# Appendix E

# A Plan for Monitoring the Health Effects of Adopting a URSM Policy

## Priority Areas Addressed in the HIA

Assessing the potential health effects of URSM policy on decisions in local communities regarding the establishment of a growth management area or adoption of a policy that guides the development of water and sewer infrastructure into undeveloped or rural areas resulted in key findings and recommendations addressed in the preceding sections of the HIA. Participants in the HIA of the proposed policy identified four main priorities (not ranked in order of importance):

1. Expanding Public Water and Sewer Infrastructure and Services
2. Maintaining Surface Water Resources and Quality
3. Preserving Agriculture and Open Space
4. Encouraging Policy Development and Implementation and a Regional Vision

These priorities have formed the basis for assessing health effects of alternative growth scenarios, as shown in Section 3 of the HIA. The pathways depict the three possible scenarios available to communities considering expansion of water and sewer services, establishing growth management areas, or maintaining the *status-quo* of reacting to development pressures. The first option is to allow new development in under-served areas with onsite well and septic systems (the status quo). The second option is to build or maintain water and sewer in under-served areas beyond current growth area. The third option is to build additions to or maintain existing water and sewer infrastructure within the current growth area.

The HIA finds that the proposed URSM policy being assessed would have significant positive impacts on human health, community health, and wellbeing. The findings and recommendations in the HIA can be tracked or monitored as communities adopt growth management policies, incorporate recommendations in master plans, zoning ordinances, and permit requirements. Long-term monitoring can determine whether: (1) community goals were reasonable and realistic in the first place; (2) community goals should be changed; and (3) resultant policies, practices, etc., can and should be changed or modified as conditions change in communities. The implementation of a future HIA process should also be incorporated with significant changes in policies or conditions.

## Implementation of Recommendations in Local Communities

The following list includes indicators and information needed to determine whether and how recommendations have been implemented. Health-related information, which can be observed and measured through official monitoring studies by the Michigan Department of Community Health, Michigan Department of Environmental Quality, the Power of We Consortium in Greater Lansing, and county health departments or observed by tracking local land use change, is provided to communities seeking to monitor the success of adopting a URSM policy, assess the potential health effects of land use decisions, and determine whether further actions need to be taken or policies and practices modified to ensure that health issues are considered in the planning process.

## Indicators and Metrics

Indicators or criteria for meeting the recommendations of the proposed URSM policy and health determinants (e.g., health outcomes; socioeconomic, environmental, and policy drivers of change; institutional adaptation) were developed in response to health issues identified by stakeholders during scoping, and integrated with indicators of physical and mental health developed by the Healthy People 2020 Federal Interagency Workgroup (U.S. Department of Health and Human Services, 2014). Indicators were also selected by their ability to be measured (using both objective and subjective metrics) as HIA recommendations are implemented, and monitored over time. Metrics are chosen by the ability to measure and observe change/impacts in meeting health-related goals.

The following indicators can measure progress once a policy is adopted and implemented by a local jurisdiction, or, for that matter, not adopted:

#### Indicators of Expanding Public Water and Sewer Infrastructure and Services

* Increase or decrease in incidence of failure of existing water and sewer systems.
* Increase or decrease in physical expansion of water and sewer infrastructure in rural areas.
* Conversion and rate of conversion of areas with existing private well and septic within areas already served by water and sewer infrastructure.
* Monitored and mapped areas containing disadvantaged or at-risk populations relative to existing or expanding infrastructure.
* Public health records reporting incidence of stress, anxiety, or depression due to tradeoffs in use of household budgets.

#### Indicators of Maintaining Water Resources and Quality

* Annual updates of results of MDEQ monitoring of surface water bodies in the mid-Michigan region.
* Records of impaired water bodies tracked by county environmental health departments; spills; failed sanitary sewers and septic systems.
* Health records (epidemiology and toxicology) of public exposures to pollutants; beach closings; fish consumption advisories, etc.
* Status of projects to separate storm and sanitary sewer systems, eliminate point sources from receiving surface water bodies, and reduce non-point sources.

#### Indicators of Preserving Agriculture and Open Space – Land Use Conflicts

* Total acreage and percent of farmlands placed in county farmland preservation programs and PA 116 applications.[[1]](#footnote-1)
* Status of active farms versus farms converted to other uses.
* Changes in residential development based on land/real estate transactions. Focus on large residential development.
* Changes in number of farms or farm acres devoted (and contracted) to the production and distribution of crops contributing to locally grown food. Focus on healthy food production rather than commodity food production.
* Changes in number of farms or farm acres enrolled in farmland preservation programs or PA 116.
* Percent change within a designated period of time.
* Rate of adoption of farmland/open space preservation programs, including Purchase of Development Rights (PDR) or Transfer of Development Rights (TDR).
* Rate of adoption of Natural Features ordinances or Land Preservation ordinances.
* Rate of use of Conservation Easements.

