



Additional Reforms for the Governor's Accelerated Bridge Repair Proposal

by Steve Poftak

The Governor's proposal to fix structurally deficient bridges is an aggressive approach to addressing the massive backlog of deferred maintenance in the Commonwealth. To be sure, this approach does not create revenues, it only accelerates planned future spending. However, this acceleration will result in greater value by fixing hundreds of decaying bridges sooner rather than later; thereby avoiding the effect of construction inflation and higher future repair costs due to ongoing deterioration.

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These bridges will have to be fixed with borrowed funds at some point, and borrowing now to fix these assets before they fall into further (and more costly) disrepair is the preferable option. As our recent research on the Longfellow Bridge and maintenance backlog points out, it is far more costly in the long run to defer maintenance than it is to properly maintain assets.

The Governor's initial proposal called for \$3.8 billion in spending over eight years to fund bridge repairs. It was funded with general obligation debt and required some restructuring of existing debt to remain under the Administration's debt affordability levels. The proposal was projected to repair an estimated 411 bridges. Repaired bridges included those under the control of MassHighway, DCR, MBTA, and MassPike.

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Following discussions with Treasurer Cahill, the Governor filed legislation for an accelerated bridge repair program with significant changes. The package was scaled back to \$3 billion and the financing package was switched to a mix of special obligation bonds (backed by proceeds from the gas tax) and Grant Anticipation Notes (backed by future federal funding streams). With a reduction in funding comes a reduction in bridges repaired, which is now projected to be more than 250 bridges. Also, only bridges under the control of MassHighway and the Department of Conservation and Recreation will be repaired.

The Governor deserves credit for his initiative and for his Administration's willingness to solicit and incorporate outside input. This policy brief recommends additional structure for the plan in the form of increased oversight. It offers statutory language to provide additional transparency, limit payroll expansion, address bureaucratic silos, mitigate risk, and prioritize maintenance.

Transparency and Accountability

The Big Dig and its associated financial problems have created a credibility issue for managers of transportation infrastructure spending. One component of this credibility issue has been a lack of transparency regarding project information. As an example, MassTurnpike has been notorious (under the previous management regime, to be fair) for late or incomplete disclosure of financial information, as well as a distinctly uncooperative approach to requests from other areas of state government. Furthermore, most available data is solely based on construction dates and financial information, not on the performance measures that matter to the end users.

Several states have taken a creative approach to incorporating performance measurement into their

transportation infrastructure management. Washington State's Gray Notebook is an example of a series of performance measurement tools that analyze performance (and improvement over time) on a series of strategic goals, as well as tactical implementation steps.

In this year's first Transportation Bond Bill (Chapter 86 of the Acts of 2008; see Section 5), the Commonwealth took its first steps towards implementing a performance measurement system. It lays out a very specific and detailed set of metrics to be measured. Although such a system is mandated in the Executive Office of Transportation's enabling acts, there has not been any comprehensive attempt at publicly producing such a system.

The Governor's Accelerated Deficient Bridge Repair proposal should become part of this reporting system and it should be reported as a separate set of metrics. This will allow close public oversight of the program, plus it will provide transparency as to the Commonwealth's execution of the repair program. Appendix A contains specific legislative language to accomplish this goal.

The primary long-term goal is to change the culture of management [and] move to a process that is driven by improving key measures of transportation performance, like congestion relief and accident rates.

Performance measurement, metrics, and reports are, of course, only a means to an end. The initial goals are to create accountability and provide transparency, but the primary long-term goal is to change the culture of management for transportation. It is to move from a project- and input-focused process to a process that is driven by improving key measures of transportation performance, like congestion relief and accident rates. It is entirely possible that new performance measurement reports will be treated as static obligations, but one hopes that they become the basis for a new culture of management.

The Conflict Between Proper Oversight and Payroll Expansion

This extraordinary tranche of funding – \$3 billion over eight years – is a challenge for the managers at the Executive Office of Transportation. The top priority should be to ensure that the project has proper oversight, which will inevitably require some increase in in-house staffing.

Again, the spectre of the Big Dig looms large. To simplify a very complex set of issues, the concern has been raised that MassHighway (and later MassPike) did not have sufficient in-house expertise and management to adequately oversee Bechtel/Parsons-Brinckerhoff. The result was a fuzzy management structure that did not have the skillset to critically evaluate the consultant and manage their work.

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Another major infrastructure project undertaken during the same time frame as the Big Dig, the MWRA's construction projects related to the Boston Harbor cleanup was completed on-time and under budget. The Boston Harbor cleanup used a combination of in-house expertise and private sector management to oversee the project. An examination of the differences in approach would be instructive in structuring oversight of the bridge repair project.

