



*Proposed Tax Increases for
Infrastructure and Education in
the Commonwealth:
An Economic Analysis*

Rosolino Candela, MA

Frank Conte, MSPA

Paul Bachman, MSIE

THE BEACON HILL INSTITUTE AT SUFFOLK UNIVERSITY

8 Ashburton Place

Boston, MA 02108 Tel: 617-573-8750, Fax: 617-994-4279

Email: bhi@beaconhill.org, Web: www.beaconhill.org

MAY 2013

TABLE OF CONTENTS

Executive Summary	3
Introduction	5
Entrepreneurship: The Link between Fiscal Policy and Economic Growth.....	7
New Spending for Education.....	8
Conclusion	22
References	23
About the Authors	26

TABLE OF TABLES

Table 3: Fiscal Effects of Governor Patrick’s Tax Reform	19
Table 4: Economic Effects of Governor’s Tax Plan.....	20
Table 5: Fiscal Effects of MA Legislature’s Tax Plan	21
Table 6: Economic Effects of MA Legislature’s Tax Plan	21

TABLE OF GRAPHS

Graph 1: Average Travel Time to Work Index	14
--	----

Executive Summary

In the 2013 State of the State Address, Governor Deval Patrick called for renewed and expanded state spending in education and transportation. To fund both expanded spending on education and infrastructure, the Governor proposed raising the income tax and cutting the sales tax as well as eliminating tax exemptions — changes which are projected to raise \$1.9 billion in new tax revenue. The legislature has sidetracked the Governor's proposal with a more modest set of changes by raising the gasoline tax and tax on tobacco while leaving the current income tax schedule intact.

The call for increased public spending raises the debate on whether lower tax rates and a mild regulatory environment drive economic growth and personal income, or state government-directed investments in infrastructure and human capital play a greater role in fostering long-term private investment and greater prosperity.

With his bold tax package, the Governor makes clear his preference for activist government. He argues that a renewed commitment to invest in transportation and education are certain to contribute to the state's economic growth. In making this argument he also contends that low taxes do not guarantee success but that carefully planned public investments pave the way for future growth. However, the Governor's proposal would in fact diminish job creation.

The Beacon Hill Institute at Suffolk University used its State Tax Analysis Modeling Program (STAMP) to determine the effects of the proposed tax changes on the Massachusetts economy. Massachusetts-STAMP (MA-STAMP) is an economic model that simulates the economic effects of changes in taxes, costs (general and sector specific) and other "exogenous" changes on the state's employment, investment, and real disposable income (among other variables). This analysis finds that the adoption of the Governor's package would:

- Raise \$1.876 billion in new tax revenue
- Reduce employment by 17,800 jobs
- Shrink real disposable income by \$1.2 billion, or by \$480 per household
- Lower investment in the state by \$120 million,

BHI also analyzed the legislative proposal using STAMP. We find:

- Raise state tax revenue by \$466 million in the first year
- Reduce employment by 2,460 jobs
- Shrink real disposable income by \$643 million, or by \$250 per household
- Lower investment in the state by \$2 million.

Planning for the future is no guarantee of realizing success given capital mobility and technological progress. The Governor is taking a risk if, as a result of his policies, future investors and job creators view Massachusetts as less friendly. This may be one reason why the state legislature, in drafting a competing tax package, opted for a more restrained approach raising taxes focusing on raising only the gas tax. Moreover, the Governor is over-estimates the returns on taxing computer services, a concept so vague that it threatens the state's comparative advantage in technology and health care.

Whatever the merits of more spending on roads and bridges, the Governor needs to be reminded tax increases incur negative effect on economic growth in Massachusetts. By distorting the incentives for investment, capital formation and productive entrepreneurial activity, the Governor puts the state's economic competitiveness at risk. Incidentally, a decline in economic growth will also undermine the ability for the state government to service existing infrastructure debts as well fund new projects as its future tax revenue stream dwindles.

Governor Patrick asserts that raising taxes to fund infrastructure and education spending will boost the competitiveness of the Massachusetts economy. But this is not a safe bet. The specific infrastructure and education projects are unlikely to provide this benefit, while permanently increasing the level of state spending. In the short term, the Governor's will produce economic pain while falling short of the goal of sound tax policy, expanding the income and sales tax base at lower rates.

