# RECOMMENDED PLAN TO RETURN TO FULL-TUITION SCHOLARSHIPS

## PRESENTED BY THE FREE EDUCATION COMMITTEE OF THE COOPER UNION BOARD OF TRUSTEES

**JANUARY 15, 2018**

The Free Education Committee submits this “Recommended Plan to Return to Full-Tuition Scholarships” (Recommended Plan) to the Board of Trustees and the Financial Monitor as required by the Consent Decree. The Recommended Plan is not the final plan, it is a proposed plan which will now be reviewed by the Financial Monitor in its February 15, 2018 Annual Report and then put forward to a vote by the full Board of Trustees on March 14, 2018. Prior to issuing its Response, the Board will solicit input and comments from the community through in-person gatherings with staff, faculty, students, and alumni and an online email portal. Following the public comment period, review of the Financial Monitor’s Annual Report, and its own deliberations, the Board may choose to adopt some, most, or all of the Recommended Plan, and it may modify or supplement the plan with additional criteria, initiatives, or commentary.

## A MESSAGE FROM THE COMMITTEE

The Free Education Committee is pleased to submit this report to The Cooper Union Board of Trustees and the Financial Monitor appointed by the New York State Attorney General. It represents the culmination of our work to assess the current financial condition of The Cooper Union, the impact that tuition has had on the academic quality and reputation of the school, and the ways in which we believe the Board and Administration can pursue a return to full-tuition scholarships for all undergraduate students while maintaining Cooper Union's academic reputation and historic enrollment levels. The work has been hard — we have had robust debate, made difficult decisions, and sometimes met challenges in reconciling divergent views. At the same time, the Committee remained committed to the goals, eager to submit a carefully considered report, and proud to lead this critical work. We look forward to the Board's response.

The Committee would like to thank alumni, faculty, staff, students, and trustees who have committed their time and offered their ideas. While it would have been impossible to incorporate every individual suggestion, our community's commitment reinforced ours and fortified our resolve to confront the challenging issues. Our community's dedication to restoring full-tuition scholarships and the financial health of our beloved Cooper Union shone through in this process. We are grateful for it, and Cooper Union is stronger for it.

# EXECUTIVE SUMMARY

**Introduction**

Three years ago, our community was in disarray and severely fractured over the Board's decision to charge tuition. Two years ago, people on opposite sides of that fight came together on the Board to begin crafting a path forward in a new era of tuition and shared governance. One year ago, the Free Education Committee (FEC or Committee) declared its belief, after substantial analysis, that full-tuition scholarships could once again be achieved for all undergraduate students and that the FEC would work this year to significantly reduce the projected 22-year timeframe in a financially responsible manner. Nine months ago, the Board declared its unequivocal support of the FEC's goal, and last month the Board approved vision and mission statements which specifically articulate, as a goal, its desire to provide a free education for our students.

With this report, we are pleased to present an ambitious but realistic and credible plan that returns The Cooper Union for the Advancement of Science and Art (Cooper Union or Cooper) to a full-tuition scholarship model for all undergraduate students; that accelerates the timing for that return from 22 years to 10; and that provides for critical investments in our academic program and our physical plant.

In presenting this report, there are certain truths which must be acknowledged. First, we cannot return to free in the manner required by the Consent Decree — preserving all three schools at historic levels of enrollment — solely on the basis of budget cuts. While expense reductions are an important part of the plan, they alone cannot get us there in a timeframe acceptable to the Committee; the hole is simply too deep. Second, in addition to expense management, we will need to rely upon significant fundraising — from existing and new sources — to achieve our goals. Third, there are inherent risks in all plans, some of which we control, some of which we don't, all of which we must plan for as best we can by executing with discipline and a single-minded purpose to act responsibly. Finally, the FEC, the Board, and all Cooper Union stakeholders must forge a relationship based on trust or we will never be successful. We now have an opportunity to heal the wounds of the past, enact a responsible plan to return to full-tuition scholarships for all students, and act as responsible stewards of Peter Cooper's legacy — together. No one constituency group can do it alone. On behalf of the FEC and the Board, we invite the entire Cooper community to join in the effort to start a new chapter in Cooper Union's history.

**Summary of Recommended Plan**

Our recommendation is to begin the process of reducing net tuition by making incremental increases to scholarships as early as two years from now, provided we achieve fundraising, operating expense, and operating cash surplus targets as outlined below and detailed in Appendices A and B. This would be the first step in a well-considered plan to return to full-tuition scholarships for all undergraduate students within 10 years, with each year bringing greater reductions in net tuition, as we achieve critical financial goals with respect to operating cash surpluses and the fundraising and expense management that will help us achieve those surpluses.

## RECOMMENDED PATH TO RETURN TO 100% SCHOLARSHIPS ($000'S)

| | Cash Surplus/(Deficit) | Average Annual Scholarship Levels | |
|---|---|---|---|
| FY 2018 | (50) | 76% | |
| FY 2019 | 14,001 | 76% | |
| FY 2020 | 12,382 | 77% | In two years, begin reducing net tuition by increasing scholarship levels |
| FY 2021 | 12,231 | 77% | Continue to increase scholarship levels as we meet key financial goals to build Cooper Union's financial health (FY 2021–FY 2028) |
| FY 2022 | 12,290 | 78% | |
| FY 2023 | 12,952 | 79% | |
| FY 2024 | 12,985 | 80% | |
| FY 2025 | 11,118 | 83% | |
| FY 2026 | 10,528 | 86% | |
| FY 2027 | 9,933 | 89% | |
| FY 2028 | 13,726 | 93% | |
| FY 2029 | 16,033 | 100% | In 10 years, complete the return to full-tuition scholarships for all students |

The Committee believes that Cooper Union can generate these results through a combination of expense cuts, increased fundraising, increased earned revenue, and special initiatives, summarized as follows and detailed more fully later in the report:

- **Additional expense reductions, including rental costs for administrative offices, other non-personnel costs, and staffing and benefits costs**
- **Increased fundraising**
- **Increased earned revenue generated through more room rentals to outside parties, developing/increasing ancillary revenue streams (e.g., online store with Cooper merchandise), scholarship reductions for graduate programs, and market-rate dorm fees**
- **Higher, more favorable assumptions about the growth in tax equivalency payments, which remain conservative and are more in line with historic averages**

10

This plan:

- Returns Cooper Union to full-tuition scholarships in 10 years
- Invests in academics
- Invests in physical plant
- Builds financial health

2

We can begin increasing tuition scholarships in two years by meeting critical fundraising, operating expense, and operating cash surplus goals.

**Returning to full-tuition scholarships and building long-term financial health requires significant fundraising and rigorous expense management.**

**$250M**

**The financial climb is steep.**

| | |
|---|---|
| Operating and capital reserve | $152M |
| Deferred maintenance | $11M |
| Bridge loan payment | $39M |
| Post-Retirement health insurance | $48M |
| | $250M |

These revenue and expense improvements will be offset by a steady decrease in net tuition (the result of increases in tuition scholarships), investments in the academic program to ensure the vitality of our programs and increases in annual capital improvements.

Of course, plans are never certain. There are risks inherent in any plan that stem from both internal and external dynamics. The sections below detail the risks in this plan and the steps we believe should be taken to mitigate these risks. If we are not able to meet the financial goals above, we will need to adjust our timeframe accordingly.

We know from our many conversations with alumni, faculty, staff, and students that people hold a range of perspectives with respect to balancing an expeditious return to free tuition and a financially resilient Cooper Union. For some, any delay in the return to full-tuition scholarships is harmful to Cooper Union. Others have been clear that they do not want Cooper to return to a full-tuition scholarship model until we have made important investments in our academic program and developed a financial position that enables us to sustain operations of the school with greater reliability, pay off our debt on time, adequately maintain our buildings, and withstand unexpected losses.

We have aimed to develop a plan that thoughtfully balances all of these goals. For some, it won't be fast enough. For others, it will be too fast. We have spent significant time studying the issues and debating various approaches. Informed by the analyses and discussions, we are recommending an approach that cuts the timeline that was projected in the January 2017 Progress Report by more than half. We think this is important to harness the community momentum and focus on the goal of free tuition for which there is immense passion and to ensure that the passage of time does not inadvertently dilute the focus on our end goal.

While the approach is multi-pronged, it requires a significant focus on fundraising and rigorous expense management if we are to return to full-tuition scholarships while shoring up the institution's long-term financial health. Without improved results in these areas, we cannot increase scholarship levels (thereby decreasing net tuition). It will take our entire community coming together to achieve these important financial goals.

### Rationale for the Plan

We have aimed to develop a plan that is informed by and improves on our past record, with built-in mechanisms for diversification, fiscal discipline, increased transparency, and accountability. The plan includes a set of initiatives that we will pursue and financial guardrails that force Cooper Union to pause and re-evaluate if we are not meeting our financial goals. If we miss these targets by more than 5% on a cumulative basis (i.e., over the course of the plan), we will need to analyze the cause of the deficiency and adjust the plan accordingly, including implementing other initiatives, stopping or limiting scholarship increases or, in an extreme case, reversing scholarship levels for future students[1] until we can get back on track. The financial hill we have to climb is too steep for any single initiative to address.

Decades of structural deficits and unfunded needs have generated significant financial challenges that must be addressed: depleted cash reserves that will require us to rebuild reserves and endowment[2] by approximately $152 million, debt service levels that consume a portion of Cooper's operating budget that is over two to three times industry norms, significant deferred maintenance that will require at least $1 million of additional annual capital expenditures beyond current levels, a $39 million balloon payment in 2034 when one of Cooper Union's loans comes due, and a projected $48 million liability for post-retirement medical benefits, all resulting in a need to fund approximately $250 million to fully return to a sustainable full-tuition scholarship model.

At the same time, we know that there are important risks to waiting. Our alumni want to see progress on the path back to free tuition. We hear from many that they will support the school if they see clear signs from the Board that it will return to a full-tuition scholarship model. We also hear from others that, before they give, they want to ensure that the school is acting responsibly and prudently, that Cooper Union's budget and finances are being managed with discipline. We believe the time is now for the Board to demonstrate that commitment and prudence by adopting the FEC plan, and for the community to respond by demonstrating to the Board, to the Attorney General of the State of New York, and to each other that we are committed to raising the funds Cooper Union needs to shore up its financial position so that it can return to full-tuition scholarships for all students.

If we are successful, it also creates the opportunity for Cooper Union to lead in a higher education environment that is currently untenable, unaffordable, and out of reach for many. Our model will serve as a demonstration that a different path, one unencumbered by tuition, can foster an environment that enables intellectual rigor and develops the kind of drive, curiosity, innovation, and talent among ambitious and highly capable students, regardless of background or capacity to pay, that move society forward. We will once again demonstrate what is possible when high-potential students come together on the same plane, without financial barriers or distinctions, to push each other to advance new thinking, new ideas, and new solutions to address the critical challenges of our time.

### Risks to the Plan

As with any plan, there are several risks, including general economic conditions, real estate and investment market dynamics, implications of the recently passed federal tax plan, and projections for very low expense growth rates. The detailed description of the plan below more fully articulates these risks and the strategies for mitigating them. We must be vigilant in looking for signs that these risks are playing out and adjust our plans accordingly, even if it means a delay in increasing scholarship levels so that we can ensure that scholarship increases are sustainable.

### Next Steps

By way of this report, we submit our recommendations to the Cooper Union Board of Trustees and to the Financial Monitor appointed by the Attorney General of the State of New York. We ask both to approve the plan and for the Board to charge the Administration with its implementation.[3]

We also urge the Board to make this recommended plan to return to full-tuition scholarships a central component of the institution's broader strategic plan as it is being developed by the Board and Administration.

Finally, we recommend to the Board that the FEC remain intact until Cooper Union has returned to a full-tuition scholarship model for all undergraduate students. The Committee would be responsible for continuing to identify and vet ideas that could advance the return to full-tuition scholarships and monitoring the implementation of the plan on an ongoing basis.

We look forward to the Financial Monitor's review of our recommended plan and to the full Board's response.

1 | Scholarship levels should be committed throughout a student's tenure at Cooper Union. In other words, if a student is enrolled with a 100% scholarship, Cooper Union should commit to that scholarship for the student's entire time at Cooper (assuming on-time graduation). Any downward adjustments to scholarship policy levels that need to be made in the event of extreme financial challenge should only be applied to future students.

2 | "Endowment" in this report refers to the combination of permanently restricted corpus, the principal of which cannot be expended based on permanent donor restrictions, and other funds (typically called quasi-endowment) that function as endowment by providing investment income for a long, unspecified period, but the principal of which could be expended if necessary without seeking donor approval.

3 | Once overall levels of scholarship are agreed upon, we request that the Board, informed by the FEC and by the Administration's recommendations, approve a policy on how incremental scholarship resources will be allocated.

# DETAILED REPORT

The FEC presents the following report to the Cooper Union Board of Trustees and the appointed Financial Monitor, not only to fulfill a requirement of the 2015 Consent Decree, but also to chronicle for the larger Cooper Union community the approach the Committee took, the Committee's findings, and its recommended path forward.

**Background and Introduction**
The FEC is a committee of Cooper Union's Board of Trustees. It was born out of a Consent Decree issued by the New York State Office of the Attorney General (NYAG or Attorney General) in 2015 to resolve the legal challenge to Cooper Union's decision to begin charging partial tuition. A copy of the Consent Decree, the Court's decision approving it and granting cy pres relief, and other related documents can be obtained on Cooper Union's website.

The Consent Decree states that the Free Education Committee shall (1) examine "whether Cooper Union can return to a sustainable, full-tuition scholarship model that maintains Cooper Union's strong reputation for academic quality within its Architecture, Art, and Engineering programs at their historical levels of enrollment" and (2) "develop and propose a strategic plan" aimed at that purpose. This report details that plan and is being presented to the Board of Trustees and Financial Monitor by January 15, 2018, pursuant to the Consent Decree.

The FEC previously presented interim progress reports on January 15, 2016, July 1, 2016 and January 15, 2017 detailing its activities and interim recommendations.

FEC Members:

- Robert Tan, Committee Chair AR '81 (Alumni Trustee)
- Malcolm King EE '97
- Julian Mayfield A '18 (Student Trustee)
- Paul Nikulin CE '06 (CUAA President, Alumni Trustee)

Adrian Jovanovic (BSE '89) served as a member of the FEC before his untimely passing this summer. Adrian's passion for free education and his commitment to developing a path to achieve it was a strong and important presence on the Committee that we continue to carry with us.

Monica Abdallah (ChE'17) also served on the FEC as a Student Trustee prior to the end of her term in June 2016, providing an important student perspective.

FEC Observers:

- Atina Grossmann (Faculty Representative to the Board of Trustees)
- Amy Westpfahl (Staff Representative to the Board of Trustees)

## CURRENT ACADEMIC AND FINANCIAL STATE OF COOPER UNION

**Enrollment and Current Student Profile**[4]
While the Committee has put significant focus on the financial plan, it was done in the context of a commitment to maintaining Cooper Union's academic quality, reputation, and historic enrollment levels across the schools of Architecture, Art, and Engineering. In order to better understand the impact of tuition, it was important to review enrollment trends pre- and post-tuition. While Cooper has, overall, experienced an 18.5% decline in applications (from 3,383 to 2,756), an increase in admissions rate (from 8.0% to 13.5%), and a decrease in yield (from 76% to 60%), Cooper has maintained an admissions profile consistent with highly selective institutions. The academic profile, as measured by current admission criteria, of new, incoming students to Cooper Union has been consistently high, and Critical Reading and Math SAT scores suggest that students are in the same range of competitiveness now as they were pre-tuition. Significantly, however, we have declined on key measures of diversity. Results vary by school, with the overall numbers being driven by the larger size of the engineering program. These trends are described more fully in Appendix C.



While our admissions profile remains strong, we are eager to understand and address academic and reputational questions that go beyond these basic selection criteria. We recommend that the Administration further analyze the academic profile of Cooper Union, quality of education being offered, composition of the student body at Cooper Union, and reputation. We recommend that this work be reported to the Board's Academic and Student Affairs Committee, the FEC, and, ultimately, the full Board of Trustees.

**Implications of Cooper Union's Current Scholarship Policies**
An in-depth review of Cooper scholarships shows that our students continue to receive their education at a uniquely low cost relative to others (but a cost still too high from our perspective).

On average, Cooper Union provides scholarships that cover 76% of tuition costs. For the tuition-paying classes starting in Fall 2014–17, 37% of students under the new tuition policy received 100% full-tuition scholarships; 11% are receiving only the minimum 50% scholarship; all other students are receiving more. Consistent with past practice to ensure that students who are admitted to Cooper Union based on merit can afford to attend, some students with significant financial need also receive additional financial support for non-tuition expenses (e.g., fees, books, housing, other living expenses). In Fall 2017, 23.8% received additional financial aid beyond full-tuition awards.

76%

Currently, Cooper Union provides scholarships that cover 76% of tuition costs on average.

Cooper has maintained an admissions profile consistent with highly selective institutions.

### AS OF OCTOBER 2017

| Scholarship Amount | Number | Percent of Paying Students |
|---|---|---|
| Full-tuition Scholarship 100% | 298 | 37% |
| 90–99% of Full Tuition | 41 | 5% |
| 80–89% of Full Tuition | 28 | 4% |
| 70–79% of Full Tuition | 16 | 2% |
| 60–69% of Full Tuition | 50 | 6% |
| 50–59% of Full Tuition | 364 | 46% |
| **Total** | **797** | **100%** |

Note: some of these students took out federal loans.

4 | The measures used in this report to describe Cooper's admissions profile, such as yield and performance thresholds for the SAT, are established by the U.S. Department of Education. They are commonly used in various ranking systems for institutions of higher education.

# -2.01

Cooper's current Composite Financial Index (CFI) score, a measure of long-term financial health, is -2.01. The Financial Monitor has indicated that a CFI of +4.0 or better will be required to return to full-tuition scholarships.

