Hixon Center *for* Urban Ecology

Forging University-Municipality Partnerships Toward Urban Sustainability

FRIDAY, OCTOBER 13, 2017 | YALE UNIVERSITY

CONFERENCE REPORT

Over 100 participants gathered in Burke Auditorium. Photo credit: Matthew Garrett

On October 13, 2017, Yale University and the City of New Haven, Connecticut, co-hosted the conference, "Forging University-Municipality Partnerships Toward Urban Sustainability," to explore ways in which universities and their host cities are working together on sustainability projects and programs. Cities are epicenters of opportunity—where the transfer of goods and ideas allows people to obtain social, economic, and political power. With Earth's urban population rapidly increasing, university-municipal partnerships are an optimal pathway to create policy and infrastructure that reflect principles of sustainable development. This conference, organized by the Yale Hixon Center for Urban Ecology and the Yale Office of Sustainability, brought together 29 speakers from cities across the United States and Canada to share their city-university, or "town-gown," partnership experiences in the areas of stormwater and flood management, transportation, and climate action. These city-university panelist groups discussed how they created successful partnerships and how their successes and lessons could be applied more broadly.

The genesis of these partnerships is often overlooked by stakeholders hoping to implement new projects because procedural information is not always highlighted in project reporting. This report showcases the town-gown partnerships presented at the conference through the lens of these key procedural themes. For each key theme, the report identifies several exemplary partnerships to demonstrate how, despite differences, there are shared lessons learned. This report highlights the diversity of these partnerships and how universities and cities can collaborate to enhance urban sustainability.

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LEADERSHIP

The conference began with a panel consisting of city and university leadership: Toni Harp, Mayor of New Haven, Connecticut; Peter Salovey, President of Yale University; Paul Soglin, Mayor of Madison, Wisconsin; and, Charles Hoslet, Vice Chancellor for University Relations at the University of Wisconsin-Madison. The panel was moderated by Indy Burke, Dean of the Yale School of Forestry and Environmental Studies.

Mayor Harp, President Salovey, Mayor Soglin, Vice Chancellor Hoslet, and Dean Burke. Photo credit: Matthew Garrett

The leadership panel focused on the importance of town-gown partnerships for both the university and city community, especially around issues of sustainability and climate change. Panelists highlighted the need for clear communication between stakeholders, the importance of being a good neighbor, and the mutual benefits that can be gained when these partnerships are successful and sustained. As Mayor Soglin stated at the beginning of his remarks, "you cannot get to sustainability until you achieve the proper relationship between the town and the gown."

Mayor Harp and President Salovey expressed their commitment to working together to address climate issues in New Haven, especially given the city's coastal perch and the increasing threat of severe storms and rising sea levels. They both emphasized the importance of collaboration. Although Yale and New Haven are small actors in the global community; when the university and city form partnerships, they can be exemplars of best practices for the country and the world. President Salovey discussed the joint identity that faculty and staff have as members of the Yale and New Haven communities and, accordingly, how Yale strives to be a "good neighbor" in its host city.

Mayor Soglin emphasized the importance of community engagement for an effective planning process. The City of Madison and the University of Wisconsin-Madison have implemented a number of successful projects and believe that this success was due in part to the larger community engagement in this process. The university has a commitment to creating gateways for students, faculty, and staff to engage with the broader Madison community. Vice Chancellor Hoslet identified this interconnected work with the city as part of "the Wisconsin Idea." He also emphasized the university's commitment to working with other town-gown partnerships to create best practices for effective collaboration.

Both examples demonstrate how committed city and university leadership can create a town-gown partnership that goes beyond a single project and instead becomes a framework for many projects. As commented by Dean Burke, "there is enormous potential for cities to be sites of creativity, economic development, and social and community wellbeing." Certainly, committed leadership at the city and the university can move town-gown partnerships toward achieving this potential.

BUILDING A CULTURE OF PARTNERSHIP

There is no one-size-fits-all approach or blueprint to achieve a high level of collaboration between cities and universities. Rather, each pair of representatives at the conference built a relationship to address its communities' specific needs.

Establishing a Partnership

"It just takes two" to form a partnership. Representatives within each partnership discussed a spectrum of participant interactions, ranging from a small group of passionate individuals to fully institutionalized components of a university or city. Each of the presentations showed that success is not dependent on size or funding, but on building committed relationships.

