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Long road ahead for Maryland's infrastructure needs

State's work on highways, bridges, pipes and plants runs into tens of billions

by Andrew Ujifusa | Staff Writer

Gene Counihan has a \$2 billion problem at the Washington Suburban Sanitary Commission. But there are two reasons why most people don't think about it.

"If they can flush and brush, it's out of mind," said Counihan, WSSC chairman.

The drinking and wastewater needs of Montgomery and Prince George's counties during a 20-year period, just for replacing the lining of old pipes and replacing pipes themselves, are big ones. The utility, which serves 1.8 million people in the two counties, set a record in December for largest number of water main breaks in a month — 647. A 54-inch water main break on Jan. 24 in Prince George's that damaged nearby businesses and leaked millions of gallons of water only highlighted the problem.

But Counihan has company. There was more than a little irony when the break poured water onto the Capital Beltway, causing accidents and forcing part of the highway to close.

Maryland's infrastructure needs — and the potential gaps between required work and dollars available — is one of the biggest long-term challenges facing the state. The needs cover billions of dollars and a range of services and problems — from roads, bridges and mass transit to drinking water and sewer systems, which in turn affect the state's signature natural landmark, the Chesapeake Bay.

To put the problem in perspective, this week the state's stormwater management system got a D- in a "2011 Report Card" from the state chapter of the American Society of Civil Engineers, the lowest grade of any infrastructure area. State bridges got the best grade at a B-.

In giving Maryland's road network a C-, the chapter noted 84 percent of the State Highway Administration's road network is at least 30 years old, and that vehicle travel on interstates soared 52 percent between 1990 and 2004, while lane miles increased 21 percent.

Overall, the state received a C- for its infrastructure.

Highway robbery

Even as commuters idle in rush-hour traffic jams, they are paying the price for infrastructure problems. TRIP, a

Washington, D.C.-based national transportation research group, issued a report this month saying deteriorated roads, congestion and safety issues cost each Baltimore metro-area driver \$2,226 per year, and Washington, D.C., drivers \$2,296 annually.

According to the report, the costs are incurred through "accelerated vehicle depreciation, additional vehicle repairs, increased fuel consumption and increased tire wear." Potholes, rutting and cracks also were noted as hazards that can damage vehicles.

In the "Report Card for America's Infrastructure" issued in 2009 by the American Society of Civil Engineers' national organization, the group said 44 percent of Maryland's roads were in poor or mediocre condition, a percentage repeated in TRIP's study. As for its major urban highways, 55 percent were congested, compared with 45 percent in 2005.

Time, not just money, also is the victim of poor infrastructure. A January report on nationwide commuting by the Texas Transportation Institute at Texas A&M University suggested that the average peak-hour commuter in the D.C. metro area lost 70 hours because of traffic congestion delays in 2009, the highest number in the U.S. For the Baltimore region, the average peak commuter lost 50 hours.

Those numbers illustrate the strain roads face in Maryland and the lack of broad and effective train, subway and light-rail systems.

Other pressing issues

The biggest non-transportation priority facing the state is in its wastewater infrastructure. In its most recent report to the U.S. Environmental Protection Agency in 2008, the state listed \$13.9 billion in wastewater infrastructure needs. In addition, in a report to the EPA in April 2009, the state identified \$5.4 billion in drinking water infrastructure needs. In 1995, the figure was \$1.8 billion.

Despite the emphasis the American Recovery and Reinvestment Act — the federal stimulus program — put on infrastructure upgrades, demand far outpaces the supply of dollars from the nation's capital.

For drinking water and wastewater projects combined, the state received \$121 million in



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The U.S. 29 bridge that crosses Md. 650 (New Hampshire Avenue), in the White Oak area of Montgomery County, is on the State Highway Administration's list of functionally obsolete bridges. Although the concrete pillar is crumbling, the overpass is not considered structurally deficient.

June 2009, but local governments and utilities in Maryland requested a total of \$3.7 billion for work in those two areas.

Counihan said out of \$90 million in stimulus money WSSC qualified for to work on "shovel ready" projects, the utility received about \$4 million. The commission is responsible for 5,000 miles of drinking water lines and 5,000 miles of sewer lines.

Out of the \$316 million the SHA received from the federal stimulus by November, \$191 million had gone to basic resurfacing projects. Tim Smith, director of the Office of Materials and Technology at SHA, said that although ride quality on many roads might remain "decent," their structural inadequacy poses long-term problems. Fixing a structurally inadequate road means workers must dig down to the stone below the pavement, the most time-consuming and expensive kind of road repair.

The SHA's statistics show that 87 percent of its roads were in acceptable driving condition in 2009.

"We have more tending towards poorer conditions than in the past," Smith said. "We were very fortunate to have the stimulus money."

Paving the way for trouble

The SHA listed \$484 million in minor system preservation projects in fiscal 2011 alone. Of that amount, \$416 million was set aside for "safety, congestion relief, highway and bridge" work. The amount is set to increase every fiscal year until 2016, the last year of the state Department of Transportation's consolidated six-year

transportation plan, when it is projected to be \$623 million.

"Everyone has their own systems and they need to maintain them, and there's just not enough money to go around," said Todd Lang, director of transportation for the Baltimore Metropolitan Council, which includes county executives from the city's region and is discussing transportation projects all the way out to 2060.

The state's Transportation Trust Fund, which helps pay for transportation projects for state and local governments, illustrates a big part of the problem, because it has not been treated like a trust.

