TO THE COOPER UNION COMMUNITY
FROM JAMSHED BHARUCHA PRESIDENT

THE STATE OF COOPER UNION

I would like to report on

WHERE WE ARE, THE PATH FORWARD, AND A FINANCIAL TRAJECTORY

that includes a retrospective of Cooper's finances leading up to my arrival in 2011 as well as our future direction under the new plan.

This report integrates a series of presentations I gave to the Board of Trustees over the past few meetings.

WHERE WE ARE

Princeton Review

Cooper Union was ranked #1 by *Princeton Review* for "colleges that pay you back." This ranking is based on surveys of the earning capacity of our alumni, as a function of the cost of attendance. For the cost of attendance, the *Review* used our new plan, which began with the current freshman class[1]. Under the new plan (the Financial Sustainability Plan), all admitted undergraduates receive a half-tuition scholarship. They receive additional financial aid, based on merit and on demonstrated need, to offset some or all of the remaining tuition and a portion of living expenses.

Admissions

While the number of applications for our current freshman class dropped from the year before, the quality is as strong as ever, preserving Cooper Union's legacy of excellence. The class was admitted need-blind, based on merit, carrying on that important value.

Perhaps most significantly, socio-economic access increased compared to prior years. A national benchmark of socio-economic access is eligibility for Federal Pell Grants. Over the prior three years, the percentage of Pell-eligible students had averaged 15%-16%. For the current freshman class, the Pell-eligible population is 22.4%, significantly higher. This became possible because, in addition to full-tuition scholarships for all Pell-eligible students, Cooper can now provide more financial aid for living expenses and supplies than previously. The federal government requires institutions to report the full cost of attendance, which includes tuition and fees, books and supplies, room and board, and some personal expenses. Based on the cost of attendance, Cooper Union is more accessible today than it has been in recent years for families who can least afford the cost.

Applications are now in for the fall of 2015. This entering class will be our second admitted under the new Financial Sustainability Plan. The Early Decision class has already been accepted. Total applications are up 5% in Art, down 6% in Architecture, and up 66% in Engineering over the previous year. In Engineering, applications this year are 33% higher than in any year in Cooper Union's history.

We take seriously the decline in Architecture applications. There is a national decline in the number of students applying to undergraduate architecture programs; enrollment in BArch programs is down over 20% since 2007, according to the National Architectural Accrediting Board. Nevertheless, we believe that under the leadership of a new Dean of Architecture, whom we expect to name this spring, that can be turned around at Cooper.

Finances

On the financial front, our overall results are on track with the Financial Sustainability Plan[2]. The Plan calls for a balanced budget by FY 2019, with balanced budget projections for at least two decades beyond that. The Financial Sustainability Plan calls for new net revenues totaling at least $12 million by 2019, from tuition in our existing programs as well as from new programs. Only by broadening the revenue base with new programs can the half-tuition scholarship be sustained.

New Programs

As part of the Financial Sustainability Plan, we are launching an Institute for Design and Computation, to house cross-disciplinary programs in art, design, technology, science and innovation. We just hired a Director of Computation and Innovation to launch the first set of programs. A bachelor of science in computer science, with a focus on design, invention and entrepreneurship, will enroll freshmen this fall.

During summer 2015, the institute will pilot two programs. The High School Inventors program will build upon the success of Cooper's Invention Factory, a six-week experience that takes undergraduates through an accelerated process of invention. The NYC-Summer@Cooper program will immerse undergraduates in the technology startup community within New York City. This residential program includes a credit-bearing Innovation Course. This summer, Cooper has partnered with new neighbor IBM Watson to provide a course focused on artificial intelligence technology.

The long-running Summer STEM program increased from 60 students in summer 2013 to over 140 in summer 2014, with a substantial number of scholarships provided to those with financial need. Similarly, the schools of Art and Architecture and the Faculty of Humanities continue to develop and grow their existing summer intensive programming for high school and college students.

The Master in Engineering (M.E.) degree program, which has been a thesis-only program offered to 24 students with full tuition scholarships, has been augmented to enroll tuition-paying students. We are now registered with the New York State Education Department to offer a non-thesis option, and we have over 60 students enrolled.

