



RUTGERS UNIVERSITY PHYSICAL MASTER PLAN

RUTGERS 2030

VOLUME 1: NEW BRUNSWICK

JUNE 18, 2015

PREFACE

Rutgers University embarked on Rutgers 2030 in May 2013, the first comprehensive master plan in over a decade, and the first to incorporate Rutgers Biomedical and Health Sciences (RBHS), created from the integration of the University of Medicine and Dentistry of New Jersey (UMDNJ) with Rutgers University in July 2013. The physical master plan complements the Rutgers University Strategic Plan, prepared in conjunction with the Boston Consulting Group, and approved by the Board of Governors in February 2014, and the strategic plans of each of Rutgers' component institutions.

Rutgers 2030 envisions development at Rutgers over a 15-year time frame, 2015 to 2030, and is comprehensive in its scope; taking into account buildings, the natural and constructed landscape, transportation, and infrastructure. The report consists of three volumes:

- Volume 1: Rutgers University–New Brunswick
- Volume 2: Rutgers University–Newark
- Volume 3: Rutgers University–Camden

RBHS is considered primarily within Volume 1 although constituent elements are found across Rutgers.

The scope of input was broad, involving survey responses from approximately 8,000 members of the community, over thirty presentations and town hall meetings, and meetings with many administrators, faculty, and student groups.

This study would not have been possible without the leadership of Rutgers University President Robert L. Barchi and support of Chancellors Nancy Cantor, Richard Edwards, Phoebe Haddon, and Brian Strom. In addition, the Physical Master Plan Executive Steering Committee, Rutgers University Facilities and Capital Planning members, Deans, staff, faculty and students contributed invaluable insight to the development of the project.

The master plan consulting team included Robert A.M. Stern Architects, Sasaki Associates, VHB, Buro Happold, and Toscano Clements Taylor.

Volume 1: New Brunswick

Table of Contents

- 1 INTRODUCTION**
 - TAKING RUTGERS UNIVERSITY–NEW BRUNSWICK FORWARD
- 2 THE PLANNING CONTEXT**
 - 2.1 OPEN SPACE AND NATURAL SYSTEMS
 - 2.2 LAND USE
 - 2.3 MOBILITY
- 3 RUTGERS 2030**
 - 3.1 VISION AND PRINCIPLES
 - 3.2 CAMPUS FRAMEWORK
- 4 DISTRICT FRAMEWORKS**
 - 4.1 COLLEGE AVENUE
 - 4.2 COOK/DOUGLASS
 - 4.3 BUSCH
 - 4.4 LIVINGSTON
 - 4.5 RBHS
 - 4.6 INTERCOLLEGIATE ATHLETICS
- 5 PHASING AND IMPLEMENTATION**

5

PHASING AND IMPLEMENTATION

5.1 PHASING

Phase 1: 0 to 5 Years

Phase 2: 6 to 10 Years

Phase 3: 11 - 15 Years

Phase 4: 16 Years and Beyond

5.2 NEXT STEPS

5.1 Phasing

Rutgers 2030 builds upon all known initiatives that are currently being planned or are in the design process, introduces new initiatives for enhancing each district according to the five principles described in Chapter 3, and knits these initiatives together into a cohesive long-range vision through a system of strategic development sites, landscape overlays and physical infrastructure for mobility and utilities. The long range plan outlined in Rutgers 2030 requires thoughtful planning and assessment aligned with funding resources in order to ensure the success of the plan to transform the campus. The master plan provides the foundation for growth; each subsequently identified building, landscape and infrastructure initiative will require more in-depth site and feasibility assessment in order to validate initial assumptions made in the master plan.

The proposed phasing and implementation strategy is a guideline and serves to provide a starting point for evaluating each initiative against other priorities. Key capital projects are identified and described here, while other supporting projects are described in Chapter 4 of this document. Adjustments and reprioritizations are expected as the University evolves in the next

15 years and beyond. Effective implementation will depend on a strong integrated planning approach at the University, which may include the formalization of requests for new projects, and the periodic monitoring of campus initiatives against current needs, priorities and resources. Each 5-year period also allows for unanticipated projects and maintenance of existing buildings, landscapes and infrastructure.

