *US News and World Report*, RPI has moved from the second, to third page. Beyond this, RPI is at risk of falling out of the symbolically important “top 50 Colleges.” This may have a significant impact on the size and quality of the applicant pool in the coming years which will, alone, negatively impact rankings.

Perhaps the most concerning impact of this change, however, is in the actions RPI is taking to resolve it.

As Carey outlines, rankings can often lead colleges to make decisions that negatively impact the quality of the educational experience.

One possible example of this alignment of priorities to meet rankings categories is the limiting of class sizes. For the Spring 2012 semester, many classes previously capped at 25, 30 or even more students are now capped at 19 students. Deans were directed to instate this change in order to increase the number of classes that RPI offers with less than 20

Classes Under 20/Over 50



students, a key metric in the US News ranking system. The direct effect of this mandate has resulted in several outcomes. First, it decreases the number of choices for students, which has negative effects on morale. Second, and more importantly, students registering for classes are finding that they are unable to register for the classes they need. Many students at RPI are involved with heavily structured programs that have a stringent prerequisite-driven sequence. The

PRIORITIES

According to Kevin Carey, writing for Council for Advancement and Support of Education's Currents:

Ninety-five percent of the rankings are based directly or indirectly on just three factors: wealth, fame, and exclusivity. As a result, institutions are focusing inordinate attention on fundraising, marketing, and attracting faculty with outsized scholarly reputations-at the expense of the core missions of access and undergraduate learning. (Carey, “Beat Them,” 50.)

inability for a student to register for a class in the given semester may cause the student to fall behind in the prerequisites, leading to a delayed graduation date. In some programs, the number of sections has increased to compensate for the decrease in seats in each individual section. Unfortunately, this requires additional faculty to cover the additional sections, and as discussed elsewhere, quality faculty at RPI have been harder to come by, which has manifested itself in a five-fold increase in the number of faculty with Masters degrees from 13 in 2009 to 72 in 2010. The initiative to reduce class sizes exacerbates RPI's issues with faculty quantity and quality.

While RPI's initiative to reduce class sizes by capping classes at 19 seats has the potential to improve RPI's "faculty resource ranking," it has caused a headache for many students attempting to register for these now smaller classes. While the initiative may address ranking issues short term, the long term impact will lead to unsatisfied students, disenfranchised alumni, and will ultimately harm the brand of Rensselaer. The faculty resource ranking must be addressed through hiring and retaining faculty.

SOURCES

<http://www-personal.umich.edu/~bastedo/papers/BowmanBastedo.ResHE2009.pdf>

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http://www.centerforcollegeaffordability.org/uploads/College_Rankings_History.pdf

III. WORK ENVIRONMENT & ACADEMIC CULTURE

Since its inception, RPI has always prided itself on the quality of its faculty and teachers. Because of the critical roles that faculty play for students, as educators and mentors, it is essential that RPI faculty are not only academically qualified, but also confident about their ability to do the job, comfortable in their working environment, and committed to the Institute and its students. The Student Senate, being tasked with ensuring the quality of the student experience, is therefore interested in making sure that RPI's faculty have access to the tools needed to perform their jobs effectively.

Faculty Climate

Based on a review of relevant literature, a number of “best practices” were explored. Prevalent in the majority of these sources was an indication that: (a) faculty productivity was linked to a sense of well being, and (b) the prime factor in whether or not a faculty member felt satisfied at their place of employment centered around their ability to do their job well (Johnsrud, 1998) (Perry, 2000). This need surpasses financial compensation as a long term motivator (Moore, 1993). A multitude of sources indicated that there is a level of trepidation that arises when a faculty member is unable to influence the policies which shape their ability to reach these goals. Inability to reach this end is tied to an increased likelihood for departure and poor productivity (Zhou, 2000). It has also been noted that faculty

members tend to have the most confidence with leaders closest to them (i.e. Department heads, Provosts and Deans) (Johnsrud, 1994). It is appropriate to extrapolate from the above listed trends that these relationships can be viewed as a method of influencing policy around them, which in turn highlights the need for solid and consistent relationships between faculty and their supervisors.

Faculty Perception

The following section illustrates Institute perceptions amongst the faculty, and serves as an indication of current faculty morale. While unanimous agreement with regard to implemented policies is unobtainable, these indications of faculty confidence and perceptions represents an important component of a comprehensive assessment of the Institute.

Among faculty interviewed, a number of opinions were raised. These ranged from issues with specific internal practices, to broader concerns about the direction of the Institute. Specific concerns were articulated relating to: RPI's purchasing policy; the leadership and influence of the Human Resources Department; a perceived decline in focus on the wellbeing of some departments; policy changes that occur as the result of installing new deans; and the lack of faculty access (through intermediaries or otherwise) to senior administrators who can act on faculty concerns, to name a few. Many opinions were expressed on very specific is-

sues, only the most pressing of which could be examined in this report. These data were gathered from active faculty members on campus. Due to requests for anonymity, no sources of these issues are disclosed.

Members of the faculty indicated dissatisfaction about the state of internal management of the Institute—the way in which policies impacting the faculty are developed, aired, and implemented—as an issue of continuing frustration. As we could find no evidence that exit interviews are conducted with departing RPI faculty members and no past faculty members were contacted, it cannot be objectively stated to what degree this feeling would influence a faculty member's departure decision. Qualitative takeaways from conversations, however, indicate that most faculty members felt these issues of internal management were present to a greater degree at Rensselaer than at comparable institutes. The academic environment was cited as a factor for retention. Faculty felt the disbandment of the Faculty Senate, and the delay in reinstating an analog exacerbates the above concerns of influence on policy. In the absence of a Faculty Senate, faculty clearly felt concerned about their ability to effect changes to alleviate these issues, and felt that many of these issues were being overlooked.

Another discovery of note is that many faculty members interviewed had indicated a desire to remain anonymous, citing the possibility of action against them as a result. Root causes for this seemed to stem from faculty/staff departures and other actions in which the

reasons were reported to be clashes with the administration, but for which, in most cases, very few details were released.

Opinions on the outlook of Rensselaer tended to vary amongst departments. Those involved with aspects of the *Rensselaer Plan* tended to view the outlook more favorably, which is a credit to the fulfillment of the goals outlined, as noted by the positive comments from David Spooner, interim Dean of the School of Science.

Many faculty members interviewed had indicated a desire to remain anonymous, citing the possibility of action against them as a result.

Hiring Practices

Hiring for new deans took place extensively from “outside” candidates. While this did not seem to affect faculty in the sense that they felt overlooked for the position, there was a clear frustration for the learning curve that these individuals had to endure—particularly given the high rate of turnover among the Deans—that someone from within the community would not have

Faculty Retention Effects on Student Academics

Concerns were raised regarding the student-to-faculty ratio. As the student-to-faculty ratio has gradually declined, particularly in certain schools and departments, faculty have cited the ratio as making it difficult to maintain a healthy balance between research and academics. It should also be noted that the ratio varies greatly from program to program (most notably being 40:1 in the MANE Department). This has led to a diminishing number of specialty courses being offered, offering advanced students less opportunity to differentiate in the later stages of their education.

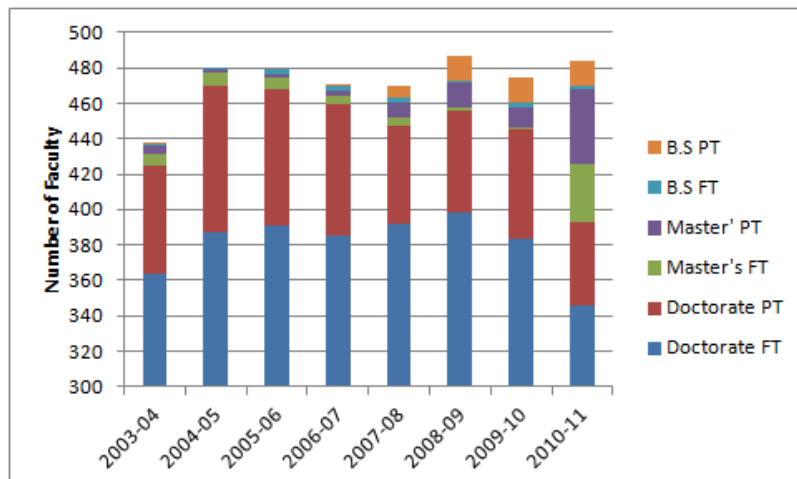
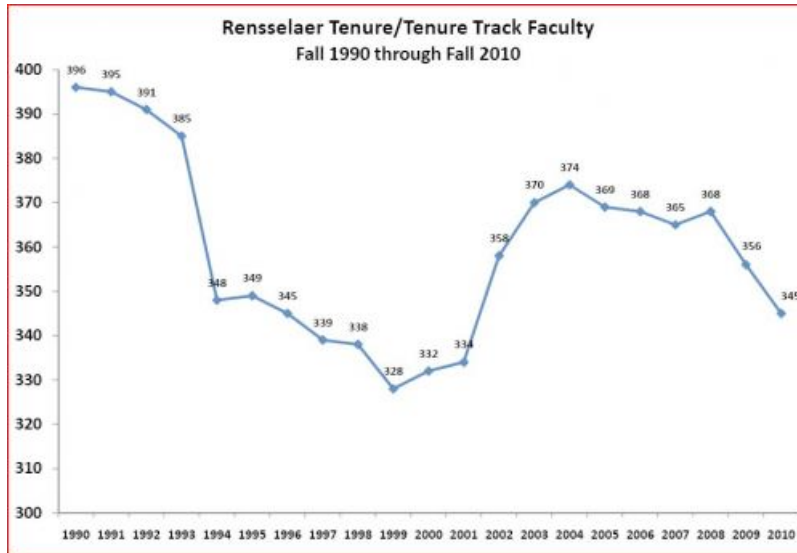
Data

The number of tenure track faculty has been declining somewhat steadily since 2004. As seen in the graphs below, this decrease in tenured/tenure tracked faculty has been coupled with a decrease in the number of doctoral faculty and an increase in the number of faculty with masters degrees.

Conclusions

The committee believes that there is a widespread positive view of many of the changes enacted at Rensselaer under the current administration's guidance, which represents a significant source of pride for the Institute. Faculty members acknowledge these positive changes that have been enacted, and the

*Number of Tenure/
Tenure-Track Faculty,
1990–2010.*



Total Number of Faculty and the breakdown of their degrees and positions, '03-'11.

more positive outlook of departments that have seen more directly the benefits of the *Rensselaer Plan* is indicative of the success of such efforts.

However, one of the clearest and most critical issues that needs to be addressed is the obvious disconnect between the administration and the faculty which it governs. Faculty feel that there is little awareness of their concerns, that there are few, if any, viable channels for voicing these concerns to the administration, and, in many cases, that they can expect negative repercussions for trying to raise these concerns, particularly when it would contradict or highlight problems with policies currently in place. As evidence of the validity of this latter concern, some faculty attributed the departure of key persons in administrative positions to these types of internal political repercussions. This perception serves to undermine confidence in the ability of existing channels to implement effective and necessary changes.

The committee must note that the widespread feeling of unease amongst the faculty, coupled with cost of hiring new faculty, as well as the realization that 42% of faculty leave to pursue greater opportunity, represents a difficult situation for Rensselaer. Additionally, the drastic S/F ratio in core departments such as MANE is troubling; for many, it is indicative of a decrease in emphasis being placed on core disciplines at Rensselaer, disciplines which attract some of our best students, and which have produced some of our most active alumni. The committee would recommend further study in order to investigate the implications this climate has in regards to attracting future students, student retention, and student intention to enter graduate education at Rensselaer. Additionally, the investigation what impact this atmosphere has on alumni giving seems merited.

The committee recommends that significant effort be spent addressing the concerns of the faculty. Without the ability to draw conclusions about individual inputs, the committee makes no statement in regard to validity of the faculty concerns described above, but does conclusively acknowledge that the climate that has been generated is not in the best interest of the Institute. The administration has chosen to bring the institute through a significant transformation, and has had to do so in difficult

economic times. This does not, however, mitigate the effects of the climate in which Rensselaer's constituents operate on the overall well-being of the Institute. The committee recommends that the practices in place to address the concerns of faculty be re-evaluated in order to ensure the productivity of the academic community, and the quality of the education the Institute can provide. The committee fully recognizes that it is a necessary component of transformative change to lead strongly, even when certain stakeholders are discontent. It is recognized equally, however, that a positive outlook and morale on the part of these stakeholders—in this case, the Rensselaer faculty—are vital to the long term implementation of such a transformation. As it stands, the faculty has become significantly

disenfranchised. If this is allowed to continue, the academic wellbeing of the institute, and therefore its ability to attract and retain students, as well as to produce active alumni who look favorably on their time at Rensselaer, will be negatively affected in a significant manner. The committee views remedial action in this area as a necessary step in ensuring that the positive benefits of the enacted *Rensselaer Plan* are seen.

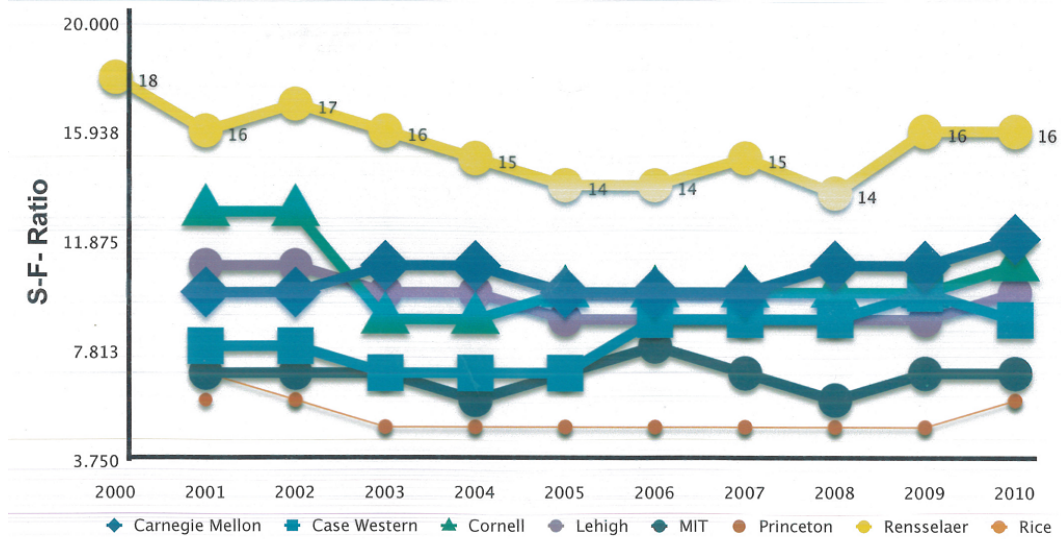


Chart showing the student-faculty ratio at RPI compared to the rest of our market basket. Lower is better.