While the legislature's more modest proposal produces less economic harm, lawmakers should recognize that linking infrastructure funding to taxing products such as tobacco and gasoline, whose consumption is falling and will continue to fall in the future is a tenuous proposition at best. The Governor and legislature need to seek innovative alternatives to fund the state's infrastructure needs.

Introduction

Governor Deval Patrick's recent State of the State address called for a restructuring of the tax system to fund projects in education and transportation. He noted that "growth requires investment. It's just as true of government as in any business."¹ Given that Governor Patrick has advertised his plan as a growth proposal, this report argues that changes in the structure of taxation and increased government spending on transportation and education will not boost economic growth. The Legislature's more modest plan indicates that the Governor's approach puts the state's economic well-being at risk but it too has its own problems. While other variables may be more critical for economic growth, tax policies do matter. Recent developments cited in the economic literature clarify the relationship between state economic growth and taxes.²

In order to raise the revenue to fund these projects, Governor Patrick's most recent proposal will modify Massachusetts' tax code by substituting higher taxation on income for lower taxation on consumption. His proposal will raise the state income tax from 5.25% to 6.25%. It will also eliminate 45 personal tax deductions and double personal exemptions in order to raise sufficient revenue to support education initiatives. At the same time, Governor Patrick also proposes cutting the sales tax from 6.25% to 4.5% and dedicating all proceeds to a fund for public works to support transportation, the school building fund, and other infrastructure. Moreover, the Governor's initial budget proposal submitted in January includes eliminating outdated and overly complicated special favors in the tax code. In total, Governor Patrick estimates that these tax modifications will raise an estimated \$1.9 billion in tax revenue. The Governor and the legislature also plan to tax computer services and place other levies on utilities.

The shift in commanding resources from the private sector to the public sector is inefficient. Taxes may be the prices paid for civilization and fund essential public services but a dollar

¹Quoted from Governor Patrick's 2013 State of the State Address.

² William McBride, *What Is the Evidence on Taxes and Growth?* The Tax Foundation, (December 2012) <http://taxfoundation.org/sites/taxfoundation.org/files/docs/sr207.pdf>.

spent on public goods is one dollar less for the private economy to save and invest. The focus on transportation and education is misguided. The Governor's transportation plan lacks a cost-benefit analysis. The state's debt level is already unsustainable. We argue that further increases in state spending on education will have no significant impact on student performance. While we agree with simplifying an overly complicated tax code by eliminating deductions, this initiative does not justify a 1 percentage increase in the personal income tax to increase educational spending.

Moreover, increasing income taxes will create disincentives for individuals to work and invest in the economy, creating unintended consequences that will undermine state government's ability to raise future revenue necessary for sustaining such initiatives. The proposed sales tax cut and dedication of the sales tax revenues to infrastructure will have unintended consequences for overall state government spending. We argue that the dedication of tax revenues to a targeted public works fund will result not only in *decreases* to spending in public works but also *increases* in overall state government spending, resulting in the reverse of what was intended by the Patrick administration.

The Massachusetts House introduced and the Senate closely followed an alternative tax policy that would raise less than one-third the revenue as the Governor's plan.³ The House plan, which the Senate subsequently endorsed with few modifications, would increase the gas tax by 3 cents per gallon and then index the tax to inflation starting in 2015 which will raise \$110 million.⁴ The plan would raise taxes on tobacco products including cigarettes, cigars and smokeless tobacco products by \$165 million per year. Finally, various computer services would be taxed under the sales tax drawing an estimated \$161 million and new taxes on utilities would bring in another \$83 million to the treasury. In total, the House-Senate plan would raise an additional \$500 million in tax revenue.⁵

³ Shawn Regan, "Ways and Means approves \$33.8B state budget," *Lawrence Eagle-Tribune*, April 11, 2013, <http://www.eagletribune.com/local/x1641178657/Ways-and-Means-approves-states-33-8B-budget>.

⁴ Internal House Correspondence, "Transportation Framework Financial Overview," available upon request. See also House 3145 and Senate 1770 bills.

