UNIVERSITY OF MINNESOTA
Driven to Discover℠

PUBLIC ENGAGEMENT IMPACT HIGHLIGHTS PART 2

Addressing Minnesota's Grand Challenges

Winter 2020

Compiled by the Office for Public Engagement

ARTS

Since 2005, the UMN Department of Landscape Architecture has partnered with Juxtaposition Arts to bring racial equity to the forefront of the design professions and to support high-quality design experiences for youth in North Minneapolis. In 2019, a group of interdisciplinary projects involving Youth Participatory Action Research and a follow-up simulation project addressed issues of housing evictions and public space issues in North Minneapolis.

U of M Leader: Kristine Miller, professor, Department of Landscape Architecture

External Partner: Juxtaposition Arts

In 2019, Itasca Biological Station and Labs introduced Big River Continuum, a rural art-science initiative developed in collaboration with Tulane University an artists' exchange program between river headwaters and the delta. The Itasca station led to integration of this type of engagement in another new initiative, the Science in Nature series, engaging Itasca State Park visitors with science and scientists via existing park programming avenues.

U of M Leader: Jonathan Shilling, professor, Department of Plant and Microbial Biology

External Partner: Minnesota Department of Natural Resources

BUSINESS

The Economic Development Association University Center, H&S Manufacturing, and University of Minnesota, Crookston business lecturer, Courtney Bergman, partnered to engage UMC students in developing a marketing plan for H&S Manufacturing. H&S is a leader in manufacturing beet carts and sprayers. Marketing is rapidly changing and is a crucial aspect to growth; H&S will utilize the plan developed by the students this coming fiscal year.

U of M Leaders: Courtney Bergman, lecturer, Business Department; Economic Development Association University Center

External Partner: H&S Manufacturing

Myles Shaver collaborated with the Minnesota Business Partnership to explore the results from research on the Minneapolis-St Paul headquarters economy. Partners discussed potential policy and corporate actions to enhance regional talent attraction efforts.

U of M Leader: Myles Shaver, professor, Department of Strategic Management and Entrepreneurship

External Partner: Minnesota Business Partnership

Using the power of design thinking, faculty and students in the College of Design provided retail business design workshops for rural retailers in Minnesota and assisted as design consultants to

solve unique, specific problems individual rural retailers face. They also created a knowledge base for rural retail revitalization and developed a best practice guide for local economic development staff to use to duplicate these efforts with the help of U of M Extension.

U of M Leaders: Hye-Young Kim, associate professor, Department of Design, Housing, and Apparel; Hyunjoo Im, associate professor, Department of Design, Housing, and Apparel; Jacqueline Parr, undergraduate student, College of Design; Peggy Lord, teaching specialist, Department of Design, Housing, and Apparel; Jaye Thompson, lecturer, Department of Design, Housing, and Apparel

External Partner: Kandiyohi County; City of Willmar Economic Development Commission

CHILD WELL-BEING

In partnership with multiple stakeholders serving the local autism community, a psychosocial intervention for adolescents with autism spectrum disorder was developed that relies on the expertise and experience of autistic adults to deliver a strengths-based one-to-one mentoring program in an after-school setting. Results show high uptake, acceptability, and engagement, as well as improved socio-emotional health and social connectedness of both adolescents and adults with autism.

U of M Leaders: Lindsey Weiler, assistant professor, Department of Family Social Science; Rebekah Hudock, assistant professor, Department of Pediatrics

External Partners: Emily Goldberg, Autism Mentorship Program; Autism Society of Minnesota; Bloomington Public Schools; Minnesota Independence College and Community

Twenty-six percent of children currently live with a single parent. Divorce and separation contribute, along with other adverse childhood experiences, lead to poor health outcomes such as depression and suicide attempts. Parents Forever is an Extension program that has been a vital parenting education program for Minnesota's parents since 1994. It reaches parents through referrals from court systems concerned about the effects of contentious divorce situations. Parents consistently show strong impacts with over 90% reporting they have created co-parenting strategies, encouraged their child to spend time with the other parent; and never or seldom talk badly about the other parent.

U of M Leader: University of Minnesota Extension Center for Family Development

External Partner: Minnesota Supreme Court

By linking data from multiple systems throughout the state, the Minnesota Linking Information for Kids (Minn-LInK) project provides a more complete picture of the effects of policies, programs, and practice on the well-being of children in Minnesota, including some of the most vulnerable children and families served in our public systems. Since 2003, researchers at Minn-LInK have been on the cutting-edge of using integrated, administrative data, coached and mentored researchers from a variety of disciplines, and made data accessible for the evaluation of programs and policies that support child and family well-being; these efforts have resulted in knowledge that informs policy development, program reforms, training, and practice change and impacts tens of thousands of children and family members statewide each year.