**Financial Hurdles**

As noted in the FEC's January 2017 Progress Report and the Financial Monitor's February 2017 Annual Report, Cooper Union's finances are stabilizing with respect to annual operations, but we have a significant hole to fill following decades of structural deficits. A number of structural financial challenges were created over decades as the costs of higher education in the United States have risen at a pace that has outstripped our revenue growth, and (absent a massive philanthropic contribution), these challenges cannot be fixed overnight. Simply reducing expenses or generating nominal positive cash flow will not be sufficient to overcome the significant financial challenges that need to be addressed, particularly when considering a sustainable return to full-tuition scholarships for all undergraduate students.[5]

As noted in the 2017 Financial Monitor Report, "the financial condition of Cooper Union is under considerable stress caused by the need for additional liquidity. This need has been driven by persistent operating losses occurring over a period of years, which the Board and the Cooper Union Administration are in the process of addressing. The financial issues Cooper Union faces are not limited to annual operations, however, and we believe a view of the full, long-term financial health of Cooper Union is essential to any assessment of Cooper Union's financial condition."[6]

In the January 2017 Progress Report, we noted that the Board adopted a measure of long-term financial health, the Composite Financial Index (CFI), that will help us assess our capacity to sustain full-tuition scholarships and other programmatic investments over time. The CFI combines four core financial ratios into a single metric that offers a concise measure for understanding the overall financial health of an institution.[7] The CFI scale ranges from -4.0 to +10.0, and based on the draft FY17 audited financial statements, Cooper Union's CFI is -2.01. The Financial Monitor has indicated that, in its opinion, a score of +4.0 or better is likely what will be required for Cooper Union to return to a sustainable full-tuition scholarship model, absent other circumstances that would indicate otherwise.

Because it is an aggregated measure, we have worked to unpack the key components of Cooper Union's financial situation that must be addressed.

**Depleted Reserves**

Financially healthy institutions have financial reserves that enable them to withstand unexpected expenses, losses, damages to physical plant, or cash flow shortages. Reserves constitute a "Rainy Day Fund" that can support continued operations (e.g., educate and house students, pay faculty and staff, keep the lights on, maintain the buildings) for a period of time while addressing unexpected events.

Organizations that are financially resilient maintain operating and capital reserves (cash surpluses) in an amount equal to or greater than their long-term liabilities and at least four to six months of operating expenses. Presently, Cooper Union's operating and capital reserve is negative. Although Cooper has a positive cash balance, it was generated by using debt (the Bridge Loan) to fund operating deficits. Since we must repay those funds[8], they are not a cash surplus, and therefore not a Rainy Day Fund. We have no Rainy Day Fund.

To cover unexpected interruptions in operations, building damage, and our long-term debt obligations in the event of a major crisis (e.g., market crash, recession), Cooper Union needs to fund a minimum of $152 million in cash and investments in addition to monies being used or put aside for known liabilities that are explained further below (i.e., deferred maintenance and post-retirement health care costs). This, along with the other actions we are taking, would enable us to achieve a CFI of +4.0, a level of financial health that supports a return to full-tuition scholarships. Additional analyses suggest that our longer-term goal should be a higher level of reserves. Colleges and rating agencies typically look at two additional metrics: 1) Cash & Investments relative to Debt and 2) Available Cash & Investments relative to Net Liabilities. At the end of the proposed plan in FY 2028, Cooper Union would still be below relevant benchmarks for both ratios. Although we recommend a return to full-tuition scholarships while building this additional reserve of $152 million and reaching a CFI of +4.0, we recommend continuing to build up reserves in the years after.

The table below summarizes all three ratios for Cooper Union's most recent completed audit year, the levels projected in the plan for FY28, and select colleges from four comparison groups.

| Metric | Cooper Union FY2016 | Cooper Union FY2028 | S&P-Rated BBB- to A- | Peer Colleges | Small Competitive Colleges | S&P-Rated A- and Above |
|---|---|---|---|---|---|---|
| CFI | -2.1 | 4.0 | 2.0 – 4.7 | 4.5 – 6.6 | 3.8 – 7.9 | 4.8 – 7.2 |
| Cash & Investments to Debt | 0.7x | 2.2x | 0.7x – 3.4x | 1.0x – 7.1x | 3.1x – 22.0x | 3.5x – 18.8x |
| Available Cash & Investments to Liabilities Net | 0.21 | 0.77 | 0.5x – 1.7 | 0.7x – 4.2x | 1.4x – 22.4x | 1.9x – 14.7x |

5 | Cooper Union's net assets are unusually high for a student body of its size given the college's ownership of the land under the Chrysler Building. While the Chrysler Building generates critical revenue according to a contractual schedule determined by the associated ground lease and tax equivalency payments, the asset is not liquid. Only the scheduled revenue can be used to cover operating expenses and long-term liabilities. The financial challenge comes, in the long-term, from the desire to offer full-tuition scholarships to all students and, in the short-term, from the debt service generated from debt that was previously incurred to cover operating expenses.

6 | Sections IIA and IIB of the Financial Monitor's February 2017 Annual Report provide a very helpful summary of Cooper Union's financial condition and the impact of accumulated deficits.

7 | See Appendix A of the FEC's January 2017 Progress Report for a more complete description of the CFI and how it applies to Cooper Union.

8 | We have a contractual obligation to repay these funds. Failure to do so would force our lenders to put us in default and threaten Cooper Union's survival by putting our revenue and assets at risk.

**Debt**
Debt service currently consumes 19% of Cooper Union's operating budget and, beginning in FY19 when principal payments for the MetLife loan begin, is projected to consume 23%. Experts recommend that debt service not consume more than 7% of an institution's operating budget.[9] We must work to reduce this burden by continuing to pay down our debt.

In addition, the Bridge Loan, which was taken out in 2014, has a $39 million balloon payment in 2034. Since the loan has a significant prepayment penalty, we will need to either self-amortize (by reserving cash each year to fund the 2034 payment) or refinance. Given market and interest rate uncertainties and our current financial condition (problematic debt service and reserve levels), we recommend that Cooper Union begin self-amortizing the Bridge Loan debt beginning in FY 2019. That will afford us the economic freedom in 2034 to choose whether to refinance or pay off the debt, depending on which option is in Cooper Union's best financial interest. In the event that refinancing is an economically viable and advantageous option, we will still have the choice to pursue that route, but Cooper Union cannot, under any circumstances, find itself unable to pay that debt when due if refinancing is not viable. The college's $175 million loan from MetLife is self-amortizing and will be paid off in 2036, and the Financial Monitor has noted that it would be ideal to have both loans repaid by then.

**Deferred Maintenance**
The February 2017 Financial Monitor Report highlighted the significant mismatch on two fronts related to our physical plant: a) net plant assets vs. debt and b) the significant gap between depreciation and capital expenditures. Net plant assets are $161.4 million while related debt is $175.0 million. In addition, as the Financial Monitor pointed out, "the depreciation of assets at a rate faster than the liquidation of debt, without a renewals and replacements reserve, further supports the conclusion that Cooper Union is under-investing in capital."

Regardless of whether we use depreciation as a measure, we need to invest at least $2.5 million per year in capital expenditures (vs. $1.5 million currently being spent annually) to address this imbalance.

**Post-Retirement Medical Benefits**
Cooper Union provides health insurance for its employees after they retire but has not put money aside to pay these costs. Based on actuarial estimates, we will likely be required to pay $48 million for those currently in the plan, and this is likely to grow as retirements and life expectancies increase. In FY 2017, Cooper Union spent $940,000 on post-retirement health insurance (vs. $900,000 in FY16 and $800,000 in FY15).

We need to ensure that we are budgeting sufficient resources to cover these costs and explore how to contain this growing cost in the future.

The table below summarizes these challenges and the overall financial climb needed in the coming years.

To return to full-tuition scholarships and long-term financial sustainability, we will need to generate approximately $250 million in new resources for Cooper Union.

## FINANCIAL NEED ($000's)

| | |
|---|---|
| Operating and Capital Reserve | 152,000 |
| Deferred Maintenance | 11,500 |
| Bridge Loan Principal @ Maturity | 39,000 |
| Post-Retirement Health Insurance | 48,000 |
| **Total Need** | **250,500** |

To return to full-tuition scholarships and long-term financial sustainability, we will need to generate approximately $250 million in new resources for Cooper Union. As noted above and described in more detail below, the Committee believes that Cooper Union can generate these resources through a combination of expense cuts, increased fundraising, increased earned revenue, and special initiatives.

9 | "Generally accepted ranges for investment grade-rated institutions are 3 to 5 percent for large public universities and 5 to 7 percent for smaller private institutions." (source: http://www.nacubo.org/Business_Officer_Magazine/Magazine_Archives/March_2014/All_Debt_on_Deck.html)

An accelerated return to full-tuition scholarships is possible if we are prepared to make hard choices with respect to expense management and we collaborate to fundraise at significantly higher levels.

# RECOMMENDED PLAN

**Plan to Overcome Financial Hurdles**

In the 2017 Progress Report, the FEC's financial projections indicated that Cooper Union could return to a sustainable full-tuition undergraduate scholarship model in FY 2039. The report and accompanying projections highlighted that financial challenges, which were decades in the making, may not be quickly or easily resolved. At the same time, the FEC was committed to identifying changes to our current operating model that could accelerate this timeline and noted that the Committee "feels strongly that Cooper Union must return to a sustainable full-tuition scholarship model sooner and with more certainty than the 2039 baseline date." Over the past nine months, the FEC challenged itself to take an even closer look at its underlying assumptions and to explore additional revenue and expense opportunities. As a result of those efforts, we believe the timeline can be cut in half *if our community is prepared to make hard choices with respect to expense management and collaborate to fundraise at significantly higher*, *but we believe achievable, levels.* While a 10-year timeline is an aggressive one, we believe it is necessary and urge the Board, administrative leadership, and the broader Cooper community to rally around this challenge.

As noted previously, all plans have inherent risk, as nobody can predict the future. We have worked to mitigate our overall risk by recommending a diverse array of initiatives to pursue now and by holding additional options in reserve so that, if one initiative does not unfold as planned, there are others to mitigate the impact. The combination of activities that we are recommending includes a mix of revenue and expense initiatives, as well as more realistic assessments about key assumptions. A partial listing of the various initiatives follows, with a more detailed overview later in the report. Each of these initiatives is being timed to maximize the financial impact while allowing for enough time for smooth implementation.

**Revenue Initiatives:**

- Reduce average graduate program scholarships from 66% to 25% beginning in FY19 (with a goal of increasing graduate program scholarships after we have achieved 100% undergraduate scholarships)
- Increase dorm rate to current market rate, an average of $15,000 per year beginning in FY20[10]
- Grow building and facility rentals by 3% beginning in FY19
- Increase annual ancillary revenue by $250,000
- Increase current-use fundraising by an average of $1.2 million (or 25%) annually over the next five years and by an average of 11% annually for the next five years thereafter.

**Expense Management Initiatives:**

- Realize additional savings in annual operating expenses of $1.2 million by FY20[11] through a combination of:

  Reducing rental costs at 30 Cooper Square by half

  Reducing personnel and non-personnel expenses through increased operating efficiencies

  Updating the employee benefits plan to more cost effective options[12]

**Investments in Cooper Union's Future:**

- Increase annual capital improvement levels to address documented deficiencies, building to $2.5 million per year by FY22
- Increase annual investments in current and new academic programs, building to $3.0 million per year by FY25, if we meet the fundraising targets set forth in the plan

**Revised Financial Assumptions:**

- Increase expected annual growth on tax equivalency payments[13] from 1% to 2% beginning in FY19 to better reflect historical trends and probable future results
- Reduce costs associated with severance, President's residence, and Consent Decree expenses, which were unnecessarily included in prior projections, beginning in FY19

In addition to the above initiatives included in the core financial plan, the FEC has identified additional initiatives that the Committee recommends pursuing but which have a more uncertain financial impact or time horizon. Because of this uncertainty, the current projections do not include these initiatives. If they are successfully implemented in the future, they might further accelerate a return to full-tuition scholarships.

**Additional Initiatives:**

- Further reduce rental space/costs at 30 Cooper Square (i.e., explore complete elimination of our lease at 30 Cooper Square and other space efficiencies)
- Increase summer dorm rental revenue
- Refinance/restructure Cooper Union's long-term debt
- Capital campaign and/or a designated fund that would serve as an accelerator fund to support 100% tuition scholarships

There are also potential initiatives that have additional downsides, which we only recommend pursuing if the core components of the plan do not materialize and/or the downsides can be significantly reduced or eliminated. The FEC has placed these items in what we call the "bullpen."

**Bullpen:**

- Sale of the Stuyvesant-Fish House (current President's residence)
- Renting out the first floor of the Foundation Building (e.g., develop as retail, office space)
- Sale of the Residence Hall/Dorm

Additional initiatives may further accelerate the plan. Bullpen ideas are on standby to support the plan should a core initiative not develop as expected. These ideas do have downsides and will only be pursued if those downsides are reduced or eliminated.

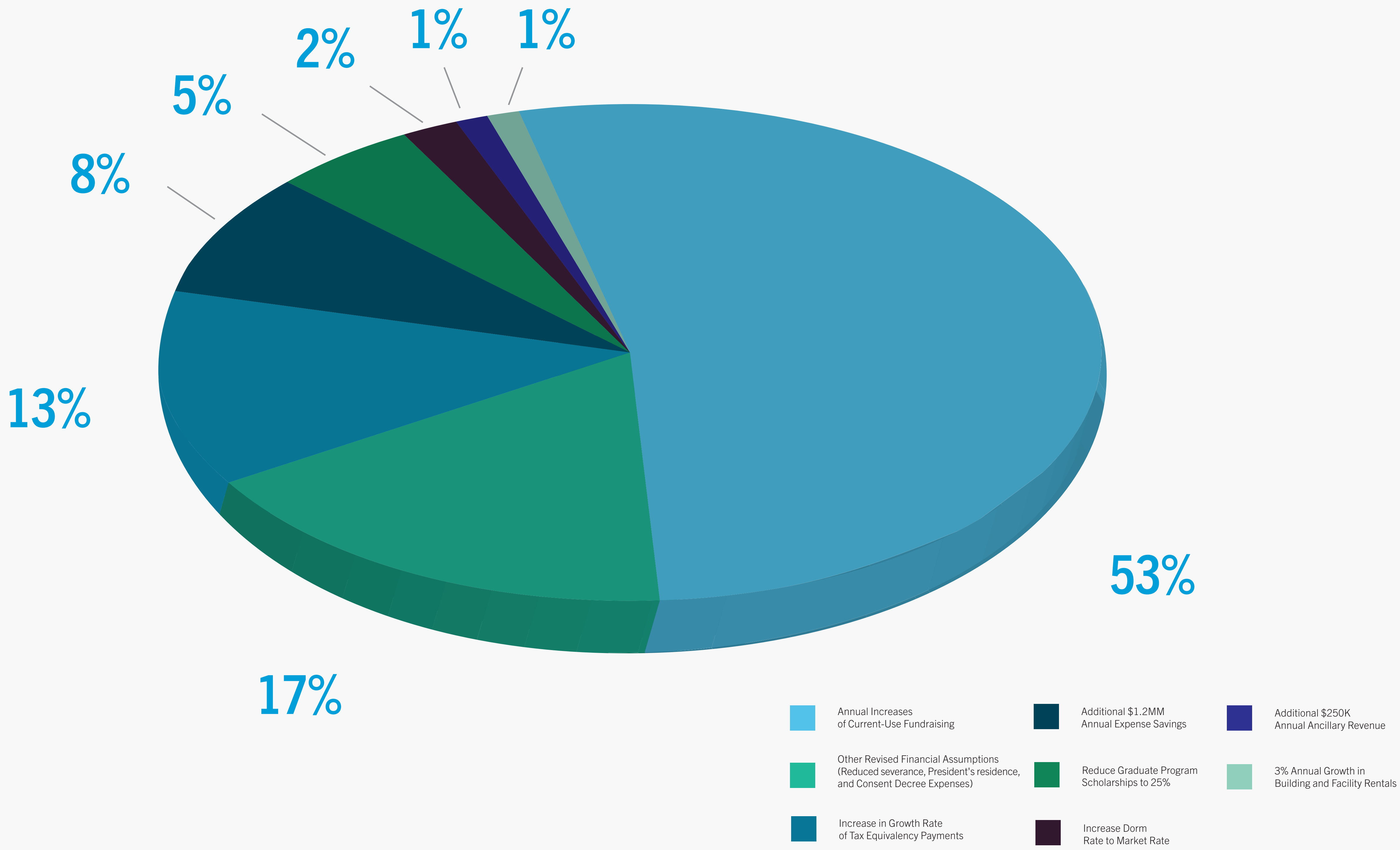
10 | Scholarships that consider the cost of attendance (e.g., fees, books, housing, and other living expenses) will continue to be made for those with significant financial need.

11 | Beyond this, opportunities to reduce expenses should be explored on an annual basis.

12 | We believe there are alternative health care designs that still provide high-quality choices but at lower costs. Cooper Union will be working with consultants with significant experience in higher education benefits who can inform us of comparable structures.

13 | An amount equivalent to the real estate taxes that would be payable on the real property were it subject to taxation.