⁵ Michael Levenson and Martine Powers, "Mass. legislative leaders unveil \$500m tax plan to shore up transportation system," *Boston Globe*, April 2, 2013, <http://www.boston.com/metrodesk/2013/04/02/legislative-leaders-unveil-million-tax-plan-designed-shore-transportation-system/mxlqtGEOXOct50BNJfXmQO/story.html>

Entrepreneurship: The Link between Fiscal Policy and Economic Growth

Increases in income taxation indirectly lead to negative economic growth by affecting the allocation of entrepreneurship in two ways. First, it stifles new entrepreneurial activity in the creation of new firms, which are smaller and less-capital intensive. Therefore, higher income taxes are regressive on productive entrepreneurship by discouraging savings and capital formation in smaller firms. As a result, many potential entrepreneurs who would be otherwise starting their own firms to create better goods and services become employees in larger firms, leading to losses in potential economic growth. With greater government spending enabled by tax increases, government draws resources away from professions that contribute to economic growth, such as engineering, to those which serve as a drag on growth – professionals such as tax lawyers, accountants, and others who profit from rents, such as tax avoidance and compliance costs. Murphy, Schleifer and Vishny (1991) demonstrate that “engineering enrollments are strongly positively related to investment in physical and human capital, which are positively correlated with growth, negatively correlated with government consumption, which is negatively correlated with growth.”⁶ According to Hall and Rabushka, such a shift in resources and entrepreneurial talent leads to a loss in economic output, not only due to increased time spent complying with tax regulations and avoiding higher marginal tax rates, but also by favoring debt financing rather than equity financing crucial to entrepreneurial efforts.⁷

Government monopolies on the provision of education and infrastructure also stifle competition and the incentives to discover innovative ways to provide education and transportation efficiently. Thus, crowding out the necessary private investment needed to make these alternatives, such as charter schools and toll roads, as competitive solutions. Like any monopoly, state government creates an environment where increased costs and lower quality are unchangeable. Entrepreneurial talent that would otherwise be allocated to creating

⁶ Kevin M. Murphy, Andrei Shleifer, and Robert W. Vishny. “The Allocation of Talent: Implications for Growth,” *Working Paper* 65, Center for the Study of the Economy and the State, (October 1990): 528.

⁷ Robert E. Hall and Alvin Rabushka. *The Flat Tax*, (Hoover Institution Press, 1995): 134.

new technologies and managing new firms are directed towards creating new government transportation plans and managing rent-seeking organizations, such as teachers unions.

Government policies that aim at promoting economic growth are best achieved through a framework of lower taxation, in which entrepreneurial activity is encouraged to discover technologies that deliver services, such as education and transportation, more efficiently, making Massachusetts's posterity more competitive in the global economy. The state's emphasis on increasing discretionary investment in education and transportation comes without a cost-benefit analysis.

New Spending for Education

As we noted above, government monopoly on public education raises costs and reduces quality. By introducing competition and choice into public education, entrepreneurial efforts by teachers, administrators and union leaders to maintain the status quo can be shifted to find effective ways to improve educational quality and student performance at lower costs. Nobel Laureate Milton Friedman's outlined such an argument in his 1955 seminal article, "The Role of Government in Education,"⁸ initiating much debate over the effects of increasing government spending on education. Without effective competition and choice in the marketplace of education, simply increasing government investment will have little if any marginal return due to inefficiencies and waste in allocating such resources.

Of the \$553 million that the Patrick-Murray administration proposed to spend on education, \$131 million will be spent by the Department of Early Education and Care (ECC), \$226 million will be distributed to local school districts, and \$152 million will be allocated as financial assistance to college students. The proposed increase in income taxes is justified in part to "raise sufficient revenue to support education initiatives." However, the proposed spending on education is inefficient and not conducive to significant improvements in education, undermining the justification for any increase in income taxation. The legislature's allotment, although much lower, suffers from the same inefficiencies.

More spending on education will not have significant effects on educational quality. Between 1999 and 2010, real educational spending in Massachusetts rose by 60 percent. Although Massachusetts' public schools rank among the highest in the U.S., increased spending on

⁸ Milton Friedman, *Capitalism and Freedom*, (Chicago: University of Chicago Press, 1962) 85-107.

education as a method of improving school performance has been essentially ineffective during that period. Using the Massachusetts Comprehensive Assessment System (MCAS) tests as a proxy for school performance, BHI (2011) have estimated that “the relationship between spending and student performance is very weak and that changes in spending levels, up or down, contribute very little toward student performance.”⁹ The Institute makes clear that the spending argument does not rule out that “the state education budget yields a high return to society and bodes well for long-term economic growth” when considered as a whole.¹⁰ More specifically then, the question becomes: on what margins will increasing spending on education be inefficient?