U of M Leaders: Traci LaLiberte, executive director, Center for Advanced Studies in Child Welfare;

Kristine Piescher, director of research and evaluation, Center for Advanced Studies in Child Welfare

External Partners: Minnesota Departments of Education, Human Services, and Corrections; State Court Administrators Office; Institute for Community Alliances; local government and non-profit agencies

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The Hennepin-University Partnership connected teams from the College of Education and Human Development and Hennepin County Health and Human Services to conduct research focused on increasing access to Early Developmental Screenings and Early Interventions, as well as pilot a program hiring parent navigators to support family engagement, increase screening and referral rates, connect with community partners, and identify reasons why families choose or decline early intervention services. The team of County staff and University researchers are currently working together and have hired parent navigators from immigrant and Indigenous communities to build relationships, coordinate early screening efforts, and collect data in conjunction with Hennepin Healthcare (formerly HCMC), Minneapolis Public Schools, and Hennepin County.

U of M Leader: Jennifer Hall-Lande, coordinator, Institute on Community Integration

External Partner: Hennepin County Maternal and Child Health

COMMUNITY SUPPORT

During the 2019-2020 school year MSW students provided over 144,000 hours of service to 205 community social service agencies, hospitals, schools, county child welfare units, and state and federal agencies, including the Department of Human Services and the Veterans administration. They have provided meaningful service and expanded agency capacity to serve individuals families and groups across the lifespan, as well as working on the policy and administrative levels, and engaging with communities to organize around issues of concern, including housing, gun violence and racism.

U of M Leader: MJ Gilbert, director of field instruction, School of Social Work

External Partners: 205 Minnesota social service and community organizations

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The Morris Intercultural Education Initiative, run by UMM's Office of Community Engagement, provides training and support for community members and students who wish to ensure that Latinx community members have equal access to lifelong educational resources. The initiative includes ongoing community-engaged research to assess community needs and programs; volunteer interpretation and translation; English classes; bilingual discussion group; bilingual educational efforts aimed at improving school readiness, school engagement and success; development of social skills; and community-engaged learning classes working with the Morris Public Library and community leaders to establish and improve programs. Six faculty, 212 student and community volunteers, 302 Latinx community members, and 12 community organizations were involved in the 2018-2019 academic year.

U of M Leader: Office of Community Engagement, University of Minnesota, Morris

External Partners: Morris Area School District; Lazos; Morris Area Community Education and Recreation; Minnesota Literacy Council; Latina Support and Friendship Group

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University of Minnesota Advanced Careers Initiative brings experienced Minnesotans back to campus for a gap year; engages them on projects in social enterprises, nonprofits, and government; and leverages their experience to build capacity in the social sector. Fellows have mentored new social entrepreneurs (e.g., Finnovation Fellows), amplified visibility (e.g., Initiative Foundation of Little Falls), managed projects (e.g., Second Harvest Heartland, Be the Match), and assisted with strategic planning (e.g. City of Red Wing, Experience Corps).

U of M Leader: University of Minnesota Advanced Careers Initiative

External Partners: Nonprofit organizations, businesses, and government entities throughout Minnesota

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The University of Minnesota Informatics Institute (UMII) helps researchers across the State by providing data analytics consulting services and funding opportunities. UMII has helped researchers study the pig intestinal microbiome and its implication in early detection of poor health in herds. It has also helped conserve the environment by collaborating with researchers who are uncovering the effects of climate change on the soil microbiome, an important factor in agriculture. UMII has also helped in countless projects in the health space, helping researchers to make sense of genome sequencing data for Salmonella outbreaks, cytomegalovirus, and different kinds of cancer, among many others.

U of M Leader: University of Minnesota Informatics Institute

External Partners: Various

CRIMINAL JUSTICE

The Hennepin-University Partnership funded a collaborative research study that examined whether probation conditions are aligned with evidence-based risk-needs-responsivity principles, whether assessments done prior to sentencing influence condition-setting, and whether there are differences by race or judge in the assignment of probation condition. Findings provide clear policy recommendations and promote evidence-based correction practices and efficiency in allocating scarce resources to ensure community safety and probationer success.

U of M Leader: Kelly Mitchell, executive director, Robina Institute of Criminal Law and Criminal Justice

External Partner: Hennepin County Community Corrections and Rehabilitation

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A partnership with Hennepin County Community Corrections and Rehabilitation, hired, trained, and guided six youth researchers, all students or recent graduates of the Pathways to Success program, to document, evaluate, and deeply understand the Pathways philosophy and practice from a youth perspective. The team completed a mixed-methods qualitative inquiry, documenting the essential elements of the program and providing results and recommendations to program leaders and staff, in order to inform and improve the fields of juvenile justice and education in Hennepin County.

U of M Leader: Katie Johnston-Goodstar, associate professor, School of Social Work

External Partner: Hennepin County Community Corrections and Rehabilitation

ECONOMIC DEVELOPMENT

Myles Shaver, professor at the Carlson School of Management, joined the Economic Advisory Council of the Minnesota Chamber of Commerce Foundation to bring expertise on the Minneapolis-St Paul headquarters economy and help shape "Minnesota 2030." Minnesota 2030 is the Chamber's assessment of the future of the Minnesota economy building to public policy and business strategy recommendations.

