

# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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## **Southeastern Wisconsin Regional Planning Commission Planning Efforts for Milwaukee County**

**July 2018**

The following provides a brief summary of work recently completed or underway at the Southeastern Wisconsin Regional Planning Commission, including both regional planning efforts and efforts for Milwaukee County and Milwaukee County municipalities.

### **TRANSPORTATION PLANNING**

- At the request of the Milwaukee County Department of Transportation (MCDOT), the Commission has continued to assist the Department in the development of a bus rapid transit (BRT) line in the east-west corridor. In 2017 and 2018, the study team engaged in continued robust public engagement, particularly focusing on communities of color and low-income populations, and submitted an application for Federal Small Starts funding. Work in the remainder of 2018 will include completing the Environmental Assessment process. The Commission will continue to assist MCDOT and the Milwaukee County Transit System (MCTS) on this initiative. The Cities of Milwaukee and Wauwatosa and the Wisconsin Department of Transportation are working with the MCDOT and the Commission on this effort, along with MCTS's planning consultant, AECOM.
- Assisted Milwaukee County in avoiding significant reductions in transit service and increases in fares by encouraging use of Federal Highway Administration Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds (\$12.7 million in 2012-2014, \$17.2 million in 2015-2018, and \$4.8 million in 2019-2020) to convert local bus routes to express bus routes.
- Serves as the Region's Metropolitan Transportation Planning Organization (MPO), prepares and maintains the up-to-date Federally-required regional transportation plan and transportation improvement program, and ensures all necessary Federal transportation planning and programming requirements are met to permit the continued use of U.S. Department of Transportation (USDOT) funds on Milwaukee County streets and highways and MCTS. Annual USDOT funding within Milwaukee County is approximately \$100 to \$300 million annually.
- Completed VISION 2050, a long-range land use and transportation plan for Southeastern Wisconsin, which was adopted by the Commission on July 28, 2016. VISION 2050 is the sixth-generation regional land use and transportation system plan for Southeastern Wisconsin, updating and extending the design year of the previous year 2035 land use and transportation plans. The periodic (approximately every 10 years) major reevaluation of the regional transportation plan, incorporating new U.S. Census population, employment, and travel survey data and maintaining a

minimum 20-year future timeframe, is essential to State and local governments continuing to obtain highway and transit project funding from the USDOT.

VISION 2050 makes recommendations to local and State government to shape and guide land use development and transportation improvement. As adopted, the plan contains a land use component, including specific recommendations and a detailed land use development pattern, and a transportation component, including recommendations and a detailed transportation system. The transportation component is comprised of the following elements: public transit, bicycle and pedestrian, transportation systems management, travel demand management, arterial streets and highways, and freight transportation. In developing the transportation component, staff analyzed the costs and revenues associated with the year 2050 transportation system and identified a funding gap for the public transit element. This gap necessitated identifying a fiscally constrained version of the recommended transportation system that meets Federal metropolitan transportation planning requirements. This Fiscally Constrained Transportation Plan includes a reduction in transit service in the Region rather than the significant improvement recommended under VISION 2050. The plan identifies possible ways to address the transit funding gap so that VISION 2050 can be fully implemented.

The five-year planning process was guided by the Commission's Advisory Committees on Regional Land Use Planning and Regional Transportation Planning, with input also provided by the Commission's Environmental Justice Task Force, Jurisdictional Highway Planning Committees for each county, and VISION 2050 Task Forces on key areas of interest. The process involved considering existing and historical land use and transportation system development and performance, preparing forecasts of future regional growth, and analyzing and evaluating a wide range of potential land use and transportation options. Broad public input from thousands of residents was also incorporated during a three-year visioning and scenario planning process, intended to identify a long-range future vision for land use and transportation for the Region. Five rounds of public workshops were held during the process, with one in each county of the Region during each round (in Milwaukee County, these workshops were held at the War Memorial Center or Global Water Center). The Commission also partnered with eight community organizations to hold individual workshops for their constituents concurrent with the public workshops. These partnerships were designed to reach and engage minority populations, people with disabilities, and low-income individuals. Workshop activities were also made available on the VISION 2050 website.

