STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

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TO: The Michigan Department of Environmental Quality (MDEQ), the Michigan Department of Natural Resources (MDNR), the Michigan Department of Transportation (MDOT), the Michigan Agency on Energy (MAE), the Michigan Public Service Commission (MPSC), the Michigan Department of Technology, Management and Budget (DTMB), the Department of Talent and Economic Development (TED), and the Michigan Department of Agriculture and Rural Development (MDARD)

FROM: Governor Rick Snyder

RE: Regional Infrastructure Asset Management Pilot

On March 10, 2016, I created the 21st Century Infrastructure Commission through Executive Order 2016-5 to develop a bold and visionary plan that addresses not only how we can fix our infrastructure today, but also where we want our infrastructure to be fifty years from now. Sound and modern infrastructure is vital to the health, well-being, and prosperity of the people of Michigan. As Michigan's economy and vibrant communities continue to accelerate our economic comeback, we must find solutions to preserve, maintain, and improve our infrastructure now and in the future. The 27-member Commission included individuals representing the business, government, nonprofit, and academic communities with particular expertise and experience in infrastructure. The Commission delivered their 110 comprehensive recommendations on November 30, 2016.

Throughout its work, the 21st Century Infrastructure Commission encountered a set of key issues that impact all areas of Michigan's vast infrastructure system. As a first step, the state must identify a strategic way to better manage our infrastructure in order to make informed decisions. The Commission recommended we accomplish this through creation of a Michigan Infrastructure Council to oversee an integrated asset management system, coordination, strategy, and investments.

Asset management involves continually inventorying and assessing infrastructure condition so that regular investments can be made in planned maintenance, which extends the service life of an asset before it has to be replaced. This makes it more economical to maintain performance. Identifying strategic investments in preventive maintenance, repair, and rehabilitation of infrastructure assets is much more cost-effective than simply reconstructing the "worst first." The result will be cost savings for local communities and users, satisfaction for customers, and improved security, safety, and public health for our communities.

Currently, infrastructure in Michigan exists in silos. There are 700 separate road and drain agencies, 79 transit agencies, 1,390 drinking water systems, 1,080 wastewater systems, 116 electric utilities, 10 natural gas utilities, and 43 broadband providers. If it is implemented in a standardized and systematic way across infrastructure types and jurisdictions, asset management can improve coordination and significantly reduce costs.

Asset management is not a new concept for Michigan in the realms of public and private infrastructure. Michigan has been recognized by the Federal Highway Administration as being a national leader in statewide transportation asset management data collection and planning through the Michigan Transportation Asset Management Council (TAMC). We therefore have a strong foundation upon which to build. However, the condition of Michigan's underground assets are not widely known, especially water, sewer, and stormwater. The legislature took initial steps in 2012 to fund local asset management plans for sewer and stormwater but more steps and data are needed. Michigan must now implement an integrated asset management system across all assets, create a regional structure to oversee long-term coordination and strategy, invest in our infrastructure systems in a sustainable way, and remain committed to embracing emerging technologies to ensure reliable, safe, efficient, and cost-effective systems. With implementation of a statewide asset management system, Michigan will be the national leader in systematic, holistic infrastructure asset management and planning. Strong, resilient infrastructure will create a strong and resilient Michigan.

Section 1 of Article V of the Michigan Constitution of 1963 vests the executive power in the Governor. Section 8, Article V of the Michigan Constitution places each principal department under the supervision of the Governor. Pursuant to these provisions of the Michigan Constitution, I direct the following:

The Directors of the Michigan Department of Environmental Quality (MDEQ), the Michigan Department of Natural Resources (MDNR), the Michigan Department of Transportation (MDOT), the Michigan Agency on Energy (MAE), the Michigan Public Service Commission (MPSC), the Michigan Department of Technology, Management and Budget (DTMB), the Department of Talent and Economic Development (TED), and the Michigan Department of Agriculture and Rural Development (MDARD), led by key staff from the Executive Office, are directed to immediately establish a regional asset management pilot. A pilot region(s) (ideally a Michigan Prosperity Region) that is best positioned with a foundation of asset management practices, data collection, and the ability to coordinate amongst infrastructure stakeholders and most closely approximates the diversity of infrastructure entities across the state should be chosen. In the pilot, they must partner with the selected pilot region(s) to identify and agree upon existing data, assets, attributes, and data needs within the chosen region(s) that are representative of the assets statewide, and a regional structure for future implementation of data collection and evaluation efforts. By its conclusion, the regional infrastructure pilot should put forward recommendations on how the state can operationalize a statewide comprehensive asset management database and system, including where an appropriate system should be housed and the staffing needed to implement and manage the system.

An Advisory Board should be established to help provide policy direction and guidance for final recommendations on implementation of the pilot. The Advisory Board should meet throughout the duration of the pilot and may consist of representation from state, regional, and local governments, along with technical experts and infrastructure stakeholders, as determined by the pilot leaders.