A number of proposed initiatives of the master plan consider the opportunities for private - public partnerships. University Facilities and Capital Planning has a strong and successful track record of knitting together diverse funding opportunities including grants, tax credits and economic recovery stimulus offerings. These opportunities should be maximized and creative funding continued to be explored. As Rutgers moves ahead to forge into more collaborative relationships with private entities, these opportunities are critical to the development of Rutgers 2030. Continued conversation with the Cities of New Brunswick and Piscataway, including with public and private organizations with key interests in the Raritan River, is recommended. Work related to existing traffic infrastructure, especially at Route 18 and 27 bridges

could be funded through grant programs from Federal and State entities.

Projects currently under construction are as listed below. Key capital projects of Rutgers 2030 are listed on the following pages.

| CURRENTLY UNDER CONSTRUCTION |
|---|
| College Avenue |
| SAS Academic Building |
| Honors College |
| Lot 8 Residential Building |
| Bishop Quad Residence Upgrades |
| Cook/Douglass |
| Institute for Food, Nutrition and Health |
| Global Village Learning Center at the Jameson Dormitory Complex |
| Busch |
| Chemistry and Chemical Biology Building |
| School of Pharmacy Addition |

KEY CAPITAL PROJECTS (2015 - 2019)

College Avenue

George Street Transit Hub and George Street Bridges

Student Center Underground Parking

College Avenue Gymnasium Renovation and Expansion

Central Plant

Pedestrian Bridge

College Avenue Streetscape

RBHS School of Nursing Expansion

New Health Center

Cook/Douglass

Dudley Road Connection

Classroom Building 1

Marine Science Building Addition

Faculty Housing - Phase 1

Busch

Loop Road + Bevier Complete Street

School of Engineering Phase 1

Central Plant Replacement

Hale Center Renovations

Livingston

Multi-Use Facility and Integrated Parking

Research Park Bldg A and Parking

Livingston - Hotel + Conference Center

RAC Renovation

PHASE 1 : 0-5 YEARS

Phase 1 includes projects currently planned, funded or included in the University’s 2015 Capital Projects list. Proposed projects in this period are expected to undergo a feasibility study where appropriate, and to begin their design and planning process which may include space needs assessments and space programming studies, site selection, backfill and reuse studies, parking replacement and transportation impact studies, and preliminary cost estimates in order to adequately plan and allocate funding for these projects. Projects identified for this phase are key priorities for the University and contribute significantly to the campus environment to enhance the student experience. Many of these projects build upon work currently underway, as listed in table at left.

Key capital projects from Rutgers 2030 that may occur during this phase are listed in the table at left. Selected projects are described as follows, organized by the master planning principles. Detailed description of these projects are described in Chapter 4.

Learning at Rutgers

Livingston: Hotel and Conference Center - a feasibility study is currently underway for the hotel and conference center along Avenue E.

Academic and Classroom Buildings - several facilities are planned to occur during this phase, including the School of Engineering Phase 1 building at Busch. Classroom Building 1 and expansion to the Marine Science Building at Cook/Douglass begins a series of facility improvements intended to provide for growth and to replace existing aging classrooms on this district. On College Avenue, the School of Nursing plans for academic expansion at an adjacent site along Paterson Street.

Livingston: Research Park - The first phase of the Research Park project includes a building and a parking garage at the east edge of the Research Park triangle, easily located off Route 18, and providing a counterpoint to the Rutgers Business School at Livingston.

Life at Rutgers

Recreation and New Health Center - a previously executed master plan for recreation facilities at Rutgers calls for the expansion of the College Avenue gymnasium. Work related to this project may include an updated study for recreation services, leading to the improvement of facilities at the College Avenue Gymnasium. Attached to this gymnasium, Rutgers 2030 proposes to relocate Hurtado Health Center

to a new location along Senior Street as part of the goal to enhance health and wellness of the Rutgers community.

