TO: Joel Bloom, President

FROM: Fadi Deek, Provost and Senior Executive Vice President

Chair, *2020 Vision* Steering Committee

Date: June 30, 2018

SUBJECT: ***2020 Vision Steering Committee Report***

**Summary of Progress—Year Three**

**Section 1---Narrative Overview**

**I. Introduction**

With the Mid-Cycle Report completed and preparations for writing the next strategic plan underway, we reflect on what we learned from *2020 Vision*. What have we discovered about NJIT? Can we better refine our goals and focus objectives? How should we balance targets and ongoing assessment? Finally, as we think about priorities and goals for the next plan, we need to step back and consider disruptions both those we foresee and those that are emerging. How we can assure the resilience of NJIT in the face of adversity is an important question we need to answer.

The observations below are reflections on the ambitious and successful strategic plan, *2020 Vision*. They can prompt discussion and afford the opportunity to assess our strategic planning in the spirit of continuous improvement. They are neither comprehensive nor definitive.

NJIT: Potential and Vulnerabilities

In the past three years, we have learned much about the potential of NJIT and challenges confronting us.

Beyond our expectations, the number of freshmen applications has nearly doubled, and research productivity has exceeded all expectations. We have also achieved new levels in retention and graduation rates. The admissions characteristics of new students and the productivity of our faculty, new and continuing, have also reached higher levels.

Although we grow accustomed to our everyday experiences, we should not fail to see that NJIT today looks and feels like a different university than it did ten or even five years ago. Compared to our peers we have made notable strides forward and compared to higher education as a whole, our performance outcomes are truly impressive.

One valuable lesson we have learned is that today's economy values a challenging, high quality, rigorous STEM education. Although not completely faded, the reluctance to pursue science and engineering careers seems an artifact of the past. The dramatic rise in freshmen applications underscores this fact. Furthermore, our students succeed, and our faculty contribute to the economy at a level they did not achieve in the past. Today, the highest economic contributors come from STEM fields, and all professionals require significant technical competence.

This transformation implies a different type of education also. NJIT and its peers no longer train masses of technicians, with some professionals in their ranks. We primarily prepare STEM professionals. The new expectations mean we attract more highly qualified students and produce graduates with the polish of professionalism. We do this across the economic spectrum particularly through our Educational Opportunity Program (EOP). That is why the New York Times and Forbes see NJIT as first for economic mobility.

Professional education, however, does not come cheaply. The faculty, labs, technology, and student support cost more than they ever have in the past. The cost of professional education is one of the challenges which confront us. We cannot renew the faculty, upgrade the technology, and offer a full range of student services without significant revenue for investment. Without the luxury of a substantial endowment, we need to make hard choices. We must go even further to focus our efforts on the elements important to producing the type of professional graduates the 21st century economy requires. Our decision will lead to better preparing our graduates.

With this question in mind, there are three matters worthy of thoughtful discussions as we begin the next round of strategic planning.

First, what is the optimum number and range of objectives and goals for a strategic plan? Financial and staff resources limit the number of initiatives we can realistically undertake. We must balance ambition against resources and planning breadth against focus. As we embark on 2020+, we should concentrate on finding that ideal balance between breadth and focus given the available resources.

Second, how should we structure planning and implementation efforts to pursue consistent goals for technology, facility, enrollment, and faculty? With a diverse range of committees engaged in planning and implementation, harmonizing multifaceted efforts, requires ongoing communication between divisions in pursuit of common goals, objectives, and targets.

Finally, how do we continue building NJIT as an ever stronger and more responsive university? We cannot plan as though the world will always be predictable. Some disruptions we can anticipate, such as the long-term decline in college-bound domestic students. For the foreseen, we can plan accordingly. On the other hand, there will be unforeseen disruptions such as the recent decline in international graduate student applications. For such disruptions, we must be nimble and make adjustments to offset or ameliorate the impact, as we have done through increasing undergraduate enrollment. Responding quickly to challenges requires resiliency within the organization. We need to plan with the expectations of being able to respond to unforeseen challenges within the organization.

Lessons: Learning from *2020 Vision*

The university has flourished relative to its peers in the past few years. This means we have set the right goals and objectives and pursued them with effective strategies. In retrospect, however, some goals and objectives could have been more ambitious or more realistic. This section discusses objectives and lessons for planning processes and organization.

The focus on students, learning, and research, the first three strategic priorities of *2020 Vision*, has proven to be appropriate for NJIT. The other priorities, promoting community and making sound investments have played important supporting roles.

Within the student area, the broad focus on admissions, retention, and graduation captures the critical concerns. The university’s increasing reliance on tuition to fund growing operations lends the student area ever-increasing importance. As we learned in *2020 Vision*, resilience in the admissions plan offers important alternatives in the face of unforeseen challenges. The plan cannot remain static in focus but must adjust strategies and goals to meet enrollment requirements. Balancing flexibility and established strategies as we respond to the unforeseen will play a central role in the work of the next strategic planning committee.

In the learning priority, developing clear and measurable objectives requires careful attention. The next plan must directly link strategies to outcomes. Without the ongoing assessment of progress, challenging, long-term objectives such as curriculum redevelopment and pedagogy innovation may lack the imperative to move forward. Similarly, every objective must map to a KPI. When plan objectives lack associated KPIs the monitoring of implementation suffers.

The scholarly research priority in *2020 Vision* demonstrated the critical importance of specific objectives explicitly attached to KPIs. In this area, the plan achieved remarkable and demonstrable success. Nevertheless, the pursuit of excellence in research can include a breadth of objectives or focus on specific strategies. Either choice has benefits and costs. The next strategic plan will make these choices with informed awareness.

A strong community is the hallmark of a strong university, but promoting community poses special challenges for implementation. It is difficult to coordinate initiatives as varied as ‘supporting diversity' and ‘simplifying international collaboration' or ‘promoting alumni engagement.’ In the development of 2020+, the planning committee will pay special attention to the organization for the implementation of community initiatives

Finally, the investments priority made excellent progress by linking budget to the strategic plan in advance and thus assuring the availability of resources for implementation. This was the most notable lesson. Additionally, the priority showed the importance of selecting appropriately objective KPIs, whenever possible. Satisfaction surveys play an important role in understanding the needs of the university. At the same time, objective metrics should augment the surveys.

While implementing the strategies of *2020 Vision*, the plan also guided NJIT to pursue related opportunities in parallel. Consistent with Priority One, we pursued new strategies in scholarships and financing to address enrollment needs. As part of the effort to continuously update the curriculum, the new Engineering Technology school was been established and by 2020 will become a self-standing school growing in response to industry needs. Other key industry partnership have also developed through the New Jersey Innovation Institute (NJII) and the Enterprise Development Center (EDC). Finally, to promote quality and efficiency, NJIT has implemented a strategy of outsourcing services. In short, planning has not constrained the pursuit of opportunities, but enhanced it by offering general guidance in addition to specific strategies.

Targets: Managing Expectations vs. Consistent Assessment

*2020 Vision* set ambitious targets, by design. Deciding how to manage the targets poses an especially difficult choice in strategic planning. For example, should we adjust the freshmen application target up from the original target of 6,000, which we easily achieved and is now in excess of 8000? Similarly, the graduate applications number slightly more than 6,000, and the target of 8,197 does not now look realistic. Should we adjust the target down to something more realistic?

At this juncture, the 2020 Steering Committee has decided to retain the original targets for all measures unless the KPI calculation itself has been revised. By retaining the original target, we intend to reflect the areas where NJIT had unrecognized potential and where unforeseen circumstances made targets more difficult. Maintaining targets assures consistent assessment. In short, the original targets offer important information for the planning committee to review in developing the 2020+ plan.

Although the Steering Committee has found value in retaining the original KPI targets, sometimes the KPI measures do not adequately reflect the achievement of objectives. This is particularly the case for measures of student and faculty satisfaction with facilities. These two KPIs do not adequately reflect the progress made through facilities investment. The Priority Five committee proposed that a rigorous quantitative measure called the Facilities Condition Index (FCI) replace the satisfaction survey measures. When the new baseline information becomes available, KPI reports will include it. At that point, the Steering Committee will augment the existing qualitative satisfaction measures with a quantitative metric in the interest of more robust assessment to reflect both community satisfaction and actual conditions.

Disruptions: Foreseen and Unforeseen

Sometimes, disruptions to business activity can be foreseen and become clear over an extended time. In other cases, they emerge quickly and unexpectedly. The decline in international graduate students is a disruption of the latter type. Although we were aware of risks to the graduate student population based on the rise of quality national universities and the creation of more capacity in India and China, the timing and extent of the decline was not anticipated. This was also further aggravated by policy changes in the United States potentially impacting labor and immigration processes for international students. As a result, the financial implications of the change could not have been adequately anticipated by the plan.

A second disruption threatening enrollment once roughly foreseen now becomes increasingly clear. As we have anticipated, demography poses challenges for enrollment. The extent to which this is true becomes increasingly evident. The number of students enrolled in New Jersey community colleges has declined by 30,000, more than 15%. At the same time, the number of high school graduates in New Jersey is also expected to decline over the next few years. In the more distant future, we now know that fertility rates in the US have fallen below replacement levels. The long-term challenges to enrollment in higher education are real. Planning for 2020+ should account for an increasingly competitive enrollment environment.

The lack of growth from government funding sources has continued over the past few years as state funding has remained stable or declined, after adjusting for inflation. Similarly, students cannot bear the burden of tuition increases exceeding average income growth. As a result, the university has sought to cultivate alternative funding sources with notable progress in research and fundraising, such as NJII, with evident success. These efforts continue and innovative alternative funding sources will be further explored.

The disruptions to enrollment and major sources of funding intertwine and challenge some traditional strategies to generating revenue. Different models to improve efficiency, promote research, and increase enrollment will be needed. 2020+ will propose innovative approaches to revenue enhancement and operational efficiency.

Finally, the strong labor market has tremendous benefits for our graduates, but it may also entail two types of disruptions. First, a tight labor market may increase opportunities for students to take jobs in the private sector before graduation. This would raise a new challenge for progress in graduation rates. The technology focus of today’s economy means the temptation to seek jobs before graduation may be particularly pronounced for students in STEM disciplines. Similarly, applications by domestic students, especially for graduate programs tend to decline when the economy offers great opportunities without the benefit of graduate degrees. These challenges are the flip side of the benefits NJIT has gained from the economy’s emphasis on technology. 2020+ should prepare the university to address potential challenges while seizing the extraordinary opportunities offered by the new economy.

**KPI Report June 30, 2018**

The following KPI report reflects the most current information available as of the close of Fiscal Year 2018. The 2018 fiscal year information is not final and will be revised through the final audit approval in October. Similarly, all fall 2018 enrollment and application information will continue to change through the final freeze date on the 10th day of the fall 2018 semester.

The KPI report for December 31, 2018, will reflect final FY 2018 numbers and final fall 2018 enrollment information.







**Analysis of Progress on KPI’s**

**Priority 1**

The Admissions KPIs tell a complex story about the enrollment challenges NJIT faces. The number of freshmen applications has increased far beyond the original expectations, reaching 8,100 for fall 2018, compared to a baseline of 4,777 in fall 2014. This far exceeds the anticipated 2020 target of 6,000. The academic profile of admitted freshmen has, correspondingly, exceeded expectations, rising to 1286 (1223 by the 2014 SAT standard) despite significantly increasing the size of the entering class. This compares to a fall 2014 SAT average of 1252 (1192, by the 2014 SAT standard). Our performance on these metrics should both surprise and please us. Despite the shrinking pool of students and stable scores in the population of high school graduates, prudent enrollment management and the appeal of a strong STEM university have allowed NJIT to defy national undergraduate enrollment trends. According to *Statista*, a leading provider of market and consumer data, total enrollment for US colleges peaked in 2010 and remains below the 2014 level even today. We should appreciate our achievement of growing in number and quality despite adversity in the enrollment environment.

At the graduate level, the challenge has proven greater than at the undergraduate level. The number of applicants for masters programs, both international applications and domestic, has declined to 6,010 from 6,305 in fall 2014. Because of steep declines in the number of international masters applications already beginning last year, the total enrollment of graduate students has dropped notably. This decline is only partially offset by the increasing undergraduate enrollment.

The changing entering class profile contributes to the improving retention, projected for fall 2018 at 88% having been only 84% in fall 2014. The graduation rate has also increased to 65% from 59% in 2014. Certainly, improved teaching, curriculum reform, and student support and advising have improved over the past few years, but the close parallel between the student profile and the retention rate is also evident. For the first time, the NJIT graduation rate now significantly exceeds the US News ‘expected graduation rate’ for entering students.

The areas of future concern in Priority 1 are the total enrollment and the quality of campus life. Enrollment is a significant issue with potential ramifications for the budget and must be addressed moving forward as the university seeks savings and alternative sources of revenue. Despite challenges, enrollment remains roughly on track to reach the *2020 Vision* target of 12,200 by fall 2020. The other area of concern in Priority 1, quality of campus life, is assessed through a KPI based on the Student Satisfaction Survey. As with all surveys, it is difficult to use student satisfaction as a direct measure of performance. Actual improvement in conditions may be masked by the rising expectation of respondents. As conditions and experiences improve, satisfaction does not increase proportionately because students expect more and may report the same level of satisfaction despite significantly improved conditions. There is every reason to believe the quality of campus life has improved more than the average value of 3.22 would suggest. The subjective survey metric suggests some sources of satisfaction, but it is not a strong indicator of objective conditions.

**Priority 2**

Overall, NJIT has made progress toward achieving the goals set in the learning priority.

The assessment of academics, as mandated by Middle States requirements, continues apace. We are moving slightly ahead of our five-year cycle and expect to complete a review of all graduate and undergraduate programs within the next 12 to 18 months. We have completed reviews for 85% of the programs, showing an increase of 25% from last year. The *2020 Vision* target of 100% completion will be achieved well within NJIT’s 5-year cycle of program assessment.