THE PATH FORWARD

The administration has articulated to the Board four Core Goals that underpin our plan:

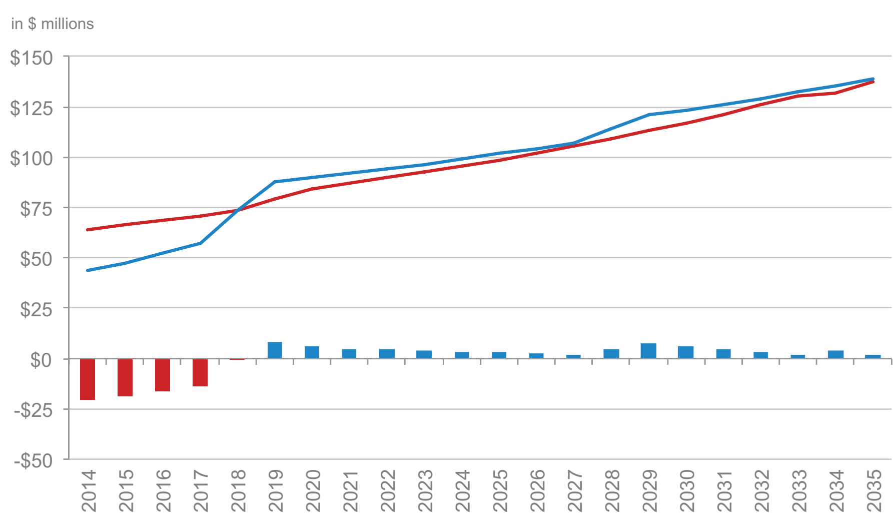
1. FINANCIAL SUSTAINABILITY
2. EXCELLENCE AND MERIT
3. ACCESS AND AFFORDABILITY
4. BUILDING ON COOPER'S MANY DISTINCTIVE CHARACTERISTICS

1. Financial Sustainability

We are guided by the Financial Sustainability Plan approved by the Board in April, 2013. It is revised annually based on changes in circumstances and projected financial results. Compliance with the plan will be evaluated with respect to three guardrails:

GUARDRAIL #1: Stay within the deficit trajectory of the plan, leading to a balanced budget in FY 2019, and balanced budgets well beyond. At any given time, future projections going out at least two step-ups in the Chrysler rent income (two decades, see Graph 1) should show balanced budgets, even as economic conditions change. According to the projections of the previous plan as it stood upon my arrival, 2019 would have been the first truly balanced budget since 1990, but also the last (see Graph 2).

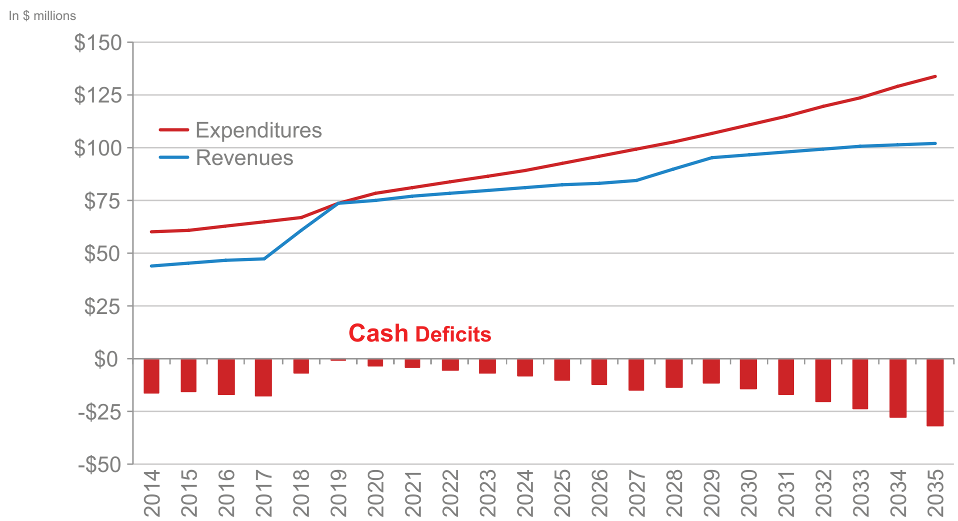
GRAPH 1 | **THE FINANCIAL SUSTAINABILITY PLAN | REVENUES AND EXPENDITURES: 2014–2035**
Cash basis projected in April 2013



NOTE: Amounts shown here are cash-based per audited financial statements. Operating revenues exclude amortization of deferred revenue and only include net investment returns. Expenditures exclude depreciation and post-retirement accruals.

