



FHWA's Fostering Multimodal Connectivity Newsletter

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Introduction

The Federal Highway Administration's (FHWA's) *Fostering Multimodal Connectivity Newsletter* provides transportation professionals with real-world examples of how multimodal transportation investments promote economic revitalization, achieve safer communities, support complete trips and mobility innovation, and enhance network resiliency. This newsletter also showcases how FHWA and its partners are improving connectivity, accessibility, equity, safety, and convenience for all transportation users, including equitable transportation options for traditionally underserved communities.

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New York State Completes 750-Mile Empire State Trail

Andy Beers, Empire State Trail Director, Hudson River Valley Greenway

On December 30, 2020, Governor Andrew Cuomo announced the completion of the [Empire State Trail](#), a 750-mile bicycling and hiking route that connects cities, towns, villages, and rural landscapes across New York State (NYS). The trail runs from New York City north through the Hudson River and Champlain Valleys to the Canadian border, and from Albany west to Buffalo along the [Erie Canalway Trail](#).

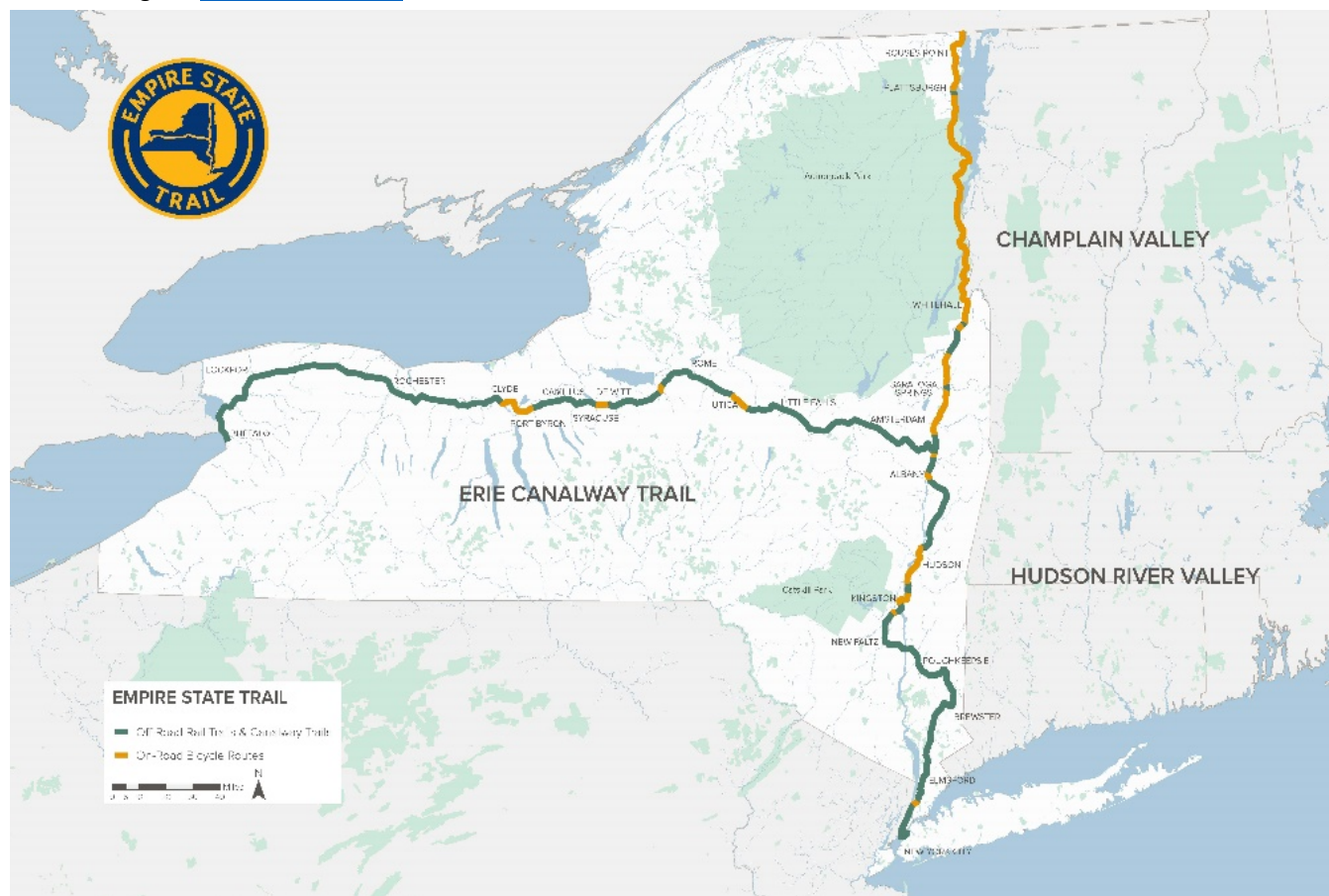


Figure 1: The Empire State Trail connects Buffalo to Albany and New York City to Canada. (Image courtesy of Hudson River Valley Greenway)

More than 75 percent of the Empire State Trail route is off-road rail-trails and canalway trails, with 10-foot-wide paved asphalt or stonedust surfaces and gentle grades accessible to bicyclists, pedestrians, and runners of all ages and abilities. The remaining sections are designated on public roadway shoulders, appropriate for bicyclists comfortable riding adjacent to vehicular traffic.

Launched in 2017, the project links 400 miles of previously-existing but disconnected local and regional trails, creating a continuous 750-mile Statewide route. The project team, comprised representatives of a variety of state agencies, including the Hudson River Valley Greenway, New York State Parks, NYS Canal Corporation, and others, completed 58 construction projects over three years, resulting in 180 miles of new shared used paths, significant safety increases along on-road