On this previous point, of the Governor’s \$553 million spending proposal, supporters stipulate that \$131 million will be invested in the early education and care system to “provide funding to work to eliminate the Department of Early Education and Care’s (EEC) current birth to age-five waitlist.”¹¹ The proponents of this spending initiative, such as the Massachusetts Budget and Policy Center, argue that “high quality early education and care sets children on a path to become productive adults, able to make effective contributions to society in the years ahead. At the same time, quality programs for young children support working parents now, providing the child care they need to enter the paid labor force and make strong contributions to our economy.”¹²

The evidence is mixed, despite supporters best efforts. Proponents of increased educational spending have grounded their arguments on the widely-quoted Perry Preschool Project, to justify the government’s expanding role in early education and child care. Other studies based on the data from this study estimate 7%-10% rates of return on taxpayer expenditures from

⁹ Jonathan Haughton, David G. Tuerck, Paul Bachman and Alfonso Sanchez-Penalver, "Why Massachusetts Should Spend Less on Education," The Beacon Hill Institute at Suffolk University. June 2011.

<http://www.beaconhill.org/BHISTudies/EdStudy2011/EducationReport2011-0606.pdf>

¹⁰ Ibid.

¹¹ Office of the Governor. House 1, Summary of Fiscal Year 2014 Budget, "Investments in Education, Transportation and Innovation, (January 2013) http://www.mass.gov/bb/h1/fy14h1/exec_14/hdefault.htm.

¹² Arthur MacEwan, "Economic Gains from Early Education & Care," Massachusetts Budget and Policy Center, January 16, 2013, http://www.massbudget.org/report_window.php?loc=gains_early_ed.html.

early child education.¹³ Although the Perry Preschool Project is not the only early child education project, it received some prominent exposure thanks to the work of economist James Heckman. However, a closer look reveals the study's shortcomings. The Perry Preschool Project and other similar experiments, such as The Carolina Abecedarian Project, were not designed to study the merits of early child education across all socio-economic backgrounds. These projects were designed as early intervention programs targeted toward disadvantaged African-American youth.¹⁴ This is not to say that such studies are without merit or not applicable to disadvantaged children. But any discussion is about marginal improvements. "The return on investment for the types of programs the Obama administration is touting will be much, much smaller" says Grover Whitehurst, director of the Brown Center on Education Policy at the Brookings Institution and "the full returns also take decades to accrue, which could stretch the patience of politicians and makes the annual rate of return less impressive."¹⁵

However, any analysis of new education spending for pre-kindergarten calls for a review of the rate of return for the most expansive pre-school program, the federally-funded Head Start, program upon which proponents implicitly base their arguments.

Head Start began in 1965 under President Lyndon Johnson as part of his "War on Poverty." This program was particularly aimed at improving the educational opportunities of poorer children.¹⁶ The results of Head Start represent a realistic representation of the effects that increased spending on early education and child care will have in Massachusetts. Studies on Head Start have shown that it has produced at best short-term gains in educational achievement in its enrollees, but no long-term effect on "children's cognitive, social, or emotional development, let alone reduce teenage pregnancy rates, delinquency, or welfare use."¹⁷ Therefore, any long-term effects on productivity and economic growth will not come from such early education programs, since "underachievement will not be eradicated by

¹³ James J Heckman, Seong Hyeok Moon, Rodrigo Pinto, Peter A. Savelyev, and Adam Yavitz, "The Rate of Return to the High Scope Perry Preschool Program," *Journal of Public Economics* 94(February 2010): 114-128.

http://www.nber.org/papers/w15471.pdf?new_window=1

¹⁴ *Ibid.*

¹⁵ Carl Bialik. "No Easy Lessons in Assessing Pre-school Payoff" *Wall Street Journal* (March 8, 2013).

<http://online.wsj.com/article/SB10001424127887324128504578346591600700704.html>

¹⁶ Darcy Ann Olsen, "Universal Preschool Is No Golden Ticket: Why Government Should Not Enter the Preschool Business," *Cato Institute Policy Analysis* 333 (February 9, 1999): 18.

¹⁷ *Ibid.*, 20.

preschool participation.”¹⁸ The over-sold benefits of Head Start do not provide any justification for new pre-school education programs.