CITATIONS:

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IV. INSTITUTIONAL FINANCE

“All the pay thus received by the treasurer, as for parts of courses of instruction, is to be paid over to...professors as the reward of their services.”

— Stephen van Rensselaer,
5 November 1824

Fiscal years (FY) at Rensselaer run from July 1st to June 30th of the following year. This means that Rensselaer is currently in FY 2012, which began on July 1st, 2011.

There were two sets of universities used for comparison in this document. The first was the “Market Basket” comparison. In Rensselaer’s annual data submission to IPEDS, the Institute defined a self-chosen set of 11 outside universities to be used for comparison purposes. The second set of universities used for comparison purposes was composed of the 30 universities with the closest endowment values—15 above and 15 below Rensselaer’s value. All of these universities can be found in Appendix A.

SOURCES

In order to do the financial data collection and analysis for this report, the Student Senate has researched a variety of sources of public financial information about Rensselaer. This section will provide a brief discussion about the most prominent sources used in this section of the report.

FORM 990S

An IRS Form 990, or the “Return of Organization Exempt from Income Tax”, is an annual information return required to be filed by organizations exempt from income tax under section 501 of the Internal Revenue Code if their annual gross receipts equal or exceed \$200,000 or their end-of-year assets equal or exceed \$500,000 [1.b]. Rensselaer Polytechnic Institute and Rensselaer Hartford Graduate Center, as 501(c)(3) organizations, annually file this information with the IRS.

Much information can be gained from a Form 990, such as basic facts about the Institute, its activities, board members, revenue vs. expenditures, assets vs. liabilities, and compensation, among other information. [2.a]

As the RPI Fiscal Year ends on June 30st, the filing deadline is on November 15th with a first extension deadline of February 15th. [1.a] Because of this, this report will use data from Form 990s through FY 2010, the most recent publicly available form.

The IRS states under the Purpose of Form that “[s]ome members of the public rely on Form 990 or Form 990-EZ as their primary or sole source of information about a particular organization. How the public perceives an organization in such cases can be determined by information presented on its return. Therefore, the return must be complete, accurate, and fully describe the organization’s programs and accomplishments.” [1.b] Thus, while this report does not rely exclusively on the data contained in these forms, they do present a “complete [and] accurate” picture of the financial state of Rensselaer.

HIGHER EDUCATION PRICE INDEX (HEPI)

As described on their website,

The Higher Education Price Index (HEPI) is an inflation index designed specifically to track the main cost drivers in higher education. It is an essential planning tool for educational managers, helping schools to understand the future budget and funding increases required to maintain real purchasing power. HEPI is issued annually by Commonfund Institute and is distributed free of charge to educational institutions.

HEPI is a more accurate indicator of changes in costs for colleges and universities than the more familiar Consumer Price Index. It measures the average relative level of prices in a fixed basket of goods and services purchased by colleges and universities each year through current fund educational and general expenditures, excluding research.

HEPI is compiled from data reported and published by government and economic agencies. The eight categories cover current operational costs of colleges and universities. These include salaries for faculty, administrative employees, clerical employees, and service employees, fringe benefits, utilities, supplies and materials, and miscellaneous services. [3]

Raw figures in any of the previously mentioned areas mean very little without context, so HEPI is very useful in factoring in inflation and external economic conditions.

DATA SETS

From the Rensselaer website, “[t]he primary mission of the institutional research office is to facilitate the systematic collection, maintenance, analysis and reporting of institutional information, as well as comparison of this information with peer institutions, and to support Institute planning and decision-making.” [4] The Office of Institutional Research has a wealth of data available about Rensselaer’s raw numbers, and there are a number of publicly available reports that present this data in useful ways.

The first of these is RPI’s Common Data Set. The common data set is an initiative put forward by various groups that often use basic facts about a higher education institution in order to complete their mission—particularly *US News and World Report*, CollegeBoard, and Petersons—with the goal of improving the ease of collection, quality, and accuracy of critical information about a higher education institution. [5] The Common Data Set includes some basic information about the institution as well as enrollment and persistence data, first-year and transfer admissions data, academic offerings, student life, annual expenses, financial aid, and faculty resources. [5.a]

For more detailed information, this report also examined data from the Integrated Post-Secondary Education Data System (IPEDS), a data repository hosted by the U.S. Department’s National Center for Education Statistics (NCES), which contains information about all higher education institutions that participate in federal student aid programs as per the Higher Education Act of 1965. IPEDS considers itself “the primary source for data on colleges, universities, and technical and vocational postsecondary institutions in the United States.” According to their website, “IPEDS provides basic data needed to describe — and analyze trends in — postsecondary education in the United States, in terms of the numbers

of students enrolled, staff employed, dollars expended, and degrees earned.” It collects and organizes information in seven key areas: institutional characteristics, institutional prices, enrollment, student financial aid, degrees and certificates conferred, student persistence and success, and institutional human and fiscal resources. [6]

Although the sources above provide a wealth of information, it’s often difficult and time-consuming to extract the most crucial data points reported by the Institution and compare them over time or to a market basket of Rensselaer’s competitors. For that, this report turned to another publicly available source, The Chronicle of Higher Education: Facts & Figures. This resource publishes a plethora of data reports targeting student, faculty, administrative, and financial concerns. This puts the raw data into a more useful context, allowing the user to compare data against peer institutions or over time. It also draws attention to exceptional data and provides some rudimentary analysis. [7.a]

“College Search” websites and books, such as Princeton Review, CollegeBoard.com, and CollegeResults.org, also provide a straightforward way to compare data from Rensselaer against itself and other peer institutions. Designed for “policymakers, counselors, parents, students, and others”, these resources pull data from IPEDS and the Common Data Set and put it into an intuitive format that facilitates data analysis. [8]

CREDIT RATING

A credit rating is a quantitative and qualitative analysis of the credit worthiness of an issuer of debt. In short, it evaluates an institution’s projected ability to meet its overall and specific fiscal commitments. A credit rating is issued by a credit rating agency, the most prominent of which are Standard & Poor’s and Moody’s. The credit rating for a higher education institution is determined by considering a variety of factors, including demand, finances, management, and debt [9.a] or market position, operating performance, balance sheet and capital invest-

[A credit rating] evaluates an institution’s projected ability to meet its overall and specific fiscal commitments.

ment, governance and management, and legal security and debt structure [10.a].

While the rating itself as well (as the stability of the rating) do give professional insight into Rensselaer’s fiscal stability and current condition, perhaps more valuable is the report that accompanies decisions made by these credit rating

agencies. These reports include discussion justifying the assigned ratings as well as the current strengths and challenges facing the institution, among other topics. [10.b]

PERFORMANCE PLANS

Performance Plans are produced annually by each department and division as a way to unify Rensselaer around accomplishing the goal set forth in the *Rensselaer Plan*, “to achieve greater prominence in the 21st century as a top-tier world class technological research university with global reach and global impact”, as well as achieving the “We Will” statements contained within the Plan. While the *Rensselaer Plan* is a “comprehensive, complex, and ambitious” plan, the Performance Plans break down the vision and signature thrusts into SMART goals, turning an overarching vision into an action plan. [11][12] These plans often contain measurable data and departmental interpretations of data and trends, which make them very valuable to this report.

ADDITIONAL LITERATURE

Beyond these basic sources, additional literature was consulted in the creation of this section of the report. This includes articles from sources such as the Times Union, Bloomberg, and Chronicle of Higher Education as well as journals such as Research in Higher Education. These sources provide dialog and interpretation of data that provide a guide for proceeding in this report.

Basics of Institutional Finance

The most recently filed information return covered almost \$600,000,000 in gross receipts [1.c]; it's clear that the concept of "Institutional Finance" is very complex. The purpose of this section is to collect the basic facts and do the basic analysis on Rensselaer's current financial state. This report will explore several ways to describe Rensselaer's financial activity with the goal of gaining a basic understanding of the financial state of the Institute. The first topic explored will be Revenue--how Rensselaer makes money--versus Expenditures--how Rensselaer spends it. The endowment value and spending will then be discussed, as it is a unique and important financial component of a University.

This report will then investigate several other components of Institute finance that are of particular interest to students and the university. The first is the cost of attendance, discount rate, percent of need-based aid met, and other topics regarding financial aid. Additionally, this report will discuss the endowment strength and growth at Rensselaer in comparison to peer institutions as well as Rensselaer's credit rating and the reasoning behind it.

REVENUE

Revenue is defined as the income a university generates annually through normal operations before any expenditures are considered. [2.b] A university is a complex organization, and as such, there are many ways in which it earns revenue. The total revenue can be broken up in many different ways in many different categories, but for the purposes of this report, revenue will be considered broken into the categories suggested by the United States Center of Educational Statistics.

Revenue can be broken down into five major categories with several subcategories: Tuition and fees, net of allowances; government appropriations; government grants and contracts; private gifts, grants, and contracts; and other revenues and investment returns. Additionally, each of these categories has three types of revenue in them: unrestricted, temporarily

restricted, and permanently restricted. Unrestricted funds are "not subject to limitations by a donor-imposed restriction", and thus the University is free to use these funds in effectively any way they need. Temporarily restricted funds are funds that are "subject to a limitation by donor specification regarding the use or time when they may be used (such as at a later time or after specified events have occurred)". Permanently restricted funds are funds that "must be maintained in perpetuity due to a donor-imposed restriction". [6]

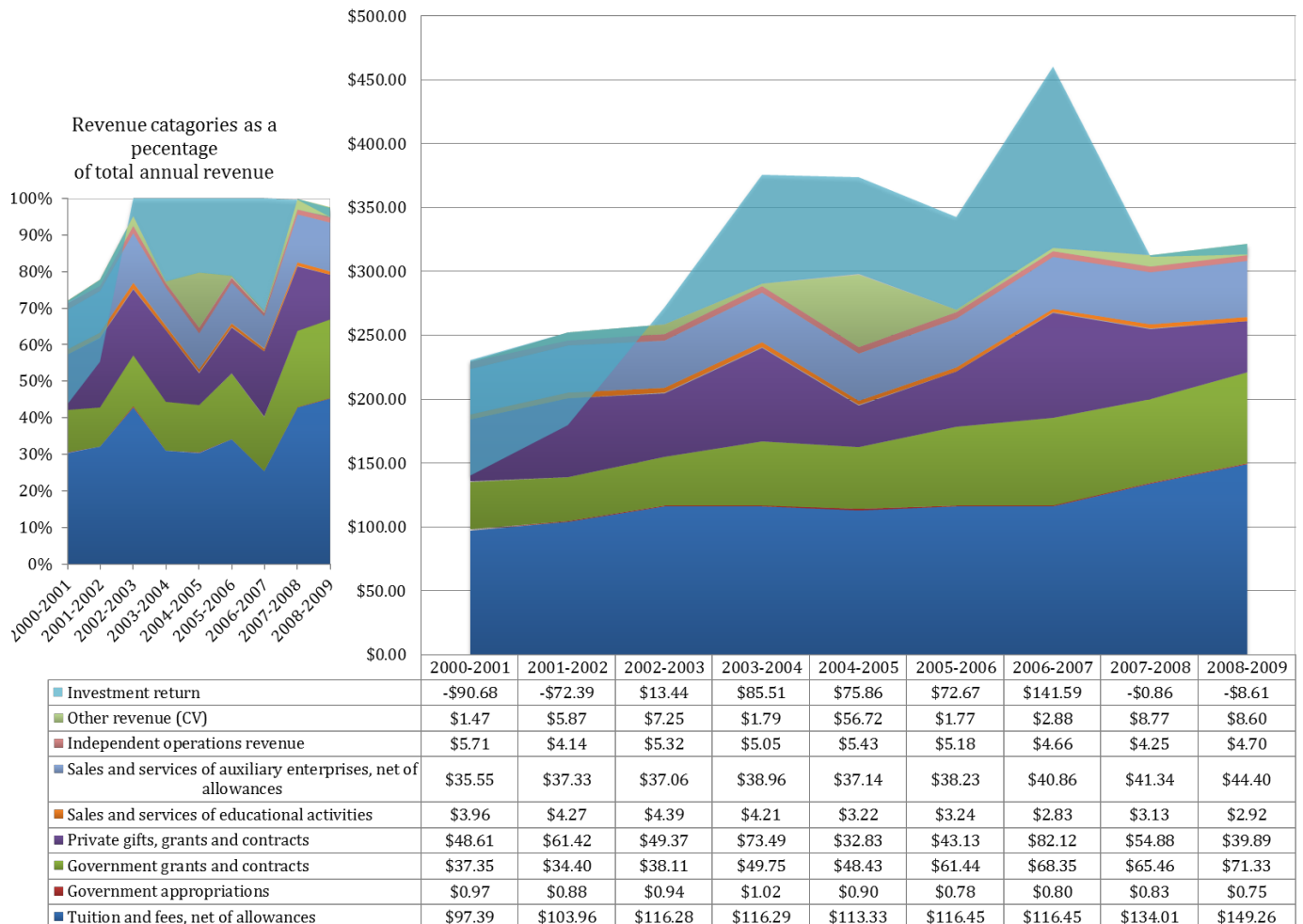
The first of these categories, Tuition and Fees, is defined as revenue from "the amount of tuition and educational fees [and] net of any allowances applied in the general purpose financial statements. Included in this amount are fees for continuing education programs, conferences, and seminars." Government appropriations are defined as "amounts received from the [federal, state, or local] government through a direct appropriation of [the legislature], except grants and contracts". These can be broken down into three subcategories: federal, state, and local appropriations. As can be seen from Data Table 1 in the Appendix, Rensselaer has not received any federal or local appropriations within the past ten years, so all "Government Appropriations" values on the following pages can be attributed to state appropriations. Government Grants and Contracts, also subdivided into federal, state, and local grants and contracts, "include all revenues from [federal, state, and local] agencies that are for specific undertakings such as research projects, training projects, and similar activities, including contributions from [federal, state, and local] agencies". This section also includes all student aid governmental grants when they are treated as student aid expenses, including the federal Pell and other similar grants. Private gifts, grants, and contracts "include revenues from private (non-governmental) entities including revenue from research or training projects and similar activities and all contributions (including contributed services) except those from affiliated entities, which are included in contributions from affiliated entities." In this section, Rens-

selaer's Institute Advancement operations and capital campaigns can be seen; the levels of restriction above (unrestricted, temporarily restricted, and permanently restricted funds) are very relevant to this section.

