University of Wisconsin Milwaukee

Phase A
Observation and Assessment

October 17, 2008
Guiding Principles
Guiding Principles - Process

Open

Responsive

Rigorous

Bold
Guiding Principles - Goals

Innovation & Partnerships

Access

Learning & Discovery

Location & Connectivity

Stewardship
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Process and Approach
Consultant Team, Work-to-date, Project Schedule
# Planning Process

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<td>• Infrastructure Assessment</td>
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</tbody>
</table>
The Observation Phase will inform the planning process through data collection and analysis of existing conditions. This will include neighborhood and regional context as well as profiles of existing buildings, site and utility/infrastructure, historic cultural resources (buildings and landscapes) and environmental impact.

Source: Request for Consulting Services for Campus Master Planning at UW-Milwaukee, December 3, 2007
Campus Context

1. Development History
2. Historic Buildings
3. Building Use
4. Building Assessment
5. Development Density
6. Landscape Character
7. Climate Considerations
8. Infrastructure
9. Housing
10. Circulation & Access
Campus Context

Development History

1. Historical and Cultural Significance
2. Architectural Integrity (interior/exterior)
3. Adaptability

Source: Quinn-Evans
Campus Development History

Campus Context

- 1920
- 1930
- 1910
- 1900
- 1950
- 1960
- 1940
- 1980
- 1970
- 2000

- Downer College & Seminary
- Holton, Merrill, Johnston Greene Museum
- Mitchell Hall
- Milwaukee Normal School
- Sabin Hall
- Greene Museum
- Engleman
- Zelazo Center
- Pearse & Garland Halls
- Downer College & Seminary
Campus Development History

Campus Context

- Downer College & Seminary
- Pearse & Garland Halls
- Downer College & Seminary
- Holton, Merrill, Johnston Greene Museum
- Mitchell Hall
- Sabin Hall
- Englemann
- Chapman
- Zelazo Center
- Milwaukee Normal School
Campus Development History

Campus Context

- Downer College & Seminary
- Pearse & Garland Halls
- Downer College & Seminary
- Holton, Merrill, Johnston Greene Museum
- Mitchell Hall
- Milwaukee Normal School
- Sabin Hall
- Greene Museum
- Downer College & Seminary
- Holton, Merrill, Johnston
- Purin Cunningham Engineering Chemistry Lapham Bolton Lubar Kunkle Physics Arts Library Curtin Architecture Sandburg Norris Klotsche Heating Pavilion Grounds Union Mellencamp Enderis
- Cunningham Englemann Architecture Chapman Library
- Chemistry Lapham Lubar Bolton Arts Mellencamp Zelazo Center Purin
- Milwaukee Normal School Mitchell Hall
- Downer College & Seminary
- Pearse & Garland Halls
National Register Buildings

Campus Context

Holton, Merrill, Johnston, Greene

Source: Quinn-Evans
Architectural Character

Campus Context

Character

- Collegiate Gothic
- Classical Revival
- Arts & Crafts
- Modernist
- Post-Modern

Source: Quinn-Evans
Contributing Buildings
Campus Context

Building Use
Building Use

- **Campus Context**
- **Building Use**

**Campus Context**
- E Edgewood Ave
- E Providence Ave
- E Newport Ave
- E Hartford Ave
- E Hampshire St
- E Kenwood Blvd

**Building Use**
- **Education Space**
  - Classroom / Office / Research
- **Student Housing**
  - On Campus Dormitory
- **Library**
  - Library / Study Room
- **Student Union**
  - Dining / Meeting / Union
- **Sports Facilities**
  - Recreation / Athletic Gym
- **Others**
  - Campus Service / Parking / Health Care
Campus Context

Building Assessments

1. Physical Condition
2. Systems Condition
3. Functional Condition (Fit for Purpose)
Building Assessment: Physical Condition

Campus Context

Source: HGA
Building Assessment: Systems Condition

Source: HGA
Building Assessment: Functional Condition

Source: HGA
Campus Context

Development Density
Campus Context

The University of Michigan Core FAR: 3.37
Ohio State University Core FAR: 2.0

Site Capacity – Floor Area Ratio

North Campus
- Program: 1,348,277 sqft
- Parcel Area: 1,050,741 sqft
- FAR: 1.283