During the last year, staff has continued concerted efforts to communicate the plan and its recommendations across the Region, including wide distribution of a two-page fact sheet on the plan and an approximately 70-page *VISION 2050 Summary* report providing an overview of the plan and its recommendations and conclusions. The complete three-volume plan report was also published in July 2017, and was sent to each affected unit and agency of government requesting their consideration and endorsement. The VISION 2050 website ([www.vision2050sewis.org](http://www.vision2050sewis.org)) presents the final plan recommendations, with links to both the summary report and full plan report. The site also includes interactive map applications for several main elements, including land use, public transit, the bicycle network, arterial streets and highways, and freight transportation. Staff maintains an active Facebook page and Twitter account for SEWRPC and the plan. Following completion of the plan, staff has met with numerous interested groups and organizations to brief them on VISION 2050; attended various events across the Region to increase awareness of the plan; met with the editorial board of the Milwaukee Journal Sentinel; distributed a news release to media outlets across the Region, resulting in several news articles being published; conducted three informational sessions for the Region's State legislators; and had an op-ed published in the Journal Sentinel and Ozaukee News Graphic.

In early 2018, staff initiated two necessary amendments to the plan. The first amendment, which was adopted by the Commission on June 20, 2018, establishes targets related to Federal Performance Management requirements for highway safety. Staff will be developing amendments addressing additional Federal Performance Management requirements as Federal rules and guidance are released. The second amendment is related to land use changes and transportation improvements serving the planned Foxconn manufacturing campus (the Foxconn development was announced after VISION 2050 was completed). Staff intends to conduct public involvement on this draft amendment in summer/fall 2018 and complete the amendment by the end of 2018.

- Completed the 2017-2020 Transportation Improvement Program (TIP) in November 2016. The TIP lists transportation projects intended to be undertaken by State, County, and local governments in Southeastern Wisconsin. The preparation of a TIP every two years, and amendments as needed, are a prerequisite to State, County, and local governments obtaining project funding from the USDOT Federal Highway and Transit Administrations. To obtain Federal approval of the TIP and Federal funding of State, County, and local transportation projects, the Commission must conduct and document an extensive analysis of the air pollutant emission forecasts attendant to the regional transportation plan and TIP and their conformity with respect to the State Air Quality Implementation Plan. In 2017, Commission staff processed three amendments to the 2017-2020 TIP for Milwaukee County and seven amendments for Milwaukee County municipalities. Also, at the beginning of 2018, preparation of the 2019-2022 TIP was initiated. The 2019-2022 TIP is anticipated to be completed in fall 2018.
- Working with the Commission's Advisory Committee on Transportation System Planning and Programming for the Milwaukee Urbanized Area (Milwaukee TIP Committee) and local governments within the Milwaukee urbanized area, Commission staff, in 2015, evaluated, prioritized, and recommended projects for about \$38 million in Federal Highway Administration (FHWA) Surface Transportation Program – Milwaukee Urbanized Area (STP-M) funding. About \$24 million in years 2019-2020 STP-M funding was approved for projects in Milwaukee County including one project sponsored by Milwaukee County and four projects sponsored by Milwaukee County municipalities. During the first half of 2017, the Wisconsin Department of Transportation (WisDOT) solicited projects for STP funding allocated to the Milwaukee urbanized area (MUA). Milwaukee County submitted STP-M applications for seven projects and Milwaukee County municipalities submitted STP-M applications for 24 projects. Following the completing of the STP project solicitation in July 2017, WisDOT initiated a review of the STP local program statewide. Based on its review, WisDOT proposed in April 2018 to revise the State's local program by 1) replacing the Federal STP funds available to the Local Program with State funding (as permitted in the 2017-2019 State Biennial Budget) and 2) allocating the State-funded Local Program funds to each of the 72 counties directly for project selection (rather than the State and the urbanized areas) and project administration (rather than the State). The purpose of the proposed changes was to lessen the cost to WisDOT for administering the Local Program and to provide flexibility to local governments in the selection and implementation of projects (the latter potentially providing a savings in project costs). However, based on feedback received by WisDOT, they determined that the revisions proposed would not be pursued for urbanized areas at this time, but could be revisited for subsequent funding cycles. The Commission has initiated to assist the Advisory Committee on Transportation Planning and Programming for the Milwaukee Urbanized Area (Milwaukee TIP Committee) to evaluate, prioritize, and recommend candidate projects for years 2021-2022 MUA STP funding.

During the first half of 2017, the Wisconsin Department of Transportation (WisDOT) solicited new projects for available years 2021-2022 CMAQ funding. Following the completion of the CMAQ project solicitation in June 2017, WisDOT conducted a review of the procedures utilized by the