GRAPH 2 | **THE PROBLEM: BASE CASE BEFORE ADOPTION OF FINANCIAL SUSTAINABILITY PLAN REVENUES AND EXPENDITURES: 2014–2035**

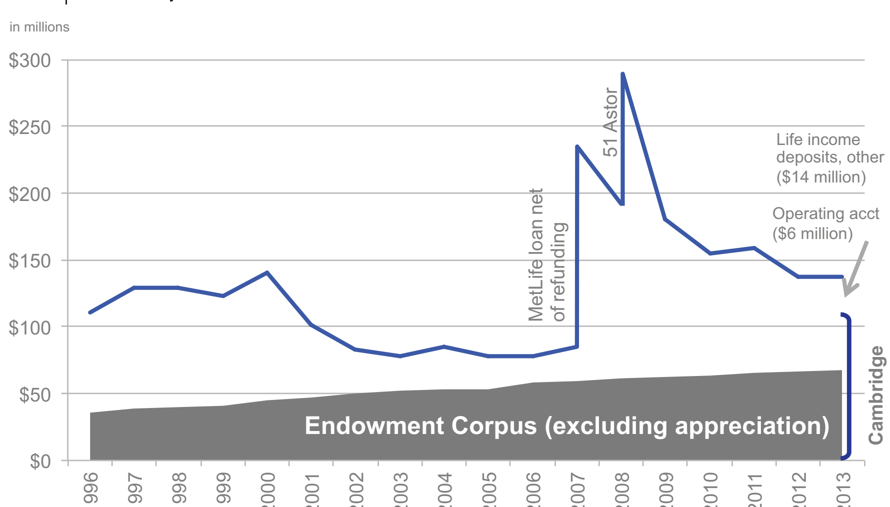
Cash basis projected in April 2013



NOTE: Amounts shown here are cash-based per audited financial statements. Operating revenues exclude amortization of deferred revenue and only include net investment returns. Expenditures exclude depreciation and post-retirement accruals.

GUARDRAIL #2: Never invade the corpus, or principal, of the endowment. From 2000–2003, total cash and investments (excluding Chrysler) plummeted to within roughly $20 million of the corpus (Graph 3). This meant that Cooper Union would not have been able to fund its deficit for more than a few years before invading the corpus. Only the sale of property prevented that from happening until the MetLife loan was secured. From 2008, cash and investments were again in free-fall, and by FY 2012 we projected only 2–3 years before invading the corpus. In the Financial Sustainability Plan, a bridge loan netting $51 million after expenses is truly a bridge to a new model that stabilizes and then grows back cash and investments to a point where a cushion above the corpus is always maintained.

GRAPH 3 | **THE LIQUIDITY PROBLEM: CASH AND INVESTMENTS 1996–2013** (excluding the Chrysler Building)



GUARDRAIL #3: Ramp up new net revenues from academic programs, reaching $12 million annually by 2020. This is the key to closing the structural deficit, and involves the half-tuition scholarship plan plus new programs.

2. Excellence and Merit

Admission based on excellence and merit remains a priority. Our freshman class is as strong as ever, based on traditional measures, including grades and standardized test scores in engineering and the home test, portfolio and studio test in art and architecture, respectively. Our newly accepted Early Decision class shows promise of the same quality. We have been, and always will be, committed to these values.

3. Access and Affordability

Peter Cooper's principal social mission was to provide access to those who can least afford it—in his day, the "working classes." As I mentioned above, based on the national benchmark of eligibility for federal Pell Grants, our freshman class has significantly more Pell-eligible students than in recent years. The threshold for Pell Grants is pretty close to the median household income in the United States. This means families in the lower half of household income have increased access to Cooper this year.

Today, the middle class is also squeezed. Many families don't make enough to afford the cost of attendance without scholarships and other forms of financial aid, but have more resources than would qualify for federal assistance. In our new plan, there is an effective sliding scale from half-tuition scholarship to full-tuition scholarship, based on demonstrated need using federal methodology. Our model keeps Cooper Union tuition substantially more affordable than other highly selective private colleges. And because we are now able to provide more financial aid for living and other expenses, affordability has been scaled to family need.