The partnership developed between the City of Birmingham and the University of Alabama at Birmingham (UAB) exemplifies how a successful partnership can be the result

of two people's desire to solve an issue that was negatively impacting the community. The city stormwater specialist reached out to a UAB professor for assistance with failing stormwater inlet lids, and the two have been working together to test different models to identify an inlet lid that will offer the best design to effectively serve the needs of the community.

Birmingham & University of Alabama at Birmingham
Direcus Cooper and Brian Pillay | Stormwater Panel

The UAB and City of Birmingham partnership developed after the city stormwater specialist reached out to a UAB engineering professor to request assistance regarding failing stormwater inlet lids. Both the city and university worked together on one task that was impacting the community: creating a stormwater inlet lid that would not break and obstruct stormwater flow. They are currently testing multiple UAB designed stormwater inlet lids to see which one will perform best given the city's needs.

The City of Davis and the University of California-Davis demonstrate how passionate student interest can bring the city and university together. While it is a large operation providing public transit to the entire city, Unitrans – a bus service partnership – has only 17 full-time employees; 92% of all staff are part-time undergraduate students, resulting in a highly effective operating model. Decisions regarding funding and planning are made by the Unitrans Advisory Committee, made up of students, and city and university representatives, in coordination with the Davis City Council and UC Davis Student Senate.

UBC students and City of Vancouver staff working together.
Photo credit: Brad Badelt and Victoria Smith

Davis & University of California Davis
Brian Abbanat and Jeff Flynn | Transportation Panel

The City of Davis and UC Davis have demonstrated a long-term commitment to alternative modes of transportation, which is reflected in their thriving bike culture and successful transit systems. Unitrans, a bus service partnership between the city and university, uses a unique labor and service model to serve students and residents of Davis alike. A student fee referendum passed in 1989 provided fare-free service to all UC Davis undergraduate students, which has maximized the level of transit service reaching the community.

The City of Vancouver and the University of British Columbia (UBC) have an institutionalized partnership that formed over the past decade which has allowed them to collaborate on many projects. The Greenest City Scholar program is one such program under this partnership. The GC Scholar program provides paid internships for UBC graduate students to work with city staff on sustainability

Vancouver & University of British Columbia
Brad Badelt and Victoria Smith | Climate Action Panel

The City of Vancouver and the University of British Columbia have a long history of sustainability and have been working together for over 10 years on various research projects and programs, including efforts to plan for sea level rise and communications work around green buildings retrofits. Two ongoing town-gown projects are the Greenest City Scholar program and CityStudio. These projects provide a unique opportunity for students to learn from city staff and allow the city to tackle projects that they would not otherwise have the resources to do.

projects. UBC also participates in CityStudio, an innovation hub that creates opportunities for city staff and students from local universities and colleges to work together on sustainability projects. Both the city and the university see these collaborations as vital components of their work.

Stakeholder Consultation

Throughout the conference, panelists discussed the need for ongoing stakeholder engagement once a working partnership between a university and its host city is formed. Stakeholder groups can ensure effective town-gown program development, foster a diversity of opinions, and help to build support for projects. While many of the town-gown partnerships from the conference engaged a wide variety of actors, the stakeholder consultation processes in Ann Arbor and Providence highlight how coordinated and thoughtful engagement bring knowledge and expertise.

In 2012, when the University of Michigan launched the Great Lakes Adaptation Assessment for Cities (GLAA-C) initiative, a project within the Great Lakes Integrated Sciences and Assessments program, it was clear that efforts were needed to bring a variety of stakeholders together. Over three years, GLAA-C held 22 engagement events throughout the Great Lakes region where university personnel presented climate data to city staff and discussed how this changed the way services need to be provided in the city. These events fostered collaboration and enabled researchers at the university and members of city government to tell a more informed story about the local impacts of a changing climate. The stakeholder consultations facilitated by this town-gown partnership not only helped to bolster the work of the GLAA-C initiative and build the foundation for a sustaining partnership, but it also served as a platform for engaging additional actors in the future.