Commission staff, the Wisconsin Department of Transportation (WisDOT), and Wisconsin Department of Natural Resources (WDNR), which included the staffs of the three agencies independently rating each candidate project seeking CMAQ funding and, working with local governments in Southeastern Wisconsin, prioritizing the projects for funding. Based on the results of its review, WisDOT determined that it would solely evaluate and prioritize projects for CMAQ funding and that the Commission and WDNR staffs' role would be in developing and reviewing the estimated emission reductions that would be used in WisDOT's evaluation. In addition, WisDOT decided that a number of needed signal coordination projects on the State trunk network in Southeastern Wisconsin would also be considered, along with local projects for years 2021-2022 CMAQ funding. Commission staff submitted to WisDOT staff in May 2018, the emission reduction estimates for all of the candidate CMAQ projects in Southeastern Wisconsin. WisDOT anticipates completion of their evaluation and prioritization of CMAQ projects in the summer of 2018. There were 6 projects submitted by Milwaukee County and 13 projects submitted by Milwaukee County municipalities for CMAQ funding, and 13 of the signal coordination projects submitted by WisDOT for CMAQ funding are located in Milwaukee County.

- In October 2017, the Wisconsin Department of Transportation (WisDOT) solicited projects for Federal Highway Administration Transportation Alternative Program (TAP) funding, including projects applying for TAP—Milwaukee Urbanized Area (TAP-MUA) funding. The application deadline was in January 2018. The TAP-MUA funding is a relatively new funding source established by the Moving Ahead for Progress in the 21st Century Act (MAP-21) Federal transportation legislation enacted in 2012 which combined the previous Federal Safe Routes to School and Transportation Enhancement funding programs. As the amount of TAP-MUA funding requested was less than the amount of TAP funding available to new projects, all of the candidate TAP projects in the Milwaukee urbanized area were approved for the available TAP-MUA funding by the Milwaukee TIP Committee. There were three Milwaukee County and six municipal projects within Milwaukee County that were selected for 2021-2022 TAP-MUA funding.
- Worked with the transit operators in the Milwaukee urbanized area to distribute FTA Section 5307/5340 formula program funds among the four designated recipients in the Milwaukee urbanized area—Milwaukee, Ozaukee, Washington, and Waukesha Counties. A total of \$20,103,578, \$20,786,115, and \$21,316,381 in Section 5307/5340 funds were allocated to the area in 2016, 2017, and 2018, respectively. The funds were distributed among the designated recipients/transit operators based on revenue vehicle miles of transit service, revenue vehicle hours of transit service, revenue passengers, and passenger miles, which are reported by each transit operator to the FTA and WisDOT, with 25 percent of the urbanized area apportionment distributed using each criterion.

In addition, Commission staff worked with the transit operators in the Milwaukee urbanized area to distribute FTA Section 5310, FTA Section 5337, and FTA Section 5339 formula program funds among the four designated recipients. FTA Section 5310 funding, of which the urbanized area received \$1,174,967 in 2016, \$1,200,247 in 2017, and \$1,217,916 in 2018 will be distributed using a competitive selection process managed by the Commission staff. This program is intended to support transit services that are specifically targeted at seniors and people with disabilities, and go above and beyond the requirements of the Americans with Disabilities Act of 1990. FTA Section 5337 funding for capital projects, of which the urbanized area received \$465,172 in 2016, \$467,717 in 2017, and \$541,404 in 2018 was distributed to Waukesha County because the funds were allocated to the urbanized area due to the exclusive bus lanes located on W. Bluemound Rd. in Waukesha County. FTA Section 5339 funding for bus and bus facility capital projects, of which the urbanized area received \$2,724,394 in 2016, and \$2,091,480 in 2017, and \$2,858,541 was distributed among the designated recipients/transit operators based on revenue vehicle miles of transit service, revenue vehicle hours of transit service, revenue passengers, and passenger miles, which are

reported by each transit operator to the FTA and WisDOT, with 25 percent of the urbanized area apportionment distributed using each criterion.