The Administration has already signaled its intent to use only public sector resources to manage this project, but they will face two significant obstacles. First, it will be extremely difficult to attract sufficient numbers of qualified engineers and managers to the project from the private sector. The Commonwealth will be challenged to attract engineers with the correct skillset in sufficient numbers.

The second obstacle will be planning for EOT and MHD budgets in the post-bridge plan period.

Relying on only in-house resources will create a large increase in EOT/MHD payroll. It is highly unlikely that this increase in headcount will disappear unless outside management plays some role and the increase in in-house staff is carefully managed.

In the italicized portion of Appendix A, there is a reporting requirement regarding staffing and payroll that should be incorporated into the performance measurement process. This would allow for quarter-by-quarter transparency on staffing and expenditure levels.

The Commonwealth already funds almost all of MassHighway's payroll out of bond funds. Any unnecessary increase in staffing that persists beyond the eight-year period of extraordinary funding will further burden the capital budget and reduce available funding for actual construction.

Prioritization of Maintenance

The deterioration of our bridges, and our overall infrastructure, is a result of decades of underinvestment in maintenance. As Pioneer's study, *Our Legacy of Neglect: The Longfellow Bridge and The Cost of Deferred Maintenance*, details – the Commonwealth faces a massive backlog of deferred maintenance and it is significantly more cost-effective to perform regular maintenance than it is to perform massive reconstruction efforts.

With that understanding, it is important that these bridges, once repaired, are properly maintained. Additionally, it's important that this 8 year period of accelerated funding (which reduces funds available for transportation projects and for maintenance in future periods) does not cause maintenance to be crowded out by expansion projects.

This year's Transportation Bond Bill created a Deferred Maintenance Trust Fund as a means of encouraging proper funding of maintenance. The Governor's plan, as filed, contains provisions to provisionally allocate 20% of transportation funding to the Trust Fund.

However, additional language would be useful to (modestly) increase the accountability of the Governor and the Secretary of Transportation. Appendix B contains statutory language that would require the annual reporting of funds needed to maintain these bridges and the amounts actually expended. The Governor, as well as the secretaries of Transportation and Administration and Finance, would be required to report annually, in person, to the Legislature on the funding levels for maintenance.

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The Deferred Maintenance Trust Fund and the related report would serve as a vehicle for encouraging future administrations to properly maintain these bridges once they are built, or at least explain, publicly, that they are underfunding the maintenance of bridges.

Elimination of Silos

The Commonwealth's bridges are currently controlled and inspected by a variety of entities and inspection regimes. As an example, the Longfellow Bridge is inspected under the Department of Conservation and Recreation scoring criteria, so its inspection reports are not fully congruent with MassHighway bridges.

The proposed statutory language, found in Appendix C, will provide MassHighway with the ability to track the condition of all bridges with PONTIS, its bridge asset management system. If the bridges are under the control of another entity (a municipality or DCR), they will be required to cooperate with PONTIS-related inspections and to properly maintain the asset.

As with the previous section on maintenance, it is of paramount importance that these deficient bridges, once repaired, are inspected and maintained in a cost-effective manner. Managing that process under a single inspection regime, paired with the most appropriate asset management tool (PONTIS), should be required.

Market Distortion and Cost-Effective Execution

A key concern of some observers has been the potential of cost inflation within the regional construction industry by rapidly ramping up spending. While one hopes that the market will adjust, it is important that any inflationary pressure be carefully monitored, given that the rationale for the project is its cost savings. As part of the performance measurement process in the proposed statutory language (contained in the underlined portion of Appendix A), EOT would be required to report quarterly on construction cost increases in excess of national averages.

Additionally, Appendix D contains an advisory outside section that encourages the Executive Office of Transportation to use a variety of project management techniques that other states have put forward as ways to mitigate cost increases and more efficiently delivery projects.

Risk Mitigation

Lastly, and as a continuation of the previous point, we should leave the door open to forms of public-private partnerships that create value for the Commonwealth. Certain of the planned bridge projects have the potential for serious cost escalation. Another Big Dig-like cost overrun will irreparably damage the future of transportation infrastructure funding in Massachusetts, and be a political liability as well. To the extent that public-private partnerships can allow us to redistribute risk to those most able to bear it, we should be open to considering them. The Executive Office of Transportation should be allowed at its discretion to examine the potential to share risk with private sector partners on several major bridge projects.