U of M Leader: Myles Shaver, professor, Department of Strategic Management and Entrepreneurship

External Partner: Minnesota Chamber of Commerce

Extension's community economics team analyzed economies and inform local community and economic development decisions. Examples of community outcomes resulting from the applied research: 1) a community moved forward with a priority project; 2) a community used the report to communicate the impact of programs to stakeholders or legislators; 3) the report influenced the size and scale of economic development projects chosen; 4) the program created more support for local arts; 5) the report helped them make the case for additional funds; and 6) the education inspired the community to host a series of workshops about business succession for business owners nearing retirement.

U of M Leader: Extension Center for Community Vitality

External Partners: Various

The exhibit, "Beverley Oliver Hawkins and Nieeta Presley: Influential St. Paul Developers," showcased the impact of two powerful, hard-working, mission-driven African-American developers who influenced economic development and affordable housing along Saint Paul's East Central Corridor. This exhibition was presented in the Goldstein Museum of Design's HGA Galleries from September 7–December 1, 2019 and was donated to the developers for installation in the community.

U of M Leaders: Lyn Bruin, professor, Department of Design, Housing, and Apparels; Lin Nelson-Mayson, director, Goldstein Museum of Design

External Partners: Beverley Oliver Hawkins, Model Cities; Nieeta Presley, Aurora/St. Anthony Neighborhood Development Corporation

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Forever Green Initiative (FGI) and the Regional Sustainable Development Partnerships (RSDP) have actively supported the commercialization of midwest hybrid hazelnuts through research, outreach, education and market and supply chain development. Through RSDP and FGI efforts in partnership with growers, researchers and industry leaders, hybrid hazelnuts acres are expanding across the Upper Midwest and the supply of this new oilseed crop continues to grow. Today, consumers can purchase midwest hybrid hazelnut oil from their local coop, enjoy pastries and breads made from hazelnut flour and soon, use a chocolate hazelnut spread to make a delicious treat.

U of M Leader: Regional Sustainable Development Partnerships

External Partners: Hazelnut producers

EQUITY

Partnering with Hennepin County, an inter-disciplinary team of U of M researchers has documented the extensive health concerns and health disparities among adults on community supervision in the county. The team presented its findings to county leadership and is currently working to develop and implement best practices to close these health disparities.

U of M Leaders: Michelle Phelps, associate professor, Department of Sociology; Rebecca Shlafer, assistant professor, Department of Pediatrics; Tyler Winkelman, assistant professor, Department of Pediatrics; Kelly Mitchell, executive director, Robina Institute of Criminal Law and Criminal Justice; Rachel Hardeman, assistant professor, Division of Health Policy and Management; Aaron Sojourner, associate professor, Department of Work and Organizations

External Partner: Hennepin County

Through active collaborations to advance health equity, the Program in Health Disparities Research continues to connect the University of Minnesota with the Minnesota Department of Health and Department of Human Services to convene health equity practitioners and leaders throughout the state. The impact of these collaborations increase alignment, understanding, and action around health equity priorities, initiatives and activities.

U of M Leaders: Michele Allen, associate professor, Department of Family Medicine and Community Health

External Partners: Minnesota Department of Health; Minnesota Department of Human Services

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The College of Science and Engineering offers Discover STEM, a week-long science, technology, engineering, and mathematics (STEM) summer day camp program to increase Minnesota's educational equity. Two thirds of Discover STEM's participants go on to apply to the University of Minnesota.

U of M Leaders: Kelsi Klaers, assistant director of outreach, College of Science and Engineering Student Services

External Partner: 3M

FOOD

As consumption of fresh produce has increased, the number of foodborne illness outbreaks associated with fresh produce has also steadily increased, and have been deadly in some cases. In 2018, the food safety team conducted ten workshops covering "Good Agricultural Practices" and food safety for small to mid-sized farmers. After the workshop, there was an increase the percentage of attendees that said they would create a basic beginning written food safety plan, and 100% said they were likely to implement at least one change on their farm to improve food safety; e.g., food washing stations, worker training, record keeping systems, and cleaning and sanitizing harvest and storage containers.

U of M Leader: University of Minnesota Extension

External Partner: Minnesota farmers

The SuperShelf initiative is a collaborative partnership of four partners that has resulted in the transformation over 30 food shelves across the

state to create welcoming environments for communities to access appealing, healthy food. The U of M intervention team is leading the transformations and the U of M research team is conducting an NIH-funded evaluation of the health impact of this work.

U of M Leaders: Caitlin Caspi, assistant professor, Department of Family Medicine and Community Health; University of Minnesota Extension

External Partners: Valley Outreach Food Shelf; The Food Group; HealthPartners

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Barry Kudrowitz, faculty in the College of Design, is exploring means of reducing vegetable waste on farms through collaborating with Hmong farmers at the Hmong American Farmers Association (HAFA) Farm in Vermillion Township, as well as local chefs in the Twin Cities.

