University of Wisconsin - Milwaukee
Campus Meeting

March 26, 2009
Guiding Principles

- Innovation & Partnerships
- Access & Campus Life
- Learning & Discovery
- Location & Connectivity
- Stewardship
Principles: Process

- Open
- Responsive
- Rigorous
- Bold
<table>
<thead>
<tr>
<th>2008</th>
<th>2009</th>
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<td>APR</td>
<td>MAY</td>
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1 Work Sessions
Engagement

**CORE TEAM**
- Monthly meetings with consultants

**COMMITTEES**
- Work sessions and presentations
- Regularly scheduled committee meetings

**CAMPUS**
- Campus presentations
- Met with all departments and schools/colleges
- Feedback sessions, presentations to various groups (Faculty & Student orgs, classes, etc)
- UWM updates to various constituent orgs – Faculty Senate, APBC, etc.

**COMMUNITY**
- Campus presentations
- Visits to community groups & organizations
- Feedback sessions
- Partners have also been engaged in meetings and solicited feedback
Participation Opportunities Available to All:

- Campus presentations are open to all
- All planning materials and documents posted on website
- Website has a link to provide feedback
- Special feedback session was provided in early February
- Email to solicit additional feedback in early February
- All campus presentation at end of February
HOLD TIGHT

IN THE HOPPER

DISCARD

VERIFY THAT HIGHEST & BEST IDEAS KEEP UWM RELEVANT
MEASURE UP TO GUIDING PRINCIPLES
KEEP MOVING FORWARD
Research Clusters - DRAFT / SAMPLE

Letters & Sciences

- Urban
- Industrial Innovation
- Environmental Science
- Imaging
Agenda

1. The Emerging UWM Vision
2. Sustainability
3. Campus and Community Life
4. Transportation
THE EMERGING UWM VISION

1. Kenwood and the East Side
2. GLRF
3. Pabst / Plankinton / Pieces of Eight
4. Wauwatosa
Kenwood Campus and the East Side

VISION / BIG IDEA:

• Strong academic community
• Focused undergraduate learning
• Diverse and complete student life experience
### Kenwood Campus – Additional Capacity

#### Non-residential Development Capacity

<table>
<thead>
<tr>
<th>Buildings</th>
<th>GSF</th>
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<tr>
<td>New Kenwood</td>
<td>862,000</td>
</tr>
<tr>
<td>Demolition</td>
<td>(229,000)</td>
</tr>
<tr>
<td>Net</td>
<td>633,000</td>
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<tr>
<td>CSM*</td>
<td>432,000</td>
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<tr>
<td>Sub-total</td>
<td>1,065,000</td>
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<tr>
<td>Hartford</td>
<td>200,000</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,265,000</strong></td>
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*Non-residential capacity

**Space Need:** 1,200,000 GSF

**Existing Kenwood Non-Residential:** 3,240,000 GSF
Kenwood Campus – Proposed "Neighborhoods"

GOALS:
• Single Identity
• Focus of undergraduate education
• Strong Academic Community
• Diverse and Complete Student Life Experience
Kenwood Framework

1. North/South Landscape
2. East/West Connectors
3. Quadrangles
Potential Library Infill - Commons
Bolton – the Student Services Corridor

Example of a transparent addition to an existing building
Landscape: Focus on the "in between" spaces

Engelmann Hall

Northeastern University - Boston
The Harbor Campus

VISION / BIG IDEA:

• School of Freshwater Science
• Learning laboratory on the water
• Partnerships with business and city
GOALS:
1. Provide appropriate facilities for freshwater science teaching and research
2. Serve as a catalyst for the regeneration of the 5th Ward
3. Create opportunities for partnership

PROGRAM:
Freshwater Science & Research; potential for athletics
Freshwater Science and Research Campus

GOALS:
- Accommodate Freshwater Science
- Serve as a catalyst for the regeneration of the 5th Ward
- Create opportunities for partnership

PROGRAM:
Freshwater Science & Research; potential for athletics

PARTNERSHIPS:
- Rockwell, or use of space within building.
- Water-related business and industry
- Advanced manufacturing & energy companies
Pabst Campus and Plankinton

VISION / BIG IDEA:

- Urban regeneration
- Interdisciplinary academic health center
- Partnership potential with MATC and Aurora/ Sinai
**GOALS:**

1. Create an academic health center
2. Position UWM in a vibrant district with a range of retail, food service, and residential amenities
3. Establish a critical mass of UWM activity and identity in the downtown area
4. Create partnerships

**PROGRAM:**

Public Health, Health Sciences, Nursing (upper division and graduate only)
Continuing Education
PARTNERSHIPS:

- Aurora / Sinai
- MATC
- Surrounding government agencies
- Other downtown businesses and institutions
Wauwatosa

VISION / BIG IDEA:

• Partnerships with MCW, research institutes and companies
• Research clusters
• Research teams (faculty, staff and students)
Research Campus

GOALS:
1. Create a cluster research district with multidisciplinary research centers
2. Develop a mixed-use center for research, partnerships, and education, including retail, food service, and other amenities

PROGRAM:
Cluster research groups;
Possible upper division and graduate engineering
Research Campus

PARTNERSHIPS:

UWM / Govt / Institution / Business

- MCW
- Children’s Research Center
- Blood Center
- Area private businesses
SUSTAINABILITY
SUSTAINABLE DEVELOPMENT

Human Health
Social Justice and Equity
Economic Opportunity
Ecological Integrity and Diversity

ECOLOGY
QUALITY OF LIFE
ECONOMY
COMMUNITY
Higher Education Modeling Sustainability as a Fully Integrated Community

Green Principle Categories

Community: Social/ Economic

Water Resources

Energy & Emissions

Natural Systems

Transportation Options

Materials
Site Assessment Workshop Objectives

- Space
- People
- Energy
- Emissions
- Costs
EXISTING ANNUAL UTILITY COSTS (2007)
Clean Air Cool Planet calculator converts emissions to metric tons of carbon dioxide equivalents (eCO₂).

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

DATA ACQUISITION for a preliminary Greenhouse Gas Inventory for calendar year 2007 on the Kenwood campus:

- campus population (FTE students, faculty, staff)
- local temperature
- solid waste
- budget (operating, research, energy budgets)
- transportation (university fleet, commuting students/faculty/staff)
- electricity use
- oil use (#1, #2, #6, diesel, natural gas, propane)
- agriculture
- building space (total, research)

*Items in orange were available and used for UWM emissions calculations.*
Clean Air-Cool Planet distinguishes direct and indirect emissions into 3 scopes. This UWM study considers scopes 1 and 2.
**eCO₂ EXISTING UWM EMISSIONS**

<table>
<thead>
<tr>
<th>SOURCE TYPE</th>
<th>ENERGY INPUT (2007)</th>
<th>EMISIONS OUTPUT</th>
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<tbody>
<tr>
<td>NATURAL GAS</td>
<td>528,381 mmBTU</td>
<td>27,975 MT eCO₂</td>
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<tr>
<td>ELECTRICITY</td>
<td>678,143 mmBTU</td>
<td>59,862 MT eCO₂</td>
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<tr>
<td>TRANSPORTATION</td>
<td>247,104 mmBTU</td>
<td>18,070 MT eCO₂</td>
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**TOTAL = 105,906 metric tons eCO₂**

Sources: CACP Calculator, 2007 electricity & natural gas data from UWM Kenwood, UWM transportation survey
eCO₂ EXISTING UWM EMISSIONS

3,954,881 gsf of space at Kenwood

50 lbs eCO₂/gsf-year

UWM Kenwood Population
23,828 – FT students
1,385 – Faculty
3,252 – Staff

3.69 MT eCO₂ per student
3.09 MT eCO₂ per capita
Future growth plans anticipate approximately 1,400,000 gsf of new space total (including housing)
Energy efficient building standards are one part of a complete strategy to reduce future building energy use and emissions.
FUTURE ENERGY REDUCTION STRATEGIES FOR UWM

1. Energy delivery and distribution efficiency
2. Demand within existing buildings – improve in association with renovation
3. Energy Usage Intensity (EUI) targets for building renovation
4. **EUI targets for high performance future buildings**
5. Renewable Energy
6. Cultural changes
ENERGY USE INTENSITY (EUI) AVERAGES IN HIGHER EDUCATION BUILDINGS (KBTU/GSF/YR*)

