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Informing Policy. Improving Health.

Municipal Water Reuse Health Impact Assessment (HIA)

November 15, 2016

Governor's Conference on the Future of
Water in Kansas





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What Impacts Our Health?

Health

A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

*World Health Organization,
Health Promotion Glossary, 1999*



Health Determinant

The range of personal, social, economic and environmental factors which determine the health status of individuals or populations.



- Physical environment
 - e.g. air quality, water quality
- Built environment
 - e.g. buildings, roads, bike lanes
- Livelihood
 - e.g. income, employment
- Social and community
 - e.g. social support, family structure
- Lifestyle
 - e.g. diet, exercise, alcohol and tobacco use



Health Impact Assessments

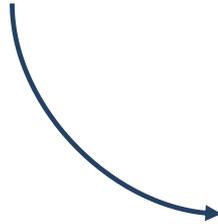
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Health Impact Assessment: A structured process that uses scientific data, professional expertise, and stakeholder input **to identify and evaluate public health consequences of proposals** and suggests actions that could be taken to minimize adverse health impacts and optimize beneficial ones.

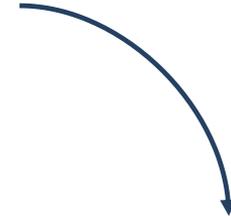
Source: “Improving Health in the United States: The Role of Health Impact Assessments” by the National Research Council, September 2011

KEY HIA QUESTION

*How does the
proposed
project, plan, policy*

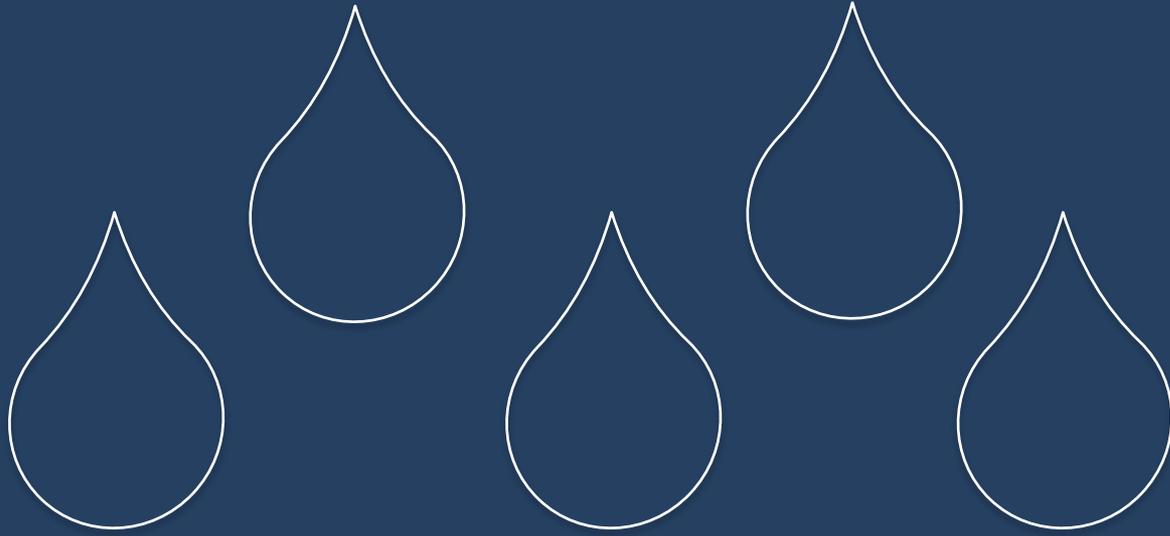


- affect*
- Housing
- Air quality
- Noise
- Safety
- Social networks
- Nutrition
- Parks and natural space
- Private goods and services
- Public services
- Transportation
- Livelihood
- Water quality
- Education
- Inequities