Although the value of the ‘educational value of the course’ KPI did not change from 2014 to 2017 (3.07), the new value in AY 2017-18 is 3.10. This is not an increase that can easily lead to the 2020 target of 3.25. There are questions about what this KPI actually means to the students and how fast it can improve. However, as students’ progress from the freshman to the senior year, its value improves because students understand better the relation of individual courses to their academic discipline. In other words, neophyte students (in the freshman year) cannot make as good a judgment, regarding the educational value of courses, as students completing their degree. Even though a possible revision of this KPI may be a task to be undertaken next year, there is still substantial benefit in looking at how the value changes as individual student cohorts mature academically year after year.

The is increasing use of converged/online/hybrid course delivery modes. These alternate modes of course delivery included 18% of all courses in the baseline year of 2014. In spring 2018 they included 21% of all courses. This KPI is slightly behind the target for this year, likely because of the decline in MS students including those enrolled in online programs.

Professional MS program development has met with mixed results. Five programs have been approved, one more than the 2020 target. Total enrollment for the professional programs has not yet achieved intended results for fall 2018. Currently, ten students are enrolled. The limited enrollment is largely the result of new programs with only a short time of advanced marketing in an especially challenging environment for recruiting new MS students. The objective of developing more applied masters programs is what NJIT needs to increase the recruitment of domestic students but achieving the enrollment goal of 150 students will require additional time and attention.

Milestone experiences for undergraduates and the job placement of bachelors’ recipients have both already exceeded targets for 2020. The 2018 KPI actual results are 54% compared to a 2020 target of 50% this reflects strong growth in co-ops, internships, and community engagement projects. The 73% job placement rate this year also exceeds the 2020 target of 65%. Our success on these metrics reflects strong efforts in the Center for Career Services, but we must also acknowledge the significant impact of economic growth for these KPIs. With unemployment running under 4% nationwide, the demand for our students in co-ops, internships, and full-time employment reflects the relevance of NJIT programs and the strength of the educational offerings.

Finally, the FE exam passing rate remains a problematic metric. In the full 2016-17 academic year, NJIT made significant changes to the test preparation process and dramatically improved results to surpass the 2020 goal. The comparable year-long results for 2017-18 are not yet available, but the volatility of a KPI depending on small numbers of students may not fairly reflect the program. Success in the past year depended on five additional students passing the exam. With such small numbers, the next year results could decline below the KPI target or rise above it without offering any solid grounds for assessment.

**Priority 3**

Academic as well as technology and business development externally funded research and projects has shown remarkable growth, exceeding *2020 Vision* annual targets. Academic research has climbed to $36 million, $4 million from the 2020 target. Externally funded technology and business development has also risen to $56 million, $4 million below the 2020 target. Externally funded educational and service grants remain below the 2017-18 target. However, they have increased to $5 million from $4 million last year. 2020 Vision set, as an objective, promoting interdisciplinary, collaborative research. This year we continued our remarkable progress with 35 projects involving PIs from multiple departments. This is nearly twice the 2020 target for this KPI.

Other KPIs also remain at or above annual targets, with the faculty recognition KPIs far exceeding targets. Faculty awards have exceeded the 2020 target. Refereed publications per faculty member stand at 2.6, nearly 50% above the 2020 target. Finally, the total number of books published by members of the NJIT community stands at nearly twice the 2020 target.

Together these metrics show the tremendous, and as yet unrealized, potential of NJIT as a public research university. Three years ago we could not project this type of growth; now it is normal. We have achieved these remarkable research results even in the face of declining federal dollars for research.

**Priority 4**

NJIT has continued to develop its international profile. The number of international researchers collaborating with NJIT has increased beyond our expectations to 63 from a 2014 baseline of 24 and well beyond the 2020 target of 50. The number of international exchange and dual degree students at, or from, NJIT has also more than doubled from the baseline of 43 to 88. This approaches the 2020 target of 96 students.

Increasing diversity at NJIT presents a more varied challenge. The percentage of women faculty at NJIT has increased from 16% in 2014 to 20% in 2018. This approaches the 2020 target of 21%. The percent of women students at NJIT has also increased from 25% to at least 27% and should reach 28% in fall 2018. This will be achieved despite a decrease in the percentage of graduate students, historically the more gender-diverse demographic group at NJIT. In contrast, the percentage of women administrators has declined from the 2014 base of 37% to a current 36%. NJIT made ten new women hires in the past year but ten women administrators also departed.

Advancing the percentage of underrepresented minority members among the administrative leadership and serving on the faculty has met with similarly mixed results. The percentage of URMs among the administrative leadership has remained stable since the 2014 baseline. The percentage of underrepresented minorities on the faculty has declined since 2014, falling from 8% to 5%. Although some recruitment efforts have proven successful, retention of minority faculty members has proven more difficult. The numbers have also been complicated by an increase in the percentage of newly hired faculty electing to not provide ethnicity information.

Finally, the KPI for alumni engagement remains largely unchanged from the previous year. Undergraduate alumni giving stands at 9%. This is a matter of some concern, but the KPI has made small progress in the right direction.

**Priority 5**

NJIT has made excellent progress on strategic investments, particularly in the area of faculty renewal. The total faculty will rise to more than 300 by the start of new academic year. Now more than 42% of all faculty have been hired in the past ten years, compared to 33% in fall 2014. This approaches the 2020 target of 43%. Recently hired faculty have already made an impact through research and scholarly productivity.

Investments in students have made a notable impact on the average time to degree which has fallen to 4.96, only slightly above the 2020 target of 4.90. Progress in student satisfaction with instruction has declined to 3.46 from the 2014 baseline of 3.52 although this is not a significant drop.

The KPIs for technology and facilities tell a contradictory story, and the 2020 Steering Committee approved changes for the next year. Currently, the KPIs for satisfaction with technology and facilities split. Faculty satisfaction with facilities has declined from the baseline of 2014 while faculty satisfaction with technology is on target to meet the 2020 goal. Student satisfaction is reversed. Student satisfaction with technology has fallen below the 2014 baseline while satisfaction with facilities has risen and nearly reached the 2020 target. In response to these inconclusive KPI results, the Steering Committee will introduce a more objective measure for the condition of facilities called the Facilities Condition Index (FCI) to establish a baseline in 2017. Targets for 2020 will be calculated using this baseline. FCI reporting will commence with the December 2018 report.

*Facilities Condition Index*

The Facilities Condition Index (FCI) is a term used to describe the relative condition of campus buildings in relation to Current Replacement Value (CRV) of that building. It is commonly referred to as the existing Deferred Maintenance (DM) backlog of a building, plus Capital Renewal (CR) backlog divided by the CRV of that building (DM+CR/CRV=FCI). These three are defined as follows:

***Deferred Maintenance***– maintenance work that has been deferred on a planned or unplanned basis due to lack of funds in the annual budget cycle – excluding normal maintenance that has already been scheduled, planned or funded within the current budget cycle.

***Capital Renewal***– future renewal requirements for building systems that reach the end of their expected useful life.

***Current Replacement Value* -**the total amount of expenditure in current dollars required to replace the college's educational and general facilities to its optimal condition (excluding auxiliary facilities). It should include the full replacement cost for all buildings, grounds, and generating plants. Design Fees, Construction Management Fees, Testing and Permitting Fees.

Furthermore, it would meet the current acceptable standards of construction and comply with current regulatory requirements. However, as this assessment does not include all of the utility systems the replacement costs for the buildings are utilized for the CRV.

The generally accepted range of Facility Condition Index (FCI) for establishing a building’s condition is shown below. This standard has been adopted by the Building Owners and Managers Association, the Council on Education Facilities, Association of Higher Education Facilities Professionals, and the American University Planners Association, and a number of other national facilities groups.

Condition FCI

**Good** 0.01 to 0.05

**Fair** 0.051 to 0.10

**Poor** 0.11 and above

In January 2017, we completed a survey of the NJIT campus, with the assistance of Mott MacDonald, which measured the metrics required and calculated the current Facilities Condition Index of the NJIT campus. The analysis concluded the overall FCI at the time of the study to be 0.11 or “poor.” The 0.11 value will become the baseline for this proposed KPI and measurement will begin after FY18. **The target for the KPI at the conclusion of FY20 will be set at 0.09, moving NJIT from the current “poor” condition to within the “fair” range.**

**Section 2--Description of Strategies and Tactics**

**Priority 1 – Students**

Objective: 1.1 Admissions

**Objective 1.1.1: Expand Communication and Information Channels**

1.1.1.1 Implement focused, data-driven marketing and recruitment strategies for all programs including those offered fully online. This will help identify prospective students and those who influence their decisions:

Implemented focused, data-driven marketing and recruitment strategies for undergraduate admissions by working closely with ‘Spark 451’ (a vendor to assist with communications with prospective fall 2017 students) for targeted marketing. The KPI for freshmen application was set for 6,000. R The KPI for transfer applications was set for 2,150. Transfer applications have expanded from 1,793 (Fall 2015) to 2,214 (Fall 2017), an increase of 421 applications. The next phase will be to focus on tracking effectiveness of Open Houses and on-campus recruitment events and to continue to use predictive analytics to predict and monitor enrollment and matrix spending. *(100% Complete for undergraduate programs)*

The KPI for Masters application was set for 8,197. Masters applications have dropped from 6,305 (Fall 2015) to 5,924 (Fall 2017), a decrease in applications of 381. NJIT established standard marketing campaign tracking practices by tracking generated website traffic via Google Analytics (GA). The next phase will signing a comprehensive marketing contract with “Spark 451” for targeted marketing. (*50% Complete for graduate programs)*

1.1.1.2 Communicate the benefits of an NJIT degree more effectively. This will create awareness of the academic community and articulate the rigor of the NJIT curriculum:

The Offices of Admissions and Strategic Communication have developed key marketing points that all marketing materials are based on, including academic reputation, research, location, cost, and student life. In addition, comprehensive marketing strategies which include print ads, digital ads, and social media marketing have been developed. NJIT is scheduled to implement a new communication software called “Slate” to help track and analyze the recruitment efforts. This tactic will be assessed by analyzing communication outcomes. (*50% Complete)*

1.1.1.3 Expand the pipeline programs, including pre-college activities and outreach. This will increase the application pool:

Efforts have been undertaken to increase and expand outreach to students, teachers, and school administrators throughout New Jersey. We have reviewed, updated and expanded offerings and services to attract targeted groups by ensuring that offerings and services reflect cutting-edge STEM concepts, curricula, practice, and learning experiences through programs such as Early College Preparatory Programs, ExxonMobil Bernard Harris Summer Science Camps, Robotics Exploration Program and Academy College Courses for High School students. This tactic will be assessed by the pool of students who apply and enroll. (*50% Complete*)

1.1.1.4 Refine articulation agreements and increase the number of joint programs with community colleges. This will strengthen NJIT’s historical relationship with community colleges in the state and region:

We have signed the dual admission agreement with community colleges across NJ, with the more recent addition to be Essex County Community College. Also, NJIT will be part of the State-wide reverse transfer agreement through National Students Clearing House. The number of partnership formalized will be used to assess the success of this articulation. *(60% Complete)*

1.1.1.5 Centralize applicant information using digital technology. This will facilitate analytics to identify characteristics of successful NJIT students, target recruitment toward students with that profile and support academic advising:

Admissions implemented Common App and Document Manager, a digital document manager, started in fall 2014. (100% Complete)

**1.1.2. Strengthen Graduate Student Recruitment**

1.1.2.1 Recruit graduate students at the department level, with emphasis on the following: student point of contact, peer outreach, and individual faculty outreach. This will personalize and increase the effectiveness of recruitment efforts:

The offices of Admissions, Strategic Communication, and Graduate Studies have developed department specific marketing materials and communications for prospective students. In October 2016, NJIT enabled Google Adwords to specified NJIT Google app users - enabling direct purchase of Google Adwords advertisements via a credit card provided by Strategic Communications. A program-focused shopping cart has been developed which allows the students to select and compare different programs and majors. This tactic will be assessed by the number of graduate applications and enrollment. *(60% Completed)*

1.1.2.2 Admit graduate students using competitive practices, including an earlier application deadline, timely offer letters, and attractive graduate stipends. This will increase the number of applicants and produce a better yield for admitted students:

Graduate Studies and Admissions have implemented new admission processes which have resulted in an earlier application deadline and timelier offer letters. Graduate Studies and the Office of the Provost have allocated funds to provide more attractive graduate stipends. Admissions will greatly expand its prospective pool for graduate students for fall 2017. This tactic will be assessed by the number of graduate applications and enrollment.  *(100% Complete)*

1.1.2.3 Enter into partnerships with international recruiters. This will result in an increase in applications and an improved yield:

NJIT has signed agreements with international recruiters to promote international enrollment starting in fall 2016. We have total of 15 agents and one super agent. For Fall 2017 semester, EduCo generated approximately 150 enrolled students. This tactic will be assessed by the number of corporate partnership agreements and the number of student enrolled. *(75% Complete)*

1.1.2.4 Analyze graduate student success by departments and programs. This will result in a graduate student success profile to inform and guide future admissions:

Analyze graduate students’ success by departments and programs to develop a graduate student success profile informing future admissions. Graduate Studies will work with the Office of Institutional Effectiveness to create the profile. This tactic will be assessed by a review of future graduate admissions. *(Planned)*

**1.1.3. Improve Web and Social Media Presence**

1.1.3.1 Create a high-impact website. This will improve recruitment, promote an NJIT identity and better serve the needs of the NJIT community through increased communication and functionality:

All academic websites have been updated. A New Enrollment Management website is expected to be implemented by June 2018. Admissions started to incorporate webinars as part of its recruitment strategies. This tactic will be assessed by completion of the website. *(75% Complete)*

1.1.3.2 Enhance NJIT’s social network presence. This will increase awareness of NJIT, highlight accomplishments and help in student recruitment:

Enhance NJIT’s social network presence to highlight accomplishments and help student recruitment. Undergraduate Admissions had started to communicate to students via texting, auto calls, Facebook, and Twitter in 2015 and 2016; Blogger started in Fall 2016. The graduate certificate programs have been promoted through Google Adwords and other digital media platforms. For the upcoming year, social media will be used to do outreach to domestic graduate students through NJIT’s partnership with “Spark 451”. The committee will assess this tactic by monitoring social media activity. *(75% Complete)*

**Objective 1.2.1: Persistence and Retention**

**1.2.1 Design a Connected Academic Community**

1.2.1.1 Use college- or discipline-specific approaches to form effective Learning Communities for all incoming freshman students. This will help undergraduate students receive consistent academic support as part of a cohort of student with similar curricular interests.