The last section, other revenues and investment return, is also the most complicated. It is composed of five subsections: Investment return, Sales and services of educational activities, Sales and services of auxiliary enterprises, Independent operations revenue, and other revenue. "Investment return includes the following amounts: all investment income (i.e., interest, dividends, rents and royalties); gains and losses (realized and unrealized) from holding investments (regardless of the nature of the investment); student loan interest; and amounts distributed from irrevocable trusts held by others (collectively referred to as 'investment return')." This includes "the profit

(or loss) from operations owned and managed as investments of the institution's endowment funds. Sales and services of educational activities includes all revenues derived from the sales of goods and services that are incidental to the conduct of instruction, research, or public service, and revenues of activities that exist to provide instructional and laboratory experience for students and that incidentally create goods and services that may be sold. Examples include film rentals, scientific and literary publications, testing services, university presses, dairies, and patient care clinics that are not part of a hospital. Sales and services of auxiliary enterprises includes the amount of revenues generated by the auxiliary enterprise operations, net of any tuition and fee allowances applied in the general purpose financial statements. Auxiliary enterprises are operations that exist to furnish a service to students, faculty, of staff, and that charge a fee that

Rensselaer Revenue Breakdown Over Time (in millions of \$) [6]

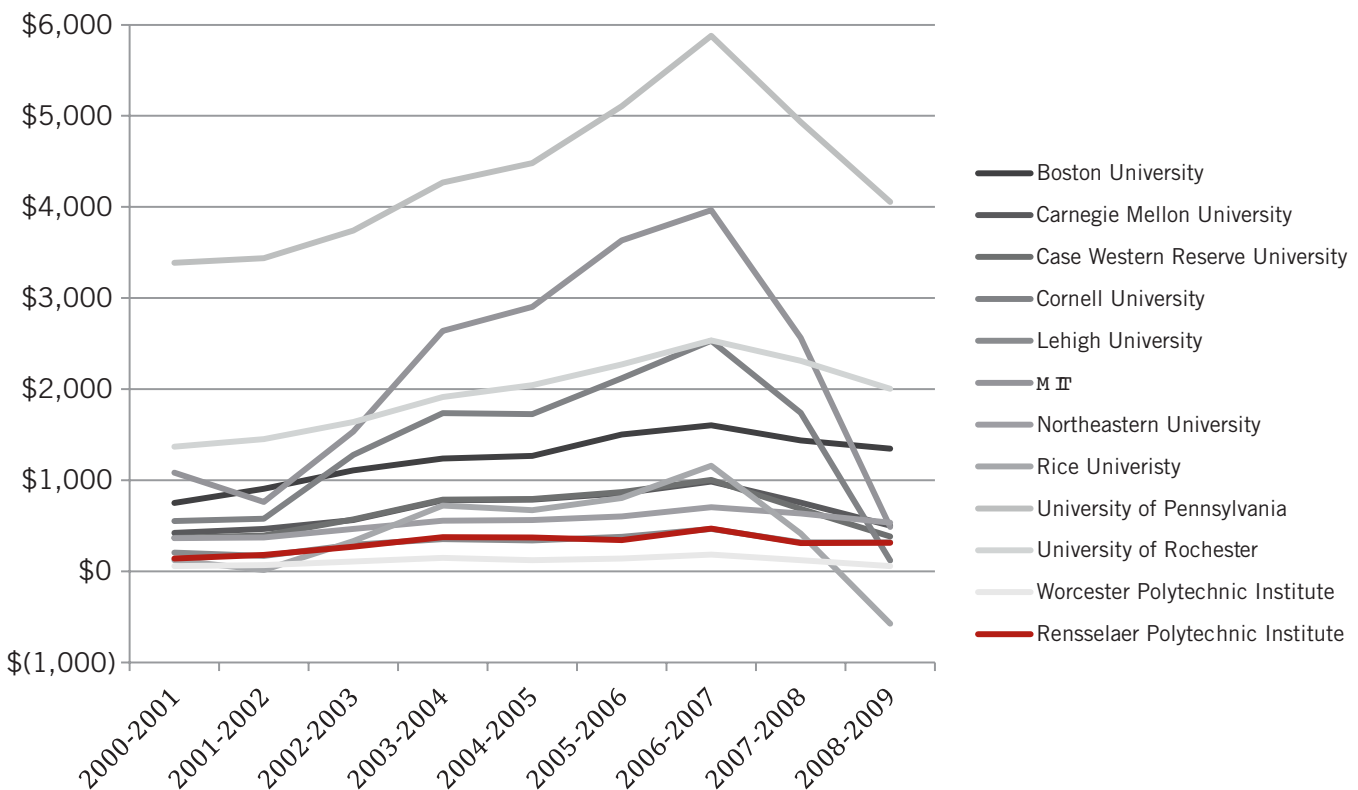


is directly related to the cost of the service. Examples of auxiliary enterprises are residence halls, food services, student health services, intercollegiate athletics, college unions, stores and movie theaters. Independent operations revenue includes all revenues associated with operations independent of the primary missions of the institution. This category generally includes only those revenues associated with major federally-funded research and development centers.” Other revenue includes all University revenue not reported in one of the categories above. [6]

On the figure titled “Rensselaer Revenue Breakdown Over Time” several pages forward, the trend over time (from approximately July 1, 2000 through June 30, 2009) of revenue composition is shown visually. While this figure is fairly straightforward, the “Investment Return” category on the top of the figure has some interesting characteristics. In 200--2002 and again in 2007–2009, this category reports a negative revenue—as discussed in the previous paragraph, this section includes

“the profit (or loss) from operations owned and managed as investments of the institution’s endowment funds”. [6] It’s clear that during these years, Rensselaer’s investments returned a loss, and although the reasons behind these are not clear, the time periods coincide with the “sub-prime mortgage crisis” in 2008 and “dot com bubble burst” of 2000. Referring to the figure “Market Basket Revenue”, in which Rensselaer’s revenue is compared against eleven peer institutions, it is clear that many other universities saw a similar drop in revenue (certainly investment and often net) at similar times, so Rensselaer is not an anomaly. Tuition consistently makes up between 30-40% of Rensselaer’s revenue, and advancement operations (private gifts) makes up approximately 15-20%. The other components of the endowment can be seen in the Revenue Breakdown figure below.

Market Basket Revenue (in millions of \$) [6]



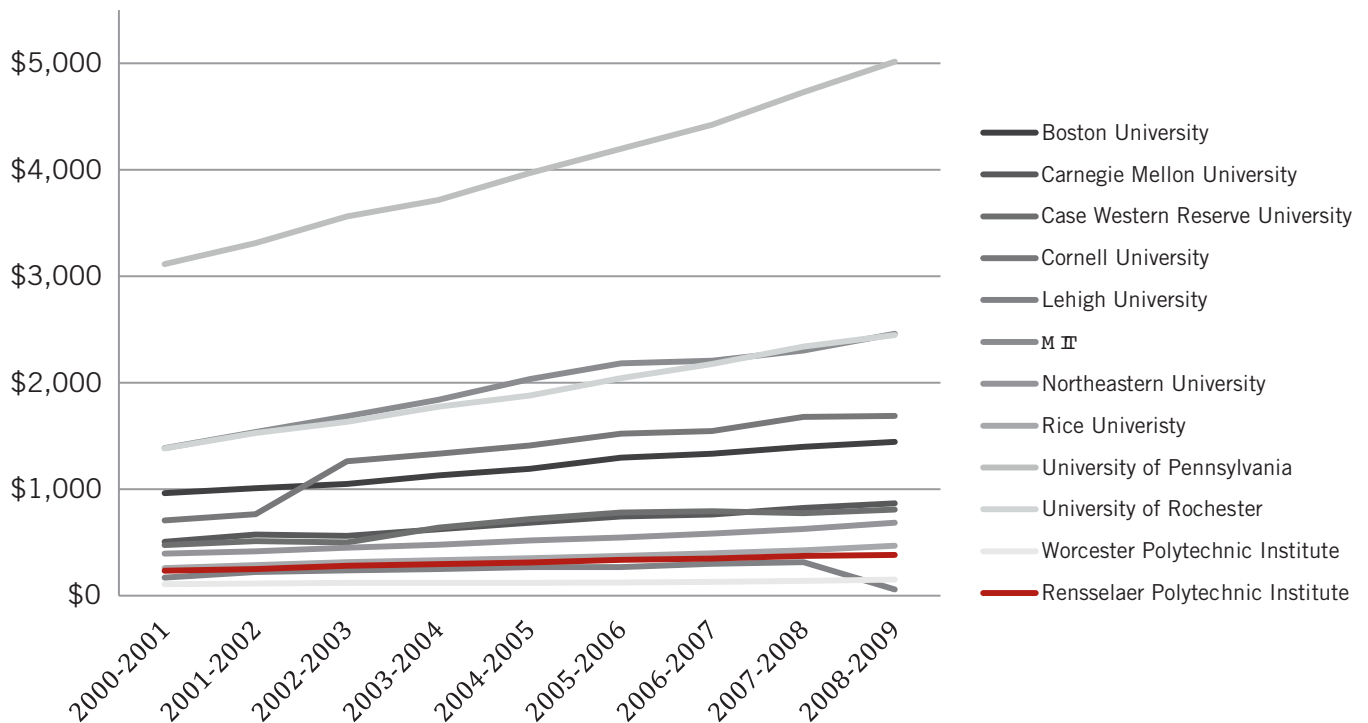
EXPENDITURE

Expenditures are the raw expenses to the Institute obtained in the course of operations. As the expenditures of the Institute are in the hundreds of millions of dollars annually, there are many different ways that expenditures could be categorized; however, for the purposes of this report, expenditures will be considered within the categories presented by IPEDS: chiefly Instruction, Research, Academic Support, Student Support, Institutional Support, Auxiliary Operations, Grant Aid to Students, and Independent Operations.

Instructional Expenses are defined as “all expenses of the colleges, schools, departments, and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted.” Research Expenses are “all expenditures for activities specifically organized to produce research outcomes, whether commissioned by an agency external to the institution or separately budgeted by

an organizational unit within the institution.” Academic Support Expenditures are defined as “funds expended primarily to provide support services for the institution’s primary missions (instruction, research, and public service) including: 1) the retention, preservation, and display of educational materials (e.g., libraries, museums and galleries); 2) the provision of services that directly assist the academic functions of the institution, such as demonstration schools associated with a department, school, or college of education; 3) media such as audiovisual services and technology such as computing support; 4) academic administration (including academic deans but not department chairmen) and personnel development providing administrative support and management direction to the three primary missions; and 5) separately budgeted support for course and curriculum development.” Student support includes “funds expended for offices of admissions and registrar and those activities whose primary purpose is to contribute to the student’s emotional and physical well-being

Market Basket Expenditures (in millions of \$) [6]

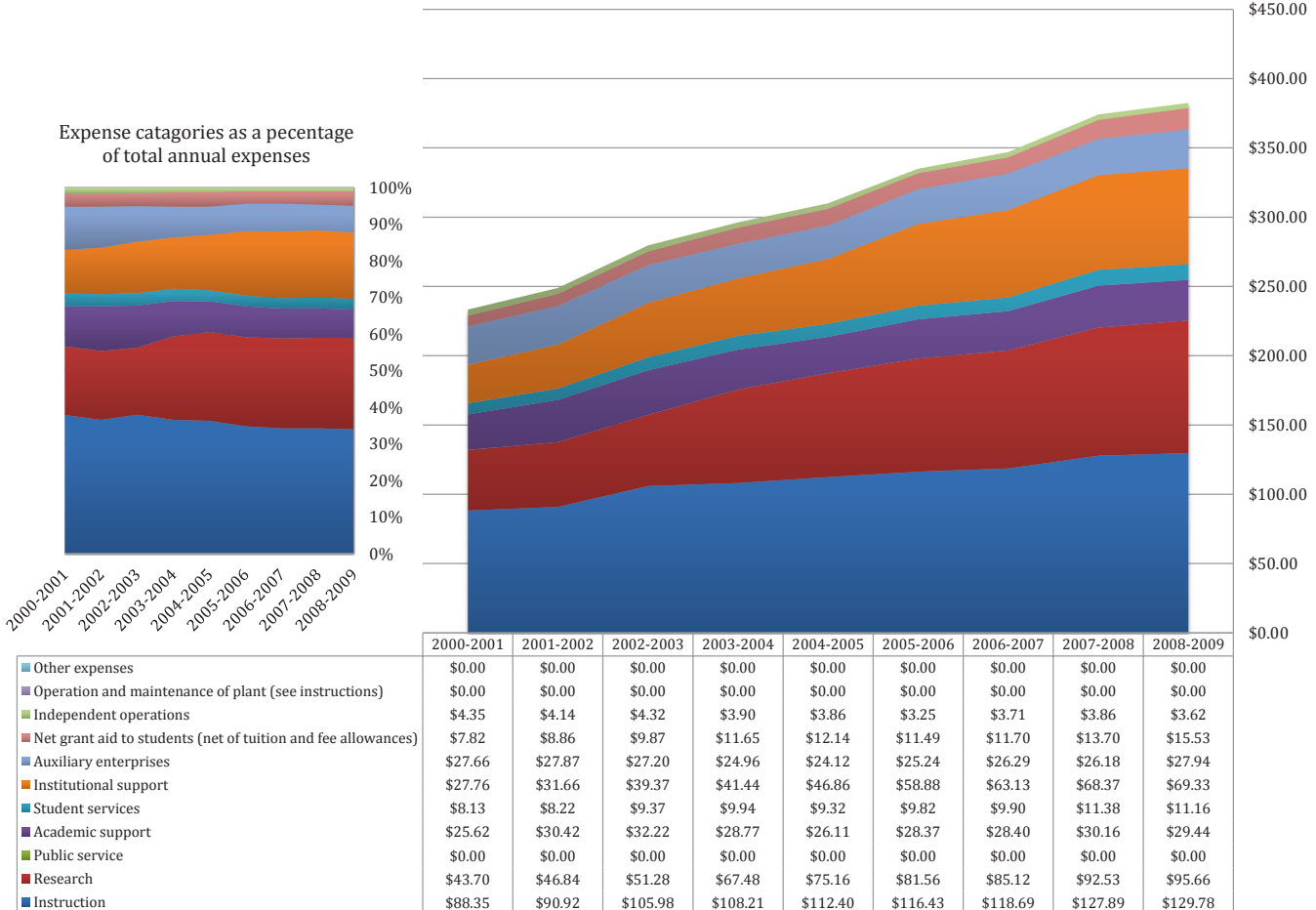


and to his or her intellectual, cultural, and social development outside the context of the formal instruction program.” Institutional Support expenditure includes “expenditures for: central executive activities concerned with management and long-range planning of the entire institution; fiscal operations; administrative data processing; space management; employee personnel and records; logistical activities that provide procurement, storerooms, safety, security, printing, and transportation services to the institution; support services to faculty and staff that are not operated as auxiliary enterprises; and, activities concerned with community and alumni relations, including development and fund raising.” Auxiliary Operations includes “entit[ies] that exists to furnish goods or services to students, faculty, or staff, and that charge a fee directly related to, although not necessarily equal to, the cost