Ann Arbor & University of Michigan
Matthew Naud and Jenna Jorns | Climate Action Panel

In 2012, the City of Ann Arbor and the University of Michigan partnered on the Great Lakes Adaptation Assessment for Cities. This project had the goal of advancing climate adaptation planning in small and mid-sized cities in the region. Through this partnership, the project developed city-specific climate fact sheets; the Great Lakes Climate and Demographic Atlas; the Cities Impacts and Adaptation Tool; and had a variety of unplanned positive outcomes including the creation of a safe space for open and honest dialogue between university and city personnel, and the creation of the Great Lakes Climate Adaptation Network.

Brown University and the City of Providence provide another example of the benefits of stakeholder consultations. In 2013, the city was granted federal funding for the development of a streetcar system that would connect the city's downtown with hospitals and universities in the area. After local financing and support for the streetcar project did not come to fruition, the city was forced to ask: what are the most important areas that we need to connect to and how

can we do it with less cost, more efficiently? After working with community members and the statewide transit agency, the streetcar project transformed to an enhanced bus and bike share project. The bus system that is now planned in place of the streetcar project will serve a greater segment of Providence's community with a budget that is one-seventh of the capital cost of the proposed streetcar project. The city, the transit agency, and Brown have simultaneously been working to develop a bikeshare program that will complement the enhanced bus project, to be implemented in summer 2018.

Providence & Brown University
Martina Haggerty and Al Dahlberg | Transportation Panel

Providence has made significant accomplishments in reshaping their urban form to become less car-oriented and more conducive to multi-modal transportation. The removal of a highway that bisected downtown and parking lots that covered the riverfront primed the city for new mobility options, including a 1.35 mile improved bus spine through downtown Providence. In the coming years, the city and Brown University plan to make significant investments in biking infrastructure to enhance connectivity from campus to downtown. In addition, a partnership with Social Bicycles will bring bike sharing to the city and campus community.

Formal Agreements

In many cases highlighted at the conference, formal agreements were a helpful tool to build a successful partnership, as they offer a secure pathway for developing short- and long-term projects. Formal agreements help to build leadership support and relay a heightened level of commitment to the partnership, thereby encouraging increased involvement by university and city personnel as well as the host community. Formal agreements can be designed in many ways; however, the most common one used and presented by panelists was a memorandum of understanding (MOU) between a city and university. The City of Vancouver and University of British Columbia signed an MOU in 2010 that enables the city and UBC to work together on the goal of being the greenest city in the world by 2020.

Another example of a formal agreement that has benefited partnership development is the Cambridge Compact for a Sustainable Future. In 2013, the presidents of the Massachusetts Institute of Technology and Harvard University joined the mayor of Cambridge to sign a written declaration jointly recognizing that climate change as a crisis. All three entities formally committed to working on this issue together. The panelists representing MIT and the city felt that the Cambridge Compact provided a foundation for additional projects as well as leadership support for collaboration.

Cambridge & Massachusetts Institute of Technology
John Bolduc and Brian Goldberg | Stormwater Panel

MIT and the City of Cambridge have a long history of working together, but solidified their partnership surrounding climate action in 2013 with the Cambridge Compact. Since the Compact was signed, the city and university have worked together on several projects including convening climate modelers from the region to discuss a range of current and future projections of sea level rise and storm surges and hosting climate risk and planning sessions for residents and business owners.

The Madison Metro town-gown partnership between the City of Madison and the University of Wisconsin-Madison displays another formal agreement that helped foster a sustainable partnership. Over 25 years ago, the city and university established a Transit Service Agreement that aligned services through the university campus and the city. By combining bus services, students, staff, faculty, and community residents have fully embraced Metro

Transit as a transportation system. The Transit Service Agreement establishes a unique pass system that controls cost. This cost-sharing agreement took eighteen months to negotiate, but has allowed the intricacies of funding, service, and project planning to be coordinated effectively.

Madison & University of Wisconsin-Madison
Charles Kamp and Rob Kennedy | Transportation Panel

The City of Madison and University of Wisconsin developed a partnership to operate Madison Metro Transit, a popular bus system with high ridership. As a space-constrained city with limited parking, buses have become an important mobility mode. Madison Metro has invested in bus transit by constructing sheltered bus stops, launching a fleet of hybrid-electric busses, and extending service boundaries throughout Madison. Madison Metro has also developed plans to construct a satellite garage and maintenance facility.

FUNDING

Project funding is a primary concern for all town-gown partners. Universities, government, and foundations were highlighted as traditional sources for project financing. Even with contributions from these sources, it is often necessary for cities and universities to pursue alternative methods of funding to supplement or substitute traditional funding structures.