<table>
<thead>
<tr>
<th>Category</th>
<th>EUI (kBTU/gsf/yr)</th>
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<tr>
<td>Academic/ office</td>
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<tr>
<td>Resi.</td>
<td>100</td>
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<tr>
<td>Other Libraries / Campus Life Performance Spaces /</td>
<td>125</td>
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<tr>
<td>Recreation</td>
<td>200</td>
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<tr>
<td>Lab/ Hospital</td>
<td>257</td>
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<tr>
<td>Lab/ Hospital</td>
<td>300</td>
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Key Issue: UWM is moving toward more labs & research buildings which demand a higher EUI

*Sources: Affiliated Engineers, Inc; CBECS: Commercial Buildings Energy Consumption Survey www.eia.doe.gov; Labs21 Environmental Performance FOD; UNC Sustainability Director interview
SOLAR POTENTIAL

Some solar potential in Milwaukee

3 – 4 kWh / m² / day

Source: US Dept. of Energy, NREL, Renewable Energy Resources
SOLAR POTENTIAL
eCO₂ TRANSPORTATION EXISTING EMISSIONS

Transportation:

- Faculty & staff travel **29,780,440 miles** annually
- Students commute **28,424,240 miles** annually
- 23% of students and 15% of faculty/staff **bike or walk** to campus

Faculty, staff, and student commutes accounts for 17% of campus emissions
EXISTING WATER CONSUMPTION
gallons/ year (2007)

- 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
Stormwater Management – Ongoing Efforts

Planned stormwater management plan for Pavilion Gateway
Impervious Area - Existing

Campus: 112.37 acres

Impervious: 55.01 Acres

Percentage: 49.0%
Campus: 112.37 acres
Impervious: 59.71 Acres
Percentage: 53.0%

20% increase in Building GSF but only 4% increase in impervious area
SUSTAINABLE DEVELOPMENT

ECOLOGY
QUALITY OF LIFE
ECONOMY
COMMUNITY

SUSTAINABILITY
UWM CAMPUS AND COMMUNITY LIFE

1. Student housing: on- and off-campus
2. Student life facilities
3. Shared campus / community amenities
Student Housing: On-campus and Off-campus
Growth in Undergraduate Housing

 GOAL: House all first year students on campus
Student Housing Impact

Number of Students Living in Surrounding Neighborhoods
(53211, -202, -212)

<table>
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<th>Spring 2007</th>
<th>Fall 2007</th>
<th>Fall 2008</th>
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<tr>
<td>Riverview</td>
<td>6,089</td>
<td>5,974</td>
<td>5,661</td>
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<tr>
<td>Riverview</td>
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<td>313 fewer students in neighborhood after Riverview constructed</td>
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<tr>
<td>Kenilworth</td>
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<tr>
<td>Riverview</td>
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428 fewer students living in neighborhood since Spring 2007 (7% decline)

Source: UWM Coast Neighborhood Housing Office, March 2009
Undergraduate Student Residential

Existing On-Campus Undergrad Beds: 3,471

Total Goal: 5,400 beds

250 to 400 fewer student houses
Advantages to Living On Campus

- Higher retention and graduation rates
- Students subject to University conduct codes
- Higher level of involvement with campus activities, gaining leadership skills
- Living/learning communities
- Alcohol awareness
- Overall more satisfaction with college experience

Based on studies done by Fleming (1984) and Nobel (1985)
Off-campus Housing and Neighborhood Initiatives
UWM's Existing Neighborhood Initiatives

- **COAST**
  - Student leadership in community relations

- **University Neighborhood Relations Office**
  - Walk to Work Employee Home Ownership Program

- **University Neighborhood Association**

- **Neighborhood Housing Office**

- **Milwaukee Landlord Program**
  - City of Milwaukee offers free landlord training courses
  - Required by UWM in order for landlords to register with the UWM housing site
Goals for Neighborhood Stewardship

Five Goals:

1. Creating clean and safe streets
2. Increasing housing and home ownership
3. Fortifying public education
4. Fostering economic opportunity
5. Promoting commercial development
CONCLUSIONS

• Community Outreach programs are most successful when:
  • Linked to City planning initiatives,
  • Involve strong community outreach efforts,
  • Supported financially,
  • Strong institutional leadership

"As a great urban university, we know our future is inextricably linked to the health and vitality of our host community. By sharing our vision, our resources and our commitment with our neighbors, we hope to ensure the best and brightest future for all of us."