# FINANCIAL CONTRIBUTION OF PLAN INITIATIVES

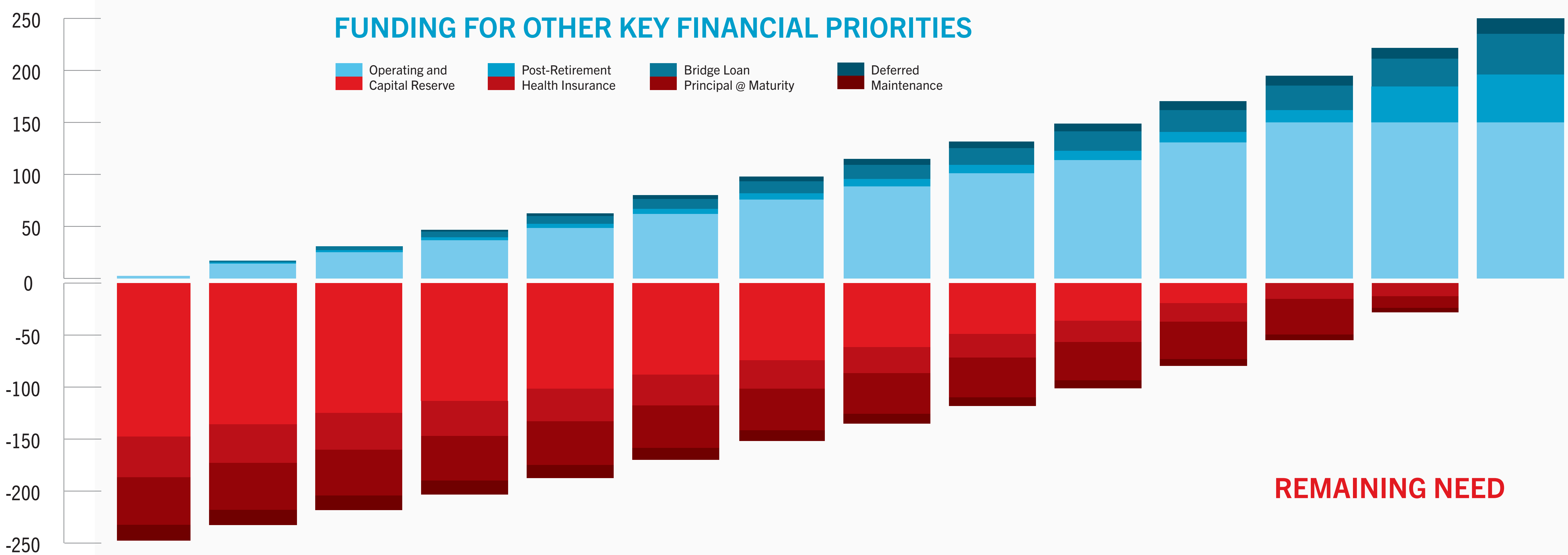


# ALLOCATION OF RESOURCES TO KEY FINANCIAL PRIORITIES

## INCREASING SCHOLARSHIP LEVELS

| | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | FY30 | FY31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Scholarship level | 76% | 76% | 77% | 77% | 78% | 79% | 80% | 83% | 86% | 89% | 93% | 100% | 100% | 100% |
| CFI SCORE | (2.4) | (0.7) | (0.6) | (0.5) | (0.4) | (0.2) | 0.6 | 1.3 | 2.1 | 2.9 | 4.0 | 5.3 | 6.2 | 6.8 |

## FUNDING FOR OTHER KEY FINANCIAL PRIORITIES



Early success is important to demonstrate that Cooper Union has the management discipline and fundraising capacity to execute the full plan.

The recommended plan only addresses tuition scholarships. Cooper Union should continue to award non-tuition support to those with the greatest financial need.

14 | Current-use contributions can be spent down in their entirety. They are typically spent over a relatively short period of time (usually within three years) and have an immediate impact. They can be either unrestricted or restricted.

15 | Scholarship levels should be committed through a student's tenure at Cooper Union. In other words, if a student is enrolled with a 100% scholarship, Cooper Union should commit to that scholarship for the student's entire time at Cooper (assuming on-time graduation). Any downward adjustments to scholarship policy levels that need to be made in the event of extreme financial challenge should only be applied to future students.

It is important to note that future implementation of strategies that are currently in the "bullpen" will be considered and evaluated as appropriate given evolving circumstances over time. New ideas and strategies may also be recommended as they arise, provided they fit within the overall strategy, have a reasonable assurance of success, and do not put Cooper or its overall strategy at risk.

**Starting the Return to Free in FY 2020**

While the recommended financial plan projects a return to full-tuition scholarships by FY29, we believe it is important to begin making progress on that path now by increasing scholarship levels (and thus reducing the net tuition paid by students) as early as FY20, *if we hit our early fundraising, expense reduction, and operating cash surplus benchmarks.* This is critical to both ensure that the resources are available to begin increasing tuition scholarships responsibly and to provide early indications that Cooper can achieve the management discipline and fundraising capacity that will be necessary to execute the full plan.

Although the incremental approach may delay a return to full-tuition scholarships for all undergraduate students by approximately two years, the Committee felt strongly that this approach best demonstrates the Board's commitment in a tangible and credible manner.

The financial model we are proposing provides for overall increases in the average scholarship rate according to the following schedule:

The scholarship levels provided on the previous page are for tuition scholarships only. Consistent with past practice, Cooper Union should continue to award non-tuition support for other costs of attendance (e.g., fees, books, housing) to those with the greatest financial need to ensure that those who are admitted based on merit can afford to enroll. Cooper Union should also continue the practice of passing the amount of Pell grants through to those who are awarded them to cover non-tuition costs of attending Cooper Union. In order to achieve these scholarship levels, we need to attain the financial goals listed in the table below:

If we miss these targets by more than 5% on a cumulative basis (i.e., over the course of the plan), we will need to analyze the cause of the deficiency and adjust the plan accordingly, including implementing bullpen initiatives, stopping or limiting scholarship increases or, in an extreme case, reversing scholarship levels for future students[15] until we can get back on track. (See Appendix B for additional detail on Guardrails.)

**Risks and Mitigating Factors**

Each of these initiatives, whether in the core financial plan, the additional initiatives, or the bullpen, has risks. These risks and the approaches to mitigate them are described in the summary of each initiative. In addition to the initiative-specific risks, there are several overall risks to the plan:

- **The Economy:** A major recession or general economic downturn would negatively impact multiple aspects of the plan — fundraising, tax equivalency payments, enrollment (and therefore tuition), ancillary earned revenue such as space rentals, etc. We will mitigate this risk by creating guardrails that tie scholarship increases to financial targets, as described previously. Significantly, many of these are risks we cannot control. We can only take them into account and prepare for them by building healthy reserves.

| | % of Tuition Covered by Scholarship | |
|---|---|---|
| FY 2018 | 76% | |
| FY 2019 | 76% | |
| FY 2020 | 77% | In two years, begin reducing net tuition by increasing scholarship levels |
| FY 2021 | 77% | |
| FY 2022 | 78% | Continue to increase scholarship levels as we meet key financial goals to build Cooper Union's financial health (FY 2022–FY 2028) |
| FY 2023 | 79% | |
| FY 2024 | 80% | |
| FY 2025 | 83% | |
| FY 2026 | 86% | |
| FY 2027 | 89% | |
| FY 2028 | 93% | |
| FY 2029 | 100% | In 10 years, complete the return to full-tuition scholarships for all students |

**FINANCIAL GOALS/TARGETS ($000'S)**

| | Cash Surplus/(Deficit) | Current-Use Fundraising[14] | Operating Expenses | Cash and Investments Balance |
|---|---|---|---|---|
| FY 2018 | (50) | 3,225 | 54,126 | 155,369 |
| FY 2019 | 14,001 | 4,992 | 53,958 | 173,006 |
| FY 2020 | 12,382 | 6,011 | 54,672 | 189,784 |
| FY 2021 | 12,231 | 7,094 | 56,143 | 207,238 |
| FY 2022 | 12,290 | 8,260 | 57,689 | 225,406 |
| FY 2023 | 12,952 | 9,449 | 58,915 | 244,910 |
| FY 2024 | 12,985 | 10,671 | 60,810 | 265,169 |
| FY 2025 | 11,118 | 11,936 | 62,627 | 284,311 |
| FY 2026 | 10,528 | 13,245 | 64,216 | 303,562 |
| FY 2027 | 9,933 | 14,678 | 65,853 | 322,920 |
| FY 2028 | 13,726 | 16,234 | 67,387 | 346,776 |
| FY 2029 | 16,033 | 17,824 | 69,121 | 373,835 |

5.0%

Cooper Union must stay within 5% of critical financial targets over the course of the plan; otherwise we will have to adjust.

- **Expenses/Inflation:** Expense projections are very tight at 2% growth on non-compensation expenses throughout the projection period. This will be challenging to maintain as inflation is likely to outpace the 2% rate. We are mitigating this by investing a portion of increased fundraising in the academic program. While the investment relative to the overall budget is relatively minor (less than 5% of the overall budget), we will expend the resources strategically to maximize their impact on the quality of the academic program. To further address this risk, we have built an average annual contingency of $500,000 into the plan.

- **Investment Market:** Uncertainty in the investment market introduces uncertainty into our revenue stream, particularly as the endowment grows over time. While we will base projections on historical performance and expert views about future dynamics, there is no way to guarantee that past performance or analyst expectations will be indicative of future results. As noted previously regarding a potential recession, we will mitigate this risk by creating financial guardrails that tie scholarship increases to financial targets in the model.

- **Federal and State Policy:** Until regulations are crafted, the extent to which the recently passed federal tax plan will impact Cooper Union is unclear, but it will impact Cooper. Most experts anticipate a reduction in charitable contributions, and some colleges and universities, including Cooper Union, might be subject to a new endowment tax. In addition, changes to federal and state grant programs for student financial support could reduce the resources Cooper has available to increase scholarship levels or provide non-tuition aid.



- **Priorities of Current and Future Boards and Administrations:** If a board and administration decide that this plan is no longer a priority, they could try to reverse course. This risk is mitigated by the ongoing requirement in the cy pres order that "At any time tuition is being charged . . . Cooper Union is required to make ongoing, good faith efforts to determine whether it is practical to return to a free-tuition model. . ." Further, "[i]f it is practical to return to such a free-tuition model, Cooper Union must expeditiously develop and implement a plan to do so [and] . . . maintain that model as long as it is practical." To modify the order which issued the cy pres relief, Cooper Union would have to petition the court and receive approval by the Attorney General of the State of New York.

- **Unknown Risks:** We live in uncertain times, and we cannot predict every risk. What we know for sure is that, for better or worse, things will not go precisely according to plan. Cooper Union can mitigate this uncertainty by rigorously monitoring performance against the plan, analyzing positive and negative variances, staying vigilant about emerging dynamics that could impact us, setting up clear guidelines for future Boards, and staying as flexible as we can to maximize our resilience to unexpected change.

In addition to the mitigation strategies below, we will also regularly evaluate bullpen initiatives that could be pursued.

**Projections**

The schedule on the following page summarizes the financial projections that incorporate the core financial components of the plan, as articulated above. A more detailed set of projections can be found in Appendix A.

$500K

We have built an average annual contingency of $500,000 into the plan.

# CASH AVAILABLE FOR KEY PRIORITIES — POST INITIATIVES

## (000'S)

| | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | FY30 | FY31 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cost of School Operations:** | | | | | | | | | | | | | | | |
| Salaries & Wages | (28,836) | (28,407) | (28,911) | (29,408) | (29,922) | (30,201) | (30,922) | (31,695) | (32,487) | (33,299) | (34,132) | (34,985) | (35,860) | (36,757) | (445,821) |
| Benefits & Taxes | (10,696) | (10,805) | (10,614) | (10,919) | (11,242) | (11,466) | (11,902) | (12,371) | (12,860) | (13,371) | (13,905) | (14,462) | (15,044) | (15,651) | (175,308) |
| Non-Personnel Expenses | (14,595) | (14,078) | (14,110) | (14,389) | (14,673) | (14,964) | (15,259) | (15,561) | (15,868) | (16,183) | (16,349) | (16,674) | (17,003) | (17,339) | (217,045) |
| Programming Initiatives | | (668) | (1,036) | (1,428) | (1,852) | (2,284) | (2,728) | (3,000) | (3,000) | (3,000) | (3,000) | (3,000) | (3,000) | (3,000) | (30,996) |
| **School Operating Cost** | **(54,127)** | **(53,958)** | **(54,671)** | **(56,144)** | **(57,688)** | **(58,916)** | **(60,810)** | **(62,627)** | **(64,215)** | **(65,853)** | **(67,386)** | **(69,121)** | **(70,907)** | **(72,747)** | **(869,170)** |
| **Capital Expenditures:** | | | | | | | | | | | | | | | |
| Annual Capital Expenditures | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (1,520) | (21,280) |
| **Capital Expenditures** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(1,520)** | **(21,280)** |
| **Debt Service:** | | | | | | | | | | | | | | | |
| Interest - MetLife Loan | (10,273) | (10,225) | (9,926) | (9,574) | (9,200) | (8,804) | (8,384) | (7,939) | (7,467) | (6,966) | (6,435) | (5,872) | (5,276) | (4,643) | (110,983) |
| Principal - MetLife Loan | - | (3,253) | (5,842) | (6,195) | (6,568) | (6,964) | (7,384) | (7,829) | (8,302) | (8,802) | (9,333) | (9,896) | (10,493) | (11,125) | (101,987) |
| Interest - Bridge Loan | (2,718) | (2,718) | (2,718) | (2,718) | (2,718) | (2,718) | (2,718) | (2,690) | (2,635) | (2,575) | (2,507) | (2,430) | (2,343) | (2,247) | (36,453) |
| Principal - Bridge Loan | - | - | - | - | - | - | - | (1,159) | (1,282) | (1,437) | (1,626) | (1,828) | (2,043) | (2,271) | (11,647) |
| **Debt Service** | **(12,990)** | **(16,196)** | **(18,486)** | **(18,486)** | **(18,486)** | **(18,486)** | **(18,486)** | **(19,617)** | **(19,686)** | **(19,781)** | **(19,901)** | **(20,026)** | **(20,155)** | **(20,286)** | **(261,070)** |
| **Total School Expenditures** | **(68,637)** | **(71,674)** | **(74,677)** | **(76,150)** | **(77,694)** | **(78,922)** | **(80,816)** | **(83,764)** | **(85,421)** | **(87,153)** | **(88,807)** | **(90,667)** | **(92,582)** | **(94,553)** | **(1,151,520)** |
| **Revenue:** | | | | | | | | | | | | | | | |
| Real Estate | 47,447 | 59,922 | 60,472 | 61,034 | 61,606 | 62,191 | 62,787 | 63,395 | 64,015 | 64,648 | 69,543 | 74,452 | 75,123 | 75,808 | 902,442 |
| Undergraduate Tuition Before Accelerated Scholarship Increases, Net | 7,899 | 8,136 | 8,380 | 8,633 | 8,891 | 9,158 | 9,433 | 9,716 | 10,006 | 10,307 | 10,616 | 10,186 | 10,514 | 10,852 | 132,727 |
| Graduate Tuition, Net | 555 | 1,278 | 1,317 | 1,356 | 1,397 | 1,439 | 1,482 | 1,527 | 1,572 | 1,620 | 1,668 | 1,718 | 1,770 | 1,822 | 20,522 |
| Fees | 3,656 | 3,695 | 3,735 | 3,776 | 3,817 | 3,858 | 3,900 | 3,943 | 3,986 | 4,029 | 4,073 | 4,118 | 4,163 | 4,209 | 54,958 |
| Rental Income and Other | 2,980 | 3,312 | 3,703 | 3,800 | 3,899 | 4,001 | 4,106 | 4,214 | 4,325 | 4,440 | 4,558 | 4,680 | 4,805 | 4,934 | 57,755 |
| Contributions | 3,225 | 4,992 | 6,011 | 7,094 | 8,260 | 9,449 | 10,671 | 11,936 | 13,245 | 14,678 | 16,234 | 17,824 | 19,598 | 21,536 | 164,753 |
| Endowment Payout | 2,825 | 4,590 | 4,611 | 4,528 | 4,646 | 4,776 | 4,915 | 5,058 | 5,205 | 5,354 | 5,505 | 5,657 | 5,810 | 5,965 | 69,444 |
| **Total School Revenue** | **68,587** | **85,925** | **88,231** | **90,221** | **92,515** | **94,871** | **97,293** | **99,788** | **102,355** | **105,075** | **112,197** | **118,634** | **121,783** | **125,126** | **1,402,601** |
| **Cash from Operations Available for Key Financial Priorities** | **(50)** | **14,251** | **13,554** | **14,070** | **14,821** | **15,949** | **16,477** | **16,024** | **16,933** | **17,922** | **23,390** | **27,967** | **29,201** | **30,573** | **251,082** |
| **Key Financial Priority Expenditures:** | | | | | | | | | | | | | | | |
| Accelerated Scholarship Increases | | | (672) | (1,089) | (1,530) | (1,997) | (2,491) | (3,906) | (5,404) | (6,988) | (8,663) | (10,934) | (11,262) | (11,600) | (66,536) |
| Deferred Maintenance | - | (250) | (500) | (750) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (11,500) |
| **Cash Available for Other Key Financial Priorities Before Interest in Excess of Endowment Payout:** | **(50)** | **14,001** | **12,382** | **12,231** | **12,291** | **12,952** | **12,986** | **11,118** | **10,529** | **9,934** | **13,727** | **16,033** | **16,939** | **17,973** | **173,046** |
| Interest in Excess of Endowment Payout and Bridge Loan Self Amortization | 2,550 | 577 | 1,305 | 2,101 | 2,726 | 3,367 | 4,058 | 4,775 | 5,442 | 6,111 | 6,783 | 7,645 | 8,641 | 9,718 | 65,799 |
| **Cash Available for Other Key Financial Priorities** | **2,500** | **14,578** | **13,687** | **14,332** | **15,017** | **16,319** | **17,044** | **15,893** | **15,971** | **16,045** | **20,510** | **23,678** | **25,580** | **27,691** | **238,845** |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Allocation to Key Financial Health Reserves:** | | | | | | | | | | | | | | | |
| Operating and Capital Reserve | (2,500) | (12,336) | (11,372) | (11,940) | (12,543) | (13,263) | (13,899) | (12,658) | (12,640) | (12,615) | (16,977) | (19,257) | - | - | (152,000) |
| Bridge Loan Principal @ Maturity Reserve | | (1,741) | (1,815) | (1,892) | (1,973) | (2,056) | (2,144) | (2,235) | (2,330) | (2,429) | (2,532) | (2,640) | (2,752) | (12,461) | (39,000) |
| Post-Retirement Health Insurance Reserve | | (500) | (500) | (500) | (500) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,782) | (22,830) | (15,388) | (48,000) |
| | (2,500) | (14,577) | (13,687) | (14,332) | (15,016) | (16,319) | (17,043) | (15,893) | (15,970) | (16,044) | (20,509) | (23,679) | (25,582) | (27,849) | (239,000) |
| Deferred Maintenance Expenditures from Above | | (250) | (500) | (750) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (11,500) |
| **Key Financial Health Priorities Achieved** | **(2,500)** | **(14,827)** | **(14,187)** | **(15,082)** | **(16,016)** | **(17,319)** | **(18,043)** | **(16,893)** | **(16,970)** | **(17,044)** | **(21,509)** | **(24,679)** | **(26,582)** | **(28,849)** | **(250,500)** |

What are the school's expenditures?