Hale Center Renovations - Hale Center renovations will include an enlarged entry and lobby as well as an internal reorganization and upgrades to existing facility to address current deficiencies.

Multi-Use Facility and Integrated Parking - The new Multi-Use Facility will provide enhanced training and support to varsity sports teams including basketball and will include office space for the Athletics department, along with a 550 car parking garage to support the Business School, Athletics, and future hotel uses.

Personalizing Rutgers

Faculty Housing Phase 1 - A feasibility and market research study and may commence in this phase to determine space needs associated with this initiative. Phase 1 is planned for vacant land south of Newell Apartments.

Navigating Rutgers

George Street Transit Hub - The transformative vision for College Avenue begins in this phase with the George Street Transit Hub, with bridges across George Street to improve pedestrian connections across George Street. This transit hub will also be the gateway into Deiner Park, leading to the proposed Pedestrian and Bicycle bridge over the Raritan River.

Pedestrian Bridge over Raritan River - Work related to this bridge begins here with feasibility studies and design work. Actual construction of these elements will follow in this phase or at future phases, pending approvals and available funding.

Streetscape Improvements - the gradual implementation of bicycle lanes and Complete Streets throughout campus begins in this phase with the greening of College Avenue, the extension of Bevier Road east and west to connect to Bartholomew and Hoes Lane West roads and the connection at Dudley Road to Lipman Drive. These improvements facilitate more efficient travel around districts and better wayfinding.

Stewardship at Rutgers

College Avenue and Busch Central Plant - The replacement of the College Avenue and Busch Central

Plants is crucial for improving operational efficiencies and for supporting work in future phases. At College Avenue, the relocation of the plant is also a key element in vacating the site for the future Student Center and quadrangle, while the Busch plant, serving Busch and Livingston will provide upgrades to existing infrastructure and support future work.

Two key initiatives not involving facilities construction will also begin in this phase:

Class Scheduling Software - A task force for this effort has been appointed and charged with completing the assessment and implementation of the use of a robust class scheduling software that is able to align housing and class selection, and provide information on travel requirements related to specific class selections. This is scheduled to be completed by the end of 2015.

Express and Local Bus Network - Working in concert with a class scheduling software, travel across campus could be transformed with the implementation of a Bus Rapid Transit (BRT) system. Planning and implementation of the BRT system begins in this phase. Rutgers 2030 prioritizes the BRT connection between Cook-Douglass and College Avenue.

KEY CAPITAL PROJECTS (2020 - 2024)

College Avenue

College Avenue Dining and Student Organization Wing

College Avenue Student Center Events Wing

Rutgers Cultural Center

High-tech Classroom Building

Cook/Douglass

Classroom Building 2

Undergraduate Housing at George and Nichol

Mason Gross Phase 2 Expansion

Intramural Fields

Student Center Renovation and Expansion

Student Center Underground Parking

Rutgers Gardens

Busch

Busch Student Center Renovation and Expansion + Gateway Road

Allison Road Transit Hub + Landscape Overlay

RBHS Research Complex and School of Public Health Expansion

Soccer, Golf, Tennis Facility Upgrades

Physics Lecture Hall

Graduate Housing - Phase 1

North Garage

School of Engineering Buildings 2 + 3

Busch - Livingston High-speed Connection

Livingston

Livingston Student Center Transit Hub

RAC Renovations

Kilmer Library Renovation

PHASE 2 : 6-10 YEARS

2020 launches a robust implementation phase with projects that build upon the groundwork laid in the previous phase, including the renewal of central plant facilities on College Avenue and Busch. Key capital projects in this phase include work at transit hubs to transform the arrival and wayfinding at each district, and create a sense of place around which classrooms and amenities are clustered. Selected key building projects are described here:

Learning at Rutgers

Academic and Classroom Buildings - the next series of academic and classroom spaces to augment learning at Rutgers is proposed to occur at all districts. Work related to this include new facilities, additions to existing facilities and renovation of existing lecture halls and classrooms. Rutgers 2030 also proposes to renovate Kilmer Library to provide additional study and meeting space for Livingston.