West Campus
- Program: 1,259,000 sqft
- Parcel Area: 939,125 sqft
- FAR: 1.341

South Campus
- Program: 1,621,000 sqft
- Parcel Area: 1,155,167 sqft
- FAR: 1.403

F.A.R: 1.344
F.A.R: 1.283
F.A.R: 1.341
F.A.R: 1.403
Campus Context

Landscape Character

1. Woods
2. Playfields
3. Plazas
4. Campus Park
5. Front Lawn
6. Pedestrian ways
Landscape Character

Campus Context
Woods: 20 acres – 21% of the land area
Campus Context

Sustainability Metrics

1. Energy consumption and carbon emissions
EMISSIONS ACCOUNTING TOOLS

Clean Air Cool Planet calculator converts emissions to metric tonnes of carbon dioxide equivalents (eCO₂).

- carbon dioxide (CO₂)
- methane (CH₄)
- nitrous oxide (N₂O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulphur hexafluoride (SF₆)

Carbon dioxide equivalents (eCO₂)
Clean Air-Cool Planet distinguishes **direct** and **indirect** emissions into **3 scopes**. This UWM study considers scopes 1 and 2.

**SCOPE 1**
- direct emissions
- purchased electricity
- fuel combustion
- university-owned fleets
- heating & cooling

**SCOPE 2**
- indirect emissions
- outsourced activities
- waste
- airplane travel

**SCOPE 3**
- indirect emissions
SUSTAINABILITY

27,975 MT eCO₂

59,862 MT eCO₂

Sources: CACP Calculator, 2007 data from UWM
eCO₂ EMISSIONS

Campus Comparisons

**Kenwood eCO₂ Emissions**
- 68% Electricity
- 32% Natural Gas

**Southern University Case Study eCO₂ Emissions**
- 74% Electricity
- 26% Natural Gas

**Northern University Case Study eCO₂ Emissions**
- 31% Electricity
- 69% Natural Gas
<table>
<thead>
<tr>
<th>EMISSIONS</th>
<th>pounds eCO2/ gsf-year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL CAMPUS BUILT SPACE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>UWM - KENWOOD</strong></td>
<td>3,954,881 gsf</td>
</tr>
<tr>
<td><strong>EX. NORTHERN UNIV:</strong></td>
<td>3,539,708 gsf</td>
</tr>
<tr>
<td><strong>EX. SOUTHERN UNIV:</strong></td>
<td>5,650,500 gsf</td>
</tr>
<tr>
<td><strong>ENERGY INPUT</strong></td>
<td></td>
</tr>
<tr>
<td>(electricity + gas)</td>
<td></td>
</tr>
<tr>
<td><strong>1,206,524 mmBTU</strong></td>
<td></td>
</tr>
<tr>
<td><strong>962,544 mmBTU</strong></td>
<td></td>
</tr>
<tr>
<td><strong>2,125,454 mmBTU</strong></td>
<td></td>
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<tr>
<td><strong>EMISSIONS OUTPUT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>50 lbs eCO2/gsf-year</strong></td>
<td></td>
</tr>
<tr>
<td><strong>34 lbs eCO2/gsf-year</strong></td>
<td></td>
</tr>
<tr>
<td><strong>51 lbs eCO2/gsf-year</strong></td>
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</table>

SUSTAINABILITY
EMISSIONS
MT eCO2/ populations-year

CAMPUS POPULATION
UWM - KENWOOD
23,828 – FT students
1,385 – Faculty
3,252 – Staff

EX. NORTHERN UNIV:
9,100 – Full time students
2,500 – Faculty + Staff

EX. SOUTHERN UNIV:
23,000 – Full time students
1,200 – Faculty

ENERGY INPUT (electricity + gas)