- Penn President Judith Rodin
Campus Life
UWM Athletic Facilities

On Campus

• Klotsche Center
  *Volleyball, women's basketball, swimming & diving, track and field*

• The Pavilion
  *Athletic offices, athlete's weight room, team rooms, sports medicine, academic center*

• Engelmann Field
  *Soccer, Engelmann Hall used for locker rooms & sports medicine needs*

Off Campus

• U.S. Cellular Arena
  *Men's basketball*

• Henry Aaron Field
  *Baseball, not adequate for hosting (no locker rooms or permanent seating)*

• Paley Tennis Center
  *Tennis*

• Other
  *Diving pool, men's & women's soccer practice fields*
TRANSPORTATION

1. Transportation Demand Management
2. Campus Shuttle
3. Transit
4. Traffic Calming / Volume Control
Transportation Demand Management
A Comprehensive Approach to Transportation

Source: Transport Canada (www.tc.gc.ca)
What is TDM?

- TDM areas:
  - Transit
  - Bicycle + Pedestrian
  - Ridesharing
  - Parking Management
  - Marketing
  - Institutional Policies
  - Monitoring and Evaluation
- Focus on reducing demand, not increasing supply.
- Some programs already exist at UWM. A TDM program would strengthen them and make them a part of a comprehensive program.
Approximately 58% of students use alternative transportation to get to campus.

Source: UWM Transportation Survey, Fall/Spring Students, 2009
Approximately 37% of faculty / staff use alternative transportation to get to campus.

Source: UWM Transportation Survey, Faculty/Staff projection based on survey sample
Ridesharing

- Carpools
- Vanpools
- Carpool Matching
- Carpool / Vanpool incentives
- Carsharing / Hourly Rental
- Guaranteed Ride Home

Stanford University

TERP RIDERS CARPOOL PROGRAM
Participate in our carpool program!

University of Maryland
Parking Management

- Parking pricing (limit demand)
- Parking permits
  - No commuter permit if reside a certain distance from campus
  - Extend permits/metering to neighborhood streets
  - Occasional permits (for those who are usually transit-riders, cyclists, walkers)
- Continue policy of no fee for remote parking served by shuttle
- Assigned parking locations
- Increase enforcement of parking violations
Permit Pricing Relative to Other Institutions

- **UWM Faculty**: $750/year
- **UWM Faculty Garage**: $1,200/year
- **Sandburg Residents**: $1,000/yr.
- **Commuter UPark**: Free

Commuter On-campus: Hourly
Sandburg Residents: $1,000/yr.
Commuter UPark: Free
CONSIDER:
Prohibit those living within the campus walk/transit zone from parking on campus (even in metered parking), thereby providing more spaces for commuter students not served by public transit.

5,600 students live off campus in surrounding neighborhoods
Bicycle and Pedestrian

- Expand/improve infrastructure:
  - Bike lanes
  - Off-street paths
  - Sidewalk improvements
  - Enhance connectivity of the system
- Improve maintenance of on-campus pedestrian facilities
- Increase safety measures
- Provide secure bike parking, bike lockers, showers/locker rooms, etc. to commuters (not just University Housing residents)
- Expand bicycle loaner program at Union Adventure Center
Marketing

- Transportation fairs
- Users' guide
- Focus on new employee and student orientations
- Offer incentives and prizes

Experience all the Bay Area has to offer—the beaches, nightlife, shopping, and the great outdoors—all by using Stanford's and the Bay Area's public transportation options.

