

DoF Matters

November 8, 2016

Charlie Van Loan

Topics

1. **Reminder:** Worklife Survey
2. **Heads Up:** The Senate (as of now) has no place to meet next semester!
3. **New:** The Navigate System
4. **Now:** Resolution on Senate Scheduling



Sign in with your Cornell NetID to view all content and features.

Navigate

Helping faculty and staff navigate the operational complexities of off-campus research, instruction, and engagement.

🔍 Search by keyword(s), or click on your intended destination below.



Domestic

Explore essential operational information to help you plan or conduct your Cornell activities within the United States.



International

Explore essential operational information to help you plan or conduct your Cornell activities outside the United States.

Pain points & reoccurring questions

Who should I call about...

I'm contracting for services in Thailand. What agreement should I use?

Do I need a visa to travel?

Can I hire a local employee to work on my research project in...

Are there standard forms I should use for...

What steps do I have to follow for...

I've called two different people, and received two different answers.

The Resolution on Senate Meeting Dates

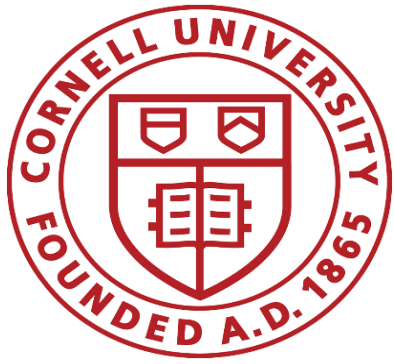
Whereas the Faculty Senate traditionally meets on the second Wednesday of the month; and

Whereas Cornell University is committed to having a diverse and inclusive environment for students, faculty, and staff,

Be it therefore resolved that Senate meetings be held on the third Wednesday of the month if the second Wednesday of the month falls on a major religious holiday.

Statement by a subset of ILR
faculty and staff on President
Rawling's Statement on Graduate
Student Unionization
November 8, 2016

Risa Lieberwitz



Briefing to the Faculty Senate

“Options for Achieving a Carbon Neutral Campus by 2035”

Robert Howarth

*The David R. Atkinson Professor of Ecology & Environmental Biology
and*

Edwin A. Cowen

*Professor of Civil and Environmental Engineering and the Kathy Dwyer Marble and Curt Marble
Faculty Director for Energy, David R. Atkinson Center for a Sustainable Future*

On behalf of the Senior Leaders Climate Action Group
(SLCAG)

9 November 2016

Pursuing a Carbon Neutral Future

Campus community has embraced and remains committed to the goal of reaching carbon neutrality by 2035.

- Climate Action Plan published in 2009; Updated 2013.
- Acceleration Working Group Report published 2014.
- In March 2016, Provost Kotlikoff charged the Senior Leaders Climate Action Group with analyzing viable options for the Ithaca campus to meet that goal.
- “Options for Achieving Carbon Neutrality by 2035” is not a defined plan of action, but rather a thorough review of feasible options and associated costs.

How is this report different?

- Updated financial analysis
- Identifies new tools for valuing projects:
 - The social cost of carbon
 - Introducing the quadruple bottom line
 - Estimating the impact of upstream natural gas leakage

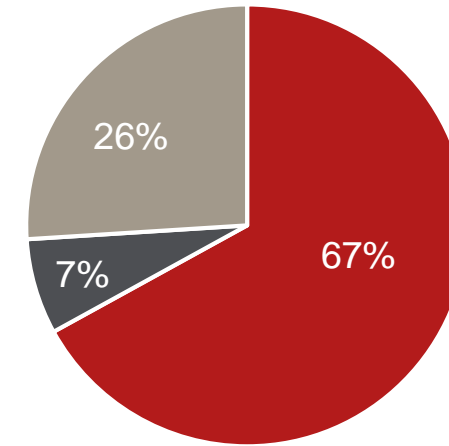
Cornell's Carbon Footprint

Campus energy needs account for nearly two-thirds of Cornell's carbon dioxide footprint.

Size of the Problem:

- 179,303 metric tons of CO₂e
(energy produced + purchased from grid)
- 62,142 metric tons of CO₂e (transportation)
- **241,445 metric tons of CO₂e (total)**
(213,650 after -27,795 claimed reductions)

Cornell Ithaca Campus
2014 Greenhouse Gas Inventory



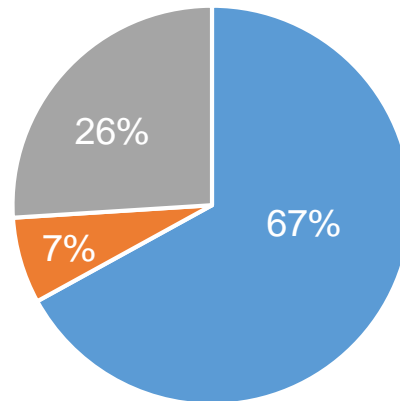
241,445
Total Emissions
(MT CO₂e)

Campus Energy 179,303

- **Produced Power: 161,806**
- Purchased Electricity: 17,497
- **Transportation: 62,142**
- *Claimed Reductions: -27,795