- The Commission staff annually assists Milwaukee County Department of Transportation staff with administering the distribution of FTA Section 5310 funds among non-profits and units of government providing services to seniors and people with disabilities in the Milwaukee urbanized area.
- In support of preliminary engineering for highway and transit projects, the Commission provides long-range traffic forecasts to municipalities, counties, and the State of Wisconsin. Recent work has included forecasts for the Milwaukee County Bus Rapid Transit Line between the Milwaukee Regional Medical Center and Downtown Milwaukee; W. College Avenue (CTH ZZ) in the Cities of Franklin, Greendale, and Greenfield; S. 76th Street (CTH U) in the City of Franklin; S. 27th Street (STH 241) in the Cities of Franklin and Oak Creek; the IH 94 N-S reconstruction; the Zoo Interchange reconstruction; the IH 43 N-S corridor study; the IH 94 E-W corridor study; and the long-planned extension of 124th Street in the Cities of West Allis, Wauwatosa, and Brookfield, and Village of Elm Grove.
- Continued to be involved in the efforts of the Milwaukee Gateway Aerotropolis Corporation (MGAC), a public-private partnership of business leaders and local representatives from Milwaukee County and nine communities in the County focused on promoting economic growth around General Mitchell International Airport. In February 2017, the Commission staff completed a development plan for Aerotropolis Milwaukee. The plan, prepared with The Gateway to Milwaukee and MGAC, establishes a shared vision and coordinated effort to capitalize on the Airport to stimulate economic investment, promote job growth, and enhance the quality of life in the nine Aerotropolis Milwaukee communities. It is designed to be used as a reference tool for local governments and agencies to aid in decision making relative to future land use changes and strategic investments. Following the plan's completion, the Commission and Gateway staffs worked to obtain endorsement of the plan from the seven of the nine communities, and requested that the plan's recommendations be incorporated into their respective comprehensive plans, as appropriate.
- Completed work in 2017 on a traffic engineering study requested by the City of Franklin to address vehicle delay and queue length issues at the intersection of S. 51st Street and W. Drexel Avenue. Work on this project included collecting an inventory of existing conditions, evaluating the current operation of the intersection, and developing and evaluating alternative operational and geometric intersections improvements to alleviate the delay and queuing of vehicles. A draft report summarizing the study effort was also prepared and provided to the City and a presentation on the study effort was given at a City of Franklin Common Council meeting in March 2017. In addition, a public information meeting was held in May 2017. A final report was provided to the City in August 2017.
- In 2015, the US Environmental Protection Agency (USEPA) promulgated a new lower national ambient air quality standard (NAAQS) for ozone. The 2015 ozone NAAQS lowered the standard for what was considered a "safe" ozone concentration from 75 to 70 parts per billion. In September 2016, Governor Walker recommended to USEPA that all areas of the State be designated as being in attainment of the 2015 8-hour ozone national ambient air quality standard (NAAQS). In April 2017, the Wisconsin Department of Natural Resources (WDNR) reasserted the Governor's position, and provided USEPA supplemental information which showed that the ozone problem in Wisconsin was largely caused by sources outside the State of Wisconsin and that the ozone violations were limited to a narrow inland band along the Lake Michigan shoreline. On May 1, 2018, USEPA finalized the designation of areas of the State as being in nonattainment of the 2015 ozone NAAQS. The final designations, while slightly larger than the areas identified by WDNR, in general considered and incorporated the supplemental information provided by WDNR to USEPA. Two

nonattainment areas were defined by USEPA within Southeastern Wisconsin. The first area generally includes an approximately four-mile wide band along the lakeshore beginning just north of Silver Spring Drive in Milwaukee County and continuing north to the Ozaukee/Sheboygan County line. The second area includes Kenosha County east of CTH H.

- On February 16, 2018, the District of Columbia Circuit Court vacated several elements of the implementation rule for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). Though USEPA submitted a petition for a rehearing on April 23, 2018, in response to the Court's initial decision, the US DOT has issued guidance to the division and regional administrators of the Federal Highway and Transit Administrations that effectively puts "on-hold" Federal approval of regional transportation plans and State and regional transportation improvement programs (TIPs) and any amendment that includes a new non-exempt project until the regional transportation plans and TIPs can be determined to conform with the 1997 ozone NAAQS. Within Southeastern Wisconsin, the initial impact of this ruling is that, unless the Court reverses its decision, conformity demonstrations and determinations will be required to resume for the six-county 1997 8-hour ozone maintenance area consisting of Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha Counties. Given the frequency of TIP amendments within Southeastern Wisconsin, and the potential to add new non-exempt transit and highway projects, the Commission developed an air quality conformity demonstration of the fiscally constrained transportation plan (FCTP) and 2017-2020 TIP with respect to the 1997 8-hour ozone NAAQS. This conformity demonstration was transmitted to the review agencies—USEPA, USDOT, WisDOT, and WDNR—and a conformity determination of the plan and TIP by FHWA and FTA was made on May 21, 2018.
- In 2018, at the request of the Milwaukee County Department of Parks, Recreation and Culture, Commission staff initiated work on a traffic engineering study to address safety concerns related to the higher volumes and speeds of vehicles and poor sight distances along W. Washington Boulevard between STH 175 and W. Vliet Street in the City of Milwaukee. More specifically, the study will identify low-cost traffic engineering measures to improve the safety of motorists and pedestrians/bicyclists along, and crossing, W. Washington Boulevard. The study is expected to be completed in late summer of 2018.