sections, and the construction of more than 45 gateways and trailheads to welcome and orient visitors. New York published a [comprehensive Empire State Trail Design Guide](#), which was informed by FHWA, AASHTO, and State bicycle and pedestrian facility guidelines, to create consistency across trail segments and assure conformance with Americans with Disabilities Act (ADA) standards.

Several State agencies administered trail construction projects, ranging from recreational entities including the Hudson River Valley Greenway, New York State Parks, and the NYS Canal Corporation, to transportation agencies including NYS Department of Transportation (NYSDOT), Metro-North Railroad, and the NYS Thruway Authority.

Several innovative projects were designed to overcome engineering challenges. NYSDOT implemented a road diet in Syracuse to reconfigure two miles of Erie Boulevard from six to four lanes, and constructed the trail in the road median. West of Syracuse, Onondaga County partnered with a private company to construct five miles of new trail as part of a major Onondaga Lake environmental remediation project. In Schenectady County, NYSDOT constructed two pedestrian-bicycle tunnels under active railway lines. In Herkimer County, the NYS Canal Corporation designed 10 miles of new trails that weave along the bank of the Erie Canal, State roadway corridors, and an abandoned rail bed. And in Rensselaer and Columbia Counties, the Hudson River Valley Greenway constructed a 36-mile trail on an electric transmission corridor owned by National Grid.

The project was funded through a \$200 million State capital appropriation – representing one of the largest State trail construction investments in the nation – which leveraged an additional \$95 million of other public and private funding including significant commitments of [Federal Transportation Alternatives Set-Aside Program](#), [Congestion Mitigation and Air Quality Improvement Program](#), and [Recreational Trails Program](#) grants in consultation with FHWA officials. New York's investment in the Empire State Trail advances critical State policy goals, which include enhancing outdoor recreation, providing safe bicycling and pedestrian facilities, supporting nonmotorized transportation, improving public health, and promoting community vitality and tourism-related economic development.

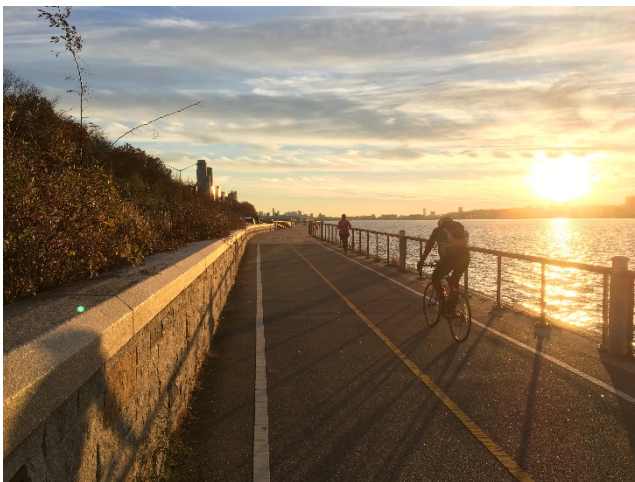


Figure 2: The Empire State Trail on the West Side of Manhattan (left) and the Erie Canalway Trail (right). (Images courtesy of Hudson River Valley Greenway)