2014 Ithaca Campus Greenhouse Gas Inventory, Impact of Using Natural Gas

Baseline
Inventory

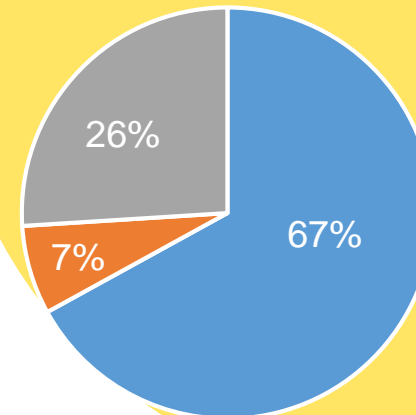


241,445
Total Emissions
(MT CO₂e)

Campus Energy 179,303

- Produced Power: 161,806
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Accounting for
Methane Leakage



821,445
Total Emissions
(MT CO₂e)

Campus Energy 179,303

- Produced Power: 161,806
- Purchased Electricity: 17,497
- Methane Leakage: 580,000
- Transportation: 62,142

Carbon Footprint Challenges

- Designing a heating system that can handle the high energy demand of a research institution, and extreme weather conditions of Ithaca, NY.
- Current low cost of fossil fuels makes it difficult to justify renewable energy projects based simply on a return-on-investment analysis.
- Reducing the energy demand of campus buildings; increasing the number of high-performance buildings.

Carbon Footprint Benefits

- Advancement of Cornell's academic and land-grant mission; become a model for reducing fossil fuel use for the state and the world.
- Reduced financial exposure to increasingly unstable energy markets, compliance regulations, and potential changes in carbon policy.
- Demonstrate enhanced geothermal energy, possibly establishing a new industry in upstate New York.
- New revenue streams from external fundraising and energy conservation savings.

Solutions for Today: Recommendations

Community Engagement

- Further utilize the Think Big, Live Green campaign to educate and engage the campus community.
- Ensure all students graduate with a basic literacy of climate change.

Build High-Performance Buildings

- Modify capital projects approval processes to incorporate the quadruple bottom line in long term building maintenance and planning.
- Expand the Energy Conservation Initiative and Continuous Recommissioning Program to further drive down the energy use of existing buildings through increased investment in both, and extending the payback period required for energy conservation projects.

Increase Electric Vehicle Capacity

- Prioritize development of infrastructure to support a campus fleet of clean-fuel vehicles and replace the existing fleet accordingly.

Solutions for Today: Recommendations

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Solutions for Tomorrow

Increasing Renewable Energy Supply

Solutions for Heating and Powering

1. Earth Source Heat Combined with Wind, Water, Solar and Biomass
2. Earth Source Heat Combined with Wind, Water and Solar
3. Ground Source Heat Pumps Combined with Wind, Water and Solar
4. Air Source Heat Pumps Combined with Wind, Water and Solar
5. Nuclear
6. Business as Usual, with Purchased Offsets

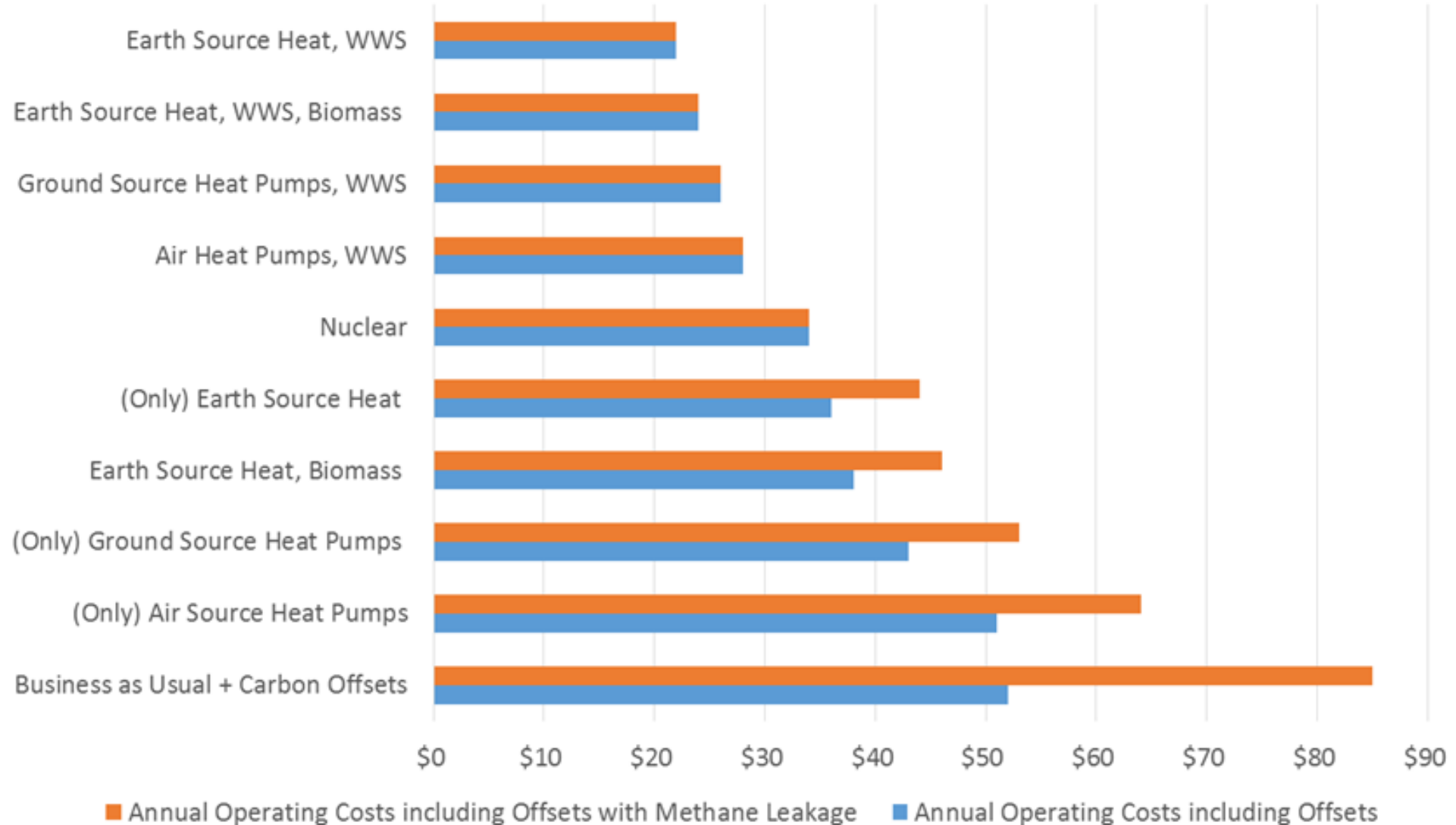
Solutions for Campus Energy Supply, Financial Details