UWM - KENWOOD
1,206,524 mmBTU

EX. NORTHERN UNIV:
962,544 mmBTU

EX. SOUTHERN UNIV:
2,125,454 mmBTU

EMISSIONS OUTPUT

PER STUDENT:
3.69 MT eCO2

PER CAPITA:
3.09 MT eCO2

PER STUDENT:
7.6 MT eCO2

PER CAPITA:
6.0 MT eCO2

PER STUDENT:
7.31 MT eCO2

PER CAPITA:
6.9 MT eCO2
WATER CONSUMPTION
gallons/ year

Average 2007 Water Use: 92 million gallons in 2007
Peak Monthly Water Use: 9.6 million gallons in April
April Average Daily Water Use: 318,190 gallons per day
Equal to ½ Olympic swimming pool
$ ANNUAL COSTS

- Water: $0 to $700,000
- Electricity: $0 to $700,000
- Gas: $0 to $700,000

- Water: $605,200 (Jan) to $211,110 (Aug)
- Gas: $605,200 (Jan) to $211,110 (Jul)
- Electricity: $310,870 (Jan) to $426,190 (Aug)

- Water: $17,840 (Jan) to $24,710 (Dec)
- Gas: $17,840 (Jan) to $24,710 (Dec)
- Electricity: $17,840 (Jan) to $24,710 (Dec)
Campus Context
Infrastructure
Water and Sewer Infrastructure

Kenwood Campus

- **Public water and sanitary sewer system:** adequate for existing facilities and future growth.

- **Combined sewers:** limited capacity for storm water conveyance. A reduction in storm water discharge from existing and future conditions would be beneficial to system performance.

Remote Campus Sites

- **Public water and sanitary sewer systems:** adequate for existing facilities.

- **Combined sewers and public storm sewers:** meet standard design criteria for such systems, but would benefit from a reduction in storm water discharge.

*Source: GAS*
Electrical Infrastructure

Kenwood Campus

- **Electrical distribution substations:** adequate capacity to serve the existing facilities and future growth.
- **East substation equipment:** 40 years old and needs to be upgraded or replaced.
- **Distribution system:** good condition due to recent upgrades to the underground feeders and switching system.
- **Underground distribution system:** some limitations in terms of load per underground feeder. Campus revisions will require close examination of load data.
- **Central heating plant:** back-up feeder serving the building should be added

Remote Campus Sites

- **Remote campus sites:** fed from standard electrical utility services. These services appear to be adequate for existing facilities.

Source: HGA
Campus Context

Student Housing

1. University-owned residence halls
2. Neighborhood student residences
3. Population density
Student Housing – UWM Residence Halls

Campus Context

Existing Total: 3,598 students 15% of headcount
Unmet Demand: 1,200-1,500 beds
Goal: 5,000 beds
Need: 1,385 beds

475 students

2,700 students

50 students

473 students

2,700 students

50 students

373 students
Off-campus Student Residential – Zip Code Data

Source: UWM

4,439 off-campus
Campus Context

Access

1. Public Realm
2. Pedestrian Circulation
3. Bicycle Connections
4. Transit
5. Vehicular Circulation
6. Parking (on-campus and off-campus)
Pedestrian Circulation