U of M Leaders: Barry Kudrowitz, associate professor, Department of Design, Housing, and Apparel; Sunmin (May) Hwang, graduate student, College of Design

Community Partner: Hmong American Farmers Association; Twin Cities chefs

HEALTH

U of M researchers worked to decrease unnecessary healthcare utilization by improving the response to adult intimate partner violence (IPV) in an adult outpatient setting. Using an organizational intervention approach, the project instituted evidence-based IPV screening and counseling in 37 primary and specialty clinics (more than 96,000 patients were screened for IPV between 2016–2019); provided basic and/or advanced IPV training to over 1,900 healthcare professionals; and routinized care coordination between providers and community partners.

U of M Leader: Lynette Renner, associate professor, School of Social Work

External Partner: Fairview Clinics and Surgery Center

Together with an advisory group of stakeholders from industry and persons with sensory loss, scientists and students the Center for Applied and Translational Sensory Science (CATSS) are developing and testing new sensory aids for vision, hearing, and balance disorders. Students and faculty from medicine, engineering, kinesiology, neuroscience and the liberal arts engage with larger groups of stakeholders at the State Fair to identify the most critical needs of persons who live with sensory loss.

U of M Leaders: Peggy Nelson, executive director, Center for Applied and Translational Sensory Science' Gordon Legge, scientific co-director, Center for Applied and Translational Sensory Science; Andrew Oxenham, scientific co-director, Center for Applied and Translational Sensory Science

External partners: Hearing Loss Association of Twin Cities; Vision Loss Resources; 3M; multiple regional hearing aid companies

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The Annual Conference on Native American Nutrition, a partnership between the University of Minnesota Healthy Foods, Healthy Lives Institute and the Shakopee Mdewakanton Sioux Community, attracted over 550 attendees from 38 states, 5 Canadian provinces, Central and South America, and Oceania. The conference showcased the best of Indigenous and academic knowledge on the food and nutrition of Indigenous Peoples, and brought together Native (representing dozens of tribes) and non-Native academics, practitioners, health educators, and tribal, non-profit and government leaders, to build ongoing research, education, and practice collaborations with the goal of improving Native American nutrition.

U of M Leader: Mindy Kurzer, professor, Department of Food Science and Nutrition and director, Healthy Foods, Healthy Lives Institute

External Partner: Shakopee Mdewakanton Sioux Community

Sponsored by the National Institutes of Health's National Institute of Nursing Research, the Ready Steady research project was launched in 2017, and will be completed in 2022. The project includes four different versions of the Ready Steady course, each one consisting of a standard activity program, the use of a Fitbit, and different promotional strategies aimed at encouraging older adults to engage regularly in fall-reducing physical activity. Courses are held in different community-partner locations.

U of M Leaders: Siobhan McMahon, associate professor, School of Nursing; Robert J. Jones Urban Research and Outreach-Engagement Center

External Partners: Sabathani Senior Center; West 7th Community Center; Volunteers of America; Minneapolis Community Education; North Market (North Minneapolis)

To date, the Minnesota Cancer Clinical Trials Network has enrolled 359 Minnesotans on clinical trials at 19 sites throughout Greater Minnesota. In 2020, an additional seven sites will bring access to cancer clinical trials in prevention and treatment throughout our state to improve cancer outcomes for all Minnesotans. Without this network, Minnesota's cancer patients otherwise would have not had access to these cutting edge clinical trials.

U of M Leader: Douglas Yee, professor and director, Masonic Cancer Center

External Partner: Minnesota Cancer Alliance

HORTICULTURE

University of Minnesota, Crookston students designed pollinator gardens as part of the Landscape Design class for the City of Hallock. Each student took a different area of the city to design gardens that would enhance the area and attract pollinators. The City of Hallock used the plans to plant a pollinator garden in Centennial Park. Food production and farming rely on healthy native pollinators like bees, wasps, ants, and butterflies.

U of M Leader: Eric Castle, associate professor, Agriculture and Natural Resources Department

External Partner: City of Hallock

Gardens and green space in communities and homes promote healthy landscapes, healthy foods and healthier lives. While green spaces are gaining popularity in American culture, the skills to create and sustain green spaces are no longer a fundamental skill acquired in homes and schools. Extension recruits and trains Master Gardeners in every corner of the state to address this gap and bring education to local gardeners. Yearly, these volunteers provide over 140,000 hours of service across Minnesota. In 2018, local programs nurtured 247 community gardens, 82 school-based gardens. Eight local programs assisted with 27 Habitat for Humanity projects. Groups donated 114,598 pounds of produce to food banks. Eleven groups maintained or installed 29 rain gardens and 27 groups installed or maintained 51 pollinator gardens.

U of M Leader: University of Minnesota Extension

External Partners: Minnesota citizens

Since 2014, the Department of Landscape Architecture has worked with the Urban Farm and Garden Alliance to create, program, and maintain a network of community gardens in the Frogtown and Rondo neighborhoods of St. Paul and to provide racial healing training to U of M design students and alum.