(AEC = Annual Cost + Capital Cost spread over 30 years)

Up-Front Capital Cost	Annualized Capital Cost	Annual Operating Cost	Annual Offsets Cost	Annual Equivalent Cost	Accounting for Methane Leakage		QBL Analysis			
					Annual Offsets Cost	Annual Equivalent Cost	Purpose	Prosperity	People	Planet

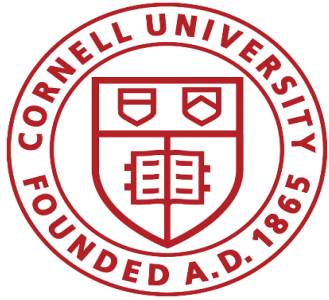
Business as Usual (for comparison, not a solution)													
Heating & Powering Solutions	1.	Earth Source Heat, WWS, Biomass	\$700	\$47	\$24	-	\$71	-	\$71	●	●	●	●
	2.	Earth Source Heat, WWS	\$730	\$50	\$22	-	\$72	-	\$72	●	●	●	●
	3.	Air Heat Pumps, WWS	\$930	\$62	\$28	-	\$90	-	\$90	●	●	●	●
No offsets needed	4.	Ground Source Heat Pumps, WWS	\$920	\$55	\$26	-	\$81	-	\$81	●	●	●	●
	5.	Nuclear	\$700	\$42	\$34	-	\$76	-	\$76	●	●	●	●
All offsets needed	6.	Business as Usual + Carbon Offsets	-	-	\$42	\$10	\$52	\$43	\$85	●	●	●	●
Heating Solutions	7.	Earth Source Heat, Biomass	\$430	\$31	\$36	\$2	\$69	\$10	\$78	●	●	●	●
	8.	(Only) Earth Source Heat	\$470	\$36	\$34	\$2	\$72	\$10	\$80	●	●	●	●
Offsets for Electricity	9.	(Only) Air Source Heat Pumps	\$490	\$28	\$47	\$4	\$79	\$17	\$92	●	●	●	●
	10.	(Only) Ground Source Heat Pumps	\$600	\$34	\$40	\$3	\$77	\$13	\$87	●	●	●	●

Annual Operating Costs of Solutions

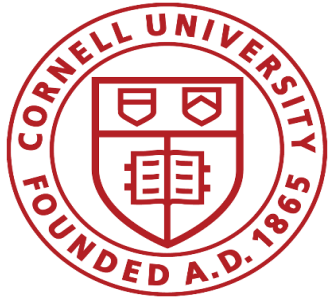


Conclusions & Recommendations: Increasing Renewable Energy Supply

- Strive to meet or offset 100% of the expected annual campus electricity demand through cost-effective wind, water and solar projects.
- Pursue Earth Source Heat, as it is the most promising technology for heating the campus in our climate; greatest potential for outside funding.
- If Earth Source Heat is found not to be viable within five years, review options for utilizing ground source heat pumps.
- Continue to review other renewable options as technical and cost feasibilities change over time.



SLCAG Report for Carbon Neutrality endorsed by University Assembly (18-0-2 vote) on Nov 1, with charge to administration to report to the Assembly regarding progress toward carbon neutrality on an annual basis.

