Overview of Critical Local Government Infrastructure Needs

Prepared by
Terry Johnson
and Lois
Steinbeck,
Private
Consultants
# Table of Contents

- **Introduction** .................................................................................................................. 2
- **Critical Infrastructure Needs** ............................................................................................ 2
- **Condition of Critical Local Infrastructure** ........................................................................... 2
- **Overview of Wastewater and Drinking Water Infrastructure** .............................................. 2
- **Capacity and Condition of Wastewater Treatment Systems** .................................................. 2
- **Capacity and Condition of Drinking Water Systems** .............................................................. 3
- **Overview of Funding for Water Infrastructure** .................................................................... 3
- **Immediate Needs for Water and Wastewater System Upgrades** ........................................... 3
- **Annual State and Federal Funding for Water Related Infrastructure Is Limited** ...................... 3
- **Transportation Infrastructure** ................................................................................................ 4
- **Capacity and Condition of Transportation System** ................................................................. 4
- **Estimated Transportation Infrastructure Cost** ......................................................................... 5
- **Funding for Transportation Infrastructure** .............................................................................. 5
- **State Funding Sources for Critical Infrastructure** .................................................................... 5
  - Treasure State Endowment Program – A More Detailed Review ................................................. 5
  - Gasoline and Special Fuel Tax – A More Detailed Review ......................................................... 8
- **Major State Sources of Infrastructure Funding for Water and Transportation** ..................... 11
- **Selected Local Infrastructure Funding Methods** ................................................................. 11
  - General Sales Tax/ Community Specific Resort Tax ................................................................. 11
  - Local Option Fuel Tax ............................................................................................................. 12
  - Local Option Motor Vehicle Registration ............................................................................... 12
  - Public Private Partnership ....................................................................................................... 12
  - State Infrastructure Banks ...................................................................................................... 12
- **Summary** .............................................................................................................................. 13
Introduction
The Montana Infrastructure Coalition (Coalition) reviewed the quality of three critical local government infrastructure needs: drinking water systems, wastewater treatment, and transportation. The Coalition also examined the types of funding available to construct and maintain local infrastructure, and other types of funding mechanisms to support local infrastructure. Overall, Montana engineers have given local water and transportation infrastructure systems mediocre to nearly failing grades. Funding for local infrastructure has fallen almost entirely on local residents with state and federal grants and funding covering only a small or static portion of infrastructure needs.

Critical Infrastructure Needs
The Montana Infrastructure Coalition (Coalition) identified three critical local government infrastructure needs: drinking water systems, wastewater treatment, and transportation, including local, state, and interstate highways and bridges. While these three elements are only a few of the local infrastructure programs fundamental to support economically vibrant and healthy Montana communities, the Coalition chose to highlight these critical needs because they have not routinely received individual, focused consideration.

Condition of Critical Local Infrastructure
The American Society of Civil Engineers (ASCE) convened 30 of its Montana members with specific, in depth industry experience and knowledge to evaluate Montana infrastructure, and published its conclusions in 2014. The evaluation criteria used included: capacity, condition, funding, future need, and public safety. The information sources used to evaluate infrastructure included: state of Montana agency reports and budgets; federal reports with state specific information; economic impact reports; surveys of infrastructure owners and operators; and interviews with agency staff. ASCE assessed eight types of local infrastructure in Montana and rated each using a letter grading system. The grades for each of the three critical types of infrastructure discussed in this report are:

- Wastewater: D+
- Drinking water: C-
- Transportation: C

Overview of Wastewater and Drinking Water Infrastructure
There are about 180 public wastewater treatment systems and about 700 public and private water systems in Montana. Some of these systems depend on original piping that is 75 years to more than 100 years old. The ASCE review found that some wastewater systems "have vitrified clay tile pipe that has cracked or failed" and most drinking water systems "experience major leaks on an annual basis". ASCE determined that about 20.0% of public wastewater treatment facilities have "significant effluent violations and another 20.0% are under formal enforcement actions to correct system deficiencies to achieve compliance". ASCE concluded that many of these older systems are near the end of their useful life and estimated that it would cost between $12.0 billion to $15.0 billion to completely replace local wastewater and drinking water systems.

