

# 2013 Capital Outlay Priorities

**Academic Senate  
January 9, 2013**

**Rick Nork**

## Overview

- Guiding principle for developing recommendations is to support our strategic priorities by addressing student success and faculty needs in the areas of Technology, Health Sciences and the Arts.
  - Continue focus on improving classrooms
  - Ensure that research infrastructure needs are not overlooked
  - Address other facilities needs that could enhance student success and retention
- Recommendations seek to balance near term needs of schools/colleges/divisions and infrastructure with reasonable limitations of available funds.
- Not all needs can be met, and open issues remain
  - Life Sciences building disposition
  - Engineering growth

## Goals and Charge

- Update status of 2008 Master Plan priorities
- Review building conditions, deficiencies, and opportunities within the College of Engineering and the Sciences to determine whether current needs should be elevated in priority to better support research initiatives
- Investigate new or evolving University initiatives and resultant impact on Campus Master Plan priorities
- Develop final recommendations for specific capital projects to be included in the 2013 Capital Outlay Plan

## **Status of 2020 Master Plan**

**NEXT & NEAR-TERM PROJECTS FROM 2008 CAMPUS MASTER PLAN UPDATE**

PROJECT	STATUS	COMMENTS
Alex Manoogian Hall Renovation	1 <sup>st</sup> Floor Completed in 2009	Basement and 2 <sup>nd</sup> floor classroom renovation remain incomplete.
Danto Engineering Development Center	Completed in 2009	
Anthony Wayne Drive Improvements	Completed in 2010	
Rackham Phase Three Renovation	Completed in 2010	
Chemistry Building Phase Two Renovation and Expansion	Completed in 2011	
Keith Center for Civil Rights	Completed in 2011	
Woodward / Warren Gateway Campus Green	Completed in 2012	
State Hall Renovation	In Progress	Historically the #1 capital outlay priority, but \$10 million in improvements over last 5 years and more immediate needs move parts of this project to lower priority.
Midtown Loop	In Progress	Project owned by Midtown, Inc. Cass planned for 2013.
Multidisciplinary Biomedical Research Building	In Progress	Include in next bond issue
Parking Structure No. 1 Renovation	In Progress	Included in 5-year parking business plan
Parking Structure No. 5 Renovation	In Progress	Included in 5-year parking business plan
Physics Building Renovation - Partial	In Progress	Construction of New Lab Classroom Building frees 1 <sup>st</sup> floor for additional research

**NEXT & NEAR-TERM PROJECT FROM 2008 CAMPUS MASTER PLAN UPDATE**

PROJECT	STATUS	COMMENTS
Central Campus Green – Fountain Court	Continuing Priority – High	Phase and use current funds
South University Village, Cass / Canfield Housing	Continuing Priority – High	Public / Private partnership development. No University funding.
Student Center Improvements	Continuing Priority – High	Include in Capital Outlay Plan. RFP for design being solicited.
Chatsworth Apartment Building Renovation	Continuing Priority – Medium	Use existing resources to address life safety concerns.
DeRoy Apartment Building Renovation	Continuing Priority – Medium	Use existing resources to address life safety concerns
Matthaei Weight Training Facility Addition	Continuing Priority – Medium	Conceptual design completed. Proceed when fully funded by Athletics and philanthropy.

## GENERAL PURPOSE CLASSROOM IMPROVEMENTS SINCE 2008

(Amounts in millions)

• State Hall	\$10.0 +
– Complete Renovation of 4 <sup>th</sup> floor	
– Lighting, painting, furniture and technology	
– Infrastructure: roof, windows, chiller, boiler plant and restrooms	
• Manoogian	9.0
– Complete renovation of first floor	
– Lighting, painting, furniture and technology	
– Mechanical and electrical upgrades	
• Extension Centers	3.8
– Macomb \$3.2 m, Oakland \$0.6m	
• Old Main	2.2
– Technology upgrade in all GPCs in 2012 (\$0.9 m)	
– Painting, flooring, furniture	
• Other	<u>2.0</u>
– Science Hall (\$1.3 m) General Lectures (\$0.7m)	
<b>Total</b>	<b><u>\$27.0</u></b>