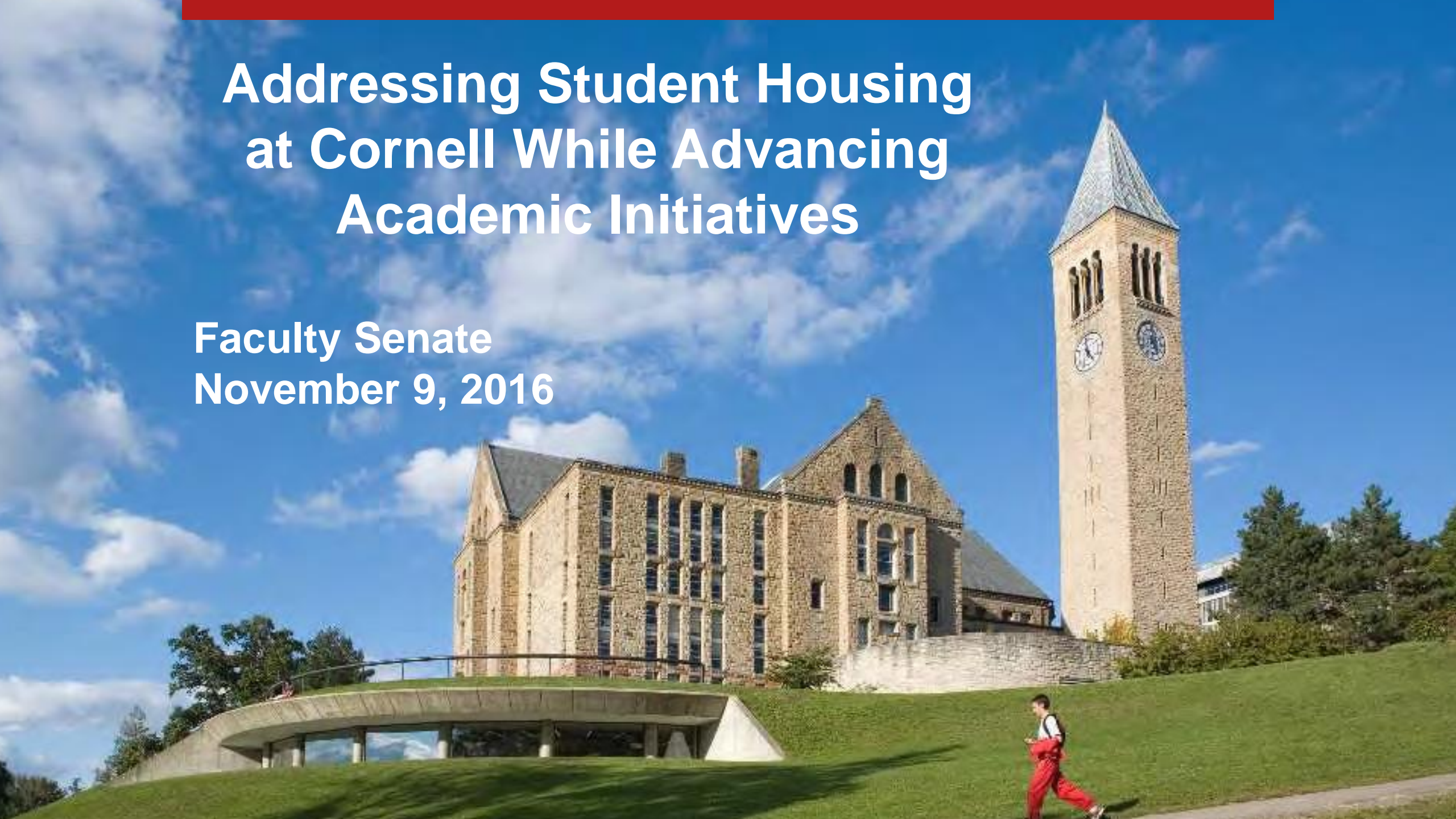


Questions and discussion:

- Balancing risks and opportunities (financial, ethical, reputational)
- Goal of climate literacy for all undergraduates (desirable? If so, how best achieved? Leadership for this and role of Faculty Senate)

Addressing Student Housing at Cornell While Advancing Academic Initiatives

Faculty Senate
November 9, 2016



Big Picture

1. Student Experience

- Curriculum
- Student Housing
- Diversity/Advising/Living Learning

2. Connecting the Campuses

- Enhancing collaborations on the Ithaca campus
- Enhancing collaborations between the campuses

3. Investment in Academics

- Mounting multi-disciplinary initiatives that distinguish Cornell
- Provide a sense of momentum that facilitates recruitment and retention of outstanding faculty
- Balancing central and college priorities

Efforts Underway

Tactics	Goals	Academic Investment	Connect Cornell	Student Experience
Multidisciplinary Initiatives		+++	+++	++
Five Year Financial Plan		+++	++	+++
Housing Initiative		+++	+++	+++
Academic Facilities		+++	++	+++
Curriculum Initiative		++	+++	+++
Hinge Project		++	+++	+++
Academic Unification		+++	+++	++

