Municipal Infrastructure and Health

ERIC DELONG
DEPUTY CITY MANAGER
The Problem

- Michigan’s infrastructure is a “D” on the American Society of Civil Engineers’ report card on state infrastructures
- 37% of Michigan’s major roads are in poor condition
- 27% of our bridges are structurally deficient or functionally obsolete
- Thousands of lead service lines are being replaced in Flint
- Michigan’s infrastructure needs have been put off for decades
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.
The Future State of Michigan’s Infrastructure

Coordinated  Cost-effective  Sustainable  Holistic
Safe  Affordabe  Adaptable  Reliable
Innovative  Quality  Efficient  Resilient
Smart  Flexible  Implementable
Phosphate feed started May 9, 1994

System approved for three-year monitoring in June, 2001

Grand Rapids Water 90th Percentile Testing Results

Parts per billion (ppb)
Lead Hazards

• Lead in water is not a problem; but environmental lead is a problem.

• Federal and state regulations banned sale of lead-based paint in 1978, but still found in older homes and in the soil around them.

• 80% of housing in Grand Rapids was built before 1978

• Even small amounts ingested by young children can lead to brain damage, poor physical growth and development, social problems, behavioral problems, and learning disabilities.

• Of 4,221 children tested, 11% were lead poisoned

• 49507 zip code had the most lead-poisoned children in the state.

• Majority caused by deteriorating lead-based paint and lead dust in the home

2015 Data by MI Department of Health and Human Services
City of GR Lead Hazard Control Program

2016 Lead Hazard Control Grant  $2.9 M

- Address lead paint hazards in housing units
- Increase public awareness through outreach and education
- Increase community capacity to address lead hazards
- Training in safe cleaning, repair and remodeling methods for residents, landlords and contractors.
- Providing business development services for lead contracting start-ups, targeted toward low-income tradespeople.

- Since 2004 - Six previous grants totaling nearly $15.6 M
  - 1,319 homes made lead safe
  - 2,708 residents, property owners and contractors educated in lead safety
  - 92 individuals trained as lead abatement professionals
Combined Sewer Overflow Elimination

1981
59 In-System Overflow Points

2015
0 In-System Overflow Points
Real Time WQ Monitoring

Parameters - BOD, CHLa, COLOR, E. COLI, NO3, TEMP, TOC, TSS, TURBIDITY, UVA
Grand River at Wealthy Street Bridge
Grand River, Water Quality Index
1985-2016 (2016 thru June)

Northland Dr./Knapp Bridge
Johnson Park
Eastmanville/68th Street
Analysis and Mapping Plan

Grand Rapids Pilot LAMP Project

City of Grand Rapids, Michigan

01/12/2016

Final
West Nile Virus

Collaboration with Kent County Health Department

WNV Mosquito Surveillance Data Provided

Human Health Data Provided

Nearest intersection identified

<table>
<thead>
<tr>
<th>Kent County Data</th>
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<tbody>
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<td>49506</td>
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</tbody>
</table>
West Nile Virus

Vectolex larvicide

Approved by MDEQ
Streets Are Complex Places
Vital Streets Vision

The network of city streets and rights-of-way will be accessible, attractive, multimodal and safe; serving all people of our community, contributing to the livability of our neighborhoods and business districts, protecting the quality of our river, and increasing economic opportunity to individuals, businesses, and new development.

Infrastructure assets will be maintained and well-managed, using a multi-faceted funding and educational strategy and innovative approaches to preserve our investment.
Our Progress

We have completed:

- 169.175 miles of streets - More than one-quarter (28.8%) of city streets were touched by Vital Street investments since 2014.

- $45,197,712 of Vital Streets investment

- 363,000 square feet of sidewalk have been replaced (roughly 13,000 sidewalk squares)

- 1,200 ADA ramp upgrades

- $2,570,000 investment in sidewalks and ADA ramps (Includes both Sidewalk Fund and Vital Streets Fund)
HEALTHY COMMUNITY

Enriching Parks and Recreation Offerings to Meet Demands, Attract Users and Promote Health.
Vision for the Future: Connected and Accessible System

CONNECTED RIVERFRONT

Why a Connected Riverfront?

Ecology
The Grand River Valley is an important ecological feature. River improvements support environmental health.

Program
GR’s waterways offer opportunities for water-based recreation, trails, and one-of-a-kind programs.

Identity
As a unified system, GR’s riverfront parks will be a recognizable icon and economic driver for the Department and the City.

GRAND RAPIDS WHITEWATER INITIATIVE

2011
Green Grand Rapids Master Plan

2012

2014
Economic Impact Report

GR FORWARD

1. Integrate art, education, infrastructure, + ecology
2. Reinforce whitewater initiative
3. Establish river trail system access
4. Enhance neighborhood river access
5. Create the outdoor adventure city
ACCESSIBLE FACILITIES IN THE NEIGHBORHOODS

**Park Entrances**
- Improve pedestrian gateways at park entrances
- Align bicycle paths with entrances when possible

**Trail and Path Entrances**
- Entrances should clearly exclude cars while welcoming others

**Park Pathways**
Designated pedestrian pathways
- No vehicles permitted
- Design trails to American Trail standards
- Design for pedestrian comfort

Designated service pathways
- Shared-use paths for service and emergency vehicles in parks
- Path designed to structurally accommodate vehicle
Community Policing