87% of General Purpose Classrooms have had some improvement in past 5 years

**NEXT & NEAR-TERM PROJECT FROM 2008 CAMPUS MASTER PLAN UPDATE**

PROJECT	STATUS	COMMENTS
Anthony Wayne Housing Development(s)	Deferred	Public / Private Partner Development
Anthony Wayne Entertainment Center	Deferred	Public / Private Partner Development
Anthony Wayne Parking Structure	Deferred	
General Lectures Building Replacement	Deferred	
Honors College at Saint Andrews Church	Deferred	
Interdisciplinary Science Research Building	Deferred	Not required if other recommended projects go forward. Cannot maintain Life Sciences as is, but need a vivarium solution.
Medical Campus Green Space	Deferred	
Parking Structure 4 Expansion	Deferred	Final Design Completed
Purdy / Kresge Library Renovation	Deferred	Conceptual Design Completed
Rackham Acquisition	Deferred	
Residential Green Space	Deferred	
School of Business Administration	Deferred	Conceptual Design Completed
Scott Hall 4 <sup>th</sup> – 9 <sup>th</sup> Floor Lab Renovations	Deferred	
Sports Arena / Convocation Center	Deferred	Conceptual Design Completed
South University Village – Forest Ave.	Deferred	Public / Private Partner Development
Woodward / Warren Mixed Use Development	Deferred	Public / Private Partner Development



## **Science and Engineering Study**

## Process

### Documentation

- 2020 Master Plan (2001)
- 2020 Master Plan – Update (2008)
- Physics First Floor Study of Fire Separation and Suppression by Rolf Jensen Study (2009)
- Programming for the ILSL (Life Science Replacement building) and interviews by SmithGroup (2009)
- Physics First Floor physical separation study by SmithGroup (2011)
- Engineering Master Planning by Design Services (2012)
- Sciences Overview Study by Design Services (2012)
- Electrical Vulnerability Study (2012)

### Interviews

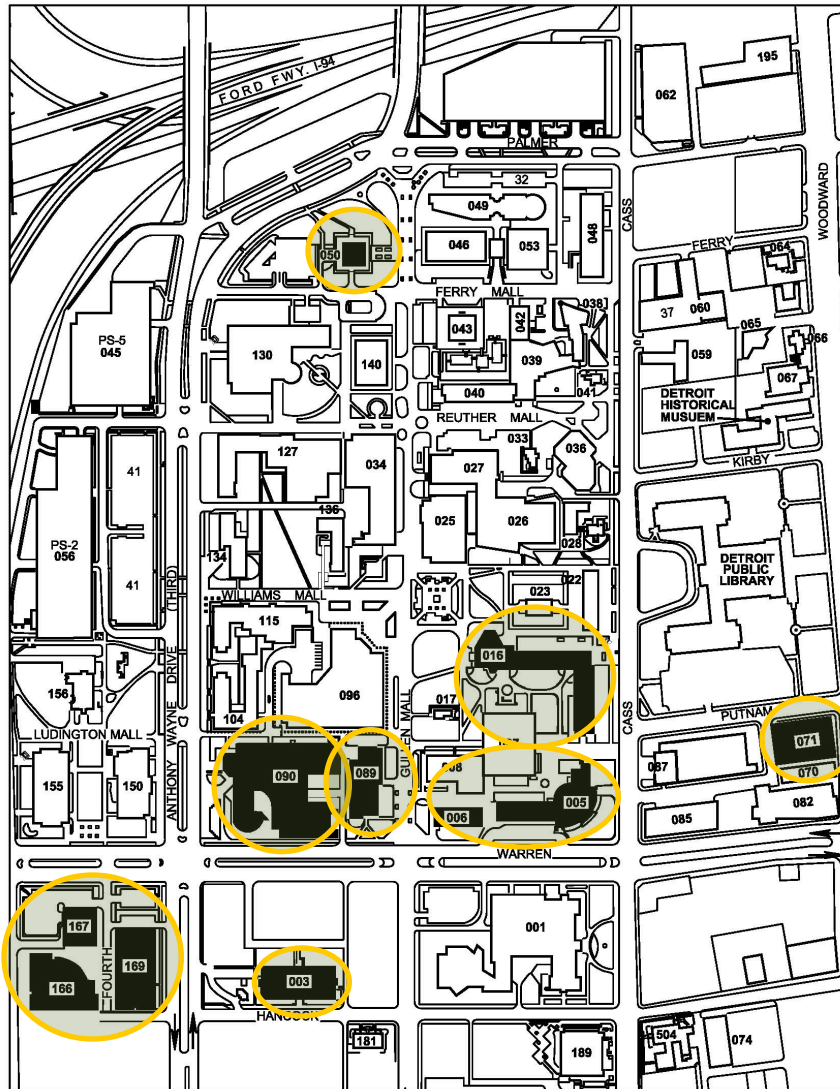
- Farshad Fotouhi, Dean, College of Engineering
- Miriam Greenberg, Assoc. Dean, CLAS
- Cathy Jen, Chair Nutrition and Food Sciences
- Ratna Naik, Chair Physics Department
- David Njus, Chair, Biology & Geology Dept.
- James Rigby, Chair, Chemistry
- Robert Thomas, Dean, College of Liberal Arts & Sciences
- James Tucker, former Chair, Biology Dept.