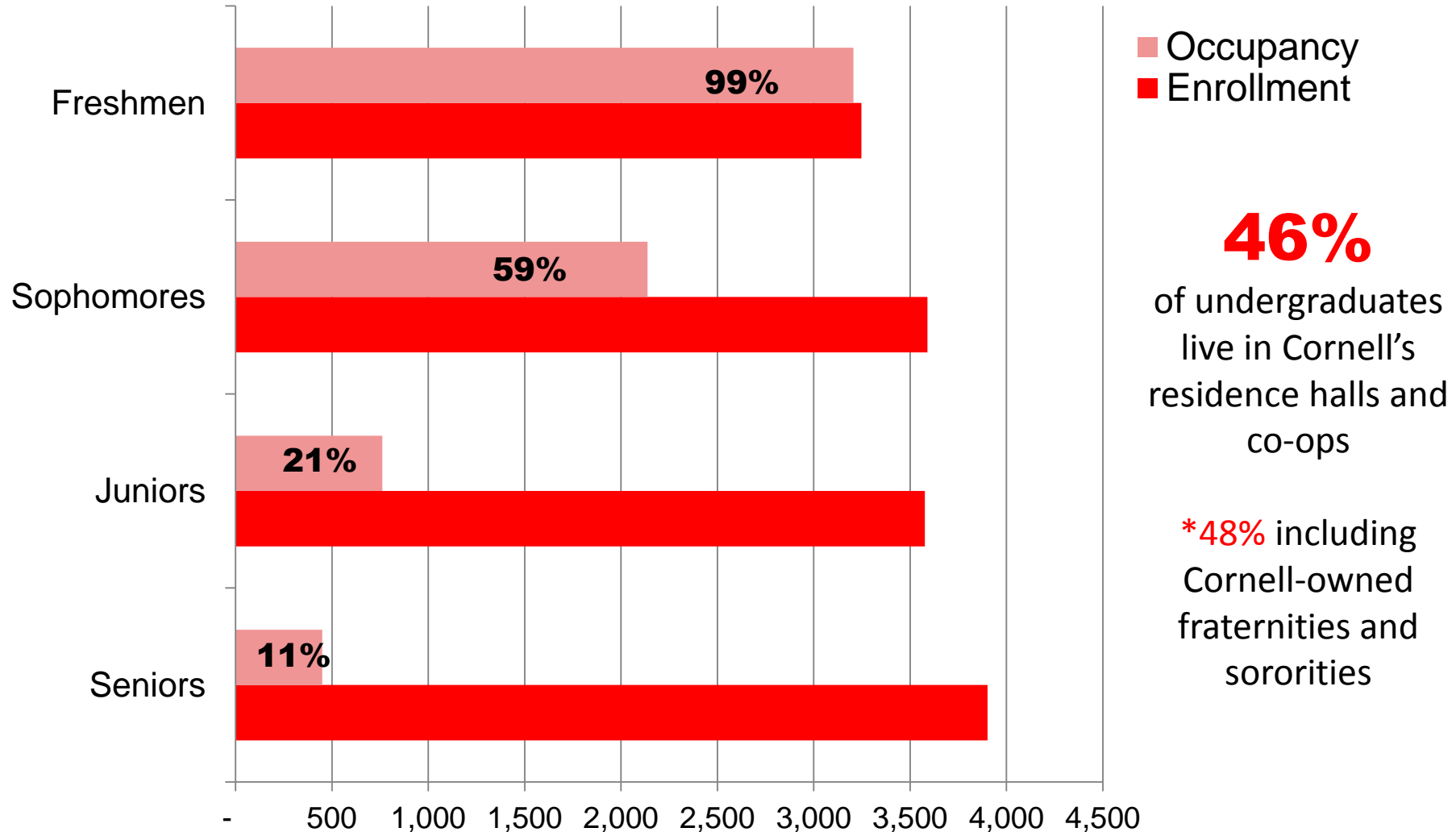
Framing the Problem

- Deferred Academic Investment
 - Constrained academic budgets
 - No central strategic flexibility
- Deferred Capital Investment
 - Programmatic investment – BME and CIS
 - Academic buildings – McGraw, etc/
 - Existing student housing
 - Insufficient capacity – sophomores and swing space

Student Housing

- Scope of the Problem
 - Deferred Maintenance
 - Swing Space
 - Sophomore Demand
 - Dining
 - Collegetown
- Framing the Solution
- Options
- Next Steps

Cornell-Owned Housing Occupancy Undergraduate



RESIDENTIAL DEVELOPMENTAL TRAJECTORY



- Housed in traditional residence halls on North Campus
- Centralized dining

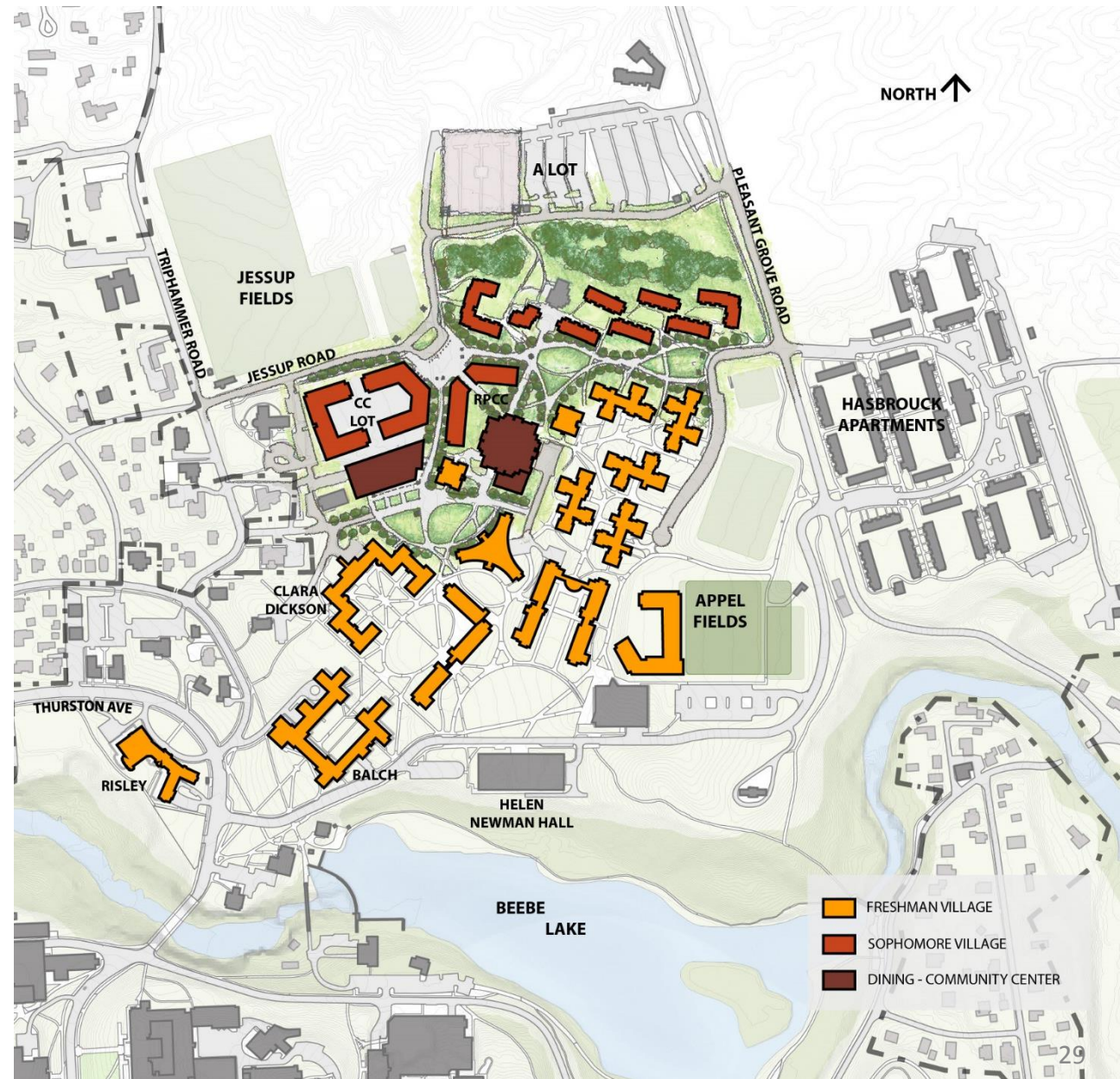
- More variety of housing options including North Campus, West Campus, Greek system, and co-ops
- Various dining options

