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Upgrading Our Infrastructure: Targeting Repairs for Locks, Dams and Bridges.

Colorado State University engineers outline their plan to improve America's D+ infrastructure rating

For the second time in a row, America's infrastructure has earned a grade of D+ from the American Society of Civil Engineers. ASCE issues these report cards every four years, grading the state of U.S. bridges, dams, parks, airports, railroads and other vital links. The fact that our nation's overall grade has not improved since the last report card in 2013 shows that major investments are long overdue. The Conversation

President Trump has promised to propose US\$1 trillion in investments over 10 years to modernize the nation's infrastructure. If the Trump administration finds a way to fund such a plan, it will face many pressing questions over how to spend the money.

The most likely and logical strategy would be to pursue a combination of new construction projects, repairs and retrofits, selected to provide maximum bang for the buck. Repairing a structure is typically less expensive than retrofitting it by adding new components, which in turn is cheaper than building a new structure.

At Colorado State University (CSU) we are developing two strategies that can prolong the service life of structures such as bridges and navigation locks. First, we are identifying appropriate intervals between inspections, to minimize inspection costs without undercutting public safety. Second, we are using innovative methods to effectively increase structures' service lives, reducing the need for expensive new construction projects.

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