As projects from Phase 1 are completed, existing research, lab and classroom spaces vacated may be renovated and adapted for other uses. There is

consensus that a new physics lecture hall or upgraded facility is needed by 2025.

Life at Rutgers

College Avenue Dining and Events – the opening of Honors College and Lot 8 Residences will increase demand for dining at Brower Commons and the Rutgers Student Center. The imminent demolition of Records Hall provides a readily available building site for a new Student Center, with dining and events space.

Rutgers Cultural Center - Connected to the proposed Dining building, a Cultural Center will serve to bring together the three existing cultural centers at Rutgers to showcase the diversity of Rutgers.

Housing - The housing experience at Rutgers begins its transformation during this phase through the reorganization of existing inventory, especially at Busch and Cook/Douglass. Redefining graduate housing at Busch is the first step to strengthening student communities on campus and locating them in proximity to amenities and classroom spaces.

Undergraduate housing at Nichol and George is planned for this phase in order to begin replacing housing at Newell Apartments.

Cook/Douglass: Intramural Playing Fields - with the relocation of undergraduate housing along Nichol Avenue, the area adjacent to the Cook/Douglass Recreation Center becomes available for intramural playing fields, along with work proposed for a redevelopment of Skelley Field to include a field house and picnic houses.

Navigating Rutgers

Transit Hubs - During this phase, hubs are implemented on all districts, working in concert with the BRT work from Phase 1 and includes the expansion and renovation of student centers. Related to this is also work to redefine gateways, entry roads, pedestrian and bicycle connections to and from these transit hubs.

Parking - As additional buildings on campus increase traffic and need for parking, a parking garage is proposed in this phase and is intended to serve

commuter students as well as faculty and staff, located in proximity to transit hubs and classrooms.

Busch - Livingston high speed bus and bicycle connection - as the Research Park expands and Busch and Livingston districts continue to grow, a high-speed bus and bicycle connection across Route 18 provides an efficient connection between the districts and to the Ecological Preserve.

Stewardship at Rutgers

Cook/Douglass: Rutgers Gardens - Rutgers Gardens is currently completing a feasibility study for a new visitor center and visitor experience. Proposed work is anticipated to occur during this phase.

KEY CAPITAL PROJECTS (2025 - 2029)

Cook/Douglass

- Faculty housing - Phase 2
- Classroom Buildings 3 and 4
- Undergraduate Housing along Nichol Avenue
- Mason Gross Parking Garage

Busch

- RBHS Kessler Teaching Labs Replacement and New Classrooms
- Busch Field House
- Graduate Housing - Phase 2

Livingston

- Academic Building 1 and Landscape
- Research Park Bldg B and Parking Garage A
- Ecological Preserve Landscape and Buildings
- RAC Renovations
- Athletics Complex

PHASE 3: 11-15 YEARS

As transit hubs and major infrastructure projects including streets and loop roads are implemented in Phases 1 and 2, key capital projects supporting Rutgers’ mission continue into Phase 3, and includes academic and housing initiatives. Selected key capital projects are described here:

Learning at Rutgers

Academic and Classroom space - Replacement and renewal of RBHS facilities continues in this phase and includes a replacement for the Kessler teaching labs and new classrooms. Renewal and relocation of Cook/Douglass academic department space and classrooms are planned for this phase in order to complete and infill the campus boundary along Nichol Avenue. At Livingston, a building along Rockefeller Road defines the west edge of the Livingston central quadrangle.

Life at Rutgers

Undergraduate, Graduate and Faculty housing - proposed undergraduate housing along Cook/Douglass’ Nichol Avenue brings the undergraduate community closer to the transit hub implemented in

Phase 2. This also allows for more faculty housing to be implemented at the south side of the Cook/Douglass Recreation Center and Intramural fields. Graduate housing along the north side of Busch is consolidated and renewed as well.