of the goods or services. The distinguishing characteristic of auxiliary enterprises is that they are managed as essentially self-supporting programs.” Grant Aid to Students includes all forms of financial aid, both need and non-need, including scholarships, grants, fellowships, and loans.

Referring to the figure showing Rensselaer’s Expenditure Over Time, the expenditure amount has increased fairly steadily as a function of time. When looking at composition, it’s clear that the percent of expense spent on research and Institutional Support have increased while the amount spent on Instruction, academic support, and auxiliary enterprises has decreased slightly.

Rensselaer Expenditure Breakdown Over Time (in millions of \$) [6]



As can be seen in the Market Basket Expenditures figure on page 21, while there are some deviations in normal spending, for the most part, expenditures steadily increase. The rate at which Rensselaer's spending increases annually is slightly less than that of most peer institutions.

REVENUE VS. EXPENDITURE

It is often useful to look at the net revenue of an Institution, which is defined as the total expenditure subtracted from the total revenue. Negative net revenue means that the money obtained that fiscal year was less than the money spent (or lost on investments). There are many different places that this money can come from, such as the endowment (in the case of investment losses or endowment spending over the norm) or debt taken out by the Institute.

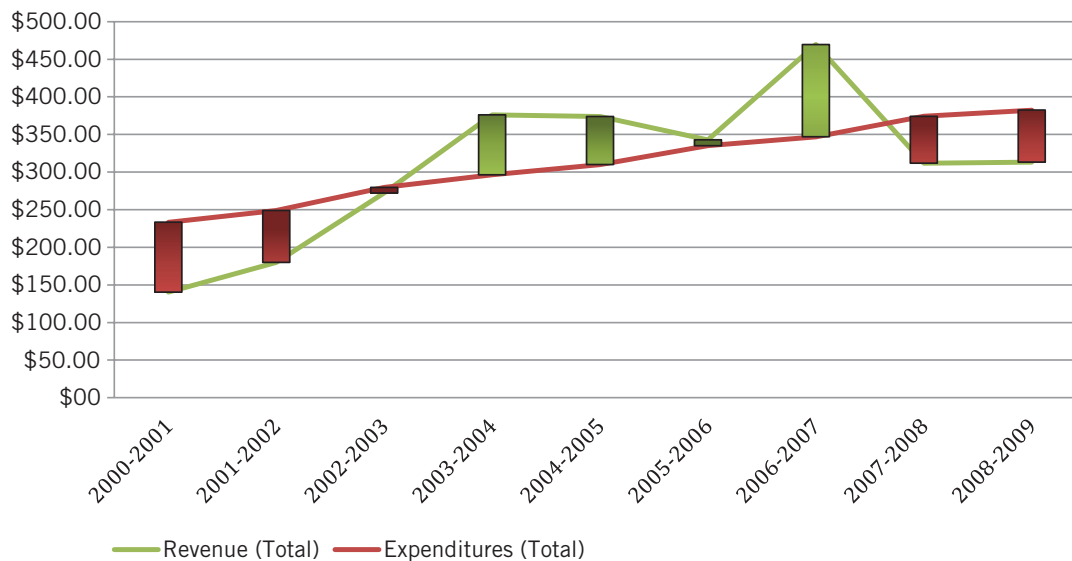
“sub-prime mortgage crisis”. In the period of July 1, 2000–June 30, 2009, the net deficit was approximately \$27,040,000. While more recent information from FY10 and FY11 are not publically available online through IPEDS, based on personal Senator meetings and other publically available information (such as reports delivered by credit reporting agencies), the Senate believes that these years also express a net deficit [9][10].

Comparing Rensselaer's net revenue to that of other market basket universities, it is clear that many of the overall monetary trends that Rensselaer is experiencing are common to other universities as well. As seen in the figure on page 24 titled “Net Revenue of Market Basket”, most of these Institutions experienced dip in net revenue around FY02, a peak in FY07, and another crash in FY09. Beyond the general

trend, another point of interest in this figure is the spending of the universities with the highest annual revenue and endowment. MIT, for example, is shown on the figure below as a dark brown line – it forms the outer bound on both the positive and the negative extremes. In FY07, for example, it had a net revenue of approximately \$1,750,000,000 while in FY09, it had a net deficit of approximately

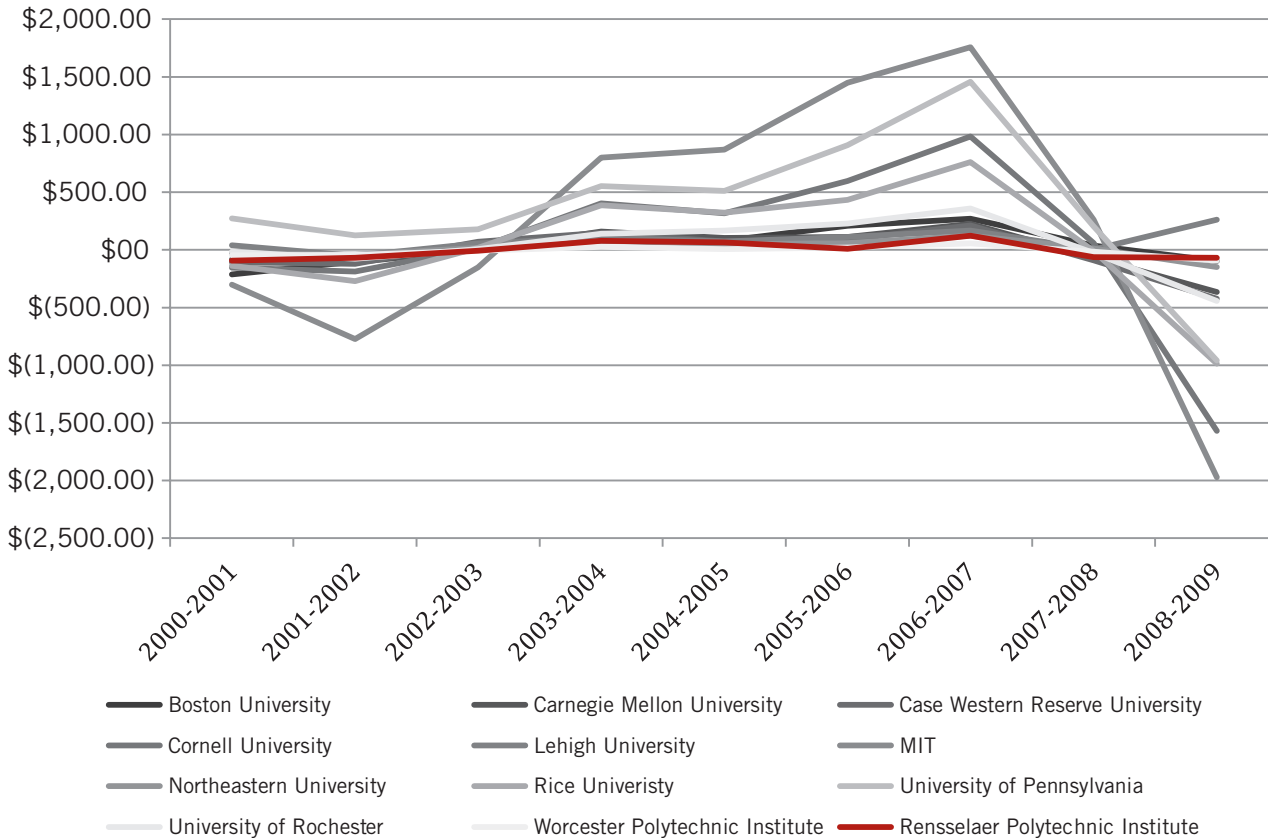
\$2,000,000,000. At the time of the latter, as can be seen from the previous figure displaying market basket expenditure, MIT's expenditure did not significantly decrease in the course of this fiscal year. The implications of MIT's actions (especially contrasted to how RPI handles finance) are very interesting and will be discussed during the conclusion.

Revenue versus Expenditures (in millions of \$) [6]



In the figure above titled “Revenue versus Expenditure”, it's clear that the total net revenue is very heavily affected by investment returns from the endowment. The net revenue is negative in FY01–FY03 and then again in FY08–FY09, and it is positive from FY04–FY07. As discussed previously, the periods in which Rensselaer runs a deficit correspond closely with the “dot-com bubble burst” and the

Net Revenue of Market Basket (in millions of \$) [6]



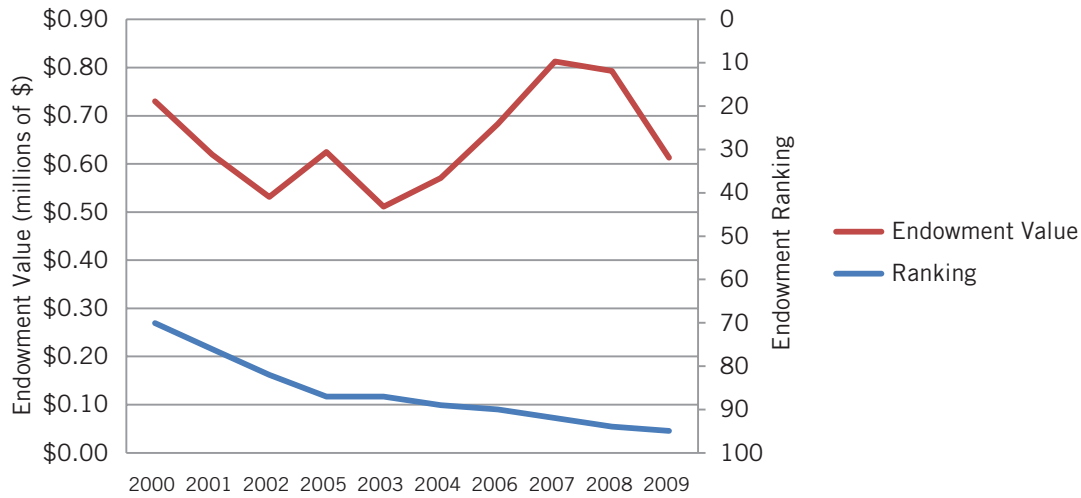
Another point of interest that can be taken from this data is the significance of the endowment in the financial picture of an Institution. First, the interest earned on the endowment has been in recent years a significant and extremely variable component of total revenue for the Institute, as can be seen in the Rensselaer Revenue Breakdown figure. The annual revenue from interest is very dependent on external, difficult to control scenarios. This means that the total annual revenue earned by a university would be very difficult to project long-term. Second, as can be inferred from the market basket net revenue figure, universities with a lot of revenue and, even more relevantly, a very large endowment see more extremes in their net revenue as interest comprises a much larger percentage of the total revenue in these cases. Also interestingly, like with MIT, many of these “wealthy” universities did not have a significant change in expenditure during these extremes.

Endowment Value & Spending

An endowment is the total amount of an Institution’s investments often comprised of money or property donated to an Institution. Gifts to the endowment may have restrictions on their usage, such as requiring a certain set of conditions (a certain passage of time or completion of a set of tasks, for example) to be filled before its usage, requiring it to be spent or invested in a certain way, or requiring the principal (initial contribution) to remain intact for a fixed time period or perpetuity.

The purpose of an endowment is to provide revenue through interest as well as provide financial security to the institution. This revenue can be general or restricted, such as in the case of endowed grants or professorships, in which the money funds a prespecified portion of the Institution.

Endowment Value (in millions of \$) and Ranking Over Time [7.a]



The figure above, Endowment Value and Ranking Over Time, displays Rensselaer's endowment value and endowment ranking (which ranks university endowment values) from 2000–2009. The endowment value is very similar to the revenue from interest figure above—it lost value after 2001 and 2008 and it gained value in 2006. Rensselaer's endowment ranking is perhaps more interesting as it somewhat normalizes the data (since every university faced the same external financial conditions).

Rensselaer has been steadily declining in this ranking, falling from the low 70s in 2000 to nearly 100 in 2009 with respect to its peers.

