



DOWNTOWNDC

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Investing in Infrastructure: A Choice for the Future

INTRODUCTION

Everyone agrees that infrastructure matters, but few care about it until it doesn't work. Infrastructure's effect on the economy is often taken for granted and many people assume that is paid for by someone other than themselves.

In fact, downtown D.C.'s infrastructure, especially its transit infrastructure, is its competitive advantage in the region. Downtown's infrastructure doesn't make it impervious to cyclical changes in the larger economy, but it does provide a backstop in bad times and a launching pad for upswings in the economy.

Businesses and individual consumers of infrastructure are all paying for it either through taxes or fees. It is not spontaneously generated. Decisions on infrastructure investments have consequences that are felt throughout the community.

Physical infrastructure (water, transportation, energy distribution, public buildings and telecommunications) isn't the only thing taxpayers are funding in D.C. We also pay for the social and civic infrastructure of the city. Seldom do we think about the costs associated with maintaining, growing and improving the city's physical, social and civic infrastructure in a comprehensive way, but there are many reasons why we should, including sustainability, resiliency and social justice.

Perhaps the most compelling reason to begin long-term infrastructure planning is that the city has significant financial restrictions on its ability to invest. The city and Congress have set restrictions on the city's debt capacity. On the operating side, the city's ability to generate



Infrastructure construction has begun on Capitol Crossing, a \$1.3 billion project that will deck over the I-395 freeway, reconnecting the East End of Downtown to Capitol Hill.

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operating surpluses to fund investment is constrained by the city's inability to tax personal income at the source, the large amount of federally-owned land that is tax exempt and its progressive social agenda.

Mayor Muriel Bowser and the Chief Financial Officer are embarking on the first comprehensive assessment of the state of the city's physical infrastructure as well as the cost of infrastructure that is currently planned by the city. It's estimated that this effort will take about one year to complete. It will be important for the business community and others in the city to be engaged in this effort because decisions must be made that will impact generations to come.

This overview provides some context for the financial need for infrastructure investment at the national and regional level and some key indicators for the state of D.C.'s infrastructure. Assessing financial need provides the starting point for the city government and the community to discuss priorities for investment. Making choices among the infrastructure investments and creating an implementation plan to finance them will require new approaches to how the city builds.

STATE OF INFRASTRUCTURE

The state of infrastructure across the nation has been commented upon on a regular basis for the past 20 years. The discussion just got closer to home in January of this year when the Metropolitan Washington Council of Governments (COG) issued their first infrastructure report since it was founded in 1957. Right now, the District government is preparing to take on the work required to create its first comprehensive infrastructure plan. Funding gaps that have been documented nationally and regionally can reasonably be expected to emerge in the city's upcoming analysis.

NATIONAL

Every four years, the American Society of Civil Engineering (ASCE) publishes a report card on the state of infrastructure in the United States. The most recent report in 2013 identified a \$3.6 trillion funding need for infrastructure by 2020, and less than half of that amount in projected investments. ASCE produced a series of economic impact studies focusing on categories of infrastructure entitled, "Failure to Act." ASCE projects the national cost to businesses will be in the trillions and the cost to households in the billions by 2020 if the nation fails to close the gaps in infrastructure investment.

The largest need in the ASCE assessment was in the transportation sector, with a \$1.723 billion investment

gap by 2020. This category included pavement and bridge conditions, congestion, rail and bus transit as well as inter-city rail conditions. ASCE provides a national perspective, but it is clear that urban areas are hit hardest by deteriorating and deficient transportation infrastructure. The concentration of demand in urban areas puts the heaviest burdens on the overall system.

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The nation's electricity infrastructure had the second-largest funding gap in the ASCE report: \$107 billion by 2020, with the Mid-Atlantic region ranking in the top three regions based on gap size. By 2020, most of the electricity infrastructure gap will be for the distribution and transmission of electricity as opposed to the generation of electricity.

Lastly, water infrastructure, which encompasses waste water treatment, safe drinking water and storm water management systems, has a funding gap of \$84 billion by 2020. This put it in third place among the nation's infrastructure sector funding needs.

Regionally, infrastructure funding gaps follow a similar pattern.

REGIONAL

The Metropolitan Washington Council of Governments (MWCOG) released its first regional infrastructure report in January of 2015. It identified a 15-year funding gap for the region's infrastructure of \$58 billion. Of that total, \$23.5 billion was for the transportation sector and more than half of that, \$16 billion, was for public transit. The public transit funding gap is the amount that the Washington Metropolitan Area Transit Authority (WMATA) estimates it needs for ongoing maintenance as well as funding for the system enhancements contained in the Metro 2025 initiative.

For the region's water infrastructure, \$20 billion is required and more than half of that is for storm water management infrastructure.

In the energy sector, MWCOG estimates that \$5 billion is required to improve energy reliability in the region based on the infrastructure plans made by the region's energy utilities, PEPCO, Dominion and Washington Gas.



On Dec. 14, 2014, a water main break at 12th and F Streets, NW flooded several stations, including Federal Triangle, during rush hour. (Photo: WMATA)

DISTRICT OF COLUMBIA

Although the city has yet to complete its assessment of infrastructure investment needs, there are key indicators across each sector that suggest the scale of funding that might be necessary.

