



Wasting Away

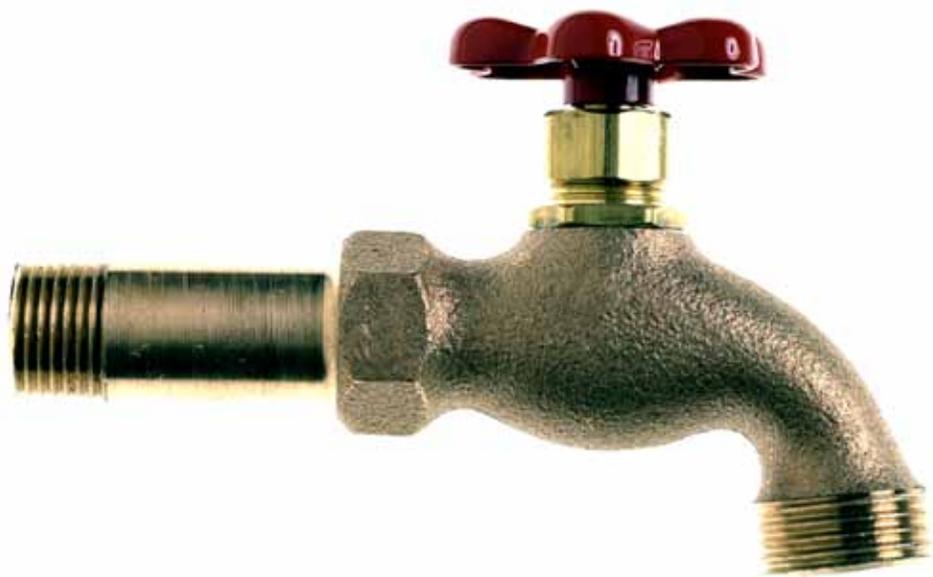
Upgrading Minnesota's Aging Wastewater Infrastructure

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MINNESOTA



Minnesota 2020

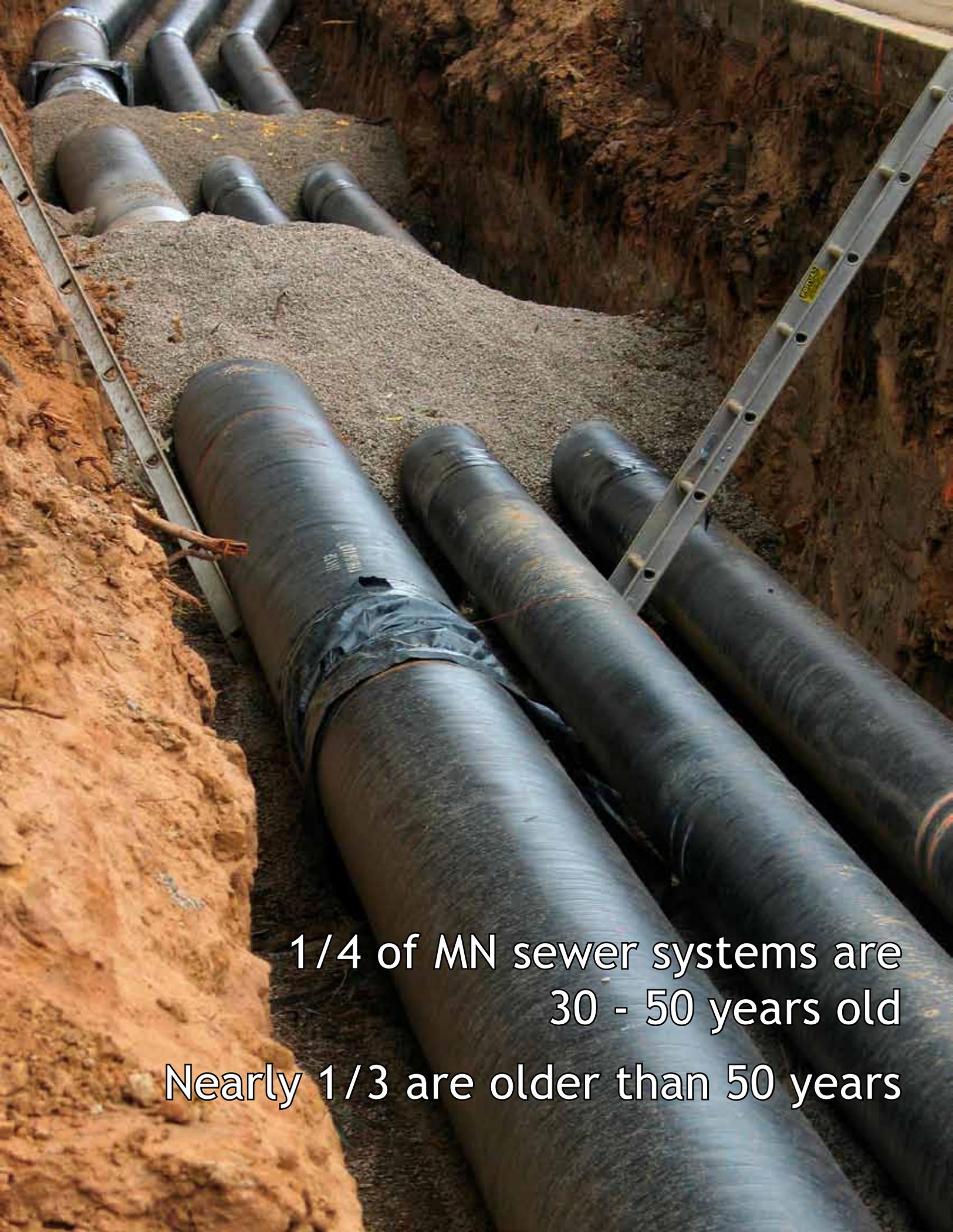
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1 / 4 of MN sewer systems are
30 - 50 years old
Nearly 1 / 3 are older than 50 years