The trail passes through the downtowns of 18 major cities between New York City and Buffalo in addition to hundreds of smaller villages and towns, reflecting the trail's siting along historic canals and rail corridors that shaped New York's



development from the opening of the Erie Canal in 1820 and railroad development during the 19th and 20th centuries. Investment in urban areas is a key component of New York's commitment to enhancing inclusion and equity for all trail users, as well as economic development and downtown revitalization strategies.

Many cities including Kingston, Albany, Troy, and Syracuse are creating new dedicated bicycle lanes and connecting paths to enable residents to access the Empire State Trail from where they live and work. Class one and two electric bicycles (e-bikes) are allowed on most Empire State Trail sections to promote accessibility and promote alternative transportation use; the primary Empire State Trail section where e-bikes are prohibited is in New York City, where very high trail usage precludes operation of e-bikes.

[A 2018 study](#) projected the Empire State Trail will generate 8.6 million visitors annually. However, based on the surge in trail visitation occurring during the pandemic – with overall usage increasing by 30 to 50 percent or more – NYS expects the Statewide trail will welcome more than 10 million visitors in 2021.

Burlington, Iowa Prioritizes Complete Streets and Riverfront Enhancements

Zach James, Assistant Director, Southeast Iowa Regional Planning Commission

The [City of Burlington Downtown/Riverfront Revitalization Project](#) is a multifaceted project that, when completed, will convert parts of Main and Jefferson Streets in Burlington, Iowa into complete streets, enhance the Mississippi riverfront, and create a more resilient city. The project was motivated in large part by a desire to modernize the riverfront and provide flood protection as large flood events increase in intensity due to climate change, consistent with the [city's 2015 riverfront master plan](#). The plan outlines strategies to mitigate flood impacts in the downtown central business district, proactively manage stormwater using green infrastructure, and transform the riverfront area.



Figure 3: Proposed Jefferson Street changes include streetscaping, sharrow, permeable pavers in the parking area and sustainable stormwater drainage features. (Image courtesy of Veenstra & Kimm Inc. and SmithGroup)

The plan and project aim to increase quality of life for Burlington residents while enhancing resilience through the creation of safe and comfortable travel experiences for all modes. The project will contribute to a downtown Burlington that is more inviting and livable for both residents and tourists.

The project received \$17.5 million of U.S. Department of Transportation (U.S. DOT) Transportation Investment Generating Economic Recovery program, now known as the [Rebuilding American Infrastructure with Sustainability and Equity](#) program. In addition to U.S. DOT funding, Burlington obtained \$300,000 in State funding from an [Iowa Great Places grant](#), for pedestrian amenities at the riverfront. Burlington committed \$2.8 million in funding to assist with sewer separation along Main Street. The project also



included involvement from the Federal Highway Administration Iowa Division Office during the initial community engagement process.

Complete streets enhancements are a key focus of the revitalization project; projects on both corridors will shorten roadway crossings, install sharrows or bicycle lanes, repave roadways, increase sidewalk accessibility, complete both landscaping and hardscaping, improve lighting, and separate storm sewers to reduce overflows. Complete streets changes can reduce crashes in a high volume pedestrian area; the [Iowa Department of Transportation \(DOT\) 2018 Bicycle and Pedestrian Long Range Plan](#) reported that sidewalks on both sides of a street correspond with an average 88 percent reduction in pedestrian walking-on-road crashes. The changes will create multimodal connections to the downtown/riverfront area and the Amtrak train depot, in addition to connecting separate north and south segments of the [Mississippi River Trail](#).

Large scale efforts like Burlington's Downtown/Riverfront Revitalization Project typically reveal unforeseen challenges.