Transportation. In 2014, MoveDC, a 25-year transportation plan for D.C., was completed. It identified a \$27.4 billion funding gap for the maintenance and construction of transportation infrastructure required to accommodate the city's growing population and economy. The total amount of funding necessary for D.C.'s transportation infrastructure through 2040 was estimated to be \$53.9 billion, a total that included D.C.'s portion of WMATA funding during that time period.

Water. D.C. has about 700 miles of unlined water pipes that have a 100-year life cycle, but the median age of these pipes is currently 99 years. While these pipes aren't expected to break all at once, adequate water flow and pressure will be an increasing concern in the years ahead. Water flow and pressure affect the city's effectiveness in responding to fires and it is also an issue for obtaining construction permits. D.C.'s sewage lines are even older than the water pipes. Currently, DC Water is funded to replace 1 percent of its aging pipes a year.

Electricity. The DowntownDC BID's recent publication, "Recharged: Reshaping DC's Energy Future," highlighted areas of concern within the city's current electricity

infrastructure. The report pointed out reliability risks associated with the city's current centralized electrical power distribution infrastructure. This system is near capacity at a time when the city is growing in population and commerce. The good news is that new energy technologies can enable cost-effective distributed generation. The issues involved in creating a more distributed electrical energy system in D.C. are just beginning to be explored by the Public Service Commission (PSC). Hopefully, the PSC efforts can dovetail with the work that the Mayor and Chief Financial Officer are undertaking.

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INFRASTRUCTURE PLANNING

The effort to quantify the amount of funding required to maintain and construct the city's infrastructure will provide some of the information that is necessary to develop an investment plan, but there are additional considerations to be made.

Priorities. The city has many plans on the shelf and in the pipeline which identify priority infrastructure projects across several sectors. In addition to the city's 25-year transportation plan, MoveDC, the city also has a relatively new plan for parks and recreation called PlayDC. DC Water has a strategic plan, Blue Horizon 2020. The District Department of the Environment is also preparing to conduct a comprehensive energy plan for the city.

Planning for physical infrastructure projects and systems most often occurs in a financial vacuum, but the reality is that the city has a robust social equity agenda which requires a considerable amount of its financial resources. For example, Mayor Bowser campaigned on a platform that included a \$100 million annual investment for affordable housing in the city. In February of this year, the Mayor announced her plans for eliminating all homelessness in the District by 2025. Also, the District's current commitment to one of the largest per capita investments in education in the nation is expected to continue, perhaps even to rise.

Because financial resources are finite, it will be necessary to make strategic choices about what to include in a long-range infrastructure plan. Understanding the benefits of different choices requires a holistic evaluation of their social,

environmental and economic impacts, which collectively can be described as their sustainability.

Sustainability. The field of civil engineering has developed a tool to guide the analysis of project sustainability called Envision™. Envision™ is the product of a joint collaboration between the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure. The Envision™ checklist requires the community and the city to ask themselves two compelling questions:

1. Are we doing the right project?
2. Are we doing the project right?

A sustainability analysis applied to infrastructure planning can help the District find smarter ways to go about maintaining and constructing infrastructure. A good example of where this strategy can be used is with the combined interests of the stewards of the city's water, energy and transportation infrastructure. It's a well-known fact that the cost of digging up and replacing streets to enable underground work ends up being the largest cost for utility replacement. By aligning priorities across the infrastructure sectors, costs would be shared and it would be possible to accomplish more with less.

Financing. Innovative financing strategies involving public-private partnerships will be required to implement a long-range infrastructure plan. The District's new Office of Public Private Partnerships (P3) within the Office of the City Manager, authorized on March 15th, 2015, can provide a permanent office staffed by experts who can navigate the legal, financial and technical complexities of these types of deals. Public-private partnerships are only as good as the professionals that negotiate them. Ensuring that the P3 Office has robust staffing will be critical.

Dedicated Funding. An infrastructure investment plan is only as durable as the commitment to pay for it. The District has a checkered history with dedicated funding for transportation and the environment. The challenge of crafting a lasting infrastructure plan includes resolution of the city's policy regarding dedicated funding.

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CONCLUSION

In the earliest days of United States history, the federal government's ability to make "internal improvements" was viewed as a core function by many, but tensions surrounding the scale and financing of what we now call infrastructure makes this historic function difficult to execute. Developing an infrastructure investment plan for the District of Columbia will undoubtedly generate considerable debate about the priorities for the city's future, but the need for this core function of government should not be shirked. D.C.'s business and civic communities have an obligation to be active participants with government in this effort in order to ensure a plan that can stand the test of time.



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ABOUT THE DOWNTOWNDC BID

The DowntownDC Business Improvement District (BID) is a private non-profit organization that provides capital improvements, resources and research to help diversify the economy and enhance the Downtown experience for all. This special district, where property owners have agreed to tax themselves to fund services, encompasses a 138-block area of approximately 520 buildings from Massachusetts Avenue on the north to Constitution Avenue on the south, and from Louisiana Avenue on the east to 16th Street on the west. As a catalyst, facilitator and thought leader, the DowntownDC BID promotes public/private partnerships to create a remarkable urban environment. For more information, visit DowntownDC.org or follow us @downtowndcbid.