

Research & Policy Brief Series

ISSUE NUMBER 56/OCTOBER 2013

Public Opinion on Water and Wastewater Infrastructure Issues¹

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What is the Issue?

Water and wastewater infrastructure (W&WI) in the U.S. is in need of immediate capital investment. Much W&WI has aged past its expected useful life even as new capacity challenges loom. Support from the federal government for W&WI has declined significantly in the last two decades, forcing state and local governments to contribute a larger share. With increased decentralization of infrastructure decision-making, public opinion is playing an ever greater role. Preferences measured through public opinion surveys, coupled with preferences revealed by ballot and market choices, can offer policymakers a broad understanding of public support for various W&WI policy alternatives. Questions on capital investment, privatization, and concern for W&WI were part of a national public opinion survey conducted in 2012. We discuss the results of the survey and some associated policy implications.

Water and wastewater infrastructure

Water and wastewater infrastructure (W&WI) in the U.S. is aging. According to recent USEPA reports, more than \$630 billion will be needed in capital improvements over the next 20 years to ensure safe drinking water (\$335 billion) and clean rivers (\$298 billion) in the nation (USEPA, 2008; USEPA, 2009). Annual federal funding for construction and improvement of W&WI has remained fairly constant at around \$2.5 billion since 1987. After accounting for inflation, this means that the real value of this limited funding has declined significantly, all while needs have increased year-on-year (Copeland, 2012). Over the same time period, some states have seen a dramatic reduction in federal funding for wastewater treatment. For example, New York received \$227 million in 1991 for the Clean Water State Revolving Loan Fund (CWSRF), which fell to \$75.1 million by 2008 (NYSDEC, 2008). Although the general decline in federal funding has affected all municipalities, small- and medium-sized utilities are the most impacted since they rely more heavily on federal funding. Through direct loan financing and repayment of the SRF loans, ratepayers pay about 90% of the capital costs for W&WI (Copeland and Tiemann, 2010). The trend toward decentralization of W&WI funding decisions has necessitated increased incorporation of local public opinion in decision-making. Subsequently, the influence of local public opinion in shaping infrastructure decisions has evolved. A study of the 2001 municipal elections in Florida, for example, found the defeat of incumbents was tied to their positions

and decisions on infrastructure issues. However, like any other topic, public opinion on infrastructure and government involvement is malleable, responsive to events, and subject to issue framing. In 2012, we included three questions on W&WI in the Cornell National Social Survey to identify public opinion on certain key issues against the backdrop of aging infrastructure. The survey was conducted over phone, yielded 1000 respondents (18% response rate), and is broadly representative of public opinion nationally.

Where should the funding come from?

Respondents were asked their preference among four possible sources for funding for large capital investments in W&WI (see Table 1 for the options provided). A larger proportion of respondents preferred funding from local governments compared to state or federal governments. This is consistent with surveys showing that even though overall trust in government has been declining for the past three decades (Tolbert and Mossberger, 2006), local governments have consistently enjoyed higher levels of trust as compared to other levels of government (Kelly and Swindell, 2002). Statistical tests suggest that party affiliation was the strongest demographic predictor of responses. Republican respondents' preference for private corporations exceeded that for local and state governments, each of which was in turn significantly preferred over federal W&WI funding.

Table 1: Respondent preferences for the source of funding for water and wastewater infrastructure (W&WI) projects

Source of funding	Respondents (%)
Federal government	18.3
State government	28.2
Local government	40.0
Private corporation	13.6
Number of respondents N = 926. Respondents (%) total exceeds 100.0 due to rounding.	

Voter behavior regarding W&WI policy is also instructive. In the face of declining federal support for W&WI over the past decades, state governments have stepped up their support through grants/loans, bonds, taxes and other means, though they have been unable to close the funding gap. Since 2001, twenty-five statewide ballot initiatives have been introduced across eleven states to finance W&WI with an overwhelming degree of success (IRI, 2013; NCSL, 2013). Maine

¹This is an abridged version of the original article, "Capital Investment and Privatization: Public Opinion on Issues Related to Water and Wastewater Infrastructure" that appeared in *Public Works Management & Policy*, published online October 8, 2013, by Sage Publications, available at: <http://dx.doi.org/10.1177/1087724X13500240>

has used ballot initiatives to raise capital for W&WI financing most frequently during this period, though some larger states have raised a much greater amount through single initiatives. Of the 25 initiatives, 12 were placed on the ballot by Democratic governors, 10 by Republican governors and the rest by Independent governors, demonstrating cross-party support for W&WI financing at the state level. Twenty-two initiatives were successful, getting an average of 60% votes in favor of the proposition.

Is privatization a popular option?

