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Thank you for taking the time to read the progress report for the National Center for Smart Growth Research and Education.

A lot has happened in the past two years since our last progress report; I am very proud of the work produced by my dedicated team here at the Center, and the progress we’ve achieved both regionally and beyond.

The Center has had an incredibly productive two years of research. Most notable was the release of the Prospects for Regional Sustainability Tomorrow (PRESTO) report, which outlines four alternate future scenarios for the region. The report garnered a lot of attention and created a foundation for future work to identify good prospects for regional sustainability.

In 2017, we launched a new initiative that focuses on equitable development and equitable cities. Led by our new Director of Community Outreach, Willow Lung-Amam, the initiative develops tools and strategies in partnership with national housing authority Enterprise Community Partners to empower communities on a national level. In addition, our work on creating a Smart Cities plan for Baltimore, funded by a grant from the National Science Foundation, laid the groundwork for the city to employ technology thoughtfully and strategically to increase opportunity for low-income inner-city residents. Another initiative, CONNECT, which works to engage students within the communities surrounding College Park, shortly after the Maryland Transit Authority broke ground on the Purple Line Light Rail project, our four-year effort to develop an agreement with public, private, and non-profit organizations that maximizes opportunity for those who live and work along the Purple Line Corridor came to fruition with the Purple Line Community Agreement signing last fall. Congressman Jamie Raskin, County Executives Ike Leggett and Rushern Baker, President Loh, and over 200 stakeholders added their signature to the agreement.

In 2018, we continued to leverage student and faculty assets to tackle sustainability challenges in Maryland communities through tailored coursework, maintaining its place as the largest program of its kind in the nation. As a complement to PALS, Andrew Fellows launched Campus Community Connection, which works to engage students within the communities surrounding College Park. Shortly after the Maryland Transit Authority broke ground on the Purple Line Light Rail project, our four-year effort to develop an agreement with public, private, and non-profit organizations that maximizes opportunity for those who live and work along the Purple Line Corridor came to fruition with the Purple Line Community Agreement.

I am very proud of the work produced by my dedicated team here at the Center, and the progress we’ve achieved both regionally and beyond.

Under the leadership of Scott Dempwolf, The EDA center continues its work supporting economic development across the state with a particular focus on entrepreneurship and technology transfer. Based on the relationships with UM-Baltimore, NCSG opened a new office in the Lion Brothers Building in West Baltimore which will serve as the Baltimore home for the smart cities and economic development projects.

We are thrilled to welcome two new associates to the Center—Dr. Arefeh Nasri and Dr. Andrew McMillan—and were sad to say goodbye to two others this past year. Chao Liu, who most recently worked with colleague Hiro Iseki on a direct ridership model for WMATA and the MTA, relocated with her family to San Jose, CA, where she is adjunct faculty at San Jose State University.

A dedicated researcher and teacher, Chao’s enthusiasm and knowledge inspired legions of students and helped nurture them in their professional pursuits. Daniel Engleberg, who was integral to the development and launch of the PRESTO project, moved north by way of a cross-country biking trip and is now pursuing his PhD, at MIT.

Finally, this past year the State of Maryland reached a major milestone (at least in our book): the creation of a landmark strategy “The Smart Growth and Neighborhood Conservation Acts,” was signed into law 20 years ago to stem the tide of urban and suburban sprawl Maryland. We marked this moment by looking to the future. In March, Governor Larry Hogan joined us and state representatives, stakeholders, and national experts in smart growth practice to examine Maryland’s current policies and develop a plan for bringing them into the 21st century. That productive meeting will serve as a primer for further discussion next year with the Maryland Association of Counties, the Maryland Municipal League, The Maryland Department of Planning and several other stakeholders.
Coincidently, next year we’ll be gearing up for our 20th Anniversary in 2020. As we look to the future of our Center—and the future of our region—our commitment to smart and sustainable practice is more important than ever. We will continue to strengthen our legacy of advancing research, collaboration and engagement to forward smart and sustainable development throughout the state. We will work to enhance and innovate our research efforts, engage policymakers in thoughtful and effective policy making, and develop the tools and resources that empower communities and enhance quality of life.

As we move ahead, we will continue looking forward.

Dr. Gerrit–Jan Knaap
Director, National Center for Smart Growth

The National Center for Smart Growth is administered by the University of Maryland School of Architecture, Planning and Preservation with an advisory board that includes the Provost and the Deans of the Schools of Agriculture, Engineering, and Public Policy.
WHAT WE DO

TRANSPORTATION:
Guided by analytic and innovative modeling methods, we explore the complex relationships between transportation, land use, economic development and the environment to inform policy and develop strategies that reduce congestion and influence sustainable land use. Our transportation group has developed several projects this past two years to assist state agencies and metropolitan transit authorities, including a Maryland Statewide Transportation Model, direct transit ridership model, and an analysis of the Mid-Atlantic Megaregion.

LAND USE:
Land use creates ripple effects in every facet of smart growth, driving economic development, equity, environmental sustainability and transportation policy. By imagining different land use scenarios through modeling, we can see how decisions and policy related to land use could impact economic, social and environmental health. Our projects—including the scenario-planning project, PRESTO and our work through the Purple Line Corridor Coalition—arm policymakers with sustainable strategies for informed decision making.