Source: Sasaki
Pedestrian Circulation

5 min

Source: Sasaki
Bicycle Connections

Source: Fehr & Peers
Bus Services

Source: Fehr & Peers
Proposed Transit Corridors
Campus Context

Vehicular Circulation: Avg Daily Volumes

Source: Bloom/ Fehr & Peers
Campus Context

PARKING SUPPLY
Kenwood: 2,790
UPARK: 1,755
Off-site: 272
TOTAL: 5,197

Source: Bloom/ Fehr & Peers
Parking: Occupancy – April 30, 2008

PARKING SUPPLY
Kenwood: 2,790
UPARK: 1,755
Off-site: 272
TOTAL: 5,197

AM: 76%
PM: 81%

Source: Bloom/ Fehr & Peers
Campus Parking: Occupancy – April 30, 2008

- AM: 83%
- PM: 79%

Source: Bloom/ Fehr & Peers
Parking: Occupancy – April 30, 2008

**PARKING SUPPLY**
- Kenwood: 2,790
- UPARK: 1,755
- Off-site: 272
- TOTAL: 5,197

**General Parking:**
- 3,370 spaces

**Faculty/Staff:**
- 987 spaces

**Total AM Demand:**
- 3,383 spaces
- 70% Occupancy

*Source: Bloom/ Fehr & Peers*
Parking: Occupancy – April 30, 2008

**Total PM Demand:** 3,385 spaces

**70 % Occupancy**

**PARKING SUPPY**
- Kenwood: 2,790
- UPARK: 1,755
- Off-site: 272
- **TOTAL:** 5,197

**General Parking:**
- 3,370 spaces

**Faculty/Staff:**
- 987 spaces

*Source: Bloom/ Fehr & Peers*
Parking Spaces Per Capita

Source: C-PARK listserv survey – April 2007

Source: C-Park listserv survey results April 2007 compiled by Sasaki Associates
On-Street Parking Occupancy – AM / PM

On-Street Parking
5,550 general use
345 metered
5,895 Total
700 RRP
6,595 Total

Total Demand:
3,300–3,400

Campus Context
50-52 % occupancy

Source: Bloom/ Fehr & Peers
Mission and Space
Academic Facilities and Utilization, Student Life, Residential

1. Assumptions
2. Classrooms
3. Labs
4. Office
5. Library
6. Special Use
7. General Use
8. Residential
9. Peer Benchmarking
College of Engineering and Applied Sciences

Occupancy Intensity

Low | Medium | High
Summary of Space Needs

Based on the current enrollment, faculty and staff figures, UWM faces a current deficit of 497,516 asf, when research space is included.

<table>
<thead>
<tr>
<th>HEGIS</th>
<th>USE</th>
<th>Existing Floor Area (asf)</th>
<th>Current Space Need (asf)</th>
<th>Surplus / Deficit (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Classrooms</td>
<td>156,029</td>
<td>161,923</td>
<td>(5,894)</td>
</tr>
<tr>
<td>210</td>
<td>Teaching Laboratory</td>
<td>130,543</td>
<td>109,648</td>
<td>20,895</td>
</tr>
<tr>
<td>220</td>
<td>Research Lab</td>
<td>297,7853</td>
<td>361,278</td>
<td>(63,493)</td>
</tr>
<tr>
<td>300</td>
<td>Office</td>
<td>682,664</td>
<td>614,775</td>
<td>67,889</td>
</tr>
<tr>
<td>400</td>
<td>Library</td>
<td>247,710</td>
<td>348,307</td>
<td>(105,249)</td>
</tr>
<tr>
<td>500</td>
<td>Special Use</td>
<td>222,587</td>
<td>317,492</td>
<td>(94,905)</td>
</tr>
<tr>
<td>600</td>
<td>General Use</td>
<td>297,978</td>
<td>523,229</td>
<td>(225,252)</td>
</tr>
<tr>
<td>700</td>
<td>Support</td>
<td>197,744</td>
<td>113,206</td>
<td>84,538</td>
</tr>
<tr>
<td>800</td>
<td>Health</td>
<td>5,392</td>
<td>8,115</td>
<td>(2,723)</td>
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<tr>
<td></td>
<td><strong>Total Deficit</strong></td>
<td></td>
<td></td>
<td><strong>(497,516)</strong></td>
</tr>
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</table>

765,409 GSF (65% efficiency)
Summary of Space Needs

- The deficit is concentrated in general use/student life spaces. However, there are significant deficits in special use and study spaces.
Classroom Space

- Apparent deficit of nearly 6,000 asf or 8 seminar rooms or small classrooms

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Existing Floor Area</th>
<th>Current Need (asf)</th>
<th>Surplus/Deficit (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 20 stations</td>
<td>6,473</td>
<td>17,775</td>
<td>(11,302)</td>
</tr>
<tr>
<td>21 – 40 stations</td>
<td>48,027</td>
<td>60,891</td>
<td>(12,864)</td>
</tr>
<tr>
<td>41 – 55 stations</td>
<td>26,758</td>
<td>22,092</td>
<td>4,666</td>
</tr>
<tr>
<td>56 – 110 stations</td>
<td>17,866</td>
<td>25,313</td>
<td>(7,447)</td>
</tr>
<tr>
<td>111 – 200 stations</td>
<td>29,206</td>
<td>21,856</td>
<td>7,350</td>
</tr>
<tr>
<td>+ 200 stations</td>
<td>27,699</td>
<td>13,996</td>
<td>13,703</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>(5,894)</td>
</tr>
</tbody>
</table>
Using UWM's recommended classroom guidelines, the classroom space deficit grows to nearly 70,000 asf.