New Spending for Transportation

As part of his “The Way Forward: A 21-st Century Transportation Plan,” Governor Patrick proposes to spend roughly \$1.3 billion each year on infrastructure spending as part of a ten-year, \$13 billion transportation plan. The justification for such an ambitious plan and the proposed increase on such spending rests on the claim that “what is clear is that people want *more* of our services, not *less*. What is also clear is we can’t afford the system we have or the system we all want.”¹⁹ This goal of this proposal includes the following:

More than \$9 billion of the \$13 billion we propose to invest in our infrastructure will be used to maintain our current system. The additional \$4 billion we propose is for targeted investment across the Commonwealth to unlock economic development. Those projects include passenger rail from Boston to Springfield, from the Berkshires to New York City, and to Cape Cod; the South Coast Rail project; the extension of the Green Line to Somerville and Medford; and the expansion of South Station to allow for more rail transportation across the Commonwealth.²⁰

However, will this transportation plan in fact deliver the most cost-effective services to those commuters who demand it the most? While it is important for the state to maintain and repair its existing roads, bridges and rails, the Massachusetts’ fiscal situation does not merit any large spending initiatives, particularly on “The Way Forward.” Chieppo and Stergios of the Pioneer Institute argue that “it overstates the economic benefits of proposed expansions, does not consider the negative multiplier effects of new taxes, understates construction costs, and does not include maintenance and operating costs for new projects... Moreover, it suggests a ‘magic wand’ approach wherein every transportation issue can be resolved by one piece of

¹⁸ Ibid.

¹⁹North Shore Transportation Management Association, “The Way Forward: A 21st – Century Transportation Plan Making Smart Investments to Grow our Economy,” (February 2013), <http://www.northshoretma.org/pdf/2013-finance-roundtable-way-forward.pdf>

²⁰Ibid.

legislation.”²¹ Both the amount of spending and the manner in which the tax revenue will be raised, through earmarking or dedication, will both lead to waste, cost overruns, and an overall ratcheting of the size of the state government.

As of 2011, Massachusetts had one of highest debt-to-GDP ratios of all the states in the U.S. at approximately 25%.²² In particular, the MASSDOT budget is overwhelmed by its own debt, particularly from past spending initiatives it inherited from the “Big Dig” in Boston. In the fiscal year ending June 2012, total spending by MASSDOT was over \$628 million, of which almost \$153 million was spent just to service its \$8.7 billion debt, accounting for 24% of its expenditures.²³ On the margin, however, increased infrastructure spending has not contributed to more expedient traveling. Table 1 and Graph 1 below present data from the BHI’s State Competitiveness Reports from 2001 to 2012. We can see that the index measuring average travel time to work shows a downward trend in those years, meaning that lower index scores illustrates that commuting time in Massachusetts has increased. Furthermore, the table also shows that Massachusetts has consistently ranked among the worst states with regards to average travel time to work.

Table 1: Average Travel Time to Work Index

Year	Index Value	Massachusetts State Ranking
2001	4.25	42
2002	4.16	41
2003	4.02	43
2004	3.92	44
2005	3.06	49
2006	3.88	43
2007	3.97	43
2008	3.85	46
2009	3.93	46
2010	3.83	45

²¹ Charles Chieppo and James Stergios, *Driving Reform: Real Solutions to Our Transportation Challenges*, Pioneer Institute for Public Policy Research, (March 2013): 2.