EXECUTIVE SUMMARY

Minnesota's wastewater systems are aging and need to be modernized. These statewide upgrades will require significant government investment. Across Minnesota, sewer and sanitation infrastructure is often entering its fourth, fifth, and even sixth decade of service, stretching lifespans to their breaking point. Improvement projects are underway in the Twin Cities, where the larger economies make upgrades to the aged systems more financially manageable. The situation in Greater Minnesota is more severe. According to the most recent survey from the Minnesota Pollution Control Agency (MPCA), Future Wastewater Infrastructure Needs and Capital Costs (WINS report), one quarter of the sewer systems around the state are between thirty and fifty years old, while nearly a third are aged past the half century mark.¹

Infrastructure projects, especially those that take place under the ground, rarely attract public interest the same way shinier, more visible projects would. People rarely think about a well-functioning system until something goes wrong, and there is rarely the threat of imminent danger. Yet every year, the systems get older. The Minnesota Pollution Control Agency (MPCA) reports that most "major structural components" of treatment facilities have a forty-year life span. Depending on their construction and the materials used, sewer lines have a slightly longer life expectancy. Thirteen percent of Greater Minnesota's facilities surpass this limit.² A forty-year-old system will reach the half century mark in a decade, a category which is expected to affect over one-quarter of Greater Minnesota's systems. The stress placed on these aging systems promises a far messier and costlier state of affairs should one fail.

Many communities throughout Greater Minnesota must strike a balance between the necessity of maintaining functioning systems and the significant cost these projects present. They must keep the wastewater flowing and keep their systems up to code, yet they struggle under the weight this puts on the budget. The alternatives are less than pleasing. This is why Minnesota 2020 is looking at other possible ways to ensure that the work is done and that Minnesota communities stay financially healthy.

For many of the smaller communities in the state, the tax base is too small to afford the overhaul's high costs. Even with state and federal grant money, funding for these infrastructure projects is costly to fund through sewer and water user fees and property taxes, a more regressive revenue stream which places a higher burden on residents of communities already below median income levels.

¹ Minnesota Pollution Control Agency 1, p. 7

² Ibid.





At its core, the state's deteriorating infrastructure encapsulates two distinct, yet vital issues. The first is the matter of public health. The aging infrastructure, left to current trends, threatens communities with a health disaster that promises to be far more costly in clean up than it would be with preventative upgrades. Without proper upkeep, a sewer system can fail at any point in the process, dumping untreated sewage into the natural environment, bodies of water, or even peoples' homes.

The second issue is one of simple economics. A large-scale infrastructure project stimulates the economy in sectors where it would most be needed. Right now, there is a perfect storm for public investment as the bidding environment is unusually competitive, interest rates remain at rock bottom, and unemployment levels in the construction sector are high. The time is right for the state of Minnesota to invest in bringing its infrastructure up to date.

This report will focus on these two issues and policy proposals that can be used to stave off this disaster and promote economic development within the state by stimulating employment to take care of the much-needed infrastructure upgrades. We would also look at the roadblocks in the way of the needed upgrades, including a funding structure that puts smaller communities at a disadvantage, as well as wholesale conservative opposition to government stimulus projects.

Infrastructure repair is a pressing issue in which free market solutions will do little to ensure universal access to quality wastewater treatment facilities; what is necessary to maintain our standard of living is not always profitable. It is a false argument as well, as the construction and repair work would be primarily carried out by private contractors, bolstering job numbers in a depressed employment sector. Minnesota has the unique opportunity to take advantage of the historically low interest rates and should engage the highly-competitive environment these sorts of contract. The time is right for the state of Minnesota to invest in bringing its infrastructure up to date.

In the face of conservative opposition designed to choke off any new funding to government projects, the state and municipalities are increasingly relying on a system of quick fix solutions that merely prolong the life of existing infrastructure, trying to squeeze out every last year of service from an aged system. A policy that emphasizes bandages over real care is unsustainable and unsound.

This report will look at the logistics of infrastructure projects in the state as well as analyze case studies which show that although a system has been put in place to address the needs of communities across the state, looking at the trends, current solutions, and optimal proposals for solving what, in coming years, could turn into a crisis scenario. We look at the issues at hand and propose possible solution to stave off a public health emergency and promote jobs and development in Greater Minnesota. By following these policy prescriptions, the state would be able to provide much needed employment relief while tackling long-term infrastructure needs; two birds, one stone.

FINDINGS:

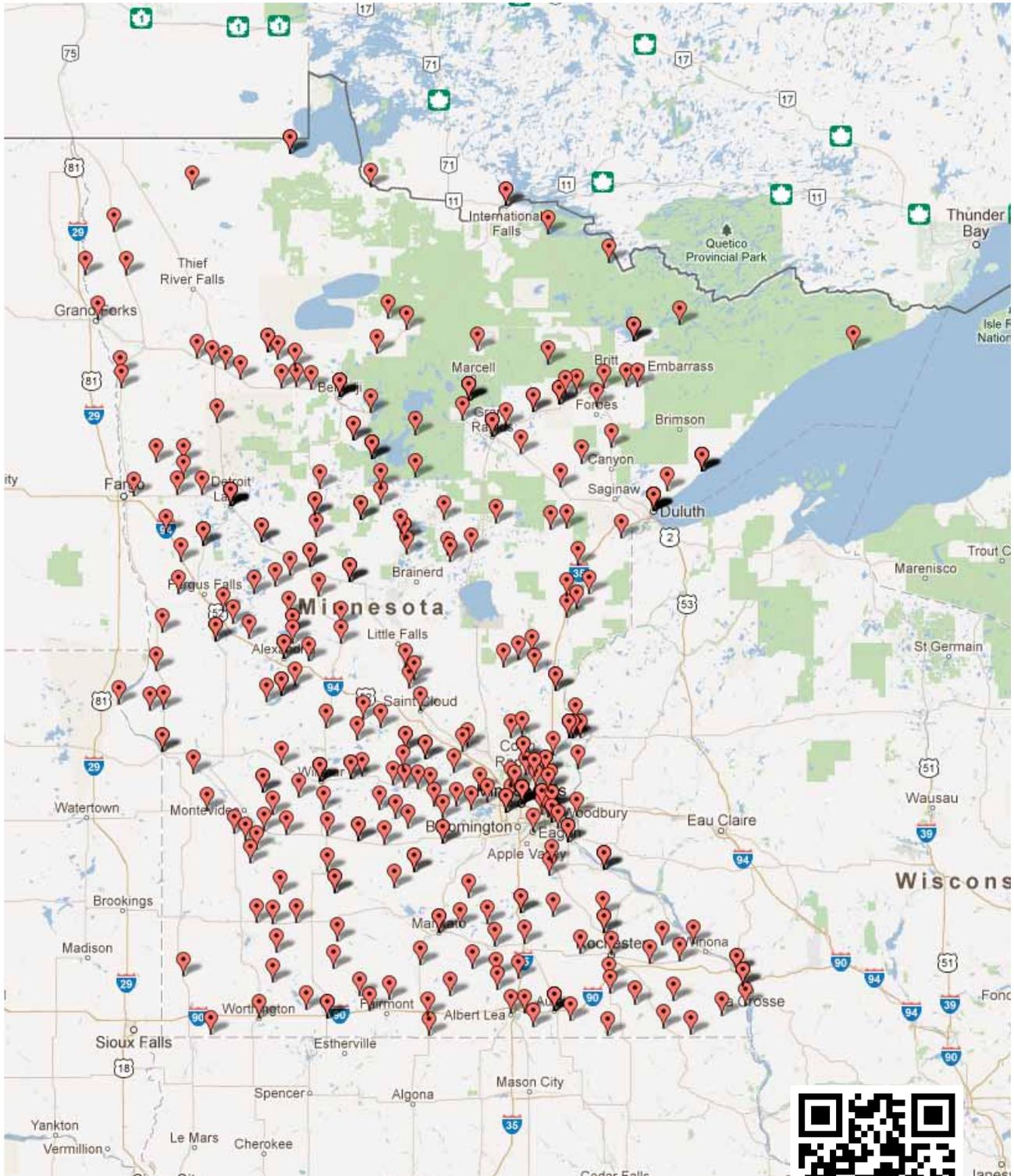
- ✓ The average lifespan of sewer systems and treatment facilities is between 40-50 years. In the Twin Cities, 72% of sewers were built over 50 years ago. In Greater Minnesota, 31.2% are older than 50 years, with another quarter between 30-50 years old.
- ✓ Larger Minnesota cities have an economy of scale to financially manage wastewater upgrades, smaller communities, especially those under 1,750 do not.
- ✓ Wastewater projects that need state financing are typically placed on a planning Project Priority List (PPL), which is depoliticized and focused on need. Even with this financing, projects still come at a large cost to Greater Minnesota communities.
- ✓ Many communities rely on a series of 'bandages' in place of the necessary full-scale upgrades.
- ✓ In some communities, state aid cuts have eroded capital and rainy day funding to make these projects more fiscally manageable.

RECOMMENDATIONS:

- ✓ Utilize state bonding money to fund the greatest need communities as outlined by the depoliticized Project Priority List.
- ✓ Minnesota typically budgets for \$1 billion in bonding per biennium. However its bonding capacity far exceeds that figure. The state's 2012-2013 bonding capacity was \$2 billion, as of the February 2012 economic forecast. In this advantageous investment environment, additional stimulus funds would be a wise move to promote clean water and jobs.
- ✓ Restore LGA funding to adequate levels so that communities can better save for future capital needs.
- ✓ Dig It Once is congressional legislation proposed by Senators Amy Klobuchar of Minnesota and Mark Warner of Virginia. This bill recommends a more comprehensive and integrated set of upgrades, which would incorporate broadband upgrades coupled with other infrastructure improvements. It is a better idea to tear up the ground only once instead of causing continual disruption through incremental work. The City of Saint Peter, in Nicollet County, opts for comprehensive infrastructure work as a matter of policy. As we will detail later, the city's work on Highway 169 implemented many of the elements to be found in this proposal to great effect.

FIGURE 1: Planned Infrastructure Projects Across Minnesota

© 2012 Google



For detailed information about the projects located at each of these locations please view this map online at <http://bit.ly/OM4Mwv>



INTRODUCTION

In the generation after the Second World War, as the United States economy expanded at an unprecedented and unparalleled rate, cities expanded into suburbs and urban areas stretched out. Infrastructure, by necessity, grew in tandem. Government investment brought new electrical grids, expanded roads and bridges, the Interstate highway system, and sewer and sanitation infrastructure.

Over the past three decades, the perceived role of government at all levels has changed dramatically. Even reliably progressive Minnesota has seen the tenor of its political culture shift to a more laissez-faire approach of governance. As a result, while the baby boomer generation settles comfortably into retirement, Minnesotans still rely on an infrastructure built during that generation’s youth.