COMMUNITY DEVELOPMENT:
Equitable, thriving communities require more than just good policy: they are built through community input, smart investment and access to opportunity. Community-centric tools—including story and opportunity mapping, public interest design, data analysis, and orchestrated outreach—complement holistic partnerships with community and regional stakeholders and policymakers to develop strategies that influence public health, workforce development, affordable housing, and opportunity. Community partnerships, including the PALS program and Campus Community Connection, leverage campus-wide resources and expertise to assist communities throughout the state.

SMART CITIES:
Harnessing “smart” technology can create sustainable, connected communities; but thoughtful, equitable employment of this tech—particularly in historically underserved areas—is paramount to a holistic vision and ensuring opportunity for all. By modeling and analyzing the urban fabric, and developing tools that amplify the community voice, our Smart Cities work helps inform policy and implementation, and empowers communities on a national scale.

INTERNATIONAL PLANNING:
Our diverse research team is actively engaged with the international community on planning and urban management issues, from affordable housing and transportation to using tools such as GIS for public interest and support. In addition, examples shared across international borders shed light on new ideas and strategies that can be put to use for the regional good.
EXPECT THE UNEXPECTED:
NEW MODELING SUITE HELPS POLICYMAKERS
PLAN FOR AN UNCERTAIN FUTURE

When Jeff Bezos founded Amazon.com in 1994 as an online bookstore, few expected that within two decades it would be the largest internet retailer in the world; transforming the shopping experience, impacting retail jobs, disrupting the shipping industry, and inclining dozens of cities to economically bend over backwards as they vie for its second headquarters.

Phenomena like Amazon’s “tech–volution”—or others, like climate change or autonomous vehicles—come with expected and unexpected consequences. They create ripple–effects on global, national and regional scales, impacting everything from economies and job creation to transit and traffic patterns. These uncertain factors—and more importantly, how regional policymakers respond to them—can result in very different futures for urban, suburban and rural communities.

This year, NCSG researchers released a landmark, five–year project that carefully analyzed the complex cause and effect of uncertain phenomena on economic, environmental, and social sustainability, outlining four possible future scenarios and how they might impact quality of life throughout the state. Called “Prospects for Regional Sustainability Tomorrow” (PRESTO), the project sets its sights on Baltimore–Washington 2040, revealing the critical relationship between uncertain factors and things like land use, transportation, housing affordability, and air quality and what each can mean for regional health and growth.
Understanding how uncertainty can impact regional sustainability and growth is critical for policymakers as they try to stay ahead of changing economies, globalization, climate change, and emerging technology. Yet in 2005, it was clear to NCSG Director Gerrit Knaap that no one was making the substantial investment needed for informed decision-making.

“We had worked with the Urban Land Institute on some community exercises that explored growth and development issues,” said Knaap. “Out of those conversations, it became clear that no organization was undertaking a serious analysis of the sustainability of the Baltimore–Washington region.”

Over the next few years, and with substantial funding by the Maryland Highway Administration, Knaap and his team of researchers at NCSG collaborated with Parsons–Brinkerhoff to develop the Maryland State Transportation Model, the first transportation model to combine the state’s two major metropolitan areas into a single, comprehensive travel model, and what would become the foundation for the PRESTO modeling suite. With additional funding and support from the Town Creek Foundation, as well as support from agencies such as the U.S. EPA, U.S. Geological Survey, National Socio-Environmental Synthesis Center and the Federal Highway Administration, more models followed, including land use, land cover, nutrient loading, and air emissions. Together, they formed a highly sophisticated, interconnected modeling suite capable of demonstrating how the region—from firms down to individual households—would respond to changes in external forces.

PRESTO’s modeling suite is one of only a handful of efforts globally to simulate future conditions by playing out how key factors, or “driving forces,” could potentially shape a region. Regionally, it is the first time that economic, land use and transportation drivers have been connected to environmental and equity outcomes, connecting the dots between commute times and greenhouse gas emissions or housing trends and nutrient loading. Focusing on land use change, mobility, equity, and the environment, PRESTO presents a baseline scenario—which projects a continuation of current growth management—and four alternative futures that the Baltimore–Washington region may face in 2040: high–level automation (nicknamed “Revenge of the Nerds”), high–tech sustainability (“Blue Planet”), deregulation (“Free for All”) and scarcity (“Last Call at the Oasis”). The future scenarios offer radically different outcomes for the region. The Revenge of the Nerds scenario envisions a region dominated by low fuel prices and new technology, as well as relaxed government regulation. The popular adoption of autonomous vehicles increases highway capacity and dramatically reduces congestion compared to the baseline. Increased mobility and relaxed regulation on development creates an exodus from city suburbs into more rural areas.

Launch at the Oasis shows a very different future, where high gas prices spur investments in transit and strict land use controls, concentrating both households and jobs in the inner suburbs and creating lower levels of pollution. Hands–off government sets the tone in Free for All: low government regulation coupled with lower fuel prices results in development encroaching into farms and forests. This scenario sees an increase in housing affordability, but also air pollution and nutrient loads. Blue Planet provides the most sustainable scenario on many indicators, where high fuel prices, in turn, fuel investments in transit and renewable energy, spurring local governments to increase housing capacity in the inner suburbs. While each scenario presents different outcomes, several common themes emerged. According to PRESTO researchers, the land–supply crunch is very real and where the region expands development matters; opening housing capacity—and increasing affordability—in the inner suburbs will have positive impacts on several sustainability indicators. In addition, the inevitability of emerging technologies requires a robust, well–represented group—including urban planners—at the development table to ensure that innovations, capacity, and infrastructure are properly aligned. However, both road and transit investments must be made carefully and strategically; as the research shows, just because it is built doesn’t mean they will come. Transit investments outside the beltways, for instance, would be less impactful than within the core. Environmental impacts—such as air pollution and land preservation—look to be very complex balances and will require sound, thoughtful policy.
PLANNING FOR 2040

Unlike traditional regional plans, which focus on a desired result and then develop a plan to get there, the approach taken by PRESTO researchers stresses the importance of accounting for these uncertain conditions that policymakers may encounter along the way. Researchers purposefully stretched the limits of plausible futures to create more useful, productive planning exercises.