There is still much work to be done to ensure that we provide more financial aid to our low- and middle-income students. This will be a top priority moving forward. It would enable Cooper Union to offer even more grant aid to our least fortunate students. In September we plan to report on the results of our access and affordability analysis to date. By then we will have two years of data and will be in a better position to assess how to make our education more affordable for the students we seek.

4. Building on Cooper's many distinctive characteristics

I ask for your feedback and support in helping us focus our messages on the many enduring characteristics that make Cooper special. Meanwhile, messages that have resonated with admitted students and their families in this and the previous admissions cycles have included the following, adapted as appropriate across our three schools:

CONSERVATORY–STYLE EDUCATION, WITH A COHORT PEDAGOGY

This involves an intimate learning community, in which students form powerful cohorts as they go from one year to the next. It involves small classes, a low ratio of students to faculty, and active forms of learning—both project-based and hands-on.

THE UNION OF SCIENCE AND ART

Cooper Union has a unique mix of schools—all concerned with translating thinking into making. It is a culture of making as much as a culture of thinking. The term "design thinking" is often used to characterize this mapping from thought to physical creation. Few institutions exist in which all schools have this characteristic. Cooper also has the opportunity to bring together art and technology in innovative ways—an important synergistic goal as we create new programs and build on our historic ones.

NEW YORK CITY AND THE EAST VILLAGE

We have learned from our admissions efforts that our location is an extraordinary draw. While historically our location has not been the most attractive, it now is. New York City is in the midst of a renaissance that few could have imagined after 9/11. The East Village has become a magnet for technology companies—both established and startups—as it always has been for the arts. The city is fast becoming a technology innovation hub—something it has never been. Personally, I have never been at a college or university before that has been able to leverage its location so powerfully. The Great Hall provides an historic character to Cooper Union that is unequaled and relates the institution uniquely to the city and its history.

FINANCIAL TRAJECTORY

PAST AND FUTURE

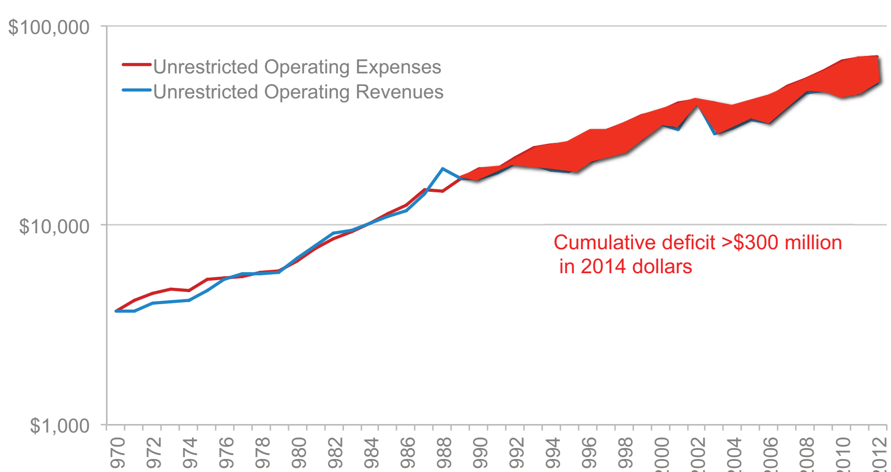
Any account of the trajectory of Cooper's finances is necessarily lengthy and technical. However, many in our community continue to ask for this.

Most of the information about the history of the deficit was provided earlier in various forms, including audited financial statements, and a video that has been online at: https://www.youtube.com/watch?v=Tbi0Hej0YKA&feature=youtu.be

While budget deficits have existed for much of Cooper Union's history, the underlying unsustainability was evident to President Humphreys as early as 1963, when he cited financial exigency to justify his controversial decision to close the Cooper-Hewitt Museum. President Humphreys and his successor, President White, identified the financial problem as the inability of the Chrysler revenues to keep up with inflation. In the early 1970s, President White made a series of controversial downsizing decisions in an effort to overcome deficits. Strong financial markets in the 1980s lifted Cooper's revenues and enabled budgets that were more or less in balance (Graph 4).