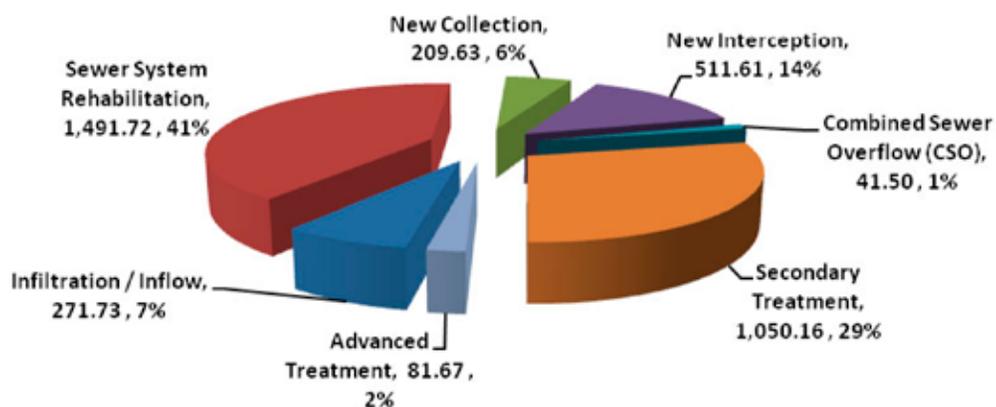
Much attention is paid to the infrastructure people are generally aware of and can easily see: transportation, energy, and telecommunications are the more hot button issues. However, we might be wise to be more concerned about the infrastructure that lies below the surface of our cities and towns.

According to their most recent Future Wastewater Infrastructure Needs (WINS) report, the Minnesota Pollution Control Agency tracks “over 1,100 wastewater infrastructure projects at a cost of over \$3.6 billion dollars...”³ This figure counts only capital costs, which do not include ongoing operational costs.

Broadly speaking, these projects fall into two categories: upgrades to existing infrastructure and connection of unsewered areas to nearby infrastructure. The graph below provides a breakdown of these projects, again based on MPCA data.

3 Minnesota Pollution Control Agency 1, p. 5

FIGURE 2: Distribution of costs by type of project *(costs are in millions of dollars)*



AGING SYSTEMS

What We Mean By Wastewater

Wastewater, as defined by the MPCA, consists of “three primary types of pollutants: fecal coliform, mercury and phosphorus” which are eligible for “CW [Clean Water] funds for municipal projects.”⁴

The average household in the state produces around 200 gallons of wastewater per day. The vast majority of this waste is “discharged to sanitary sewer collection systems.”⁵ From there, it undergoes treatment; for the most part, this treatment is organized at the municipal level. Communities that are too small to run their own treatment facilities rely on either connection to the nearest facility or on septic system, which are rated as higher priority on the PPL.

The average MN household produces around 200 gallons of wastewater per day.

Besides removing fecal-borne and other pathogens from household and commercial wastewater, the MPCA also tracks levels of individual pollutants in local waters. One way this is done is through a requirement called the Total Maximum Daily Load (TMDL), a “permit-driven standard,” that removes substances such as phosphorous from water.⁶

This permit system functions similarly to a cap-and-trade system in which these permits can be traded between lower-polluting and higher-polluting communities.

Broadening the use of this mechanism might incentivize communities to lower the aggregate level of these pollutants. The MPCA reports TMDL’s success in lowering levels of phosphorous.

The Project Priority List & the funding process

Building and upgrading infrastructure is an expensive undertaking. While the economy of scale in the Twin Cities metro area affords these communities the ability to fund many of their own projects, most of the municipalities and townships of Greater Minnesota do not have that ability.

When their capital or reserve accounts are not sufficient to pay for the size of the project, or they are unable to issue their own municipal bonds, they primarily rely on assistance from the state. Some wastewater infrastructure projects in Minnesota that cost more than \$300,000 are funded through a system managed and implemented by Minnesota Public Facilities Authority (PFA) and the MPCA.

The Project Priority List⁷ forms the foundation of the funding process. The list, compiled and managed by the MPCA, represents the first step in a process that grants funding to communities that would not otherwise be able to afford the required upgrades to their systems.

4 State of Minnesota 1, p. 42

5 Minnesota Pollution Control Agency 1, p. 9

6 State of Minnesota 2, p. 17

7 View the 2012 Project Priority List here: <http://bit.ly/Myq14Y>

Its main innovation is in depoliticizing the funding process. Points are awarded based on a number of dimensions and according to statute:

“The Project Priority List (PPL) is prepared by the MPCA according to Minnesota Rules Chapter 7077. The PPL determines funding priorities for the SRF [State Revolving Fund] Loans, WIF [Wastewater Infrastructure Funding] Grant or Loan, TMDL Grant, Phosphorus Reduction Grant, the Small Community Wastewater Treatment Grant or Loan and other state or federal financial assistance programs. Project rankings on the PPL are also considered by other funding agencies when making their project funding decisions.”⁸

In theory, the most deserving projects and dire situations rise to the top of the list. Those projects falling toward the bottom of the list, specifically those with only a single priority point, are still in development stages and not yet finalized.

In theory, the most deserving projects and dire situations rise to the top of the list.

As far as priorities, the need to take care of unsewered communities trumps existing infrastructure in almost all cases.

In a few exceptional cases, unsewered areas dump the wastewater directly into a natural body. Projects to connect these areas are given highest ranking on the PPL.

According to one official working in the Minnesota House of Representatives, working outside of the parameters of the list does happen though it is rare. The list is highly respected and thus accounts for a nearly comprehensive measure of current and future infrastructure projects in the state.

The PPL has been instituted to streamline the funding process for wastewater infrastructure projects, most especially those in Greater Minnesota.

Communities who subscribe to one of the programs overseen by the PFA and MPCA receive grants and low interest loans, though they still take on a great deal of debt burden that can threaten to overwhelm their budgets.