“Because we tested some extreme infrastructure and land use options, we have gained new insights into their intended and unintended consequences,” said Uri Avin, research professor at NCSG. “These are the building blocks for future strategies that are robust enough to cope with a changing world.”

While the idea of PRESTO is not to predict which future will come true, researchers hope it will help guide policymakers in how they prepare. It also sets the stage for formulating alternative, more sustainable scenarios for the region, which include identifying and promoting policy decisions that could boost sustainable practice.

“PRESTO is part of a long-standing effort at the National Center for Smart Growth to promote smarter and more sustainable development using science and advanced computer models at the megaregional scale,” said Dr. Gerrit-Jan Knaap, Director of the NCSG. “This allows us to go beyond micro scale issues such as walkable neighborhoods, transit-oriented development and opportunistic land preservation to larger scale systemic issues such as transportation technology, energy prices and regional development patterns.”
Very day, thousands of people take to the vast network of trails found throughout Montgomery County, Md. to run, bike, walk their pets, or simply take in the natural beauty of the county’s extensive forestland. Yet as any avid outdoorsman or weekend warrior will tell you, they would love to know some things ahead of time: are there bathroom facilities on the trail? What sort of elevation changes can I expect? Where is the nearest trail entrance with parking? Right now, these questions cannot easily be accessed. So last year, at the request of the Maryland–National Capital Park and Planning Commission (MNCP–PC), six students armed with a Google camera traversed the web of paved, dirt, and natural trails in Montgomery County to document just that. The pictures and information collected will form the skeleton of an interactive trail map; a boon to county residents and only the second time that non–roads have been documented by Google Street View in the Nation.

This innovative project was one of 27 undertaken in Montgomery and Prince George’s Counties last year by the University of Maryland’s Partnership for Action Learning in Sustainability (PALS), a cross–collaborative, campus–wide program that harnesses the expertise, research and ingenuity of the university to tackle economic, environmental and social sustainability issues for Maryland communities. Since launching in 2013, the program has galvanized thousands of students from nearly every college and school on UMD’s College Park campus. Together with faculty guidance and the hands–on knowledge of community stakeholders, these students have put their knowledge, energy and creativity to work to create tangible, attainable strategies and to develop research critical to city and county planning.

Developed by the university’s National Center for Smart Growth, the idea behind PALS is two-fold: to provide students a real–world experience where they can practice skills learned in the classroom, and to put the resources of a first–class research institution to work assisting local governments saddled with dwindling budgets, overburdened staff, and mounting sustainability issues. Through interdisciplinary and cross–community collaboration, the PALS program represents an integral part of the university’s land grant mission to create a more sustainable Maryland. PALS partners with one or two communities each academic year, matching customized coursework with the specific challenges described by the partner community to deliver research and recommendations on a host of sustainability challenges. With its on–the–ground civic engagement, PALS coursework provides a living case study for students, offering a rewarding community experience that best mirrors future professional interactions within their disciplines.

PALS’ reach is formidable—to date, the program has engaged four counties, four of the state’s largest cities, and several community associations, providing over four million dollars in project value. All told, students and faculty have engaged in over 125 projects with over 60 faculty members that address public health, neighborhood revitalization, accessibility and land use, economic opportunity, stormwater management, environmental challenges, information technology and tourism. It is the largest action–learning program of its kind in the country.

PALS initiated its first partnership with The City of Frederick, Md. in September 2014, added a second smaller collaboration with College Park in January 2015, and launched its third partnership with Howard County, Md. and the Columbia Association (CA) in September 2015. In 2016, PALS engaged Anne Arundel County and the City of Annapolis, the first time the program partnered with both a city and host...
county concurrently. Last year, PALS worked concurrently in Montgomery and Prince George’s County, two of the largest counties in the state, with a focus on environmental, social and health sustainability issues, and examining assets like stormwater management, parks and recreation, schools, and community engagement.

“While the word ‘sustainable’ is often associated with terms like ‘go green,’ sustainability issues go well beyond the environment,” says Kimberly Fisher, PALS program director. “The projects we tackle are at the very heart of quality of life for Maryland communities.”

Smaller collaborations with community partnerships in Baltimore helped create real estate development feasibility analyses for several Southwest Baltimore sites and built databases that map key features such as job opportunities, vacant housing and vehicle ownership. This fall, PALS entered into its fifth County partnership with Harford County, Md. A new feature of PALS this coming year is its work with three smaller towns concurrently, thanks to a partnership with the Maryland Departments of Planning and Housing and Community Development.

Like the MNCP–PC trail work, PALS has seen many of its projects move from theory to practice, including contributions to city master plans and collateral to boost tourism. It’s a testament to both the success of university-community partnerships and a desire for more out of the box thinking.