In the early 1990s, a massive deficit opened up, triggered by a leveling off of the Chrysler rents. A structural deficit has persisted ever since. The accumulated deficit from FY 1990 until FY 2012 (the red area in Graph 4) was greater than $300 million in current dollars. This is essentially what it has cost Cooper to delay painful decisions.

GRAPH 4 | **A HISTORY OF DEFICITS**

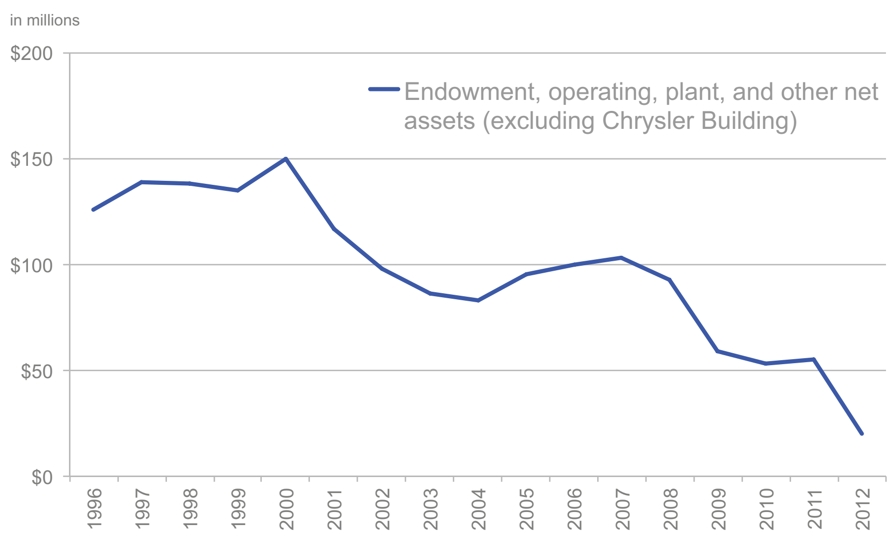


logarithmic scale
in thousands

NOTE: Amounts shown here are fully funded per audited financial statements. Operating revenues include 5% spending policy.

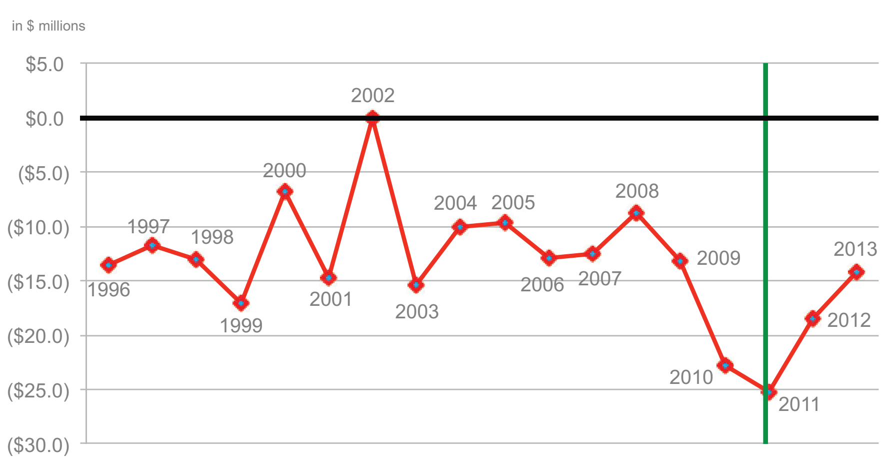
These deficits were funded by drawing down assets. As seen in Graph 5, net assets (equity: endowment, operating, plant and other net assets excluding Chrysler) fell from around $150 million in FY 2000 to roughly $20 million in FY 2012, with a trajectory headed toward zero.

GRAPH 5 | **TRAJECTORY OF NET ASSETS (EQUITY): 1996–2012**



The deficit was fairly constant in real terms (see Graph 6, expressed in current dollars) from the mid-1990s until FY 2008, after which it went into a free-fall. My administration took office in July 2011, at the beginning of FY 2012. The deficit was subsequently reduced in FY 2012, and then even more in FY 2013.