Capacity and Condition of Wastewater Treatment Systems
Half of the communities responding to an ASCE survey indicated that their wastewater systems had no additional capacity or were under capacity, and about 40.0% of respondents indicated that wastewater
collection systems were in fair to poor condition. ASCE found that larger communities have a plan and budget to replace a certain amount of wastewater pipeline each year. However, the vast majority of Montana communities - 80.0% - replace little or no wastewater piping on a regular, annual basis. More than a third of communities responding to an ASCE survey rated their wastewater treatment system condition as fair to failed, with 8.0% reporting a failed condition that was not in compliance with state discharge standards.

Capacity and Condition of Drinking Water Systems
About one third of the communities responding to an ASCE survey indicated that their water systems had no additional capacity or were under capacity and about 9.0% of respondents rated their system condition as fair to poor. Many treatment systems have been upgraded to comply with federal water quality standards resulting in improved conditions for many community systems. However, 90% of survey respondents reported replacing very little piping within their distribution systems. As noted earlier, some communities have piping 75 years to more than 100 years old. Although the older piping is still functioning, it may be undersized or corroded and may be "more susceptible to bacteriologic contamination".

Overview of Funding for Water Infrastructure
Montana counties and communities rely on a combination of local, state, and federal sources to fund wastewater treatment and water system infrastructure projects. ASCE estimated the total annual investment for repair, replacement, and upgrades to community wastewater and water infrastructure was $165.0 million in 2014, with $115.0 million provided by state and federal programs. Several of these funding sources are loan programs, requiring repayment by local residents. The sources of state and federal funding most commonly supporting these infrastructure projects identified by ASCE are: "Treasure State Endowment Program (TSEP), Renewable Resource Grant and Loan (RRGL), Community Development Block Grant (CDBG), State and Tribal Assistance Grant (STAG), USDA Rural Development (RD), and State Revolving Fund (SRF) Programs. Often times the grant and loan packages include the community share provided through reserves, special assessment, and other sources of funding. The loans are typically either RD or SRF loans and paid back through user rates."

Immediate Needs for Water and Wastewater System Upgrades
The immediate infrastructure funding needs were estimated by the Montana Department of Environmental Quality to be $587.0 million in 2008 for wastewater treatment and $885.0 million for drinking water in 2011 or a total of $1.5 billion. The estimate is based on known problems, including those related to enforcement actions or emergency situations that require action in the short term. These estimates do not consider the costs associated with complying with regulatory changes, system repairs, or capacity changes due to population growth.

Annual State and Federal Funding for Water Related Infrastructure Is Limited
In the 2015 biennium (July 1, 2013 - June 30, 2015), public funding administered and dispersed by the Montana Departments of Commerce, Natural Resources and Conservation, and Environmental Quality supported about 43.0% of the cost of wastewater treatment and water system projects that were approved. However, the majority of funding for these projects - 57.0% - came from local funds and 93.0%
of that local funding was supplied through loans.\(^{15}\) One of the most important sources of funding for water infrastructure projects - TSEP, which is discussed in greater detail later in the report - funded "an average of 16.7% of the total costs of wastewater system projects and 26.0% of water system projects" in the 2015 biennium.\(^{16}\) It is common for local governments to use several sources of funding for water related infrastructure projects.

**Transportation Infrastructure**

In 2011, Montana had about 75,000 miles of road, including national highway system (NHS) interstate and non-interstate roadways, state primary and secondary roads, and urban and rural roads maintained by cities and counties. Figure 1 shows the type of road and number of miles of each type of road.\(^ {17}\) Local rural roads constitute the majority of the inventory with just under 75.0% of total state roadways.