Stewardship at Rutgers

Livingston: Ecological Preserve Programming and Connections - Programming and enhancement of the Preserve serve to activate an area of campus that will be critical to connecting Livingston with Johnson Park and with College Avenue through the proposed pedestrian bridge over the Raritan River. This initiative would include programming, enhancement and expansion of trails through the Eco Preserve, and the erection of several outdoor structures that provide support for events in the Eco Preserve.

PHASE 4: 16 YEARS AND BEYOND

KEY CAPITAL PROJECTS (2030 AND BEYOND)

College Avenue

Renovate Alexander Library
Renovation of Scott, Murray and New Jersey Halls
New Health Center
North Gateway Building and Parking
Raritan River Boardwalk

Cook/Douglass

Rutgers Boathouse Upgrades
Cook/Douglass Mason Gross Phase 3

Busch

Renovate Existing Space
RBHS Commons
Undergraduate Housing (at North)
Undergraduate Housing (at East)

Livingston

Softball Complex
Academic Building 2
Tillett Renovation
Research Park - Phase 3

While it is not possible to know for certain the long term needs and priorities of the University, it is possible to establish a vision and an implementation strategy that will ensure that the master plan will remain relevant for years to come. The first three phases of this master plan, occurring over a period of fifteen years from 2015, endeavours to transform the New Brunswick campus by strengthening the “sense of place” at each campus, through the creation of transit hubs, landscape overlays, academic and residential communities in proximity to amenities, and through a system of pedestrian and bicycle network through campus space in order to reduce reliance on the bus system. This final phase of the master plan begins in 2030. Several key capital projects are described here:

Learning at Rutgers

Academic and Classroom space - the final phase of the Mason Gross master plan is anticipated to occur during this phase and will expand existing jazz and percussion programs, and add practice rooms, faculty and classroom space. At College Avenue, major classroom buildings fronting Voorhees Mall and the Alexander library are proposed to be renovated.

Life at Rutgers

College Avenue North Gateway Building and Parking - the College Avenue North Gateway building provides for mixed-use opportunities, and may include market - rate housing with structured parking serving the north end of College Avenue.

Personalizing Rutgers

RBHS Commons - adjacent to the Library of Science and Medicine, the RBHS Commons provides space for collaboration and acts as a center for the RBHS community.

Stewardship at Rutgers

Raritan River Boardwalk - planning for the Raritan River Boardwalk may begin in earlier phases, leading to its implementation in this phase. The boardwalk serves to improve access to the river, connect riverfront parks and the DNR canal to its north, the Rutgers Boathouse at Boyd Park to the south. The boardwalk is also connected to the proposed Pedestrian and Bicycle Bridge extending across the Raritan River.

5.2 Next Steps

At the conclusion of this master plan effort, several efforts that would inform the master plan were underway but not completed. The conclusion of these studies will affect how the master plan is implemented:

- **School and Department Strategic Plans -** These strategic plans will inform how each School and administrative departments is growing and whether or not there should be stronger adjacencies between departments that would benefit from co-location.
- **Facilities conditions analysis** - the results of this report inform the University how existing facilities will be able to support the strategic plans of the Schools.
- **Housing study** - A study to determine the need for graduate, family and junior faculty housing study for the New Brunswick campus.
- **RBHS Space Utilization Study** - a space utilization study for RBHS will determine both the quality of space and the quantity of space, how existing space is being used and how space can be best used to support RBHS goals identified in

the 2014 strategic plan. Future space needs will also be identified.

In addition to the recommendations of the studies listed above, several areas proposed by the master plan would benefit from deeper analysis in order to confirm assumptions made in this master plan:

- **Space needs analysis for student space and event space** - A preliminary study by WTW Architects identified several areas of space needs but was not conclusive in its recommendation for student space and event space. Further study would identify specific room types and quantities necessary to support the University community, in the creation of a centralized student services department and events venue, or student union.
- **Classroom, Laboratory and Office space need study** - University owned and leased space for departmental and office, classrooms, including small seminar rooms, laboratories, teaching and research use would be quantified and accurately categorized in an inventory assessment in order to determine where surpluses or deficits exist and can be used to its best potential.