Implemented a comprehensive and engaging freshmen seminar by offering a course that allows students to receive credit for the course and gives them a firm grasp on all areas of the college experience. Currently, the re-designed first-year seminar curriculum is being utilized, which includes specific and measurable learning outcomes. *(100% Complete)*

1.2.1.2 Connect the student community through increased personal interactions and appropriate technology to create a stronger NJIT identity among students.

NJIT has been utilizing the use of social media, specifically Instagram, Facebook, and Snapchat to connect with students on campus and informing them about various academic and social events. Staff and faculty have been notified as well and encouraged to attend events so that they may interact with students on a personal level. This tactic will be assessed by tracking the number of students attending academic and social events on campus. *(100% Complete and ongoing)*

**1.2.2 Intensify Academic Advisement**

1.2.2.1 Develop consistent university guidelines for advisement across academic departments to achieve more timely graduation.

The Office of the Provost is leading this initiative. The committee is working on a draft report for the Provost’s Office and the academic deans. The goal is to improve accountability on advisement standards through the use of the SSC. This tactic will be assessed through the advisor usage of SSC and designated reports to be run by each undergraduate advisor through the SSC in spring 2017 and on-going. *(50% Complete)*

Academic advisors will meet monthly with constituents in the Office of the Provost to review policies and procedures to ensure that they are consistent across departments, discuss activities for professional development, and focus on practices in advisement for the student population as set forth by the National Academic Advising Association. This tactic will be assessed through the advisor usage of the calendar/appointment system and designated reports to be run by each undergraduate advisor through the SSC in spring 2017 and ongoing. *(50% Complete)*

1.2.2.2 Increase the use of software tools and analysis in advising. This will assist in tracking students and offering more effective advising by advisors and faculty, followed by appropriate academic and student support.

Utilize an intense online tracking system for students – Student Success Collaborative (SSC). Using SSC assists in tracking and managing at-risk students. The system was implemented for the Spring 17 term, and all academic advisors have all been requested to use the system for scheduling student appointments and maintaining copious notes of those meetings. It will also offer students information needed to make better educational decisions. *(50% Complete)*

These tools will be utilized by all academic advisors to establish regular reporting systems to monitor student retention and progress toward graduation to facilitate timely intervention. The technical foundations and strategies will be implemented in spring 2017*.* This tactic will be assessed through the advisor usage of the calendar/appointment system and designated reports to be run by each undergraduate advisor through the SSC in spring 2017 and ongoing. *(50% Complete)*

1.2.2.3 Admit NJIT students to a college or school of their choice with the option of indicating a provisional major that may be officially declared at the end of the first year. This will improve retention and graduation.

Beginning with NCE, incoming students should apply and designate the major they are looking to pursue. Research on other institution’s models for accepting students into colleges rather than specific majors is complete. The method of assessment will be developed when full implementation is closer. *(50% Complete)*

1.2.2.4 Intensify advisement for first year and sophomore students. This will offer students the support and resources to improve retention and foster academic success.

NJIT will have undergraduate students complete a short feedback survey on their advisement to review and make changes as needed. Information on the undergraduate academic advisors on campus was prepared for by Office of the Provost. This tactic will be assessed through the review of the survey results. *(50% Complete)*

**1.2.3 Improve Tutoring, Mentoring, and Student Support**

1.2.3.1 Coordinate tutoring, mentoring, computer-facilitated learning and student support across campus. This will improve the management and effectiveness of these programs.

Physics, Chemistry, and the Math departments provide tutoring for their subject areas. Other academic departments will also begin offering these support services. This tactic will be assessed through the student evaluations and final grades in key courses for students who have completed the supplemental instruction in those courses.  *(100% Complete)*

1.2.3.2 Provide faculty, instructors and academic advisers with resources and best practices to improve their role as mentors. This will ensure that retention is strengthened through uniform approaches to learning experiences, policies, and procedures.

**Objective 1.3: Graduation**

**1.3.1 Implement Curriculum-Guided Course Scheduling**

1.3.1.1 Allocate instructional resources by offering courses in the semesters when they are needed and avoiding scheduling conflicts for required classes. This will promote timely graduation.

The Registrar will also provide a university calendar of four-year, projected course offerings by building a multi-year academic and course calendar. Students will be able to predict their full four years by knowing when courses are offered within their degree. *(0% Complete)*

1.3.1.2 Expand the scope of winter and summer sessions by offering additional sections, particularly online. This will also facilitate timely graduation and enhance tuition revenues.

More courses will be offered in the winter and summer. This will help expedite graduation. The target for completion is April 2017; however, it will be ongoing due to changes each term of courses needed to be offered for winter and summer. This tactic will be assessed by tracking the number of sessions offered and the number of students on the waitlist. *(50% Complete)*

1.3.1.3 Coordinate course scheduling and registration and reduce administrative obstacles for cross-registration with Rutgers-Newark, Rutgers Biomedical and Health Sciences and Essex County College. This tactic will increase the opportunity for students to fulfill their graduation requirements. A meeting with stakeholders is planned for Spring 2017. This tactic will be assessed by more course offerings through cross-registration. *(25% Complete)*

**1.3.2 Streamline the Graduation Process**

1.3.2.1 Notify students when they are nearing graduation, alerting them to their remaining academic requirements. This will reduce barriers to graduation.

Notify students that they are close to the completion of their degree requirements by having the Registrar send out early alerts to students nearing graduation (35-40) credits allowing the student to be aware of potential obstacles. The first letter was sent out in November 2016. Student Success Collaborative goes live in January 2017 and will help with this initiative. This tactic will be assessed by graduation rates. *(75% Complete)*

1.3.2.2 Eliminate the student-initiated application for graduation of qualified students. This will prevent administrative delays.

Create a process to proactively certify students for graduation. Any student who has completed the requirements toward their degree will be awarded their degree. This tactic was completed in November 2016 for the May 2017 class. *(100% Complete)*

1.3.2.3 Expand advising and financial support for senior students. This will increase their chances of completing the final steps toward their degree.

Utilize the functions of SSC to promote timely graduation. Using SSC, students will be notified through their advisors, faculty, and administrators each term keeping them on track toward graduation. SSC goes live January 8, 2017. This tactic will be assessed by graduation rates. *(80% Complete)*

**Objective 1.4: Campus Quality of Life**

**1.4.1 Build a Supportive Environment**

1.4.1.1 Cultivate a courteous, welcoming and supportive campus climate. This will enhance student satisfaction and success.

Collaborate with Office of Institutional Effectiveness to better identify areas of student satisfaction and dissatisfaction. Additionally, several customer service trainings have been conducted for members in multiple office in Academic and Student Affairs and the Department of Public Safety. *(100% Complete)*

Developed and implemented an online student complaint form so that student concerns can be immediately addressed. This tactic will be assessed by the number of responses to student concerns submitted online *(100% Complete)*

1.4.1.2 Develop a service-focused philosophy for all faculty and staff after a systematic examination of current practices. This will ensure a consistent student-centered message across the campus.

A philosophy statement that contains “Tenets of Service” is being refined for broad distribution after approval by the new Dean of Students. This tactic will be assessed by measuring student satisfaction. (0% Complete)

**1.4.2 Improve Administrative Processes and Practices**

1.4.2.1 Examine and modify university academic and non-academic administrative policies, practices, and procedures. This will lend consistency and fairness to the continuing process of improving the quality of campus life.

Conduct a systematic examination and regular ongoing review of the effect of current policies by an “owner” review of every policy. The university web page should be the most updated version policies, and each department will be responsible for ensuring their pages are updated. This tactic will be assessed by regular review of policies. *(20%*)

1.4.2.2 Develop a service center to promptly address student questions and direct student to appropriate offices as needed. This will streamline and track efforts to meet student needs.

Develop virtual and in-person service centers to better meet student needs by utilizing web managers to create a better search engine with multiple, intuitive search words, increase ease of navigation, remove outdated material, and update software changes. In-person student service is expected of all university personnel and training should be expanded to offer all employees customer service training. This tactic will be assessed by the results of the student satisfaction survey. *(50% Complete)*

**1.4.3 Support Student Activities**

1.4.3.1 Facilitate sustainable and supported campus events and experiences such as intramural athletics and academically oriented teams, like debating and chess. This will engage the entire university community and enhance campus life.

Facilitate sustainable and supported campus events, including competitive academic teams and experiences by adopting a Signature Events Model for students to support major student-focused events and to build academically competitive teams. The Student Senate revised their financial bylaws and modified the funding processes to an annual request system, to support academically competitive teams, such as the chess team, and student organizations to plan for campus events, conference attendance, and tournament participation. This tactic will be assessed by student participation in events and the success of academic teams. *(100% Complete)*

1.4.3.2 Develop an “Events Center” that will provide space and support for student activities and offer venues for NJIT community assemblies.

Construction of the Wellness and Events Center (WEC) is complete.

*(100% Complete)*

**Objective: 1.5 Institutional Effectiveness**

**1.5.1 Improve Institutional Effectiveness through Continuous Assessment**

1.5.1.1 Deploy key metrics for university performance, particularly retention and graduation rates by colleges, schools, and department. This will help identify obstacles to student achievement.

Deploy key metrics for university performance, particularly retention and graduation rates by creating a systematic schedule for data analysis that will facilitate reporting on outcomes and help to build dashboards to support decision-making. Enrollment and admissions dashboards have been created. This tactic will be assessed by the ability to analyze data and fulfill reporting obligations accurately and on time. *(50% complete)*

1.5.1.2 Use student satisfaction as an indicator of student success by transforming the Student Satisfaction Survey process to better gauge levels of student satisfaction. This tactic will be assessed by results of the student satisfaction survey. *(100% Complete and Ongoing)*

1.5.1.3 Develop assessment plans with learning goals for all programs. This will set clear standards and measures for success and improvement.

Develop Assessment plans with learning goals for all programs by aligning them with Council for the Advancement of Standards in Higher Education (CAS) standards. This tactic will be measured by development of, and compliance with, assessment plans. (*20% complete)*

**1.5.2 Make Evaluation Effective**

1.5.2.1 Implement independent evaluations for student support programs. This will improve the reliability of the assessment and make the results more useful in guiding resource allocation.

Implement independent evaluations for student support programs by using CAS to provide the mechanism for this independent evaluation as guided by nationally accepted norms. This tactic will be assessed by the results of evaluations. (*See 1.5.1.3 20% complete)*

1.5.2.2 Communicate assessment results to instructional and support personnel. This will make assessment a more effective tool for management and continuous improvement.

Communicate assessment results to instructional and support personnel by using a range of tools including dashboards to make information available to decision makers. Survey results will also be communicated to decision-makers and the NJIT community to convey confidence in operations. This tactic will be assessed by tracking administrators’ satisfaction with the information available for decisions. (*20% complete)*

**Priority 2 - Learning**

**Objective: 2.1 Curricular Assessment**

*2.1.1 Evaluate the Curriculum*

2.1.1.1 Continuously assess the curriculum by using the program review process to promote curricular assessment across the university. This tactic includes an external review component conducted by experts in each degree discipline to assess the nature, content, delivery and student progress in the core requirements for each degree. A systematic study will be undertaken to determine the course(s) causing delays in the graduation of students. Some degree programs are assessed by the following accrediting agencies on a 5-year cycle: ABET (Accreditation Board for Engineering and Technology), AACSB (Association to Advance Collegiate Schools of Business), NAAB (National Architectural Accrediting Board), CIDA (Council for Interior Design Accreditation), and NASAD National Association of Schools of Art and Design). Those programs, not assessed by one of the above mentioned accrediting organizations, are assessed by a rigorous program review regime according to a set 5-year schedule and detailed in the Program Review section of the OIE website. Review of all NJIT degree programs will have been done by 2020. In 2018, the 5-year cycle is 85% complete. Progress on this tactic will be assessed by the completion of the aforementioned study as well as by the number of degree programs that have sought input from external reviews. *(Ongoing)*

2.1.1.2 Use assessment to guide curricular reform through the review of individual programs. This activity in the Physics program has been led by an external consultant’s review. The delivery of introductory courses in Physics and Chemistry is being modified through participation in the Gateway to Completion (G2C) program. The Departments of Physics and Chemistry have applied the results of the G2C study to modifications in their curricula and course delivery. OIE has also conducted a study of the mathematics curriculum, and findings and recommendations are now being reviewed for possible modifications of the curriculum. This tactic will be first assessed by the analyzing the impact of the G2C program. *(Ongoing)*

*2.1.2 Raise the Prominence of Academic Assessment*

2.1.2.1 Establish yearly program assessments and cyclical program reviews using the recently implemented program review template. All colleges, departments, and academic programs are aware of the cyclical program review process and cooperating with its continuing implementation. This tactic will be assessed by the number of programs undergoing satisfactory review as per the determined cycle. To date, 85% of the NJIT programs have satisfactorily gone through the review process. (*Ongoing)*