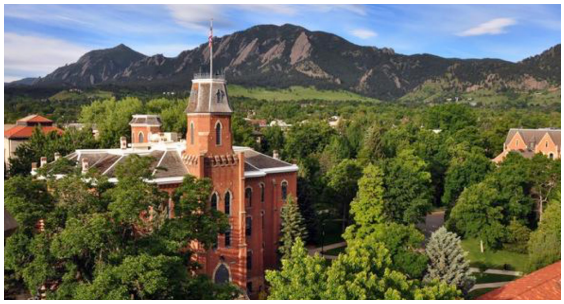
The unique business model and funding structure that the City of Davis and University of California-Davis (UC-Davis) use to operate their bus system has allowed them to quadruple service. In 1989, UC-Davis students voted to implement a fee on themselves of $11 per month to operate Unitrans. This fee covers 50% of the operating cost for Unitrans, with the next largest portion of funding coming from state and federal sources through the city. Ninety percent of riders are students and student interns compose 92% of Unitrans staff, which has proven to be a cost effective operating model. The result is a bus system with very high ridership that serves students and residents of Davis alike. As the state of California transitions to an increased minimum wage of $15 per hour, the operations budget will face new strain. Considering that the monthly student tax is set at a flat rate, Unitrans will need to find ways to continue operating at the same scale while using its current budget, such as forming new partnerships with private sector employers.

Similarly, the University of Wisconsin (UW) and City of Madison combined forces to ensure that service operations remain funded for the Madison Metro Transit. Students are charged a fee with their tuition to fund the bus pass program, and the university uses campus parking fees to fund university bus service. Together with funds from the city, Madison Metro Transit is available to residents of Madison and the UW community as a joint bus system. In addition to these sources, the city and university jointly applied for a federal Transportation Investment Generating Economic Recovery (TIGER) grant to fund infrastructure improvements. The university campus has a parking space for only one in every eight people, necessitating alternatives to automobile use for commuters. Following a long-term trend of increased bus ridership, there has been a recent decline due to overcrowding and artificially low gas prices. The city plans to build a new electric-powered bus facility that will increase bus capacity, centralize maintenance, and eventually meet passenger demand for additional service routes.

The City of Providence has also leveraged federal funds to increase the number of people using sustainable modes of transportation. The city obtained a $13 Million TIGER grant for a streetcar system that was abandoned, but was able to repurpose a portion of the grant for bus shelters and infrastructure for a bike sharing program. This public-private partnership with Social Bicycles, a company that provides 15,000 bikes across 40 markets worldwide, will provide the community with a fleet of 400 bicycles to expand mobility options around the city including from Brown's main campus to locations downtown and the medical campus. The city has also committed to installing $10 million in high-quality bike infrastructure over the next few years.

Government agencies can also provide funding to city-university projects. The University of Colorado Boulder (CU Boulder) and City of Boulder resilient microgrid project is being financed through a partnership with the National Renewable Energy Laboratory. They are working together to design, build, and operate a microgrid system that will power adjacent buildings and ultimately connect to CU Boulder's existing microgrid. The funding partners are also working together to evaluate how this microgrid will help make the campus and city more resilient during power outages.

Boulder & University of Colorado Boulder
Jonathan Koehn and David Kang | Climate Action Panel



The City of Boulder and the University of Colorado Boulder are collaborating on multiple projects that build community resilience. They are currently working on a microgrid project that will expand the university's 32-megawatt microgrid to increase energy resilience and reliability and support the aim of ensuring the mission of the university can go on in a changing climate. The city and the university have a deeply embedded fabric of sustainability that frames their work and long-standing relationship. They are working together with a goal to be a leader in sustainability and resilience.

Funding from private foundations has also provided town-gown partners with the necessary means to implement their projects. The Great Lakes Integrated Sciences & Assessments (GLISA) program is a partnership between University of Michigan and Michigan State University. GLISA is a broker of climate information and helps cities produce a framework to make informed decisions to adapt to climate change. GLISA is broadly supported by the National Oceanic and Atmospheric Administration, while several of its specific initiatives obtain funding from other sources in the private sector. For example, the Great Lakes Adaptation Assessment for Cities initiative was jointly funded by the Kresge Foundation and the University of Michigan Graham Sustainability Institute, which provided the City of Ann Arbor with funding to assess the impacts of climate change in the region.