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As a guide for statutory language, a reworking of the Route 3 North statute (Section of Chapter 53 of the Acts of 1999) or Lowell Courthouse statute (Section

19 of Chapter 290 of the Acts of 2004) would be an initial starting point. Also, the Federal Highway Administration's model public-private statute (see http://www.fhwa.dot.gov/ppp/legis_model.htm) provides additional suggestions for language.

Conclusion

To be clear, the Governor's bridge plan is a good proposal and deserves support. The Administration has been laudably open to constructive criticism of the proposal and has publicly stated their willingness to incorporate additional oversight language. The preceding concepts, and the statutory language that follows, will safeguard taxpayers, restore public trust in transportation infrastructure spending, and protect the Commonwealth's assets.

Appendix A

Section X. Subsection (e) of section 19 of chapter 6A of the General Laws, as amended in section 5 of chapter 86 of the acts of 2008, hereby further amended by inserting at the end:

All reports and publicly available information under this statute shall contain a separate analysis of the bridge projects funded by [this act]. These reports and publicly available information will provide aggregate and project-by-project data. This data shall include, for each project, whether the project was advertised on-time, completed on-time and on-budget. For each project, the original estimated design cost, actual design cost, original estimated construction cost, original construction contract amount, number of bidders, actual final construction contract amount, and final cost of completion shall be listed. Any projects not advertised or completed on-time, or over budget shall be accompanied by an explanation. Change orders that materially impact the cost of construction will be noted for each project. *All reports will contain an accounting and discussion of the number of public employees working or overseeing these projects, and a discussion of the bridge projects effect on the overall construction market, particularly any project cost escalation in excess of the relevant national cost and price indexes.* These reports shall be published quarterly on the home page of the executive office of transportation's website.

Appendix B

Section X. Section 69A of chapter 10 of the general laws, as amended by section 7 of chapter 86 of the acts of 2008, is hereby amended by inserting after clause (b) the following clause:-

- (c) As projects are completed under [this act], the Executive Office of Transportation shall report on an annual basis the amount of funding needed to properly maintain these bridges, as determined under the

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life cycle costing planning process required by section 191/2 of chapter 6A. Funds from the Deferred Maintenance Trust Fund and other sources shall be utilized to fund all necessary maintenance.

- (d) Any shortfall in funding of maintenance for bridge projects completed under [this act] shall be recorded as deficit in the Deferred Maintenance Trust Fund and reported in the commonwealth's financial statements. The secretary of transportation and secretary of administration and finance shall be required to report annually to the committees on transportation and ways and means on the balance of the fund and the maintenance condition of the bridges. This report shall be made available to the public on the home page of each secretariat for a period of at least 60 days. The governor and the secretary of transportation and the secretary of administration and finance shall appear before the committee on transportation annually to discuss said reports.

Appendix C

Section X. Chapter 81 of the General Laws is hereby amended by inserting after section 13B the following section:

Section 13C. All projects funded in whole, or in part, from proceeds raised under [this act] will be inspected and monitored by the highway department. All bridges in the state will be inspected and monitored using highway department criteria. All relevant data on each project will be entered into the appropriate asset management system operated by the highway department. In the case that the project is

under the jurisdiction or control of another state agency, authority, or municipality, the highway department will be required to sign an agreement with the other entity requiring appropriate maintenance of the project in the future and access to the structure for the purposes of collecting asset condition information. Any entity that fails to cost-effectively maintain a structure funded under [this act] will have any form of state aid, including so-called Chapter 90 funds and lottery aid, reduced by an amount sufficient to fund proper maintenance.

Appendix D

Section X. Notwithstanding any general or special law to the contrary, the Executive Office of Transportation shall utilize all available measures, permitted by statute, to control costs and promote competition for projects. These include, but are not limited to, bundling of smaller projects, hedging and bulk purchasing of commodities, utilization of cost escalation clauses to distribute risk, accelerated project management techniques, utilization of end project specifications rather than specific material specifications, early payment incentives, adjustments in project scopes to allow substitute materials, and substitution of lower cost project with equivalent need in project selection process.

See other Pioneer transportation publications:

Our Legacy of Neglect: The Longfellow Bridge and the Cost of Deferred Maintenance

Beyond the Gas Tax: Defining Transportation Needs, Emphasizing Economic Growth, and Maintaining Our Assets

Fixing Maintenance in Massachusetts

Driving Questions: A Forum on Transportation Strategy in Massachusetts

Technology and Innovative Finance: Creating "Mobility"

Regarding the Governor's Deficient Bridge Repair Proposal

Testimony to the Joint Committee on Bonding, Capital Expenditures and State Assets



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