The PFA offers a variety of loan and grant programs according to differing terms and conditions based on municipalities’ circumstances and characteristics.⁹ These programs, in aggregate, account for nearly three-quarters of the financial assistance provided to wastewater infrastructure projects.¹⁰ The last 25% comes from other state and federal programs’ funding by organizations like the Minnesota Department of Employment and Economic Development or the U.S. Department of Agriculture.

The PFA itself manages these projects in a revolving fund, using loan payments and state/ federal grants to bankroll additional projects.

8 <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/wastewater-financial-assistance/wastewater-and-stormwater-financial-assistance.html>

9 <http://www.pca.state.mn.us/index.php/view-document.html?gid=17147>

10 Interview with Jeff Freeman, Deputy Director of MN PFA

FIGURE 3: Community options for wastewater financing

Managing wastewater and stormwater is important for the health and safety of any community. It can also make a difference to a community’s growth potential and environmental value, in terms of attracting new businesses, new residents and additional visitors. Achieving solutions is like a complicated journey, requiring several steps to reach the destination. This flyer addresses one of the major steps - financing. Following is an outline of financing options for public entities. Use this matrix as a guide for researching financial options. Examine the requirements for each program and see if your entity qualifies. If so, contact the funding agency as the first step toward an affordable solution that protects health and safety while enhancing your community

Courtesy of Minnesota Pollution Control Agency www.pca.state.mn.us

STATE OF MINNESOTA PROGRAMS	
Public Facilities Authority <i>Contact information: 651-259-7469, 1-800-657-3858 toll-free or www.deed.state.mn.us/Community/assistance/pfa.htm Jeff Freeman, Deputy Director: 651-259-7465 or jeff.freeman@state.mn.us</i>	
PROGRAM: Clean Water Revolving Fund (CWRP) <i>Minn. R. ch. 7077, Minn. Stat. § 446A.07 and 116.16</i>	
OBJECTIVE	Loans with the State Revolving Fund as the principal financing program.
APPLICANT	Cities, counties, townships, sanitary districts. Must be listed on the MPCA project priority list and PFA Intended Use Plan.
USES	Build, repair and improve public wastewater systems.
POPULATION	No cap or minimum.
TERMS/CONDITIONS	Below market interest yields for municipal obligations, Repayment period is 20 years.
PROGRAM: Wastewater Infrastructure Fund (WIF) <i>Minn. Stat. § 446A.072</i>	
OBJECTIVE	Grants to package with CWRP loans or to match USDA-RD grants to provide gap financing for high priority and high cost projects.
APPLICANT	Cities, counties, townships, sanitary districts. Must be listed on MPCA PPL.
USES	Build, repair and improve public wastewater systems.
POPULATION	No cap or minimum.
TERMS/CONDITIONS	Must apply to for RD grant and loan or to PFA for CWRP loan. Recipients must establish system replacement fund for \$.50 per 1,000 gallons.
PROGRAM: Small Community-Constructions <i>Minn. Stat. § 446A.075</i>	
OBJECTIVE	Loan or grant funds available to areas currently served by SSTS and seek continued SSTS discharge.
APPLICANT	Cities, counties, townships, sanitary districts. Must be listed on MPCA PPL.
USES	Build, repair and improve public wastewater collection and sub-surface treatment systems.
POPULATION	Intended for small communities but no cap or minimum.
TERMS/CONDITIONS	Loans at 1% interest for 10 years, or up to 20 years if loan exceeds \$10,000 per household, 50% grant if serving area with below average income.

STATE OF MINNESOTA PROGRAMS *(continued)*

PROGRAM: Total Maximum Daily Load (TMDL)

Minn. Stat. § 446A.073

OBJECTIVE	Grant funds for projects made necessary by a TMDL.
APPLICANT	Cities, counties, townships, sanitary districts. Must be listed on MPCA PPL. Must submit again in July.
USES	Build, repair and improve public wastewater systems.
POPULATION	No cap or minimum.
TERMS/CONDITIONS	Provide up to 50% of TMDL costs up to \$3 million maximum.

PROGRAM: Clean Water Legacy Phosphorus Reduction

Minn. Stat. § 446A.074

OBJECTIVE	Grant funds for projects that achieve 1 mg/L or less phosphorus discharge limits
APPLICANT	Cities, counties, townships, sanitary districts. Must be listed on MPCA PPL. Must submit again in July
USES	Build, repair and improve public wastewater systems.
POPULATION	No cap or minimum.
TERMS/CONDITIONS	Provide up to 50% of costs to achieve 1 mg/L phosphorus \$500,000 maximum.

FEDERAL PROGRAMS

U.S. Department of Agriculture Rural Development (USDA RD)

Contact information for regional offices: www.rurdev.usda.gov/MN/RUSCF/wdir.htm

PROGRAM: Water and Waste Disposal

Terry Louwagie Community Programs Director, 651-602-7810, terry.louwagie@mn.usda.gov

OBJECTIVE	Direct loan and grant: Provides wastewater financing in rural areas to the most financially needy applicants, resulting in reasonable user rates.
APPLICANT	Public entities, Indian tribes and non-profit corporations. Apply to Rural Development.
USES	Build, repair and improve public waste-water collectin and/or treatment systems. Also other related costs.
POPULATION	Rural areas, cities and towns with up to 10,000 population.
TERMS/CONDITIONS	Interest rate is set quarterly based on an index of current market yields for municipal obligation. Repayment period is a maximum of 40 years. Grant funds may be available.