2.1.2.2 Highlight the importance of curricular assessment and its impact on learning by rigorously applying the current process for curricular review. During the 2015-2016 academic year, NCE began program review of its graduate degree programs. During the 2016-2017 academic year, NCE involved the advisory boards of all its departments in assessing the undergraduate curricula for their fitness in preparing students for the current job environment. This tactic will be assessed by the number of programs that have completed the curricular assessment process. See 2.1.2.1 *(Ongoing)*

**Objective: 2.2 Curricular Reform**

*2.2.1 Improve Undergraduate Education*

2.2.1.1 Update the GUR by establishing a subcommittee of CUE charged to review/update GUR. After detailed deliberations and receiving input from various constituencies, the committee proposed a new structure for the General Education Requirements (GER) in March 2017. The proposal was approved by CUE, and when it reached the Faculty Senate, it was approved with a modification regarding the structure of requirements in the liberal arts area. The proposal was endorsed by the Provost and was implemented in September 2017. The new GER requirements are eight credits fewer than the prior GUR. It is expected that the credit requirements for most undergraduate degrees will be reduced by eight credits. On March 15, 2018, the Chair of the GER CUE subcommittee re-iterated the charge of the sub-committee as stated in the March 2017 document “Motion to revise General Education Requirements at NJIT”: “Using the learning outcomes of the current GUR courses as a guide, we can develop a systematic cataloging and presentation of the set of learning outcomes for each thematic area. The set of learning outcomes for each thematic area can then be used in the management of the general education program including the addition or elimination of courses.” CSLA has already set up a working group to develop a set of learning outcomes. A draft document “[GER Literacies Outcomes Assessment](http://njit2.mrooms.net/mod/resource/view.php?id=712869)” was presented to the GER subcommittee on April 30, 2018. The document represents a draft of the GER learning outcomes assessment document that will serve to evaluate whether a new course meets the standard for being a GER course. The YWCC and MTSOM presented learning outcomes. This tactic can be viewed as complete, but it will be monitored in the future to ensure its successful implementation. *(100% Complete and Ongoing)*

2.2.1.2 Modify credit requirements and semester load to facilitate retention and graduation and reduce the costs of attending NJIT. Curriculum review and the approved new GER are expected to lead to new curricula. In fact, all undergraduate programs need to submit new curricula grids for approval by CUE and Faculty Senate by the end of the fall 2017 semester. Progress on this tactic will be assessed by the number of curricula that have completed modifications. The CUE was charged with this task. The subcommittee has already processed some curricula which reflect the changes dictated by the new GER policy. The new curricula will be submitted for submission in the 2018-2019 catalog. Forty nine (49) program curricula have been modified. *(Ongoing)*

2.2.1.3 Implement a 4X4 curriculum in which students take four courses at four credits across four years of undergraduate study. Due to anticipated complications with transfer students and current MOUs with Community Colleges, this tactic has been abandoned, with the approval of the *2020 Vision* Steering Committee. *(Abandoned)*

2.2.1.4 Train students in the competencies of current digital technology related to their majors and integrate this into the GER. The new GER require a three-credit course in computing literacy, and all undergraduate curricula include aspects of computing in various courses. The GER subcommittee is developing a set of GER computing literacy student learning outcomes.

This tactic will be assessed from data on assessment of both the GER computing literacy course as well as of least one discipline-specific course in each undergraduate curriculum. *(Ongoing)*

2.2.1.5 Establish learning outcomes for all degree programs and the GER by making the definition of learning outcomes a part of the comprehensive program review process. *(Completed)*

*2.2.2 Innovate Graduate Education*

2.2.2.1 Create professional science master’s (PSM) options for MS degree programs. Three professional options have been available to students since last year, the Cyber Defense option for the MS in Cyber Security and Privacy degree program in the YWCC, the Applied Quantitative Finance Option for the MS in Mathematical and Computational Finance degree program in the CSLA, and the Biotechnology Option for the MS in Pharmaceutical Chemistry degree program. The Cyber Defense and Biotechnology options are already affiliated with the PSM National Office. Two more professional options were approved by the CGE and the faculty senate in AY2017-2018, namely the Professional Management option in the MS in Information Systems and the Professional Management option in the MS in Information Technology Administration and Security, both residing in the YWCC, thus bringing the total number of professional options to five.An application for the Professional Management option in Information Systems has been submitted to the PSM National Office for affiliation. As of May 17, 77 applications had been received for the first three professional options, and 37 of these applicants had received admission. Since the application portal does not yet list the latter two professional options, they have not received any applications. This tactic will be assessed by the number of degree programs that will have the PSM designation. *(Ongoing)*

2.2.2.2 Create applied master’s programs. An MS degree program in Data Science, offered jointly by the Departments of Computer Science and Mathematical Sciences, has been available since Fall 2017. The number of applications has been increasing drastically, from 71 for spring 2018 to 266 for fall of 2018 (as of May 17, 2018, since more applications for fall 2018 are expected); the number of admitted students was 43 and 164 (the latter number will improve further by 9/2018), respectively. This tactic will be assessed by the number of new MS programs of an applied nature. *(Ongoing)*

2.2.2.3 Enhance doctoral financial support by increasing stipends. The stipend was increased last year to $22,000 and will be increased to $24,000 in spring 2019. This tactic will be assessed by comparing the stipends NJIT offers with those offered by peer institutions. *(Ongoing)*

2.2.2.4 A doctoral program in Business Data Science (in MTSM) was approved in AY 2015-2016 and has been offered since fall 2016. This innovative program, blending business applications and big data processing, has attracted substantial interest. It receives the second highest number of applications across all Ph.D. programs at NJIT. *(100% Complete)*

*2.2.3 Update the Curriculum Continuously*

2.2.3.1 Incorporate feedback from professional organizations and accrediting agencies. The BArch and ET programs have recently introduced curriculum changes to ensure compliance with their accrediting bodies. There have not been any recent visits by accreditation agencies. This tactic will be assessed by the success of accreditation visits. (*Ongoing)*

2.2.3.2 Incorporate feedback from industry advisory boards (IABs) and employers. NCE has started a systematic process of seeking input from IABs regarding all undergraduate curricula. The following NCE programs received IAB feedback: Biomedical, Chemical, Civil, Computer, Electrical, Industrial, Mechanical, Engineering Technology - Electrical and Computer Engineering Technology, Engineering Technology - Construction Engineering Technology, Engineering Technology - Mechanical Engineering Technology and Engineering Technology - Surveying Engineering Technology, and Bachelor of Science in Business. The following undergraduate CSLA degree programs have sought and obtained input from IABs: B.S. in Forensic Science (recently approved program); and B.S. in Mathematical Sciences: Mathematics of Finance & Actuarial Science. Each PSM degree option has its own IAB as per the requirements for national PSM affiliation; these IABs provide input for curriculum revisions. This tactic will be assessed by the number of degree programs that have sought and gotten IAB input. *(Ongoing)*

**Objective: 2.3 Convergence through Digital Technology**

*2.3.1 Create an Instructional Culture of Digital Technology*

2.3.1.1 Converge the face-to-face and online modes of course delivery by pilot testing the idea of convergence. This pilot study, overseen by the Teaching Learning and Technology (TLT) Committee of the Faculty Senate, is underway. The TLT Committee worked with the Office of Institutional Effectiveness (OIE) to test the hypothesis that “There is no difference in student learning between converged and non-converged modalities.” To test the hypothesis, faculty teaching multiple sections of the same course participated. One section was taught in a traditional face-to-face format and the other used converged learning technology. The OIE found no difference in the pass rates, quiz, or final exam scores between the converged and non-converged sections. Over the past year, the TLT Committee and the Faculty Senate defined five modes of instructional delivery to clarify the ways in which courses are delivered at NJIT, namely Face-to-Face, Hybrid, Converged Learning, HyFlex, and Online. This clarification will be beneficial to students and will also allow accuracy in data tracking for course delivery. During FY2018, 22% of lecture courses were offered in the Hybrid, Converged Learning, Hyflex, or Online format. This tactic will be assessed by the number of courses offered in the Hybrid, Converged Learning, Hyflex, and Online mode.*(Ongoing)*

2.3.1.2 Increase the use of digital technology in the classroom by developing online programs based fully on internal NJIT capabilities. The MS degree programs in Industrial Engineering, Power and Energy Systems, and Applied Science (many of its concentrations) were added to the suite of online programs developed in-house, bringing the total number of available online programs to ten. Two more programs, the MS in Electrical Engineering and the MS in Computer Science, will migrate from Pearson to NJIT in the summer, bringing the total NJIT-housed online programs to twelve. Also, a recently approved incentives program for the creation of additional online versions of MS programs expected to catalyze the creation of such programs. This tactic will be assessed by the number of fully online degree programs developed and offered based exclusively on NJIT capabilities. *(Ongoing)*

2.3.1.3 Deploy adaptive learning systems to provide at-risk students personalized digitally based instruction. This tactic has been changed to helping students with a new approach using the centralized Math and Science Tutoring Center established in January 2017. This tactic will be assessed by a satisfaction survey sent in fall 2018 to students using the Tutoring Center. *(Ongoing)*

*2.3.2 Assure Academic Rigor*

2.3.2.1 Achieve uniformity of academic standards, regardless of delivery mode. A sub-committee of TLT developed a guidelines document for the development of online courses*.* The document has been endorsed by the CUE, CGE, and Faculty Senate and will be implemented immediately. The TLT subcommittee collaborates with the Institute for Teaching Excellence in overseeing implementation of the guidelines. Achieving uniformity of academic standards regardless of delivery mode remains a priority. The TLT Committee and the Faculty Senate passed a resolution that all instructional staff teaching a digital learning course for the first time must receive training through the Office of Digital Learning. This will help ensure that instructors teaching in a non-traditional format are prepared. The Office of Digital Learning continues to promote the Quality Assurance in eLearning rubric. Any new courses developed that are part of any incentive program must pass the rubric. This year several online courses have been reviewed including four new online courses developed this year and twelve courses that are part of the MS in Industrial Engineering and the MS in Engineering Management programs, with feedback provided to the departments. For next year, there are plans to review the courses that make up the two programs will be transitioning in the summer from Pearson to NJIT (Electrical Engineering and Computer Science). The rubric remains a recommendation and is not mandatory. This tactic will be assessed by the number of courses successfully using the NJIT Quality Assurance in eLearning Rubric. *(Ongoing)*

2.3.2.2 Create a digital repository for learning artifacts. The Institute for Teaching Excellence has started collecting teaching and learning artifacts that will be made available to faculty and students. Kaltura, a digital repository that stores and archives learning artifacts, was introduced in 2016. Kaltura allows NJIT users to upload, create, and share media through Moodle and NJIT Mediaspace. This past year Kaltura use has increased in the following ways: Kaltura CaptureSpace has replaced TechSmith Relay for all recorded learning objects and is used extensively to host course learning objects; the Van Houten Library has setup a streaming media channel using Kaltura to host streaming media approved by the library; starting in the Summer of 2018 all WebEx recordings will be stored in Kaltura. Currently, there are more than 10,000 media files uploaded to Kaltura. The Library is in the process of establishing an institutional repository using Digital Measures. That separate initiative is ongoing. This tactic will be assessed by the number of artifacts in the repository. *(Ongoing)*

**Objective: 2.4 Milestone Experiences**

*2.4.1 Integrate Milestone Experiences into Undergraduate Programs*

2.4.1.1 Expand the Undergraduate Research and Innovation (URI) program. The program has been expanded and now involves URI Phase-1 and Phase-2 Seed Grants, TechQuest Innovation Competition, Newark Innovation Acceleration Challenge, NSF Research Experience for Undergraduates (REU), and Provost Summer Fellowship programs. These programs are supported by NSF, PSE&G, several foundations and internal funds. During the 2015 – 2016 Academic Year and summer 2016 over 120 undergraduate students participated, and $400 K went to student stipends and project support. During AY2017-2018, 312 undergraduate students participated, and about $565 K went to student stipends and project support. Overall, 54% of undergraduate students participated in at least one milestone experience, up 9% from the previous year. Progress with this tactic will be assessed by the number of undergraduate students participating in the URI program. *(Ongoing)*

2.4.1.2 Increase the number of curricular-based co-ops and internships. As per a new policy, students in NCE are given the choice to select the co-op option in their academic program; the co-op option will involve two semester-long experiences which will be recorded on the student’s transcript. While on co-op, students will maintain their full-time student status. An effort will be made to expand and greatly promote internship opportunities that are directly related to our students’ majors and career objectives. This is particularly important for majors at NJIT that are less in demand. As confirmed by Career Development Services at NJIT and career centers throughout the nation, employer requests for interns significantly outpaces all other forms of experiential education by a ratio of nearly 5 to 1. In a recent survey of nearly 1,200 NJIT undergraduate students, we learned that only 23% conducted major-related summer internships this year. Major related work experience in any form is a critical component of learning and job search competitiveness upon graduation. This tactic will be assessed by the number of students selecting the co-op option for their engineering degree. *(Ongoing)*

2.4.1.3 Develop a robust study abroad program to increase the number of students that will have international experiences before graduating from NJIT. Inventory will be made of current MOUs with foreign universities to identify study abroad opportunities for our students. NJIT signed in AY2017-18 six MOUs for dual degrees with overseas universities, and 21 students from the University of Parma studied at NJIT in spring 2018. Additional opportunities are to be identified by the departments, colleges and the Office of Global Initiatives which, in coordination with academic departments, will also start creating a course equivalency inventory. During the AY2017-2018, eight NJIT students went abroad, and 31 students from foreign universities came to NJIT. This tactic will be assessed by the number of MOUs and the number of NJIT students going for study abroad. *(Ongoing)*