“We have a vast amount of resources on this campus,” said Uri Avin, senior advisor to the PALS program. “It has been very rewarding to see student recommendations come to life for municipalities.”
UMD INGENUITY IN ACTION: PALS PROJECT SNAPSHOT

Since 2013, PALS has helped Maryland communities navigate issues that effect their economic, social, and environmental health by providing critical research, unique insight, and innovative solutions. Here is a sample of transformative projects developed by the students and faculty:

**Frederick City: Frederick Sustainability Plan**
This report builds on the City’s draft sustainability plan by expanding the current plan elements; adding material related to economic opportunity and social equity considerations; and adding two new plan elements (economic development and housing).

**MNCPPC, Montgomery County Parks: Susceptibility of Montgomery Park Trees to Emerging Invasive Pests**
This report provides recommendations to the Montgomery County Department of Parks on the management of four invasive pests: the Asian longhorned beetle (Anoplophora glabripennis), spotted lanternfly (Lycorma delicatula), oak wilt, and thousand cankers disease (Anoplophora) in managed park regions. To prepare for these potential infestations, an analysis of the risk to current tree populations was performed using unique spatial and tree data characteristics. Additionally, a comprehensive interactive toolkit that provides park staff with information on best management practices was developed.

**Montgomery County: Purple Line Story Map**
Told through vibrant stories collected from residents, business owners, and community stakeholders, this online map depicts important places within a one–mile walking distance of the nine proposed Purple Line light rail stations in the Silver Spring regional area, from the Takoma/Langley Transit Center station in the east, to the Lyttonsville station in the west.

**Prince George’s County: Development Feasibility in Fairmount Heights**
Students created development proposals for a four-acre parcel located at 5345 Sheriff Road in Fairmount Heights, Maryland. The parcel is owned by the town of Fairmount Heights and is currently an undeveloped piece of land that is bordered by single-family homes, a small retail shopping center, and a park.

**Prince Georges County, Department of Environment: Watershed Restoration Prioritization Project**
Students worked with the Stormwater Management Division of the Department of the Environment (DOE) in Prince George’s County on an environmental challenge: restore clean water to the Chesapeake Bay area. The county required an automated tool to prioritize watershed restoration projects by Total Maximum Daily Load (TMDL) of pollutants. Students used current land use and TMDL datasets to calculate, aggregate, and visualize three main TMDLs to standardize project prioritization decisions.

**Howard County: Measuring Neighborhood Stability**
The project team developed a neighborhood stabilization index (or multiple indices if appropriate) that can identify county neighborhoods at risk for declining property values, property abandonment, out-migration, and other economic and social problems that often send neighborhoods into a downward cycle of decay and disinvestment. The project’s goal was to identify reliable early warning indicators that identify potential signs of decline before a neighborhood actually begins to experience more widespread social disorder and economic decline. By identifying signals of future neighborhood instability, county planners can target housing and community development resources to ward off future decline.

**Columbia Association: Management of Forest Edges**
Students examined forest management techniques to address invasive and native plants, wildlife and habitats, and water quality. Their review of literature and case studies included aesthetic norms for landscape and public education about nature and ecological function. Their intent is for this collection of work to provide a starting point for Howard County to apply ecological principles to its urban forests and natural environments, and to make community decisions about habitats, biodiversity, ecological processes, ecosystem services, and design.

**Anne Arundel County: Odenton Town Center Park**
The Odenton Town Center (OTC) project proposes two alternatives for the future of the Center Park, a 2.6-acre site in Anne Arundel County, Maryland. The new Odenton Town Center is the result of collaboration between the Anne Arundel County Chamber of Commerce and a team of undergraduate Landscape Architecture students at the University of Maryland. After a detailed site analysis, the design team proposed two alternatives for the future of Odenton Town Center. Each plan includes detailed connections to the surrounding community, diverse and engaging recreational and educational spaces for all ages, and recommendations to make the site safer and more accessible.

**Annapolis City: Strength and Shame**
In June 2016, Anne Arundel County, Maryland, experienced one opioid overdose a day and one death per week. Just six months later, those numbers doubled. The fall 2016 ViewFinder team of photojournalists traveled to Anne Arundel County to take an in-depth look at the opioid epidemic, speaking to parents, children, and community members who have been affected by this issue. Dealing with feelings of strength and shame aren’t easy—these stories give us a glimpse into the struggle they face on a daily basis.

**Upper Marlboro: Upper Marlboro Bike Trail**
The Upper Marlboro community center offers a wide range of services for the surrounding community, but is currently isolated from the multimodal network; no dedicated bike or pedestrian facility connects to surrounding networks. Despite the lack of pedestrian infrastructure, community members still walk to and from the Upper Marlboro Community Center along the edge of the highway. A shared-use side path would rectify this mobility and safety issue. The students’ implementation Plan outlines the needs and justifications for the Community Center Trail; details which permits are required and how they can be obtained; estimates the approximate costs of implementation and maintenance; and provides design recommendations.
"Think traffic is bad now? If we don’t put the right infrastructure and systems in place now, it will get much worse. The planning decisions we make today will determine the future health of our communities and our economy."

— Gerrit Knaap in a Baltimore Sun op-ed, "Smart growth is not a rural or urban issue, it’s a Maryland issue", August 17, 2017

"By providing residents with better access to both education and employment opportunities, the Purple Line has the potential to make the corridor labor market even stronger and more balanced."

— Gustavo Torres, Director of CASA de Maryland, at the signing of the Purple Line Agreement, in "Maryland Officials Sign Agreement on Purple Line Development" (U.S. News and World Report, November 28, 2017)

"To figure out a good recipe for sustainable growth, the team modeled what would happen under scenarios where those factors vary."