U of M Leader: Kristine Miller, professor, Department of Landscape Architecture

External Partner: Urban Farm and Garden Alliance

K-12 EDUCATION

Kyla Wahlstrom, lecturer in the College of Education and Human Development, in partnership with the U of M Medical School and the U of M's Department of Epidemiology, have created ongoing collaborations with more than 40 school districts across Minnesota as districts seek to initiate later school start times. This team's research into later start times has revealed that later starts have significant positive academic, physical and mental health outcomes for adolescents, as teen sleep deprivation is now seen as a serious public health threat across the US.

U of M Leaders: Kyla Wahlstrom, lecturer, Department of Organizational Leadership, Policy and Development; Conrad Iber, professor, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine; Rachel Widome, associate professor, Division of Epidemiology and Community Health

External Partners (sample) : Wayzata Public Schools; Buffalo Public Schools; Rogers Public Schools; Minneapolis Public Schools; St. Paul Public Schools; South Washington County Public Schools; Rosemount-Apple Valley-Eagan Public Schools; Moorhead Public Schools; Northfield Public Schools; Stillwater Public Schools

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Through a partnership with Bruce Vento Elementary School in St Paul, a calming room, teacher sanctuary, family style dining hall and parent room were implemented in the school to build community and create a trauma sensitive environment. The Bruce Vento Model is being implemented in other school districts in Minneapolis St Paul.

U of M Leaders: Abimbola Asojo, professor, Department of Interior Design; Judy Myers, educator, University of Minnesota Extension

External Partner: Scott Masini, principal, Bruce Vento Elementary School

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The College of Education and Human Development's Multiple Pathways to Teaching office has two programs that are working to increase teachers of color and bilingual teachers in Minnesota through partnering with metropolitan area districts and schools - the Minnesota Grow Your Own Teachers program (MNGOT) and the Dual Language and Immersion Licensure program (DLI-L). Of the 66 currently-enrolled students in the two programs, 47% of the students are people of color and 53% are bilingual.

U of M Leader: Laura Mogelson, director, Multiple Pathways to Teaching

External Partners: Minnesota school districts

Partnering with St. Paul Public Schools and SoLaHmo Partnership for Health and Wellness, Project TRUST trained students to implement participatory action research projects in their schools focused on identifying policies or practices to increase student-school connectedness. Outcomes included student researchers training teachers on how to create better relationships with their students and development of more student-responsive in school suspension processes.

U of M Leaders: Michele Allen, associate professor, Department of Family Medicine and Community Health; Martha Bigelow, professor, Department of Curriculum and Instruction; Geoff Maruyam, professor, Department of Educational Psychology; Catherine Squires, professor, Department of Communication Studies

External Partners: SoLaHmo Partnership for Health and Wellness; St. Paul Public Schools

LOCAL GOVERNMENT

Apparel Design faculty engaged with local fire departments and national organizations to improve turnout gear through hand and body scanning research.

U of M Leaders: Linsey Griffin, assistant professor, Department of Design, Housing, and Apparel

External Partners: Women in Fire; Roseville Fire Department; Richfield Fire Department; St. Anthony Village Fire Department; Chaska Fire Department; Chanhassen Fire Department; Orlando (FL) Fire Department

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Partnering with Hennepin County Department of Corrections and Community Rehabilitation, with BWBR Architects, with the University Research and Outreach-Engagement Center (UROC), and with community members from Northside Minneapolis, an architectural design class explored issues relating to juvenile incarceration. The students' designs for such facilities as teen centers, community centers, mental health facilities, post-high school job training and transition facilities, and small treatment-oriented group homes demonstrated ways to reduce and prevent youth incarceration.

U of M Leader: Julia Robinson, School of Architecture; Robert J. Jones University Research Outreach-Engagement Center

External Partners: Angela Cousins; Hennepin County Department of Corrections and Community Rehabilitation; Daniel Treinen, BWBR Architects; Northside residents

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An interdisciplinary team developed a tool to inform sustainable design practices in state funded buildings. The internet-based questionnaire called Sustainable Post Occupancy Evaluation (SPOES) provides both quantitative and qualitative analysis of building occupants' satisfaction, health, and wellbeing via several indoor environmental quality (IEQ) categories. Since 2009, SPOES has provided business and building owners, architects, interior designers, and facility managers of over 60 state-funded workplace, classroom and residence hall buildings IEQ scores of occupants' satisfaction to help them better engage building occupants and bring employee health and wellbeing to the forefront of their practices.

U of M Leaders: Abimbola Asojo, professor, Department of Interior Design; Denise Guerin, professor, Department of Design, Housing, and Apparel; Caren Martin, associate professor emerita, Department of Interior Design; Richard Graves, associate professor, School of Architecture

External Partners: Jessica Burdette, energy regulation and planning manager, Minnesota Department of Commerce; Gordon Christofferson, construction project operations manager, Minnesota Department of Administration; LHB Architects

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The Hennepin-University Partnership recruited 240 University of Minnesota students, of whom twenty-five percent were enrolled in a graduate program and more than half were undergraduate upperclassmen, to process absentee ballots for the 2018 midterm election. Student volunteers collectively provided nearly 1,500 hours of volunteer time after completing a training on the evolution of absentee voting in Minnesota created by Professor Doug Chapin of the Humphrey School of Public Affairs.