Minnesota Department of Employment and Economic Development

Federal funding administered by state agency

Contact information for regional offices: www.deed.state.mn.us/Community/assistance/PFAcontact_Regions.htm

PROGRAM: Small Community Development Grant

Tom Gast Acting Community Development Director 651-259-7456 tom.gast@state.mn.us

OBJECTIVE	Grant that addresses public facility needs, principally benefiting low to moderate income households.
APPLICANT	Cities, townships and counties.
USES	Public Facility Improvements, such as water systems, sewer systems, drainage facility construction or improvements.
POPULATION	Cities with a population under 50,000 and counties and townships with an unincorporated population of fewer than 200,000.
TERMS/CONDITIONS	Maximum grant is \$600,000. Must benefit low and moderate income persons or households.

The advent of this funding structure was laid with the Clean Water Act of 1972 (CWA). Prior to this set of regulations, there were no statewide treatment standards for wastewater; regulation was localized. With the passage of the CWA, state and federal government began assisting local communities to bring their wastewater infrastructure up to code. As is the case today, the motivation was concern for public health.

In the first two decades following the adoption of CWA, federal grants were matched by state funds. Communities could receive up to 90% funding for construction and upgrades through these grants. However, by the late 1980s, this generosity was phased out and replaced by the revolving fund structure that continues to this day. Bill Dunn, the Clean Water Revolving Fund Coordinator at MPCA, reports that “since the first SRF [State Revolving Fund] loan was made in 1989, there has been roughly \$2.5 billion in federal and state funds invested in the CWSRF [Clean Water State Revolving Fund] for Minnesota alone.”¹¹

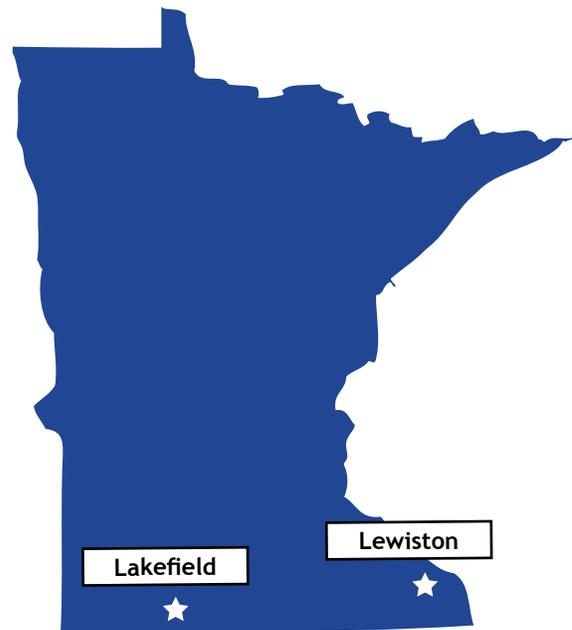
Lewiston, a city of about 1600 in Winona County, typifies the process for working with the PFA and MPCA. The city submitted an application for funding for a project to expand their wastewater treatment facility in 2010.

The project was listed on the PPL at that time, and they have indicated their wish to be included on the 2011 and 2012 lists as well. This expansion would build on a treatment facility built in 2001. An addition of an equalization basin is needed to help with peak flow protection. The city received confirmation in July 2012 from the PFA that their funding has been secured, and construction is expected to begin this year. The project has been budgeted at \$1.34 million.

The new facility built in 2001 was the result of a directive from MPCA; the city had previously employed sewer ponds. That project itself still carries a balance of \$3.4 million. The city is using \$500 thousand from its general fund to service that loan, while the remaining \$2.9 million will be covered by water and sewer fund revenues.

Lewiston already struggles under the weight of the highest sewer fees in southeastern Minnesota.

The city already struggles under the weight of the highest sewer fees in southeastern Minnesota. Lewiston charges users \$27.98 for the first 1,000 gallons, with each additional 1,000 gallons after coming in at \$10.11. To continue to pay for its debt service and operating expenses, the city will have to continue to consider user rate increases. This rise follows an increase in May 2011, with further increases of 3% anticipated for October 2012 and January 2013 and every January thereafter.



11. Dennison, Jeremy 3

Partly because of the burden Lewiston residents already face and partly because the city is still servicing the 2001 construction loan, the PFA has been able to secure a significant portion of funding in the form of grants. Of the total projected cost of \$1,343,000, the USDA is providing a loan totaling \$329,000 and a grant of \$421,000, though the grant only becomes available after the loan funds have been spent.

The remainder comes from Wastewater Infrastructure Funding (WIF) grants totaling \$593,000. The WIF program is set up specifically for projects like the one in Lewiston. According to the MPCA, it “provides supplemental assistance in the form of grants and deferred loans to local governments for high cost, high priority wastewater projects.”¹²

Developing a financial plan presents many challenges for communities.

Although there is a great deal of logistical assistance provided to communities like Lewiston as they plan for needed infrastructure work, developing a financial plan presents many challenges for communities.

Roadblocks to funding in Greater Minnesota’s smaller communities

During the application process, the PFA and MPCA work with municipalities fund of the projects. In the case of Lakefield’s now-delayed rehabilitation and treatment facility expansion, advisers with the two agencies assisted with the fundamentals of the project. Cheryl Ulferts, an accountant with the southern Jackson County city, says that the Municipality had a choice of two different plans to deal with their wastewater.¹³

One solution involving collection ponds presented a higher upfront cost but would prove more cost-effective to maintain; the other had a lower price tag in its construction but would be the less economical option down the line. This counseling helps to structure both the type of financial assistance given as well as the ultimate cost to the communities.

In Lakefield, the required construction would run the city somewhere between ten and fifteen million dollars,¹⁴ placing a possibly overwhelming burden on a city with a population under 1,700.¹⁵

To help structure loans and grants, the Public Facilities Authority has set what it calls a “wastewater costs affordability index for Minnesota communities.”¹⁶ This metric measures the affordability of a project, taking into account the scale of the economy of a given community. The PFA “has set 1.4 percent of median household income” as the threshold, mean that, “a community needs a population of approximately 1,750” to meet its criteria.¹⁷

These issues weigh heavily on the commissions tasked with submitting a facilities plan to the MPCA. In interviews with officials on planning commissions and local administrators in Minnesota’s smaller communities, a picture emerges of the delicate balance a city must strike between keeping infrastructure up to code, placing an undue financial burden on residents, and funding other necessary projects within the community.