How do we pay for them?

What else do we need for financial health?

# REVIEW OF PROCESS

The paragraphs below outline the process by which the FEC went about its work and arrived at the recommended plan.

## 2016

As described in the January 2017 Progress Report, the FEC focused its early efforts on establishing roles, responsibilities, and process; researching and debating various financial measures to help assess Cooper Union's financial condition and monitor improvement, especially given its unique asset base; and researching and analyzing Cooper Union's cost structure to identify areas of opportunity. As a result, in 2016, the FEC successfully:

- Collaborated with the Board to establish the Roles and Responsibilities of the FEC and how it should interface with the Board and the other committees in order to identify, research, and analyze proposed initiatives. This is how the FEC, Finance, and other Committees have engaged throughout 2017. (See Appendix D.)
- Encouraged the Board and Administration to secure an additional $6.2 million in ongoing cost savings (in addition to the $2.9 million identified in the prior year), resulting in total projected annual budget reductions of $9.1 million, or 17% of operating expenses excluding debt service, capital, and auxiliary expenses. As planned, these expenses are currently being implemented over a three-year[16] period to ensure smooth transitions.
- Investigated various measures of financial health for institutions of higher education, assessed Cooper Union's performance with respect to these measures, and worked with the Financial Monitor, the Finance Committee, and the Board to develop a framework for evaluating the financial conditions under which Cooper Union could return to a full-tuition scholarship model that is sustainable.
- Began the work to research and analyze the following potential efforts to accelerate a return to free tuition:
  1. Refinancing (or renegotiating) Cooper Union's debt.
  2. Financial engineering solutions (e.g., a "sandwich lease") that generate cash today from Chrysler Building rents otherwise owed to Cooper Union in the future (as long as they create a net advantage for Cooper Union).
  3. Major capital campaign and/or other fundraising efforts.
  4. Possible near-term steps to show progress along the path to restoring sustainable full-tuition scholarships.
  5. Strategic examination of whether there are other approaches for operating Cooper Union, while maintaining the three schools, historic enrollment levels, and high academic quality.

## 2017

**Identifying Initiatives to Pursue**

As noted previously, the FEC committed to spending 2017 to identify, analyze, and prioritize new revenue and expense initiatives that could significantly accelerate the time frame to return to full-tuition scholarships. In early 2017, the Committee inventoried and prioritized potential initiatives and the analyses that would be needed to assess their feasibility, financial contribution, potential reputational risk, and programmatic trade-offs, if any. The Committee also identified the ways in which it would engage other Board committees in this work, particularly the Finance & Business Affairs Committee and the Alumni Affairs & Development Committee. The work plan covered everything from a review of organizational and staffing analyses to identification of additional cost savings to developing ancillary revenue streams and new fundraising approaches. The FEC developed the initial work plan, circulated it to other committees and the full Board, and incorporated their additions and feedback into a final plan for the year.

**Roles, Responsibilities, and Process of Engagement**

While the FEC was charged with the primary responsibility of developing a plan to return to a sustainable full-tuition scholarship model, the Committee sought the engagement of various constituents in the process. The Committee sought input from other Trustees and Faculty and Staff Representatives to the Board, and provided updates to the full Board at each of its quarterly Board meetings. These updates have been important against the backdrop of the broader strategic planning work that the Board is doing.

Engagement with the Finance & Business Affairs Committee has been particularly important as that committee was responsible for analyzing and recommending the key financial metrics to evaluate initiatives, such as debt restructuring options, and Cooper's overall financial health on both annual operating and long-term bases. The FEC also met jointly with the Finance & Business Affairs Committee this summer to review pre- and post-tuition enrollment and scholarship trends and the implications to Cooper Union's finances, student body, and academic profile.

Beyond the Board, the FEC also sought to gather input from the broader Cooper community of alumni, faculty, staff, and students by hosting gatherings with these groups.[17] Committee members, other Trustees, and President Sparks have attended these meetings in order to answer questions, address the community's concerns, and solicit ideas and insights. The primary goal of these meetings was to engage the Cooper community in discussion, to inform attendees of the hard work necessary to return to full-tuition scholarships for all, to generate new ideas, and to try to foster an atmosphere of healing and trust. Key takeaways from these meetings are summarized here and included in more detail in Appendix E.

- All groups appeared to be almost uniformly in support of returning to full-tuition scholarships for all, but they vary on how quickly the return should be with some placing a greater emphasis on long-term financial health while others suggested that a quicker return is necessary to reduce reputational harm and more likely to generate financial support from alumni.
- All groups are focused on ensuring that the quality of the school (measured by students, faculty, and programming) does not decline. Some feel that full-tuition scholarships drive quality; others feel that investment in the academic program is more or equally important.
- All groups seem to be in favor of increasing scholarships incrementally along the path to free tuition (as opposed to waiting until we could implement a full-tuition scholarship model all at once), but there is no clear consensus on how incremental resources should be allocated (e.g., based on financial need, evenly across the student body, by year/class.)
- All groups indicated a need to proactively change the narrative about Cooper from a negative story to a positive one. Many in the community were surprised to learn that over 37% of students are still receiving 100% scholarships. Clearly, our communications efforts must be addressed.

16 | With the exception of the faculty retirement program, which starts achieving cost savings in FY21 and is projected to achieve the full benefit of savings by FY23

17 | The FEC met with students on April 26, faculty and staff on May 3, and alumni on October 11, but attendance was not as high as hoped. The FEC is exploring additional ways to gather alumni, faculty, staff, and students that may be more convenient for participants so that we can generate wider feedback in the future. The President had Open Houses where the topic was also discussed. The CUAA President was elected to the Board and appointed to the FEC in July 2017.

## ANALYSES AND ASSESSMENTS OF INITIATIVES

**The Committee spent much of the year analyzing the full inventory of initiatives that it developed in early 2017. For each initiative, the Committee sought to understand the opportunity and its impact on finances, academics, student experience, fundraising prospects, alumni experience, reputation, and other intangibles. The Committee also identified risks associated with each initiative and steps that could be taken to mitigate those risks. From this the Committee made a decision about whether or not to include the initiative in the recommended plan or put it in the bullpen. A summary of each key analysis is provided below.**

**INITIATIVE NAME**

## DEBT REFINANCING

RECOMMENDED (YES/NO/BULLPEN): Yes (Additional Initiative)

### SUMMARY OF THE OPPORTUNITY

Refinance MetLife and/or Bridge loans at lower interest rate.

**IMPACT ON**

| | |
|---|---|
| **FINANCES** | Given the current structure of the debt, including significant prepayment penalties on both loans, refinancing would likely increase the overall debt levels and associated cost and extend the term. While refinancing could increase positive cash flow in the early years, the refinancing scenarios presented “kick the can down the road” solutions. |
| **ACADEMICS** | n/a |
| **STUDENT EXPERIENCE** | n/a |
| **FUNDRAISING** | Could be negatively impacted if adding to the existing debt burden is viewed as fiscally irresponsible. |
| **ALUMNI EXPERIENCE** | n/a |
| **REPUTATION** | See Fundraising (above) and Other Intangibles (below). |
| **OTHER INTANGIBLES** | Increased debt burden may be viewed by some as irresponsible. Increased positive cash flow in the early years may provide comfort for those looking for cash flow relief. |
| **RISKS AND MITIGATING FACTORS** | Risk is that future revenue won’t support increased debt service. Mitigating factor: Significant portion of revenue (Chrysler building) is contractually locked in (if we assume there is little to no credit risk) and can be matched to debt payments. This risk isn’t any different than current risk, but it would extend for a longer period of time. |
| **IS THE DECISION REVERSIBLE** | Likely yes, as long as penalties are not cost-prohibitive. |
| **CONCLUSION** | Only proceed if lender will waive prepayment penalty. |
| **NEXT STEPS** | Administration and select Trustees will establish appropriate strategy. |



**INITIATIVE NAME**

## MONETIZE (SELL/LEASE) STUYVESANT–FISH HOUSE

RECOMMENDED (YES/NO/BULLPEN): Bullpen

### SUMMARY OF THE OPPORTUNITY:

Convert to administrative office space, rent, or sell 21 Stuyvesant Street, currently used as the President’s residence and community event space.

**IMPACT ON**

| | |
|---|---|
| **FINANCES** | Comparative market analysis suggests that sale of the house could generate a $13 million to $20 million scholarship endowment, earning $700,000–$1 million annually, assuming 5% earnings. Renting the property is projected to generate significantly less revenue ($90,000–$192,000 annually). Converting to administrative office space could generate annual net budget improvement of $182,000.<br>Annuity payments of $175,000 to donor continue until his passing, regardless of the property disposition. |
| **ACADEMICS** | n/a |
| **STUDENT EXPERIENCE** | n/a |
| **FUNDRAISING** | n/a |
| **ALUMNI EXPERIENCE** | Minor impact on current situation. Could represent missed (non-financial) opportunity to engage alumni more deeply by offering space to gather/meet/stay. |
| **REPUTATION** | Could erroneously be viewed as attempt to generate cash for short-term operating needs vs. longer-term strategy. |
| **OTHER INTANGIBLES** | Community could be demoralized by another asset sale. |
| **RISKS AND MITIGATING FACTORS** | Risk is that property won’t command a price as high as the appraisal and brokerage firms indicated. Mitigating Factor: Set a floor price and hold the property if sale cannot exceed the floor. Another risk is potential alumni concern about selling assets. Mitigating factor: Communicate clearly and frequently that the sale converts from one asset (real estate) to another (scholarship endowment) and that corpus derived from sale proceeds is not being used to cover operating expenses. |
| **IS THE DECISION REVERSIBLE:** | No (unless somebody resells at a time when Cooper has the resources to re-purchase), but could purchase another property, resources permitting. |
| **CONCLUSION** | In the future, evaluate a potential sale if financial targets aren’t met and only above an agreed upon floor price. |

INITIATIVE NAME

## INCREASE RESIDENCE HALL (DORM) RENTAL RATE TO MARKET RATE

RECOMMENDED: (YES/NO/BULLPEN): Yes

### SUMMARY OF THE OPPORTUNITY

Comparative market analysis indicates that Cooper Union undercharges on its dorm rate compared with other New York City colleges and universities. Increasing the dorm rate to $15,000 (vs. current rate of $12,300) per year for those who can afford it would align Cooper Union more closely with the market and generate additional income.

IMPACT ON

**FINANCES** The estimated range of additional revenue is from $300,000 to $400,000 annually.

**ACADEMICS** For those students priced out of the residence hall, they may find less expensive housing nearby. For those who can't, a considerable increase in commuting time may impact their academic performance and engagement.

**STUDENT EXPERIENCE** The increase in the dorm rate may increase students' debt load.

**FUNDRAISING** n/a

**ALUMNI EXPERIENCE** n/a

**REPUTATION** n/a

**OTHER INTANGIBLES** If more students opt to live off-campus as a result of the increased dorm rates, it could negatively impact the sense of community that is built by having so many first-year students reside in the dorm.

**RISKS AND MITIGATING FACTORS** The residence hall primarily serves first-year students. After the first year, students are required to look for off-campus housing. The risk is that first-year students will choose not to live in the dorm if rates are increased, either because they can no longer afford to or because they can find less expensive options elsewhere. To mitigate this impact, Cooper will continue to provide aid to those who demonstrate financial need. For those who can afford it, we believe the value of living in campus housing for a student's first year is likely to outweigh the increased cost. We will monitor the impact of higher prices and adjust as appropriate.

**IS THE DECISION REVERSIBLE** Yes

**CONCLUSION** The dorm rate will be increased to reflect the current market rate beginning in FY 2020.

INITIATIVE NAME

## SALE OF RESIDENCE HALL (DORM)

RECOMMENDED: (YES/NO/BULLPEN): Bullpen

### SUMMARY OF THE OPPORTUNITY

Sale of the Residence Hall would generate proceeds that could be added to the endowment to earn investment returns. A sale would also eliminate the net revenue currently earned from the Residence Hall.

IMPACT ON

**FINANCES** Comparative market analysis suggests that sale of the Residence Hall could generate an approximate $50 million scholarship endowment, earning $2.5 million annually assuming 5% earnings. These annual earnings would be reduced over time by eliminating the net revenue currently earned from the Residence Hall which is projected to grow with the increase of Residence Hall rental revenue to market rates. Net endowment proceeds from FY20 through FY29 would be $3.3 million.

**ACADEMICS** For those students priced out of the Residence Hall, a considerable increase in commuting time may impact their academic performance and engagement.

**STUDENT EXPERIENCE** Loss of common living space reduces opportunities to connect with other students and potentially makes it more difficult to build a sense of community in a student's first year at Cooper.

**FUNDRAISING** n/a

**ALUMNI EXPERIENCE** n/a

**REPUTATION** Loss of access to a Residence Hall is likely to make the college less marketable. This could be offset by access to full-tuition scholarships for more students.

**OTHER INTANGIBLES** Loss of the sense of community that is built by having so many first-year students reside in the dorm.

**RISKS AND MITIGATING FACTORS** As noted above, the Residence Hall primarily serves first-year students. After the first year, students are required to look for off-campus housing. The loss of the dorm would result in lower net revenue (vs. dorm rental revenue) over the long term and missed opportunities for community building. To mitigate this impact, we should only consider selling the dorm if net revenue from the dorm falls, and if we pursue a sale, we should consider using a small portion of sale proceeds to develop community space within our other buildings.

**IS THE DECISION REVERSIBLE** No

**CONCLUSION** Sale of the Residence Hall will be put in the bullpen for future consideration if other initiatives do not materialize as planned.

INITIATIVE NAME

## RENT FIRST FLOOR OF FOUNDATION BUILDING

RECOMMENDED (YES/NO/BULLPEN): Bullpen

### SUMMARY OF THE OPPORTUNITY

As part of a larger space planning study, the FEC reviewed the possibility of using the first floor of the Foundation Building to generate revenue.

IMPACT ON

| | |
|---|---|
| **FINANCES** | The estimated range of additional revenue is from $600,000 to $1.3 million annually. Capital investment to accommodate tenant(s) would need to be incorporated into the lease. |
| **ACADEMICS** | Likely no impact, but depends on how the library would need to be reconfigured to accommodate sufficient tenant space to make the initiative worthwhile. |
| **STUDENT EXPERIENCE** | Depending on the tenant(s), there could be either a positive or negative impact on student experience. The library would need to be reconfigured or, more likely, moved. Students potentially lose space that is currently used for impromptu gatherings and exhibition of work. The community could also gain amenities that certain tenants could provide (community work space, food vendors, etc.). |
| **FUNDRAISING** | Loss of naming opportunity for a high-traffic area. |
| **ALUMNI EXPERIENCE** | n/a |
| **REPUTATION** | Similar to student experience, could be positive, negative, or neutral. |
| **OTHER INTANGIBLES** | Depending on the tenant(s), could create more dynamic feel to the space and relevant amenities, or could simply consume space with no additional non-financial benefits. Commercializes an historic building. |
| **RISKS AND MITIGATING FACTORS** | This initiative assumes Cooper Union can find a suitable tenant, one that aligns with the school's culture and plans for the Great Hall, in a depressed rental market as evidenced by declining rental trends and current neighborhood vacancies. If we pursue this option, we would mitigate the risk by striving for long-term leases that require little to no up-front capital outlay, with an opportunity to exit the relationship in a reasonable time frame once Cooper Union is on solid financial ground. |
| **IS THE DECISION REVERSIBLE** | Yes, with investment and effort. The cost of returning the space to its current state or something similar, after an expensive renovation, is possible but would be costly with respect to time, money, and disruption. |
| **CONCLUSION** | Further assess market demand, possible tenants, and Cooper community interest and concerns. Set minimum net revenue required to move forward. Requires extensive community engagement. |

INITIATIVE NAME

## 30 COOPER SQUARE

RECOMMENDED (YES/NO/BULLPEN): Yes/Bullpen

### SUMMARY OF THE OPPORTUNITY:

Currently, Cooper Union leases four floors at 30 Cooper Square for various administrative offices housing approximately 70 Cooper employees. Reducing Cooper's use of space in the building would reduce rental expense. This could be done through a combination of relocating people to space in the buildings Cooper Union owns (Foundation Building, 41 Cooper Square, and Residence Hall) and creating remote office options.

IMPACT ON

| | |
|---|---|
| **FINANCES** | The estimated annual savings from reducing our footprint from four floors to two would range from $400,000 to $500,000 annually through the projection period. Work toward fully eliminating this lease expense beyond FY19 could potentially approach doubling our savings. |
| **ACADEMICS** | n/a |
| **STUDENT EXPERIENCE** | n/a |
| **FUNDRAISING** | n/a |
| **ALUMNI EXPERIENCE** | n/a |
| **REPUTATION** | n/a |
| **OTHER INTANGIBLES** | Could impact the way employees view the quality of their work life. |
| **RISKS AND MITIGATING FACTORS** | Could be viewed as either positive or negative for employees, depending on how the consolidation is handled. Most feel that teaching, learning, and operating the school are already space-constrained. A move to further increase density could be viewed negatively by employees. However, some may prefer the flexibility to work from home, and we believe there are creative approaches that could improve current work conditions and develop a more dynamic and collaborative working environment. |
| **IS THE DECISION REVERSIBLE** | Yes, but likely with increased cost. Cooper Union currently receives a favorable rental rate relative to market growth over the last several years, but we anticipate rents to go up. Although space in this particular building may not be available if/when Cooper Union wishes to once again expand its physical space, there are other rental alternatives nearby (though likely at a higher cost). |
| **CONCLUSION** | Reduce Cooper Union's footprint in 30 Cooper Square by 50% by the end of FY19. Work toward fully eliminating this lease expense beyond FY19. |

INITIATIVE NAME

## INCREASE ANCILLARY REVENUE

RECOMMENDED (YES/NO/BULLPEN): Yes

### SUMMARY OF THE OPPORTUNITY:

There is an opportunity to increase revenue through an improved continuing education program, an online store, and other initiatives to be developed in the future.