2.4.1.4. Integrate service-learning projects in the Newark community, and beyond, into the curriculum. As the unit responsible for assisting civic engagement implementation at NJIT, CDS will continue to enhance existing initiatives as well as develop new opportunities for faculty and students. Recent presentations, such as to the Deans and Administrative Councils and the ITE Workshop, have strengthened existing efforts to prepare students for civic responsibility, locally and globally. Three Architecture Studios offer service learning beyond the classroom experience by engaging their students with community stakeholders, the city of Newark, businesses, schools, and residents. Students worked on projects that critically examined the spatial relationship between the predominantly working-class local community and the influx of the knowledge economy worker, investigated a one-Newark project linking the downtown area to the Ironbound, and created alternative designs for a pivotal 2.5-acre site in Newark’s Ironbound neighborhood immediately adjacent to Penn Station. These efforts will continue. This tactic will be assessed by the number of students enrolled in courses that include a service-learning component. (*Ongoing*)

*2.4.2 Develop Milestone Experiences for Graduate Programs*

2.4.2.1 Foster research, industrial, service, and international learning experiences by increasing the number of destinations and majors available for graduate students through MOUs. NJIT signed in AY2017-18 six MOUs for joint/dual degrees with overseas universities and 21 students from the University of Parma enrolled at NJIT in spring 2018. See tactic 2.4.1.3 as the MOUs with foreign universities cover graduate students as well. *(Ongoing)*

2.4.2.2 Expand research and service, including civic engagement opportunities for graduate students. Students in PSM program options (e.g., Biotechnology) may have the opportunity to pursue (for credit) research as well as service or civic engagement projects. This tactic will be assessed by the number of MS students pursuing research and/or service projects. *(Ongoing)*

2.4.2.3 Continue to offer cooperative education opportunities to graduate students seeking to gain related work experience. This is particularly important for our international students who currently utilize their CPT to qualify for US Work Authorization. The current political climate and proposed legislations have adversely impacted our progress in recruiting employers and placing international graduate students in co-op positions. We will continue to explore methods for assisting our graduate students. *(New and Ongoing)*

*2.4.3 Support Personal Milestone Experiences*

2.4.3.1 Provide a framework allowing students to pursue personal milestone experiences by developing an extracurricular NJIT music program. A wind ensemble, a string ensemble, and a jazz band have been formed. Conductors have been hired, and equipment has been purchased. The Music Initiative is in its 4th year with student participation growing from 30 in 2014 to over 200 in 2018. In addition to the Wind, String, and Jazz Ensembles, a pep band has been formed to play at Highlander athletic events. The Society of Musical Arts (SOMA), the student music organization, has worked to bring all music groups under the SOMA umbrella and has formed smaller groups to play at university events as requested. The Student Senate, through the SFARB, has provided the Music Initiative with funds to purchase some instruments and basic supplies for the ensembles. This tactic will be assessed by the number of students pursuing personal milestone experiences at NJIT. *(Ongoing)*

2.4.3.2 Coordinate additional joint milestone initiatives between NJIT and Rutgers-Newark. The Music Initiative has actively recruited students from Rutgers-Newark to join the ensembles. During 2017-2018, three students from Rutgers participated in the wind ensemble. The joint NJIT-Rutgers-Newark Theatre Program brings many Rutgers-Newark Students to the NJIT campus to perform in five yearly theatrical productions. Through the Student Senate, NJIT student organizations have been encouraged to reach out to similar organizations at Rutgers-Newark for jointly sponsored events. *(Ongoing)*

**Objective: 2.5 Professional Success**

*2.5.1 Promote Paths to Professional Success*

2.5.1.1 Prepare students to attain their first-choice destination upon degree completion. This has been achieved by changing doctoral degree credit requirements to require earlier and more substantive input from dissertation committees. Ph.D. students now complete important program milestones much earlier. They all present their dissertation proposals before the end of their third year in the program and graduate earlier on the average. Additionally, the PSM program options and applied MS degrees will help students meet their professional objectives faster. This tactic will be assessed by the average reduction in time to complete doctoral NJIT degrees. *(Ongoing)*

2.5.1.2 Provide professional development workshops. The Department of Civil and Environmental Engineering offered every senior a workshop on review and preparation for the FE exam during the 2015-2016 Academic Year. In AY2016-2017, the department purchased a 68-hour online course comprised of modules with assessment tests to monitor preparation and made it available to all students planning to take the FE exam. Also, the department sponsors the FE exam registration fee for all students who successfully pass it. In fall 2017, 29 students in Civil Engineering, two students in Electrical and Computer Engineering, and nine students in Mechanical Engineering took the FE exam. The passing rates were 38%, 0%, and 78%, respectively. This tactic will be assessed by the percent of junior and senior CE and ME students passing the exam and will be compared to the national average success rate. *(Ongoing)*

2.5.1.3 CDS will launch on July 1, 2018, a comprehensive client relationship management system entitled Handshake. The platform sits on top of a shareware system, and NJIT will now have access to the nearly 200,000 employers who use the system to manage their campus recruiting efforts. Employers wishing to engage with us can easily do so by broadcasting a job posting for many schools at once with no additional charge. We expect job postings to increase dramatically as the average career center switching to Handshake sees a 60% increase in Employer Engagement. With this transition, we hope to see more interest from new employers, increased interest in recruiting options such as Career Fairs and On-Campus Interviewing, and overall stronger outcomes for our graduates. Also, we need to reactivate the career development course. In the past, CDS hosted a career development course for sophomore students. Reaching beyond job search skills such as resume writing and interviewing techniques, a newly constructed career development course will include all elements of designing and implementing a comprehensive career development plan that encompasses soft and hard skills development, effective techniques for job searching, giving students effective tools and instill confidence in future graduates that they can manage their careers beyond graduation. Students should receive career advisement consistent with their majors. The primary source of student career development and job attainment assistance is facilitated through CDS. This is accomplished through one-on-one sessions with career advisors, design and facilitation of workshops to teach and hone job search and marketing skills, assisting students to gain a clear understanding of their career options and workplace requirements, exposing them to experiential education opportunities, and helping them obtain meaningful employment in a specialty consistent with their education, experience, and personal goals upon graduation. *(New and Ongoing)*

*2.5.2 Promote Engagement with Intended Professions*

2.5.2.1 Promote and support student engagement with professional societies on campus. Various student chapters of professional societies (especially in engineering) get financial support from the corresponding department and the NCE Dean’s discretionary funds for on-campus meetings or the support of students participating in regional and national competitions. There are approximately 40 student organizations on campus with academic/pre-professional focus. 2-5 of them are not recognized by the student senate (e.g., ASCE and ASME student chapters). Almost half of them are affiliated with the NCE. The membership of these organizations ranges from 50 to 350. 1-3 organizations participate in competitions. Members have presented papers and posters at conferences and workshops. Several organizations host on-campus events with companies for the benefit of the students (e.g., resume workshops, networking, interview sessions). This tactic will be assessed by the number of student members of the on-campus professional societies and the placement of student teams in competitions. *(Ongoing)*

2.5.2.2 See 2.5.1.2. In 2017, 131 NCE students across all majors took the FE exam, and the passing rate was 54.96%. This tactic will be assessed by the number of students opting to take the exam while still at NJIT as well as the average passing rate for those attempting the exam. *(Ongoing)*

2.5.2.3 Connect students with employers to enhance their job opportunities and broaden their networks. CDS is in a unique position to facilitate interaction between students and employers. Annual fall and spring career fairs are signature events where over 2,000 students and 200 employers exchange information and network. Similar opportunities occur in reverse career fairs, on-campus interviewing of students by employers, resume day and practice interviews conducted by employers on campus, and company-led information sessions. At the annual employer awards recognition event, student organizations honor those organizations that have had the most impact on the student members. Employers meet with students and offer their business expertise during the annual diversity and networking dinner. Students are also represented on the CDS Advisory Board. *(New and Ongoing)*

2.5.2.4 Connect students with alumni through networking and recruitment. Students have expressed their interest in more contact with NJIT alumni. CDS yearly partners with Alumni Relations for Speed Networking, where alumni come back to coach students on networking skills and share industry insights. CDS established the Campus Champions program, where alumni act as a conduit from their companies to full-time candidates from NJIT graduates. Alumni are also given special recognition at CDS career fairs so that students can readily identify them. *(New and Ongoing)*

*2.5.3 Assess Student Professional Success*

2.5.3.1 Track alumni to periodically assess their success and satisfaction in their professional careers by initiating a comprehensive survey with an outside vendor. Alumni surveys are administered every two years for graduates with Bachelor’s degrees who graduated 2, 4, and six years prior, and graduates with MS and Ph.D. degrees who graduated 2, 4, and six years prior. The most recent surveys were done at the end of the 2016-2017 academic year and go back to 2005.

In response to Q18 on the 2016-2017 undergraduate survey, “How satisfied are you with your current job?,” 33.53% answered satisfied and 42.53% answered very satisfied (total of 76.06%). In response to the same question on the 2016-2017 graduate survey, 46.4% answered satisfied, and 32.8% answered very satisfied (total of 79.2%). This tactic will be assessed by the average value of the satisfaction reported in the survey. *(Ongoing)*

2.5.3.2 Effectively survey alumni to determine their satisfaction with their experiences at NJIT through a review and revision of the annual alumni survey process. The responses to Q.3, “Overall, how satisfied are you with your education at NJIT?,” on the same surveys mentioned in 2.5.3.1, 48.65% of alumni who had received a graduate degree answered satisfied, and 27.7% answered very satisfied (total of 76.35). Alumni who had been awarded an undergraduate degree answered 44.85% satisfied and 29.9% answered very satisfied (total of 74.75%) *(Ongoing)*

**Priority 3 - Scholarly Research**

**Objective: 3.1 Faculty Roles in Research**

*3.1.1 Increase Participation of Current Faculty in Research*

3.1.1.1 Develop policies to encourage research by sharing indirect income among primary investigators and academic units and assuring start-up funds for new faculty. The policy of indirect cost (overhead) return was developed and implemented. A part of the indirect costs has been shared with principal investigators, departments, centers, and colleges. This tactic will be assessed by growth in external funding and the number of faculty with active funding *(100% Complete).*

3.1.1.2 Increase efforts to fully recover associated research expenditures with a policy on Indirect Costs Return (Overhead) developed through the Faculty Research Advisory Board (FRAB), faculty senate and administration. In FY18, more than $526,000 in overhead return were provided to about 140 eligible faculty, chairs and deans to re-invest into the research support. Progress on this tactic will be assessed by an increase in number of faculty with active funding. *(100% Complete)*

3.1.1.3 Establish a competitive internal seed-funding program for innovative and exploratory research. From Fy15 to FY18, 76 Faculty Seed Grants have been awarded involving 117 faculty members. Progress will be assessed by the number of external grants received by the recipient of faculty seed grants. More than 80% faculty who received Faculty Seed Grants in FY15 and FY16 received external grants. All NJIT faculty receiving NSF CAREER awards in FY17 and FY18 received Faculty Seed Grants in earlier years. *(100% Complete)*

3.1.1.4 Re-engage faculty not currently active in scholarly research by integrating them into existing or emerging projects by setting up faculty seed grants and undergraduate student seed grants. Many faculty who have not been active in research have started projects alone or with undergraduate students through faculty seed grants. Progress will be measured by the number of new proposals submitted and grants received by faculty who have not been active in past 3 or more years. *(Ongoing)*

*3.1.2 Integrate Research into the Curriculum*

3.1.2.1 Advance faculty research in conjunction with academic curriculum content by encouraging research-active faculty to offer opportunities for team-based research with other faculty, graduate students, and undergraduate students. MS and Ph.D. programs in Business Data Science were approved this year. They will enable the Martin Tuchman SOM faculty to advance their research objectives while also educating graduate students. Assessment of this tactic will include the number integrated programs. *(Ongoing)*

3.1.2.2 Develop a faculty research lecture series open to all students by supporting departments that have established research lecture series linked with graduate-level seminar requirements. Seven institutional showcase, presidential forums and numerous distinguished lectures at the college and department levels were organized in AY17. Progress on this tactic will be measured by the number of institutional and college/departmental seminars and showcase events. *(Ongoing)*

**Objective: 3.2 Academic Research Enterprise**

*3.2.1 Foster Regional, National, and International Collaboration*

3.2.1.1 Strengthen collaboration among researchers at NJIT and other universities in the region by establishing more collaborative research centers, adding significantly to the existing group of NJIT research centers which involve faculty from other universities. More than 60 collaborative projects have been funded in FY18 involving other institutions and organizations. Assessment of this tactic will be based on the increase of number of proposals involving two or more institutions/universities. *(Ongoing)*

3.2.1.2 Support international collaborative research and exchange programs by developing a streamlined process and protocol to facilitate establishing MOUs, contractual agreements policies, and protocols for international visiting research scholars and students. This activity has been implemented. Fifty-nine (59) international collaborative projects, contracts, and exchange program MoUs are active in FY17. Measurement of progress will be based on the number of international collaborative projects and its growth. *(Completed)*

*3.2.2 Improve Communication with Faculty on Research Opportunities*

3.2.2.1 Disseminate grant and fellowship opportunities by distributing a description of grant opportunities to members of the university community. Program Directors from funding agencies have been invited to provide information on current and future funding programs to NJIT faculty and staff. Assessment of this tactic will be based on the increase of external funding. *(Completed)*

3.2.2.2 Communicate NJIT researcher accomplishments through a weekly newsletter sent to all faculty featuring recent grants, events, and grant opportunities. Assessment will be based on the increase of external funding. *(100% Complete)*