In 2011, the Montana Department of Transportation reported 11.7 million vehicle miles traveled, with about three quarters of the miles traveled on on-system roads. ASCE estimated that $21.6 billion in goods are transported from Montana locations and another $37.9 billion are transported to Montana sites, with 59.0% of goods shipped from Montana transported by truck.\(^ {18}\)

**Capacity and Condition of Transportation System**

Montanans enjoy some of the least congested highways in the nation and ASCE concluded that roadway capacity was adequate well into the future. In 2012, about 90.0% of the Montana interstate system pavement was rated as good followed by the national highway system pavement where just under 80.0% of the total roadways were rated as good. About 72.0% of primary and secondary roadway pavement was rated as good, while about 25.0% of primary roadway pavement and about 28.0% of secondary roadway pavement were rated in poor to fair condition.\(^ {19}\) However, although pavement conditions for major roadways are generally good, overall about 46.0% of Montana’s state and local roads are in “poor to mediocre condition and about 40.0% of gravel roads are in poor or failed condition”.\(^ {20}\)

In 2008, 85.0% of Montana counties evaluated local roads using the Pavement Surface Evaluation and Rating (PASER) system and determined that 25.0% of chip seal roads and, as noted previously, 40.0% of gravel roads were in poor or failed condition.\(^ {21}\) A follow up survey of 10.0% of Montana counties in 2013 showed little change.\(^ {22}\)

Montana has 2,282 highway bridges and 1,935 non-state highway bridges. ASCE reported that 92.0% of highway bridges are rated as good with 8.0% or 204 needing repair or replacement. About 82.0% of non-state bridges are rated in good condition with 18.0% or 341 needing repair or replacement.\(^ {23}\)
Estimated Transportation Infrastructure Cost

The Montana Department of Transportation estimated that new construction and maintaining existing Montana roads and bridges would cost about $14.8 billion through 2022. However, the department also estimated that available funding would cover only 25.0% of projected costs. The department estimate doesn't include the cost to construct and repair local roads. ASCE noted that deferring maintenance, particularly on local roads, can lead to deterioration so severe that the road cannot be repaired, but must be reconstructed at greater cost.

Funding for Transportation Infrastructure

New construction as well as repair, maintenance, and upgrades for Montana transportation infrastructure is provided by the federal government through the Federal Highway Administration and with state and local funds as well. However, the amount of federal highway funding that can be used for local transportation infrastructure is limited. Most is dedicated to the national highway system.

In state fiscal year (SFY) 2014, Montana received $396.0 million in its federal highway funding grant. Montana levies taxes on gasoline and special fuel and uses the state special revenue to match federal funding, maintain the secondary highway system, and perform routine maintenance, including snow removal during winter. Although some projects can be fully funded from federal highway grant funds, most require that the state provide matching funds. The federal match rate varies depending on the type of highway and project funded, but can be as high as 90.0%, with the majority of federal funds matched with 13.86% state funds. The source of state matching funds is the Montana highway state special revenue account is discussed in greater detail later in the report.

Montana local governments also receive a share of the highway state special revenue that can be used to fund local transportation infrastructure. However, this source of funding, which is also discussed in greater detail later in the report, has remained static over the years.

State Funding Sources for Critical Infrastructure

Treasure State Endowment Program – A More Detailed Review

During the 1975 legislative session, the legislature enacted the coal severance tax and defined the purpose and use of this newly created tax. Previous to this law, any coal produced in Montana was taxed based on a cents per ton basis and was not tied to the value of the commodity. The new coal tax policy was designed to automatically increase or decrease tax paid based on the tons produced and the price the producer received for the commodity. To put this change in an appropriate perspective, in 1970 coal tax receipts were about $50,000 whereas by 1977 these tax revenues increased to almost $37.0 million. This increase was the result of the newly implemented coal severance tax because it included the value of the coal in the computation of the tax owed.

Because of the additional revenue, the legislature developed new spending polices and also implemented a trust fund to insure that there would be monies available to benefit future generations. The legislature authorized a tax distribution mechanism that allocated some revenue to general use, dedicated some for specific purposes, and distributed 50.0% to a coal tax trust fund. Any use of the trust fund corpus requires a ¾ vote of each house of the legislature.