U of M Leader: Hennepin-University Partnership

External Partner: Hennepin County Elections

RURAL

The Center for Small Towns at UMM partnered with the City of Pine City to develop and issue a survey to determine the needs and wants of the community for a potential community and recreation center. The survey showed that an overwhelming majority (84%) believed the community and fitness center are needed in Pine City. The survey illustrated the demand in the area for this type of amenity and allowed Pine City to solicit other cities and townships to consider partnering to construct a regional facility.

U of M Leader: Center for Small Towns

External Partner: City of Pine City

Minnesota Design Futures Pilot Projects, led by College of Design faculty through funding support from the Minnesota Legislature, has worked with the communities of Grand Meadow, Wabasha, and Spring Grove to help position rural Minnesota communities for a 21st-century future.

U of M Leaders: Tom Fisher, professor, School of Architecture; Mary Vogel, senior research fellow, Minnesota Design Center

Externa; Partners: City of Grand Meadow; City of Wabasha; City of Spring Grove

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Research aimed at developing easy-to-use, clothing-integrated wearable technologies to support the health and wellbeing of individuals in rural communities. The goal is to provide a new set of deployable tools to better serve the broader Minnesota community, many of whom live in rural areas.

U of M Leader: Brad Holschuh, assistant professor, Department of Apparel Design and co-director, Wearable Technology Laboratory

External Partner: Minnesota Agriculture Experience Station

The Rural Physician Associate Program addresses workforce needs and has a direct impact on the health of Minnesota communities across the state as well as the education of future physicians. Out of 1,500 program graduates since 1971, 75% are in primary care, over two-thirds practice in Minnesota, over 40% serve rural communities, and 60% have become educational preceptors for future students.

U of M Leader: Rural Physician Associate Program

External Partners: statewide rural communities

SUSTAINABILITY

The Natural Resources Research Institute (NRRI) has been a longtime partner of social enterprises in Minneapolis and Bemidji that provide job skills, safety training, and a paycheck to workers who dismantle old buildings to save valuable materials for recycling and resale. NRRI is now partnering with St. Louis County on a pilot project to deconstruct tax-forfeited properties. Compared to demolition, deconstruction of a building can divert more than 85 percent of the materials harvested and offset 103 tons of carbon dioxide per house on average.

U of M Leader: Natural Resources Research Institute

External Partner: St. Louis County

The Morris Model Team continues to advance sustainability progress in west-central Minnesota. With support from West Central Initiative, the Team released a new Morris Model Strategic Plan in fall 2018. The Plan was unveiled to a crowd of 100 people at a community meeting and electric car show in June 2019. U of M-Morris, in collaboration with the City of Morris, the West Central Research and Outreach Center, Stevens County, Morris Area Schools, and several community partners developed the Plan, which advances shared sustainability aspirations in the community around energy conservation, clean energy, waste management, and resilience education. These efforts are in partnership with the Institute on the Environment's Climate Smart Municipalities program.

U of M Leader: Troy Goodnough, sustainability director, University of Minnesota, Morris; West Central Research and Outreach Center; Center for Small Towns

External Partners: City of Morris, Stevens County

Minnesota's energy supply is not as clean, efficient, reliable and affordable as it could be. Clean Energy Resource Teams (CERTs) at Extension work with Minnesota communities to connect them to resources, research-based information, and networks that advance clean energy projects. A 2018 study showed that a total of $45.8 billion BTUs in annual energy savings or renewable energy was offset by CERTs programs. This is enough to heat 574 Minnesota homes or power electricity for 1,465 homes annually. This energy savings amount is the result of 2,620 new household or institutional changes that significantly save or offset energy use.

U of M Leader: Clean Energy Resource Teams (CERTs), University of Minnesota Extension

External Partners: Great Plains Institute; Southwest Regional Development Commission; Minnesota Department of Commerce

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Since 2012, University of Minnesota, Crookston faculty and staff oversee the Red River Valley's Monitoring Avian Productivity and Survival Programs (MAPS) station. MAPS is a network of stations that capture, band, and re-capture breeding birds at over 1,200 location in North American in an effort to assist with the conservation of birds and their habitats. The station has logged over 1,800 captures of 54 species.

U of M Leaders: John Loegering, professor, Natural Resources Department; Lisa Loegering, regional director, Northwest Regional Office, University of Minnesota Extension; Laura Bell, lab services coordinator, Natural Resources Department

External Partners: Jeff Bell, instructor, Northland Community and Technical College; Red River Valley Natural History Area; The Institute for Bird Populations

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In 2019, the Extension Regional Sustainable Development Partnerships supported 135 community-driven sustainability projects in 88 cities, towns and Native nations across Greater Minnesota. These projects engaged 278 community partners and 126 University of Minnesota partners in supporting clean energy, sustainable agriculture and food systems, natural resources and resilient community life across our rural communities. Fifty-one University of Minnesota students worked on these projects.