- The city expected construction near and in the river to create unique challenges for contractors, so Burlington worked with Iowa DOT to divide the project into two separate contracts; one portion includes the roadway and streetscape work, while the other includes park and riverfront efforts, allowing specialty contractors to work on the separate portions.
- During the National Environmental Policy Act process for the project, experts identified natural resources that required additional planning efforts. Initial studies found the endangered Higgins Eye pearly mussel near the upstream boat ramp, requiring a development of a Biological Assessment under the Endangered Species Act. Through coordination with the U.S. Fish and Wildlife Service and the Iowa Department of Natural Resources, the city was able to protect natural resources by developing a relocation plan for all mussels in the project footprint and obtain the necessary Army Corps of Engineers permit for project construction.
- Finally, the COVID-19 pandemic brought an additional challenge to the project. After engaging with local businesses, the city decided to delay the construction work on Jefferson Street that may have been disruptive to economic recovery.

As of this newsletter's publication, the city has completed two major floodwall projects which will offer flood protection beyond the 100-year flood for a large portion of the central business district. The city received one bid for the roadway and streetscape portion of the project in late 2020, which was significantly over budget. Burlington made several cost-saving design changes based on the original bid, and is preparing to re-bid the contract in 2021.



Figure 4: Riverfront enhancements and community gathering area between the Memorial Auditorium and the Port of Burlington. (Image courtesy of Veenstra & Kimm Inc. and SmithGroup)



Burlington plans to measure project outcomes by comparing pavement condition, crash rates, and bicycle and pedestrian counts to pre-project performance measurements recorded in the spring and summer of 2019 (prior to project construction). The city can use this data to understand the positive impact of complete streets redesigns and riverfront enhancements on the overall safety of road users and the quantity of pedestrian and bicycle traffic in downtown Burlington.

This project can serve as an example for similar sized Midwestern cities in the rustbelt grappling with disinvestment, quality of life issues, population loss, and aging populations. The city worked to implement a livability-focused approach that leveraged funding from multiple sources to improve quality of life and health outcomes while helping to attract and retain residents. Implementing several downtown projects simultaneously allowed the city to have a greater impact on the lives of residents.



Figure 5: Proposed Central Main Street changes with four to three lane conversion, streetscaping, curb extensions, and sustainable stormwater drainage features. (Image courtesy of Veenstra & Kimm Inc. and SmithGroup)

Equity Through Access in the Philadelphia Region: Creating a Coordinated Human Services Transportation Plan

Shoshana Akins and Thom Stead, Equity Through Access Project Leads, Delaware Valley Regional Planning Commission

The Delaware Valley Regional Planning Commission (DVRPC) is the MPO for the Philadelphia metropolitan areas. DVRPC developed the [Equity Through Access](#) (ETA) effort as an update to the [Greater Philadelphia Region's Coordinated Human Services Transportation Plan](#) (CHSTP). ETA identifies and coordinates critical health and job-related transportation infrastructure to improve economic and social opportunity in the region. Focusing on expanding access for underserved populations, the plan highlights critical regional priorities using a [map toolkit](#), collaboratively-created policy document, case studies, and noteworthy practices. For the purpose of ETA, DVRPC defined underserved populations to include low-income individuals, seniors, and persons with disabilities. DVRPC defined essential services as destinations necessary for quality of life, including employment centers, grocery stores, schools, healthcare facilities, recreation spaces, and senior centers.

ETA builds on previous CHSTP efforts and identifies new ways to promote accessible, affordable, and safe mobility while prioritizing community needs. The U.S. Department of Transportation [Ladders of Opportunity](#) initiative was an effective model throughout the process of developing ETA. Ladders of Opportunity launched in 2015 to foster community involvement and mitigate barriers through infrastructure investments to create more vibrant communities, a healthier economy, and a more connected nation.