*3.2.3 Support Research Activities and Infrastructure*

3.2.3.1 Refine and streamline the administrative infrastructure for research support by integrating grant management and accounting operations. Sponsored Research Administration and Grant & Contract Accounting offices have been merged into the Office of Research to provide seamless support from the identification of grant opportunities to grant closing. Streamlining of purchase requisitions and personnel requisition processes have been planned. The proposal submission module is fully operational and being used since January 2017 for all proposal submissions. Grant award reporting module is being implemented now and will be available with a dashboard of proposal submission and award reporting to faculty, chairs and deans by September 2018. The IRB module is implemented and available to faculty. Other research compliance modules including IBC IACUC are being implemented and will be available in Fall. Assessment of progress will be based on the efficiency of the tasks including purchase requisitions, personnel requisitions, budget transfer and timely billing. *(Ongoing)*

3.2.3.2 Offer training and support in grant-proposal preparation by providing workshops and grant writing assistance. Open House events are being offered to address and answer questions related to all functions of proposal submission and grant management. The Faculty Research Advisory Board (FRAB) meets to discuss grant management at multiple events organized by the Office of Research every semester. Faculty Development Workshops are offered covering research proposal preparation and submission training, scholarly research publications and professional development over six weeks to new faculty. Specific workshops on target funding opportunities such as NSF CAREER funding program have been offered to faculty with follow-up mentoring with senior faculty at the department and college levels. Assessment will be based on the increase of external funding *(100% Complete)*

3.2.3.3 Develop searchable databases of all records of research awards by purchasing and implementing Streamlyne to improve quality of the research database. The Streamlyne research proposal submission system has been implemented and is being used by faculty for proposal submissions. Research expense and burn rate reporting has been implemented. Since Fall 2017, monthly research expense reports on all grants are sent out to all PIs, chairs, and deans. Assessment will be based on the increase of external funding and efficiency of approval and monitoring processes. *(100% Complete and Being Updated)*

3.2.3.4 Improve the NJIT research grant management and accounting information by developing and delivering training sessions to faculty and staff on the use of Streamlyne Grant Management Software system for proposal submission and online grant billing. A Banner Finance module will expedite grant invoicing and the collection of grant receivables, improving the university’s ‘grant-related’ cash-flow. A protocol is being developed to manage proactively and follow-up on grants and contracts expenditures versus elapsed duration of the awards to ensure optimal grant management. Streamlyne-Banner integration is being implemented and expected to be completed by Fall 2018. Assessment will be based on the efficiency of proactively following up on the grant billing and monitoring. *(Ongoing*)

3.2.3.5 Reserve the “center” designation for consistently successful research initiatives and develop productive labs into centers by implementing a policy and protocol for the establishment of new research centers and the review and renewal of existing research centers. Four new research centers and two research institutes (Institute of Brain and Neuroscience Research, and the Leir Research Institute of Business, technology, and Society) have been established. Assessment will be based on the increase of external funding*. (100% Complete)*

**Objective: 3.3 Multidisciplinary Research**

*3.3.1 Adopt Multidisciplinary Academic Research Approaches*

3.3.1.1 Promote multidisciplinary research through internal meetings to foster building collaborative research teams. Several meetings have been conducted with faculty internally as well externally to promote core and multidisciplinary research as well as multi-institutional collaborations. Assessment will be based on the increase and number of multi-disciplinary and multi-institutional proposals. *(Ongoing)*

3.3.1.2 Assure recognition and reward for faculty engaged in multidisciplinary research using Streamlyne to provide a database, which makes possible recognition and reward for collaborative research. The collaborative research through research centers and institutes is being rewarded by increased overhead return and operating budgets for increased infrastructure support. Letters to faculty, chairs and deans are sent when a grant award is received. Assessment will be based on the research satisfaction surveys. *(Ongoing)*

3.3.1.3 Integrate research into academic experience at all levels encouraging doctoral students into multidisciplinary research efforts, provide teaching assistants across departments, and developing interdisciplinary and multidisciplinary curricula. The doctoral dissertation committees require members from different departments and/or other institutions. Teaching assistants are assigned to colleges to be re-allocated to department and interdisciplinary programs. Number of courses across different academic programs and number of interdisciplinary academic programs such as programs in data science have been increased. Assessment will be based on the number and percentage of students involved in research. *(Ongoing).*

**Objective: 3.4 Economy and Technology Development Partnerships**

*3.4.1 Economy and Technology Development Partnerships*

3.4.1.1 Engage the private sector through the university’s nonprofit corporation, NJII. NJII now has launched 12 industry-facing business units (iLabs and coreLabs), each of which is generating program activity in partnership with the private sector and government. Since NJII launched in 2014, it has helped more than double the impact of NJIT’s economic and technology development mission as measured by economic and technology-related (NJII and NJII@NJIT) expenditures, which have increased from roughly $30M in its first year of operation to nearly $70M in FY 2018. This increase in impact has been accomplished with significant productivity increases in the use of institutional funds, with NJII now leveraging over $20 in contracts and sponsored awards for every dollar invested by NJIT, a significant increase from NJII’s beginning. Its growing portfolio offers Innovation as a Service, which spans a robust innovation model ranging from 1) ideation and agile strategy to 2) demonstration and prototyping platforms to 3) education and training, and 4) innovation commercialization and enterprise development.

NJII’s work with NJIT academic units continues to expand as its relationships and assets grow. Highlights include continued collaboration with the College of Science and Liberal Studies to launch a graduate certificate program in biotechnology, embedding its chief data analytics scientist in the Ying Wu College of Computing to advance industrial partnerships, and continued partnership with chemical engineering around building an NJ remediation agenda. NJII’s Defense and Homeland Security iLab continues to bring funding from Picatinny Arsenal to fund NJIT researchers around projects such as additive manufacturing and technical assessments of IP. Some of the notable private sector partners include Hackensack University Medical Center, AtlantiCare, Lockheed Martin, Prudential, Panasonic, the US Air Force, Nokia, IBM, Bell Labs, Celgene, Novartis, Merck, Johnson & Johnson, Pall Pharma, GE Life Sciences, Lutron, and the State of New Jersey to name a few. The NJIT/NJII Business Engagement Team and University Development partnered to inaugurate a “Corporate Engagement Strategy” process and document to integrate university-wide strategies for targeted corporate partners. As the metrics reported above suggest, assessment will be based on the number of external partnerships and the amount of funding. (Ongoing)

3.4.1.2 Faculty members have also been encouraged to engage in entrepreneurial activities on behalf of the university. NJIT was designated an NSF I-Corps site in 2015 and, to date, 126 mini-grant awards have been provided to NJIT student and faculty inventor teams to explore commercialization of technologies. Several faculty members have obtained approval to participate in startup activities related to technology that they have developed at NJIT, including microfluidic chips for diagnostic testing, thin films, membranes, biomaterials, advanced vision therapy, vacuum technology and data mining to name a few. Also, several teams have gone to national I-Corps projects with funding of $50K per team. Teams have also obtained funding from Federal SBIR, the Philadelphia Science Center, Keck Foundation, and the New Jersey Health Foundation to further advance commercialization activity. NJIT has also received a supplement to the I-Corps site grant to focus on support for life sciences female PhDs and postdocs from across the state. Assessment will be based on the number of teams in translational/entrepreneurial phase. (Ongoing))

3.4.1.3 Reorganize the patent application structure to move it into the Research Office. The patent application process has been moved to the Office of Research with joint reporting to the Office of General Counsel. The IP Committee has been re-organized with the addition of 8 faculty members representing all colleges and research areas. The IP processing protocols for assessment of invention disclosures for submission of provisional and non-provisional patents have been established and posted on the Research website. Till date (5/14/2018), NJIT has obtained a total of 415 IP assets including all acquired patents, and provisional and no-provisional pending patents. *(Ongoing)*

*3.4.2 Serve as a Catalyst for Regional and Economic Growth*

3.4.2.1 Capitalize on state and federal funding to develop large-scale technology projects through the NJIT Business Engagement Team (BET), which includes interested academic deans. The BET again evaluated NJIT’s best partnership opportunities and identified more than a dozen high priority companies with whom to engage and deepen relationships with NJIT. As mentioned above, to better integrate and coordinate university-wide efforts, BET and University Development partnered to inaugurate a “Corporate Engagement Strategy” process and document to advance coherent university-wide strategies for targeted corporate partners. Broad-scale partnering meetings and company engagements have occurred or are imminent with Stryker, Bell Labs, Lutron, AECOM, Celgene, the City of Newark, Intersection/Sidewalk Labs (Google companies) among other concerted efforts stemming from this collaborative structure. Assessment will be based on the number of technology projects. (Ongoing)

3.4.2.2 Expand the university’s presence in state, regional, and national economic development activities by inviting faculty members and students to participate in economic and technology development programs. NJIT hosts three NJ Talent Network programs, including advanced manufacturing. (Gale Spak to update) NJIT continued to lead the NJ MarketShift program with its focus on diversifying NJ’s aerospace and defense companies. NJII Healthcare Delivery Systems iLab’s work ($15M+/yr., including nearly $2M in revenues from private sources) now includes assisting physicians to transform their practices by using electronic medical records. NJII hosts the NJ Unmanned Aerial Systems Test Site and the JP Morgan Chase-funded Healthcare IT cluster development program. As well, it also launched its Smart City Test Bed partnership with Newark and a dozen or more companies formally launched its activities during the fall of 2016.

As reported previously, NJII led a major effort to win a NIST-funded U.S. Institute for Manufacturing Innovation in biopharmaceuticals that represent a broad set of NJ partnering companies/organizations, government, research universities (including NJIT), and industry organizations. While the NJ proposal did not receive funding, Rutgers and NJII press forward to develop industry-facing centers in continuous pharmaceutical manufacturing and cell therapies. NJII has also formed statewide frameworks for partnering. In addition to the NJ biopharmaceuticals and remediation efforts mentioned above, NJII has convened a set of statewide leaders to focus on marketing and strengthening the NJ aerospace and defense sector in partnership with NJ state economic development organizations. Assessment of this tactic will be based on the number of economic development programs and funding. (Ongoing)

3.4.2.3 Evolve the NJIT and NJII Innovation Commercialization product and service functions and products targeted toward large companies and small, medium enterprises. NJII led the effort to evolve the traditional EDC programs that support entrepreneurs into a new framework that leverages the assets of the university and the programs of NJII to create a sustainable model for technology business growth. NJII’s iLabs feature sector specific scale-up, integration and demonstration projects such as a statewide Healthcare Information Exchange, the Newark Smart City testbed, Biopharmaceutical pilot manufacturing labs, and UAV flight center. The centers serve as a magnet to cluster related companies in a micro-ecosystem that EDC has already proven to be advantageous to business growth, and access to real-world demonstration sites further enhances growth rates. NJII assets and capabilities combine with NJIT’s traditional EDC incubation program to a new framework for NJIT/NJII innovation commercialization with far greater potential than the EDC alone. Capabilities are offered in the areas of Technology Adoption (focused on large companies), Technology Acceleration (focused on smaller entities), an enhanced EDC Space+ program (focused on early-stage companies that require a location) and a set of investment fund management service (focused on angel, VC and PE firms).

**Objective: 3.5 Facilities and Administrative Planning**

*3.5.1 Optimize Start-up Processes and Resources*

3.5.1.1 Provide flexibility of start-up funds usage for all new hires throughout their pre-tenure period by insisting that start-up packages provide access to funds for three years and may be extended in special circumstances. Progress on this tactic will be measured by the investment in start-up packages and successful completion of third-year and tenure reviews. *(100% Complete)*

3.5.1.2 Ensure that new faculty have fully functional research laboratory space upon appointment by assigning lab space at the time or right after the offer of acceptance. Additionally, new faculty hired in FY15-18 have had their laboratories set-up and ready in early September for Fall, and in the first week of January for Spring semester. In Fall FY17 lab renovations for most new faculty hired in Fall were completed by October. Assessment will be based on the number of renovations labs ready within two months of the start of the semester when new faculty is hired. *(Completed).*

*3.5.2 Assess and Prioritize infrastructure*

3.5.2.1 Assess infrastructure and document capacity to determine ability to support scholarly research through the assessment and systematic evaluation of research labs and center spaces. Specific lab spaces have also been upgraded to meet research needs. Assessment will be based on research satisfaction surveys.  *(Ongoing)*

3.5.2.2 Optimize existing infrastructure use and the prioritizing of needs for new facilities, equipment, and institutional infrastructure. By assessing research lab space, research needs and faculty hiring plan, specific research lab/center spaces will be identified and prioritized to meet high priority needs. Assessment will be based on research satisfaction surveys *(Complete; protocol is implemented and ongoing on yearly basis)*

*3.5.3 Share Facilities with Council for Higher Education in Newark (CHEN)*

3.5.3.1 Expand shared-use facilities, equipment, and institutional support infrastructure, by expanding the University Heights Science and technology park. NJIT is also pursuing a “High Technology Incubator” to promote collaboration between the universities. Progress will be measured by the number of companies in the incubator and total funding. *(100% Complete)*

* + - 1. Collaborate with industry to offer faculty and student access to equipment not otherwise available on campus, by arranging for the first piece of equipment, courtesy the Stryker Corporation, to be shared through the NJIT Makerspace. The Makerspace at NJIT will continue to foster relations with industry to provide shared-use equipment. Assessment of this tactic will be based on the number of users and projects associated with Makerspace. *(100% Complete)*

**Objective: 3.6 Improve External Recognition on Scholarly Research (New objective)**

*3.6.1 Enhance Professional Recognition*

3.6.1.1 Encourage and increase the number of faculty activities such as service on editorial boards, conference organizing committees, review panels and chairing teams/groups of professional experts on-site visit teams and recognize and reward these activities in a variety of ways. A new faculty Committee on International Programs Promotion Committee has been established. In FY17, 56 internal projects, collaborations and exchange program MoUs are active. Progress on this tactic is based on the increase and number of faculty serving on conference committees, editorial boards and review panels. *((100% Complete and ongoing protocol for faculty nominations)*