Over the years, the legislature created sub-trusts within the coal tax trust fund. Under current law, there are four sub-trusts and the principal amounts are invested by the Board of Investments. All sub-trust earnings are appropriated by the legislature and are dedicated for specific purposes.
Overview of Critical Local Government Infrastructure Needs

One of these sub-trusts, TSEP, was created by legislative referendum approved by the voters in June 1992. With an initial seed loan of $10.0 million from the permanent trust, the TSEP sub-trust had grown to $288.0 million by the end of SFY 2016. The entire coal tax trust balance was $1,023.0 million at the end of SFY 2016 when all sub-trusts and income funds are summed together. The TSEP is administered by the Department of Commerce (DOC). Its fiduciary responsibility is to administer a grant and loan program for infrastructure projects throughout the state. Infrastructure projects include drinking water systems, wastewater treatment facilities, sanitary sewer or storm sewer systems, solid waste disposal and separation systems, and bridges. The maximum grant award is $750,000.

As defined by state statute (90-6-702, MCA), the purpose of TSEP is to assist local governments in funding infrastructure projects that will:

- Create jobs for Montana residents
- Promote economic growth in Montana by helping to finance the necessary infrastructure
- Encourage local public facility improvements
- Create a partnership between the state and local governments to make necessary public projects affordable
- Support long-term, stable economic growth in Montana
- Protect future generations from undue burdens caused by financing necessary public works
- Coordinate and improve infrastructure financing by federal, state, local government, and private sources
- Enhance the quality of life and protect the health, safety, and welfare of Montana citizens

Grant funding for the program is derived from the investment earnings produced from the TSEP sub-trust. Eligible applicants include cities, towns, counties, tribal governments, consolidated local governments, county or multi-county water, sewer or solid waste districts, and other authorities as defined in section 75-6-304, MCA. TSEP applications are submitted to the DOC on a biennial basis and they are evaluated according to seven statutory priorities, which focus on projects that:

- Solve urgent and serious public health or safety problems or that enable local governments to meet state or federal health or safety standards
- Reflect greater need for financial assistance than other projects
- Incorporate appropriate, cost-effective technical design and provide thorough, long-term solutions to community public facility needs
- Reflect substantial past efforts to ensure sound, effective, long-term planning and management of public facilities and that attempt to resolve the infrastructure problem with local resources
- Enable local governments to obtain funds from sources other than TSEP
- Provide long-term, full-time job opportunities for Montanans, provide public facilities necessary for the expansion of a business that has a high potential for financial success, or maintain the tax base or encourage expansion of the tax base
- Are high local priorities and have strong community support

The DOC submits a recommended list of projects to the legislature for review, potential modification, and ultimate approval. Upon authorization by the legislature and the Governor, the DOC administers the approved grants.
Since creation of the TSEP, there have been $200.6 million in state funded grants allocated to communities throughout Montana. Figure 2 shows the infrastructure projects that were funded by type. TSEP grants were matched with other local and/or federal sources to fund over $937.0 million in total infrastructure projects.

Figure 3 shows the total amount (TSEP, state, federal, and local funds) for projects in counties throughout Montana since inception of TSEP. The size of the circle measures the total project funding to counties, which includes a portion of TSEP grant funds. Only two counties (Broadwater and Powder River) have never received grants. The blue shaded counties represent those counties where coal development has taken place.
It should be noted that any further deposits to the TSEP from the coal severance tax were terminated as of June 30, 2016. Interest earnings from the TSEP sub-trust will continue to be available for appropriation by the legislature but the funds available will remain relatively constant unless the return on investments changes.

Gasoline and Special Fuel Tax – A More Detailed Review
The gasoline and special fuel (diesel) tax was enacted in 1955. The tax rate has not been changed since 1995. The current state gasoline tax rate is $0.27 per gallon (remitted by the distributor) and the rate on special fuel is $0.2775 per gallon (remitted by the distributor). There is an additional tax of $0.0075 per gallon on both fuel for the purpose of funding the underground storage tank program. Pursuant to Article 8, Section 6 of the Montana Constitution, revenue from fuel taxes (except general sales and use taxes) on gasoline and special fuel must be used for payment of obligations incurred for construction, reconstruction, repair, operation, safety, and maintenance of public highways, streets, roads, and bridges. As allowed by the Constitution, fuel taxes may be used for other purposes if authorized by a 3/5 vote of the legislature.
As shown in Figure 4, total fuel taxes (gasoline and diesel) have increased from $184.6 million in SFY 2000 to $218.0 million in SFY 2016 for an increase of 1.0% per year. Conversely, the allocations to local governments have remained constant while highway construction costs increased by over 13.0% from 2003 (see small inset in Figure 4). During the period of high energy prices (2006-2008), highway construction costs increased by over 25.0% from the base period of 2003. Strictly from a percentage
Overview of Critical Local Government Infrastructure Needs

perspective, the local government share of the total fuel taxes has declined from 9.0% in SFY 2000 to 7.7% by SFY 2016.