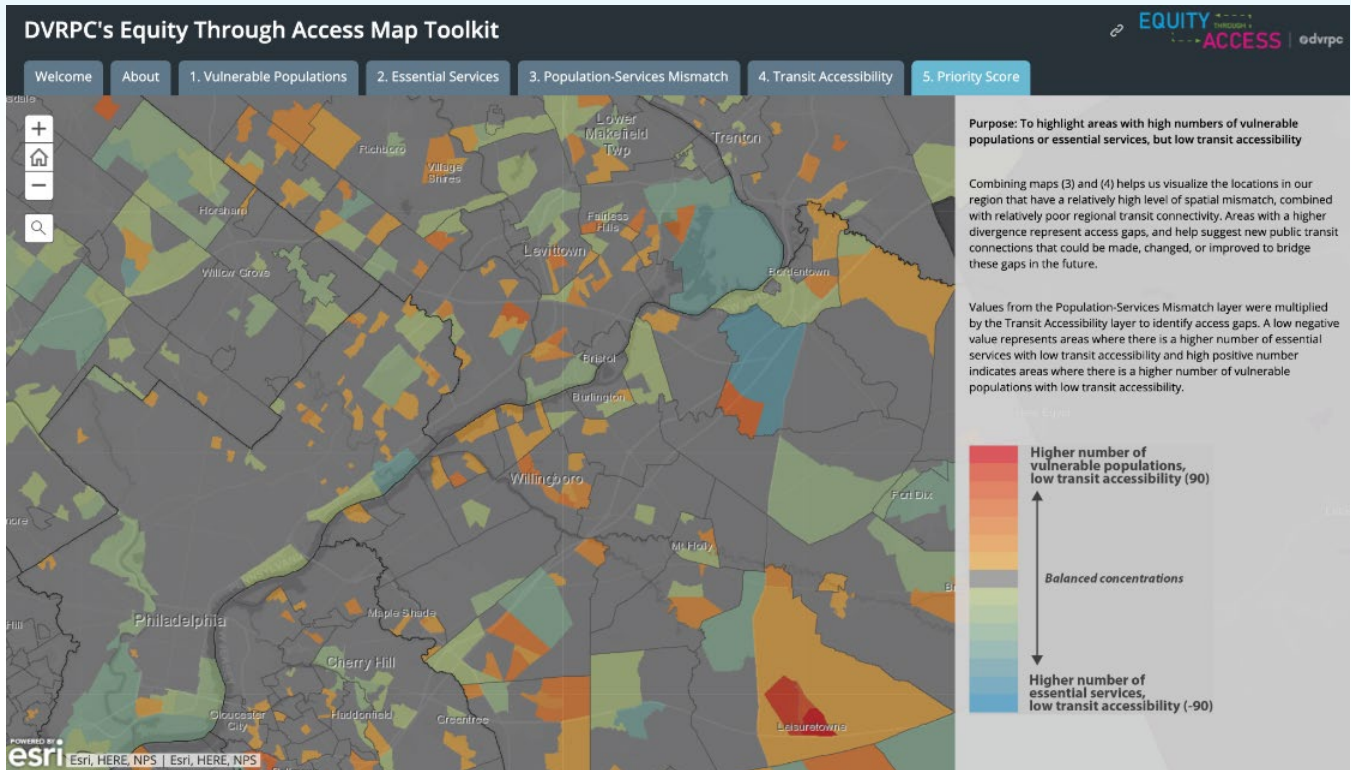


Figure 6: DVRPC's map toolkit analyzes where underserved populations and essential services are located and compares against transit access and frequency to prioritize areas for future investment. (Image courtesy of DVRPC)

The [community engagement process](#) for ETA emphasized meeting people where they are within their communities. DVRPC



Figure 7: DVRPC's Shoshana Akins led a mini-workshop at Inglis House, a center for people with disabilities, in Philadelphia. (Image courtesy of DVRPC)

engaged local governments, human services agencies, nonprofit organizations, transportation providers, advocates, and underserved populations to support the development of this plan. The approach involved 10 mobile mini-workshops, held in-person between September 2019 and January 2020 at senior centers, adult daycare facilities, and centers for people with disabilities to gather the transportation experiences of residents across the region. During these workshops, DVRPC asked attendees to identify "gaps and bridges" in the regional transportation network. The framework defines gaps as obstacles that constrain access to transportation or mobility for underserved populations and bridges as possible solutions that can create more comprehensive and effective regional transit service and multimodal infrastructure. Planners also attended other health, transportation, and advocacy committee meetings to gather input.



