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VT.'S INFRASTRUCTURE

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Who's That Stomp-Tromping over My Bridge?[1]

On October 16, the Vermont Section of the American Society of Civil Engineers (ASCE) released its 2014 Report Card for Vermont's Infrastructure. The report finds that even with enormous investments over the last five years – mostly from the federal government, which will not be repeated any time soon – Vermont's infrastructure[2] earns grades of "barely passing" to "average."

The report considers six sectors of infrastructure – bridges, dams, drinking water, wastewater, roads, and solid waste – and gives them an average grade of C. It is modeled after the ASCE's national report card, which gave the nation's infrastructure a grade of D+ and estimated that a $3.6 trillion investment was needed to address infrastructure issues. At the national level, sectors such as schools, transit, and energy earned Ds, while solid waste earned a B and bridges, rails, and ports all rated a C. Unfortunately, the Vermont Report Card does not evaluate schools, municipal buildings, energy, or telecommunications, all of which figure large in the health of the Vermont landscape and – with the exception of municipal buildings – have been targeted by legislation regarding design, functionality, and funding.

Vermont's infrastructure is the support structure for the delivery of all goods and services from both the public and private sectors. Functioning wastewater systems, energy and telecommunications networks that deliver reliable service, and roads that accommodate a nonstop stream of transportation enable Vermonters to implement smart growth land use goals and develop a 21st century economy. We ignore its long-term state of repair at our peril.

The new report card gives Vermont's infrastructure a grade of C, a slight improvement over our 2011 grade of C-, before Tropical Storm Irene and before the investment of American Recovery and Reinvestment Act (ARRA) dollars between 2009 and 2013 began paying off. According to the ARRA website, Vermont received $916,690,000 in ARRA funds including $252.8 million for transportation, $283.8 million for infrastructure, $161.6 million for education, $51 million for health care, and $178.4 million for energy and environmental projects.

Significant investments, particularly in highways, were also made in the wake of Tropical Storm Irene, Yet even with these commitments to improving Vermont's infrastructure, the state's C grade indicates how neglected those vital structures have been over time.

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[1] from *Three Billy Goats Gruff*, a Norwegian folktale retold by S. E. Schlosser.

[2] defined as the basic physical and organizational structures and facilities needed for the operation of a society or enterprise.

The report card evaluated existing conditions, capacity, operations and maintenance, public safety, risk and resilience, and current and projected levels of funding and innovation in each of the six sectors named above.

According to the report, approximately 30 percent of Vermont's 2,712 bridges[3] and 1,265 short structures are deficient; the state ranks 23rd in the nation, generally, based on bridge age. An investment appropriation of $140.3 million in 2014 and changes in the way bridge construction is undertaken – including Accelerated Bridge Construction (ABC) where it is used – is expected to improve the condition of bridges. However the Agency of Transportation (VTrans) estimates that $110 million is needed in each of the next 20 years to resolve bridge infrastructure issues of age and integrity.

Of Vermont's 1,219 dams, 198 are potential high or significant hazards; 35 percent of them are in poor condition.

Vermont is home to 1,377 public water supply systems. You might ask where they could all be! "Public" means that the system serves 15 or more service connections or an average of at least 25 persons for at least 60 days a year. A public water supply system might be privately or publically owned. Many of them are very small, with few if any resources to commit to upgrades. According to the report card, it will take $510 million over the next two decades to meet capital demands of the small community water systems, and improvements are needed at medium and large systems as well. Operating and maintaining those systems in compliance with water supply laws and reporting requirements represent additional obligations.

The state has 91 wastewater treatment facilities, 87 of which are municipal, according to the Agency of Natural Resources (ANR). Wastewater treatment systems are at the center of the discussion around the Lake Champlain, Connecticut River and Lake Memphremagog Total Maximum Daily Loads (TMDLs[4]) because they are the largest point sources that the U.S. Environmental Protection Agency (EPA) regulates under the Clean Water Act. We do not yet know what will be required of wastewater treatment systems under those TMDLs; the most immediate and biggest question mark is the Lake Champlain TMDL. The report card gives our wastewater efforts a D and estimates that $156 million is needed annually for wastewater and stormwater conveyance repairs, retrofits, and facility upgrades. Of that amount, an estimated $18 million will be needed for municipal facilities.