Use this guide to find your way around the Bay Area, and you'll find you can thrive without a car.
A TDM Program for UWM

Commit to a comprehensive TDM program for UWM that provides a full range of mobility and access options.
Monitoring and Evaluation

- Regular traffic counts, parking surveys, utilization studies (car and bike), telephone surveys
- Work with/share information with the city

Harvard University
Campus Shuttle
Shuttle Cost

 Longer travel time = Need for additional shuttles to maintain headways = Additional cost
Shuttle Ridership

Longer travel time = Less efficiency = Lower ridership
Kenwood / Harbor Dr / Plankinton / GLRF:
Total Distance = 6.6 miles
Travel Time: 24 minutes (4 p.m.) w/stops

Kenwood / Pabst Route 1 (City Streets):
Total Distance = 3.7 miles
Travel Time: 15 minutes (12:30 p.m.) w/stops

Kenwood / Pabst Route 2 (Highway):
Total Distance = 4.8 miles
Travel Time: 13 minutes (1:00 p.m.) w/stops

*all distances and times are for 1-way travel
*assumes 2 shuttles, 30-minute headways, running 18 hours per day
Kenwood / County Grounds Direct (Highway):
Total Distance = 11.8 miles
Total Travel Time: 21 minutes (w/stop)

Total Distance = 12.5 miles
Total Travel Time: 24 minutes

Kenwood / County Grounds via Pabst (using Highway Route):
Total Distance: 12.5 miles
Total Travel Time: 24 minutes

Kenwood / County Grounds Direct (City Streets):
11.3 miles via Wisconsin Ave/Lincoln Memorial / Travel Time: 27 minutes
9.2 miles via North Avenue / Travel Time: 27 minutes

*all distances and times are for 1-way travel
*assumes 30-minute headways, running 18 hours per day
Public Transit
Impact of UPASS Program

- 32% to 45% increase in ridership
- 221,000 annual vehicle trips diverted from UWM Campus
- 20% reduction in greenhouse emissions
- $41 per term versus $196 for 4 monthly passes
- 90% of students favor U PASS

Source: “Usage and Impacts of the University of Wisconsin – Milwaukee U-Pass Program, Dr. Edward Beinbornm, Center for Urban Transportation Studies, UWM
Planned Downtown Streetcar & Proposed Transit Corridor

Source: MCTS and Mayor Barrett's Comprehensive Transit Strategy
Benefits of Oakland Ave Transit Corridor:

- Reinforce retail corridor
- Critical mass of riders
- Wider corridor allows ease of making improvements
- Redevelopment opportunities
Desired Features of a Transit Service

Source: UNCG Transportation Survey
Traffic Calming and Volume Control
Traffic Calming/ Volume Control Measures

**Volume Control**
- Closure
- Partial Closure

**Speed Control: Vertical Devices**
- Speed humps and tables
- Raised crosswalks and intersections
- Textured pavement

**Speed Control: Horizontal Devices**
- Neckdown
- Choker
Volume Control: Closure

**Pros:**
- Reduces cut-through traffic (-44%)
- Maintains pedestrian and bicycle travel
- Urban grid tolerates

**Cons:**
- Requires statutory actions
- Redirected traffic can create issues on alternate streets
- Delays emergency access
- May be expensive

Source: www.trafficcalming.org
Volume Control: Partial Closure

**Pros:**
- Reduces traffic volumes (-42%)
- Maintain pedestrian and bicycle travel
- Decrease in speeds (-19%)
- Service vehicle access maintained

**Cons:**
- Causes circuitous routes
- Drivers can bypass barrier

Source: www.trafficcalming.org
Horizontal Devices: Neckdowns and Chokers

**Pros:**
- Narrows streets, results in shorter walk distances
- Reduced traffic volumes (-10%)
- Reduced traffic speeds (-7%)

**Cons:**
- Loss of on-street parking
- Snow removal

Source: www.trafficcalming.org

Kenwood Avenue
Vertical Devices: Speed Tables, Raised/Textured Intersections

Pros:

- Improves safety for pedestrians and motorists.
- Can reduce traffic volumes (-12%)
- Can reduce speeds (-18%)

Cons:

- Snow removal

Source: www.trafficcalming.org

Oakland and Maryland Avenues
Next Steps

1. Research Clusters and Space Moves
2. Design Studies
3. Technical Analysis
UWM VISION

Kenwood
Undergraduate Academics

GLRF / Pieces of Eight
Freshwater Science and Research

Pabst / Plankinton
Public Health Sciences, Nursing, Continuing Ed.

Wauwatosa
Research

Kenwood & the East Side
Pabst/Plankinton
Wauwatosa
The Harbor Campus