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Infrastructure Maintenance

It is generally accepted that a well maintained infrastructure is an essential part of the commercial economy and private commuter experience. Increasing trends in road traffic, especially increasing freight shipments, emphasize the importance of healthy road systems.¹ Constrained by budget shortfalls that are plaguing the nation,² many states are looking for cost efficient and innovative ideas in order to more efficiently maintain their current infrastructure. These strategies include increased public sector involvement, initiating preventative maintenance strategies, and developing new techniques and technologies for maintaining

³ This is roughly equal to the entire amount spent by VTrans on maintenance activities in 2010: \$180 million.⁴

Public Private Partnerships

The U.S. Department of Transportation (DOT) defines a Public Private Partnership (PPP) as, "a

for its railroad network.⁷⁾ The goal of these partnerships is efficient project completion at a reduced cost to the public. Potential risks also exist, though these risks may be mitigated by due diligence in crafting PPP enabling legislation as well as carefully considering whether to utilize the private sector for an infrastructure related project.⁸⁾

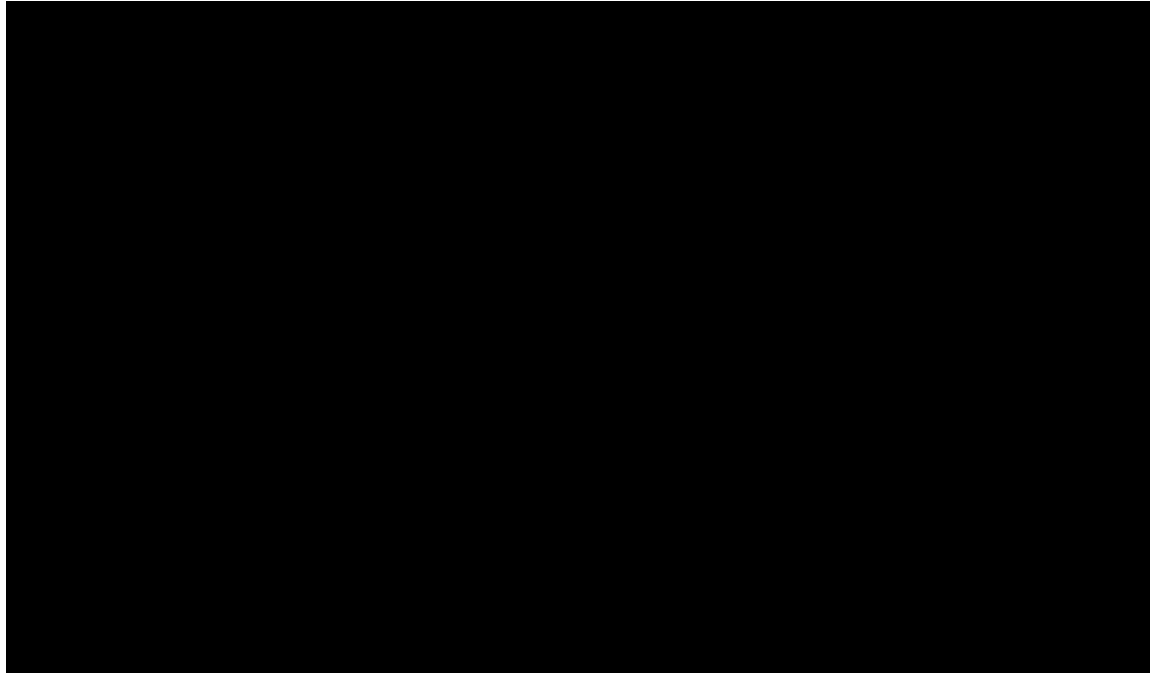


Figure 1: States with Legislation enabling Public Private Partnerships.⁹⁾

Source: Jaime Rall, et al., 2010, "Public Private Partnerships for Transportation: A Toolkit for Legislators," National Conference of State Legislators, accessed November 29, 2011, p. 15.

Not all PPPs are created equal. Roles assumed by the private sector in a PPP can include designing, building, operating, maintaining, or financing a facility and limited term ownership.¹⁰⁾ A state's individual goals dictate which types of PPPs may be beneficial to implement.¹¹⁾ Thus 'Operate and Maintain' (O&M) or 'Brownfield Concession' PPPs would be an option for a state interested

maintenance activities. An overview of several different types of PPPs is demonstrated in Table 1.

Table 1: Different Types of Public Private Partnerships and the Needs They Fulfill.¹²

Source: Jaime Rall, et al., 2010, "Public Private Partnerships for Transportation: A Toolkit for

these marriages between the public and private sector are not always beneficial to the

implementation of such projects becomes a risky gamble for the state. In summary, strategic planning and development is necessary in order to effectively implement PPP's; however, they are not on their own likely to fill the infrastructure budget gap.¹⁴

Legislation enabling the use of PPPs in Massachusetts was passed in 2009. Massachusetts previously had significant problems in its attempts to outsource highway maintenance to the private sector, citing both cost and quality of work as problems.¹⁵ What distinguishes this failure from the contemporary private sector reprisal is the scope of the legislation. The previous legislation which enabled the state to outsource its maintenance operations was found to be politically motivated and lacking oversight.¹⁶ In contrast the 2009 bill is more stringent in its oversight of PPPs – incorporating an oversight commission, competitive procurement standards, and approval from the Department of Transportation Board of Directors.¹⁷ Massachusetts' experience highlights the need for competent legislation and oversight as a prerequisite to successful private sector involvement.

Louisiana

The Louisiana Department of Transportation and Development (DOTD) outsources many of its highway maintenance activities to the private sector citing "statutory and political limits placed as

Preventative Maintenance Strategies

U.S. DOT defines preventative maintenance as "a planned strategy of cost effective treatments

Preventative maintenance inc

interval

the surface life of pavement by two years.³²

Conclusion

Infrastructure maintenance is a multifaceted issue, which has been addressed by many states in a multitude of ways, all to varying degrees of success. Depending on the state's transportation needs and capabilities, different programs can be more desirable and/or efficient. Public Private Partnerships have shown to lessen the financial burden for states to maintain their infrastructure, but must be implemented respective to the financial desirability of the states' assets. Preventative maintenance has shown data of its cost effectiveness over time and is currently prioritized in several states. The implementation of new technologies and techniques also help to reduce cost and increase efficiency, especially through the provision of information. Indeed, states have a variety of options which can be used in order to efficiently, and cost effectively maintain a healthy infrastructure.

This report was prepared by Jordan White, Avory Resca, Kamran Rosen in response to a request from the House Transportation Committee under the supervision of graduate student Kate Fournier and Professor Anthony Gierzynski on November 29, 2011.

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Disclaimer: This report has been compiled by undergraduate students at the University of Vermont under the supervision of Professor Anthony Gierzynski. The material contained in the report does not reflect the official policy of the University of Vermont.

³² American Society of Civil Engineers, "New Hampshire's Infrastructure Report Card," p.6.