Similarly, Carnegie Mellon University (CMU) utilizes funding from a range of university endowments and foundation funding to support projects in Pittsburgh. A portion of funds from the Richard King Mellon Foundation was set aside by the founder of the university for CMU programs that assist Pittsburgh. The city is a member of the 100 Resilient Cities program; it contributes the money received from the Rockefeller Foundation for that program to implement projects with CMU.

Pittsburgh & Carnegie Mellon University
Grant Ervin and Anna Siefken | Stormwater Panel

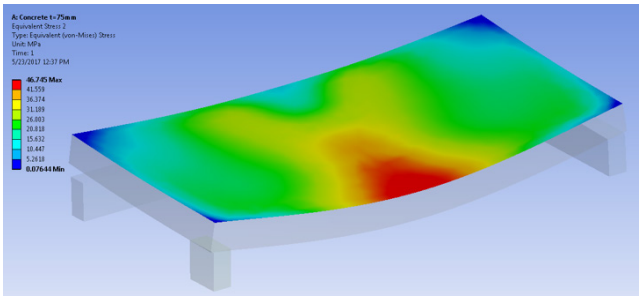
The Metro21 partnership was started in 2014 through a memorandum of understanding between CMU and the City of Pittsburgh with the goal of utilizing university resources to improve quality of life in the Pittsburgh region. CMU has expanded the reach of this project by creating the MetroLab partnership, which brings together 34 town-gown partnerships that are focused on sharing and creating innovative solutions to challenges—including stormwater and flooding issues—in urban areas throughout the United States.

MUTUAL BENEFITS

Town-gown partnerships are successfully sustained when there are benefits for all actors. In turn, mutually beneficial collaboration can bring data and technical capabilities together and leverage the expertise of partners.

Technical Expertise

The University of Alabama at Birmingham (UAB) and City of Birmingham both benefited from their stormwater inlet project by capitalizing on each other's complementary strengths. The city was able to utilize UAB's engineering expertise and design capabilities to create a durable inlet lid that met the needs of the city and community and that utilized local manufacturing and recycled waste (as seen below). UAB was able to use this project as a real-world opportunity for students, allowing them to work on a project that impacts their local community.



UAB Inlet-lid Stress Contour Map. Photo credit: Brian Pillay

Similarly, Vancouver's partnership with UBC provides a unique professional development opportunity for the students, while at the same time the city receives an influx of excited, passionate thinkers who want to contribute to Vancouver's sustainability and climate goals. Since its inception, 27 former Greenest City Scholars have been hired by the city and continue to strengthen the link with the university.

The University of Colorado Boulder and City of Boulder resilient microgrid project serves as another example of mutual benefits of a healthy town-gown relationship. Both the city and the university recognize the importance of partnerships and the benefits they can provide to the community with different actors bringing distinct skills. For this project, the city and university are collaborating with the National Renewable Energy Laboratory on the technical components but are also working to involve researchers and other interested stakeholders. Representatives from both the city and the university are writing letters of support for a faculty member's research proposal that will incorporate the microgrid.

Data Sharing

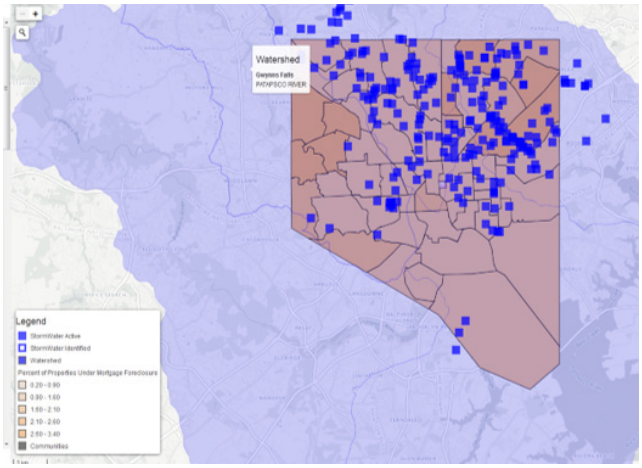
Cities and universities can both benefit from data and analysis exchanges. Frequently, cities do not have sufficient capacity for advanced data analysis, and researchers are often looking to analyze city data. An exchange of resources can be mutually beneficial for both parties, as highlighted by many panelists throughout the conference. The University of Baltimore Neighborhood Indicators Alliance utilized the data collected by the City of Baltimore for its Vital Signs Indicator analysis. In partnership with the Alliance, the city created a comprehensive Watershed 263 project which increased the effectiveness of storm-