## **LAND USE PLANNING**

- At the request of the Milwaukee County Department of Parks, Recreation, and Culture, the Commission has assisted the Department in the development of an update and extension to the year 2050 of the County Park and Open Space Plan. The 2050 plan will 1) include a description of existing population, households, employment, land use, natural resources, and park and open space sites; 2) address park system and facility use and preferences, composite park facility level of service provided across Milwaukee County, and estimated costs of capital maintenance of Milwaukee County parks and park facilities; and 3) include a needs analysis for park sites and facilities, a park and open space plan for the year 2050, and the actions needed to implement the plan. Work is nearly completed on the two chapters of the 2050 park and open space plan that describe existing population, employment, land use, natural resources, and park and open space sites in the County. In addition, work is nearly completed on a chapter that describes additional important factors that should be considered in the development of the County plan, including relevant County, local, State, and regional plans, and public input activities. The Commission has, and will, participate in all public engagement efforts.
- In a companion effort related to the review and update of the regional transportation plan, the Commission completed work on a major review and reevaluation of the long-range regional land use plan. Major inventory updates required in support of the new regional plan—including the

regional land use, environmental corridor, and public utility inventories—have been completed. More information on the plan – called VISION 2050 – is included in the transportation section of this report.

- In May 2013, the Commission staff completed work on the preparation of a new set of projections of population and employment for the Region and its seven counties. The Commission reconsiders and extends its long-range population and employment projections every ten years, following the receipt of new population data from the decennial census along with the most current information on employment levels. The new projections are for the period from 2010 to 2050. The new population and employment projections served as a basis for updating and extending the currently adopted regional land use and transportation plans, along with other elements of the comprehensive plan for the Region, through the year 2050. The new projections are also available for use in county and local planning efforts.
- The Commission staff has continued work on updating the regional land use inventory. The update will be based upon the new orthophotographs for the year 2015, online resources, and field checks as needed.
- The Commission staff continues to work on updating the regional environmental corridor inventory. This update will be based upon the orthophotographs for the year 2015, updated natural resource mapping, and field work.

## **ECONOMIC DEVELOPMENT PLANNING**

- Worked cooperatively with the Milwaukee 7 (M7) and Regional Economic Partnership (REP) to prepare a comprehensive economic development strategy (CEDS) for Southeastern Wisconsin. A draft CEDS was completed and transmitted to each county in the Region for review and comment in March 2015. Presentations to the Milwaukee County Economic and Community Development Committee were made on April 13, July 28, and September 14 to review the CEDS and changes were made to address comments received from the Committee and other commenters. The CEDS was adopted by all seven County Boards in the Region and by the Regional Planning Commission in late 2015.

The CEDS is intended to provide a basis for a more widespread understanding of the ongoing economic development work program in the Region and draws heavily from the “Framework for Economic Growth” report prepared in 2013 by the M7. The CEDS is also intended to meet the requirements of the U.S. Department of Commerce – Economic Development Administration (EDA) for regional economic development strategic planning. The County is eligible to apply for certain EDA grants intended to benefit economically distressed areas based on County Board approval of the CEDS. EDA identifies economically distressed census tracts based on unemployment rates of one percent or more above the national average, or per capita incomes 80 percent or less than the national average. About 57 percent (170 of 296) of the census tracts in Milwaukee County meet these criteria.

- In late 2014, the Commission initiated work on an inventory of existing and proposed business parks in the Region for use in Commission land use, comprehensive, and economic development planning. The information compiled by Commission staff was provided to planning or engineering staff in each city and village in the county for review in coordination with staff meetings on the MMSD facilities planning work described in the following Environmental Planning section. The final inventory has been posted on the Commission website.

- The Commission, in cooperation with WEDC, has made Economic Modeling Specialist International (EMSI) Developer software available to County and local governments and economic development organizations. EMSI Developer is a web-based economic development tool that includes extensive industry, occupation, and workforce data, and is used in business and industry analysis and attraction. County and local economic development organizations and units of government can request SEWRPC staff to apply the software to conduct analyses.
- Provided assistance to the Village of Shorewood in managing the Village's business incentive loan fund program.

## **ENVIRONMENTAL PLANNING**

- Continued to support the City of Glendale, MMSD, and Milwaukee County staff regarding the Estabrook dam. Commission staff provided comments on the plan set for the Estabrook dam removal.
- The following work was performed under the floodplain mapping program for the Milwaukee County Land Information Office (MCLIO) and the Metropolitan Milwaukee Sewerage District (MMSD):

- Continued work on developing the hydrologic and hydraulic models for the Root River watershed. The project involves mapping the ten-, four-, two-, one-, and 0.2 percent annual-probability (10-, 25-, 50-, 100-, and 500-year recurrence interval) floodplains along 28 streams in the watershed, including the main stem of the Root River. This project involves lands in Milwaukee County parks in the Cities of Franklin, Greenfield, Milwaukee, Oak Creek, and West Allis, and the Villages of Greendale and Hales Corners.