Figure 5 shows the annual total allocation of fuel taxes ($16.7 million) to counties (cities, towns, and counties summed together) for SFY 2015. Per section 15-70-101, MCA, the allocation procedure is based on rural road mileage (40.0%), rural population (40.0%), and land area (20.0%) for counties. City allocations are based on population (50.0%) and street and alley mileage (50.0%). As specified in the Montana Constitution and state statute (15-70-101, MCA), these monies are allocated “to the counties, incorporated cities and towns, and consolidated city-county governments in Montana for construction, reconstruction, maintenance, and repair of rural roads and city or town streets and alleys”. Yellowstone, Gallatin, Missoula, Lewis and Clark, Cascade, and Flathead counties receive the largest allocations of the fuel tax. Per section 7-14-301, MCA, counties are authorized to levy up to a $0.02 per gallon local option motor fuel tax provided the initiative is authorized by majority vote of the county residents. Currently, no county levies this tax.

Figure 5
Major State Sources of Infrastructure Funding for Water and Transportation

When the TSEP funding and motor fuel allocation to cities, towns, and counties are added together from 1995 forward, the state has committed $600.6 million to local government infrastructure needs – primarily for water and road projects. To put this in an appropriate perspective, the total local government infrastructure needs for just water and waste water projects in Montana (as discussed previously) is about $15.0 billion. Information is currently not available for local government road and bridge needs. It would take almost 415 years (at the current TSEP grant and match rates) to fund this need. There are many other federal, state, and local funding programs but this example illustrates the significant gap between the water and waste water needs and the TSEP funding source. Figure 6 shows the use of these two funding sources for the various local government projects. Highway, water, and waste water projects have consumed 94.0% of the available funding since 1995.

Selected Local Infrastructure Funding Methods

The National League of Cities (NLC) surveyed 49 states to identify local strategies to fund infrastructure. Figure 7 shows the methods that the NLC identified as well as the number of states that authorize each option and the number of states in which at least one local government uses the option. The figure also identifies whether the option is authorized and used in Montana and whether voter approval is required for use.

General Sales Tax/ Community Specific Resort Tax

A slight majority of states allow local governments to impose a general sales or more limited resort tax. Although Montana statute does not allow local communities to impose a general sales tax, certain designated incorporated communities and unincorporated areas within defined population limits and economic conditions may levy a resort tax on statutorily defined goods and services under certain conditions (7-6-1501, MCA). Funds raised by these taxes can be used for a variety of purposes, including local infrastructure.
Overview of Critical Local Government Infrastructure Needs

In Montana there are four communities with a resort tax (Whitefish, Red Lodge, Virginia City, and West Yellowstone) and there are six areas with a resort tax (St. Regis, Big Sky, Cooke City, Gardiner, Wolf Creek, and Craig). All resort taxes must be approved by local voters, with the first resort tax adopted in 1986 and the most recent adopted in 2011. All communities and areas impose a 3.0% tax, the maximum rate allowed under Montana statute. Some communities limit the length of time the tax can be imposed and require a vote to extend the tax for another specified period of time.

Local Option Fuel Tax
Fewer than half the states authorize local governments to impose a fuel tax. However, as noted previously, Montana allows counties to impose up to $0.02 per gallon in fuel tax, in increments of $0.01 per gallon, if approved by county voters (7-14-301, MCA). Revenue derived from such taxes may be used only for construction, reconstruction, maintenance, and repair of public streets and roads as well as for reimbursement to retailers to cover the cost of compliance. Funds from the local fuel tax must be apportioned among the county and municipalities in the county based on population, road miles, or another agreed upon method. No Montana counties levy this tax.