- **Recreation master plan** - A reassessment of the 2009 Recreation Master Plan would be important to confirm priorities and provide additional detail for expansion and execution of the desired recreational elements included in this master plan.
- **University Libraries master plan** - a University Libraries master plan would assess library space utilization systemwide across campuses to create strategies for rehabilitation and adaptation of existing library space as well as new capital improvements to make libraries relevant in the 21st century academic environment.
- **Transportation master plan** - an update for the transportation master plan for Rutgers University – New Brunswick and Rutgers University - Newark will align intercampus bus system and parking operations with new campus development patterns outlined in the Physical Master Plan, as well as outline necessary capital improvements to serve the Rutgers community, including the RBHS areas of the campus, and in coordination with local municipal and county transportation plans.
- **Existing Bridges, Proposed Pedestrian Bridge and Raritan River Boardwalk Feasibility Study** - Extensive involvement will be necessary for the building of a structure in the Raritan River. Existing conditions of the soil at the river banks and in the river, as well as structural integrity of the existing bridges need to be assessed and will require participation from key stakeholders including the Coast Guard, SHPO, and Raritan River communities in order to properly assess the probability of constructing in the river.

Based on the understanding that a campus is always evolving, this master plan was developed as a living plan, able to adjust to strategic priorities, physical and budgetary requirements. As the University embarks on the next phase of development, a periodic assessment of this master plan, as individual projects develop, is recommended in order to ensure priorities are aligned with the larger goals of the institution.

Acknowledgments



MASTER PLAN EXECUTIVE STEERING COMMITTEE

Robert L. Barchi, *President*

Richard L. Edwards, *Chancellor, Rutgers University-New Brunswick*

Phoebe A. Haddon, *Chancellor, Rutgers University - Camden*

Nancy Cantor, *Chancellor, Rutgers University - Newark*

Brian Strom, *Chancellor, Rutgers Biomedical and Health Sciences*

Bruce C. Fehn, *Senior Vice President for Administration*

Michael Gower, *Senior Vice President for Finance*

Karen R. Stubaus, *Vice President for Academic Affairs and Administration*

Felicia McGinty, *Vice Chancellor for Student Affairs*

Antonio Calcado, *Vice President for University Facilities and Capital Planning*

Paul Hammond, *Director of Digital Initiatives*

Frank Wong, *Executive Director of University Planning and Development*

MASTER PLAN TEAM

RUTGERS UNIVERSITY

Antonio Calcado, *Vice President for University Facilities and Capital Planning*

Frank Wong, *Executive Director of University Planning and Development*

Jack Molenaar, *Director of Transportation Services*

Jenn Stuart, *Manager of Transportation Planning*

Chris Morett, *Director of Scheduling & Space Management*

David C. Schulz, *Executive Director of Program Development*

Sandy Cao

Elizabeth Reeves, *Assistant Facilities Planner*

Larry Porter, *Senior Landscape Architect*

Henry Velez, *Senior Executive Director of Finance*

ROBERT A.M. STERN ARCHITECTS (RAMSA)

Robert AM Stern, Senior Partner

Alexander P. Lamis, Partner

Graham S. Wyatt, Partner

Kim Yap, Project Manager

Salvador Pena

Ji-Hye Ham

Avnee Jetley

Dillon Pranger

Ho-gyum Kim

Charles Yoo

Hayeon Shim

SASAKI ASSOCIATES

Greg Havens, Principal

Marissa Cheng

Philip Bruso

Yueying Cui

Ken Goulding

Chanwoo Kim

Thiyagarajan Adi Raman

Ian Scherling

Lin Ye

Richard York

VANASSE HANGEN BRUSTLIN, INC (VHB)

Donald Bryson, Principal

Nathaniel Grier

BURO HAPPOLD

Steven Baumgartner

Ana Serra

TOSCANO CLEMENTS TAYLOR

Ian Taylor, Principal

SASAKI | RAMSA | VHB