Work on the hydrologic model includes updating meteorological data, preparing land use data by subbasin for planned year 2035 conditions, and developing flow routing information for all 28 streams, including the entire Root River main stem.

- Prepared hydraulic models of the Root River and its tributaries using the U.S. Army Corps of Engineers HEC-GeoRAS model. HEC-GeoRAS enables use of a digital elevation model, developed from the 2010 Milwaukee County LiDAR data to automate the process of developing stream channel and overbank cross section geometries and mapping floodplain limits. Continued developing the HEC-GeoRAS model of the Root River main stem, which flows through the Milwaukee County Root River Parkway in the Cities of Franklin, Greenfield, and West Allis and the Village of Greendale.
- Completed hydraulic modeling and floodplain mapping for Dretzka Park Creek in the City of Milwaukee.
- Contacted all the Milwaukee County municipalities to offer assistance for adoption of the completed restoration plan for the Root River watershed. The plan was completed in partnership with the municipalities and counties of the watershed (including Milwaukee County), MMSD, WDNR, the Root-Pike Watershed Initiative Network, and the Southeastern Wisconsin Watersheds Trust, Inc. The plan was developed within the framework of the 2007 SEWRPC regional water quality management plan update for the greater Milwaukee watersheds, and it focuses on water quality, habitat, recreation, and flooding issues. The plan is documented in SEWRPC Community Assistance Planning Report No. 316, *A Restoration Plan for the Root River Watershed*, Part 1: Chapters 1 - 7 and



Part 2: Appendices, July 2014. To date, the City of Greenfield, Milwaukee County, and the Milwaukee Metropolitan Sewerage District have adopted the plan.

- Continued work on a Honey Creek watercourse system plan for MMSD. The plan will address flooding mitigation and stream rehabilitation in the Cities of Greenfield, Milwaukee, Wauwatosa, and West Allis. Alternatives include naturalization of the channel, structure elevation, and structure removal.
- Continued work on a Schoonmaker Creek watercourse system plan for MMSD. The plan will include conveyance, storage, and open channel alternatives to address flood mitigation in the Cities of Wauwatosa and Milwaukee.
- Completed work to support the 2050 Facilities Plan for MMSD. This work included updating floodplains and flood damages for targeted streams for 2035 land use and updated gauge and rainfall data. Milwaukee County streams completed include the Milwaukee River, Beaver Creek, Brown Deer Park Creek, upper Menomonee River, Little Menomonee River, Oak Creek, North Branch of Oak Creek, Mitchell Field Drainage Ditch, and Fish Creek. Work was also completed on the report documenting the floodplain analysis.
- Continued participating in meetings of the Kinnickinnic Watershed Advisory Committee (WAC) to review flood control management alternatives being proposed by MMSD.
- Continued to provide technical assistance to MMSD and its consultant for the implementation plan for the third-party total maximum daily load (TMDL) study for the Kinnickinnic, Menomonee, and Milwaukee River watersheds and the Milwaukee Harbor estuary.
- Provided hydrologic and hydraulic data to consultants and communities for the Kinnickinnic River, Lincoln Creek, and Lyons Park Creek in the City of Milwaukee; the Menomonee River in the Cities of Milwaukee and Wauwatosa; and the Root River in the City of Franklin.
- Completed field work for the Oak Creek Watershed Restoration Plan in the Cities of Oak Creek, South Milwaukee, Franklin, Milwaukee, Cudahy, and Greenfield. The plan focuses on water quality, recreational access and use, habitat conditions, and targeted stormwater and flooding issues.
- As the areawide water quality management planning agency, the Commission staff reviewed and recommended approval of seven public sewer service extension projects, all of which were determined to be consistent with the regional water quality management plan. Those projects were located in the Cities of Franklin (4), Milwaukee (1), and Oak Creek (2). The Commission staff also reviewed 25 private sanitary sewer extensions. Those projects were located in the Cities of Franklin (3), Glendale (2), Milwaukee (1), Oak Creek (9), St. Francis (2), Wauwatosa (2), and West Allis (4) and the Villages of Greendale (1) and Fox Point (1).
- Supported MMSD initiatives that aim to improve aquatic habitat and ecological connectivity within the Milwaukee River between Capitol Drive and Bender Road, including attendance at two meetings.
- Continued to provide technical assistance and advice to Schlitz Audubon Nature Center and the Village of Bayside regarding stormwater management design concepts in the Indian Creek watershed and Lake Michigan direct tributary area. SEWRPC staff provided innovative design elements that enhance ecological value and reviewed construction plans.