Respondents were asked to indicate who is best suited to manage W&WI: (i) private corporations, (ii) public water and sewer boards, or (iii) both are equally suited. A plurality of the respondents (44%) felt that both public and private entities were equally suited to manage W&WI such as treatment plants. The remaining respondents preferred public water and sewer boards (38%) over private corporations (18%). Statistical analysis again revealed a divide along party lines - private providers were more likely to be preferred by Republicans and strongly disfavored by Democrats as compared to independents. Conversely, public water and sewer boards found less support among Republicans over Democrats and independents. These results are broadly consistent with the complex relationships between political ideology, support for privatization, and privatization policies. For example, Morris and Travis (2003) found that comparatively conservative or Republican-controlled states were more likely to privatize aspects of the Clean Water SRF program, while Warner and Hebdon (2001) concluded more generally that “pragmatism wins out over politics” in local government privatization decisions.

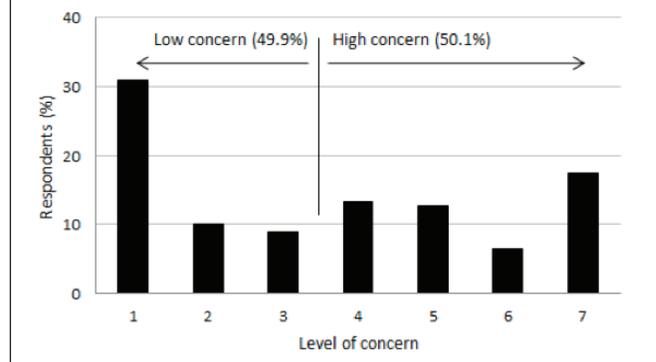
Market research shows that consumers who are unsure and do not have strong preferences pick the “middle” option (Kamenica, 2008). With a few exceptions, Americans do not have extensive experience with privatization of water and wastewater services. The fiscal situation in many municipalities has forced communities across the U.S. to look at alternative ways of financing W&WI, including privatization. Knowledge about the pros and cons of both private and public management could help consumers make appropriate decisions. Further research could investigate if increased familiarity with water privatization leads to more or less favorable preferences toward such arrangements.

Level of concern

In the last few years, reports on the deteriorating state of W&WI across the country have been issued by various government and non-government policy agencies and industry groups. Except for the treatment plants, much of the W&WI is subsurface and suffers from the “out of sight, out of mind” syndrome. A water main break, boil water advisory or a sewage spill exemplify some of the few instances when public concern for W&WI is evident.

General public opinion on the state of W&WI has been sparsely measured. To address this deficiency, our survey respondents were asked to indicate their level of concern toward W&WI in their community on a 7-point scale. Responses were fairly evenly distributed, with a slight skew toward the “not concerned” end of the scale (Figure 1). Suburban, single and older respondents are more concerned about the state of W&WI, whereas Republicans and white respondents are less concerned. The higher concern expressed by suburban respondents is notable, since most urban areas contain older infrastructure as compared to their suburbs.

Figure 1: Concern for the state of water and wastewater infrastructure. The 7-point scale spans from “not concerned at all” (1) to “highly concerned” (7).



To compare these scores across metropolitan areas comprised of both urban and suburban residents, the individual scores for level of concern were aggregated by metropolitan areas and paired up with other datasets measuring “ease of access to safe and clean water” (Witters, 2010), and water rate increases between 2001 and 2012 (McCoy, 2012). Using the 35 largest metropolitan areas for which complete data was available, we found that higher levels of concern were associated with both lower perceived access to clean water and to larger increases in water rates. Both associations are sensible, and the correlation with water rates indicates that prices are potent signals that convey information about the state of infrastructure to the residents. Increasingly, utilities are implementing ‘full-cost pricing’, i.e., passing on all costs to the end customers, becoming proactive about infrastructure upgrades, and facing weather extremes, all of which have resulted in significant, but necessary increases in water rates. While rising levels of concern may follow a rise in rates, this connection can be mitigated to some extent through education and outreach by local utilities.

Conclusions

Our study assessed public opinion on three key issues relevant to W&WI – financing, privatization and overall levels of concern. Party affiliation was a significant explanatory variable on all three survey questions. Other demographic variables proved occasionally important, but were less consistently significant across the models in their ability to explain public opinion about financing, privatization and concern. Although there is little disagreement among policymakers on the need for significant investments to upgrade and maintain the W&WI in the U.S., there is no clear consensus on how to go about making those investments. As local governments have been forced to assume greater responsibility for infrastructure financing, local elected leaders are increasingly judged by their positions on infrastructure. Preferences measured through national surveys of public opinion, coupled with preferences revealed by voting and purchasing decisions provides policy makers, even at the state and local level, with a broad base of understanding of the starting points of public support they must contend with when they advance various kinds of policy alternatives. Simultaneous efforts to foster a well-informed electorate and to encourage a responsive government are important if our society is to address the increasingly urgent and complex challenges facing the water and wastewater sector.