— Greta Jochem, "Metro areas can grow and cut emissions at the same time. Here’s how." (The Grist, June 28, 2018)

"This cursory look at demographics does no justice to the burdens, primarily born by minority groups, of the dramatic increase in housing prices over the last 20 years."

— Authors Alex Baca and Nicholas Finio speaking on the complex demographics of the Washington region in "Gentrification in DC is not just a black and white issue" (Greater Greater Washington, September 6, 2018)

"This would improve the lives of the people who were born and raised here, who visit here, who educate here," he said. "The benefits to everyone are absolutely tremendous."

— Frank Johnson, Baltimore City’s Chief of Operations, speaking on NCSG’s Smart Cities Initiative in "Universities to study how to turn Baltimore into a "smart city" (The Baltimore Sun, October 26, 2017) Here’s how." (The Grist, June 28, 2018)
Regional leaders, community stakeholders, nonprofit organizations, the University of Maryland, small businesses, and residents launched a landmark agreement in November 2017 to create pathways to opportunity for all who live, work and invest along the Purple Line Corridor. *Pathways to Opportunity: A Community Development Agreement for the Purple Line Corridor*, developed and led by the Purple Line Corridor Coalition (PLCC), articulates a collective vision for equitable economic and community development along the 16-mile Purple Line light rail corridor, and advances strategies to achieve that vision through the pursuit of four shared goals: support and grow local businesses; build a thriving labor market; ensure housing choices for all; and support vibrant, sustainable communities. It is the largest collaborative effort among regional leaders and public, private and community stakeholders to shape development along the corridor. The agreement was created over several years through an open, inclusive stakeholder process led by the PLCC; engaging more than 300 residents, business owners, property owners, nonprofit leaders and public officials. November’s event brought more detail to the table on the opportunities and challenges surrounding the four goals, as well as next steps to move the directives and vision forward. Prior to the agreement, NCSG researchers Willow Lung-Amam and Gerrit Knaap developed the Purple Line Community Dashboard and a Purple Line Story Map that tracks secondary housing, business, neighborhood, and labor data over time, pinpointing areas of opportunity and vulnerability. The tools are helping advocates and policy makers monitor progress toward the agreement tenets and fortify efforts to pursue support and funding.
MDOT PARTNERSHIP EXPLORES THE IMPACT OF TRANSPORTATION

A new three-year cooperative agreement with the Maryland Department of Transportation (MDOT) will provide the organization with intelligence on how transportation intersects with local economies, health, and land use. The agreement, which commenced in July, encompasses several projects on both state and local levels. Already underway is the development of a new system of place-type classification with relation to transportation and a data-driven process to identify areas ripe for economic development based on transportation infrastructure. Researchers are also aiming to incorporate a state-wide health impact model and investigate the economics of parks and trails.

NEW STUDY WILL TACKLE MID-ATLANTIC TRAFFIC CONGESTION

An upcoming study of the Washington Megaregion takes a detailed look at congestion levels and trends from Baltimore to Richmond, and will identify scenarios that might reduce congestion, based on regional cooperation that has occurred and potential future collaboration. The report, being prepared for GWP, is expected to be released in December.

CAMPUS COMMUNITY CONNECTION EXPANDS UNIVERSITY REACH AND IMPACT WITHIN THE GREATER COMMUNITY

A new initiative launched by NCSG and iSchool in 2016 is coordinating university engagement within the communities surrounding the College Park campus by leveraging research activities, outreach efforts, academic objectives, and service projects to enhance community resiliency. Under the leadership of former College Park Mayor Andrew Fellows, Campus Community Connection has since coordinated efforts with both long-standing and new programs at UMD to engage in 70 projects identified by local jurisdictions, ranging from environmental resiliency, community safety, walkability and transportation, to beautification efforts and food security. Initially funded by $88,000 in seed money from College Park, Hyattsville, Riverdale Park and University Park, new grants from UMD’s Sustainability Fund, The Chesapeake Bay Trust, and the Office of the Provost have extended the program’s reach and project scope, spurring an initiative for Baltimore Avenue Smart and Connected Communities, a Knowledge Extension project that connects Prince George’s County libraries with small businesses, and a Resiliency Indicators project that will help communities assess capacity and vulnerability in storm events.
TRANSFORMING BALTIMORE AVENUE: PAIRING UMD RESEARCH AND COMMUNITY NEEDS TO CREATE A “LIVING RESEARCH CORRIDOR”

A collaboration between the NCSG and UMD’s iSchool will organize researchers across campus to tap the university’s historic main thoroughfare—the Baltimore Avenue Corridor—for a “living research corridor” for smart cities technology. Sponsored by the Office of the Provost, UMD’s Smart and Connected Communities Initiative will leverage university/community collaboration and smart technologies to improve the safety, engagement, accessibility and quality of life along College Park and neighboring communities along the Baltimore Avenue (Route 1) Corridor. The initiative hopes to harness the cutting-edge research taking place across campus and align it with community needs and opportunities. An initial ideas exchange in Spring 2018 brought nearly 100 stakeholders and academics to the table. Exchanges on transportation, the build environment, environmental science, urban agriculture, data analytics, the arts and disaster resilience laid the foundation to engage research with community investment.
NCSG’S NEW PLACEMAKING COLLABORATIVE ENGAGES COMMUNITIES THROUGH ART AND DESIGN

This year, the NCSG made a critical step to expand its reach and impact in communities by launching a new creative placemaking and placekeeping arm. NCSG’s Creative Placemaking Collaborative (CPC), led by architecture professor and accomplished artist, Ronit Eisenbach, will combine the core principles and strategies of public interest design, participatory planning, and creative placemaking to help communities’ weather economic, social, and environmental challenges.