3.6.1.2 Recognize and reward professional awards and honors. Help identify faculty and assist in submitting their nomination packages for state and national honors, such as National Academy of Inventors, NJ Hall of Fame of Inventors. Progress on this tactic will be measured by the increase and number of faculty receiving professional awards and honors. *(100% Complete and ongoing protocol for faculty nominations)*

3.6.1.3 Encourage initiatives that organize and promote conferences at NJIT. Several international conferences with IEEE, American Physics Society, and American Mathematical Society have been organized at the campus. Progress will be measured by the number of professional conferences and events at NJIT. *((100% Complete and ongoing protocol for faculty nominations)*

**Priority 4 – Community**

Objective: 4.1 Global Community

4.1.1 Value Diversity

4.1.1.1 Adopt an NJIT definition for diversity that includes: race, sex, sexual orientation, gender identity and expression, marital status, age, religion, national origin, ancestry, citizenship, disability and veteran status. A Diversity Plan Framework—which includes an NJIT definition of diversity—has been completed and was submitted, in May 2017. The document is now under review by the current vice president for human resources. See also section 4.3.1.2 below. (75% Complete)

4.1.1.2 Accept diversity as a core value of NJIT by focusing on the creation of visible activities in support of diversity and multi-cultural affairs on the campus. Over eighty-five campus student and staff diversity activities and programming have been held. A wide variety of multicultural awareness activities, including cuisine, dance, and religion have also been sponsored. Also, student staff host peer to peer dialogues that focus on deeper diversity topics such as racism, sexism, ageism and religious intolerance, including recent programs on issues facing the LGBTQ student population continue to be held. (50% Complete)

4.1.2 Support Student Diversity

4.1.2.1 Foster a safe university environment that respects differences and encourages inclusiveness. Mandatory sexual and other unlawful harassment training has now been completed by all NJIT employees. (50% Complete)

4.1.2.2 Ensure that the university’s academic curriculum creates global awareness and promotes tolerance and understanding among students. Course syllabi being centralized in the new Digital Commons, will allow for a comprehensive analysis, of diversity/multicultural course components across the curriculum. (25% Complete)

4.1.2.3 Train dedicated staff in departments, schools, and colleges to enhance understanding and communication with international students. C-CAPS hosted a workshop on Immigration Rights in April which had two speakers - an attorney from off-campus who specializes in immigration issues and a staff member from NJIT's Office of Global Initiatives. The Office of Global Initiatives has been actively engaged throughout the year in efforts to increase awareness of NJIT’s international student population and their needs. (50% Complete)

4.1.2.4 Increase the percentage of women students by supporting targeted activities that encourage accepted female students to matriculate. This will help NJIT better reflect the larger community it serves, and will help maintain a stable undergraduate enrollment. This new tactic, incorporated into the *2020 Vision* strategic plan in January 2018, builds on ongoing efforts to covert accepts to matrics—e.g. the increasingly well-attended brunch programs the Murray Center hosts for women accepts and their families during Open Houses. In addition to the brunches, during AY2017-2018 personal telephone calls were made by current YWCC female students to accepted female freshmen, and yield postcard and emails were sent to all accepted female freshmen highlighting the Murray Women’s Center. These strategies are being assessed by monitoring enrollment and yield for female students.

4.1.3 Simplify the Process for International Collaboration and Exchanges

4.1.3.1 Establish larger-scale, long-term exchange programs with universities in other countries. Student exchange programs have been promoted with faculty. The Offices of the Provost and Global Initiatives have continued to spearhead the development of international partnerships to promote student exchange. NJIT currently has 33 valid MOUs for student exchange and joint degrees. The Office of Global Initiatives has continued to promote these opportunities to all students. This is being assessed by monitoring the number of MOUs. (100% Completed and ongoing)

4.1.3.2 Streamline the approval process and assign individual responsibility for international agreements. The policies and protocols for international agreements and visiting scholars have been established and posted on the website. To date, we have more than 59 international collaborators through projects, agreements and visiting scholars program.  The assessment will include the number and growth of international agreements. (100% Complete and ongoing)

4.1.3.3 Encourage and simplify visiting and courtesy appointments.

The policies and protocols for visiting scholars and courtesy appointments have been established and posted on the website. At present, NJIT has 25 international visiting scholar appointments. The assessment will include the number and growth of visiting scholars and courtesy appointments. (100% Complete and ongoing)

4.1.3.4 Promote significant research projects between NJIT and international researchers.

The Office of Research has been promoting international collaborative research through NJIT research centers. At present, NJIT has 23 international projects with executed agreements. The assessment will include the number and growth of international projects. (100% Complete and ongoing.)

4.1.4 Appoint NJIT Faculty as International Community Representatives

4.1.4.1 Leverage the globally diverse NJIT faculty as spokespersons on campus and abroad. The Office of Research has initiated an International Programs Support Committee with faculty representatives from each college and Director of the Office of Global Initiatives. The committee is working on developing a report and recommendations on enhancing international research collaborations, student-exchange, and visitor programs. (10% Complete)

4.1.4.2. Cultivate and communicate the global perspective of NJIT.

The International Programs Support Committee with faculty representatives from each college and Director of the Office of Global Initiatives is developing recommendations on enhancing international research collaborations, student-exchange, and visitor programs. The Committee is working to create a more robust communication between the Office of Global Initiatives and the Office of Strategic Communication. (10% Complete)

Objective: 4.2 University Governance

4.2.1 Facilitate the Integration of Shared Governance

4.2.1.1 Acknowledge the importance of the faculty’s role in the university community through the Faculty Senate. The faculty senate meets twice monthly and is represented on all shared governance standing committees and the University Senate. Assessment has taken place through faculty surveys about governance satisfaction. (100% Complete)

4.2.1.2 Recognize the importance of all other campus stakeholders and ensure their voice is heard through the University Senate. The Lecturers and Educators Congress, Administrators Council, and the Staff Council continue to represent their constituents within the framework of shared governance. A new policy on the Hiring and Promotion of University Lecturers has been approved by the Faculty Senate and by the Provost. Assessment has taken place through lecturer, staff, and other stakeholder surveys about satisfaction with shared governance

4.2.2 Cultivate an Atmosphere of Civility and Mutual Respect Across the University Community

4.2.2.1 Emphasize the dignity of all members of the university community and the respect they deserve. The on-line training program “Unlawful Harassment Prevention” was launched in October, 2017 for all faculty, staff, and supervisors. All faculty and staff have completed the program. New staff and faculty are expected to complete the training within 30 days of hire. (50% Complete)

4.2.2.2 Acknowledge the importance of the voice of the student body.

The student senate president and graduate student association presidents are voting members of the University Senate and the standing committee for human resources. The student senate president also serves on the Executive Committee. Student representatives attend Faculty Senate meetings and often serve on university search committees. They also serve on the planning/Accreditation committee (100% Complete)

Objective: 4.3 Diverse Faculty Leadership

4.3.1 Support Diversity

4.3.1.1 Establish a baseline for diversity assessment. The Faculty Diversity Liaisons have reviewed longitudinal faculty diversity data, by academic unit, and discussed how best to use this data to increase faculty diversity. (50% Complete)

4.3.1.2 Expand the NJIT Affirmative Action Plan to include a comprehensive Diversity Plan.

The completed Diversity Framework (4.1.1.1) and the university’s updated Affirmative Action Plan--available by the end of the first quarter, FY2019—will form the basis of an expanded document that will included individualized diversity plans crafted by each academic unit in response to disciplinary pool data and strategic goals. (25% Complete)

4.3.2 Coordinate Recruitment and Retention

4.3.2.1 Engage college and school deans to develop plans for achieving faculty diversity. The Diversity Liaison Group has met, reviewed benchmark data, and discussed key parameters for School/College Diversity Plans in their units. (10% Complete)

4.3.2.2 Increase coordination of efforts to recruit and retain women and minority faculty by appointing a diversity liaison officer at college and university levels. A Diversity Liaison Group has been formed, headed by the university’s Faculty Diversity Liaison officer, with representatives from each school/college. The group met in the fall of 2017 to review hiring and promotion data and prioritize its activities in support of recruiting and retaining women and minority faculty. (75% Complete)

4.3.2.3 Coordinate resources and information to recruit diverse faculty at college, school and department levels. The Faculty Search and Selection Guidelines (2016) and the new Policy on the Hiring and Promotion of University Lecturers (2017) together constitute a rich resource of procedures and best practices now available to all departmental search committees. These documents, plus face-to-face search committee training sessions conducted by HR, are part of a coordinated effort to increase the recruitment of diverse faculty. That effort bore some early fruit in the 2017 recruitment season. (25% Complete)

4.3.2.4 Cultivate potential faculty through conferences and speaking engagements.

Preliminary results from a baseline study of outside speakers invited by academic departments in 2016 suggest that the university was not yet using this tactic to cultivate potential women and minority hires. A follow up study will be conducted. (25% Complete)

4.3.2.5 Train search committees for accountability, especially in implicit bias awareness. Search committee chair training was conducted in the Fall of 2017 with a focus on recruiting and hiring best practices, including unconscious bias prevention and non-discriminatory interviewing and hiring practices. All faculty search committee members were required to complete the web-based training program, “Uncovering Unconscious Bias.” (50% Complete)

Objective: 4.4 Diverse Administrative Leadership

4.4.1 Analyze the Availability of Potential Candidates

4.4.1.1 Develop a hiring program to promote diversity among administrators.

While there is no formal hiring program to promote diversity among administrators, a human resources representative is assigned to every non-faculty search committee to ensure hiring best practices are implemented. (50% Complete.)

4.4.1.2 Improve utilization of university databases containing administrator rank and diversity data. Quarterly review of employee download implemented to ensure complete and accurate data. (50% Complete)

4.4.2 Develop and Sustain a Diverse Talent Pool

4.4.2.1 Establish a diverse administrative talent pool to yield opportunities and pathways for professional growth and advancement. We continue to establish a diverse talent pool of administrators, through targeted recruitment utilizing open-position advertising. Recruitment of women and underrepresented minority candidates through targeted open position advertising is ongoing. In addition, the launch of the Management and Staff Academy and its professional development programs is open to all staff. Since its inception last spring, the Academy has delivered 18 programs for 164 participants. (50% Complete)

4.4.2.2 Build relationships with professional organizations to diversify participation on the university’s volunteer leadership boards and include a statement of commitment to diversity in all volunteer boards. A preliminary analysis of the gender composition of NJIT volunteer boards has been completed, establishing a baseline against which the tactic can be measured. Twenty-three percent of the Board of Trustees members are female, but women make up only 8.5% of the Board of Overseers. Overall, 21%, of NJIT Advisory Board members are female, but the data varies considerably by unit: MTSOM-34%; CSLA-29%; CoAD-13%; YWCC-11%; NCE-10%. (25% Complete)

Objective: 4.5 Alumni Engagement

4.5.1 Promote Alumni Engagement

4.5.1.1 Promote a culture of alumni engagement and satisfaction built on passion and pride for NJIT. The total number of active alumni volunteers has increased 60% to 201 from four years ago. Total number of alumni regional clubs has increased 120% to 11 from FY16 and the total number of alumni corporate clubs now has increased 50% to 9 FY16. The mobile-optimized Highlander Monthly e-newsletter was launched in November 2017. (75% Complete)

4.5.1.2 Engage alumni in student recruitment, campus life, and career services. Since 2017, the Young Alumni Association has partnered with Career Development Services to host Career Fair preparation workshops before the Career Fair. The Young Alumni Association has hosted a “Senior Soiree” to promote interaction between young alumni leaders and graduating students; the FY18 event had record attendance. In 2018, Student Senate and club representatives were invited to the Alumni Council meeting to provide insight for alumni activities. This past year, the Alumni Office supported student trips hosted by alumni at their corporate headquarters including twice annually to UPS, PSE&G, and Bloomberg. In spring 2018, the Alumni Office launched HighlanderNation, an online directory, networking, and mentoring platform for alumni. Lastly, in fall 2018, HighlanderNation will open to students for mentoring by and networking with alumni. (75% Complete)

4.5.1.3 Develop a strategic plan for alumni relations that employs best practices from across higher education and at peer institutions. The original alumni relations 2015 strategic plan is to be revisited and revised in summer 2018. (25% Complete)

* + 1. Continuous Improvement of Alumni Engagement

4.5.2.1 Set clear, measurable goals and objectives for the improvement of alumni engagement.

Number of unique alumni attending NJIT events continues to increase: from 700 in FY15 to 1,178 in FY18 to date, which is 222 short of the FY18 goal. A quarterly progress report has been developed and will be instituted in Development & Alumni Relations office in FY19, which will include and track 5-6 “top-level” quantitative and qualitative annual goals for all departments in Development and Alumni Relations. (25% complete)

4.5.2.2 Create metrics and establish standard reports on alumni engagement. An “alumni engagement scoring” system was created in November 2017. It uses event attendance, giving history, volunteerism, and communications to create a numerical score. Alumni Relations updates these alumni engagement scores on a quarterly basis; increasing the percentage of alumni scoring a 4 or higher (currently: 14.3%) will serve as an annual goal. (100% Complete)

4.5.2.3 Use social media to build a digital-alumni contact list. Launch of mobile-optimized Highlander Monthly e-newsletter in November 2017; as of April 2017, this e-newsletter includes a regular feature asking alumni to keep their contact information up-to-date. As noted above, in spring 2018, Alumni Relations launched HighlanderNation, an online directory, networking, and mentoring platform for alumni. In fall 2018, HighlanderNation will open to students for mentoring by and networking with alumni. (50% Complete)