Annapolis has raided the fund for other general operating needs to the tune of \$947 million during its existence. In two years, Baltimore County's Highway User Revenue from the state for local road projects dropped from a high of \$42 million in 2007 to \$1.2 million in fiscal 2011.

Gus Bauman, chairman of the Maryland Blue Ribbon Commission tasked by the General Assembly with examining transportation funding and priorities, has a simple message: Stop raiding the trust fund, or watch roads like the Capital Beltway crumble.

"You just can't keep repaving it and think that the undersurface of the road is doing OK," said Bauman, a former chairman of the Maryland-National Capital Park and Planning Commission. "There's going to have to be massive fixes to major highway and transit facilities that we have, which in the minds of many people is called maintenance. And it is, but it's really big capital projects."

In his budget for fiscal 2012, Gov. Martin O'Malley (D) has proposed taking an additional \$100 million from the Transportation Trust Fund.

Water under the bridge

Bridges, like water and sewer pipes, usually intrude on the public's view only when they fail.

Out of 2,578 bridges maintained by Maryland, the state Department of Transportation as of 2010 listed 107 — 4 percent — as "structurally deficient," where, for example, the roadway surface is deteriorating. Still, that figure was down from 114 a year before. (The state does not consider these bridges dangerous to traverse.)

Baltimore County had 26 of the deficient bridges; Frederick County, 17; Prince George's County, 11; and Washington County, 10.

The department's latest statistics show that 19 of the bridges were being repaired in 2009, while four were funded for repairs in fiscal 2010 and 16 had the money for work this fiscal year.

Knowing where funding is going to come from for bridge repairs is the biggest difficulty, said Bob Healy, deputy director of SHA's Office of Structures.

"It makes it very difficult to plan for more than just the short term," Healy said. "It's hard enough to do the next year or two."

The Better Roads bridge inventory for 2010, a report from Randall-Reilly Construction Publications, tells a different, more urgent story for locally maintained bridges.

The inventory suggests that 704 of the 2,258 bridges — 31 percent — maintained by cities and counties in Maryland are considered either structurally deficient or "functionally obsolete," the latter term meaning a bridge's lanes are too narrow by modern transportation standards, lack shoulders, flood too easily or become congested too quickly.

Sometimes, the federal government can impose timelines for infrastructure repair. On Dec. 3, Maryland joined other Chesapeake Bay states and the District in submitting plans to the EPA to reduce pollution in the Bay watershed by 2025, the first time the EPA made such plans from the states mandatory. (Maryland has pledged to make the pollution reductions by 2020.)

Part of the plan is to upgrade nutrient removal at 68 wastewater treatment plants in Maryland, at a cost of \$2.461 billion.

For a separate project, reducing nitrogen at the Blue Plains Advanced Wastewater Treatment Plant in D.C., work in Maryland, which is served by the Blue Plains plant, is expected to cost \$402 million. Eliminating sewer system overflows through 2017 has a price tag of \$1.837 billion.

If one's trying to keep score, that's \$4.7 billion on just three line items. By comparison, the governor's proposed state aid for K-12 public schools next year, excluding retirement costs, is \$4.8 billion.

Since Baltimore County pledged to spend \$800 million on upgrading its wastewater infrastructure system in 2005 in an agreement with the EPA, the commitment has grown to cover \$1 billion worth of work. The county has spent about \$250 million so far, but most of it has covered rebuilding roughly half of its 117 pumping stations.

"We're not sure how many pipe projects we're going to have," said Ed Adams, the county's director of the Department of Public Works.

If the scope of the work goes above projected costs, the county must adjust user rates to make up the difference.

Baltimore city entered into a similar arrangement with the EPA in 2002 for \$900 million worth of work on its sewer system by 2016. The latest report by the city's Bureau of Water and Wastewater says that more

than \$330 million has been spent on the work to date.

High need for high-speed Internet

The definition of infrastructure itself has changed during the course time. In September, Maryland won \$115 million in federal grants to expand its broadband Internet capabilities, and the more than 1,200 miles of new high-speed Internet lines are supposed to blanket 2 million homes and 443,000 businesses. President Barack Obama has made high-speed Internet connectivity a national priority.

One of the biggest challenges is getting the landlords of commercial office space to treat broadband like traditional utilities, said Ed Fineran, the president of Silver Spring-based Atlantech Online Inc.

"Landlords, developers, when they build their buildings or are renovating their buildings, they should be thinking about, 'How do we get broadband into our buildings easily?'" he said.

Aside from federal help, however, solutions for funding infrastructure projects are simple to propose but have complex implications. A proposed gas tax increase from Sen. Robert J. Garagiola (D-Dist. 15) of Germantown, if approved, could have a big impact — the transportation department receives 19 percent of its funding from motor fuel taxes, the second-highest percentage behind vehicle titling taxes at 20 percent.

"It's politically unpopular," Garagiola said. "But the reality is we need new revenue for the Transportation Trust Fund, and I'm talking 4, 5, 600 million new dollars every year."

For fiscal solace, Counihan and WSSC only can look at rate hikes for significant funding increases. In April 2010, the commission projected rate increases every year for the next decade.

"Some would say, just increase the rate and collect more money," he said. "Yet, different people have different notions on how to do it, usually on how it will affect them."

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Correction: The original version of this story did not correctly identify Gene Counihan. Counihan is past WSSC chairman and a member of the commission since 2007