- Builds partnerships with neighborhood and business associations
- Trains Neighborhood Crime Prevention Organizers
- Coordinates Neighborhood Watch programs
- Address quality of life issues and crimes
Background – A Demographic Transformation is Underway

Kent County population percent change by race:

<table>
<thead>
<tr>
<th>RACE</th>
<th>2009 POPULATION</th>
<th>2014 POPULATION</th>
<th>PERCENT CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>459,291</td>
<td>465,123</td>
<td>▶️ 1%</td>
</tr>
<tr>
<td>Black</td>
<td>56,485</td>
<td>59,316</td>
<td>▶️ 5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>57,317</td>
<td>63,484</td>
<td>▶️ 10%</td>
</tr>
<tr>
<td>Asian</td>
<td>13,850</td>
<td>15,628</td>
<td>▶️ 13%</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>12,228</td>
<td>14,699</td>
<td>▶️ 20%</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>2,096</td>
<td>2,188</td>
<td>▶️ 4%</td>
</tr>
<tr>
<td>Native Hawaiian/Pacific Islander</td>
<td>179</td>
<td>150</td>
<td>▼️ 16%</td>
</tr>
</tbody>
</table>

Source: MLive

In Grand Rapids, Dr. Manuel Pastor projected that by 2040, nearly ¼ of the city’s population will be Latino.

---Pastor is Professor of Sociology and American Studies & Ethnicity at the University of Southern California
Current State Indicators: Unemployment and Income

- Wealth Gap
- Unemployment
- Housing
- College Attainment

Median family income

The median income for individuals is based on individuals 15 years old and over with income. The median divides the income distribution into two equal parts: one-half of the cases falling below the median income and one-half above the median.

Kent County Average $65,067

2013 Post-secondary education’s and relevance to home ownership

It is vital to not only measure median income and unemployment when we consider community economic development. We must expand our view to consider how these indicators intersect with educational attainment as well as home ownership.

<table>
<thead>
<tr>
<th>Race</th>
<th>Post-Secondary Attainment**</th>
<th>Homes Occupied</th>
<th>Percent of Home Owners Occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>46.1%</td>
<td>118,587</td>
<td>79.3%</td>
</tr>
<tr>
<td>Black</td>
<td>19.1%</td>
<td>21,164</td>
<td>54.8%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>24.0%</td>
<td>14,782</td>
<td>40.1%</td>
</tr>
<tr>
<td>Asian</td>
<td>35.5%</td>
<td>5,669</td>
<td>69.3%</td>
</tr>
<tr>
<td>Kent County</td>
<td>49.1%</td>
<td>229,373</td>
<td>70.1%</td>
</tr>
</tbody>
</table>

* Other is defined as the median family income for Other races, Native American Races and Two or More Races

** Associates or Higher degree


Lighter shades indicate non-unemployed population.
Current State Indicators:
Health Equity

- No Personal Health Care Provider
- No Health Care Access Due to Cost
- No Health Care Insurance
- Health in Homes—environmental

<table>
<thead>
<tr>
<th>Health status</th>
<th>Percent change</th>
<th>PERCENT CHANGE</th>
<th>PERCENT CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>10.0%</td>
<td>10.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Black</td>
<td>12.3%</td>
<td>32.4%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11.5%</td>
<td>29.7%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>16.0%</td>
<td>11.3%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Kent County Average</td>
<td>10.8%</td>
<td>13.7%</td>
<td>2.9%</td>
</tr>
<tr>
<td>State Average</td>
<td>14.5%</td>
<td>17.7%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Limited health care coverage
An estimated 14.2% of Kent County adults do not have a personal doctor or health care provider—a figure virtually at par with the 2009 survey results, and notably lower than the statewide and national rates. Below shows respondents in Kent County with no personal health care coverage due to cost.

Percent population vs percent uninsured
You can see in the graph that Hispanic Americans in Kent County have the highest rate of being uninsured with more than 25%. While just over 12% of African Americans were uninsured last year, this is an improvement from 2013 where more than 15% were uninsured.
(Data reflects civilian noninstitutionalized population)

- White
- Black
- Hispanic
- Asian
- Other
- Two or more Races
Potential Outcome Areas

Community Economic Development Indicators

- Wealth Gap – Income of Residents by Race/Ethnicity
- Unemployment of Residents by Race/Ethnicity
- Housing
- College Attainment by Race/Ethnicity

Health Equity Indicators

- No Personal Health Care Provider by Race/Ethnicity
- No Health Care Access Due to Cost by Race/Ethnicity
- No Health Care Insurance by Race/Ethnicity
- Health In Homes - Asthma

Education Indicators

- Enrollment by Race/Ethnicity
- Number of Students receiving Free and Reduced Lunch by Race/Ethnicity
- Graduation Rate by race/Ethnicity
- Chronic Absenteeism—engagement

Source: West Michigan Leadership Collaborative; The High Cost of Disparities, 2015, pg. 18
LIFE

MICHIGAN STREET CORRIDOR PLAN
Health Impact Assessment

HIA is a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy plan, program, or project on the health of a population. HIA provides recommendations on monitoring and managing those effects.

-National Research Council, 2011

Steps

- Screening
- Scoping
- Risk Assessment
- Recommendations
- Reporting
- Evaluation
SUSTAINABILITY PLAN
FY2017–FY2021
07/19/2016
CITY OF GRAND RAPIDS