

Water Hazards: Taking on Today's Rural Infrastructure Crisis

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Working with communities to create opportunities





- ❑ West Central Minnesota (Becker, Clay, Douglas, Grant, Otter Tail, Pope, Stevens, Traverse, and Wilkin) counties have a substantial, immediate drinking water, wastewater, and stormwater infrastructure need of \$472 million (2003 dollars) add \$76 million for 2009 inflation adjusted dollars
- ❑ For an area with a estimated 2008 population of 218,276 that cost equals over \$2,500 per person
- ❑ There is an estimated \$200 million gap between what communities can afford to self-finance and what they need

Background

- ❑ West Central Initiative (WCI) realized a consistent message from the communities on their infrastructure needs and how it is limiting quality of life, economic development, and threatens the long term viability of the communities in our region.
- ❑ Most systems were built in the 1930's and had an estimated design life of approximately 50 years, many communities have been living on borrowed time for the last 30 years.
- ❑ There needed to be a way to quantify the entire problem and develop messages regarding infrastructure.
- ❑ The need resulted in the 2003 Infrastructure Study.

On The Way to a Solution

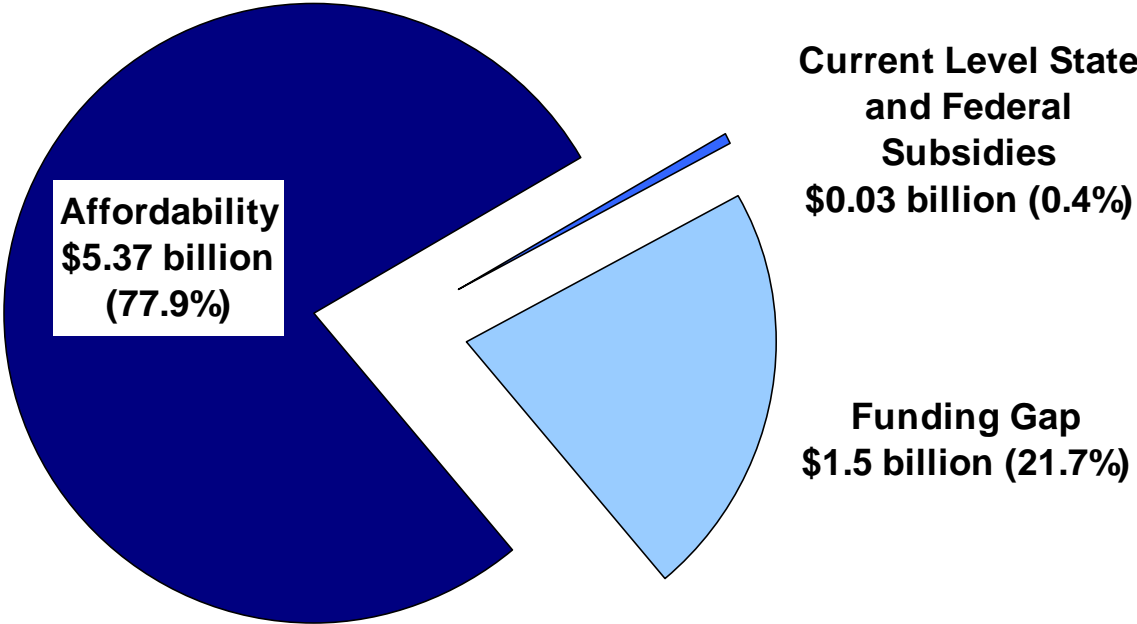
- ❑ The Infrastructure Study: In 2003 WCI conducted a study to estimate the current and future needs for water, wastewater, and storm sewer repair and replacement for the communities within WCI's nine-county service area.
- ❑ The study was funded in part by a matching grant from the Federal Economic Development Administration.
- ❑ WCI engaged Widseth Smith Nolting, an engineering firm to conduct the study.
- ❑ Received detailed information from 82 of 83 incorporated cities and one sanitary sewer district.