**Priority Five – Investments**

**Objective 5.1 - Educational Investment**

*5.1.1 Promote Teaching Excellence*

5.1.1.1 Develop the Institute for Teaching Excellence which held its inaugural lecture in September. The Institute moved to its permanent home in the Central King Building in January 2017 and is actively providing resources and programs to develop faculty, lecturers, adjuncts, and graduate students. Completion of the permanent location of the Institute for Teaching Excellence will be the assessment for this tactic. *(100% Complete)*

5.1.1.2 Guide instructors in developing their course learning outcomes and syllabi, using the appropriate surveys and assessments, this will help monitor and guide curricular change. The issue of developing course outcomes and aligning them with the assessment tools for a course (quizzes, exams, etc.) is being addressed both at the “Lunch at ITE” weekly series as well as during the ITE Workshops held in January, May, and August. Non-tenure/tenure-track faculty have also become a focus of training through workshops with a specific focus on developing adjunct faculty teaching skills and providing support for university lecturers to attend teaching and learning conferences. As an assessment, the percentage of course syllabi that have course outcomes will be utilized. To date, 58% of the programs have successfully passed the review process and have learning outcomes. The open and affordable textbook initiative was also successfully launched this past year. This program provided support to faculty who would develop low cost or free alternatives to textbooks for their classes, impacting over 1700 students and saving students over $160,000 (estimated). *(Ongoing)*

5*.1.2 Improve Academic Support*

5.1.2.1 Develop a ‘university commons’ by constructing such a space in the Central King Building. This facility now provides an integrated learning space for collaboration and tutoring. This space opened in January 2017 and includes the writing center and the math emporium. Currently, the feasibility of relocating the Learning Center to the commons is being studied, and costs are being developed. Completion of the university commons will be the assessment for this tactic. *(100% Complete)*

5.1.2.2 Create spaces for student study and interaction, especially in proximity to large lecture halls and classrooms. New study spaces will promote student interaction and collaboration. Construction has begun on the Makerspace, which will allow hands-on collaboration for students in all disciplines. The Central King Building opening in January 2017 added 7,400 square feet of student study and interaction space. The Life Science and Engineering Center opened in September 2017 and added student study spaces in common areas outside the research laboratories. The Wellness and Events Center north corridor and arena concourse provide locations for student interaction, study, and collaboration. Additional spaces will be constructed in subsequent fiscal years. A $10 million grant from the state will support expansion of the makerspace, growing the facility to nearly 20,000 gsf, providing for collaborative, experiential learning. Completion of the Board approved capital projects related to this tactic will be the assessment tool. *(Ongoing)*

*5.1.3 Revise Non-Tenure Track Compensation and Career Tracks*

5.1.3.1 Revise the current compensation and advancement structure for non-tenure track instructors through the formation of the Subcommittee on Non-Tenure-Track Instruction of the Faculty Senate Committee on Faculty Rights and Responsibilities (CFRR) which addresses issues of hiring and promotion policy for lecturers is ongoing.  It does not address adjunct status nor does it discuss compensation levels for lecturers.  It does propose moving hiring and promotion policy to the Faculty Handbook and the Provost's Office, in line with how Faculty Promotion and Tenure are now handled. Compensation for adjuncts has also increased in the past year, with an increase to a per credit minimum pay of $1,550. *(Ongoing)*

5.1.3.2 Create a non-tenure track full-time Professor of Practice position and seek the position’s endorsement by the Faculty Senate. The Professor of Practice position engages individuals who possess contemporary expertise in fields such as business, industry, government, the arts, and the professions. Creation of the position will be the assessment for this tactic. *(100% Complete)*

**Objective 5.2 – Faculty Renewal**

*5.2.1 Engage in Strategic Hiring*

5.2.1.1 Develop five-year hiring plans for each department, college, and school.

A comprehensive hiring plan spanning FY17 – FY21 has been developed at the college/department level. This list further defines the number of Tenured/Tenured Track, Performance/Opportunities Hires, University Lecturers, Professors of Practice, and Research Professors. This tactic will be assessed based on the actual faculty hiring versus the plan for each year. *(Ongoing)*

5.2.1.2 Encourage joint academic appointments and the development of clear guidelines for rewarding faculty who engage in research and education in multiple departments. In the past two years, there have been four joint appointments. Also, the Associate Provost for Research has identified research clusters which foster interdisciplinary research: Center for Brain Imaging, Big Data Center, Cybersecurity Center, Center for Solar Research, Center for Heliophysics, Center for Natural Research Development and Protection, and Center for Building Knowledge. Progress on this tactic will be assessed based on the completion of the guidelines and number of joint appointments made per fiscal year. *(Ongoing)*

5.2.1.3 Develop a plan to hire tenure-tenure track and tenured faculty in interdisciplinary areas.

The current faculty recruitment process is competitive, and our faculty start-up packages are competitive given the STEM fields that we are recruiting for. Assessment will be completed by examining the tenure-tenure track faculty versus the established hiring plan per college. *(Ongoing)*

5.2.1.4 Maintain an appropriate balance between faculty ranks. The comprehensive faculty hiring plan (F17-F21) has been designed to achieve this balance. The faculty plan includes targets to assess progress. *(Ongoing)*

5.2.1.5 Enhance faculty diversity through targeted recruitment and retention, by setting up a pool of funds for targeted hires. NJIT has established a pool of funds for targeted hires and has been utilizing this incentive to attract and retain underrepresented minorities and women. The FY18 hiring plan has successfully recruited from these groups. Traditional diversity metrics, such as the number of underrepresented minority and women faculty hires, will be used to assess progress. *(Ongoing)*

5.2.1.6 Develop family-friendly hiring practices by becoming a member of the Higher Education Recruitment Consortium (HERC), which works to connect academic spouses and partners with employment. As a member of the New Jersey - Eastern Pennsylvania - Delaware Chapter of the Higher Education Recruitment Consortium (HERC), which supports the efforts of each of its member institutions to recruit and retain outstanding faculty, administrators, and staff through the sharing of information and resources. NJIT’s HERC membership allows us to facilitate connections with other local colleges and universities that can help with dual-career issues. HERC maintains its list of dual-career resources and provides a dual-career search engine as well. Faculty hiring outcomes will be examined to determine if academic spouses and partners were able to obtain employment if requested. *(100% Complete)*

5.2.1.7 Develop a mentoring plan for both faculty and instructional staff by setting up specific plans within each college. CSLA reports 4 out of 6 departments have developed department-specific mentoring plans for research and instruction. The remaining two departments are working on development. The balance of the Colleges continue to work on the development and implementation of their plans. This tactic will be assessed based on the completion of the mentoring plan in each of the Colleges. *(Ongoing)*

*5.2.2 Refine Metrics for Faculty Assessment*

5.2.2.1 Understand the key factors in faculty success by asking colleges to provide data needed to identify useful metrics by the end of the year. *(Planned)*

5.2.2.2 Benchmark teaching load based on scholarly research and funding at comparable institutions by analyzing the national Delaware Faculty Load Study. *(100% Complete)*

5.2.2.3 Implement a transition-to-retirement program where faculty can reduce hours, responsibilities, and compensation by offering a Faculty Separation Incentive Program (FSIP). *(100% Complete)*

**Objective 5.3 – Research Investment**

*5.3.1 Automate Pre- and Post-Award Administration*

5.3.1.1 Achieve excellence in the delivery of services in sponsored research through automation by fully implementing the Streamlyne (Ekualiti KC) – Grant Management Software system which was purchased at the end of FY15. Training started February 2016. The proposal submission module is fully operational and being used since January 2017 for all proposal submissions. Grant award reporting module is being implemented now and will be available with a dashboard of proposal submission and award reporting to faculty, chairs and deans by September 2018. The IRB module is implemented and available to faculty. Other research compliance modules including IBC IACUC are being implemented and will be available in Fall. This tactic will be assessed based on the percentage of submissions being made through the system versus the total number of submissions. (100% Complete)

5.3.1.2 Streamline grants management by launching electronic processing of grant expenses. A Banner Finance module will expedite grant invoicing and the collection of grant receivables, improving the university’s ‘grant-related’ cash-flow. A protocol is being developed to manage proactively and follow-up on grants and contracts expenditures versus elapsed duration of the awards to ensure optimal grant management. Research expense and burn rate reporting has been implemented. Since Fall 2017, monthly research expense reports on all grants are sent out to all PIs, chairs and deans. Streeamlyne-Banner integration is being implemented and expected to be completed by Fall 2018. Percent complete progress on the implementation of the Banner Finance module will be the assessment for this tactic. (60% Complete)

*5.3.2 Improve Research Resources, Services, Equipment, and Facilities*

5.3.2.1 Strengthen research resources and services by submitting a proposal to the National Science Foundation for an S-STEM Scholar Program–Pathway to a STEM-educated workforce. Two Letters of Intent were filed with the National Science Foundation to be able to compete for the Inclusion across the Nation Communities of Learners of Undergraduate Underrepresented Discoveries in Engineering and Science. *(100% Complete)*

5.3.2.2 Collaborate with other universities for enhanced sharing of assets by initiating multi-institutional collaborations. These include the establishment of NJIT Institute of Brain and Neuroscience Research and its partnerships with Rutgers University, Robert Wood Johnson Medical School, NJ Medical School and Princeton University. NJIT participates with RUN and RWJMC in the multi-institutional Faculty Seed Grant in Neuroscience. One grant was awarded to the NJIT and the NJ Medical School. *(100% Complete)*

5.3.2.3 Promote environmental health and safety programs by appointing a new Director of Environmental Health and Safety in March 2016. Health and Safety programs are being re-written as a part of an overall Environmental Management System for NJIT. *(100% Complete)*

5.3.2.4 Update existing common equipment through the Facilities Master Plan which is being re-examined and aligned with *2020 Vision*. The Facilities Master Plan update was approved by the Board of Trustees in April 2018. The expansion of research spaces was included in the updated plan, which examined need through 2030. Currently, common core equipment labs are under construction, including facilities for a Nuclear Magnetic Resonance unit, Scanning Electron Microscope, and Transmission Electron Microscope. Annual expenditures on common equipment versus the departmental requests for such equipment will be utilized to assess progress on this tactic. Completion of the updated Facilities Master Plan will be the metric used for assessment of this tactic. *(100% Complete)*

5.3.2.5 Develop a university policy on lab space by updating the Facilities Master Plan. Laboratory space metrics have been scrutinized during the space planning effort and reduced from national benchmarks due to the strategic direction toward common facilities and flexible, open labs. These will be the basis for future research space needs planning within the Facilities Master Plan. The progress on this tactic will be assessed based on the actual development of new and renovated labs versus the recommended space metric. *(Ongoing)*

* + 1. *Enhance Institutional Support for Non-faculty Research Staff*

5.3.3.1 Establish policies and guidelines for appointments of research professors. *(100% Complete)*

5.3.3.2 Develop a policy for professional growth and institutional support of post-doctoral fellows, research professors, and other non-faculty research staff by fully engaging them with the Research Office in promoting their research. They participated in the Faculty Research Showcase, and NJIT Research Center Showcase events. (Ongoing)

**Objective 5.4 – Infrastructure Support for Facilities and Technology**

*5.4.1 Update the Facilities Master Plan for Physical Planning Decisions*

5.4.1.1 Update the Facilities Master Plan, including the evaluation of space utilization for effective physical planning decisions process by aligning it with the *2020 Vision*. A new Facilities Master plan update was approved by the NJIT Board of Trustees in April 2018 after a collaborative process, utilizing shared governance. Completion of the Facilities Master Plan will be the metric to assess this tactic. *(100% Complete)*

5.4.1.2 Ensure facilities development includes considerations for digitally-enabled common, instructional and collaborative spaces; short-term major construction projects; construction of an event center, renewal of capital assets, and parking. Construction of the Wellness and Events Center was completed in January 2018, and the associated athletic field will be complete in September 2018. There is also a financial plan for the renewal of capital assets which will provide for over $20M annually by 2020. Collaborative instructional spaces were constructed in the Life Science and Engineering Building and the Central King Building. A new parking garage opened in the summer of 2016 to provide safe, convenient parking for the NJIT community. A facilities condition assessment was completed in the spring of 2017 to assist in targeting life-sustaining repair and maintenance for campus system. Renovations to Faculty Memorial Hall began in the fall of 2017 and will be complete by spring 2019. The Facilities Condition Index, which was produced through the facilities condition assessment, will be the metric used to assess this tactic going forward and will be updated based on projects completed in FY18 at the conclusion of the fiscal year. *(Ongoing*)

*5.4.2 Use the Technology Plan for Campus Technology Decisions*

5.4.2.1 Update the Technology Plan for campus technology by establishing an IST Capital Replacement and Renewal Schedule with original funding sources. The IST Capital Replacement and Renewal schedule continues to be maintained and shared with the Finance division. Three major IT planning activities are underway: (i) A plan to cloud source enterprise computing services. This would address business continuity and disaster recovery concerns for such services and avoid large lifecycle replacement costs of IT infrastructure (servers, storage) and building critical infrastructure (HVAC, UPS, power distribution). Capital costs would be smoothed as smaller, more predictable, annual operating costs. (ii) The university has received a Technology Roadmap grant from IBM to help plan for an advanced cyberinfrastructure to support the university’s evolving research agenda. (iii) Strategic priorities for an overall IT service strategy are being discussed with committees of the Faculty Senate.. *(Ongoing)*

5.4.2.2 Additional capital funds have been allocated for technology renewal in the amounts of $575,000 (FY17), $500,000 (FY18) and $350,000 (FY19). The CFO and CIO are developing a FY20 capital lease purchase proposal for campus-based IT infrastructure (network, classroom technology, etc.). The consideration of technology equipment renewal will continue in subsequent fiscal years. *(Ongoing)*