12 Minnesota Pollution Control Agency 2

13 Dennison Jeremy 5

14 Dennison, Jeremy 5

15 U.S. Census Bureau

16 Minnesota Pollution Control Agency 1, p. 20

17 Ibid.

Lakefield's proposed project is ranked number two on the PPL. This means the situation in the city has been deemed by the MPCA to have the second worst conditions of all proposed projects. For now, the project is on hold due to a change in the environmental requirements the city must meet.

The delay also leaves a bit of breathing room for the city, which has yet to secure money to build the project. Lakefield had been working with USDA Rural Development and the PFA, looking at how they could package the project to maximize grant and loan dollars.

When Lakefield's project is finally implemented, the city will pay back the loans through a rise in user rates. Using the affordability index, the PFA will calculate the amount of loan dollars. The organization will use this measurement to help dictate both loan rates and the user fees paid by residents. Currently, those rates are fairly low, but they are expected to rise for users outside the city. All users now pay a \$12 base charge plus \$3.81 per 1000 gallons.

The reliance on these rate increases has become more pronounced with the multiple cuts to LGA.

The reliance on these rate increases has become more pronounced with the multiple cuts to local government aid (LGA) dating back nearly a decade. In addition to lost money from the state, cash strapped municipalities have seen sharp reductions in their capital and reserve accounts.

Already forced to raise property taxes to maintain the status quo, many officials are loath to ask residents to dig deeper into their pockets to fund even necessary large-scale infrastructure work. By one account, property taxes rose 67 cents for every one dollar cut from LGA. In 2010, the state paid \$426 million, down significantly from its inflation-adjusted 2002 figure of \$775.¹⁸

In many communities, including larger cities, major renovation or rehabilitation is delayed and instead replaced by more affordable short-term patchwork to prolong the lifespan of sewers and treatment facilities.

One common method of prolonging a sewer system's lifespan is by a process called slip lining. Engineers use materials to reinforce the inside of leaky pipes to prevent wastewater leakage. Yet to do this, cities still have to draw up their plans, hire consultants and contractors, then tear up their streets and re-route traffic during the period of construction. When the bandage needs to be replaced, the whole cycle begins anew.

Weighing the relative costs of action vs. inaction in infrastructure investment

Even with state and federal assistance, the cost of needed upgrades or extensions places a heavy burden on communities in Greater Minnesota. Where administrators and engineers patch up the system to keep it going, they only serve to stave off an inevitable system failure. These bandages fulfill the economic necessity: times are hard, and public funding is difficult to come by, but they do their communities a greater disservice in the long run.

18 Grow, Doug

In this case, we must confront the conservative orthodoxy head on. Stimulus funding has helped put Minnesotans to work, and it has accounted for a great amount of needed infrastructure work. The state received a total of \$677 million from the American Recovery and Reinvestment Act (ARRA) to fund infrastructure projects,¹⁹ of which nearly \$73 million went to wastewater infrastructure.²⁰ As this has dried up, Minnesota could look for other ways it can stimulate the state economy itself. As stated, Minnesota currently has the bonding capacity to borrow over a billion dollars in additional funds. Though we don't advocate pushing this figure to its limit, in today's environment, the state should be making greater use of its available resources.

The bottom line is that the current climate is favorable to this large-scale type of investment. The type of austerity heralded by conservatives is counterproductive and only seeks to maintain today's painful status quo. It pushes necessary work into a distant future where repair and cleanup will be more costly.

Paying now or paying later

The cost of letting the systems go proves far more costly to individual taxpayers. And the results of a system failure are far more disgusting in the end. Just this past spring, homes in the city of Blaine were flooded by sewage following a backup in the system. In this particular case, the backup was a rare event, but the ensuing mess is a snapshot what could happen, on a far larger scale, should any community witness a failure due to poor maintenance.

The report following the accident states that those affected by the backup were first made aware of the problem from the smell of sewage running into their basements. Insurance companies soon became involved, and for those not protected by their personal coverage, files will be claimed with the city. Personal expenses could total up to \$10,000 in the worst cases. Compare that to even the highest annual user fees.²¹ Spreading the cost of improvement proves far more economical than waiting to pay individually for disaster.

The cost of letting the systems go proves far more costly to individual taxpayers.

Other problems are less drastic, though still present long-term consequences. The issue of tile drain fits this bill. A phenomenon found mainly in southwest, southeast and west central Minnesota, tile drain occurs when there is little to no treatment done and so wastewater is sent essentially untreated back into the natural or agricultural system.

This release of untreated water becomes a public health issue in small rural communities like Myrtle, Minnesota, a city of thirty households where a below-average per capita income means that the necessary construction, those needed to bring the city up to code, does not match with the PFA's median household income index.

19 "Minnesota Gets \$677 Million in Stimulus Funds."

20 Congressional Research Service, p. 17

21 "Sewage System Failure Leaves Several Blaine Basements Destroyed."

PROGRAM OPTIONS

The climate in which the state can borrow money has rarely been so favorable as it is today. Compounding that fact is the competitive bidding environment which also favors the state. In short, the bidding environment, interest rates, and unemployment levels make a ‘perfect storm’ for improvement to take place. The construction and repair work would be primarily carried out by private contractors, bolstering job numbers in a depressed employment sector. Because of low interest rates and private sector competition for government contracts, the time is right for the state of Minnesota to invest in bringing its infrastructure up to date.