Statewide Needs

- Extrapolated statewide (non-metro) there is an estimated \$6.9B of **immediate** need
- Rural communities can “afford” to fund approximately \$5.4B
- State and Federal subsidies fund approximately \$30M annually
- This leaves a \$1.5B funding “gap”

Immediate Statewide Need Breakdown

(Total Need = \$6.9 Billion)



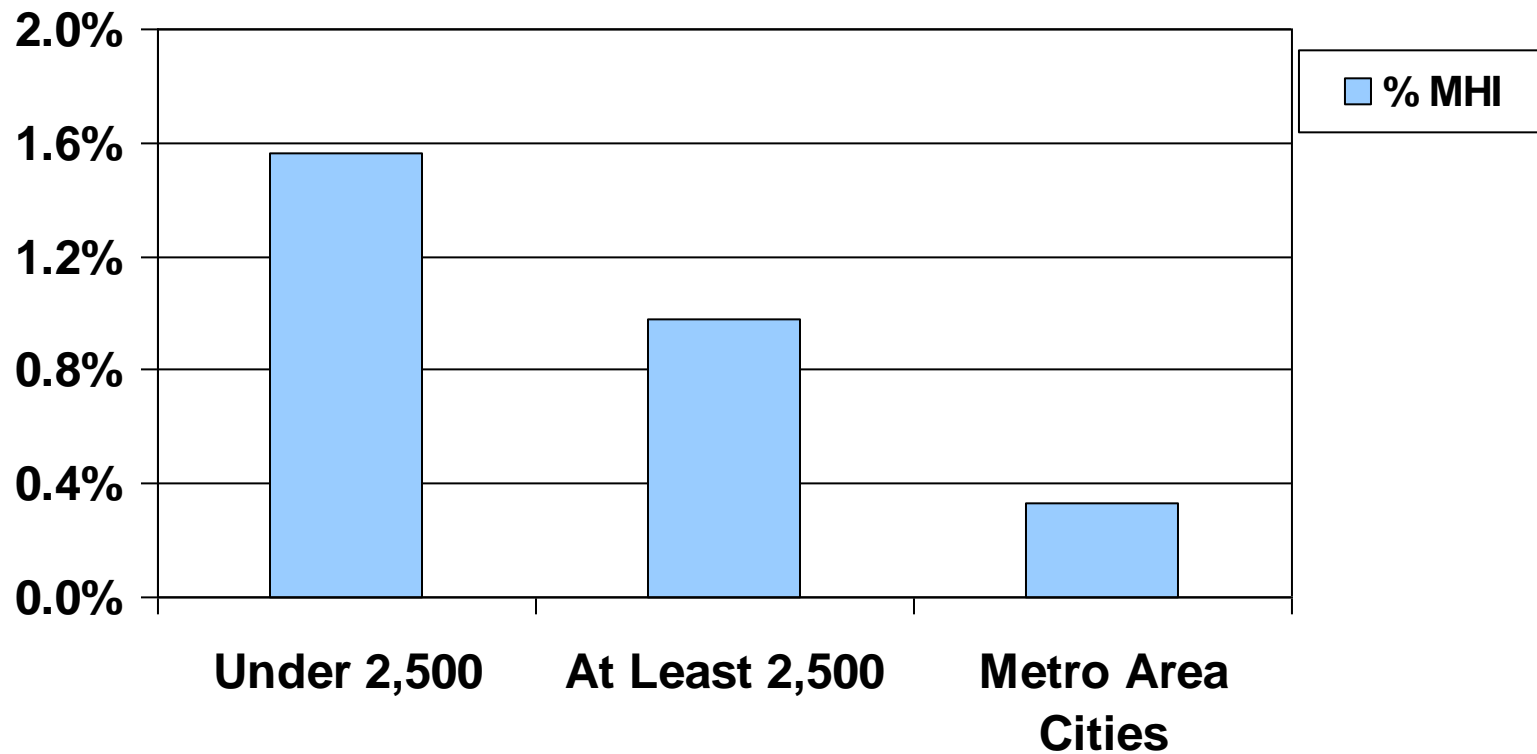
Consequences of Inaction

- ❑ Environmental degradation as the number of out-of-compliance systems grows.
- ❑ State prohibition of additional development in a growing number of out-of-compliance communities.
- ❑ Sewer and water rates of up to \$180/mo.
- ❑ Declining property values and eventual abandonment of otherwise viable communities.
- ❑ Increasing population pressure and the associated effects on the Metro area and on larger rural communities.

Rural Community Challenges

- ❑ Median Household Income (MHI) is typically lower.
- ❑ Infrastructure cost as a percentage of MHI is much higher.
- ❑ Maintenance and Replacement programs do not typically stay ahead of system decay.
- ❑ Residents are more sensitive to tax and rate increases because of the first and second bullets.
- ❑ Elected official's approach to tax and rate increases is often governed by the "coffee shop" factor.

Average Wastewater System Cost as % of MHI



What was Learned Besides Cost?

- ❑ Infrastructure needs are straining rural communities by limiting growth and threatening community viability and in some cases their existence.
- ❑ Legislators, funding agencies, regulatory agencies, service providers, and communities need to join together to solve the problem.
- ❑ Alternative solutions need to be pursued that encourage holistic approaches and are more proactive than reactive without drastic changes to lifestyle.

What was Learned Besides Cost?

- We need to reexamine how we plan and develop infrastructure
 - Current Flaws:
 - Communities tend to have a reactive approach
 - Funding and Regulatory legislation should support more infrastructure planning and proactive maintenance
 - Progress
 - Awareness

Next Steps Toward a Solution

(Moving Beyond the Infrastructure Study)

- ❑ Wanting to continue and expand on the work done in the Infrastructure study, WCI and collaborating organizations developed the concept of a pilot study.