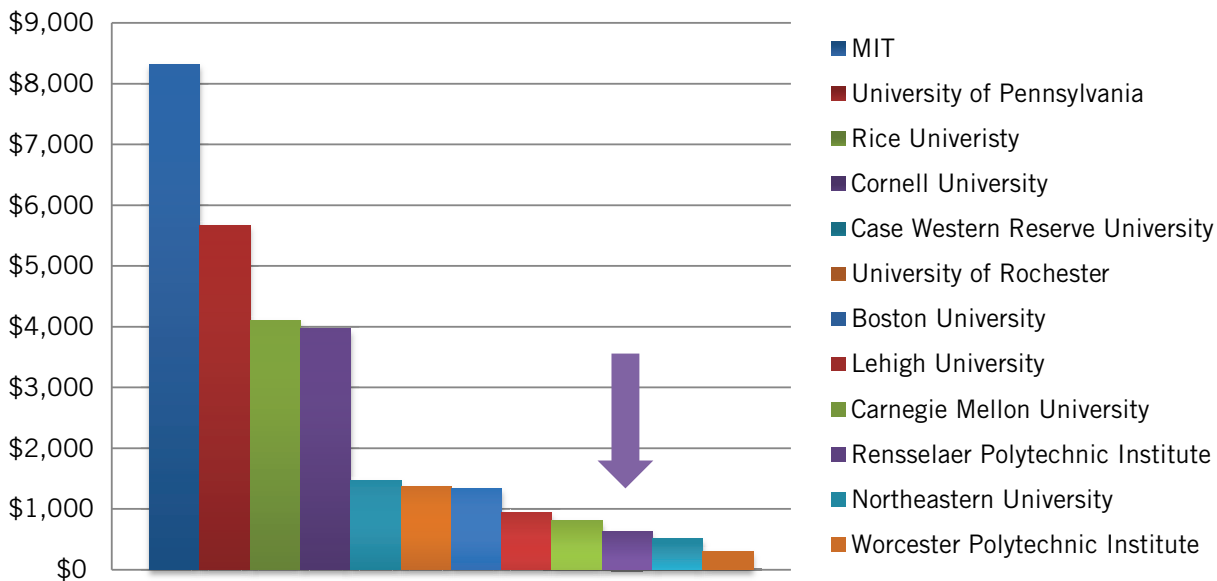
The market basket used in previous comparisons was found to be not very useful for comparing endowment values. As seen in the Market Basket Endowment Values figure below left, Rensselaer is in the very low end of endowment size in

this comparison, with only two universities having lower endowment values.

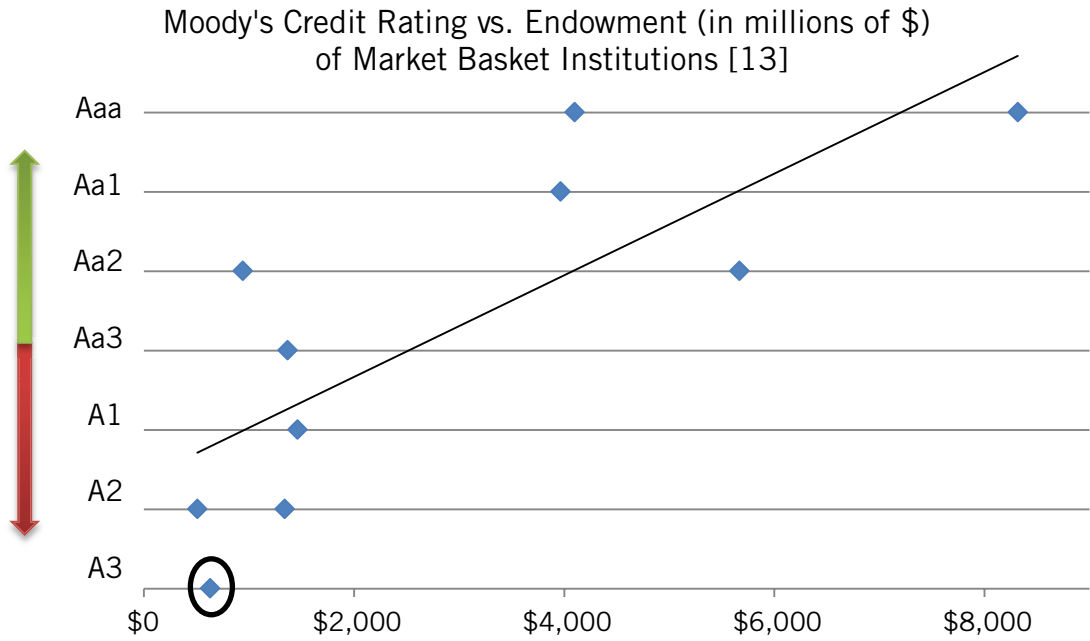
One useful metric to look at in a University when trying to understand its financial situation is the credit rating of the university. These scores are released by credit rating agencies such as Moody's or Standard & Poor's. As stated before, a credit rating is a quantitative and qualitative analysis of the credit worthiness of an issuer of debt. In short, it evaluates an

institution's projected ability to meet its overall and specific fiscal commitments. There are a variety of components to the credit score, both qualitative and quantitative, as discussed previously. However, it's clear that a university with a billion dollar endowment has a distinct advantage over a university like Rensselaer with a more moderately sized endowment in terms of ability to

Market Basket Endowment Values (in millions of \$), 2010 [13]



meet financial commitments. The figure, right, Moody's Credit Rating vs. Endowment of Market Basket Institutions, shows a comparison of credit rating to endowment size. Rensselaer, at an A3, has the worst score of its market basket, and the general downward trend of universities with lower endowments receiving lower scores is seen.



In order to gain a better understanding of Rensselaer's position in relation to its financial level, the following figure, Credit Rating vs. Endowment Value in Similarly Endowed Universities, compares Rensselaer's credit rating to that of the thirty most similarly endowed universities (fifteen with greater endowment values and fifteen with smaller endowment values).

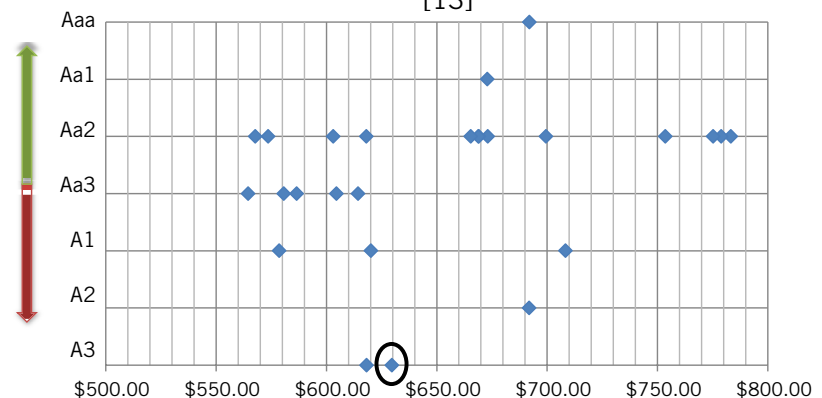
This figure shows the spread of credit rating versus endowment size of other similarly endowed universities. From this figure, it appears that most of these universities have a credit rating of Aa2-Aa3, with no universities with larger endowments that were recorded having lower credit ratings. One other university (the University of Miami) also has a rating of A3, and no university in this set has a credit rating lower than A3.

In order to gain a better understanding of the distribution of scores over this sample, the figure on the next page, Credit Rating Frequency in Universities with Moderate Endowments, shows a frequency chart of the data presented in the previous figure. This sample is composed of 31 universities and foundations with endowment sizes ranging from \$564,591,000 (Pepperdine University) to \$783,225,000 (Middlebury College). As can be seen from this figure, the bulk of the

data points are concentrated in the Aa2 and Aa3 ratings, with the most frequent rating (the mode) as well as the middle rating (median) being Aa2.

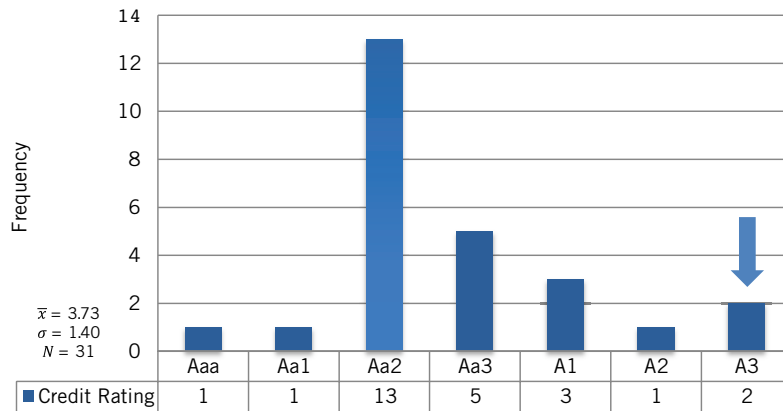
In order to gain more understanding of this distribution, numerical values were assigned to each rating, such that Aaa had a value of 1, Aa1 had a value of 2, and so on until A3 at a value of 7. Using this scale, the mean is 3.73, which is approximately a score of Aa3, and the standard deviation is 1.4. This means that A1 is one standard deviation below the mean and A3 is two standard deviations below the mean. This means that Rensselaer's credit rating of A3 is two standard deviations below the mean in similarly endowed universities. It's also useful to note that all of the universities

Credit Rating vs. Endowment Value (in millions of \$) in Similarly Endowed Universities and Foundations [13]



and foundations listed were also affected by the sub prime mortgage crisis in 2008 and other external factors, so the economy cannot be considered the sole reason behind the difference in credit ratings.

Credit Rating Frequency in Universities with Moderate Endowments [13]



Credit Rating

This discussion leads well into the next topic of consideration: Rensselaer's credit rating. As stated before, Rensselaer has a credit rating of A3, stable by Moody's, reaffirmed in August, 2011, and A-, stable by Standard & Poor's, downgraded in July, 2011. [9.b] [10.c] In order to make a decision on credit ratings, the agencies consider a vast array of both qualitative and quantitative information, including demand, operating performance, balance sheet and capital investment, governance and management, and legal security and debt structure. For more information on what a credit rating means and the components of the rating, please see the "Credit Rating" subsection of the "Sources" section earlier in this report.

Both Moody's and Standard & Poor's provided a short summary of the reasoning behind their rating decisions as well as the strengths and weaknesses that each agency saw for the financial future of Rensselaer. From Moody's, "Rensselaer's A3 long-term rating reflects the Institute's role as a technological research

university with an improving student market position at its Troy, NY campus, counterbalanced by high leverage and multi-year supplemental endowment draws contributing to Moody's-calculated operating deficits. The stable outlook reflects an expectation of continued slowdown in capital and borrowing needs compared to prior years, and ongoing focus on improved operating performance and reduced annual endowment spending. The A3/MMIG2 rating on the Series 1997 variable-rate demand bonds reflects Moody's assessment of the Institute's management of its self-liquidity program, with its own investments with daily liquidity available to support the tender feature of these bonds." [10.c] From Standard & Poor's, "The downgrade reflects [their] assessment of RPI's low financial resources compared with the rating category and the institute's continued reliance on extraordinary draws from the endowment... The rating outlook, which [they] revised to negative in April 2010, is stable." [9.b] To summarize this overview for both agencies, Rensselaer has a growing demand and reputation, however both agencies were concerned about its low financial resources, high leverage, and heavy endowment draws.

Moody's shares the key indicators (based on FY10 financial data) and other information on which it based its decision. These indicators help to describe the overall financial state of the Institute:

- **Rensselaer's Rated Debt Outstanding:** approximately \$701,000,000
- **Fall 2010 Full-Time Equivalent (FTE) Enrollment:** 6,479 FTE (Fall 2009 FTE: 6,627)
- **Pro-Forma Direct Debt:** \$806.5 million, including anticipated \$40 million bank private placement in fall 2011
- **Comprehensive Debt in FY 2010 (including operating leases and defined benefit pension liability):** \$873.7 million
- **Total Financial Resources:** \$435.7 million
- **Total Cash and Investments:** \$642.9 million

- **Expendable Financial Resources to Pro-Forma Direct Debt:** 0.21 times
- **Expendable Financial Resources to Operations:** 0.4 times
- **Unrestricted Monthly Liquidity:** \$180.4 million
- **Monthly Days Cash on Hand:** 180 days
- **Three-Year Average Operating Margin:** -7.3%
- **Three-Year Average Debt Service Coverage:** 0.9 times
- **Reliance on Student Charges (Tuition, Fees, and Auxiliary Revenue):** 55.9%
- **Reliance on Endowment Spending, by Moody's calculation:** 9.8% [10.b]

There were also several recent developments that played into the most recent credit rating decision. One of these developments was Rensselaer's recent transition from variable rate to fixed rate bonds, which distances the University more from the turbulence of the outside economy. Moody's considers this a positive thing for the Institute, although it expresses concerns about the unrestricted liquidity and draws on lines of credit during the year. "In FY 2010, the Institute refunded the vast majority of its outstanding variable-rate demand debt, including large sums of bank loans. As a result, the Institute's amount of variable rate debt (prior to swaps) declined significantly, which is a credit positive given the Institute's weak operating performance and recent declines in unrestricted financial resources. This reduced amount of demand debt is an improvement over prior years but continues to be a concern given the Institute's thin unrestricted liquidity at points throughout the year (\$6 million of working capital with monthly liquidity reported as of June 30, 2010). Further, the Institute draws on lines of credit for seasonal cash flow, particularly during summer months prior to receipt of fall semester tuition revenue." Additionally, in fall 2011, the Institute expected to incur an additional \$40 million debt in order to fund its defined benefit pension plan

program. This legacy program, which has been closed to new entrants since 1993 in favor of the current defined contribution pension plan, specified a pension plan with a fixed payment determined by a variety of factors (including length of tenure, highest salary, and other factors) independent of external economic conditions. From Moody's report, "[b]ased on the draft agreement, [Moody's] expect[s] that downgrade of the Institute below investment grade would constitute an event of default, which could allow for acceleration of the debt. In FY 2010, the Institute recognized a \$101 million accrued pension liability on its balance sheet representing the amount the plan was underfunded. Proceeds of this debt issuance will be used to make a pension contribution and reduce the unfunded pension liability." Counting positively for the Institute, Moody's reported a recent increase in student demand, representing a very positive trend, with "management reporting an 8% increase in freshmen applications in fall 2011 and a resulting 39% freshmen selectivity rate (compared to nearly 50% in fall 2007). Management reports an expectation of reaching a target fall 2011 freshmen class of 1,200 students which would equate to a freshmen matriculation ratio close to 22% (compared to nearly 26% in fall 2007)." However, Moody's is very concerned about the declining Hartford enrollment and revenue and attributes this to the weak economy. Last, Moody's states its concern that "[t]he Institute's balance sheet has become increasingly leveraged over the past 10 years...Financial resources declined in FY 2010, which is unusual for a year when endowment performance was strongly positive, partly as a result of a growing pension liability, ongoing supplemental endowment draws, and a relatively low endowment return." However, despite multi-year operating deficits, "by Moody's calculation, operating performance improved in FY 2009 and 2010, with these two most recent audited years representing a significant improvement in operating cash flow... The FY 2012 budget shows another year of a supplemental endowment draw, but ongoing improvement in operating performance

is budgeted as a result of expense containment and increased focus on growing unrestricted gift revenue. FY 2012 is the last year that the Board has approved a supplemental endowment draw in support of the strategic plan.” [10.b]

In the following two subsections, the specific strengths and weaknesses laid out by each agency will be summarized.