GRAPH 6 | **ANNUAL OPERATING DEFICITS IN 2014 DOLLARS: 1996–2013**
Source: Audited Financial Statements (Adjusted for Inflation using CPI)



NOTE: Excludes non-operating activities such as gifts for 41 Cooper Square offset by losses on financing transactions, benefit accrual adjustments, tax-related issues, and other non-operating gains and losses, net.

Without a disruptive intervention, the financial model I inherited was not sustainable, with escalating deficits projected into the future (See Graph 2). In both the earlier model and our Financial Sustainability Plan, the budget was projected to come into balance in FY 2019 because of a dramatic step-up in the Chrysler rent that year. However, while FY 2019 would be the first genuinely balanced budget, according to the earlier model it would likely also have been the last, because the Chrysler revenues do not keep up with inflation beyond that. The Chrysler revenues (rent plus tax equivalency payments) increase only once each decade, at an annualized rate of 1.6 percent from FY 2019 to FY 2029, and 2.1 percent from FY 2029 to FY 2039. The Chrysler revenues are projected to be lower than the Consumer Price Index out as far as we can see.

Cooper Union's fundamental financial imbalance has been that the revenues from our principal source, the Chrysler Building, have not kept up with inflation. That problem was identified by President White in 1970, and continues to be the problem going into the future. Amidst all the debates about the causes of Cooper's problems, this has been neglected even though it is the principal underlying cause. By addressing this imbalance, the Financial Sustainability Plan places Cooper Union on a sustainable path.

Cooper also faced an acute liquidity problem (See Graph 3). The depletion of cash and investments (excluding Chrysler) put Cooper at risk of invading the endowment corpus (donor-restricted funds whose gift value Cooper is required to preserve *in perpetuiti*). The decline in liquid investments was replenished by selling land and land leases, and by borrowing. In August 2011, our investment advisors projected that our liquid assets would reach zero within 2–3 years (Graph 7). 2014 was the year Cooper was projected to reach a fiscal cliff had we not confronted both the sustainability problem and the liquidity problem head-on. The bridge loan provides the runway necessary to avert the fiscal cliff while ramping up the Financial Sustainability Plan, which in turn reverses the decline and rebuilds the liquidity necessary to buffer the corpus (Graph 8).

GRAPH 7 | **THE FISCAL CLIFF** AS OF AUGUST 31, 2011 (Cambridge Associates)

RANGE OF EXPECTATIONS: NOMINAL MARKET VALUE

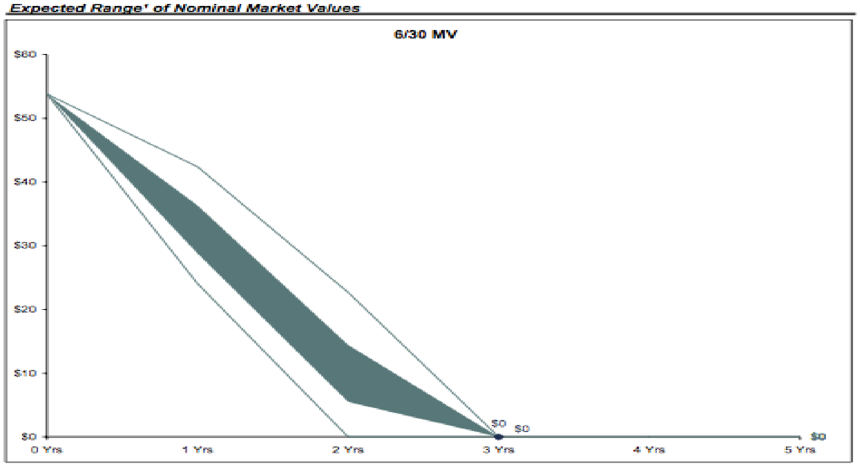
SCENARIO 4: UNRESTRICTED POOL ANALYSIS

Beginning Market Value of $50.0m (as of 8/31/11) & Estimated Draws Provided by Cooper