Local Option Motor Vehicle Registration
A county may impose a local option motor vehicle tax or a local option flat fee on motor vehicles subject to registration fees. These taxes/fees are authorized in 26 states and used by local governments in 21 states. Montana authorizes such a tax with a maximum rate of 0.7% of the vehicle value or a flat fee equivalent to the registration fee. A vote is not required to impose the tax or fee. All but six Montana counties levy the optional motor vehicle tax/fee. In SFY 2013, collections totaled $38.8 million. These local revenues are distributed among a county and incorporated cities and towns within a county based on a population ratio. The local governing entity defines the distribution of the revenue by resolution.

Public Private Partnership
NLC found that 32 states authorize public private partnerships (PPPs), with 13 states allowing broad authority for PPPs to undertake all types of infrastructure projects. A PPP is a contract between a public entity, typically a state or local government, and a private sector entity to provide infrastructure for public uses. PPP’s are a relatively new model in the United States. NLC did not indicate the number of states in which such partnerships have been implemented. Montana does not provide broad statutory authority for PPPs.

PPPs can be structured in a variety of ways. For instance, a local government could identify the type of infrastructure improvement needed and contract with a private entity to manage any or all aspects of the project including finance, design, construction, and management. However, most typically, the public sector retains the functions of determining infrastructure improvements that are needed, negotiating project financing, and maintaining ownership and operation once a project has been completed.

State Infrastructure Banks
Infrastructure banks (I banks) are authorized in 27 states and there are 22 active banks. Montana does not have an I bank.

Typically I banks are investment funds that furnish loans or grants to local governments for infrastructure projects. However, most I banks issue loans that usually have subsidized or low interest rates. I banks can be capitalized in a variety of ways, including bonding proceeds and cash deposits from government funds.
Some states specify the types of infrastructure that can be funded through I banks. Each state bank operates differently; however, many "base their selection of projects on regional and local economic impact analyses". Most states, including Montana, have revolving loan funds for water and wastewater treatment infrastructure. Many I banks are focused on funding transportation projects.

**Summary**

Critical local water and transportation infrastructure is in need of repair and maintenance, receiving mediocre and near failing grades in an ASCE review. The immediate funding need for water and wastewater infrastructure repair is $1.5 billion, while the replacement cost is estimated to be between $12.0 billion to $15.0 billion.

The TSEP program is the primary source for state grants to support local water system repair and upgrades. TSEP grants are limited to $750,000 per project, which is combined with other state and federal grant and loan sources with the majority of costs repaid by local citizens. Grants are funded from interest earnings on the TSEP trust, which is capped at about $288.0 million at the end of SFY 2016. If the trust received additional funds, each $1 million in new deposits would provide about $13,000 annually in additional grant funds if short-term interest rates remain at current rates. If $1.0 million was deposited to the trust each year for the next 10 years, about $1.6 million per year would be available for grants by the tenth year.

Local roadways are in need of repair and improvement, with nearly half of local roadways in mediocre to poor condition. Allocations of state fuel taxes to local governments have remained stagnant despite increases in state fuel tax collections and the increasing cost to maintain and operate local transportation networks.

There are a variety of funding methods available to support improvements to local infrastructure. Some of these options are allowed by Montana statute and some have been implemented by local governments in Montana.
Overview of Critical Local Government Infrastructure Needs

1 American Society of Engineers Montana Section, "2014 Report Care for Montana's Infrastructure", 2015, p. 3.

2 Ibid, p. 10 and p. 28.

3 Ibid.


5 Ibid, p. 10.

6 Ibid, p. 10 and p. 28.

7 Ibid, p. 11.

8 Ibid, p. 12.

9 Ibid.


13 Ibid.

14 Ibid, p. 32.


16 Ibid.

17 Montana Department of Transportation, 2011.

18 American Society of Civil Engineers, p. 42.

19 Ibid.


21 Ibid, pp. 42-43.

22 Ibid.

23 Ibid, p. 46.

24 Ibid, p. 41.
Overview of Critical Local Government Infrastructure Needs

25 Ibid, p. 44.


28 Ibid.

29 Ibid 14.

30 Ibid.