U of M Leader: Regional Sustainable Development Partnerships

External Partners: outstate communities

TRAINING

During 2018-2019, The Institute for Global Studies offered professional development for K-12 and community college educators during 9 single day workshops and 2 weeklong institutes out of which 13 curriculum units were developed and shared online. 312 educators from 82 K-12 Minnesota schools and 5 community colleges attended these professional development activities designed to internationalize curriculum.

U of M Leader: Deborah Jane, outreach coordinator, Institute for Global Studies

External Partners: K-12 teachers

As part of the Agricultural Education, Communication & Marketing program, which helps students, educators and professionals better share science concepts and stories, Troy McKay and Rebecca Swenson launched a digital platform with K-12 educational resources. The program includes lesson plans, podcasts, virtual field trips, and a video library with stories on topics including women in agriculture, winter life of insects, microbes, and food and culture. In January 2020, immersive workshops or short-form presentations were held for 97 teachers to demonstrate how to best implement these resources.

U of M Leaders: Rebecca Swenson, associate professor, Agricultural Education, Communication, & Marketing Division; Troy McKay, instructor, Agricultural Education, Communication, & Marketing Division

External Partners: Minnesota K-12 teachers and other science educators

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Through interdisciplinary training, the Institute on Community Integration's Leadership Education in Neurodevelopmental and Related Disabilities (LEND) program gives new leaders in Minnesota the knowledge to understand and better support individuals with autism and related neurodevelopmental disabilities. LEND has trained more than 125 fellows from racially, ethnically, and linguistically diverse backgrounds across 16 academic disciplines.

U of M Leaders: Institute on Community Integration staff; Department of Educational Psychology; Department of Pediatrics; Department of Speech, Language and Hearing Sciences

External Partners: Neurodevelopment professionals

Almost 300 Minnesotans, from high schoolers through retirees, took part in the six-session mini Medical School focused on cancer. From basic concepts through clinical research and survivorship, Masonic Cancer Center faculty presented their research, how it impacts Minnesotans and how their scholarship is reducing cancer's impact on Minnesota.

U of M Leaders: Christopher Pennell, associate professor, Department of Laboratory Medicine and Pathology and associate director for community outreach and engagement, Masonic Cancer Center; Jakub Tolar, vice president for clinical affairs

TRANSPORTATION

The University's Center for Transportation Studies convened a two-day strategic visioning workshop focused on defining and advancing a common agenda for the deployment of automated vehicles (AVs) in Minnesota. Representatives from across the public, private, academic, and nonprofit sectors engaged in interactive discussions and small group working sessions to identify and prioritize strategies. The workshop's summary document, featuring an action agenda, is being used by groups, including MnDOT and the Governor's Advisory Council on Connected and Automated Vehicles, to help determine the direction for AVs in Minnesota.

U of M Leader: Center for Transportation Studies

External Partners: Minnesota Department of Transportation; McKnight Foundation; Metropolitan Council; Hennepin County

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The Hennepin-University Partnership established a team of University of Minnesota researchers, Hennepin County staff, and City of Minneapolis staff that submitted a proposal to the Idea Competition sponsored by MetroLab and the National Science Foundation, focused on the question, "How does a populous, urban county like Hennepin County ensure mobility and access for low-income residents in the coming era of mobility as a service, including shared autonomous vehicles?" This proposal was accepted by the competition and the team was invited to attend the Ideas Festival in Washington, D.C. in April 2019, raising the national profile of the University of Minnesota's leadership and innovation in engagement with local units of government.

U of M Leader: Hennepin-University Partnership

External Partners: Hennepin County; City of Minneapolis

The Hennepin-University Partnership worked with the Center for Transportation Studies to launch the Transitway Impacts Research Program, which recently resulted in a multi-year, collaborative project between the Humphrey School of Public Affairs and Hennepin County Community Works to explore multimodal connections between transitway stations and riders' homes and destinations, answering the questions, "How do Twin Cities transit users choose to reach transitway stations?" and "Does the quality of connections at stations affect transit use?", among others. The research team, which included graduate students, made actionable policy recommendations regarding walkability, bike access and infrastructure, and areas of high transit demand that Hennepin County will continue to use as they develop light-rail and bus rapid transit lines.

U of M Leader: Yingling Fan, professor, Humphrey School of Public Affairs

External Partner: Hennepin County Community Works

URBAN

Each year, the University's Critical Conversations discussion series connects dozens of scholars, activists, historians, artists, and community leaders in public discussions that address urban issues and ideas. Building on the Urban Research and Outreach-Engagement Center's more than 80 ongoing University-community collaborations, the series is intended as a "gathering place" for urban-focused research and dialogue on topics ranging from immigration to the urban-rural divide.