Baltimore & University of Baltimore

Kimberly Grove and Nancy Jones | Stormwater Panel

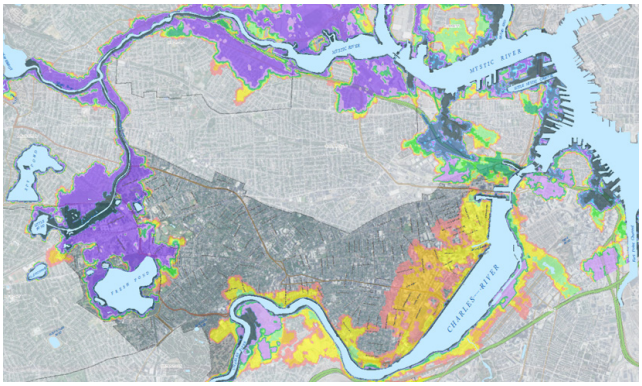
The City of Baltimore and the University of Baltimore Neighborhood Indicators Alliance started working together in 2000 after a multi-year/multi-stakeholder planning process which ultimately created the Watershed 263 Project in 2004. This partnership was initiated because the city had a federal requirement and desire to increase city water quality by better managing stormwater runoff for its communities, and the university had an interest in growing its Vital Signs project to incorporate more indicators and to improve community spaces throughout the city. The project has led to increased tree cover and permeable soils, cleaner vacant lots, and has generally improved the sustainability of local communities.

water project planning and implementation. Citizens of Baltimore also benefited from this exchange, as they are able to use this analysis to prioritize sites for stormwater infrastructure.



Baltimore stormwater and watershed indicators map. Photo credit: Nancy Jones

Similarly, the City of Cambridge developed a Climate Vulnerability Assessment in partnership with MIT and other stakeholders. MIT utilized the data from this plan to develop its own Campus Resiliency Framework that is modelling campus resiliency – based on site systems, utilities, buildings, and people – and is providing additional modelling to enhance understanding of storm surge and rainfall probabilities within the city. In turn, these findings will enable both MIT and the city to better understand near and long-term flooding that is most likely to occur so that they can effectively plan and educate their communities. Cambridge and MIT will be co-hosting a hurricane planning event to help communities and businesses explore collective challenges and opportunities for continuing business and research in the face of climate disruptions.



Map of City of Cambridge 2070 Storm Surge Risks (assuming 3.4 feet sea level rise). Photo credit: John Bolduc

Additional examples of the importance of data sharing came from Minneapolis and Providence. The City of Minneapolis has an ongoing partnership with the Humphrey School of Public Affairs and the Minnesota Traffic Observatory to evaluate bikeway projects. Providence made use of pedestrian and bicycle trip data to inform effective transit planning.

EQUITY

Equity is at the core of all successful town-gown partnerships. City-university partners should seek involvement from a diverse range of stakeholders and work to establish respect among collaborators. The most successful partnerships leverage community input throughout program planning, development, and implementation. It can take a significant amount of time to build mutual respect between stakeholders, but it is important that all parties are actively working on building a positive interdependence. Over a quarter of South Bend, Indiana's population lives below the federal poverty line, which has made equity an integral part of their town-gown partnership with the University of Notre Dame. Historically, the university and city had a disconnected relationship – faculty and students rarely interacted with residents of South Bend. However, this trend has shifted as Notre Dame has begun working with the city to pilot new technologies and plan more inclusive public spaces. As a result of this partnership, South Bend is one of the first cities in the United States to install a smart sewer system, which was developed by Notre Dame faculty. Moreover, the city and university have combined forces to revitalize Seitz Park, which is a popular community space for special events and community gatherings.

Social equity is a key component of urban resilience. The City of Baltimore's partnership with the University of Baltimore began with a multi-step process that first asked community members where change was needed, and then used a tool developed by the university's Neighborhood Indicators Alliance to identify priorities in areas such as stormwater management. Ultimately, this project will increase equity by creating greater community awareness and stewardship, improving water quality and environmental conditions, and enhancing community parks and open spaces.