### Data Collection

College of Engineering:

- Juri Gelovani, Chair, Biomed. Engr.
- Albert King, Chair, Biomedical Engineering
- Chuck Manke, Chair, Chemical Engr.
- Carol Miller, Chair, Civil Engineering
- Leslie Monplaisir, Chair, Ind. & Systems Engr.
- Seymour Wolfson, Chair, Computer Science
- Chih-Ping Yeh, Chair, Engineering Tech.
- Yang Zhao, Chair, Electrical & Computer Engr.

## Process



## Tours

### College of Engineering

- 5057 Woodward (partial)
- Engineering Building/ Danto Engineering Dev. Center
- BioEngineering Building
- Mechanical Engineering Building
- Engineering Tech
- Science and Engineering Library
- State Hall

### Sciences

- Biological Sciences Building
- Life Sciences Building
- Physics
- Science Hall
- Shapero Hall

## Noted Problems and Interests – College of Liberal Arts and Sciences

**Biological Sciences Building** has support areas that are underutilized and could be repurposed. The labs are fully occupied. The vivarium space is full, and space in the adjacent Life Sciences building serves researchers in the Biological Sciences Building.

The **Life Sciences Building** requires major renovation, and has no occupied research space in the basement, third or fourth floors. The Chemistry Class Lab on the second floor should be relocated out of this building. The vivarium is primarily used for researchers in the Biological Sciences Building. Highly inefficient. No medium term solution.

**Physics** First Floor is not authorized for use as a class lab; \$3 Million to bring into compliance.

**Science Hall** requires upgrades for both the Nutrition and Food Science Department and the Biology Department. Fume hoods, finishes and casework are largely original and should be upgraded.

**Shapero Hall** requires renovation in the lab and class lab spaces, particularly on the 3<sup>rd</sup> and 4<sup>th</sup> Floors. Fume hoods, finishes and casework are largely original and should be upgraded. Abandoned vivarium on fourth floor should be repurposed.

## Noted Problems and Interests – College of Engineering

### Immediate Needs

- Congestion and lack of space is restricting the hiring of new faculty, and program and research growth
- The BioEngineering Building is over crowded and requires interior renovation.
- Growing concerns with electrical reliability from PLD, especially at Engineering Building and BioEngineering Building.
- No high bay space for work on student competitions.

### Long-Term Interests

- Combine Chemical Engineering, Electrical Engineering and BioEngineering programs under one roof.
- Construct a vertical expansion on the Manufacturing Engineering Building.
- Consider using up to half of Science and Engineering Library to accommodate a portion of Electrical Engineering.

## SCIENCE AND ENGINEERING RECOMMENDATIONS

PROJECT	ESTIMATED PROJECT COST (Amounts in Thousands)	COMMENTS
New Lab Classroom Building	\$19 500	Capital Outlay Priority 45,300GSF
Science backfill a) Physics 1 <sup>st</sup> Floor \$2 100 b) Shapero Renovation – Partial \$5 200 c) Engineering Lab Adaptation \$1 200	\$8 500	Include with above. 10,500NSF Research Space Renovation 16,300NSF Research Space Renovation 4,100NSF Research Space Renovation
BioEngineering Building Renovation and Expansion	\$19 250	Include in Capital Outlay. Addresses serious existing building deficiencies and allows unit to expand by 23,200GSF.
Biological Science Building Improvements	\$2 500	Include in Capital Outlay. Refreshes labs and support infrastructure
Electrical Infrastructure Upgrades a) Back-up Generators \$8 350 b) UPS Protection \$2 500	\$10 850	Use existing reserve for non-recurring projects Shap, Phys, FPM, Pharm, Eng, BioEng, Elmn Various locations, balance from current funds.
Science Hall Lab Renovations for Nutrition and Food Science	\$3 000	Include in Capital Outlay. Renovates 7 laboratories for department.
Student High Bay (Monster Garage)	\$2 500	Proceed if funded by College or Philanthropy. Provides space for student competitions.
Manufacturing Engineering Building Vertical Expansion	\$15 000	Defer. Dependent on future growth of program and Business Case Development.
New Interdisciplinary Engineering Building	\$100 000	Defer. Dependent on future growth of program and Business Case Development.
Science and Engineering Library Space Allocation to Engineering	\$8 500	Defer. Dependent on future growth of program. Must relocate books.