To conclude the ETA community engagement process, the project team convened a project steering committee comprising county transportation stakeholders, human services transportation providers, and planning agencies in the region for a two-hour workshop to review and refine identified gaps and bridges. The workshop was an opportunity for attendees to propose projects for funding through alternative (non-CHSTP) mechanisms, including DVRPC's [Planning Work Program](#). The attendees shared and prioritized their proposals in an open house format, which were then considered and reviewed by the project steering committee.

DVRPC compiled the issues and needs gathered through community engagement into the ["Gaps and Bridges" document](#). Gaps included a lack of or inadequate Americans with Disabilities Act-accessible transit vehicles and stops, coordination between transit services and land development projects, detailed data on the needs and destinations of local shuttle users, safety measures, and funding to meet service demand among underserved populations. Conversely, DVRPC identified a program for constructing and maintaining sidewalks that connect to transit, coordination between transportation services with large employment centers, nontraditional funding sources for transportation investments, data sharing between transportation agencies, and small scale safety projects to improve access to the current transportation system as bridges.

As of this newsletter's publication, DVRPC continues to work toward implementation of the bridges identified in the ETA planning process. Two bridges include the [Regional Transit Screening Platform](#), which is a set of screening tools that highlights public transit needs and opportunities in the DVRPC region to generate and evaluate ideas for service, operational, enforcement, and capital improvements; and the [Greater Philadelphia Pedestrian Portal](#), which is an inventory of sidewalks, crossings, and curb ramps that can be used to identify gaps where sidewalk infrastructure is needed and set targets for sidewalk network buildout. Additional next steps and other resources can be found on the [ETA webpage](#).



Figure 8: Many suburban and rural transit stops lack sidewalk connectivity, comfort, and safety measures for pedestrians. Pictured above is a Southeastern Pennsylvania Transportation Authority bus stop along a busy road in Delaware County, Pennsylvania. (Image courtesy of DVRPC)



Mobilizing a Participatory Planning Process in the Chicago Metropolitan Area

Kristina Heggedal, Transportation Specialist, ICF; Chris Zeilinger, Assistant Director, Community Transportation Association of America; Matthew Falkenstein, Policy Analyst, U.S. DOT Volpe Center

The Chicago Metropolitan Agency for Planning (CMAP) began implementing a participatory planning model in 2015 to update the region's existing comprehensive plan, GO TO 2040, with a new plan titled [ON TO 2050](#). CMAP's participatory planning strategy covered a large population of over 8.5 million people who were racially and culturally diverse, multilingual, and economically and racially segregated. In 2010, the Chicago region ranked as the [5th highest](#) combined racially and economically segregated region in the country. Inequalities were notable in distribution of environmental impacts, housing affordability, and transportation investment. CMAP recognized a regional problem with economic and racial segregation, and focused on involving underserved communities in the planning process to address inequalities.

CMAP organized a three-phase engagement strategy that spanned from February 2016 to August 2018. The strategy connected with over 100,000 residents, 400 community organizations, and 6,800 stakeholders from various groups, organizations, and municipalities. Phase I collected feedback through in-person dialogue and polling, Phase II workshopped various planning outcomes through informative outreach and visual scenario modeling, and Phase III implemented a public feedback-driven drafting of the plan.

Phase I focused on gathering feedback on challenges and opportunities, and addressing topics such as economic resilience and transit modernization. CMAP staff engaged with stakeholders from across the region's private, public, and nonprofit sectors. CMAP leveraged partnerships with local community organizations to network with underserved communities,

Únase con la Agencia Metropolitana de Planificación de Chicago en el 10 de octubre de 2018, para celebrar el lanzamiento de ON TO 2050, el próximo plan integral de nuestra región.

Para registrarse y obtener mas información, visite:
<https://cmap.is/ONTO2050-Launch>

Miércoles
10 de octubre, 2018
10:00 a.m. a 12:00 p.m.