<table>
<thead>
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<th>Current Need (asf)</th>
<th>Surplus/Deficit (asf)</th>
</tr>
</thead>
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<tr>
<td>0 – 20 stations</td>
<td>6,473</td>
<td>27,069</td>
<td>(20,596)</td>
</tr>
<tr>
<td>21 – 40 stations</td>
<td>48,027</td>
<td>84,103</td>
<td>(36,076)</td>
</tr>
<tr>
<td>41 – 55 stations</td>
<td>26,758</td>
<td>28,179</td>
<td>(1,421)</td>
</tr>
<tr>
<td>56 – 110 stations</td>
<td>17,866</td>
<td>33,547</td>
<td>(15,681)</td>
</tr>
<tr>
<td>111 – 200 stations</td>
<td>29,206</td>
<td>33,625</td>
<td>(4,419)</td>
</tr>
<tr>
<td>+ 200 stations</td>
<td>27,699</td>
<td>19,793</td>
<td>7,906</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>(70,286)</strong></td>
</tr>
</tbody>
</table>
Classroom Space

Classroom Count

- Supply of available room hours vs. demand for room hours translates into room count
- Reveals a slight deficit of seminar and small classroom space

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Required Room Hours</th>
<th>Available Room Hours</th>
<th>Excess / (Demand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 20 stations</td>
<td>2,094</td>
<td>760</td>
<td>(33.3)</td>
</tr>
<tr>
<td>21 – 40 stations</td>
<td>3,617</td>
<td>3,560</td>
<td>(1.4)</td>
</tr>
<tr>
<td>41 – 55 stations</td>
<td>666</td>
<td>1,160</td>
<td>12.3</td>
</tr>
<tr>
<td>56 – 110 stations</td>
<td>514</td>
<td>560</td>
<td>1.2</td>
</tr>
<tr>
<td>111 – 200 stations</td>
<td>297</td>
<td>600</td>
<td>7.6</td>
</tr>
<tr>
<td>+ 200 stations</td>
<td>134</td>
<td>360</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>(8.0)</strong></td>
</tr>
</tbody>
</table>
Distribution and Utilization: Classrooms

- Below target (Less than 60% Utilization)
- At target (60 - 70% Utilization)
- Above target (Greater than 70% Utilization)

- Sabin Hall
- Physics Building
- Mitchell Hall
- Merrill Hall
- Lubar Hall
- Lapham Hall
- Holton Hall
- Garland Hall
- Enderis Hall
- EMS Building
- Curtin Hall
- Cunningham Hall
- Chemistry Building
- Bolton Hall
- Architecture and Urban Planning Bldg.
Summary of Space Needs

- If more courses were scheduled on Fridays, the deficit would be eliminated.
- Average utilization for classrooms: 62%
- Target utilization: 65%
Teaching Laboratory Space

- Departmental investigation reveals a slight deficit of lab space in **Biosciences**
- Surplus does not capture the quality of instructional lab spaces

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Existing Floor Area</th>
<th>Current Need (asf)</th>
<th>Surplus/Deficit (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosciences</td>
<td>17,155</td>
<td>19,703</td>
<td>(2,548)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>20,063</td>
<td>10,843</td>
<td>9,220</td>
</tr>
<tr>
<td>Physics</td>
<td>4,280</td>
<td>2,571</td>
<td>1,709</td>
</tr>
</tbody>
</table>
Summary of Space Needs

- If courses were scheduled on Fridays, the space deficit would be eliminated.
- Average utilization for instructional labs: 37%
- Target utilization: 40%
Research Laboratory Space

- Research lab analysis uses the Texas Research Model.
  - Projects space based on external research dollars.
- UWM is able to meet its research space need based on current research awards of $30.5 million.
- Total research activity amounts to roughly $61 million and results in a deficit of nearly 63,000 asf in research lab space.
- As the University pursues its goal of $100 million of research awards, it will need to increase its lab space by nearly 300,000 asf.