## **Other Priority Projects**

**OTHER IDENTIFIED PRIORITIES**

<b>PROJECT</b>	<b>ESTIMATED PROJECT COST (Amount in Thousands)</b>	<b>COMMENTS</b>
New Classroom facility in Macomb County	\$12 000	Include in Capital Outlay.
Hilberry Gateway a) Phase I b) Phase II c) Phase III	\$25 000 \$ 6 500 \$17 100	Include in Capital Outlay. Defer Defer
Athletic Complex Electrical Infrastructure Upgrades	\$ 1 500	Include in Capital Outlay.
Data Center Electrical Infrastructure Upgrades	\$ 7 000	Include in Capital Outlay. Work to find lower cost alternative.
Enhanced Deferred Maintenance	\$20 000	Fund as possible. Include in Capital Outlay.



FY2014 Five-Year Capital Outlay Project Plan

PROJECT	AMOUNT (Amount in Thousands)	COMMENTS
Multidisciplinary Biomedical Research Building	\$93 000 ✓	Total cost \$93.0M including \$30.0M from State, \$6.0M plant fund, \$6.0M HFHS
Student Center Building Improvements	\$25 000	Critical to student success and retention efforts
Science and Engineering Lab Classroom Building	\$28 000	Avoids \$3M expenditure at Physics; 45,300GSF providing 30 new class labs for the Sciences; Backfill projects renovate 30,900NSF research space.
Electrical Infrastructure Upgrades	\$19 350 ✓	Electrical service upgrades, additional back-up generators and UPS equipment
Macomb Advanced Technology Education Center	\$12 000	Addresses need for enhanced presence in Macomb County
Parking Structures and Related Improvements	\$13 000 ✓	Consistent with Parking Business Plan. Funded by Parking Auxiliary
University Deferred Maintenance Program	\$50 000 ✓	Includes General Fund and Housing
Hilberry Gateway Phase I	\$25 000	Provides expanded and improved performance space. Gateway to South end of campus
Various Laboratory Renovations	\$5 500	Provides improved research support space for Biology Department and Nutrition and Food Sciences.
BioEngineering Building Renovation and Expansion	\$19 250	Addresses serious existing building deficiencies and allows unit to expand by 23,200GSF.
State Hall Classroom Building Renovation	\$20 000	Amount reduced to recognize several recent improvements
TOTAL, (5 years)	\$310 100	✓ = Partially Funded      ✓ = Funded 17

(Amounts in Millions)

**Capital Funding Requirements**

**COMMENTS**

Total Capital Outlay Projects	\$310.1	
Less:		
MBRB Funding in place	(42.0)	State \$30M, HFHS \$6M, Plant Fund \$6M
Electrical Power back-up. (Subset of power Reliability Enhancement)	(10.9)	Funded by reserve for non-recurring projects
Parking Structures	(13.0)	Funded by Parking Auxiliary Operations
Deferred Maintenance	(50.0)	Annual deferred maintenance budget and housing subsidy for 5 years (\$42 million) plus existing auxiliary project funds
State Hall	<u>(20.0)</u>	Not included in near-term priorities list because of extensive work done to address immediate needs.
Net Funding Required	<u>\$174.2</u>	

## 2012 Campus Master Plan Update Summary

- Must balance realistic philanthropy assumptions with debt capacity constraints in developing a plan to fund recommended projects.
  - Biggest philanthropy targets are MBRB, Hilberry, and Student Center
- State Capital Outlay could provide additional source of funding for one or more projects beginning in FY 2015
- Recommendations are medium term in nature and do not resolve immediate space requirements in Engineering or the Sciences
  - Longer term Engineering projects dependent on growth
- Need to develop a long-term plan for Life Sciences Building
  - Highly inefficient to maintain with current occupancy
  - Alternative vivarium solution must be developed
- Proposal addresses needs across a broad spectrum of the campus community including research, faculty, student success and the arts.
  - Not all needs can be met, but a major step forward for the University within debt capacity constraints
  - Need to also balance with timing constraints and affordability