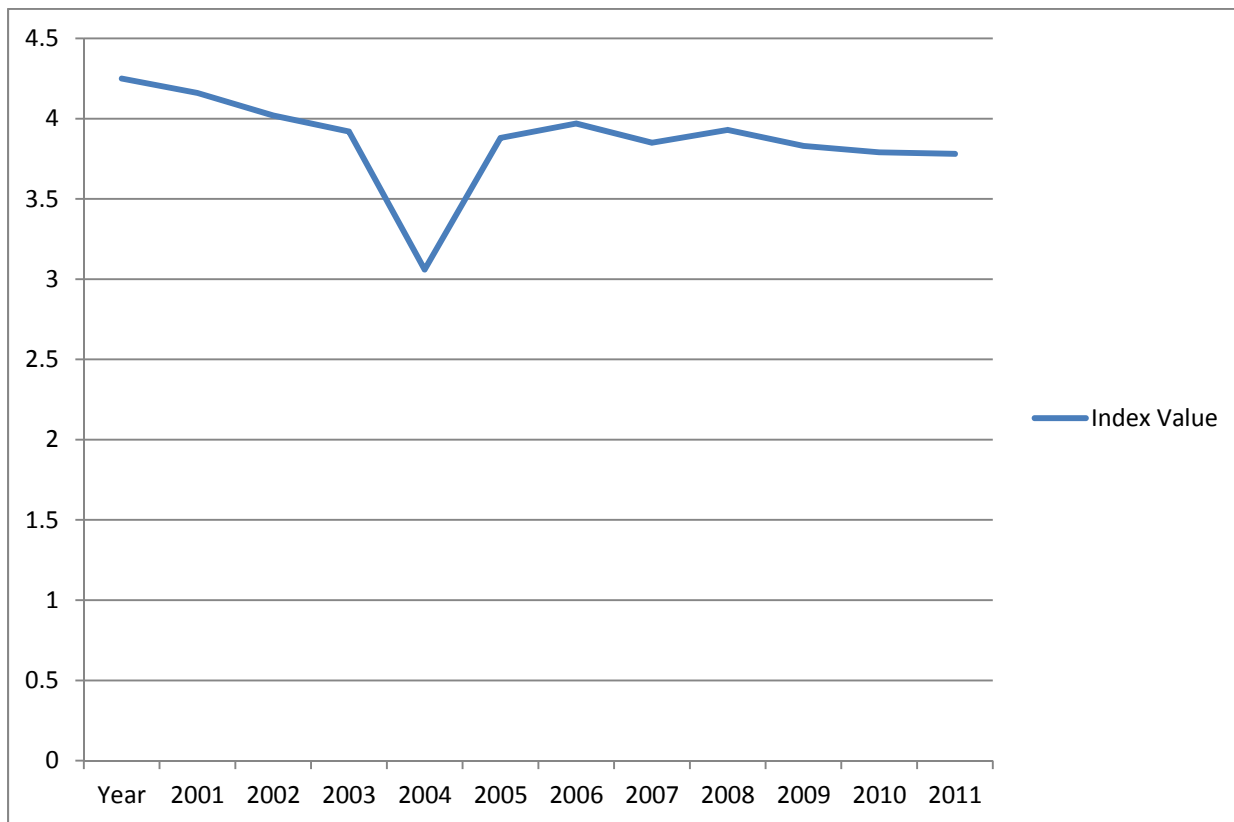
²² USGovernmentspending.org, http://www.usgovernmentspending.com/compare_state_spending_2011p20d.

²³ Massachusetts Department of Transportation, Revenue and Expense Report Fiscal Year Ended June 30, 2012 (FY2012) - Legislative Report Chapter 6, Section 28, (October 31, 2012), http://www.massdot.state.ma.us/portals/0/docs/InfoCenter/financials/FY_2012.pdf

2011	3.79	46
2012	3.78	48

Source: Beacon Hill Institute State Competitiveness Report, 2001-2012

Graph 1: Average Travel Time to Work Index



Source: Beacon Hill Institute State Competitiveness Report, 2001-2012

However, such evidence does not merit further spending on newer rail projects that would reduce commuting time. In other states, such as California, that are considering high-speed rail projects, not only are they susceptible to cost overruns, but estimated travel time is higher than expected. A 2008 report written by Cox and Vranich of the Reason Foundation concluded that California’s high speed rail proposal will face cost overruns, inflated ridership projections, and longer traveling time than expected. In fact, they have found “based upon international HSR experience, it appears that the CHSRA speed and travel time objectives cannot be met. As a

result, HSR [High Speed Rail] will be less attractive as an alternative to airline travel and is likely to attract fewer passengers than projected. Notably, the CHSRA's [California High-Speed Rail Authority] anticipated average speeds are not being achieved *anywhere* in the world, including on the most advanced systems," such as Italy, France and Japan. In addition, they argue that "incomplete consideration has been given to California's urban and terrain profiles where HSR trains must operate more slowly than circumstances allow in, for example, France."²⁴ They estimate that a non-stop San Francisco–Los Angeles trip would take almost 4 hours, more than an hour than the statutory requirement of 2 hours, 42 minutes. In Massachusetts, the construction of new rails accommodating more stops would only increase travel time as well.