<table>
<thead>
<tr>
<th>Research Dollars</th>
<th>Existing Floor Area</th>
<th>Current Need (asf)</th>
<th>Surplus/ (Deficit) (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30 million</td>
<td>297,785</td>
<td>180,639</td>
<td>117,146</td>
</tr>
<tr>
<td>$61 million</td>
<td>297,785</td>
<td>361,278</td>
<td>(63,493)</td>
</tr>
<tr>
<td>$100 million</td>
<td>297,785</td>
<td>592,259</td>
<td>(294,474)</td>
</tr>
</tbody>
</table>

97,682 GSF (65% efficiency)

453,037 GSF (65% efficiency)
Office Space - Count

- According to office counts, UWM has an overall surplus of 23 offices.
- If offices from one school cannot easily be accommodated by another school, the theoretical deficit grows to 272 offices, or roughly 43,000 asf.
- Office space shortages are split between academic and administrative departments.
- Open office and studio issues.
Library Space

- While there is a sufficient amount of stack space according to the CEFPI, stack space needs continue to grow.
- There is a deficit in study/reading space and service space.
- 70% of the library space deficit is in study/reading space, which can also be accommodated outside of the library.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Existing Floor Area</th>
<th>Current Need (asf)</th>
<th>Surplus / Deficit (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study/Reading</td>
<td>64,815</td>
<td>138,709</td>
<td>(73,894)</td>
</tr>
<tr>
<td>Stack Space</td>
<td>158,676</td>
<td>154,023</td>
<td>4,653</td>
</tr>
<tr>
<td>Service Space</td>
<td>24,219</td>
<td>55,574</td>
<td>(31,355)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>207,700</strong></td>
<td><strong>197,702</strong></td>
<td><strong>(105,250)</strong></td>
</tr>
</tbody>
</table>

![Bar Chart showing library space types](chart.png)
Special Use Space

- All three special use categories currently face space deficits.
- Athletics and recreation accounts for 89% of the total deficit.
- Current athletics and recreation deficit partially offset through leased facilities offsite.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Existing Floor Area</th>
<th>Current Need (asf)</th>
<th>Surplus / (Deficit) (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletics / Recreation</td>
<td>184,486</td>
<td>268,845</td>
<td>(84,359)</td>
</tr>
<tr>
<td>Media Production</td>
<td>34,815</td>
<td>42,092</td>
<td>(7,277)</td>
</tr>
<tr>
<td>Demonstration</td>
<td>3,286</td>
<td>6,555</td>
<td>(3,269)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,555</strong></td>
<td><strong>268,845</strong></td>
<td><strong>(94,905)</strong></td>
</tr>
</tbody>
</table>
General Use Space

- 47% of the general use deficit is associated with assembly space; dining contributes an additional 26%.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Existing Floor Area</th>
<th>Current Need (asf)</th>
<th>Surplus / (Deficit) (asf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly Space</td>
<td>48,517</td>
<td>154,295</td>
<td>(105,778)</td>
</tr>
<tr>
<td>Exhibition Space</td>
<td>18,919</td>
<td>26,058</td>
<td>(7,139)</td>
</tr>
<tr>
<td>Dining Space</td>
<td>63,011</td>
<td>121,600</td>
<td>(58,589)</td>
</tr>
<tr>
<td>Lounge Space</td>
<td>8,440</td>
<td>10,816</td>
<td>(2,237)</td>
</tr>
<tr>
<td>Student Life / Union</td>
<td>159,091</td>
<td>210,461</td>
<td>(51,370)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>(225,252)</strong></td>
</tr>
</tbody>
</table>
Residential Space