Minnesota policymakers should look at expanding biennial bonding to include a dedicated lump sum for the Minnesota Pollution Control Agency’s use. Under this plan, the state should continue to work within the confines of the Project Priority List to ensure that money from the bonding bill funds a process that remains transparent and apolitical. This move would help the smallest, property-tax poor communities fund the portion of wastewater upgrades not already covered by state and federal grants. It is fiscally prudent because the state of Minnesota is usually well under its bonding capacity. More than any other piece of infrastructure, deficient wastewater systems have the potential to impact large swaths of Minnesota via polluted streams, lakes, rivers and other flowing sources.

The advantages of investing in infrastructure now are numerous. The American Council of Engineering Companies of Minnesota (ACEC/MN), the advocate for engineering consultants in the state, have published research on the benefits of infrastructure investment in Minnesota. Chiefly, they claim that there is a 59% return on every dollar invested in infrastructure and that stimulus funding in infrastructure (which includes transportation, telecommunications, and other sectors) has accounted for the creation of over 25,000 jobs in the state.²²

The organization also comes out strongly in favor of using bonding to fund infrastructure. According to them, the “Bureau of Labor Statistics and Bureau of Economic Analysis figures estimate that a \$500 million bonding bill corresponds to 4,400 jobs in the construction sector and an additional 5,700 non-construction jobs.” in the short-term.²³

Dig It Once: Incorporating multiple infrastructure maintenance and repair projects into a single plan is a proven cost-effective measure. Similarly, smaller communities can piggyback their own needed local projects into a larger public works measure to save money. This strategy is already employed in some parts of the state.

22 The American Council of Engineering Companies of Minnesota (ACEC/MN)

23 Ibid.

The City of Saint Peter has made this method standard practice and used it to great effect, saving significant amounts of money according to one public works administrator in the city²⁴, and Lakefield, where some of the sewer system is entering its fifth decade of service, is also using road construction as an opportunity to take care of sewer infrastructure needs. Their experience could be applicable in other areas across the state. To see how this sort of project works, we can look at how it was done in Saint Peter.

Repairs in Saint Peter

When Minnesota received federal stimulus funding to make repairs and upgrades to Highway 169 in downtown Saint Peter, the city used the disruption as an opportunity to incorporate its own comprehensive upgrades to utilities and sewer systems.

The city draws up ten year master plans, identifying infrastructure that is running over capacity or aged to the point that it might be subject to failure.

When the city was approached about the work on Highway 169, Saint Peter decided to incorporate a comprehensive overhaul of much of its infrastructure in one fell swoop. Its wastewater systems were in great need of such work. Its sewer systems dated back to the 1930s and 40 and had initially been constructed with hands, horses, and dynamite. Its water main was constructed of cast iron. Because of its age, the system was prone to leaks and flooding.

As city engineers drew up a design to upgrade Saint Peter's outdated sewer systems, the town coordinated work with MnDOT on how to incorporate its own construction into the parallel projects. While Highway 169 was torn up, the city replaced not only this sewer system, but also the city's water main and portions of its electrical system.

Early on, administrators had determined that the best course of action would be for the city to run a parallel project. A private company received the contract as well, working on the stretch for a period of five months.

The work was ultimately paid for with some of the city's construction reserve funds, though they also made use of state Water Infrastructure Funds (WIF) loans as well. This work on the utilities infrastructure cost the city around \$3 million, significantly less than a separate upgrade project would have cost the city, according to Public Works Director Lewis Giesking.²⁵

From the city's standpoint, coordinating its municipal rehabilitation work and rolling into the larger construction was primarily a matter of cost, though it had the benefit of making sure the street surface would not need to be disturbed for decades.

24 Dennison, Jeremy 4

25 Dennison, Jeremy 4



CONCLUSION

Minnesota, on the whole, is relying on increasingly outdated collection systems and treatment plans to manage its sewage. While we're not in an immediate crisis scenario, the forecast, without near-term action, is gloomy. At heart, we are dealing with a public health issue. Although funding upgrades and rehabilitation to systems across the state will require significant investment from the state of Minnesota, there are many reasons why now is the time to act. As outlined in this report, the current economic climate presents a unique opportunity that Minnesota's policymakers would be wise to seize upon. The report has also outlined different proposals which lawmakers could adopt to both further stimulate the state's economy, creating jobs and taking advantage of prevailing conditions such as low interest rates, excess bonding capacity, and the competitive bidding environment among private contractors. Taken together, Minnesota is witnessing a sort of perfect storm; letting it pass would prove a costly mistake.

Policymakers must first work around some of the barriers before winning public support toward implementing these much needed upgrades. Such issues focus primarily on affordability in smaller communities, as we have outlined through our case studies. Yet, as we have seen, there is a robust funding structure in place to fund these projects across the state and has done so for two decades. The system is well respected and has a proven track record of getting positive results. Despite the often steep costs of infrastructure work, the PFA, MPCA, and USDA with their stable of low interest loans and grants, can generally help most any community get its wastewater system in working order. Following the proposals outlined in this report, those communities who prioritize infrastructure rehabilitation should be able to do so economically.

This report has proposed solutions for overcoming financial obstacles. The case of Saint Peter demonstrates an innovative approach to construction that other Minnesota communities could replicate. Overcoming conservative dogma can be trickier; it seems to oppose funding anything that allows government to empower communities. Smart economic and policy choices aren't easy, and large up-front investments face multiple obstacles. However, standing by and letting our smallest communities wastewater infrastructure systems further deteriorate is the wrong direction for Minnesota. The state should take advantage of low borrowing rates, extra bonding capacity, and a competitive construction bidding climate to proactively upgrade Minnesota's clean water infrastructure before we all pay a hefty price.

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