By engaging community assets and spirit through physical space, initiatives of this new institute will aim to build and strengthen existing relationships in order to improve quality of life and a sense of place to communities experiencing challenges or change, continuing Eisenbach’s longtime practice of creative and professional collaboration with allied campus programs and colleagues, nonprofits, and community stakeholders.

“This work—which includes site–based public art, pop–up performance, and design/build programs— Involves seeking and engaging local assets and community members to stimulate new thinking, increase empowerment in the face of change and activate the public realm,” says Eisenbach. “It is a form of active citizenship.”

This fall, the Institute hosted the first–ever National Placemaking Leadership Summit: National Dialogue, Local Impact: Creative Placemaking and Change, in partnership with the National Consortium of Creative Placemaking and ArtPlace America. The event galvanizing over 250 practitioners, educators, and community stakeholders who explored and shared the how’s and why’s of Creative Placemaking — creative solutions to community challenges through art and design. The summit is complemented by the Kibel Gallery’s Fall exhibit: 10 Sectors, 10 Solutions: Artists and Community Change.

Also breaking ground this fall is a new urban green space in the Silver Spring, Md. community of Long Branch. The Lightscape Garden supports the community master plan whose goals included improving neighborhood safety and creating a sense of place. As lead designer, Eisenbach was supported by a team of UMD Architecture students and design professionals and worked in partnership with the nonprofit Arts on the Block, the satellite YMCA team, and local children and adults. The design will transform an outdated playground into a community asset, providing a much–needed beautiful and fun venue for neighborhood gatherings, education and recreation.

Coinciding with the creation of the Institute is a new architecture program seminar called “Building Abroad: Research and Practice.” Co–led by Eisenbach and the student leaders who founded Roots: Home and Abroad (a new UMD design service organization), the undergraduate seminar will set the stage for a multi–year, ongoing community project in Leogane, Haiti led by Roots.
ILLUMINATING A COMMUNITY’S ASSETS

While phase one of the Lightscape of the Lightscape Garden project broke ground in August, there will be a three-month gap between its completion and the installation of the permanent illuminated bench. Rather than leave the site feeling unfinished, Eisenbach embraced this challenge as an opportunity, devising a plan to transition both the community and the physical space with a temporary furniture installation. Designed by Eisenbach and architecture student Nic Przybocki, and built by Nic with help from other Roots members, the temporary seating was crafted from recycled pallets, a nod to the project’s adherence to sustainability and ecology (the forthcoming permanent structure will be constructed of a composite made from recycled plastic bottles). NCSG and UMD’s Environmental Finance Center provided additional support. An early September “Paint Party” engaged local children and allowed the design team to test out colors for the permanent installation while providing the community a day of fun and critical stake in shaping the new space. “The brightly colored temporary seating is an expression of the community, but also serves as ‘practice’ for residents to transform an underutilized and single-purpose space into a gathering space for all,” said Eisenbach. “It’s an opportunity that engages change as a process of relationship building, cultural shifting and creative local agency; that’s the foundation of good placemaking.”

MAKEOVER MONTGOMERY 4 ADDRESSES SELF-DRIVING CARS, AFFORDABLE HOUSING, AND THE TRANSFORMATION OF THE AMERICAN SUBURB

Over 250 educators, practitioners, researchers, and community stakeholders attended Makeover Montgomery (MM4), a biennial event bringing some of the best minds in new technology, economics, social science, architecture, development, and sustainability together to discuss the contemporary challenges and opportunities of the American suburb. Sponsored by the National Center for Smart Growth and the Montgomery County Planning Department, this year’s symposium focused on the tenets of a thriving, 21st century suburb: one that is competitive, healthy, inclusive and smart. Following a dynamic keynote by founder and CEO of Reinventors and former Associate Editor of WIRED Magazine Peter Leyden, panels and workshops milked ideas and created strategies around a number of topics, from job growth and autonomous vehicles to walkable communities and economic opportunity.
ENGAGEMENT TOOLS HELP COMMUNITIES INCREASE EQUITY AND QUALITY OF LIFE

Two new tool kits developed by NCSG researchers are providing strategies to help shape neighborhood growth, expand access to opportunity, and improve quality of life. Geared toward community stakeholders and policymakers, the toolkits—which include instructions for story mapping, case studies, and other resources—offer a roadmap to capturing community input, a critical element to planning for better neighborhoods. The tools are part of an online platform called Opportunity 360, created by the national affordable housing nonprofit Enterprise Community Partners. The platform, which was constructed with the assistance of former NSCG researcher and Enterprise Bart Harvey Fellow Eli Knaap, provides datasets, case studies, tools and methodology for measuring neighborhood opportunity and improving community outcomes.