*Accommodated in co-ops, Greek system, program houses, and West Campus as space is available

FULL IMPLEMENTATION

Cornell's Housing Master Plan:

- Creates swing space for renovations and addresses critical deferred maintenance
- Addresses sophomore housing demand to alleviate lottery tension and pressure on the local housing market
- Creates a desirable, attractive sophomore "village" on North Campus that is distinct from West Campus
- Increases capacity of dining to support student growth on North Campus



Constraint 1: Tuition Per Ugrad



	Gross UG Tuition	Aid from Unrest. Funds	% Unrest. Discount	Aid from Endow. & Gifts	Total Cornell Grant Aid	% Total Discount	Net UG Tuition	Per-student Net Tuition
FY08	\$411.5	\$79.0	19.2%	\$34.1	\$113.1	27%	\$332.5	\$24,011
FY09	\$445.3	\$111.3	25.0%	\$35.2	\$146.5	33%	\$334.0	\$24,125
FY10	\$470.4	\$111.8	23.8%	\$67.4	\$179.2	38%	\$358.6	\$25,741
FY11	\$496.1	\$138.1	27.8%	\$66.3	\$204.4	41%	\$358.0	\$25,690
FY12	\$531.4	\$145.1	27.3%	\$79.0	\$224.1	42%	\$386.3	\$27,270
FY13	\$561.6	\$161.7	28.8%	\$76.6	\$238.3	42%	\$399.9	\$28,038
FY14	\$592.7	\$155.1	26.2%	\$78.3	\$233.4	39%	\$437.6	\$30,437
FY15	\$623.2	\$196.5	31.5%	\$38.6	\$235.1	38%	\$426.7	\$29,523
FY16	\$644.4	\$186.8	29.0%	\$44.3	\$231.0	36%	\$457.6	\$31,966
FY17 Forecast	\$677.0	\$198.5	29.3%	\$40.8	\$239.3	35%	\$478.5	\$33,671



Constraint 2: Financial Aid Funding

Institution	% Unrestr. Grant	% Rest. Grant
Cornell	85.8%	14.2%
Northwestern	77.7%	22.3%
U. Pennsylvania	73.8%	26.2%
U. Chicago	72.5%	27.5%
Duke	67.9%	32.1%
Brown	65.5%	34.5%
Columbia	62.0%	38.0%
Dartmouth	56.1%	43.9%
Yale	46.2%	53.8%
Harvard	35.5%	64.5%
Stanford	31.2%	68.8%
MIT	20.6%	79.4%
Princeton	11.5%	88.5%

Sorted in descending order of % Unrestricted Grant

Framing the Solution

- Business as usual (tuition increases, FA policy, modest salary growth, cost constraints) is not a path to addressing challenges
- Need a responsible and creative solution that balances objectives
- Fundamental principles:
 - Do not sacrifice one type of investment for the other
 - Do not predicate building projects on future philanthropy
 - Have a solid revenue plan for commitments

General Plan

- Build residence halls to provide swing space, more sophomore capacity, and new students
- Modest enrollment will enable construction financing without constraining academics
- Student growth will come with more faculty and staff
- Growth in student body will generate funds for academic investments

Housing Plan Details

- Increase freshman intake by 250-275 students
- Couple with analysis of Gateway Course issues and efforts to decrease class size
- Initiate capital project on North campus for 1250 beds and new Dining; Complete by Fall 2020
- Renovate Balch
- Partner with others to improve Collegetown

Again: Why Increase Freshman Class?