STRENGTHS

- Strong demand trends, with a substantial increase in applications for the past five years [9.c]
- Healthy student market position as a technological research university, with its main campus located in Troy, NY. In fall 2010, the Institute enrolled 6,479 full-time equivalent students, 83% of whom were undergraduate students. Research expenses grew to \$115 million in FY 2010, up over 40% compared to FY 2006. [10.b]
- Net tuition revenue and net tuition per student have demonstrated strong growth, with \$25,359 net tuition per student in FY 2010 and a 33.6% consolidated tuition discount which has remained relatively flat in recent years. [10.b]
- Completion of a transformative capital plan and a successful \$1.4 billion fundraising campaign, which ended in 2008 [9.c]
- Completion of major capital spending program, with management reporting no major capital projects on the horizon and no anticipated borrowing for capital in the next two years, although we expect an additional \$40 million of debt in the next two months with proceeds used to make a contribution to the defined benefit pension plan. [10.b]
- Good endowment market value of approximately \$611 million as of May 31, 2011 [9.c]
- Diverse revenue stream, with student tuition and fees accounting for 52% of operating revenues. [9.c]

WEAKNESSES

- Very low financial resource ratios for the rating category [9.c]
- High maximum annual debt burden [9.c]
- High operating and balance sheet leverage, with \$806 million of pro-forma direct debt, including an expected \$40 million bank private placement in fall 2011 with proceeds to be used to fund a defined benefit pension plan. Including this expected debt, debt-to-revenue will increase to a very high 2.1 times, and expendable financial resources in FY 2010 would provide weak 0.2 times coverage of debt. [10.b]
- Thin operating liquidity at certain points throughout the year and reliance on operating lines of credit for seasonal cash flow needs. As of June 30, 2010, management reported a very thin \$6 million of working capital invested in assets with monthly liquidity. [10.b]
- Multi-year operating deficits by Moody’s calculation (7.3% three-year average operating deficit in FY 2008–2010) as a result of sizeable investments in faculty and programs as part of the Institute’s long-range strategic plan. These investments have required board-approved supplemental draws from the endowment. However, Moody’s calculation of the Institute’s operating performance has improved in recent years, with 9.7% cash flow margin and nearly 1.5 times debt service coverage achieved in FY 2010. [10.b]
- High endowment spending draws to support operations, which are expected to continue through fiscal 2012 [9.c]
- Variable, but mostly balanced operating results on a generally accepted accounting principles basis (GAAP) with the support of endowment draws [9.c]

- Enrollment challenges and declining tuition revenue in FY 2011 at the Institute’s Hartford, CT campus which offers graduate degrees and programs for working professionals. Management attributes the challenges to the pressured economic environment and some corporations scaling back on tuition support and benefits for employees. In FY 2010, the Hartford campus generated approximately \$11 million of net tuition revenue on a total Moody’s adjusted operating revenue base of close to \$387 million. [10.b]

FUTURE OUTLOOK

As stated previously, Rensselaer’s credit outlook for both agencies is stable, meaning that they do not expect to issue an upgrade or downgrade in the short term based on Rensselaer’s current financial situation. According to Moody’s, “[t]he stable outlook reflects the change in the Institute’s debt structure with reduced exposure to variable-rate demand debt and interest rate swaps and an expectation of ongoing improvement in operating performance with reduced endowment spending.”

Moody’s also set forward some situations in which the credit rating, although marked as stable, could increase or decrease. “Significant improvement of operating performance coupled with growth of financial resources to better support high debt levels” could make the rating go up, while “[l]ack of improvement of operating performance resulting in slowed growth of financial resources; continued spending of endowment well above industry norms; [or]

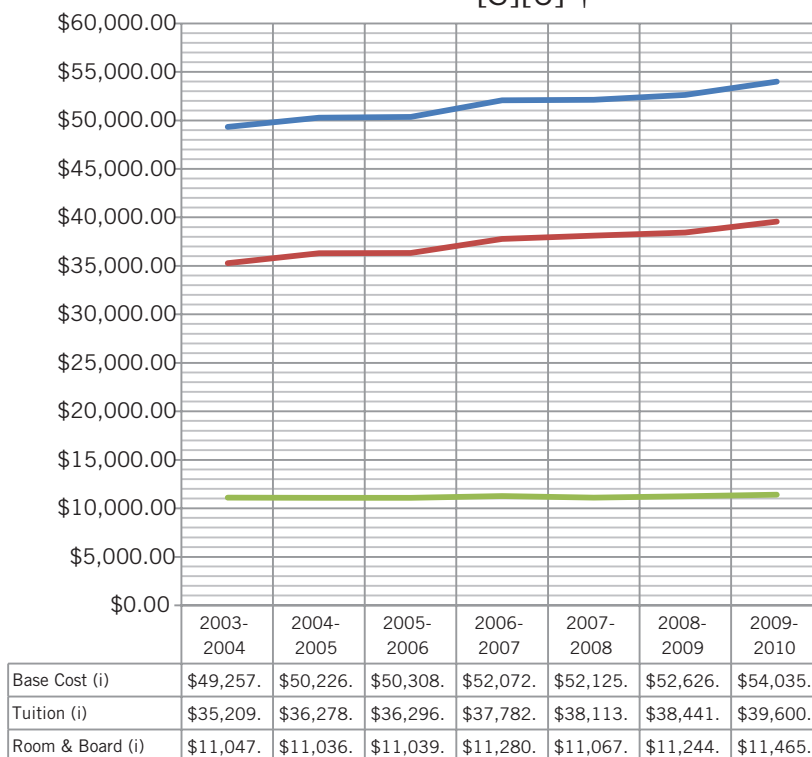
additional debt without growth of financial resources and generation of revenue to support debt service” could make the rating go down. [10.b]

Cost of Attendance & Financial Aid

The cost of attendance is probably the financial decision that most directly affects students. There are many components to examine in the study of cost of attendance, including financial aid distribution, change over time, comparison against peer universities, need-based versus non need-based aid, and percent need met compared to endowment size, among other factors.

The first thing that is useful to examine is the trend in cost of attendance for Rensselaer over time. The base cost of attendance can be considered the total annual cost of attendance at Rensselaer before scholarships or other deductions (including estimated book and supply costs, room and board, all necessary

Undergraduate Cost of Attendance (in \$) Over Time [3][6] †



† All values prior to FY2010 adjusted for inflation using the Higher Education Price Index [3]

fees, tuition, and other associated costs). The figure on the previous page, Undergraduate Cost of Attendance Over Time, shows the base cost of attendance, tuition, and room & board costs reported by Rensselaer from FY04-10 in 2010 dollars. These values have been corrected

	Seven-year Increase Average	Average Annual Increase	Seven-year increase (corrected for inflation)	Average annual increase (corrected for inflation)
Base Cost	33.4%	4.77%	9.7%	1.56%
Tuition	36.8%	5.26%	12.5%	1.99%
Room/Board	26.2%	3.75%	3.8%	0.63%

for inflation using the Higher Education Price Index (HEPI), so all increases shown are the increases in cost above inflation. In the chart below showing the percent increases of the different categories, it can be seen that the base cost of attendance has increased a total of 36.8%, or 9.7% above inflation, increasing at an average 4.77% per year (which is 1.56% annually above the value of inflation). This increase is driven primarily the percentage increase in tuition, which increases at a base rate of 36.8% annually (12.5% above inflation). Room & Board, by contrast, has a much lower annual increase at 26.2% (or 3.75% above inflation) annually.

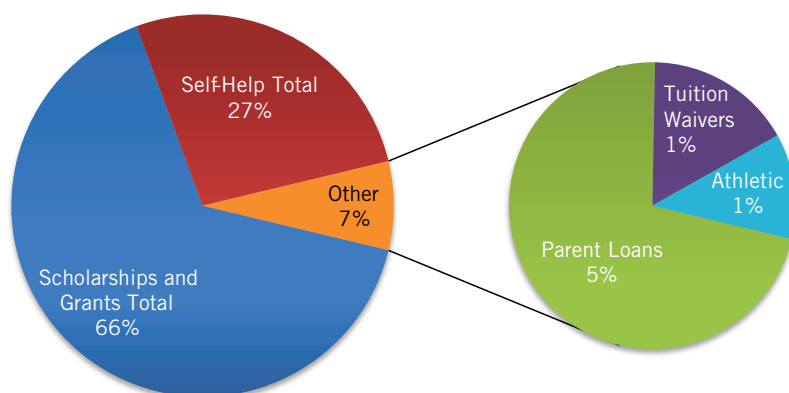
Financial aid comes in two major categories: Scholarship and Grants and Self-Help. Scholarship and Grants, representing 66% of student aid, encompasses all money given to students

without the expectation of repayment: Federal grants (such as the Pell Grant), State grants, Institutional grants, and other external grants. Self-Help, representing 27% of student aid, encompasses all aid given to students with the expectation of repayment in some form: student loans and work-study. There are additionally some other miscellaneous funding categories that make up approximately 7% of all student aid: parent loans (such as the PLUS program), tuition waivers, and athletic scholarships.

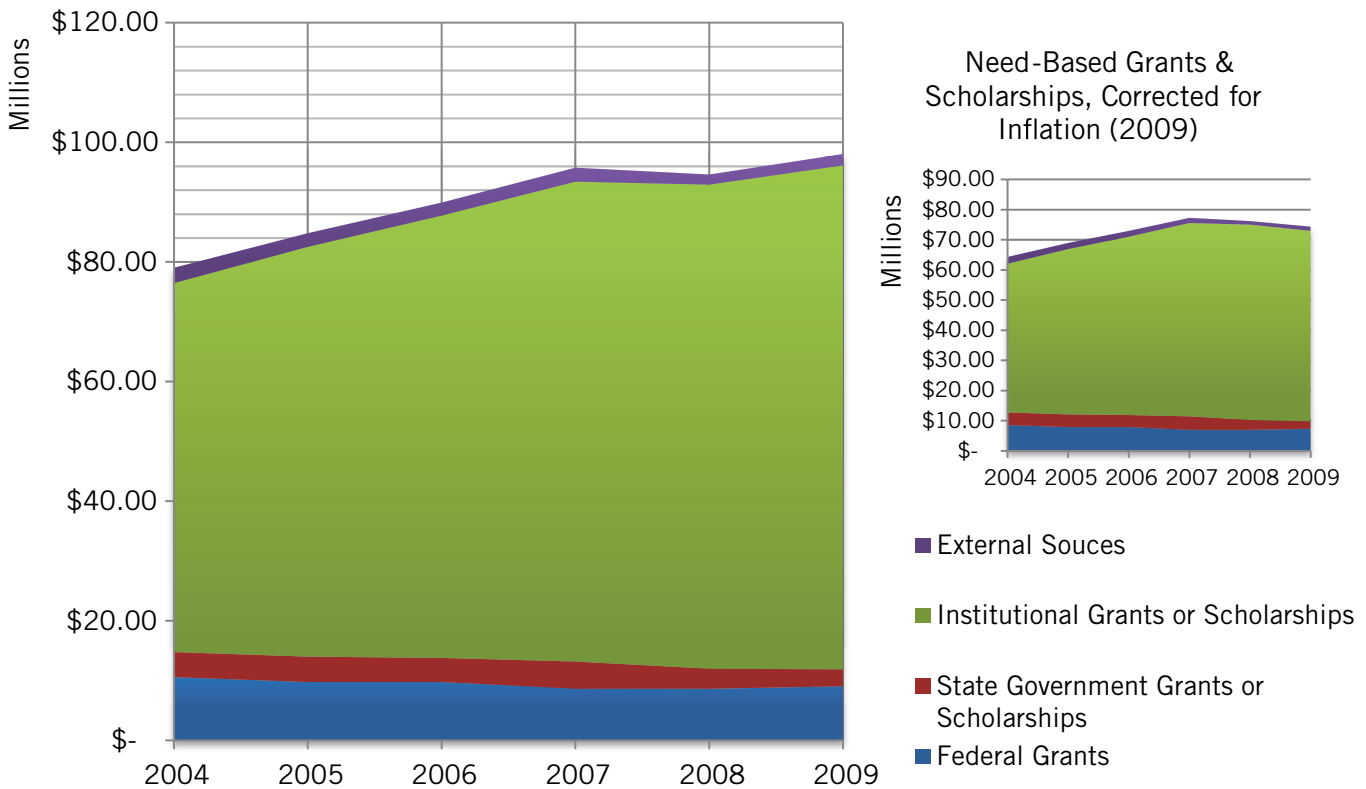
In order to gain an understanding of how much money has been going to student aid, the figure on the next page, Total Scholarships & Grant Sources, Corrected for Inflation, shows the amount of money from all sources in FY2009 dollars going towards scholarships and grants from FY2004-2009. As can be seen from this figure, the total amount was steadily increasing with respect to inflation at a rate of approximately 5% annually from FY04-07, which is much greater than the approximate 1.56% annual increase in the base cost of attendance above inflation. However, in FY08, scholarships and grants experienced a dip, making the three year average increase from FY07-09 0.78%, which is lower than the increase in cost. This appears to be largely due to reductions in scholarships and grants received from the Federal and State governments as well as external sources—the increase above inflation of Institutional grants and scholarships was much higher at 1.66%.