Millennium Park
Chicago, IL



La Agencia Metropolitana de Planificación de Chicago (CMAP, por sus siglas en inglés) es la organización de planificación integral de nuestra región. La agencia y sus socios están desarrollando HACIA EL AÑO 2050, un nuevo plan regional integral para ayudar a los siete condados y a las 284 comunidades del noreste de Illinois a implementar estrategias que incluyen el transporte, la vivienda, el desarrollo económico, los espacios abiertos, el medio ambiente y otras cuestiones de calidad de vida. Para mas información, visite www.cmap.illinois.gov.

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Figure 9: CMAP translated outreach materials to engage Spanish speaking residents in the planning process. (Image courtesy of CMAP)

utilized in-person meetings, administered detailed online surveys to gauge interest in various planning outcomes, conducted over 100 interactive workshops, and used live keypad polling to interact with residents. CMAP's outreach team included employees fluent in Spanish, and Spanish media content was created for engagement so that this phase was more inclusive of valued input from the population.

Phase II started April 2017 and was called "Alternative Futures." Participants tested different planning outcomes on the region through interactive workshops to see how residents would be impacted under various modeled scenarios. At the core of the exercise was discovering which investment priorities residents preferred to drive future growth. Alternative futures modeled a [changing climate](#), [walkable communities](#), [innovative transportation](#), [constrained resources](#) such as decreased Federal and State funding, and a [transformed regional economy](#). Over 2,500 residents participated in 127 workshops and five forums. Touchscreen kiosks were placed throughout the region in public locations where users could learn more about the five alternative futures while also providing space for feedback. These kiosks were successful, with over 61,000 users providing input.

Federal Highway Administration: www.fhwa.dot.gov/livability



In Spring 2018, CMAP started Phase III by publishing draft chapters of ON TO 2050 for review. Planners used 11 open houses and one public hearing to gather feedback, ensuring the plan represented the needs of the region's stakeholders. CMAP staff contacted stakeholders who gave feedback in the initial phases of the outreach, along with the CMAP board, Metropolitan Planning Organization policy committee, and various coordinating and working committees to review and give recommendations.

Through targeted outreach, CMAP identified equity and environmental justice concerns such as housing affordability in the region and access to emerging economic opportunities. CMAP created an additional principle on their comprehensive plan titled "Inclusive Growth." The new principle included goals to direct investments, structural solutions, and technical assistance to Economically Disconnected Areas (EDAs), which are geographical areas that have not grown with the regional economy. EDAs may include communities that historically have been impacted by racially discriminatory housing policies.

Public involvement also communicated support for transportation project investment priorities such as safe transit, bicycle, and pedestrian infrastructure; congestion reduction; highway managed lane options; and increased reliability of transportation system travel times. Investment in safe multimodal transportation networks complements other ON TO 2050 initiatives including developing green infrastructure, lowering air pollution levels, and reinvesting in EDAs to build on the region's economic recovery.

CMAP identified several noteworthy practices in the development of ON TO 2050. For example, the agency restructured their public outreach team as a separate department and hired four full-time employees to manage the public engagement workload. Additionally, CMAP identified the importance of publishing web-based media in Spanish and has since decided to make all future media involved in planning or engagement activities available in Spanish as well.

Officials adopted ON TO 2050 on October 10, 2018. The phased outreach approach maintained significant public engagement, ensured transparency, and was informed by data driven analysis of the challenges and opportunities within the Chicago metropolitan area. EDAs help inform large capital investments in the regional transportation system also referred to as [Regionally Specific Projects](#) (RSP). RSPs are prioritized by how well the project improves access to an EDA, and connects an EDA to jobs in industries with low barriers to entry and potential for upward mobility. This strategy is in line with the ON TO 2050 mobility recommendation to leverage the transportation network to promote inclusive growth.

In August 2020, [CMAP presented ON TO 2050 at a FHWA virtual public involvement \(VPI\) peer exchange on using virtual tools to engage traditionally underserved communities](#). The event highlighted approaches such as kiosk interactions, digital media focused on meeting people where they are, and using plain language. The plan continues to be effective in extending investment into traditionally underserved communities. In March 2021, CMAP selected 20 communities for planning assistance through its local technical assistance program, furthering ON TO 2050's inclusive growth principle. Technical assistance will support long range transportation plan implementation, identify grant opportunities, develop capital improvement programs, and address safety improvements. More projects and strategies stemming from ON TO 2050 can be found on CMAP's [implementation matrices](#).