- ❑ The pilot study investigated a more proactive approach towards addressing water infrastructure needs.
- ❑ Three communities in the region with varying levels of infrastructure need were chosen

The Pilot Project

- ❑ WCI partnered with Yellow Wood Associates, Inc. (YWA), elected officials, city staff and the city's consulting engineers from the respective communities.
- ❑ YWA was identified as a natural partner because of their Green Community Technology® approach for addressing infrastructure needs.

Green Community Technologies ®

- ❑ Interfere as little as possible with natural water processes
- ❑ Encourage replenishment and maintenance of the water table
- ❑ Add as few chemicals/pollutants as possible
- ❑ Use conservation and efficiencies to minimize volume
- ❑ Treat only as needed; do not over treat
- ❑ Reuse water rather than bring in fresh water whenever possible
- ❑ Use natural processes to clean and treat water whenever possible
- ❑ Minimize the transport of water from one place to another; keep uses close to sources
- ❑ Be energy efficient

The Pilot Project: Deliverables

- In depth community specific reports for the three communities were created
- Each community provided input to the final report
- Each report contained recommendations that the communities can choose to pursue
- WCI received a product that can be shared by all communities in the region
 - Part 1: Steps in the Community Process
 - Part 2: Issues and Opportunities Affecting MN Communities and Water Resource Management

Next Steps

- WCI continues to engage stakeholders to implement the recommendations contained in the pilot project.
- The next steps range from small to large scale:
 - Developing a guide for residents to implement practices that make use of water conservation approaches, be it behavior shifts or technological approaches.
 - Initial discussions are being held to identify how to setup a program that will assist communities with Capital Improvement Planning
 - Raising awareness of alternative approaches to stormwater, water and wastewater systems.
 - Attempting to shift policies and procedures at higher levels.



Any questions?

Thank you.

More information and a copy of the presentation can be found at:

www.wcif.org