#### Indicators of Preserving Agriculture and Open Space – Public Access to Land Resources

* Changes in number of farms or farm acres devoted (and contracted) to the production and distribution of crops contributing to locally grown food. Focus on healthy food production rather than commodity food production.
* Changes in number of farms or farm acres enrolled in farmland preservation programs or PA 116.
* Percent change in acres devoted to agriculture within a designated period of time.
* Rate of adoption of farmland/open space preservation programs, including Purchase of Development Rights (PDR) or Transfer of Development Rights (TDR).
* Status of local community farm markets, location and participation by local growers. Indicators include number of farmers’ markets in communities and number of local or regional farmers selling at farm markets.
* Potential effects on the availability of locally grown foods from loss or conversion of farmland due to sprawl: <http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/_pdf/projects/fsp/farm_bill/farmbill_lessons.pdf>

#### Indicators of Encouraging Policy Development and Implementation and a Regional Vision

* An increase in the number of communities in region adopting a URSM Policy, making applicable changes in master plan updates and zoning ordinance language.
* Changes in zoning ordinances and permit decisions that discourage developments in rural areas that do not have access to existing public water and sewer infrastructure unless construction and maintenance costs are borne by users.
* Changes in zoning ordinances and permit decisions that encourage and increase cluster development, infill, and use of lands within a URSM.
* Increases in Shared Capital Improvement Plans (CIP).
* Increases in properties remediated and converted to productive uses through regional Brownfield Redevelopment Authorities.
* Increases in cooperative agreements and revenue sharing between local Downtown Development Authorities (DDA) and Tax Increment Financing Authorities (TIFA).
* A regional Fair Share Affordable Housing Policy.

Appendix D, which is based on the survey of stakeholders participating in the development of this HIA, provides a depiction of targets for health, environmental, and socioeconomic outcomes affects by adopting (or not adopting) a growth management or URSM policy. These indicators can be measured and monitored to determine progress resulting from local adoption and implementation of the URSM policy.

## Implementation Results

Stakeholders and participants that would play an important role in the monitoring and evaluation of URSM policy implementation are summarized in a table in Appendix E. The table includes stakeholder groups, contact information, information resources that can support a monitoring program, and interest in tracking implementation of the URSM policy and integrating health in local planning and decision making through the proposed Health In All Policy.

## Future Goals

The HIA, and its findings and recommendations, is being provided to all communities in the mid-Michigan Region via the HIA Toolkit, accessible to the public via the Mid-Michigan Program for Greater Sustainability (MMPGS) Portal at [www.midmichigansustainability.org](http://www.midmichigansustainability.org) and the Tri-County Regional Planning Commission website ([www.mitcrpc.org](http://www.mitcrpc.org)). Comments and suggestions on the draft HIA can be communicated to the HIA Team via the MMPGS Portal. TCRPC staff will continue to provide information and education to local communities on adopting recommendations provided in the URSM HIA, as well as general information on adopting a Health In All Policy, integrating health considerations in planning decisions, and conducting local HIAs.

TCRPC will also assist communities in developing a long-term monitoring program to determine whether: (1) community goals were reasonable/realistic in the first place; (2) community goals should be changed; and (3) resultant policies, practices, etc., can and should be changed or modified as conditions change in communities. The implementation of a future HIA process should also be incorporated with significant changes in policies or conditions. In addition, TCRPC, in collaboration with the county health departments, will determine whether the indicators or criteria used to measure change (i.e., individual behavior, health determinants, programmatic and regulatory compliance, institutional change, etc.) have adequately measured change, and develop and include action triggers/red flags that can immediately report problems and offer mitigation of adverse or unforeseen impacts. And, as appropriate, local health agencies and non-governmental organizations, particularly the Greater Lansing Power of We Consortium and the Land Use and Health Resource Team, will continue providing public information and feedback to include ongoing results, lessons learned, and other applicable feedback to URSM participants, including local planners, decision makers, and represented stakeholder participants.

1. Michigan Public Act 116 of 1974, The Michigan Farmland Preservation Program. For more information, see http://www.michigan.gov/mdard/0,4610,7-125-1599\_2558---,00.html [↑](#footnote-ref-1)