Continuing Education — In the past, each individual course of the continuing education program has run at a small profit, but the combined profit has not been enough to cover administrative costs. Certificate programs in Digital Fabrication and Typeface Design have relatively strong enrollments, but non-certificate programs in visual arts and other areas have weaker enrollments. Going forward, the continuing education and industry certification programs will be restructured to maximize profitability by solely offering programs that are either profitable on their own or are fully grant-funded.

Online Store — Until last month, there was no way to purchase Cooper-related merchandise. This was a missed opportunity to generate school pride, connection to Cooper Union, and additional revenue.

IMPACT ON

**FINANCES** Staffing costs have already been reduced in the area of continuing education as part of the previously identified $9.1 million in expense cuts, and existing staff is managing the online store with no additional costs other than the upfront setup costs that will be recovered through earned revenue.

**ACADEMICS** n/a

**STUDENT EXPERIENCE** n/a

**FUNDRAISING** n/a

**ALUMNI EXPERIENCE** New opportunities to purchase Cooper merchandise and enroll in interesting continuing education classes while financially supporting scholarships for current generations of Cooper students.

**REPUTATION** New opportunities to build Cooper's visibility and brand through continuing education industry partnerships.

**OTHER INTANGIBLES** Create new opportunities to connect in positive ways with Cooper Union.

**RISKS AND MITIGATING FACTORS** Anticipated revenues may not materialize. To mitigate this risk, we will minimize upfront investments until proof of concept is established.

**IS THE DECISION REVERSIBLE** Yes

**CONCLUSION** Proceed with restructuring continuing education (including potential corporate partnerships to provide employee education), launching an online store, and looking for additional earned revenue opportunities that are consistent with Cooper Union's mission.



INITIATIVE NAME

## SPACE RENTALS

RECOMMENDED (YES/NO/BULLPEN): Yes

### SUMMARY OF THE OPPORTUNITY

Cooper Union rents out the Great Hall, Rose Auditorium, and other spaces at a reasonable profit, but we believe there is room for growth in rentals with increased marketing and pricing growth.

IMPACT ON

**FINANCES** We have revised our long-term financial projections to increase revenue by 3% per year (from $475,000 in FY18 to $489,000 in FY19 and $658,000 by FY29) versus the previous projection of flat year-over-year revenue.

**ACADEMICS** n/a

**STUDENT EXPERIENCE** Increased programming from outside renters is often open to the Cooper community, thereby enhancing the community and learning experience.

**FUNDRAISING** Events that are open to the Cooper community will be used to increase donor and public engagement and excitement about the Great Hall and Cooper Union whenever possible/appropriate.

**ALUMNI EXPERIENCE** Similar to the student experience, engaging programming that is open to the public offers alumni additional ways to stay engaged at Cooper Union.

**REPUTATION** The Great Hall has been home to some of the greatest moments in history. Part of our mission is to restore Cooper Union's Great Hall as a "must see" destination for New Yorkers and visitors. Increased programming through Cooper's own activities as well as outside rentals can have a positive and profound impact on Cooper Union's reputation as a source of compelling programming and a leader in civic discourse.

**OTHER INTANGIBLES** n/a

**RISKS AND MITIGATING FACTORS** There is a risk the market may not support increased pricing. Where appropriate, Cooper will market-test higher pricing in future contracts. In certain cases (e.g., film shoots), the rental activity has the potential to be disruptive to the community. We work to mitigate this risk by limiting the hours for certain kinds of activities and by imposing use restrictions to minimize disruption.

**IS THE DECISION REVERSIBLE** Yes

**CONCLUSION** Increased rental fees by 3% annually.

INITIATIVE NAME

## REDUCE GRADUATE TUITION SCHOLARSHIPS

RECOMMENDED (YES/NO/BULLPEN): Yes

### SUMMARY OF THE OPPORTUNITY

Reduce average graduate program tuition scholarships to a 25% level from the existing 66% level.

IMPACT ON

| | |
|---|---|
| **FINANCES** | Reducing scholarship levels for graduate students would, assuming enrollment levels stay the same, result in increased revenue of $700,000 annually in FY19 growing to $950,000 annually by FY29. |
| **ACADEMICS** | There is no expected impact on the undergraduate program or undergraduate tuition. However, if graduate enrollment declines significantly, it could reduce the availability of graduate courses in which some undergraduates enroll for advanced study. |
| **STUDENT EXPERIENCE** | See above. |
| **FUNDRAISING** | n/a |
| **ALUMNI EXPERIENCE** | Makes a Cooper graduate degree more financially difficult to obtain. |
| **REPUTATION** | A decline in graduate enrollment could negatively impact the reputation of the school if Cooper Union needs to reduce the availability of graduate classes to undergraduates due to low enrollment. Charging tuition for the graduate program could, in and of itself, impact Cooper's reputation. |
| **OTHER INTANGIBLES** | n/a |
| **RISKS AND OTHER MITIGATING FACTORS** | Many of the current graduate students in the engineering program are former Cooper undergraduates who continued their education solely because of the graduate tuition structure. A potential risk to this initiative is that the loss of graduate students may offset gains made. We will monitor this potential dynamic and adjust accordingly. |
| **IS THE DECISION REVERSIBLE** | Yes |
| **CONCLUSION** | The average graduate tuition scholarship will be reduced to an average of 25% until 100% undergraduate scholarships are achieved. |

INITIATIVE NAME

## INCREASE APPLICATION FEE

RECOMMENDED (YES/NO/BULLPEN): No

### SUMMARY OF OPPORTUNITY

The current fee to apply for admission to The Cooper Union is $75. The excellent education received at a relatively low cost could warrant a higher application fee. A fee increase would be in line with application fees charged by our peers.

IMPACT ON

| | |
|---|---|
| **FINANCES** | The estimated financial impact of increasing the application fee to $125 would be $50,000 annually. |
| **ACADEMICS** | n/a |
| **STUDENT EXPERIENCE** | n/a |
| **FUNDRAISING** | n/a |
| **ALUMNI EXPERIENCE** | n/a |
| **REPUTATION** | Although comparable to many other schools, Cooper is already listed as having one of the highest application fees. |
| **OTHER INTANGIBLES** | n/a |
| **RISKS AND OTHER MITIGATING FACTORS** | The high application fee could turn away qualified candidates. Cooper would continue to make financial aid available for the application fee, but the high stated fee could turn some away if they are unaware of the support that is available. |
| **IS THE DECISION REVERSIBLE** | Yes |
| **CONCLUSION** | Do not increase application fee at this time, as revenue increase likely does not outweigh potential risks to reputation and applicant pool. Continue to monitor for future market-based increases. |

INITIATIVE NAME

## INCREASE FUNDRAISING

RECOMMENDED (YES/NO/BULLPEN): Yes

### SUMMARY OF OPPORTUNITY

Increase net fundraising revenue by reducing costs and revising strategies. Focus will be on the distinctive qualities and history of the school as a contributor to the public good and plans to raise the profile of both the history and the work being done by alumni and current students and faculty.

### IMPACT ON ($000's)

| FINANCES | Annual Fundraising | Annual Fundraising Expense Reductions |
|---|---|---|
| FY 2018 | 3,225 | 489 |
| FY 2019 | 4,992 | |
| FY 2020 | 6,011 | |
| FY 2021 | 7,094 | |
| FY 2022 | 8,260 | |
| FY 2023 | 9,449 | |
| FY 2024 | 10,671 | |
| FY 2025 | 11,936 | |
| FY 2026 | 13,245 | |
| FY 2027 | 14,678 | |
| FY 2028 | 16,234 | |
| FY 2029 | 17,824 | |

**ACADEMICS** n/a

**STUDENT EXPERIENCE** Through compelling messaging, students may develop a greater sense of pride in and connection to Cooper Union.

**FUNDRAISING** The goal is to provide an early injection of increased fundraising while also positioning Cooper Union for sustained fundraising growth by increasing the average gift of existing donors and using Great Hall programming as a way to reach new, non-alumni donors. Plan will include strong focus on under-tapped sources such as corporate partnerships, government grants, and foundation grants. Before a capital campaign is considered, a larger pool of annual major donors and stabilized annual fundraising efforts are needed. A capital campaign is not recommended until fundraising reaches $10 million in annual, current-use support (up from approximately $3 million) and is maintained at this level for three to five years.

**ALUMNI EXPERIENCE** Through compelling messaging, alumni may develop a greater sense of pride in and connection to Cooper Union. Alumni may also develop greater satisfaction through new approaches to alumni engagement events.

**REPUTATION** Improved fundraising messaging creates an opportunity to shift to a more positive, reputation-enhancing narrative.

**OTHER INTANGIBLES** n/a

**RISKS AND OTHER MITIGATING FACTORS** The fundraising projections are ambitious. Benchmarking suggests the projections are achievable, but Cooper will need to significantly improve its track record in this area.

**IS THE DECISION REVERSIBLE** Yes (but with important financial consequences)

**CONCLUSION** Move ahead with new fundraising approaches and more ambitious fundraising targets. Develop specific plan by end of 2018.

INITIATIVE NAME

## EXPENSE REDUCTION

RECOMMENDED (YES/NO/BULLPEN): Yes

### SUMMARY OF OPPORTUNTIY

Further reduce expenses beyond the $9.1 million in structural expense reductions already identified, through reduced non-personnel costs, lower staffing expenses achieved through operational efficiencies, reduced benefits costs, and lower space rental costs at 30 Cooper Square (described previously).

IMPACT ON

| | |
|---|---|
| **FINANCES** | $1.2 million in additional annual expense reduction. |
| **ACADEMICS** | n/a (All expense reductions will focus on non-academic costs.) |
| **STUDENT EXPERIENCE** | n/a |
| **FUNDRAISING** | n/a |
| **ALUMNI EXPERIENCE** | n/a |
| **REPUTATION** | News about further expense reductions could be misconstrued as a sign of further financial distress rather than steps toward increasing full-tuition scholarships. |
| **OTHER INTANGIBLES** | Further expense reductions could negatively impact faculty and staff morale. |
| **RISKS AND OTHER MITIGATING FACTORS** | To ensure that we continue to retain a high-quality faculty and staff, any reductions to personnel costs must be market competitive. Continuing to rally the community around a shared mission of full-tuition scholarships for all and investment in the academic and operational excellence will be critical to overcoming any potential negative impacts to morale that could come with additional expense reductions. |
| **IS THE DECISION REVERSIBLE** | Yes |
| **CONCLUSION** | Move ahead with additional expense reductions. |

INITIATIVE NAME

## STUDENT EMPLOYMENT

RECOMMENDED (YES/NO/BULLPEN): No

### SUMMARY OF OPPORTUNITY:

Convert payment for student employment from monetary payments to tuition credit.

IMPACT ON

| | |
|---|---|
| **FINANCES** | We currently pay students in excess of $500,000 per year related to work performed on jobs at Cooper Union (e.g., IT support). |
| **ACADEMICS** | With fewer financial resources, students may need to take on additional jobs beyond their employment at Cooper to make ends meet. This could have a negative impact on academic performance. |
| **STUDENT EXPERIENCE** | See above. |
| **FUNDRAISING** | n/a |
| **ALUMNI EXPERIENCE** | n/a |
| **REPUTATION** | n/a |
| **OTHER INTANGIBLES** | Added financial stress and time spent working outside of class could adversely impact students individually and in collaborative work with others. Students could feel a greater sense of investment in their education if their work is directly tied to tuition. |
| **RISKS AND OTHER MITIGATING FACTORS** | See above for risks. Limited opportunities to mitigate the potential challenges. |
| **IS THE DECISION REVERSIBLE** | Yes |
| **CONCLUSION** | Continue to compensate students monetarily for their work rather than convert to tuition credit. |

As the FEC continues its work to advocate for and monitor the implementation of the plan, we will continue to identify new possibilities and pursue them as appropriate.

### Next Steps

We look forward to the Financial Monitor's February 2018 Annual Report with its assessment of the FEC's Recommended Plan. Once the Financial Monitor provides its report, the Board will be able to consider the FEC plan, the Financial Monitor's comments about the plan, community input solicited from various in-person and online forums, and ultimately whether, and to what extent, to adopt it.

We view this as a dynamic plan, one that will continue to evolve, even after the report is finalized, as new opportunities present themselves. As noted above, the FEC proposes to serve as the Board Committee that will continue to source new ideas, triage and analyze them, and pursue the efforts that make financial and programmatic sense. In addition, the FEC proposes to serve as a key oversight committee as we embark on the path to return to full-tuition scholarships and rigorously monitor our progress. Our goal will be to report on progress at least twice a year.

# APPENDIX A: LONG-TERM PROJECTIONS

## CASH SURPLUS/(DEFICIT) — POST INITIATIVES

(000'S)

| | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | FY30 | FY31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenues:** | | | | | | | | | | | | | | |
| Real Estate | 47,447 | 59,922 | 60,472 | 61,034 | 61,606 | 62,191 | 62,787 | 63,395 | 64,015 | 64,648 | 69,543 | 74,452 | 75,123 | 75,808 |
| Undergraduate Tuition, Net | 7,899 | 8,136 | 7,708 | 7,543 | 7,360 | 7,160 | 6,941 | 5,809 | 4,602 | 3,318 | 1,953 | (748) | (748) | (748) |
| Graduate Tuition, Net | 555 | 1,279 | 1,317 | 1,356 | 1,397 | 1,439 | 1,482 | 1,526 | 1,573 | 1,619 | 1,668 | 1,718 | 1,770 | 1,823 |
| Fees | 3,656 | 3,696 | 3,737 | 3,776 | 3,816 | 3,858 | 3,900 | 3,943 | 3,986 | 4,029 | 4,073 | 4,118 | 4,163 | 4,209 |
| Rental Income and Other | 2,980 | 3,310 | 3,704 | 3,800 | 3,900 | 4,000 | 4,105 | 4,215 | 4,324 | 4,440 | 4,558 | 4,679 | 4,805 | 4,934 |
| Contributions | 3,225 | 4,992 | 6,011 | 7,094 | 8,260 | 9,449 | 10,671 | 11,936 | 13,245 | 14,678 | 16,234 | 17,824 | 19,598 | 21,536 |
| Endowment Payout | 2,825 | 4,590 | 4,611 | 4,528 | 4,646 | 4,776 | 4,915 | 5,058 | 5,205 | 5,354 | 5,505 | 5,657 | 5,810 | 5,965 |
| | 68,587 | 85,925 | 87,560 | 89,131 | 90,985 | 92,873 | 94,801 | 95,882 | 96,950 | 98,086 | 103,534 | 107,700 | 110,521 | 113,527 |
| **Operating Expenses:** | | | | | | | | | | | | | | |
| Salaries & Wages | 28,836 | 28,926 | 29,649 | 30,390 | 31,150 | 31,928 | 32,727 | 33,545 | 34,383 | 35,243 | 36,124 | 37,027 | 37,953 | 38,902 |
| Benefits & Taxes | 10,696 | 11,088 | 11,497 | 11,922 | 12,366 | 12,827 | 13,309 | 13,810 | 14,333 | 14,878 | 15,446 | 16,038 | 16,656 | 17,300 |
| Utilities | 1,951 | 1,990 | 2,029 | 2,070 | 2,111 | 2,154 | 2,197 | 2,241 | 2,285 | 2,331 | 2,378 | 2,425 | 2,474 | 2,523 |
| Lease & Real Estate Taxes | 2,083 | 2,125 | 2,168 | 2,211 | 2,255 | 2,300 | 2,346 | 2,393 | 2,441 | 2,490 | 2,540 | 2,590 | 2,642 | 2,695 |
| Repairs & Maintenance | 865 | 882 | 900 | 918 | 936 | 955 | 974 | 994 | 1,014 | 1,034 | 1,055 | 1,076 | 1,097 | 1,119 |
| Legal & Audit | 1,173 | 1,197 | 1,221 | 1,245 | 1,270 | 1,296 | 1,321 | 1,348 | 1,375 | 1,402 | 1,278 | 1,304 | 1,330 | 1,356 |
| Consultants | 605 | 617 | 629 | 642 | 655 | 668 | 681 | 695 | 709 | 723 | 737 | 752 | 767 | 782 |
| Housekeeping | 1,107 | 1,129 | 1,152 | 1,175 | 1,198 | 1,222 | 1,247 | 1,272 | 1,297 | 1,323 | 1,350 | 1,377 | 1,404 | 1,432 |
| Security | 991 | 1,011 | 1,032 | 1,052 | 1,073 | 1,095 | 1,117 | 1,139 | 1,162 | 1,185 | 1,209 | 1,233 | 1,257 | 1,283 |
| Materials & Supplies | 826 | 843 | 859 | 877 | 894 | 912 | 930 | 949 | 968 | 987 | 1,007 | 1,027 | 1,048 | 1,069 |
| Insurance | 494 | 504 | 514 | 524 | 535 | 545 | 556 | 567 | 579 | 590 | 602 | 614 | 627 | 639 |
| Receptions & Events | 590 | 602 | 614 | 626 | 639 | 652 | 665 | 678 | 691 | 705 | 719 | 734 | 748 | 763 |
| Travel | 549 | 560 | 571 | 583 | 594 | 606 | 618 | 631 | 643 | 656 | 669 | 683 | 696 | 710 |
| Software | 538 | 549 | 560 | 571 | 582 | 594 | 606 | 618 | 630 | 643 | 656 | 669 | 682 | 696 |
| Program Initiatives | | 668 | 1,036 | 1,428 | 1,852 | 2,284 | 2,728 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| Other | 2,822 | 3,324 | 3,388 | 3,451 | 3,519 | 3,584 | 3,652 | 3,722 | 3,793 | 3,866 | 3,938 | 4,014 | 4,091 | 4,170 |
| Budget Cuts | | (2,057) | (3,147) | (3,542) | (3,940) | (4,707) | (4,864) | (4,975) | (5,087) | (5,203) | (5,321) | (5,442) | (5,566) | (5,692) |
| | 54,126 | 53,958 | 54,672 | 56,143 | 57,689 | 58,915 | 60,810 | 62,627 | 64,216 | 65,853 | 67,387 | 69,121 | 70,907 | 72,747 |
| **Operating Surplus/(Deficit)** | **14,461** | **31,967** | **32,888** | **32,988** | **33,296** | **33,958** | **33,991** | **33,255** | **32,734** | **32,233** | **36,147** | **38,579** | **39,614** | **40,780** |
| **Debt Service & Capital:** | | | | | | | | | | | | | | |
| Interest - MetLife Loan | 10,273 | 10,225 | 9,926 | 9,574 | 9,200 | 8,804 | 8,384 | 7,939 | 7,467 | 6,966 | 6,435 | 5,872 | 5,276 | 4,643 |
| Principal - MetLife Loan | | 3,253 | 5,842 | 6,195 | 6,568 | 6,964 | 7,384 | 7,829 | 8,302 | 8,802 | 9,333 | 9,896 | 10,493 | 11,125 |
| Interest - Bridge Loan | 2,703 | 2,703 | 2,703 | 2,703 | 2,703 | 2,703 | 2,703 | 2,690 | 2,635 | 2,575 | 2,507 | 2,430 | 2,343 | 2,247 |
| Other - Bridge Loan | 15 | 15 | 15 | 15 | 15 | 15 | 15 | | | | | | | |
| Principal - Bridge Loan | | | | | | | | 1,159 | 1,282 | 1,437 | 1,626 | 1,828 | 2,043 | 2,271 |
| Capital Expenditures | 1,520 | 1,770 | 2,020 | 2,270 | 2,520 | 2,520 | 2,520 | 2,520 | 2,520 | 2,520 | 2,520 | 2,520 | 2,520 | 2,520 |
| | 14,511 | 17,966 | 20,506 | 20,757 | 21,006 | 21,006 | 21,006 | 22,137 | 22,206 | 22,300 | 22,421 | 22,546 | 22,674 | 22,806 |
| **Cash Surplus/(Deficit)** | **(50)** | **14,001** | **12,382** | **12,231** | **12,290** | **12,952** | **12,985** | **11,118** | **10,528** | **9,933** | **13,726** | **16,033** | **16,940** | **17,974** |
| **CFI** | **(2.36)** | **(0.66)** | **(0.58)** | **(0.50)** | **(0.42)** | **(0.16)** | **0.59** | **1.34** | **2.12** | **2.93** | **4.02** | **5.26** | **6.22** | **6.84** |

100%

The plan achieves full-tuition scholarships for all undergraduates + non-tuition aid to support other costs of attendance for students with the greatest financial need.