In addition to the breakdown of financial aid by source and type, the reported data was also subdivided into aid awarded because of determined need or merit (non-need). Financial need is determined by subtracting the expected family contribution (EFC), determined by the FAFSA, from the estimated cost of attendance. Students who have a lower EFC than the estimated cost of attendance are considered to have financial need. As stated during the Fall 2011 State of the Institute address during Reunion & Homecoming weekend, one of Rensselaer's goals is to move towards need-blind admissions, meaning that Rensselaer

Components of Financial Aid [4]



Total Scholarships & Grant Sources, Corrected for Inflation (2009) [3][4]



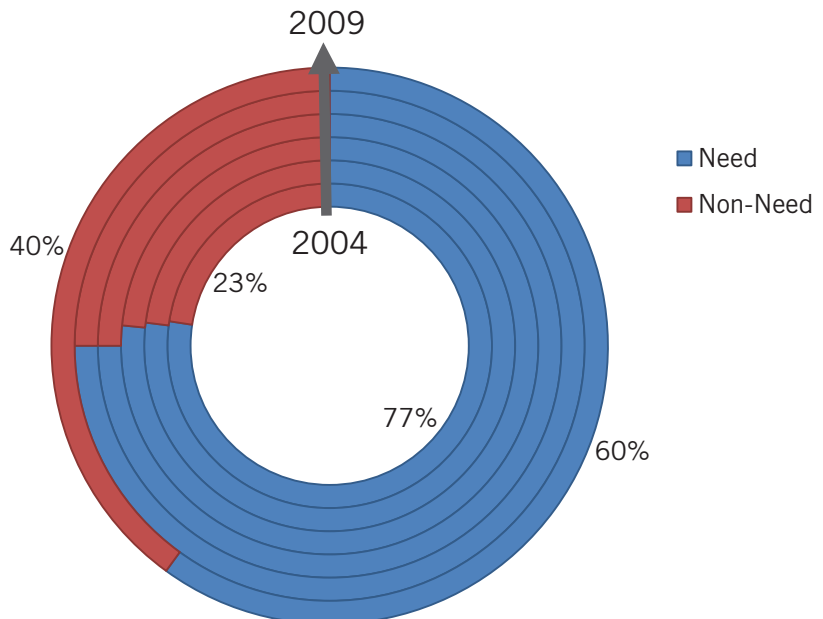
would admit applicants without any regard to financial situation and cover 100% of any determined financial need.

Based Aid in Scholarships and Grants, the percentage of need versus merit based aid from FY2004-2009 can be seen. Fairly consis-

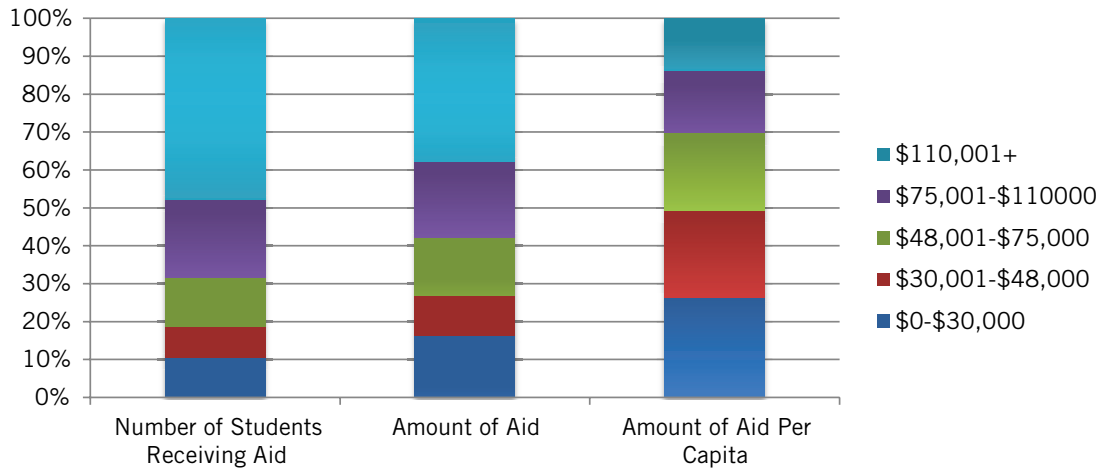
The smaller figure to the right of the total scholarship and grant aid figure shows the need-based scholarship and grant aid. Like the total aid, the need-based aid has a fairly steady annual increase above inflation of approximately 5.0% from FY2004-2007 at which point the annual need-based aid given through scholarships and grants actually decreases with respect to inflation at an approximate annual rate of -1.29%. Again, it is clear from the figure that this is in part due to a decrease in non-Institutional grants and scholarships which although still decreasing with respect to inflation, decreased at the lower rate of -0.52%.

It is also useful to look at how much of the student aid resources are dedicated to need-based as opposed to merit-based aid. In the doughnut chart right, Need Versus Non-Need

Need Versus Non-Need Based Aid in Scholarships and Grants [4]

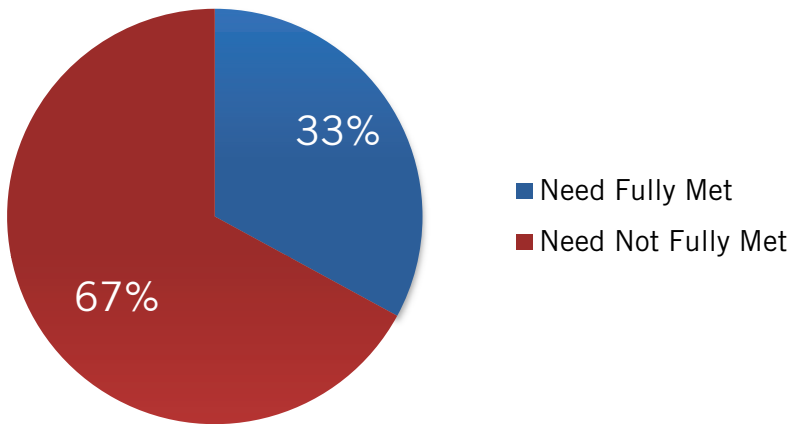


Aid Breakdown by Family Income Distribution [6]

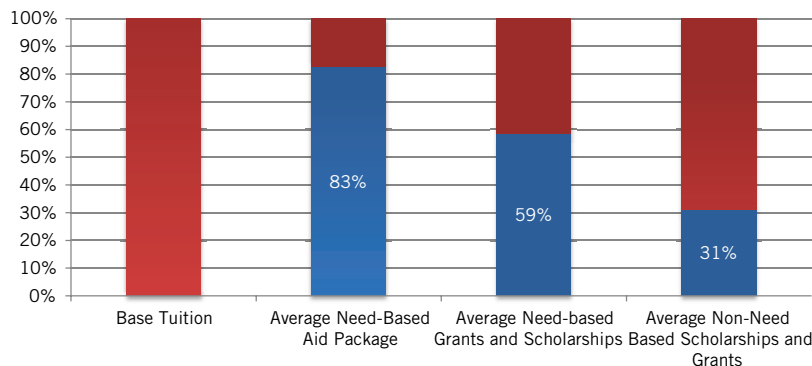


tently, approximately ¾ of student aid is need

Percent Need Met [4]



Average Financial Aid of Different Types [4]

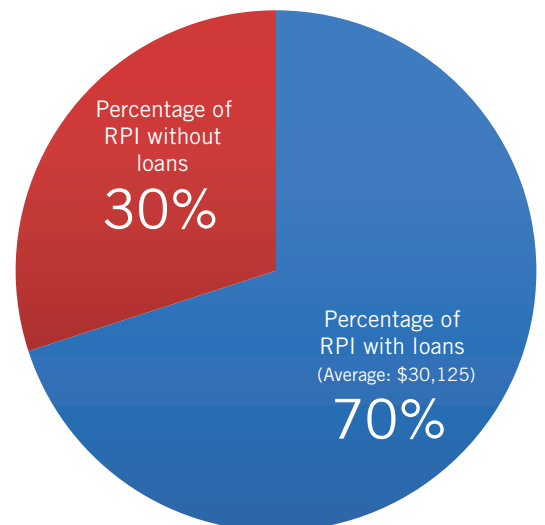


based while approximately ¼ is non-need based. The clear outlier is FY2009, during which 60% of aid was need-based while 40% was non-need based. Although no firm conclusion about the reason behind this spike can be drawn, it should be noted that this is the same year in which Rensselaer erroneously sent out “Rensselaer Medal winner” notifications

to several hundred students who had not actually won the scholarship; Rensselaer made the decision to award the students who received this notification non-need based Leadership Scholarships to these students in the amount equivalent to the value of the Rensselaer Medal, a minimum of \$15,000 annually.

According to the Common Data Set (using data from Fall 2010), approximately 73% of students apply annually for need-based financial aid and out of those who applied, 90% (or 66% of the whole student body)

Student Loans [4]



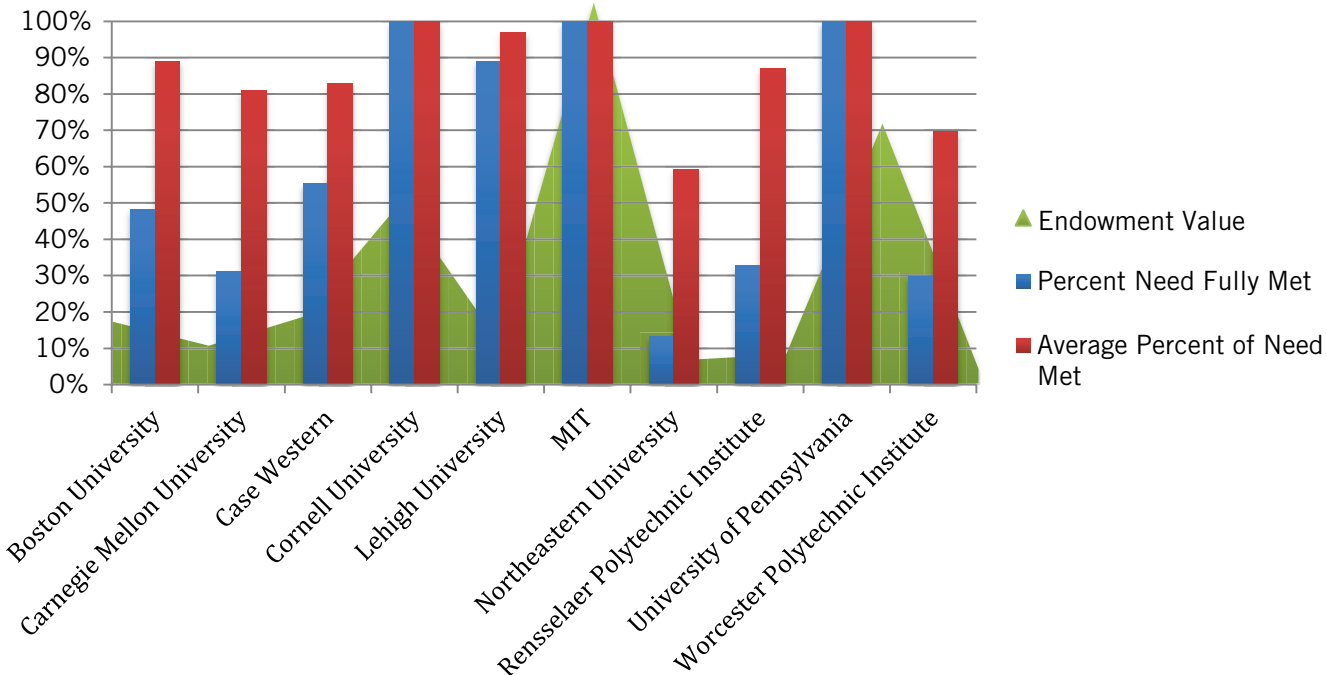
are determined to have financial need. Because of the number of students from a variety of socioeconomic conditions receiving need-based aid, it is useful to explore the amount of aid—both need and non-need—received by students depending on their income category. In the figure below, Aid Breakdown by Family Income Distribution, family income is broken into five categories: families making between \$0-30,000 annually, \$30,001-\$48,000 annually, \$48,001-\$75,000 annually, \$75,001-\$110,000 annually, and \$110,001 or greater annually. Three different stacked bar graphs are shown: first, the total number of students receiving aid within that family income category; second, the total dollar amount of financial aid distributed to all students within an income category; and last, calculated from the previous two values, the average amount of aid per capita received in each income category.

It can be seen that the majority of students receiving aid are financially well-off – nearly 50% of students have a family income over \$110,001 while only slightly over 10% have a family income less than \$30,000 annually. The distribution becomes slightly more even in the Amount of Aid section – the higher

income levels still receive more dollars in aid than the lower income levels due to the higher number of students that fall into that category, but as can be seen in the next section, Amount of Aid Per Capita, students in the lower family income levels receive much more aid on average than those in higher income levels, with the average student in the \$110,001+ category receiving about half the financial aid as an average student in the \$0-30,000 income category.

Another useful metric in determining where student financial aid is going is to consider the percent of the base tuition that different types of aid cover for the average student. In the figure below, Average Financial Aid of Different Types, three categories of financial aid (need-based total aid, need-based scholarships and grants, and non-need based scholarships and grants) were displayed in regards to what percentage of the base tuition amount the average financial aid package in that category covered. In this analysis, it's important to note that the base tuition value is not the total cost of attendance, which during the analyzed year was \$15,579 greater than the base tuition. The average need-based financial aid pack-

Need-Based Aid Met in Rival Institutions [4][13]



age, \$34,430, covers 83% of the base tuition (and 60.2% of total cost of attendance). This need-based package is composed of both self-help and scholarship money; the average need-based scholarship and grant package, discounting self-help, covered 59% of tuition at \$24,428. Last, the average amount given in scholarships and grants as merit (non-need-based) aid covered 31% of the base tuition cost at \$12,958.

