



21st Century Infrastructure Commission

Created by Michigan Governor Rick Snyder

March 2016

Edited for SEMCOG presentation Jan 2017

View the final report and executive summary at:

www.miinfrastructurecommission.com



Vision Statement

Michigan will lead the nation in building a 21st century infrastructure system for the next economy that will include, at a minimum, innovative technology, sustainable funding solutions, true cost of service principles, and a collaborative and integrated asset management approach that will enhance Michiganders' quality of life and build strong communities for the future.



Infrastructure Snapshot

- Michigan has:
 - 1,390 community drinking water systems
 - 1,080 wastewater treatment systems
 - 619 agencies that own and operate 120,000 miles of public roads
 - ~700 drainage agencies
 - 437 telecommunications providers
 - 231 electric power plants and 5,735 miles of lines
 - Approximately 55,000 miles of natural gas distribution main and over 3.2 million service lines



The Problem

**NEARLY
HALF-A-MILLION**
HOUSEHOLDS WITHOUT
ADVANCED BROADBAND



MANY OF MICHIGAN'S
1,390 COMMUNITY WATER
SYSTEMS WERE BUILT
50 TO 100
YEARS AGO



SINCE 2008, AN AVERAGE OF
5.7 BILLION GALLONS
OF UNTREATED SEWAGE
FLOWED INTO MICHIGAN'S
WATERWAYS ANNUALLY.



25%
OF BEACHES
EXPERIENCED CLOSURE
IN 2015



A SIX-MONTH
SHUTDOWN OF THE
SOO LOCKS
WOULD RESULT IN
11 MILLION
JOBS LOST
NATIONWIDE



1,200
MICHIGAN
BRIDGES ARE
STRUCTURALLY
DEFICIENT



39%
OF ROADS
ARE IN
POOR
CONDITION



Commission Background

- March-December 2016
- Comprised of 27 appointed members:
 - Infrastructure experts
 - Government representatives
 - Academic scholars
 - Business representatives
- Provided a long-term, comprehensive set of infrastructure recommendations by November 30, 2016
 - Healthy systems ensure a better quality of life, spur economic activity and job growth
- For the next 30-50 years across all sectors



Meet the Commissioners

- **Dr. Janice Beecher**, Michigan State University
- **Roger Blake**, AT&T
- **Ronald Brenke**, American Council of Engineering Companies
- **Bob Daddow**, Oakland County
- **Eric DeLong**, City of Grand Rapids
- **Mike DeVries**, AECOM
- **Carl English**, Consumers Energy
- **Joi Harris**, DTE
- **Ben LaCross**, Leelanau Fruit Co., representing Michigan Farm Bureau
- **Gavin Leach**, Marquette, Northern Michigan University
- **Brian Mills**, Michigan State Housing Development Authority
- **Mike Nystrom**, Michigan Infrastructure and Transportation Association
- **Evan Pratt**, Ann Arbor, Drain Commissioner for Washtenaw County
- **Doug Rothwell**, Ann Arbor, President and CEO of Business Leaders for Michigan
- **Brian Steglitz**, City of Ann Arbor
- **Helen Taylor**, The Nature Conservancy
- **Louis Taylor**, Saginaw, WadeTrim
- **Beverly Watts**, Wayne County Department of Public Services
- **Evan Weiner**, Franklin – Chair, Edw. C. Levy Co.