# APPENDIX A (CONT'D)

## ALLOCATIONS OF CASH FOR KEY PRIORITIES

(000'S)

| | Need | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | FY30 | FY31 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | * | * | |
| **Source of Cash:** | | | | | | | | | | | | | | | | |
| Cash Available for Key Financial Priorities | | (50) | 14,251 | 13,553 | 14,070 | 14,820 | 15,949 | 16,477 | 16,025 | 16,932 | 17,921 | 23,389 | 27,967 | 29,202 | 30,574 | 251,081 |
| Interest - Bridge Loan Self Amortization | | | 71 | 145 | 222 | 303 | 386 | 474 | 565 | 660 | 759 | 862 | 970 | 1,082 | 1,590 | 8,088 |
| Interest in Excess of Endowment Payout | | 2,550 | 506 | 1,160 | 1,879 | 2,423 | 2,981 | 3,584 | 4,210 | 4,782 | 5,352 | 5,921 | 6,675 | 7,559 | 8,128 | 57,710 |
| | | 2,500 | 14,827 | 14,858 | 16,171 | 17,546 | 19,317 | 20,534 | 20,799 | 22,374 | 24,032 | 30,172 | 35,612 | 37,844 | 40,293 | 316,879 |
| **Allocation of Cash:** | | | | | | | | | | | | | | | | |
| **Key Financial Reserves:** | | | | | | | | | | | | | | | | |
| Operating and Capital Reserve | | (2,500) | (12,336) | (11,372) | (11,940) | (12,543) | (13,263) | (13,899) | (12,658) | (12,640) | (12,615) | (16,977) | (19,257) | | | (152,000) |
| Self Amortization on Bridge Loan Principal | | | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (1,670) | (10,872) | (30,912) |
| Interest on Bridge Loan Self Amortization | | | (71) | (145) | (222) | (303) | (386) | (474) | (565) | (660) | (759) | (862) | (970) | (1,082) | (1,590) | (8,088) |
| Post-Retirement Health Insurance Reserve | | | (500) | (500) | (500) | (500) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,782) | (22,830) | (15,388) | (48,000) |
| **Key Financial Priority Expenditures:** | | | | | | | | | | | | | | | | |
| Accelerated Scholarship Increase | | | | (672) | (1,089) | (1,530) | (1,997) | (2,491) | (3,906) | (5,404) | (6,988) | (8,663) | (10,934) | (11,262) | (11,600) | (66,536) |
| Deferred Maintenance | | | (250) | (500) | (750) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (1,000) | (11,500) |
| | | (2,500) | (14,827) | (14,859) | (16,171) | (17,546) | (19,316) | (20,534) | (20,799) | (22,374) | (24,032) | (30,172) | (35,613) | (37,844) | (40,450) | (317,036) |
| Remaining Cash Available | | 0 | 0 | (1) | (0) | 0 | 0 | 0 | 1 | 0 | 0 | (0) | (0) | (0) | (157) | (157) |
| **Remaining Need:** | | | | | | | | | | | | | | | | |
| Operating and Capital Reserve | 152,000 | 149,500 | 137,164 | 125,792 | 113,852 | 101,309 | 88,046 | 74,147 | 61,489 | 48,849 | 36,234 | 19,257 | - | - | - | - |
| Bridge Loan Principal @ Maturity | 39,000 | 39,000 | 37,259 | 35,444 | 33,552 | 31,579 | 29,523 | 27,379 | 25,144 | 22,815 | 20,386 | 17,854 | 15,214 | 12,462 | 0 | 0 |
| Post-Retirement Health Insurance Reserve | 48,000 | 48,000 | 47,500 | 47,000 | 46,500 | 46,000 | 45,000 | 44,000 | 43,000 | 42,000 | 41,000 | 40,000 | 38,218 | 15,388 | - | - |
| Deferred Maintenance | 11,500 | 11,500 | 11,250 | 10,750 | 10,000 | 9,000 | 8,000 | 7,000 | 6,000 | 5,000 | 4,000 | 3,000 | 2,000 | 1,000 | - | - |
| | 250,500 | 248,000 | 233,173 | 218,986 | 203,904 | 187,888 | 170,569 | 152,526 | 135,633 | 118,664 | 101,620 | 80,111 | 55,432 | 28,850 | 0 | 0 |

| | FY18 - FY29 | FY30 - FY31 | Total |
|---|---|---|---|
| Cash Generated, Including Interest | 238,743 | 78,136 | 316,879 |
| Rebuild Depleted Cash Reserves | 152,000 | | 152,000 |
| Build Fund for $39 Million Loan Balloon Payment due in 2034 | 23,786 | 15,214 | 39,000 |
| Build Fund for Post-Retirement Health Insurance Liability | 9,782 | 38,218 | 48,000 |
| Deferred Maintenance Investment | 9,500 | 2,000 | 11,500 |
| Key Financial Priorities | 195,068 | 55,432 | 250,500 |
| Accelerated Tuition Scholarships Investment | 43,674 | 22,862 | 66,536 |
| Cash Use | 238,742 | 78,294 | 317,036 |

*After fully funding tuition in FY2029, cash available from FY2030 and FY2031 used to fully reserve liability coverage for health insurance liability and FY2034 Bridge Loan balloon payment

# APPENDIX A (CONT'D)

# BALANCE SHEET

## (000'S)

| | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | FY30 | FY31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ending Balance Sheet** | | | | | | | | | | | | | | | |
| Cash (A) | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 | 33,852 |
| Investments - Other (B) | 115,986 | 121,517 | 139,154 | 155,932 | 173,386 | 191,554 | 211,058 | 231,317 | 250,459 | 269,710 | 289,068 | 312,924 | 339,983 | 368,979 | 400,120 |
| Investments - Chrysler/Astor | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 | 679,061 |
| Other Assets | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 | 8,862 |
| Loan and Lease Issuance Costs | 10,315 | 9,740 | 9,165 | 8,590 | 8,015 | 7,440 | 6,865 | 6,290 | 5,715 | 5,140 | 4,565 | 3,990 | 3,415 | 2,840 | 2,265 |
| Fixed Assets | 154,408 | 147,428 | 140,698 | 134,218 | 127,988 | 122,008 | 116,028 | 110,048 | 104,068 | 98,088 | 92,108 | 86,128 | 80,148 | 74,168 | 68,188 |
| Total Assets | 1,002,484 | 1,000,460 | 1,010,792 | 1,020,515 | 1,031,164 | 1,042,777 | 1,055,726 | 1,069,430 | 1,082,017 | 1,094,713 | 1,107,516 | 1,124,817 | 1,145,321 | 1,167,762 | 1,192,348 |
| Other Liabilities | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 | 13,377 |
| Post-Retirement Benefit Costs | 40,518 | 41,028 | 41,548 | 42,079 | 42,620 | 43,172 | 43,735 | 44,309 | 44,895 | 45,493 | 46,102 | 46,724 | 47,358 | 48,005 | 48,665 |
| Deferred Revenue | 103,345 | 102,253 | 101,161 | 100,069 | 98,977 | 97,885 | 96,793 | 95,701 | 94,609 | 93,517 | 92,425 | 91,333 | 90,241 | 89,149 | 88,057 |
| Long-Term Loans | 233,760 | 233,760 | 230,507 | 224,664 | 218,470 | 211,902 | 204,938 | 197,553 | 188,565 | 178,981 | 168,741 | 157,782 | 146,058 | 133,523 | 120,126 |
| Net Assets - Unrestricted/Temporary | 530,609 | 526,137 | 537,234 | 550,269 | 564,542 | 580,110 | 597,368 | 615,757 | 634,590 | 654,084 | 674,295 | 699,679 | 728,984 | 760,991 | 795,957 |
| Net Assets - Permanently Restricted | 80,875 | 83,905 | 86,965 | 90,056 | 93,178 | 96,331 | 99,516 | 102,732 | 105,981 | 109,262 | 112,576 | 115,923 | 119,303 | 122,717 | 126,166 |
| Total Liabilities and Net Assets | 1,002,484 | 1,000,460 | 1,010,792 | 1,020,515 | 1,031,164 | 1,042,777 | 1,055,726 | 1,069,430 | 1,082,017 | 1,094,713 | 1,107,516 | 1,124,817 | 1,145,321 | 1,167,762 | 1,192,348 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cash and Investments (A) + (B) | 149,838 | 155,369 | 173,006 | 189,784 | 207,238 | 225,406 | 244,910 | 265,169 | 284,311 | 303,562 | 322,920 | 346,776 | 373,835 | 402,831 | 433,972 |
| Less: Permanently Restricted | (80,875) | (83,905) | (86,965) | (90,056) | (93,178) | (96,331) | (99,516) | (102,732) | (105,981) | (109,262) | (112,576) | (115,923) | (119,303) | (122,717) | (126,166) |
| Available Cash and Investments | 68,963 | 71,464 | 86,041 | 99,728 | 114,060 | 129,075 | 145,395 | 162,437 | 178,331 | 194,300 | 210,344 | 230,854 | 254,532 | 280,114 | 307,806 |
| Commitments: | | | | | | | | | | | | | | | |
| Net Current Liabilities | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) | (4,515) |
| Long-Term Loans | (233,760) | (233,760) | (230,507) | (224,664) | (218,470) | (211,902) | (204,938) | (197,553) | (188,565) | (178,981) | (168,741) | (157,782) | (146,058) | (133,523) | (120,126) |
| Post-Retirement Benefit Costs | (40,518) | (41,028) | (41,548) | (42,079) | (42,620) | (43,172) | (43,735) | (44,309) | (44,895) | (45,493) | (46,102) | (46,724) | (47,358) | (48,005) | (48,665) |
| Cash Commitments | (278,793) | (279,303) | (276,570) | (271,258) | (265,605) | (259,589) | (253,188) | (246,378) | (237,975) | (228,989) | (219,359) | (209,021) | (197,931) | (186,043) | (173,306) |
| Net Cash & Investment Position Available as Operating and Capital Reserve | (209,830) | (207,839) | (190,529) | (171,531) | (151,545) | (130,514) | (107,793) | (83,941) | (59,645) | (34,688) | (9,014) | 21,833 | 56,601 | 94,071 | 134,500 |

Note: Available Cash and Investments does not include Permanently Restricted Corpus, but may include some temporary restriced funds such as charitable trusts and appreciation on endowment not yet appropriated for expenditure

# APPENDIX A (CONT'D)

# COMPOSITE FINANCIAL INDEX (CFI)

## (000's)

| | FY18 | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | FY30 | FY31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Primary Reserve Ratio:** | | | | | | | | | | | | | | |
| Expendable Net Assets | (111,375) | (99,758) | (86,192) | (71,378) | (55,258) | (37,437) | (18,473) | 946 | 21,036 | 41,857 | 67,863 | 97,802 | 130,456 | 166,082 |
| Total Expenses | 75,617 | 75,401 | 75,815 | 76,936 | 78,106 | 78,937 | 80,412 | 81,755 | 82,818 | 83,894 | 84,829 | 85,923 | 87,025 | 88,136 |
| Ratio Value (A) | -147.29% | -132.30% | -113.69% | -92.78% | -70.75% | -47.43% | -22.97% | 1.16% | 25.40% | 49.89% | 80.00% | 113.82% | 149.91% | 188.44% |
| Conversion Factor (B) | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 | 0.133 |
| Strength Factor (A divided by B) | (11.07) | (9.95) | (8.55) | (6.98) | (5.32) | (3.57) | (1.73) | 0.09 | 1.91 | 3.75 | 6.02 | 8.56 | 11.27 | 14.17 |
| Adjusted Strength Factor ('C) | (4.00) | (4.00) | (4.00) | (4.00) | (4.00) | (3.57) | (1.73) | 0.09 | 1.91 | 3.75 | 6.02 | 8.56 | 10.00 | 10.00 |
| Weighting (D) | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% |
| **Primary Reserve Ratio ('C) x (D)** | **(1.40)** | **(1.40)** | **(1.40)** | **(1.40)** | **(1.40)** | **(1.25)** | **(0.60)** | **0.03** | **0.67** | **1.31** | **2.11** | **3.00** | **3.50** | **3.50** |
| **Viability Ratio:** | | | | | | | | | | | | | | |
| Expendable Net Assets | (111,375) | (99,758) | (86,192) | (71,378) | (55,258) | (37,437) | (18,473) | 946 | 21,036 | 41,857 | 67,863 | 97,802 | 130,456 | 166,082 |
| Total Plant Debt | 175,000 | 171,747 | 165,904 | 159,710 | 153,142 | 146,178 | 138,793 | 130,964 | 122,662 | 113,860 | 104,527 | 94,631 | 84,138 | 73,013 |
| Ratio Value (A) | -63.64% | -58.08% | -51.95% | -44.69% | -36.08% | -25.61% | -13.31% | 0.72% | 17.15% | 36.76% | 64.92% | 103.35% | 155.05% | 227.47% |
| Conversion Factor (B) | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 | 0.417 |
| Strength Factor (A) divided by (B) | (1.53) | (1.39) | (1.25) | (1.07) | (0.87) | (0.61) | (0.32) | 0.02 | 0.41 | 0.88 | 1.56 | 2.48 | 3.72 | 5.45 |
| Adjusted Strength Factor ('C) | (1.53) | (1.39) | (1.25) | (1.07) | (0.87) | (0.61) | (0.32) | 0.02 | 0.41 | 0.88 | 1.56 | 2.48 | 3.72 | 5.45 |
| Weighting (D) | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% |
| **Viability Ratio ('C) x (D)** | **(0.53)** | **(0.49)** | **(0.44)** | **(0.38)** | **(0.30)** | **(0.21)** | **(0.11)** | **0.01** | **0.14** | **0.31** | **0.54** | **0.87** | **1.30** | **1.91** |
| **Return on Net Assets Ratio:** | | | | | | | | | | | | | | |
| Change in Net Assets | (1,443) | 14,158 | 16,126 | 17,394 | 18,722 | 20,442 | 21,606 | 22,081 | 22,774 | 23,525 | 28,731 | 32,685 | 35,421 | 38,415 |
| Net Assets, Beginning of Year | 611,484 | 610,042 | 624,199 | 640,325 | 657,720 | 676,441 | 696,883 | 718,489 | 740,571 | 763,345 | 786,870 | 815,601 | 848,287 | 883,708 |
| Ratio Value (A) | -0.24% | 2.32% | 2.58% | 2.72% | 2.85% | 3.02% | 3.10% | 3.07% | 3.08% | 3.08% | 3.65% | 4.01% | 4.18% | 4.35% |
| Conversion (B) | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Strength Factor (A) divided by (B) | (0.12) | 1.16 | 1.29 | 1.36 | 1.42 | 1.51 | 1.55 | 1.54 | 1.54 | 1.54 | 1.83 | 2.00 | 2.09 | 2.17 |
| Adjusted Strength Factor ('C) | (0.12) | 1.16 | 1.29 | 1.36 | 1.42 | 1.51 | 1.55 | 1.54 | 1.54 | 1.54 | 1.83 | 2.00 | 2.09 | 2.17 |
| Weighting (D) | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% |
| **Return on Net Assets Ratio ('C) x (D)** | **(0.02)** | **0.23** | **0.26** | **0.27** | **0.28** | **0.30** | **0.31** | **0.31** | **0.31** | **0.31** | **0.37** | **0.40** | **0.42** | **0.43** |
| **Net Operating Revenues Ratio:** | | | | | | | | | | | | | | |
| Operating Surplus/(Deficit) | (6,513) | 11,041 | 12,261 | 12,712 | 13,395 | 14,453 | 14,907 | 14,644 | 14,649 | 14,710 | 19,223 | 22,294 | 24,013 | 25,908 |
| Total Operating Revenues | 69,679 | 87,017 | 88,651 | 90,223 | 92,077 | 93,965 | 95,894 | 96,974 | 98,042 | 99,179 | 104,626 | 108,792 | 111,613 | 114,619 |
| Ratio Value (A) | -9.35% | 12.69% | 13.83% | 14.09% | 14.55% | 15.38% | 15.54% | 15.10% | 14.94% | 14.83% | 18.37% | 20.49% | 21.51% | 22.60% |
| Conversion (B) | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 |
| Strength Factor (A) divided by (B) | (13.35) | 18.13 | 19.76 | 20.13 | 20.78 | 21.97 | 22.21 | 21.57 | 21.35 | 21.19 | 26.25 | 29.27 | 30.73 | 32.29 |
| Adjusted Strength Factor ('C) | (4.00) | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| Weighting (D) | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% |
| **Net Operating Revenues Ratio ('C) x (D)** | **(0.40)** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** | **1.00** |
| **Total Composite Financial Index** | **(2.36)** | **(0.66)** | **(0.58)** | **(0.50)** | **(0.42)** | **(0.16)** | **0.59** | **1.34** | **2.12** | **2.93** | **4.02** | **5.26** | **6.22** | **6.84** |

(C) If the calculated Strength Factor is above 10.0 or below (4.0), then those factors are adjusted to 10.0 and (4.0).