1. Provides funds for academic investment
2. Addresses shifts in college enrollments
3. Accommodates new academic programs
4. Solves a major student life problem

Undergraduate Enrollment Growth

- Each admitting College has requested more freshmen admits
- Major College Needs
 - CAS at historic low as percentage of total and students taking more CIS and Business courses
 - Engineering added BME
 - CCB growth (Hotel and Dyson requesting more students for many years)
 - CALS growth to offset Dyson revenue loss
 - Loss of state revenue in contract colleges (ILR and HE requesting more students)

Potential Downsides

- Potential drop in USN&WR Rankings
- Class size increases
- Exacerbate gateway course issues
- Potential downgrade of bond rating

Undergraduate Enrollment Growth

Possible USWNR Rankings Impact

<u>Factors Impacted by Enrollment</u>	<u>% of Ranking</u>
○ Expenditures Per Student	10%
○ Class size	8%
○ Student to Faculty Ratio	<u>1%</u>
	19%

Discussions to Date

1. Fall '15: Leadership discussions on deferred maintenance and housing; Discussions with **UFC and FPC**; U3 Consulting engaged for student housing master plan; Provost's Capital Planning Committee established to prioritize deferred maintenance projects
2. Spring '16: BoT discussion of academic and facilities challenges
3. Summer '16: Leadership discusses preliminary master plan report. President, Exec. VP, Provost, VP-SCL, VP B&P aligned
4. September '16: Discussion with BoT, Executive Committee, and Finance Committee Chairs; **UFC Discussion**; Joint meeting of Finance and Executive Committee of BoT. 2.5 hr discussion - recommendation to go forward with full plan
5. October-November '16: U3 Final report; Presentation to Deans – agreement on scale of student increase; Presentation to Academic Affairs and Student Life; **Presentation to Full Board; Faculty Senate; SA; UA; GPSA**

Components of Proposed Overall Solution

○ Academic

- Achieve academic program investment
- Grow revenues in the Colleges

○ Capital

- Investment in repairing academic buildings/classrooms
- Program investment – BME, CIS
- New student housing
- Renovations of existing residence halls
- Work on Collegetown (safety and affordability)

\$300M Faculty Initiative Campaign

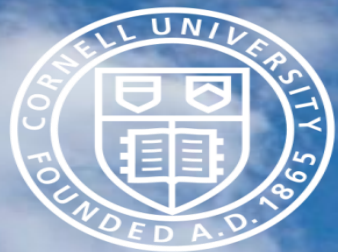
- Tight focus on faculty needs
- Grow the endowment
- Unite campuses around a common cause
- Explore challenge feasibility
- Hunter launches and successor completes
- Anticipate next comprehensive campaign

Trustee-Related Next Steps

1. Discussions with BoT Regarding New Debt
2. Discussions with New President
3. BoT Approve Capital Plan
4. Initiate Capital Plan
5. Initiate Campaign – Investing in Faculty

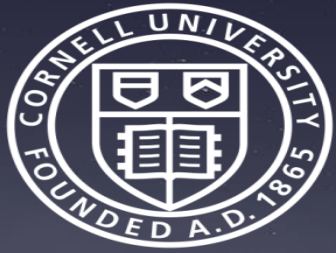
Faculty-Related Next Steps

- Work with curriculum committees on liberal education and gateway courses strategies
- On Provost task force identify priorities for academic buildings and classroom investments
- BME, BS&CB, and CIS faculty work on plans for new and growing programs
- On Task Forces identify opportunities to recruit outstanding faculty in multi-disciplinary initiatives



Questions?





Instructional Space Scheduling Policy

Faculty Senate

November 9, 2016



We have enough classroom space—in theory

- Classroom space (seats) exceeds total need
- Room assignments and class meeting patterns reflect flexibility given to units to customize scheduling and respond to faculty preferences
- Pinch points exist—and will become more common

Why the squeeze?

- Growing overall enrollment
- Growing enrollments in “gateway” and other desired classes (e.g., CIS)
- Increasing student access across programs (e.g., CCB)
- Increasing demand in geographic focus areas (e.g., BME classes on the Ag Quad)

Current scheduling practices cause frustration for:

- Students:
 - 263 known student conflicts in Fall 2015
 - “Known conflict” = approved exemption to be in two classes at the same time
 - Actual level of “discouragement” unknown
- Faculty
 - Sometimes unable to find suitable classroom within short walking distance
- Administrative staff
 - Time devoted to customized solutions
- Deans
 - E.G. CIS requires a special meeting with central administrators just to schedule its large course

College	Students w/Exemption*
AG	56
AR	7
AS	42
EN	131
HA	10
HE	16
IL	1
Total	263

New Classroom Scheduling Policy designed to improve:

1. Opportunities for students (access to classes)
 - Facilitating any person/any study – place where students have more flexibility
2. Fair access to classrooms for faculty
3. Stewardship of resources
 - Space/rooms
 - Equipment
 - Technical support staff
 - Administrative staff associated with room scheduling activities