State Departments Include:

- Michigan Agency for Energy
- Michigan Economic Development Corporation
- Department of Technology, Management, and Budget
- Department of Agriculture and Rural Development
- Department of Natural Resources
- Department of Environmental Quality
- Department of Transportation
- Michigan Public Service Commission



Infrastructure Sectors

- **Transport System**

- Aviation, Freight, Highways, Roads, Streets, Bridges, Transit, Passenger Rail, Nonmotorized Transportation, Ports

- **Water/Sewer/Stormwater/Drainage**

- Drinking water, Wastewater management, Stormwater management, Dams

- **Communications & Energy**

- Telecommunications, Broadband, Electricity, Natural Gas, Petroleum

- **Funding & Policy**

- How to invest and ensure solid performance



Commission Timeline

JANUARY 2016

Gov. Rick Snyder announces
21st Century Infrastructure
Commission during
State of the State address



MARCH 2016

The 21st Century Infrastructure
Commission is created by
Executive Order 2016-5



APRIL 2016

Commissioners are announced and
hold their first meeting



21ST CENTURY INFRASTRUCTURE COMMISSION TIMELINE

JULY 2016

Commissioners hold the first
Listening Tour stop in
West Michigan and meet with
stakeholders in Traverse City



AUGUST 2016

Commissioners hold the second
Listening Tour stop
in Northern Michigan and meet
with stakeholders in Escanaba



SEPTEMBER 2016

Commissioners hold the third
Listening Tour stop in
Southeast Michigan and meet
with stakeholders in Flint



NOVEMBER 2016

The Commissioners release
their recommendations



Commission Process



- The Commission reviewed leading practices from around the world to recommend **innovative solutions** that can improve the maintenance, building, and funding options for Michigan's entire infrastructure system
- Commissioners worked to understand current infrastructure conditions and engaged technical experts to inform their recommendations
 - Significant underinvestment, lack of coordination among all levels of government across infrastructure types
- Analyzed **leading practices nationally and internationally**; focused on asset management techniques and successful funding models
 - City of London
 - Ontario, Canada
 - California
- Their goal was to provide a guide **for reliable, safe, and affordable investments** in infrastructure that will ensure the vitality and wellbeing of Michigan's citizens and economy for the next 50 years



The Future State of Michigan's Infrastructure

Coordinated
Cost-effective
Sustainable
Safe
Innovative
Smart
Flexible

Quality

Affordable

Service-oriented
Holistic
Adaptable
Reliable
Efficient
Implementable

Resilient



Public Engagement Summary

- **West Michigan Listening Tour**

- 60+ attendees
- Embrace future “smart” technologies, provide broadband access in rural areas, and have a low failure rate across infrastructure types, among other things

- **Northern Michigan Listening Tour**

- 100+ attendees
- Diversify transportation assets, engage younger generations in infrastructure debates and policy discussions, expand broadband to rural areas, and better integrate infrastructure systems across asset type and all levels of government, among other things

- **Southeast Michigan Listening Tour**

- 50+ attendees
- Invest in “smart” infrastructure, provide safe and high-quality transit opportunities, ensure regional cooperation when making infrastructure decisions, provide high-speed internet access, and develop high-quality pedestrian and bicycle bridges

- **Commission Website**

- Over 2540 unique visitors to the website
- 176 answered poll questions and 69 comments were posted to a public discussion board



An aerial photograph of a city with a green banner overlay. The banner contains the text 'READ THE 21ST CENTURY INFRASTRUCTURE COMMISSION'S FULL REPORT'.

READ THE 21ST CENTURY INFRASTRUCTURE COMMISSION'S FULL REPORT

- Final **recommendations** were delivered to the Governor on November 30
 - Released to the public on December 5
- Transportation recommendations at:
View the full report and executive summary at:
www.miinfrastructurecommission.com



Transportation Highlights

- ✓ Annual road and bridge need estimated at \$2.2B annually
- ✓ Limited sources for that level of funding – more gas tax, sales tax, bond
- ✓ Road/Stream crossings are a large, but largely unknown obligation
 - Generally older and in worse condition than any other transportation infrastructure
 - Initial \$4M in funding for inspection and condition assessment recommended
 - Includes structures larger than 5' diameter, up to a “bridge” span of 25'
- ✓ \$430 annually in additional Transit funding recommended
- ✓ Ports, Aviation, and the DIFT also have recommendations
- ✓ System technology upgrades for all modes of transportation are recommended for “carrot” funding
- ✓ Intelligent vehicle technology will continue to develop, with unknown impacts on capacity and vehicle-owner ratios. Investment recommended for MI leadership in this sector