# APPENDIX B

# CUMULATIVE FINANCIAL GUARDRAILS

Because we are recommending that Cooper Union begin the path back to full-tuition scholarships as we are still building toward stronger financial health, it will be critical to manage the financial plan tightly and to be prepared to revise the timeline for scholarship increases if we do not achieve our financial goals in any given year.

To stay disciplined, the plan requires that we achieve key financial milestones that keep us within 5% of our goals for operating cash surpluses, fundraising, expenses, and cash and investment balances. If our cumulative cash surplus results are below the target, we will pause to review the cause and determine whether it is a one-off result that will not repeat itself or a developing trend that may cause a delay in achieving the long-term financial results. A cumulative "miss" of 5% over the course of the 10-year plan would yield a $6.9 million cumulative difference but still enable us to manage toward our financial health goals and metrics. Missing by more than 5% over the course of the plan would yield financial results below where we think we need to be as a fiscally healthy and resilient institution.

We will look at many factors in evaluating our financial position and progress, but will have secondary guardrails in place for three key attributes which will drive the plan's ultimate success: (1) contributions, (2) operating expenses, and (3) cash and investments. These will be looked at even if the cumulative cash surplus is on target as they are key "controllable" variables in trying to deliver the plan. If any of these deviate from plan in excess of the cumulative cash surplus target, we again will pause to evaluate the reason and determine whether this is a longer-term trend or something manageable within the framework of the cumulative financial goal. This will not preclude us from looking at other variances within the model which may develop. The key to the successful delivery of these financial projections will be constantly having our "finger on the pulse" of operating results and being able to accurately forecast financial outlooks each year in advance.

The guardrail levels are summarized below.

## FINANCIAL GUARDRAILS

(000's)

| | CASH SURPLUS — Primary | | | | CONTRIBUTIONS — Secondary | | | OPERATING EXPENSES — Secondary | | | CASH & INVESTMENTS — Secondary | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual Cash Surplus | Annual Guardrail @ 5% | Annual Cash Surplus Guardrail | Cumulative Cash Surplus Guardrail | Cumulative Current-Use Contributions | Cumulative Guardrail | Cumulative Current-Use Contributions Guardrail | Cumulative Operating Expenses | Cumulative Guardrail | Cumulative Operating Expense Guardrail | Cash & Investments Balance | Guardrail @ 5% | Cash & Investments Floor |
| 2018 | (50) | | (50) | (50) | 3,225 | - | 3,225 | 54,126 | - | 54,126 | 155,369 | (7,768) | 147,601 |
| 2019 | 14,001 | (700) | 13,301 | 13,251 | 8,217 | (700) | 7,517 | 108,084 | 700 | 108,784 | 173,006 | (8,650) | 164,356 |
| 2020 | 12,382 | (619) | 11,763 | 25,014 | 14,228 | (1,319) | 12,909 | 162,756 | 1,319 | 164,075 | 189,784 | (9,489) | 180,295 |
| 2021 | 12,231 | (612) | 11,619 | 36,633 | 21,322 | (1,931) | 19,391 | 218,899 | 1,931 | 220,830 | 207,238 | (10,362) | 196,876 |
| 2022 | 12,290 | (615) | 11,676 | 48,309 | 29,582 | (2,545) | 27,037 | 276,588 | 2,545 | 279,133 | 225,406 | (11,270) | 214,136 |
| 2023 | 12,952 | (648) | 12,304 | 60,613 | 39,031 | (3,193) | 35,838 | 335,503 | 3,193 | 338,696 | 244,910 | (12,246) | 232,665 |
| 2024 | 12,985 | (649) | 12,336 | 72,949 | 49,702 | (3,842) | 45,860 | 396,313 | 3,842 | 400,155 | 265,169 | (13,258) | 251,911 |
| 2025 | 11,118 | (556) | 10,562 | 83,511 | 61,638 | (4,398) | 57,240 | 458,940 | 4,398 | 463,338 | 284,311 | (14,216) | 270,095 |
| 2026 | 10,528 | (526) | 10,002 | 93,513 | 74,883 | (4,924) | 69,959 | 523,156 | 4,924 | 528,080 | 303,562 | (15,178) | 288,384 |
| 2027 | 9,933 | (497) | 9,436 | 102,949 | 89,561 | (5,421) | 84,140 | 589,009 | 5,421 | 594,430 | 322,920 | (16,146) | 306,774 |
| 2028 | 13,726 | (686) | 13,040 | 115,989 | 105,795 | (6,107) | 99,688 | 656,396 | 6,107 | 662,503 | 346,776 | (17,339) | 329,437 |
| 2029 | 16,033 | (802) | 15,231 | 131,220 | 123,619 | (6,909) | 116,710 | 725,517 | 6,909 | 732,426 | 373,835 | (18,692) | 355,143 |
| Cumulative | 138,129 | (6,909) | 131,220 | | | | | | | | | | |

**We must also consider external dynamics that could be impacting admissions at Cooper Union.**

Let's look at the decline in Architecture applications as an example. The applicant pool may reflect market sensitivity. Besides potential net tuition effects at Cooper, observed declines in architecture applications may reflect greater national attention on gainful employment. Press and rankings increasingly focus on job placements and security, income, and ability to repay debt.

In 2012, a New York Times article by Catherine Rampell indicated that the unemployment rate for recent architecture graduates was the highest of any field sampled, at 13.9 percent, due in part to the housing market collapse. The article goes on to declare that "architecture majors who went on to receive graduate degrees, which usually safeguard workers from unemployment, are doing poorly in the job market. With a jobless rate of 7.7 percent, architecture majors who hold graduate degrees are still more likely to be unemployed than newly minted college grads who studied journalism (!)."

# APPENDIX C

## PRE- AND POST-TUITION ADMISSIONS, ENROLLMENT, AND ACADEMIC TRENDS

While Cooper Union has, overall, experienced a decline in applications, increase in admissions rate, and decrease in yields, Cooper has maintained an admission profile consistent with highly selective institutions.

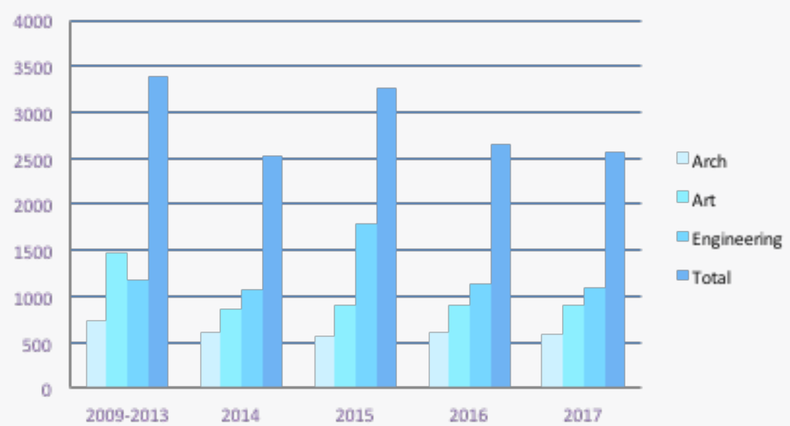
One of the most crucial measures for Cooper Union, one that is deeply embedded in its culture and legacy, is the commitment to student quality — the institution's selectivity with regard to students' high school achievement profile, GPA, and SAT. Cooper Union has continued to enroll students who meet its long-standing quantitative admissions criteria.

The profiles of the first-year classes since 2014 when tuition was instituted are comparable to those in 2009–13. Despite changes in the size and regions of the applicant pool and financial aid packages, Cooper Union has been able to seat classes that are highly competitive and remains a highly selective university, as measured by SAT Math, Critical Reading, and Subject Test scores, which have remained steady despite shifts in the scholarship/tuition policy.

Shifts in financial aid models at peer, selective institutions and now, in NY State (the Excelsior Program), have created a more competitive enrollment environment, meaning that Cooper Union is now competing with equally or more generous financial aid packages.

As a small institution, the effect of any adjustments has greater impact due to small number effects. Because Cooper Union enrolls a relatively small class in each of its schools, the percent change in enrollment numbers needs to be evaluated against actual head count in order to assess progress against goals.

**First-Year Applications Pre- and Post-Tuition Policy Change**




First-year application numbers declined 18.5% from an average of 3,383 in 2009–13 to 2,756 from 2014–17. This was driven by declines largely in architecture and art.

**Compared to 2009–13 on average:**
2014–17 architecture and art studio/home test submissions dropped from mid-50% to low 40%

2014–17 engineering supplemental questionnaire submissions rose from mid-60% to mid 80%

**On average:**
Art applications declined 39%

Architecture applications declined 19%

Although engineering applications increased 7%, much of this can be attributed to a spike in engineering applications specifically in 2015. As indicated in engineering student supplemental questionnaires, this reflected interest in a proposed Computer Science program.

**Selectivity**
Institutional selectivity is reflected by the admission rate (a low admission rate indicates a large applicant pool and low offers) and academic profiles (the GPA and Critical Reading and Math SATs) of the admitted class. These measures are considerations in institutional rankings. Cooper Union monitors its admission against these measures. (Of note is that architecture and art rankings are often reputational with less weight placed on these academic measures.) Cooper Union has maintained a relatively low admission rate and enrolled students with high academic profiles. These admission measures contribute to Cooper's ranking as a highly selective institution.

On average, the percentage of applicants admitted across all three schools rose from 8% in 2009–13 to 14% in 2014–17.

- Architecture admission offers (rate) on average rose from 3% in 2009–13 to 5% in 2014–17
- Art admission offers (rate) rose on average from 5% in 2009–13 to 8% in 2014–17
- Engineering admission offers (rate) rose on average from 14% in 2009–13 to 22% in 2014–17



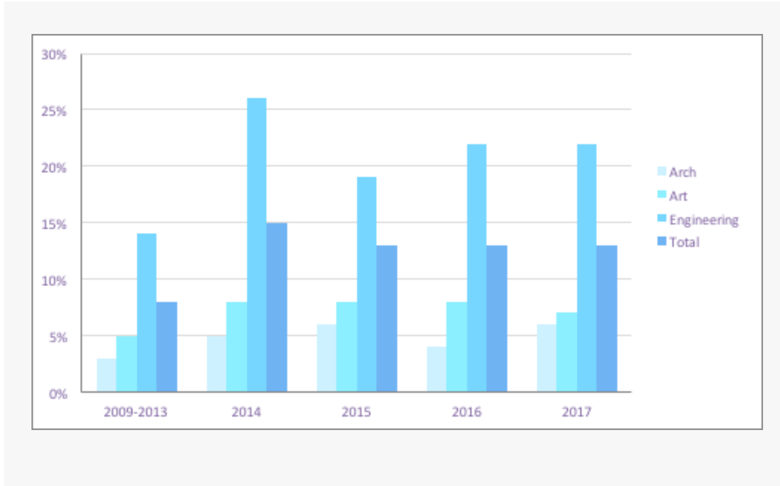
However...

- If the application pool is sensitive to the market, we might expect an uptick in applications in the future.
- According to the Department of Labor Statistics, "Employment of architects is projected to grow 7 percent from 2014 to 2024, about as fast as the average for all occupations." However job competition will be strong because the number of applicants continues to outnumber available positions.

Cooper's Art program is fine arts focused. There may be a few external forces at play:

- Like with architecture, declines in art may be attributed to attention paid to employment and future income prospects
- The emergence of digital media, digital graphics and design, and media and art programs
- A decline in art offerings and programs in K-12

**First-Time College (FTC) Selectivity (Percent Admitted)**
**Pre- and Post-Tuition Policy Change**




## Yield

Yield is very much tied to the quality of the financial aid package. Many of our admitted students receive competitive financial aid offers from other institutions. Our impression is that these numbers reflect the shift from full-tuition to partial-tuition scholarships and our ability to compete with well-endowed, highly selective institutions (e.g., Cornell, Yale, Carnegie Mellon, etc.)

For example, many of our peer institutions are experimenting with various financial aid strategies to cover tuition and other educational expenses for those with low and middle incomes.

Yield = # of enrolled students ÷ accepted students

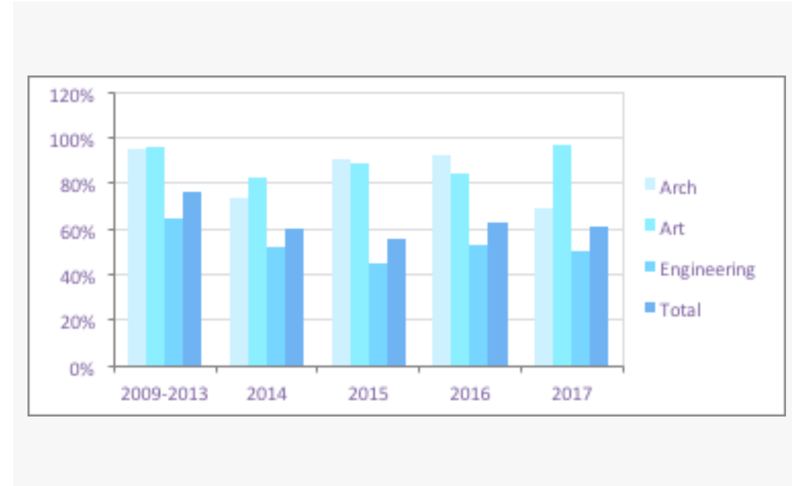
On average, at Cooper Union, comparing 2009–13 to 2014–17, the overall yield dropped from 76% to 61%.

- The architecture yield dropped from 95% to 69%
- The art yield increased slightly from 96% to 97%
- The engineering yield dropped from 65% to 50%

However, yield is a difficult measure to fully unpack in this context. Yield can be impacted either by a change in the number of accepted students who choose to enroll in Cooper Union or by a change in the total number of accepted students, or both. Cooper Union intentionally increased the number of accepted students in order to manage the potential risk of lower enrollment as a result of instituting tuition.

Despite decreases in yield rates, admissions committees and Administration within all three schools reported quality of 2014–17 incoming classes as consistent with prior years. See Selectivity and Academic profile.

**Yield Percentage of Students**
**Pre- and Post-Tuition Policy Change**




## Selectivity, Academic Profile, and National Trends

Cooper's student quality as measured by SAT percentiles in Critical Reading and Math has remained fairly consistent.

Nationally, there has been a slight decrease in SAT score averages

- Nationally, mean SAT scores for the class of 2016 are slightly lower than those of the class of 2015. This may reflect that more students are taking the SAT due to high school based efforts to offer SAT. The number of students taking SAT during the school day has more than doubled. (College Board, 2016)

High School GPAs have risen while SAT scores have not.

- Since the late 1990s, the average high school GPA of SAT takers has increased from 3.27 to 3.38. Grade inflation is evident in data collected by the College Board and in administrative data collected by the U.S. Department of Education. SAT scores have declined slightly over this period — a trend that runs counter to the increase in average high school GPAs.
- Variation in high school GPA has decreased by nearly 10% between 1998 and 2016. Among students with combined (old version) SAT scores of 1300 or higher, variation has decreased by almost 30%.

Academic Profile Pre- and Post- Tuition Policy Change in 2014

| Year | 2009–2013 Average of Academic Profile | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| College | Middle GPA | CR Reading | MSAT | Middle GPA | CR Reading | MSAT | Middle GPA | CR Reading | MSAT | Middle GPA | CR Reading | MSAT | Middle GPA | EBRW* | MSAT* |
| | *As a percent %* | *25th–75th percentile* | | *As a percent %* | *25th–75th percentile* | | *As a percent %* | *25th–75th percentile* | | *As a percent %* | *25th–75th percentile* | | *As a percent %* | *25th–75th percentile* | |
| ARCH | 88–94 | 576–678 | 544–686 | 85–93 | 560–680 | 600–700 | 86–92 | 520–690 | 560–700 | 91–94 | 550–660 | 600–710 | 89-97 | 570–670 | 640–780 |
| ART | 82–92 | 558–668 | 516–628 | 82–92 | 520–630 | 490–630 | 86–92 | 560–670 | 520–630 | 87–93 | 530–670 | 480–640 | 89–94 | 570–690 | 520–670 |
| ENG | 93–98 | 640–726 | 732–792 | 92–98 | 640–740 | 720–800 | 92–97 | 640–740 | 750–800 | 93–97 | 630–730 | 750–800 | 93–98 | 690–750 | 750–800 |
| ALL | | 608–716 | 616–776 | | 600–730 | 650–770 | | 610–720 | 630–800 | | 600–720 | 640–780 | | 650–740 | 660–790 |
| MEDIAN SAT for CUT SCORES | | 662 | 696 | | 665 | 710 | | 665 | 710 | | 660 | 710 | | 680 | 740 |

At Cooper Union, academic profiles of new, incoming students in 2014–17 compared favorably to the Average Academic Profile in 2009–13

Despite shifts in applications, admission rate, and yield, the academic profile of new, incoming students to Cooper Union has been consistently high. SAT scores suggest that students are in the same range of competitiveness (Percentile of Nationally Representative Sample).