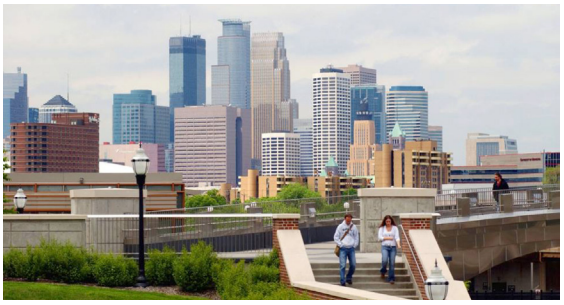
South Bend & University of Notre Dame
Therese Dorau | Climate Action Panel

The City of South Bend and the University of Notre Dame have partnered on a hydroelectric generation project that will be operated by the university on the city-owned dam. The new hydroelectric generation facility is being financed by the university, and is expected to generate 2.25 megawatts of energy for the university (approximately 7 percent of the university load) and offset 11,710 megatons of carbon dioxide. As a part of the lease from the city, the university will pay $1 million for restoration of Seitz Park. This partnership allowed a long-underutilized city asset to be developed into a clean energy producer for the university and supported the reimagining of a community focal point.

Pittsburgh has also leveraged its partnership with Carnegie Mellon University to create more connections between the university and city communities through the MetroLab and Metro21 programs. As Anna Siefken, Associate Director for Innovation and Strategic Partnerships at CMU's Wilton E. Scott Institute for Energy Innovation stated during the conference, "If it's not for everyone, then it's not for Pittsburgh." Each Metro21 project addresses the "four Ps'" of project development—people, place, planet, and performance—and utilizes associated metrics to determine project effectiveness. These projects all include a public engagement component to ensure they fit the needs of Pittsburgh citizens.

The City of Madison and University of Wisconsin-Madison also consider issues of equity within their region. As a city-owned transit system, Metro Transit has not had the means to serve the periphery of Madison and its outer suburbs, despite many requests from these communities. In Madison, people of color and socioeconomically disadvantaged individuals often live on the outer limits of the city; Madison Metro Transit has recognized that a lack of bus service has prevented people in these communities from reaching jobs and other resources. Metro Transit sees value in working with the state legislature and private sector to address mobility in these communities. Shifting from a city-owned transit system to a regional transit authority has the potential to greatly extend service to underrepresented communities.

Minneapolis & University of Minnesota
Simon Blenski and Steve Sanders | Transportation Panel

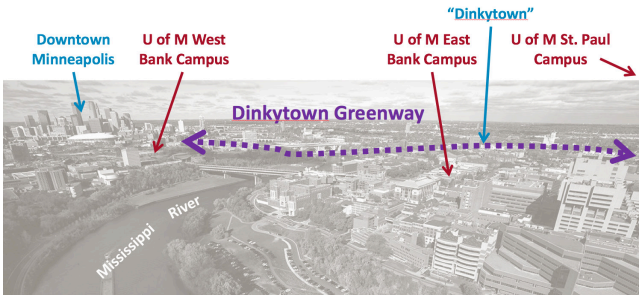


The City of Minneapolis and University of Minnesota found that collaborating on bike infrastructure improvement projects has produced a city more conducive to cycling, despite the frigid winters. Campus parking revenues of around $40 million per year go toward funding sustainable transportation projects, such as the Dinkytown Greenway that stretches from downtown to the University of Minnesota campuses. Improvements to bike corridors have involved the university, city, and other government agencies. These partnerships have also facilitated the approval process for a new 2.6 mile protected bike lane, planned for 2019.

PARTNERING WITH PATIENT URGENCY

Throughout the conference, panelists repeated that building a successful town-gown partnership is a slow and iterative process. Although partnership-building requires great patience, the effects on the community can be transformative.