Water Highlights - Findings

- Need to resolve extensive unknowns about inventory and condition at local, regional, and state level
- Stormwater is most unknown, but likely oldest average age – condition assumed worst overall
 - ❑ Road/Stream crossings are a large, but largely unknown obligation
 - ❑ Dams – ownership, funding, age, and public “need” are all obstacles to responsible management
- Our surface water is better but still unacceptably polluted – stormwater is the primary source
 - ❑ E. coli above contact levels found in 50% of stream samples, beaches also majorly impacted
 - ❑ Road runoff brings largest pollutant load and worst pollutants – most road projects DO NOT address
 - ❑ Green Infrastructure and other Infiltration are most effective at pollutant removal, need more funding eligible
- 12,000 contaminated sites in Michigan – many LUSTs, but how publicly do we measure progress?
- Asset Management and Green Infrastructure recommended for “carrot” funding
- Nearly 2,500,000 people on “private” well and septic or community wastewater systems
- Land Use is a factor that is not addressed in the report, beyond seeking more utility collaboration



Water Highlights - Recommendations

- ✓ SAW 2.0 recommended for 5 years - \$400M sanitary/storm, \$350M drinking water
 - ✓ Assess and fine tune the expectations and outcomes of SAW first
 - ✓ State to fund a pilot of Asset Management software, data sharing, and other related issues recommended through Asset Management Council – SEMCOG region or sub-region might be well-positioned
- ✓ Funding recommended for municipal emergency HS&W related to utility improvements
 - ✓ \$25M recommended annually for systems with issues such as arsenic, lead pipes or other DW contaminants
 - ✓ \$4.5M recommended to support schools drinking water testing and remediation program (one-time)
- ✓ MDEQ to continue funding cleanup efforts for contaminated properties
 - ✓ Currently limited to immediate health threats and last year or two of CMI bond
 - ✓ Another bond or alternative funding source is needed
 - ✓ Economic development and re-purposing of existing infrastructure work best with sites cleaned beyond minimum health standards – MI needs more re-use carrots vs sprawl that adds more new infrastructure.
- ✓ Recommended that MDEQ review the SRF and DWRF funding sources to enhance participation
 - ✓ Bring back the S2 grant for design phase eligibility, streamline application requirements, 30 yr loan option



Water Highlights - Recommendations

- ✓ MDEQ and MDNR should facilitate tools that enhance operational asset management of Green Infrastructure
- ✓ Treasury and MDEQ should solicit customer input, review, and revise funding and financing options to incent evaluation and implementation of (energy) efficiency and infiltration in water infrastructure.
- ✓ Update the Michigan Drain Code in two specific areas with broad stakeholder input
 - ✓ Simplify the process of establishing collaborative watershed management planning entities with spending authority
 - ✓ Address obstacles to asset management and capital planning (maintenance limited to \$1/foot annually)
- ✓ Relevant agencies should assess State properties to identify and implement green infrastructure
 - ✓ MDNR and MDOT should be the first agencies to conduct this evaluation
 - ✓ DTMB, MDEQ, and other relevant agencies need to follow suit
- ✓ A number of initiatives to incent more hookups to/extension from existing utilities to maximize capacity of existing systems and where possible to reduce the number of agencies



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What do I NEED to do?



What Do I NEED to Do??

- Report recommendations generally need bold legislative action
- YOU and/or YOUR community leaders need to let YOUR legislators know funding infrastructure is critical to our economy and well being
- Think of a story you can tell in your community and get it to your legislators
- Send photos of failed infrastructure to: layton@semcog.org
- Share this video summarizing the issue at: <http://fixmistate.org/>
 - Include the above suggestions when sharing the video or other information