REVIEW OF BALTIMORE’S REGIONAL PLAN OUTLINES LESSONS LEARNED FOR THE FUTURE

This summer, the National Center for Smart Growth and Enterprise Community Partners released a report that examined the planning process and outcomes of Baltimore’s 2015 Regional Plan for Sustainable Development, a multi-year, multi-organizational effort to break Baltimore’s ongoing cycle of poverty and even the playing field for inner-city families by coordinating investments in housing, transportation and workplace development. The report underscored both bright spots and lessons learned from Baltimore’s RPSD, outlining the key components to effective planning and policy making: a diverse group of stakeholders at the table is critical for buy in; opportunity-related data and maps—such as the ones developed by the NCSG during the planning process to show areas ripe for housing, transportation and workforce investments—helps visualize the disparities for collaborative partners on a regional level; and that community engagement early in the process can grasp on-the-ground concerns and integrate them into the plan. Most notably, the report revealed that while planning efforts among the Opportunity Collaborative—a diverse group of stakeholders that authored the plan, including the NCSG—was strong, the plan’s aftermath illustrated a lack of coordination and communication between local jurisdictions, ultimately stalling implementation. Political infrastructure that helps bring local governments and stakeholders to the table and connects them regionally is critical to effective, long-term policy. The researchers hope the report will offer unique insight to other cities seeking to create more equitable regions.
Twenty years ago, we put NCSG on the map with our fervent resolve to work with stakeholders across the state to create thriving, equitable, sustainable communities. While those principles still hold true, the goal posts have moved. It’s important that our policies are meeting both our long-standing and new priorities in sustainable growth.

— Dr. Gerrit-Jan Knaap
SMART CITIES INITIATIVE IDENTIFIES OPPORTUNITIES FOR BRIDGING BALTIMORE’S DIGITAL DIVIDE

Findings from a new multi-university study led by researchers from the University of Maryland underscored a lack of resources—not a lack of resourcefulness—that prevent residents from accessing opportunity and benefiting from safe, healthy communities in West Baltimore. The project, comprising a series of community conversations with residents and stakeholders, is the result of a “smart cities” grant from the National Science Foundation to explore how cities like Baltimore can employ “smart city” technology—such as smart street lights and citywide wi-fi—strategically and equitably to promote quality of life for all residents; particularly those in traditionally disadvantaged communities. The project leveraged expertise from the University of Maryland’s National Center for Smart Growth and iSchool; John Hopkins University; University of Baltimore and Morgan State University.

Central to this effort was understanding the needs, shortcomings and opportunities in Baltimore’s low-income, underserved areas. While the findings show that expanding access to technology, improving the safety of residents, and providing information transparency are mission-critical, Director of the UMD’s National Center for Smart Growth Gerrit Knaap and iSchool Assistant Professor Vanessa Frias-Martinez, the project’s principal investigators, stress that the key to West Baltimore’s Smart City success will not be solved by a “technological solution looking for a problem.” Baltimore City officials say that the team’s recommendations will be implemented within months as part of Baltimore Mayor Catherine E. Pugh’s vision for Moving Baltimore Forward, an initiative to improve the quality of life of city communities through public safety, economic development and jobs, quality of life, education and youth engagement, and accountability and transparency. The researchers also hope that their findings in Baltimore City may serve as a guide for other cities looking to implement smart technology in an effective and equitable way.
SPURRING INNOVATION AND ECONOMIC DEVELOPMENT IN MARYLAND

In 2011, a grant from the U.S. Economic Development Center kickstarted the University of Maryland – Morgan State Joint Center for Economic Development (EDA University Center). The center, led by Ph.D. alum Dr. Scott Dempwolf (2012) and designated under the National Center for Smart Growth, provides targeted assistance to local governments through technology transfer, commercialization and entrepreneurship, research commercialization, workforce development and business counseling services. In 2016, the EDA University Center leveraged new funding by pooling the resources from across the University System of Maryland to address economic challenges and spur economic innovation statewide, particularly for developing innovation districts.

DEFINING OPPORTUNITY

While it’s clear that access to opportunity—good jobs, technology, good schools, healthcare, transportation and affordable housing—is the key to safe and thriving communities, what defines opportunity is not the same for everyone. NCSG researchers continue to develop methods, data collection and mapping exercises that explore communities’ unique understanding of opportunity by uncovering community barriers and existing assets. Using community forums, story and GIS mapping, and ground–level engagement with residents, researchers have collaborated with government agencies and stakeholders in Prince Georges’ County, Baltimore and within Purple Line corridor communities, providing information critical to advancing policy development and equitable planning. Beyond identifying areas of opportunity, researchers are also evaluating the efficacy of the methodology with in–depth, national case studies, and by tracking resulting development plans and outcomes.
PRESERVING THE CHESAPEAKE BAY

In June 2017, the NCSG released the Conservation Land Use Policy Toolkit, a comprehensive guide for the 1800 local governments working to conserve the farmland, wetland and forestland that dot the Chesapeake Bay. Funded by the Chesapeake Bay Trust, the guide aims to help local governments wade through the numerous policy tools to find the best tools for their jurisdiction, drilling down into seven specific tools that address planning, zoning, subdivision ordinances, impact fees, urban service boundaries, purchase of development rights/conservation easements and transfer of development rights.