It is also useful to examine how many students who were determined to have financial need had their determined need fully met. This is a metric discussed in the context of “need-blind admissions”, so it’s a very valuable measurement. One-third, 33%, of Rensselaer students determined to have need have their need fully met. This means that 67% of students have determined financial need that is not fully met through the reported sources.

Because of this, many students take out student loans in order to assist with the cost of attendance. As seen in the figure below, Student Loans, approximately 70% of Rensselaer students hold a student loans with the average amount among all current students being \$30,125.

As can be seen in the figure to the left, Need-Based Aid Met in Rival Institutions, Rensselaer’s values for percent need fully met and average percent of need met are fairly low compared to its competitors. However, when considering the university’s endowment size, there is a visible trend in which universities with much larger endowments are able to have a much higher percentage of students with need fully met.

Resources Cited

1. <http://www.irs.gov> IRS
 - a. <http://www.irs.gov/charities/article/0,,id=210784,00.html> Filing Calendar
 - b. <http://www.irs.gov/pub/irs-pdf/i990.pdf> Instructions for Form 990
 - c. FY02-FY10 Form 990s
2. <http://www.npccny.org/new990/new990-1.htm> (How to read the NEW form 990)
 - a. <http://www.npccny.org/new990/Intro.pdf> Intro
 - b. http://www.npccny.org/new990/Chapter_1.pdf Basic Facts about the Filer
3. <http://www.commonfund.org/CommonfundInstitute/HEPI/Pages/default.aspx>
4. <http://provost.rpi.edu/node/88> Office of Institutional Research
5. <http://www.commondataset.org/> Common Data Set General Information
 - a. http://www.commondataset.org/docs/2011-2012/CDS_2011-2012.pdf
6. <http://nces.ed.gov/ipeds/> IPEDS
7. <http://chronicle.com/>
 - a. <http://chronicle.com/section/Facts-Figures/58/>
8. <http://collegeresults.org/default.aspx>
9. <http://www.standardandpoors.com/>
 - a. <http://www.standardandpoors.com/prot/ratings/articles/en/us/?articleType=HTML&assetID=1245322588002> Higher Education Credit Ratings
 - b. <http://www.standardandpoors.com/ratings/public-finance/ratings-list/en/us/?entityID=283341&issueID=15963960>
10. <http://www.moodys.com/>
 - a. http://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBM_PBM134044 Higher Education Credit Ratings
 - b. <http://www.moodys.com/credit-ratings/Rensselaer-Polytechnic-Institute-NY-credit-rating-800032389>
 - c. http://www.moodys.com/research/MOODYS-AFFIRMS-A3-AND-A3VMIG-2-RATINGS-ON-RENSELAER-POLYTECHNIC-Rating-Update--RU_16966019
 - d. http://www.moodys.com/researchdocumentcontentpage.aspx?docid=PBC_79004 Ratings Explained
11. <http://docs.studentsenate.rpi.edu/documents/1000> 2010 Student Life Performance Plan
12. <http://www.rpi.edu/president/plan/> Rensselaer Plan
13. http://www.nacubo.org/Documents/research/2010NCSE_Public_Tables_Endowment_Market_Values_Final.pdf
14. <http://talk.collegeconfidential.com/college-search-selection/76444-links-common-data-sets-posted-colleges-24.html#post1063796699>

V. CONCLUSION

Upon thorough investigation of sources both inside and outside of RPI, the State of the Institute Committee determined that the current state and direction of RPI is complex and concerning. While the committee is impressed by the vision of RPI as a global research university with global reach and impact, it is concerned with some of the actions being taken to achieve this goal.

The most prominent concerns include the prioritization of constructing new facilities over maintaining older ones, the ability to succeed in future capital campaigns, RPI's relatively low credit rating, the student to faculty ratio, a perceived culture of fear among employees and faculty, the amount of time new initiatives spend waiting for Dr. Jackson's approval, the decline in rankings of the Engineering School, and a general concern on Dr. Jackson's ability to effectively implement RPI's visionary programs.

In order to achieve the prominent status desired by students and the administration alike, RPI will not only need to prepare students both for success in industry & academia, but will need to inspire students with a loyalty to RPI. Students who are disenfranchised are significantly less likely to support the school in future endeavors. The institute's vision for the future must be shared by the administration and students alike.

The Student Senate is proud to represent the vibrant student body at RPI. In this report, as in all official actions, the Senate aims to improve the student experience and represent the student voice to the RPI administration. With its talented students, renowned faculty, and rich history, RPI will always be one of the greatest technological universities in the world. It is with great pleasure that the RPI Student Senate serves this university and its students.

Based upon the research conducted for this report, the Student Senate found it necessary to recommend that further action be taken by the Rensselaer Polytechnic Institute Board of Trustees, starting with a review that goes beyond the limited scope of this report. Please see the motion below for the official position and recommendations of the Student Senate:

Whereas *the Student Senate is the chief representative body for Rensselaer students, thus giving it a vested interest in the present and future conditions for the Student Experience at Rensselaer Polytechnic Institute;*

Whereas *the Student Senate has conducted a thorough review and compiled a report of the current state and direction of the Institute based on data available to the public, as well as interviews with members of the RPI Community (including members of the President's Cabinet, faculty, students, staff, and alumni);*

Whereas the long term vision of the Institute as well as many of the steps that have been taken over the past 10 years to transform the shape and direction of the Institute are commendable;

Whereas, based on the findings of the report, the Student Senate is concerned with the current state of the Institute and our ability to meet the goals set out in the vision of the Rensselaer Plan as well as the ability to meet immediate fundraising and faculty hiring goals;

Whereas the Student Senate is particularly concerned with the broad sense of dissatisfaction and low morale among students, faculty, staff, and alumni, particularly the opposition to the direction of the Institute and President Jackson's leadership;

Whereas, the Student Senate is concerned by personal accounts from students, faculty, staff, and administrators, of President Jackson's leadership techniques, including top down leadership, abrasive style, existence of fear among staff and administrators, and lack of engagement on campus;

Whereas, based on these findings and concerns, the Student Senate is not confident that even if the leadership challenges were overcome, President Jackson has the rapport needed to rally the necessary support from the broad campus community towards the next phase of the implementation of the Rensselaer Plan;

The 42nd Student Senate hereby resolves:

To request a formal review of the current state of the Institute by the Rensselaer Polytechnic Institute Board of Trustees including confidential interviews with several constituencies, focusing on review of the impact of President Jackson's leadership style on the unity of vision and productivity of faculty and staff towards that vision; and

To request action be taken by the Board of Trustees to move Rensselaer Polytechnic Institute forward into the next phase of Rensselaer's transformation.

To request consideration by the Board of Trustees of the following possible courses of action:

a. Significant changes be made to the governance structure such that a formal Chief Operating Officer or the like is empowered to make necessary on-the-ground decisions so that President Jackson can focus on fundraising, branding, and long-term visioning;

b. A shift in strategy be made, including a public recognition of past challenges and a redoubling of commitment to bringing the campus together around the vision of the Institute, likely including some shift in structure to empower the Vice Presidents to make more decisions and take more individual action as well as a budget commitment to hiring a temporary director to lead this culture shift from the highest levels.

Finally, if the previous are determined to be ineffective in addressing the concerns outlined in this motion,

c. The removal of Dr. Shirley Ann Jackson as President of Rensselaer Polytechnic Institute.

So moved by Anasha Cummings '12

Seconded by Patrick Gilmartin '15

This motion passed with a vote of 11/7/0 on 28 November 2011.

APPENDIX A: BASIC INFORMATION

Table 1: Universities Used for Comparison

COMMON DATA SET PEER INSTITUTIONS:

Boston University, Carnegie Mellon University, Case Western University, Cornell University, Lehigh University, Massachusetts Institute of Technology, Northeastern University, Rice University, University of Pennsylvania, University of Rochester, Worcester Polytechnic Institute.

UNIVERSITIES AND FOUNDATIONS WITH COMPARABLE ENDOWMENT SIZES

University/Foundation Name	Endowment (in millions)	Percent Increase
Middlebury College	\$783.23	11.9%
University of Kentucky	\$778.89	11.8%
Texas Tech University System	\$775.22	14.0%
Bowdoin College	\$753.53	9.5%
University of Tennessee System	\$728.73	9.6%
Saint Louis University	\$708.35	9.7%
Vassar College	\$699.49	6.2%
Carnegie Institute of Washington	\$691.98	8.7%
The University of Tulsa	\$691.92	7.0%
University of Arkansas & Foundation	\$673.12	7.9%
The University of Maryland Foundation	\$672.87	10.7%
University of Louisville Foundation	\$669.04	11.6%
Washington State University	\$668.87	7.9%
University of Colorado Foundation	\$665.44	12.2%
University of Alberta	\$654.33	19%
Rensselaer Polytechnic Institute	\$629.73	2.8%
Brandeis University	\$620.20	11.0%
University of Miami	\$618.24	14.8%
Oberlin College	\$618.10	12.3%
Colgate University	\$614.36	9.5%
The Principia Corporation	\$607.26	14.7%
Santa Clara University	\$604.62	14.1%
Rutgers	\$603.08	10.7%
Berry College	\$592.31	6.1%
Macalester College	\$586.58	7.4%
Lafayette College	\$580.74	8.4%
Louisiana State University System	\$578.59	9.7%
Cooper Union for the Advancement of Science and Art	\$577.28	8.7%
Bryn Mawr College	\$573.67	9.9%
The University of Utah	\$567.81	10.6%
Pepperdine University	\$564.59	9.0%

APPENDIX B: RENSSELAER'S REVENUE & EXPENSES

Table 1: Revenue at Rensselaer Polytechnic
Institute Over Time [6]

Revenue by Functional Classification	2000-20 01	2001-20 02	2002-20 03	2003-20 04	2004-20 05	2005-20 06	2006-20 07	2007-20 08	2008-20 09
Tuition and fees, net of allowances	\$97.39	\$103.96	\$116.28	\$116.29	\$113.33	\$116.45	\$116.45	\$134.01	\$149.26
Government appropriations	\$0.97	\$0.88	\$0.94	\$1.02	\$0.90	\$0.78	\$0.80	\$0.83	\$0.75
Federal appropriations	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
State appropriations	\$0.97	\$0.88	\$0.94	\$1.02	\$0.90	\$0.78	\$0.80	\$0.83	\$0.75
Local appropriations	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Government grants and contracts	\$37.35	\$34.40	\$38.11	\$49.75	\$48.43	\$61.44	\$68.35	\$65.46	\$71.33
Federal grants and contracts	\$31.79	\$29.71	\$34.49	\$43.02	\$37.25	\$49.75	\$53.08	\$51.33	\$55.54
State grants and contracts	\$5.56	\$4.69	\$3.63	\$6.73	\$11.17	\$11.69	\$15.27	\$14.13	\$15.79
Local grants and contracts	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Private gifts, grants and contracts	\$48.61	\$61.42	\$49.37	\$73.49	\$32.83	\$43.13	\$82.12	\$54.88	\$39.89
Private gifts, grants and contracts	\$48.61	\$61.42	\$49.37	\$73.49	\$32.83	\$43.13	\$82.12	\$54.88	\$39.89
Contributions from affiliated entities	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other revenues and investment return	-\$43.99	-\$20.78	\$67.45	\$135.51	\$178.36	\$463.98	\$192.81	\$56.63	\$52.01
Investment return	-\$90.68	-\$72.39	\$13.44	\$85.51	\$75.86	\$72.67	\$141.59	-\$0.86	-\$8.61
Sales and services of educational activities	\$3.96	\$4.27	\$4.39	\$4.21	\$3.22	\$3.24	\$2.83	\$3.13	\$2.92
Sales and services of auxiliary enterprises, net of allowances	\$35.55	\$37.33	\$37.06	\$38.96	\$37.14	\$38.23	\$40.86	\$41.34	\$44.40
Independent operations revenue	\$5.71	\$4.14	\$5.32	\$5.05	\$5.43	\$5.18	\$4.66	\$4.25	\$4.70
Other revenue (CV)	\$1.47	\$5.87	\$7.25	\$1.79	\$56.72	\$1.77	\$2.88	\$8.77	\$8.60
Total revenues and investment return	\$140.32	\$179.87	\$272.15	\$376.05	\$373.85	\$342.89	\$469.51	\$311.81	\$313.22

Table 2: Expenditure at Rensselaer Polytechnic Institute Over Time [6]

Expenses by Functional Classification	2000-20	2001-20	2002-20	2003-20	2004-20	2005-20	2006-20	2007-20	2008-20
	01	02	03	04	05	06	07	08	09
Instruction	\$88.35	\$90.92	\$105.98	\$108.21	\$112.40	\$116.43	\$118.69	\$127.89	\$129.78
Research	\$43.70	\$46.84	\$51.28	\$67.48	\$75.16	\$81.56	\$85.12	\$92.53	\$95.66
Academic support	\$25.62	\$30.42	\$32.22	\$28.77	\$26.11	\$28.37	\$28.40	\$30.16	\$29.44
Student services	\$8.13	\$8.22	\$9.37	\$9.94	\$9.32	\$9.82	\$9.90	\$11.38	\$11.16
Institutional support	\$27.76	\$31.66	\$39.37	\$41.44	\$46.86	\$58.88	\$63.13	\$68.37	\$69.33
Auxiliary enterprises	\$27.66	\$27.87	\$27.20	\$24.96	\$24.12	\$25.24	\$26.29	\$26.18	\$27.94
Net grant aid to students (net of tuition and fee allowances)	\$7.82	\$8.86	\$9.87	\$11.65	\$12.14	\$11.49	\$11.70	\$13.70	\$15.53
Independent operations	\$4.35	\$4.14	\$4.32	\$3.90	\$3.86	\$3.25	\$3.71	\$3.86	\$3.62
Operation and maintenance of plant (see instructions)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other expenses	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total expenses	\$233.38	\$248.93	\$279.61	\$296.33	\$309.98	\$335.04	\$346.93	\$374.07	\$382.45
Prior year total expenses	\$0.00	\$233.38	\$248.93	\$279.61	\$296.33	\$309.98	\$335.04	\$346.93	\$374.07