- UWM has identified a goal of increasing the number of beds on campus to 5,000 beds. In doing so, it will accommodate 73% of its freshman class and 20% of its undergraduate population.
- UWM will need an additional 1,385 beds to meet this goal and has identified a two-phased approach to achieve the desired bed count.
- At 225 asf per bed, UWM will need an additional 311,625 asf of residential space.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Additional Beds</th>
<th>Space / Bed (asf)</th>
<th>Total ASF</th>
<th>GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase One</td>
<td>740</td>
<td>225</td>
<td>166,500</td>
<td>256,134</td>
</tr>
<tr>
<td>Phase Two</td>
<td>645</td>
<td>225</td>
<td>145,125</td>
<td>223,269</td>
</tr>
<tr>
<td>Total</td>
<td>1,385</td>
<td></td>
<td>311,625</td>
<td>476,403</td>
</tr>
</tbody>
</table>
Peer Benchmarking – Residential Population

Peer Benchmarking – Student : Faculty Ratio

Peer Benchmarking – Acceptance Rate

Peer Benchmarking – Retention Rate

University of Wisconsin Milwaukee
Cleveland State University
Temple University
University of Cincinnati
University of Illinois At Chicago
University of Missouri-Kansas City
Georgia State University
SUNY at Buffalo
University of Toledo

Freshman Retention Rate

Peer Benchmarking – Graduation Rate

Campus in the City

Partnerships
Partnerships

HEALTHCARE
Aurora Health Care, Blood Center of WI, Milwaukee Health Department, Informatics & Software Start-ups

ADVANCED MANUFACTURING
Johnson Controls, Rockwell Automation, MATC, Red Prairie, MSOE, Harley-Davidson, Quad Graphics, Metal Processing Industry

BIOMEDICAL ENGINEERING
Medical College of Wisconsin, Children’s Hospital, GE Healthcare, Early Stage & Start-ups

WATER INDUSTRIES
Procorp Enterprises, Veolia, MMSD, M7/GMC
Partnerships: Private Industry

- Medical College of WI Children's Research Institute
- Froedert
- Procorp Research Park
- GE Medical
- GE Healthcare Technologies
- Aurora
- Aurora
- Rockwell Automation
- Johnson Controls
- Columbia - St Mary's
- MMSD
- Harley-Davidson
- The Blood Center of WI
- Milwaukee Health Department HQ
- Red Prarie HQ, Waukesha WI
- Pentair HQ, MN
- Quad Graphics HQ, Sussex WI
- Badger Meter HQ, Milwaukee
- Veolia
- M7
- GMC
- MMSD
- Wauwatosa
- West Allis
- Great Lakes Research Facility
Partnerships: Academic Institutions

Campus in the City
Partnerships: Research Funding Comparison

University of Wisconsin-Milwaukee
- Medical College of Wisconsin
  - Source of funding numbers: Blood Center Annual Report, Medical College of WI website, Marquette University Annual Report, UWM Research Foundation

$33m

Marquette University
- School of Engineering
  - $5m

Medical College of Wisconsin
- $130m

Blood Center of WI
- $16.7m

Source of funding numbers: Blood Center Annual Report, Medical College of WI website, Marquette University Annual Report, UWM Research Foundation
Campus in the City
Infrastructure, Open Spaces, Development Corridors
Multiple Locations

- Great Lakes Research Facility
- Plankinton Building
- Riverview
- Kenilworth
- Kenwood Campus
- Campus in the City
Kenilworth
Great Lakes Research Facility
Great Lakes Research Facility
City Infrastructure
Campus Neighborhood
Edges, Access, Shared Resources
The Campus Neighborhood
Edges
Edges
Edges
Edges
Access
Access
Shared Resources

Campus Neighborhood

- Locust North Humboldt Oakland Prospect Lincoln Memorial Drive Downer
- Shared Resources
- Campus Neighborhood
- Primary Vehicular Routes
- Primary Pedestrian Routes
- Commercial Zones
Shared Resources
Shared Resources
Shared Resources
Shared Resources
Shared Resources
Thank you