U of M Leader: Makeda Zulu-Gillespie, executive director, Robert J. Jones Urban Research and Outreach-Engagement Center

External Partners: non-profit and governmental agencies; neighborhood associations; grassroots community organizations

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For more than 50 years, the Community-University Health Care Center (CUHCC) has served the Phillips neighborhood in South Minneapolis, providing primary medical, mental health, dental care and social services to nearly 12,000 patients each year who are low-income, uninsured, speak limited English and come from traditionally marginalized racial, ethnic and gendered communities. Over the last four years, CUHCC has served more than 500 people with Medication Assisted Treatment for Opioid Use Disorder, has annually received national healthcare quality awards for exceeding clinical outcome measurements, has trained over 800 students and residents from across the health sciences, and has led a multi-unit research project to increase housing accessibility for CUHCC patients and communities.

U of MN Leader: Colleen McDonald Diouf, chief executive officer, Community-University Health Care Center

External Partners: community health centers; mental health centers; substance use disorder treatment center; social service agencies; cities; counties; state departments; tribal departments and agencies; Stinson Law Firm

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The Police and Black Men Project seeks to develop relationships of honesty and trust in semi-weekly meetings between a small group of police officers and African American men. The project will document best practices for two-way relationships of respect and collaboration between police officers and Black men.

U of M Leader: William Dougherty, professor, Department of Family Social Science; Robert J. Jones Urban Research and Outreach-Engagement Center

Community Partners: North Minneapolis residents; Minneapolis Police Department; Council for Minnesotans of African Heritage; Father's Project

WATER

Protecting the quality of our lakes and rivers is important to all Minnesotans. The Minnesota LakeBrowser provides satellite-derived water quality information for more than 10,000 lakes to state and local agencies, researchers, and citizens using models developed at the University to improve data-driven resource management.

U of M Leaders: Department of Forest Resources; Water Resources Center; U-Spatial

External Partners: Minnesota Environment and Natural Resources Trust Fund; Minnesota Pollution Control Agency; Minnesota Department of Natural Resources; Metropolitan Council

Many impaired urban waters in Minnesota are polluted by stormwater. Extension's Storm Water Research Roadmap, published in 2018, articulated major research needs to improve storm water management in Minnesota. The team provided a full report and made research recommendations. The Extension stormwater team gave multiple presentations to report their findings. As a result, research projects received a total of $1.7 million from Minnesota's Clean Water and Land Legacy Amendment, local units of government, and private businesses.

U of M Leader: Extension Center for Food, Agriculture and Natural Resources

External Partner: Minnesota Pollution Control Agency

In partnership with researchers at the University of Toronto, Phase Genomics, and the National Human Genome Research Institute, the Minnesota Supercomputing Institute and the University of Minnesota Informatics Institute staff and researchers assembled the genome of the zebra mussel, creating the highest-quality molluscan genome to date. Understanding this genome allows researchers to target specific characteristics as they develop technologies to control the mussels, which are causing billions of dollars of damage to the power-generation industry and to recreation and tourism in Minnesota, other parts of the U.S., and Europe.

U of M Leaders: University of Minnesota Informatics Institute; Minnesota Supercomputing Institute

External Partners: Phase Genomics; National Human Genome Research Institute

YOUTH

During the past two summers, the Minnesota Center for Financial and Actuarial Mathematics partnered with Mathematics Center for Educational Programs and the School of Statistics to offer summer camps focused on Machine Learning for high school students. Campers learned the basics of Machine Learning and worked on projects using Python to analyze data

from social networks, images, and other sources taken from their daily lives, and also learned from industry practitioners about various uses of Machine Learning methods.

U of M Leaders: Minnesota Center for Financial and Actuarial Mathematics; Math Center for Educational Programs

External Partners: Twin Cities school district

For over 40 years, the School of Mathematics provides one of the nation's premier accelerated math programs for secondary students. University of Minnesota Talented Youth Mathematics Program (UMTYMP) currently serves over 650 students per year, and its alumni have continued on to leading roles in academia, scientific research in industry, finance, and other fields.

U of M Leader: Math Center for Educational Programs

External Partners: Twin Cities, Rochester, and Duluth School districts

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Through her leadership of the local chapter of the National Stuttering Association, Linda Hinderscheit, a clinical educator in the Department of Speech-Language-Hearing Sciences, learned that many adults who stutter felt that they had received sub-par services as children, because the social-emotional aspects of stuttering had been ignored. Through a donation from Leo Sioris, CEO of SafetyCall International, the University of Minnesota Kids Who Stutter camp has successfully addressed the social-emotional needs of over 100 children who stutter and provided hands-on education to over 50 graduate students in speech-language pathology since its inception in 2009.

U of M Leader: Linda Hinderscheit, clinical educator, Department of Speech-Language-Hearing Sciences

External Partner: National Stuttering Association

Partnering with Girls Inc. at YWCA of Minneapolis, the College of Science and Engineering offers *Eureka!*, a month-long science, technology, engineering, and mathematics (STEM) intensive summer day camp program to increase Minnesota's educational equity. Together, the partnership has nurtured STEM interest and confidence in 125 underrepresented and underserved participants representing over 50 schools around the Twin Cities.

U of M Leader: Kelsi Klaers, assistant director of outreach, College of Science and Engineering Student Services

External Partner: Girls Inc. at YWCA Minneapolis