- Actively participated in technical review teleconferences with the Army Corps of Engineers, MMSD, and MMSD's consultants regarding channel naturalization work on Underwood Creek just upstream of its confluence with the Menomonee River and naturalization of the western portion of the Burnham Canal.
- Continued to serve on the Milwaukee Estuary Area of Concern (AOC) Fish and Wildlife Technical Advisory Committee.
- Participated in a Lake Michigan Monitoring Coordination Council meeting, a Great Lakes State of Stopover Symposium, and a Wisconsin Coastal Management meeting.

## **Environmental Field Work**

### ***Environmental Inventory/Analysis – 4 Projects***

- Proposed Wauwatosa Life Sciences District at Milwaukee County Grounds (City of Wauwatosa) – Wetland, Environmental Corridor, Critical Species Habitat, and Mature Woodland Delineation
- Proposed Wetland Restoration, Trail Improvement, and Stormwater Planning Project at Schlitz Audubon Nature Center Property (Village of Bayside) – Wetland Delineation and Revision of Natural Area Boundary
- Proposed Wetland Restoration and Trail Improvement at Schlitz Audubon Property (Village of River Hills) – Wetland Delineation
- Field Visit With Milwaukee County Parks Staff at Property Acquired by the County Within Ryan Road Woods, a SEWRPC-Designated Natural Area

### ***Park Sites – 1 Project***

- Proposed Oak Leaf Trail Alternative Route in the Vicinity of the Root River Parkway and the North End of The Rock Sports Complex (City of Franklin and Village of Greendale) – Wetland Delineation

### ***Municipal Utility/Public Facility – 1 Project***

- Proposed Franklin Area D TIF District Utilities, Roadways, and Site Grading (City of Franklin) – Wetland Delineation

### ***Residential/Commercial Development Parcels – 7 Projects***

- Proposed Commercial Development at Interstate Partners Development South of Oakwood Road and West of S. 27th Street (City of Franklin) – Wetland Delineation
- Proposed Residential Development at William Zimmerman Property at 8029 S. 35th Street (City of Franklin) – Environmental Corridor and Wetland Delineation
- Proposed Residential Development at the Paul Marshall Property at 8930 S. 116th Street (City of Franklin) – Wetland Delineation
- Proposed Residential Re-development at the Brad Schmidt Property at 7853 Ridgewood Drive (City of Franklin) – Environmental Corridor and Wetland Delineation
- Proposed Residential Improvements at the Randy and Heather Donahue Property at 2326 E. Elm Road (City of Oak Creek) – Wetland Delineation

- Proposed Residential Development at the Steven Kraeger Properties at 3961 E. Oakwood Road and 10303 S. Chicago Road (City of Oak Creek) – Wetland Delineation
- Proposed Residential Development at Simon Krizan Property at 9878 S. Nicholson Road (City of Oak Creek) – Wetland Delineation

## **SURVEYING AND MAPPING ASSISTANCE**

The Commission has, since its inception, provided surveying and mapping services to Milwaukee County. As a part of such services, the Commission has, since 1984, provided a County Surveyor for Milwaukee County. Pursuant to State Legislation, the County Surveyor is responsible for perpetuating corners of the U.S. Public Land Survey System which may be subject to disturbance, removal, or burial through construction or other activities, and for maintaining a record of the surveys required for such perpetuation. The U.S. Public Land Survey corners, as monumented by the County Surveyor, provide the basis for the conduct of all land and engineering surveys within the County. The Commission remonuments from 50 to 60 such corners annually. The surveys and remonumentation required, if performed through private contract, may be expected to cost over \$100,000 per year. Importantly, the Commission not only remonuments disturbed corners as necessary, but establishes the State Plane Coordinates and Mean Sea Level elevations for those corners through the conduct of high order geodetic surveys. This makes the resulting control survey network invaluable for public works engineering as well as for land surveying purposes.

Also pursuant to State Legislation, a copy of each land survey plat prepared by a land surveyor must be filed with the County Surveyor, and through that office made available to other surveyors, engineers, realtors, assessors, and the public in general. Approximately 900 to 1,000 such plats are filed annually with the County Surveyor.