The pilot should include, at a minimum, the following objectives:

- Identify and engage critical key stakeholders: The pilot should identify key public and private infrastructure stakeholders and technical experts in the region(s) across water, sewer, stormwater, transportation, energy, and communications infrastructure to assist in this process and begin to coordinate asset management and planning across infrastructure sectors. In partnership with state leaders, stakeholders will need to agree upon standards and policies that will allow for effective interoperability across data sets, while maintaining integrity and security of the data. The pilot should seek to include engagement with private stakeholders to determine those conditions that will maximize participation. Cross-regional teams for communication and coordination will be instrumental to this process.
- Identify focus asset areas: The initial focus should be on data identification and evaluation of transportation, water, sewer, and stormwater assets. Broadband and energy utilities should be included in the discussions and pilot process.
- Identify and define data elements: The pilot leaders should identify, define, and inventory existing and needed infrastructure asset data and data elements (condition, material, age, remaining service life, ownership, planned investment, etc.).
- Establish common data standards: The pilot should emphasize a process to agree on common data standards necessary for asset management including the useful life of various assets, method of condition assessment for each asset class, desired level of service and other key data elements.
- Identify a statewide, regional reporting process and structure: Identify an appropriate process, structure and/or authority to plan, analyze, and coordinate infrastructure across assets and jurisdictions at the regional level that would create the framework for a statewide asset management system.
- Identify criteria for a database system: Pilot leaders should identify criteria for a database that uses a core set of data elements and standards that enable consistent tracking and assessment. Criteria for the system must include the collection, management, integration, interoperability, and analysis of relevant data.
- Determine criteria for database software and tools: The pilot leaders should ensure the software is compatible across asset types and with current asset management efforts that may already be underway across the state. Existing data storage, asset tracking, and reporting tools should be leveraged, such as the TAMC's Investment Reporting Tool, Michigan Technological University's Roadsoft database, and the Michigan Geographic Framework repository. Further, the database software and tools should integrate with work order management system(s) and GIS.
- Identify additional functions and tools: Develop suggestions for additional functions a statewide system may benefit from, including analytic and decision-making tools as well as how to provide a user-friendly interface where a snapshot of state, regional, and local system performance can be viewed by the public.
- Identify planning and investment elements: The pilot should identify a core set of data elements that enable tracking and assessment of investments, management actions, asset status, desired outcomes, and measured service-level goals of improved system ratings toward specific targets. Common data elements and performance measures will allow integration of decision making, and therefore should be a priority.
- Ensure security and delivery of data: Pilot leaders should evaluate and develop processes to secure information as necessary to protect public health and safety. Database development must ensure the collection, management, integration, analysis of relevant data, and delivery of useful and appropriately secure information to decision

makers. Pilot leaders should also recognize that commercially sensitive information may be requested from private entities, and work with such stakeholders to determine the best way to achieve maximum participation.

- Identify training needs and estimated costs: The pilot leaders should identify training needs to develop proficiency utilizing a multi-asset management system, and training to identify asset system conditions based on a statewide asset condition measure (per asset class, similar to training and standards utilized by the TAMC for the collection of PASER data for the road system).
- Leverage existing planning efforts and identify service gaps: The pilot should investigate ways of leveraging infrastructure asset management planning efforts into other local and regional planning efforts such as master land use plans and capital improvement plans to help identify areas affected by service gaps, excess capacity and other collaborative right-sizing opportunities, while respecting and serving the community.
- Communicate progress on a regular basis: Regional pilot leaders should communicate to stakeholders within the pilot area on a regular basis through a variety of means. In addition, pilot leaders should also convene and communicate with other Prosperity Regions during the pilot period to keep them informed of progress, allow for open discussion of the pilot and any opportunities for their engagement, and begin to collaborate on execution of a statewide system.

Additionally, during pilot development, I am directing the director of the MDEQ to work with stakeholders to review and assess existing programs and identify best practices of their current sewer and stormwater asset management initiatives (i.e., Stormwater, Asset Management, and Wastewater [SAW] Program and National Pollutant Discharge Elimination System [NPDES] permits). Recommendations for the expansion and revision of SAW should be addressed in the pilot leaders' final recommendations and should ensure that water, sewer, and stormwater condition assessments and asset management plans are developed in a manner that enables consistent reporting in the asset management statewide database.

Within one year of the establishment of the pilot, pilot leaders should provide a set of recommendations and lessons learned to the Governor for use as a framework in the development of a statewide asset management database system and regional structures to plan asset management and direct information statewide. The recommendations and lessons learned should be structured to maximize value in the statewide development and implementation of this database and regional structure.

To help achieve this end, the director of each principal department and agency must identify appropriate senior-level and department analyst staff to assist in leading this effort in coordination with the Executive Office.