*and lead to
health outcomes?*





Municipal Water Reuse HIA

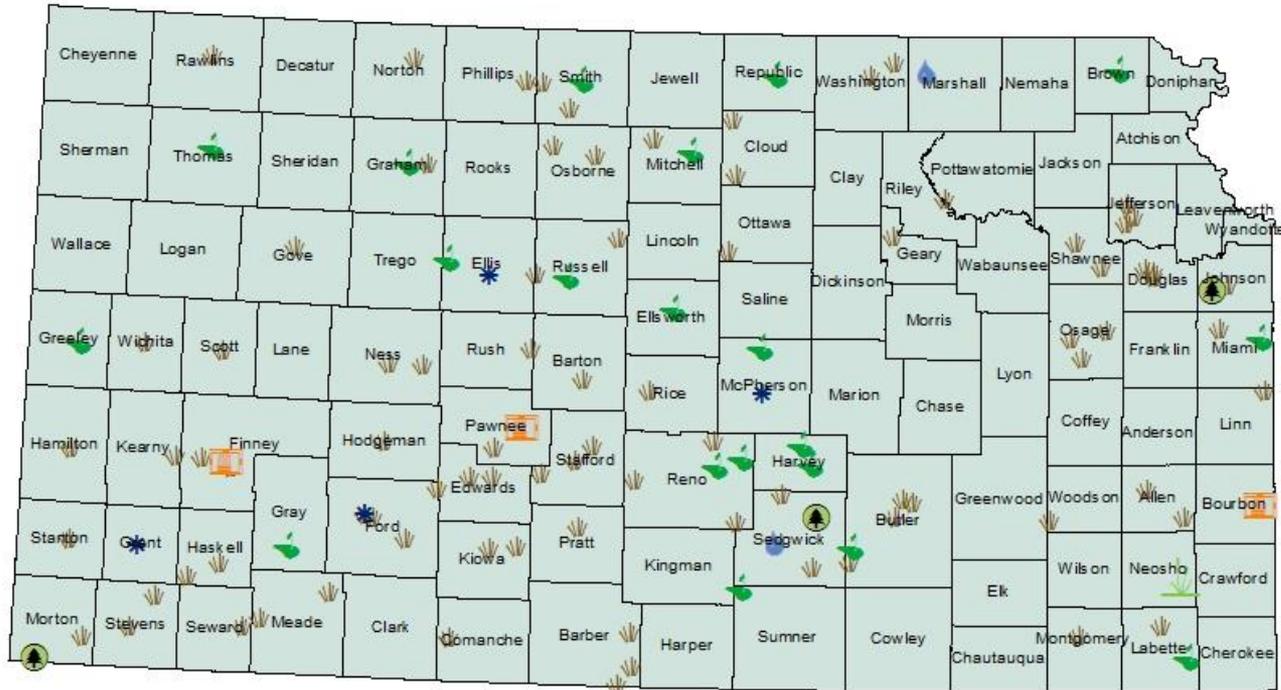
Intended Outcomes:

- A summary of where water reuse efforts are currently happening in Kansas
- Linkage of water reuse to the impacts that are important to community members (e.g. economic growth, employment, water safety, parks and community spaces)
- Identification of barriers to water reuse
- Recommendations for health supporting strategies

Priority Impacts

- Water Quality
- Perception of Water Quality
- Costs/Utility Rates
- Community Sustainability
- Potentially different impacts for:
 - Non-potable
 - Indirect potable
 - Direct potable

Water Reuse In Kansas



Source: KDHE

Water Quality



- With current technology, effluent can be treated to a quality beyond potable water standards
- Some concern exists about disinfectant by-products and contaminants of emerging concern
 - These are not exclusive to reused water
 - Limited research exists to identify potential consequences to health
- Existing literature and data show no instances of disease outbreaks due to water reuse

Public Perception

- Two major components:
 1. “yuck” factor
 2. Trust in government and experts to make decisions with the public’s best interests in mind
- Also depends on:
 - Intended use of water
 - Perceived threat of drought
 - Cost of reusing water
 - Community



Costs and Utility Rates

- Cost varies greatly; each use has unique cost components:
 - Non-potable: dual distribution infrastructure
 - Indirect potable: environmental buffers can be costly
 - Direct potable: expensive advanced treatment technology
- Per capita, costs are often higher for rural reuse projects
- Impact on utility rates:
 - In some instances, subsidies may be required to promote use
 - In some instances, customers may be willing to pay more

“Everyone dislikes rate hikes, but there are things that are feared more than a rate battle: loss of water service, contamination, moratoriums on growth and development.” (Baird, 2010)

Community Sustainability

- Wastewater reuse can contribute to reduced stress on freshwater sources.
- Potential for economic growth due to a secure water supply.



Special thanks to our Partners

- Kansas Department of Health and Environment (KDHE)
- Kansas Water Office (KWO)
- Kansas Municipal Utilities (KMU)



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Thank you.

ANY QUESTIONS?

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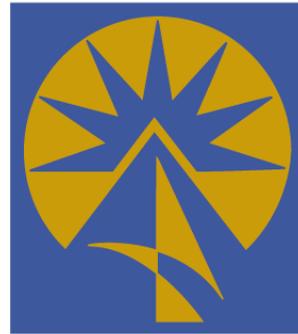
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