Probability of Maintaining Purchasing Power

	1 Year	2 Years	3 Years	4 Years	5 Years
6/30 MV	0%	0%	0%	0%	0%

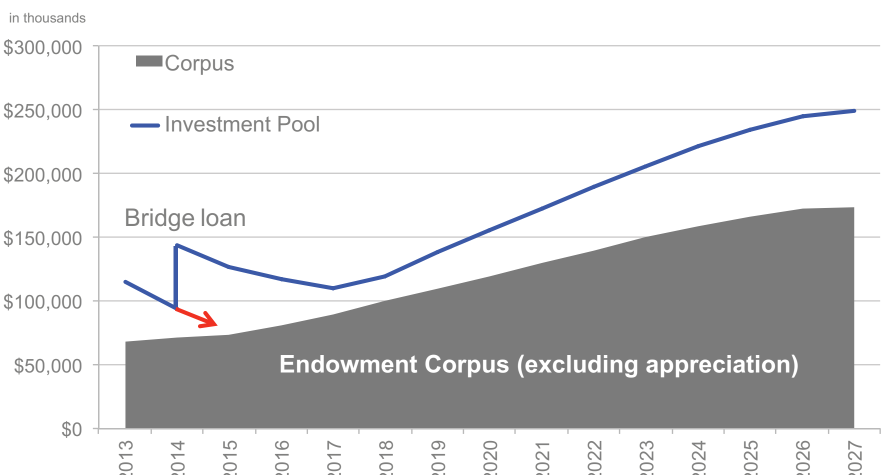
Expected Range' of Nominal Market Values



	1 Year	2 Years	3 Years	4 Years	5 Years
6/30 MV	$29 to 36	$6 to 14	$0 to 0	$0 to 0	$0 to 0

' Range includes 50% of the distribution (25th to 75th percentile)

GRAPH 8 | **AVERTING THE FISCAL CLIFF** | **FORECASTED INVESTMENT POOL**
(Financial Stability Plan—Cash basis)



When I came to Cooper Union in July of 2011, the annual operating deficit was thought to be $8.2 million. This was the operating deficit approved by the Finance Committee for the coming fiscal year (2011-2012), and is the figure I first used with constituents as I began to share with them our financial problem in the summer of 2011. However, Cooper's financial model always has been difficult to analyze, because it is based on real estate—highly unusual for a university—in particular, because the Chrysler revenues increase at ten-year intervals. Only by integrating the financials over several decades can the true structural deficit be discerned. The stated operating budget and the burn rate needed to meet operations did not match up, and it soon became evident that the structural deficit was twice that. By the fall of 2011, I shared with constituents that we had estimated the structural deficit to be around $16.5 million.

In the fall of 2011, based on a projection by our investment advisors of our liquidity, I was alarmed to learn that Cooper had only two years of liquidity left (See Graph 7), maybe three if the financial markets performed well. That meant that Cooper didn't have the resources to graduate the freshmen, or to recruit the next class of high school seniors who were in the midst of applying. Urgent action was needed on a massive scale to avoid the fiscal cliff and, more importantly, to put the institution on a truly financially sustainable path that has not existed since at least 1990, possibly even 1963, when the Cooper-Hewitt Museum was closed because Cooper could no longer afford it.

Through cost savings, we lowered our estimate of the structural deficit to roughly $12 million, growing with inflation. The Financial Sustainability Plan is designed to close that gap once and for all.

Conclusion

Our vision should be built on financial sustainability, excellence and merit, access and affordability, and our distinctive characteristics—characteristics that should drive new programs while we continue to celebrate our core strengths. We have stabilized the institution, which was on the verge of a fiscal cliff. Our results are positive to date, but there is no question that hard work remains. I invite you to join me and the talented members of our leadership team as we guide Cooper Union toward a vibrant future.

The future belongs to generations of Cooper students to come, and it is their interests and aspirations that should come first. All our efforts should be directed at attracting these students, enabling them to benefit from Cooper Union's unique educational experience. Our admissions results show that precisely the students we seek to admit—and the students who thrive here—see our distinctive characteristics shining through.

I would like to acknowledge the efforts of all our students, faculty, staff, alumni, trustees, donors and friends as we have weathered a storm and come through intact. Let's join together to build our future.

ENDNOTES

[1] Although *Princeton Review* conducted their survey in 2013–2014, we have verified with them that the cost of attendance figures they used were for the 2014–2015 academic year.

[2] For more information or questions about the Financial Sustainability Plan, please contact Vice President for Finance & Administration William Mea at mea@cooper.edu.