UNDERSTANDING EQUITY ON A GLOBAL SCALE

Ph.D. candidate Dan Kellman, Ph.D. alum Eli Knaap, Gerrit Knaap, Willow Lung-Amam and Ph.D. candidate Nick Finio joined global experts in planning, sustainability and policy at the Lincoln Institute of Land Policy to explore best practices for shaping urban equity on a global scale. Lung-Amam and Knaap have spend the past year examining global land use policies and comparing how land markets in the U.S., Latin America and Europe help or hinder social equity.
WHO WE ARE

Gerrit-Jan Knaap, Executive Director and Professor
Uri Avin, Research Professor, Director of the Planning Design Center and PALS Program, Senior Advisor
C. Scott Dempwolf, Assistant Research Professor
Casey Dawkins, Professor
Ronit Eisenbach, Professor and Director of Creative Placemaking
Frederick Ducca, Senior Research Scientist
Sevgi Erdogan, Assistant Research Professor
Andrew Fellows, Faculty Research Assistant
Nicholas Finio, Faculty Research Assistant
Kimberly Fisher, PALS Program Director
Hiroyuki Iseki, Associate Professor
Willow Lung-Amam, Assistant Professor
Andrew McMillan, Postdoctoral Researcher
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Yan Song
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FACULTY/RESEARCHER NEWS
Sevgi Erdogan was promoted to Assistant Research Professor this past June. She recently completed the Professional Track Faculty Program sponsored by UMD’s ADVANCE program and is currently participating in the Faculty Launch Program sponsored by the Office of the Provost, where she works with colleagues to discover advanced and innovative teaching methods. She continues to teach a seminar in research design and this summer taught an independent study through the School of Public Policy. On the publication front, Sevgi collaborated with colleagues Chao Liu and Ting Ma on a book chapter on transit-oriented development in Washington, DC and Paris for La Métropole Des Transports Collectifs. Paris – Washington, Regards Croisés. Her article, “A Green Vehicle Routing Problem” was listed as the most–cited article and among the most downloaded articles in 2017 from Transportation Research Part E. She joined colleagues Fredrick Ducca and Gerrit Knaap this year as a co–principal investigator on a regional project that evaluates the Richmond–Washington–Baltimore Megaregion and served as senior scientist of the Center’s PRESTO project. Sevgi continues to share research and insights prolifically on smart growth, autonomous vehicles, ride sourcing, and more across the nation and world at conferences, invited talks, and symposia (for a full list, see the publications and talks section).

This year, Casey Dawkins was named Professor of Urban Studies and Planning at the University of Maryland. He continues to focus research efforts on fair and affordable housing and his work has appeared in several prominent journals,
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published two new peer–reviewed journal articles in 2018. One article, titled "The Determinants of Travel Demand between Rail Stations: A Direct Transit Demand Model Using Multilevel Analysis for Washington D.C. Metrorail System" was published in Transportation Research Part A: Policy and Planning, the result of work with Dr. Chao Liu and graduate assistants to develop direct ridership models for the rail systems in Maryland in collaboration with Maryland Transit Administration (MTA). This work also produced a tool to examine the impacts that changes in conditions in station areas have on rail ridership. Iseki also conducted a study on transportation demand management (TDM) in university settings and gave a presentation with Ph.D. student Hyunjoo Eom to the University of Maryland Student Government Association (SGA) regarding universal transit pass (U–Pass) programs. On the teaching side, Iseki co-taught an independent study–based course this past spring on public resistance on the Urban Edge, which examines the struggles over redevelopment after three years as a Center affiliate. After the successful 2017 release of her first book, Trespassers?: Asian Americans and the Battle for Suburbia, Willow was integral in the development of community tools—including cases for opportunity and story mapping—for leading affordable housing foundation Enterprise Community Partners; the tools help facilitate asset–based community development across the nation. Willow has presented widely on equitable development, gentrification and inclusive neighborhoods, and the digital divide at national conferences and in the media. In addition, her work to foster diversity and inclusion at UMD earned her a Nancy Weiss Malkiel Fellowship, an award supported by the Andrew W. Mellon Foundation.

As part of a joint appointment by UMD’s iSchool and the Center, Andrew Fellows leads UMD’s Campus Community Connection, a University arm that coordinates and executes community–based projects with students, faculty, and staff. Over the past 18 months, Campus Community Connection has added an additional 20 projects, expanding its reach into neighboring communities. Andy has shared organizational work and cultivated new relationships through several speaking engagements, and a sustainability fund grant helped galvanize more members of the UMD community and boost the program’s impact.

Frederick Ducca is currently collaborating with Maryland Department of Transportation on a three–year, multi–project agreement that will examine relationships between transportation and land use, public health and regional economies. He is near completion of a congestion study of the Washington Megaregion for the GWP.

NCSG WELCOMES AREFEH NASRI AND ANDREW MCMILLIAN

Dr. Arefeh Nasri joins the National Center for Smart Growth’s research team this year as a faculty research scientist. A recent postdoctoral researcher with UMD’s Maryland Transportation Institute, Arefeh brings expertise in transportation, travel behavior, and land use, including the development of new methods of measuring land use patterns. Dr. Andrew McMillan joins the Center this year as a postdoctoral researcher. Originally from Cleveland, Andrew received his Ph.D. in Urban and Regional Planning from the University of Illinois at Urbana-Champaign. His research interests include spatial analysis, GIS, smart growth, and housing policy.


Eisenbach, R., “Creative Placemaking, Change in the University of Maryland Student Planning Association, 2017. Presented at the 1st


Lung–Amam, W. “Promoting Safe and Healthy Housing in Langley Park, Maryland,” presented with Alonzo Washington at Makeover Montgomery 4: Competitive, Healthy, Inclusive and Smart Communities, Silver Spring, Maryland, May 2018.


Lung–Amam, W. “Reflections on Being an Activist Scholar,” presented at special conference session, Urban Affairs Association annual meeting, April 2018.


Lung–Amam, W. “Planning and Policing,” presented as part of Planners of Color Interest Group special roundtable at Association of Collegiate Schools of Planning annual meeting, October 2017.

Lung–Amam, W. Panelist organizer and participant, “Other Geographies of Gentrification,” at Association of Collegiate Schools of Planning annual meeting, October 2017.