Cooper Union's ability to enroll highly talented students has been unaffected although this requires considerably more effort and strategies on the part of admissions staff (outreach, communications etc.).

Converted Academic Profile of all new, incoming students in 2014–17 compared to the Average Academic Profile in 2009–13

Academic Profile Pre- and Post- Tuition Policy Change in 2014 for All Colleges

| Year | 2009 – 2013 | | 2014 | | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CR Reading | MSAT | CR Reading | MSAT | CR Reading | MSAT | CR Reading | MSAT | EBRW | MSAT |
| 25th–75th percentile | 608–716 | 616–776 | 600–730 | 650–770 | 610–720 | 630–800 | 600–720 | 640–780 | 650–740 | 660–790 |
| Median SAT | 662 | 696 | 665 | 710 | 695 | 760 | 660 | 710 | 680 | 740 |
| Median Total SAT Score | 1358 [1] | | 1375 [2] | | 1455 [3] | | 1370 [4] | | 1410[5] | |

Median SAT scores have been converted into a Median total SAT score to explore whether there were shifts in Cooper's admitted student standing among a Nationally Representative Sample:

| Converted Total Score | Nationally Representative Sample Percentile | SAT User Percentile--NATIONAL |
|---|---|---|
| 1480 | 99 | 98 |
| 1470 | 99 | 98 |
| 1460 | 99 | 97 |
| 1450 [3] | 99 | 97 |
| 1440 | 98 | 96 |
| 1430 | 98 | 96 |
| 1420 | 98 | 95 |
| 1410 [5] | 97 | 95 |
| 1400 | 97 | 94 |
| 1390 | 97 | 94 |
| 1380 | 96 | 93 |
| 1370 [2] [4] | 96 | 92 |
| 1360 [1] | 95 | 91 |

*College Board, Understanding Scores, 2016*

Percentile ranks represent the percentage of students who score equal to or below the score the student obtained. As an example, we are using 2016 and 2017 data.

National Percentiles are derived via a research study by the College Board. Nationally representative sample percentiles are weighted to reflect all US students in the 11th or 12th grade regardless of whether they take the SAT.

SAT User Percentiles are weighted to represent all students in the 11th or 12th grade who typically take the SAT.

- **SAT User profiles suggest that Cooper SAT profiles were on average, in the top 9% in 2009–13; the top 4% in 2014 and 2016; the top 3% in 2017 and the top 1% in 2015.**



**Selectivity: Engineering-Specific Measures**

The entering engineering classes of 2014, 2015, 2016, and 2017 demonstrate comparable subject test outcomes, although a slight dip in the physics and chemistry scores of students in 2014.

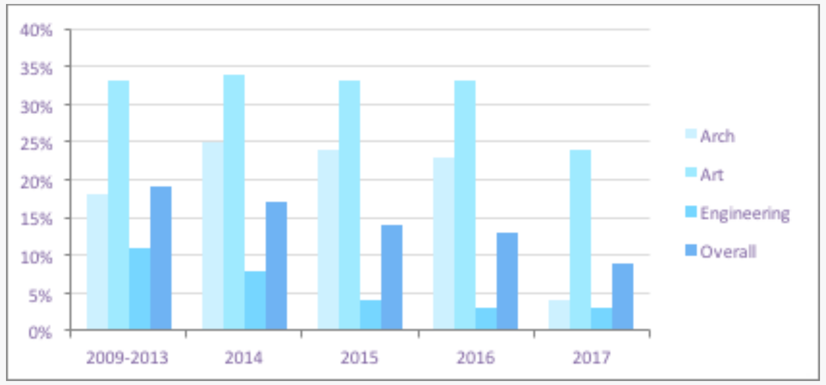
**Subject Test Scores in Physics and Chemistry of new, incoming engineering students in 2014–17 compared to Subject Test Scores in 2011–13**

| Year | Subject Test | | 2011–13 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| College | SAT | Score | Percent of Admits w/ Score | Percent of Admits w/ Score | Percent of Admits w/Score | Percent of Admits w/ Score | Percent of Admits w/ Score |
| Engineering | Physics | 700–800 | 88% | 76% | 89% | 89% | 89% |
| | | 600–690 | 12% | 12% | 11% | 11% | 11% |
| | | 500–590 | | 1% | | | |
| | Chemistry | 700–800 | 95% | 87% | 92% | 97% | 95% |
| | | 600–690 | 5% | 13% | 7% | 3% | 5% |
| | | 500–590 | | | 1% | | |

**Diversity — Ethnicity and Race**

Recruiting diverse students is important to achieve the educational mission of Cooper Union. Cooper Union must compete strategically for talented underrepresented minority students (URM) who meet Cooper's academic standards. Many of Cooper Union's peers and aspirational peers are competing for the same students, particularly in engineering. As noted earlier, Cooper Union's enrollment has declined with respect to underrepresented minorities. Through a newly formed Diversity Task Force, we have engaged in a school-wide effort to reexamine policies affecting diversity on campus. The Board has affirmed its support for this effort.

**Percentage of FTC Class Identifying as Hispanic, Black, American Indian (Historically Underrepresented Minority-URM)**



The graph above is particularly troubling for engineering, where we see a 73% drop in URM enrollments.

- Between 2009 and 2013 URM engineering students on average comprised 11% of the incoming student population.
- In 2014, URM engineering student enrollment fell to 8%; in 2015 it fell to 4% and in 2016 and 2017 it fell to 3%.

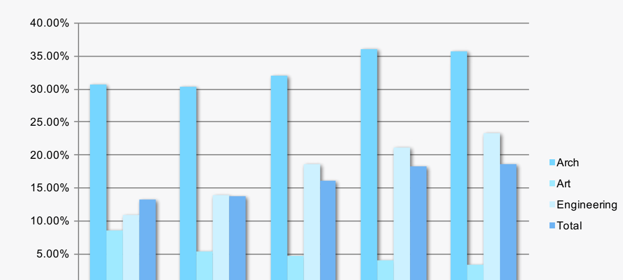
However, the portfolio and more holistic admission processes supported by Architecture and Art have supported more consistent enrollments of URM students. It is also possible that currently more engineering students have self-identified as multi-ethnic or multi-racial that could have been considered URM in the past. Regardless, we are concerned about the drop and plan to address this issue comprehensively with strategic planning in the upcoming years.

**International Students**

International students contribute meaningfully to the quality of an enrolled class:

- Bring diversity of thought, experiences, and perspectives to the classroom
- Present with strong grades and SAT scores: Enrolled international engineering students in 2017 relative to US Citizens and Permanent Residents were among the top 1% of Users in Math and top 6% in Critical Reading. Their US peers were among the top 2% in Math and top 4% in Critical Reading.
- Bring exposure to Cooper Union abroad when returning home, creating valuable networks for our current students and faculty, along with alumni
- The percentage of total undergraduate international students increased from an average of 13% for 2009–13 to 17% in 2014–17
- The number of new international students rose from an average of 25 (12%) for 2009–13 to an average of 47 (21%) for 2014–17

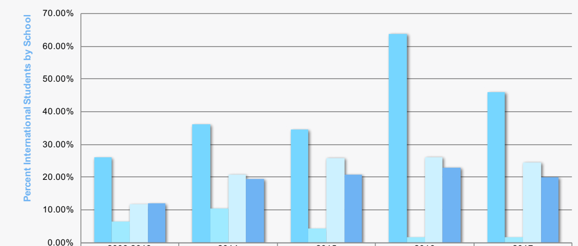
## % of Undergraduate International Students




| | 2009-2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Arch | 30.62% | 30.30% | 32.03% | 36.07% | 35.78% |
| Art | 8.58% | 5.43% | 4.68% | 3.95% | 3.35% |
| Engineering | 10.87% | 13.87% | 18.63% | 21.16% | 23.37% |
| Total | 13.28% | 13.68% | 16.15% | 18.20% | 18.64% |



## % of New International Undergraduates




| | 2009-2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Arch | 26.02% | 36.00% | 34.48% | 63.64% | 45.83% |
| Art | 6.48% | 10.45% | 4.35% | 1.61% | 1.61% |
| Engineering | 11.65% | 20.69% | 25.69% | 25.95% | 24.37% |
| Total | 11.89% | 19.41% | 20.66% | 22.79% | 20.00% |

**Socioeconomic Diversity**

Socioeconomic diversity is also an important factor in creating a dynamic learning environment informed by a variety of perspectives. As a school that was founded for the working class, we are particularly aware of the important role that a high-quality education plays in changing the trajectory of a student's opportunities. Currently,

- 32% of students receive Pell grants or have an Expected Family Contribution (EFC) below $10K; 51% have EFC's above $40,000 or is unknown because the student hasn't completed a FAFSA; we serve students on both ends of the socioeconomic range and relatively few in the middle class
- The Schools of Architecture & Art have higher percentages of Pell students (41% and 28%, respectively) partially due to their admission decisions being based on home tests and not standardized tests (e.g. SAT)
- The School of Engineering admissions are more weighted towards standardized tests, which studies have shown to be correlated with family income and wealth. 58% of Engineering students have EFC's above $40,000 or did not report EFC's

**Further Analysis Recommended**

While our admissions profile remains strong, we are eager to understand and address academic and reputational questions that go beyond these basic selection criteria. We recommend that the Administration further analyze the academic profile of the school, quality of education being offered, composition of the student body at Cooper Union, and reputation. We recommend that this work be reported to the Board's Academic and Student Affairs Committee, the FEC and, ultimately, the full Board of Trustees.

# APPENDIX D

# FEC AND FINANCE COMMITTEE ROLES AND RESPONSIBILITIES

At the December 7, 2016 meeting of the Board of Trustees, the Board established the following roles and responsibilities to ensure that the work to develop a path to full-tuition scholarships by all is collaborative and streamlined.

**Finance Committee**

a . Work with the Financial Monitor, the President, and the Vice President of Finance & Administration to establish the financial framework by which a plan for establishing a sustainable 100% scholarship model will be accepted by the Financial Monitor.

b. Agree upon the metrics for analyzing the financial viability of the school (i.e., CFI).

i. Calculate the financial ratios based on historical financial information in order to provide a baseline for Cooper Union's financial health.

ii. Establish goals of financial sustainability for the financial ratios and metrics.

iii. Update and extend the financial projections analysis that was published in February 2016.

iv. Calculate the financial ratios based on the future financial projections and compare to the established goals.

v. Produce pro forma analysis of how to achieve our goals of financial sustainability and a balanced budget without tuition (i.e. free) and model those scenarios.

vi. Continue to evaluate ways to increase revenue, decrease expenses (zero based budgeting), and leverage assets to return to free.

vii. Outline a plan to measure progress and a timeline for establishing a sustainable 100% scholarship model and incremental steps.

**FEC**

a. Develop the plan to reestablish full-tuition scholarships:

i. Research revenue and expenses of the College.

ii. Work with the Finance Committee, President, and CFO to understand the proposed metrics and financial conditions under which the school can return to free.

iii. Enumerate initiatives to satisfy the proposed financial metrics.

a. increasing assets/revenues (fundraising, revenue generation).

b. decreasing liabilities/expenses (reducing debt, further cost reductions).

b. Present the initiatives to the Board which will narrow them down so as to be consistent and in service of the strategic plan (which the President and Board will be developing on a tandem track).

i. Task appropriate person/group/committee to research the selected initiatives. The majority will be undertaken by the President, who will advise the FEC when/how additional assistance will be required (either by Board members or outside consultants).

ii. After President reports back to FEC with results, more discussion until (in 2018) a plan by which FEC believes Cooper Union can establish 100% scholarships is prepared.

c. Coordinate with other committees (Finance, Development, Communications, etc.) with respect to various initiatives.

d. Following input from the Board (and relevant committees) and President, the FEC will select among the initiatives to develop and propose a strategic plan aimed at returning Cooper Union to a sustainable, full-tuition scholarship model that maintains Cooper Union's strong reputation for academic quality within its Architecture, Art and Engineering programs at their historical levels of enrollment.

f. Prepare interim & final reports.

# APPENDIX E

# RECAPS OF FEC COMMUNITY GATHERINGS

**Student Gathering Recap**
**April 26, 2017**

- **Students were uniformly in support of returning to 100% scholarships:** They understand it won't be quick and that there will be trade-offs.

- **Preserve, enhance, and communicate the excellent reputation of the school:** Students expressed that it is important for the FEC and Board to focus on preserving and enhancing the stellar reputation of the school. This will take strategic communications, and we will have to weigh that against the potential risk of appearing too commercial. We need to manage headline risk of false narratives that Cooper Union isn't free for anyone and/or that quality has gone down.

- **Make sure student quality doesn't go down:** There is concern that student quality may have gone down because the number of applications in some schools (Architecture, Art) has gone down, but there is no clear evidence that quality has gone down. We should keep our eye on this.

- **Responded favorably to increasing scholarships, but opinions are mixed on how incremental scholarship resources should be allocated:** No clear consensus on whether finite resources should be allocated based on need or evenly across the student body; there seemed to be slight preference toward need-based decisions. For some, it's important also to look at the prohibitively expensive cost of living on/near campus.

- **Most do not see retail in the Foundation building as favorable:** Most did not seem to like the idea of retail in the Foundation building and want to preserve the library (at least as study space), but some could be convinced if there was a clear and urgent purpose (i.e., strong advancement back to free).

- **Miscellaneous:** One student expressed that it is important to ensure continuity of the commitment to free as the terms of current Trustees expire and new Trustees join the Board.

**Faculty/Staff Gathering Recap**
**May 3, 2017**

- **Critically important to return to free tuition:** This was one of the ways the institution was a leader. The level playing field created by students receiving free tuition created an invaluable environment. It has been our mission for a long time and gives opportunities to those who wouldn't get them otherwise.

- **Mixed views on the quality of students:** The quality of the students is still within the high standards of Cooper, there was no degradation. On the other hand, HSS faculty have noticed that students are less prepared to do fundamental skills and that this might be due to overall quality of K-12 preparedness. It was also noted that the ranking of Cooper Union declined once tuition was implemented in regards to broad news publications. And that there may be a lowering of class rank and percentile of students admitted.

- **Providing full-tuition scholarships to certain students would be inconsistent with our mission:** Incremental changes across the board should be done instead of increasing the number of full-tuition scholarships by focusing on students' financial need or other criteria. Treating our students equally across the board is something that makes us unique.

- **Next FEC report should show timelines and what to focus on each year to achieve our goal:** The report was appropriately dire. It expressed that returning to free is doable, but that it will require tough decisions. It is understood that cuts are a part of the process to return to free.

- **Important to change the communication about Cooper:** Our language has been that of crisis and needs to shift to create excitement. Free tuition has sidetracked the other unique qualities of the school. Cooper students and alumni should be highlighted by publicizing their accomplishments.

- **Need to change messaging to younger alumni:** We need to find specialized ways to reach our younger alumni who are less engaged. We're not cultivating them as students around philanthropy and volunteering which needs to be changed.

- **Should engage the faculty in a dialogue about whether the curriculum should be more oriented to serving a public purpose:** This has never been discussed with faculty before, but they welcome the conversation. If students have initiatives around philanthropy in the curriculum, they may be more willing to give back as alumni.

- **Miscellaneous:** It was noted that FEC and Board should be aware that institutions which move from free to tuition usually have about 10 years to ride on their reputation. Need to diversify the faculty. Annual dashboard report on where the school stands using current (cash basis) figures would be helpful. There should be more communications/outreach to the parents.

**Alumni Gathering Recap**
**October 11, 2017**

- **Development of a concrete plan continues and will be completed by January.** Alumni wanted to understand the timeline for completing a plan and what would be in it. The FEC explained that there is continued focus on completing a recommended plan for returning to full-tuition scholarships. Some believe the plan should include multiple scenarios/models regarding the path to returning to a sustainable, full-tuition scholarship model. Some questioned whether more time is needed for the FEC to create the plan. The FEC indicated that the current deadline is achievable and that the final report will not be rushed solely for the sake of getting it done in time.

- **There was a strong focus on fundraising.** Alumni wanted to know whether there are fundraising plans being developed, including corporate sponsorships, to increase contributions. FEC members and President Sparks explained that concrete fundraising plans and financial goals are being developed with respect to individuals, foundations, and corporations, with an explicit goal of substantially increasing our fundraising. It was explained that fundraising will be key to the success of the plan and that alumni will be encouraged to participate (and are not blamed for current or historic giving levels). Alumni expressed interest in a Free Education Fund that would serve as a repository for donations specifically earmarked for returning the school to full-tuition scholarships.

- **There was a strong interest in the Board's engagement in this work.** Alumni were interested in the Board's views and financial contributions. Alumni appreciated the Board's openness and willingness to listen, would like even more communication, and would like an opportunity to provide input to the FEC Plan once issued and before the Board adopts a final plan. An alumnus raised a question about the Board's philanthropic giving to Cooper Union and emphasized the importance of Trustee giving.

- **Alumni wanted confirmation that the Board is committed to returning to full-tuition for all students.** The Board has unequivocally stated that it supports the work of the FEC in developing a plan to return to full-tuition scholarships. And, it further supports the FEC's efforts to accelerate the current 2039 timeline as reflected in the January 2017 FEC Progress Report. In response to a question of whether the plan will only focus on providing tuition aid to students with need, FEC members and Administration confirmed they are focused on free for all and reminded that the Consent Decree requires a plan to restore "full-tuition" scholarships and makes no distinction between students with or without means. It was noted that additional costs of attendance (e.g., fees, books, housing) are not specifically identified in the Consent Decree but provisions to provide such aid do currently exist.

- **Alumni wanted to know the approximate number necessary to return to a full-tuition scholarship model.** $250 million is likely what is required to return Cooper Union to a level of financial health required for free tuition.