Despite these fiscal constraints, let us consider the merits of the transportation plan being proposed by the Patrick-Murray Administration using cost-benefit analysis. Over the past thirty years, metropolitan areas across the United States have seen in a renaissance in rail transit construction, despite downward trends in rail ridership. Between 1992 and 2007, the U.S. has spent more than \$100 billion on rail transit capital projects, making up two-thirds of all transit capital spending "even though rail transit carries only about a third of transit trips."²⁵ According to a study conducted by economists from the Brookings Institution and the University of California of U.S. rail systems, they concluded that the net benefits of rail transit outweighed the costs. In particular, they found, with the exception of the San Francisco Bay Area's rail transit, *every* urban rail system across the U.S. reduced social welfare.²⁶

Table 2 shows that while spending on rail transit projects have not led to any significant increases in transit ridership. With the exceptions of Boston and Washington D.C., rail transit's share of total travel has fallen between 1984 and 2004 in every urban area listed below. With regard to commuting, every city experienced a decline in rail commuting except for Los Angeles, San Jose and San Diego. Yet even in these areas, the table shows only small increases, and it should be noted that between 1985 and 1995, Los Angeles transit ridership fell 17% while San Diego transit ridership fell by 33% between 2001 and 2004. Even though new rail projects for commuting are being proposed throughout the Commonwealth, this data does not present a convincing case that such proposals will spur new ridership.

²⁴ Wendell Cox and Joseph Vranich, "The California High Speed Rail Project: A Due Diligence Report" Reason Foundation Policy Study 370 (September 2008):6, <http://reason.org/files/1b544eba6f1d5f9e8012a8c36676ea7e.pdf>.

²⁵ Randal O'Toole, *The Best-Laid Plans: How Government Planning Harms Your Quality of Life, Your Pocketbook, and Your Future*. (Cato Institute: Washington, D.C., 2007): 254-255.

²⁶ *Ibid*, 255.

Table 2: Transit Ridership in Rail Urban Areas

Urban Area	1984	2004	Transit's Share of...	
			Total Travel	Commuting
	1980	2000		
Atlanta	1.9	1.1	9.1	4.1
Baltimore	2.4	1.5	12.3	7.4
Boston	2.5	3.4	13.5	12.5
Buffalo	1.3	0.6	16.4	4.1
Chicago	5.7	3.6	18.7	12.6
Cleveland	2.6	1.1	11.5	5
Dallas-Ft. Worth	0.7	0.6	4	2.2
Denver	1.4	1.3	6.4	4.9
Los Angeles	2	1.6	5.9	6
Miami	1.1	0.9	4.3	3.3
New Orleans	3.2	1.4	11.5	7.1
New York	12.6	9.7	30.7	29
Philadelphia	3.8	2.5	15.1	10.1
Pittsburgh	2.1	1.3	13.8	8.1
Portland	2.5	2.3	9.8	7.7
Sacramento	0.9	0.7	4.1	2.9
Salt Lake City	1.1	1	5.5	3.6
San Diego	1	1.1	3.5	3.6
San Francisco	4	3.9	16.8	14.6
San Jose	1.1	0.9	3.1	3.6
St. Louis	0.9	0.7	6.7	2.9
Washington D.C.	3.9	4.2	16.7	13.7

Source: O'Toole Randal. "The Best Laid Plans." (2007)

Governor Patrick's 10-year, \$13 billion transportation plan proposes \$4 billion in rail capital projects that include the following:

- \$1.8 billion to be spent on the South Coast Rail;
- \$674 million to extend the Green Line;
- \$850 million to expand South Station to accommodate passenger rail growth;
- \$362.4 million to directly connect Boston to Springfield;
- \$113.8 million to support rail service from the Berkshires to New York City; and
- \$20.7 million to connect Boston with Cape Cod

Governor Patrick claims that such projects will unlock economic growth in the Commonwealth, yet this is hardly the most cost-effective way to do so. The Federal Transit Administration has calculated the cost per new rider to substitute from car to transit to be \$10 to \$100 per new trip.²⁷ A well-known study conducted by the Danish economic geographer Bent Flyvbjerg concluded that “U.S. rail transit projects cost an average 41 percent more and attracted fewer than half the riders than originally predicted.”²⁸ This pattern has been repeated consistently in Massachusetts as well.

Consider one example....The recent completion of the Greenbush commuter line provides a good example of how transit ridership estimates are overestimated and how construction costs are underestimated. Opened in October 2007, the Greenbush Line originally projected its ridership to be above 8,000 per weekday, but the 2010 ridership and service statistics by The Massachusetts Bay Transportation Authority had found that ridership on the Greenbush Line to number roughly 3,000.²⁹ Moreover, the 18-mile Greenbush Line was originally estimated to cost \$470 million, but when completed amounted to over \$534 million.