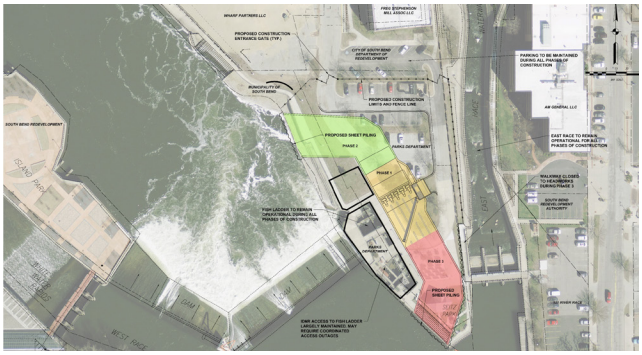
Representatives from the City of Minneapolis and the University of Minnesota highlighted their method of working on a project in pieces. The recent completion of the Dinkytown Greenway highlights the importance of "just starting somewhere" to make infrastructure improvements. Since 1994, there have been several proposals and iterations of the Dinkytown Greenway to expand cycling connectivity across the city and University of Minnesota campus. The university campus generates $41 million a year in parking fees that goes toward funding infrastructure improvement projects. Though they face challenges such as multi-jurisdictional streets in popular biking corridors and lengthy project approval processes, these problems have not discouraged the city and university from pursuing infrastructure improvements.



Map of the Dinkytown Greenway. Photo credit: Simon Blenski

The City of South Bend and the University of Notre Dame also demonstrated patience in building their urban sustainability partnership. South Bend has held a federal allowance to generate hydropower from the city-owned dam since 1984, but has faced logistical, legal, and financial challenges with the dam for years. In 2015, Notre Dame expressed interest in partnering with the city on the project to enhance renewable energy efforts. The university and the city have reached an agreement for a 50-year lease that gives the university rights to construct and operate a hydroelectric generation facility on the dam and gives the city funding for the restoration of Seitz Park, adjacent to the dam. Notre Dame will channel water under the park through the turbine, allowing for a community re-envisioning and rebuilding of the park.

In addition to the examples above, many of the other conference panelists spoke of the perseverance it took to implement their projects. Providence's transit corridor, Boulder's microgrid, and Madison's 200 public meetings to engage in thoughtful transit planning, among other projects, demonstrate that patience is key for successful town-gown partnerships.



Map of planned Notre Dame Hydroelectric Generation Facility.
Photo credit: Lawson-Fisher Associates

CLOSING REMARKS

Dr. Murali Chandrashekaran, Vice Provost, International at the University of British Columbia, summarized outcomes from the day and shared thoughts on why university-municipal partnerships matter. He identified several of the key themes presented above and proposed the idea of "patient urgency" in forming partnerships to enhance urban sustainability. In closing, Dr. Chandrashekaran called on the audience to consider, "How do you go from today's problems to tomorrow's future scenarios? How can lessons be shared between Ann Arbor to Accra, Boulder to Bangkok, Cambridge to Chennai, and back again?" With the hope of bridging the knowledge gap to enable effective town-gown partnerships, this conference showcased exemplary projects and replicable town-gown processes that have the potential to facilitate the development of meaningful partnerships worldwide.

Climate Action Panel. Photo credit: Matthew Garrett

What's Next?

There was a sense throughout the conference that universities and cities should not only be working with and sharing ideas within their own town-gown partnerships, but that they should also reach out and connect with others. By learning from other partnerships, cities and universities can implement best practices from the start of a project, allowing for streamlined planning processes and efficient use of resources.

There were several initiatives discussed during the conference that have set out to facilitate this sharing of information. As was discussed above, the MetroLab partnership brings together over thirty town-gown partnerships that are focused on sharing and creating innovative solutions to challenges surrounding metro areas throughout the United States. Additionally, organizations such as the Global Network for Advanced Management and the Urban Sustainability Directors Network also convene universities and cities, respectively, around the pressing issues that impact global communities.

The Tsai Center for Innovative Thinking at Yale (CITY) Net-Zero Action Group is a new initiative that strives to connect university students with local and global communities to tackle net-zero projects using innovative ideas and partnerships. During the conference, the Net-Zero Action Group asked audience members to react and engage in the conference topic areas through a series of breakout sessions and held an Action Social at the close of the conference. The Action Social was designed to connect community leaders and students to spur innovative partnerships and ideas surrounding net-zero and town-gown relationships. In the coming months, the Tsai CITY Net-Zero Action Group will work with these newly formed partnerships to create projects focusing on how net-zero activities can be incorporated into town-gown relationships.

As more communities discover the benefits of university-municipality partnerships, it will become easier for others to emulate the processes of collaboration that lead to positive change. Communities of the future will be challenged with climate change, stormwater management, and transportation issues, but these partnerships offer a pathway to explore innovative approaches and identify solutions. Cities and universities can work together to ensure the long-term resilience of their shared communities.

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