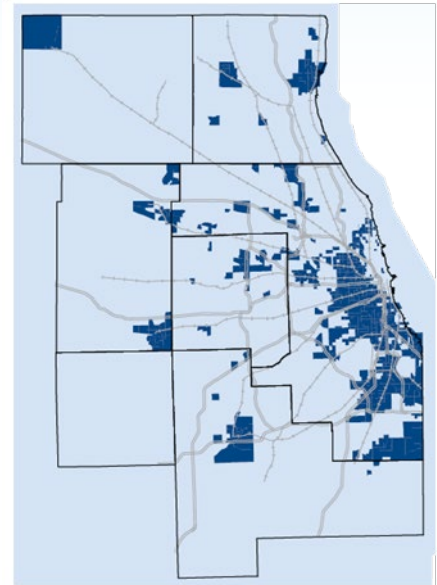


Figure 10: CMAP identified EDAs throughout the region, indicated in dark blue on the map. (Image courtesy of CMAP)



Announcements/New Resources

- The U.S. Government Accountability Office released a report, [“Pedestrians and Cyclists: Better Information to States and Enhanced Performance Management Could Help DOT Improve Safety.”](#) The report analyzes pedestrian and bicyclist fatality data, State safety plans, related literature, and interview findings. It provides recommendations on how the U.S. Department of Transportation can support States’ pedestrian and cyclist safety efforts through improved understanding of behavioral countermeasure effectiveness and enhanced performance management practices.
- The Federal Highway Administration (FHWA) released updates to a series of fact sheets discussing how livability considerations during the transportation decision-making process can benefit communities. Through the [Transportation and Livability](#) resources, FHWA provides support to State departments of transportation, regional planning agencies, Tribes, and other partners in both rural and urban settings. The recently updated fact sheets address [Curbside Management](#), [Freight](#), [Federal Highway Programs](#), and [State Departments of Transportation and Metropolitan Planning Organizations](#).
- FHWA and the Federal Railroad Administration published a [“Rails-with Trails: Best Practices and Lessons Learned”](#) report which summarizes how the state of the practice, perspectives, and context for rails-with-trails have evolved since 2002. It identifies updated effective practices for each phase of a rail-with-trail project, from development to design and construction, operation, and maintenance. The information is based on a literature review of previous rail-with-trail studies; a review of trail planning guidance documents; interviews with railroad officials and trail managers; and input from various railroad and trail professionals.
- The [April edition of the FHWA Multimodal Connectivity Newsletter](#) includes articles on an automated shuttle service for people with disabilities, a Statewide pedestrian and bicycle count program, a pedestrian safety campaign, and public involvement approaches with underserved communities.
- The [Spring 2021 issue of the FHWA Public Roads Magazine](#) includes articles on the deployment of micromobility options across the U.S. and resources to address pedestrian safety concerns. The article on micromobility describes how communities are exploring bikeshare and electric scooters as alternative travel modes for short trips and active transportation needs. Another article provides information on efforts led by FHWA and its partners to develop pedestrian safety tools and countermeasures. Both articles outline considerations to inform future research, policy development, and collaboration.
- FHWA published an illustrative booklet of [2021 roadway designations as part of the National Scenic Byways Program](#). The program recognizes, preserves, and enhances selected roads throughout the country based on archeological, cultural, historic, natural, recreational and scenic qualities. To date, there are 184 total nationally designated byways in 48 States.



Announcements/New Resources

- FHWA [awarded \\$5.6 million in Accelerated Innovation Deployment \(AID\) Demonstration program grants to seven States](#). The awarded projects will use innovative and cost-effective approaches to project delivery, addressing topics including resilience, multimodal safety, and technological advancement. The AID Demonstration Program focuses on accelerating the use of innovations and reducing project delivery times as part of the Technology and Innovation Deployment Program.
- FHWA released the [Curbside Inventory Report](#), which shares curbside management resources and details of that convey current practices and emerging specifications in curbside management. It suggests criteria to weigh tradeoffs to better assess, prioritize, and optimize curb uses.