Proposed cuts in the Clean Water State Revolving Loan Fund means that source of funding cannot begin to keep pace with the demand for money to implement federally and state mandated improvements. On the other hand, the President signed the Water Resources Reform and Development Act into law in June. That law includes a low cost loan program for water infrastructure, the Water Infrastructure Finance and Innovation Authority, that authorizes loans for wastewater, drinking water projects and water resources projects with terms of up to 35 years. Interest is based on U.S. Department of Treasury rates; repayments start five years after the substantial completion of a project. The program focuses on large projects but there is provision for smaller projects – $5 million in communities with fewer than 25,000 residents – and for states to aggregate projects.

The report card says that Vermont made major improvements in state highway performance and effectiveness, though we had a long way to go – our rank improved from 42 to 28 in 2014. Also substantially improved – in the wake of Tropical Storm Irene – was Vermont's road network, with an enormous influx of Federal Emergency Management Agency (FEMA) Public Assistance monies accomplishing most of that work. Going forward at a similar rate of improvement, VTrans estimates an annual need of $700 million per year, at least through 2018. The 2015 Transportation Capital Appropriation included $115.7 million for paving, $108.7 million for town highway programs, $50 million for improving roadways, and $13.3 million for

[3] 1,620 of which are on town highways.

[4] A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that load among the various sources of that pollutant.

highway safety and traffic. Those amounts do not address the impending needs for stormwater management that will accrue once the EPA approves the Lake Champlain TMDL.

For the first time, the Vermont report card included the category of solid waste. In 2012, Vermonters generated 600,000 tons of solid waste, approximately 35 percent of which was diverted from the waste stream, a percentage that has remained flat for the last two decades. Vermont currently has only one landfill, in Coventry. As a result, transportation costs have increased for solid waste districts and alliances over the last year, as has the carbon footprint of solid waste transport.

Legislators will have to address all of these issues when they get to the State House in January. Key to those deliberations is the realization that many of the investments required by federal and state laws are made at the local level, where needs must be balanced against each other and priorities for project implementation established. There are no easy answers as money is tight everywhere you turn in Vermont. Yet basic needs for maintaining and improving systems that make modern life possible cannot be ignored, cannot be addressed without assistance from both federal and state government, and cannot be effectively implemented without allowing for flexibility in how those objectives are accomplished.

VLCT's recommendations:

- Provide incentives to spur development in locally planned growth centers as well as designated downtowns, new town centers, or village centers. Facilitate development that revitalizes traditional downtowns, promotes smart growth, and mitigates damage caused by natural or manmade disasters.
- Governments at all levels must implement policies, programs, and projects that conserve energy – while ensuring the supply remains reliable – and minimize our carbon footprint by reducing our consumption of fossil fuels and promoting the use of local renewable energy resources.
- Substantially increase funding to Town Highway Aid programs, Class 1 Local Highways, Class 2 Paving and Town Highway Structures Grant Programs, and the Town Highway Bridge Program in order for municipalities to comply with mandates to implement water quality improvement and protection projects. Implement additional recommendations of the 2013 Vermont Transportation Funding Options Section 40 Report that was completed in compliance with Act 153 of 2012.
- Continue the use of bonding as an option for funding long-term capital improvements.
- Provide financial and technical support to municipalities to implement the Clean Water Act and its associated TMDLs through locally appropriate watershed plans and water management provisions that promote the health of the economy and the environment.
- The legislature must direct ANR to work closely with the EPA to develop a reasonable TMDL standard for phosphorus for Lake Champlain that will lead to a cleaner lake, a more vibrant landscape, and a healthy economy. State policy must not require municipalities to construct treatment plants that meet the highest available technical standards for discharges to impaired waters, regardless of cost, because doing so won't measurably improve the health of those waters or significantly advance TMDL compliance. ANR must work with municipalities and the EPA to implement the "Integrated Planning Approach Framework" that provides for municipalities to prioritize Clean Water Act responsibilities and necessary investments in compliance, according to greatest need.