In addition to meeting the statutory responsibilities of the County Surveyor, the Commission provides related technical assistance in survey and mapping in response to County requests. At the County's request, the Commission in 1989 prepared a detailed design plan for the creation of an Automated Mapping and Land Information System for Milwaukee County. The Commission provided the technical specifications for the creation of the foundational elements—consisting of a horizontal and vertical control survey network, covering the entire County and the large-scale topographic and matching property boundary line maps—and administered the creation of those elements through contracts with consulting engineering firms. That administration included the conduct of the field surveys necessary for quality control of the finished control survey system and the attendant base maps. The Commission has also completed the technical analyses required to facilitate the bidirectional transformation of control survey data between the various survey datums in use by various public and private sector organizations operating within the County, and has, in response to a specific request from Milwaukee County, undertaken a technical evaluation of ability of alternative orthophotography programs to meet National Map Accuracy Standards. The Commission has, also at County request, provided special surveys such as those necessary to map hazards to air navigation that exist in the approach zones to Milwaukee County General Mitchell International Airport, and special surveys to delineate environmental corridor and flood hazard areas.

Since 1995, the Commission has assisted Milwaukee County in the acquisition of new digital orthophotography as part of the Regional Orthophotography Program with the latest acquisition occurring in the spring of 2015. The Commission also assists the County by providing Federal planning funds for a portion of the orthophotography and by reviewing the delivered orthophotography to ensure that it is consistent with the specifications of the regional project. The most recently obtained final orthophotography and oblique imagery was delivered to Milwaukee County on September 17, 2015.

In conjunction with the orthophotography project, Milwaukee County obtained digital elevation products collected in spring of 2015 to complement the imagery. The Commission coordinated and administered a regional elevation mapping project acquiring LIDAR (light detection and ranging) data, digital elevation model files, and one-foot interval elevation contour files for Milwaukee County and four additional counties in the Region. The final LiDAR elevation data products were delivered to Milwaukee County on July 7, 2016.

## **NEW SURVEY DATUM**

The Commission has, since 1964, recommended to the governmental agencies operating within the Region the creation and use of a unique system of survey control as basis for the conduct of land and engineering surveys; and, as basis for the development of automated, parcel-based land information and public works management systems within the Region. The U.S. Public Land Survey System corners within Milwaukee County have been monumented and the coordinate positions and elevations of the corners determined to a high level of survey accuracy and referenced to a unique datum.

The coordinate positions and elevations of all of the survey stations comprising the horizontal and vertical survey control network created within the Region and the attendant topographic and cadastral maps that form the foundational elements of the automated, parcel-based land information and public works management systems are based upon the North American Datum of 1927 (NAD27) and the National Geodetic Vertical Datum of 1929 (NGVD29). In the 1980s, the Federal government established new national horizontal and vertical datums. The former is known as the North American Datum of 1983 (NAD83) and the latter as the North American Vertical Datum of 1988 (NAVD88).

These actions by the Federal government caused the county land information system managers responsible for the creation and maintenance of the county land information systems within the Region, to consider the conversion of the regional survey control network to the new Federal datums. In response to requests from the county land information system managers, the Commission, in 2012, developed procedures for the conversion of the survey control system within the Region from the legacy datums to the new Federal datums. The procedures and the attendant costs were set forth in SEWRPC Memorandum Report No. 206, "Estimate of the Costs of Converting the Foundational Elements of the Land Information and Public Works Management Systems in Southeastern Wisconsin from Legacy to New Datums," October 2012. At that time, given the high costs of the conversions and the lack of any significant attendant benefits, the Commission continued to recommend the use of the legacy datums within the Region.

Due to recent changes in survey technology, county land information system managers within the Region jointly requested the Commission to seek less costly procedures for the desired datum conversion. In response, the Commission in 2015 prepared an addendum to SEWRPC Memorandum Report No. 206 entitled, "Revised Estimate of the Costs of Converting the Legacy Datums within the Region to New National Datums," August 2015. The unique alternative procedure developed by the Commission staff was not only significantly less costly than the procedure set forth in SEWRPC Memorandum Report No. 206, but had the additional advantage of maintaining the legacy lengths of the U.S. Public Land Survey System one-quarter section lines, and the interior angles of the one-quarter sections comprising the legacy survey control network within the Region.

Accordingly, the Commission changed its long-standing recommendation that the legacy datums continue to be used within the Region, recommending that the decision to convert datums be made on a county-by-county basis by the county land information system managers and the county land information councils.

On January 19, 2017, Milwaukee County entered into an agreement with the Commission to proceed with the conversion of the legacy horizontal datum to the new Federal datum. On September 18, 2017, the Commission completed the horizontal conversion with each monumented USPLSS corner throughout Milwaukee County now containing coordinates referenced on both NAD27 and NAD83/2011. Furthermore, it is also expected that the vertical conversion from NGVD29 to NAVD88 will be completed this winter.

The Commission continues to assist the Milwaukee Land Information Office with conversion procedures and techniques that would allow transformation of the existing base mapping data layers to the new Federal datums.

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2018 Milwaukee County Annual Report (00242749.DOC)