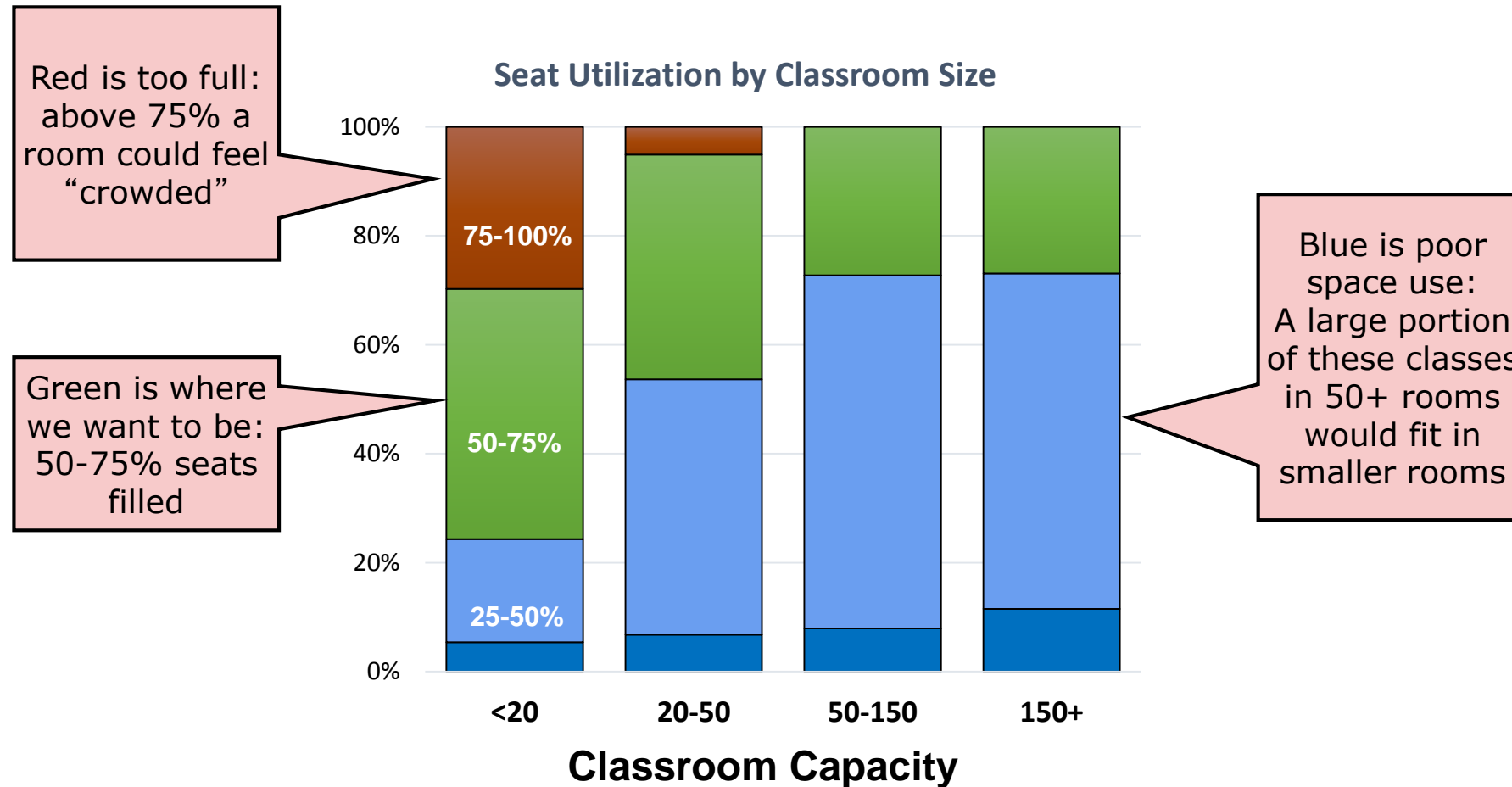
. . . through meeting 3 objectives

Objective 1: Reduce conflicts created by strange class times and periods

- Enhance adherence to faculty-approved start and end times
 - I.e., 50 min or 75 min periods at 9:05, 10:10, etc.
 - Better scheduling “fits”
 - Higher resource utilization
- Currently 7.6% of students in seats with non-standard class times. This adds up to 6532 student-seats.
- *[note: approved meeting pattern policy was last updated in 1981, and may not reflect current preferences. But we are not proposing to revisit that.]*

Objective 2: Assign classrooms that are right sized

- Strive for 50-75% seats full across all rooms and all classes



Objective 3: Use the whole day

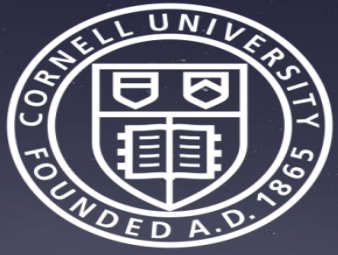
Block	Classes that start at	Current Class Distribution	NEW Targeted Distribution
1	9:05 am or earlier	17%	> 20%
2	10:10 to 11:40 am	38%	< 30%
3	12:20 or 1:25 pm	28%	< 30%
4	2:00 pm or later	19%	> 20%

New Policy: Class Scheduling Order

- Schedule largest classes first
- Schedule Foundation classes next
- Schedule the remainder of classes, based on
 - Enrollments (largest to smallest)
 - Meeting frequency (most to least)
- Schedule exemptions last
 - Laboratory, studio, field study, independent study, research, and clinic classes
 - Classes held in rooms other than classrooms

Where we are, and next steps

- Where we are:
 - Policy drafted in discussion with University Registrar and Associate Deans
 - Discussed by EPC of Faculty Senate in November 2013, with consensus to approve
 - Open for discussion today
- Next:
 - Pending comments from Senate, return to Associate Deans for vote into action



Thank You!