The planning of the South Coast Rail Project has undergone the same budgetary and ridership revisions. This rail project is by far the most expensive and least efficient project of Patrick’s transportation plan. While state officials have been pushing for this rail project for decades, they have also demonstrated another consistent pattern: the estimated cost for this initiative has only continued to rise. “When then-Gov. William Weld first pushed for the rail line, the cost estimate was \$136 million. That quickly jumped to \$430 million – and, privately, some area legislators were saying it would most likely cost about \$1 billion... But at the same time,

²⁷ Ibid, 252. O’Toole observes “this formula is, basically, the capital cost amortized over the expected life of the project plus the annual operating cost divided by the annual number of new riders attracted by the transit improvements.”

²⁸ Ibid, 253.

²⁹ Massachusetts Bay Transportation Authority, *Ridership and Service Statistics Thirteenth Edition*, (2010)

<http://www.mbta.com/uploadedfiles/documents/Bluebook%202010.pdf>.

the cost keeps rising. It now stands at \$1.8 billion.³⁰ The South Coast Rail project also “is expected to create 3,800 jobs”³¹ and will restore passenger rail transportation from South Station in Boston to the South Coast of Massachusetts.

However, to the extent that states can engage in infrastructure spending in an effort to spur job creation, the costs of such a policy outweigh the benefits and therefore should be accounted for when assessing a cost-benefit analysis. First, because state governments do not control monetary policy, which is administered on the federal level, “the extent to which state and local government investment succeeds in employing people at the local level, it drives up deficits that are only manageable by the Federal Government.”³² Since Massachusetts only controls its own fiscal policy, fiscal stimulus can be achieved either through tax cuts or borrowing at higher rates than the federal government.

Moreover, “State and local governments which try to stimulate the local economies via deficit spending run the risk of becoming Greece. Like Greece which surrendered its ability to perform monetary policy to the European Union and the ECB, state and local governments do not have a currency to devalue. Examples from history include New York City in the 1970s. The State of California is providing a prospective lesson of the inherent disadvantage of fiscal stimulus performed at the subnational level when the federal government has the monopoly on the printing press.”³³ Furthermore, deficit spending on the state level for unemployment reduction cannot control for spillovers or externalities on other states that may offset job creation within Massachusetts. These may include stimulated demand for inputs outside the state to construct such rail projects as well the entry of workers from other states. Therefore, “any

³⁰ Quincy Patriot Ledger, “Tracking the costs, need of South Coast commuter rail,” February 9, 2013, <http://www.patriotledger.com/topstories/x694773051/OUR-OPINION-Tracking-the-costs-need-of-South-Coast-commuter-rail>.

³¹ Office of the Governor, “Governor Patrick highlights commitment to South Coast rail among regional investments to grow south coast economy,” January 25, 2013. <http://www.mass.gov/governor/pressoffice/pressreleases/2013/0125-south-coast.html>.

³² Ryan Murphy, “Fiscally Illiberal: State and Local Projects Cannot Create Jobs Responsibly,” The Beacon Hill Institute at Suffolk University, (January 2013):11, <http://www.beaconhill.org/OnTheIssue/Papers/StatesAreFiscallyIlliberal2013-0102RM.pdf>

³³ Ibid.

employment benefits of the deficit will accrue to all members of the union, while future tax costs remain the responsibility of the deficit creating jurisdiction.”³⁴

In theory, this project will unlock potential economic development since “the cities of Taunton, Fall River and New Bedford are the only cities within 50 miles of Boston that are not served by commuter rail.”³⁵ But at what cost? Based on the estimated job creation, the South Coast Rail project will cost \$473,000 per job created. Based on mileage from South Station to New Bedford, the project will cost \$36 million per mile. The state has already spent \$50 million on 37 miles of new rail needed to construct the South Coast track.³⁶ MASSDOT claims “the South Coast Rail will provide a new, convenient travel option that will be cheaper than driving.”³⁷ According to the estimated ridership, however, the South Coast Rail will service roughly 8,000 to 9,500 one-way trips a day to 4,000 to 4,750 riders, equaling \$379,000 to \$450,000 per rider. This is hardly a cheap figure for Massachusetts taxpayers to subsidize the ridership of such a small number of commuters. Moreover, the proposed rail lines would be built particularly in areas that “serve relatively wealthy suburban commuters who already have lots of mobility.”³⁸

This apparent focus on suburban commuters from Springfield, Somerville, Taunton, Fall River and New Bedford also raises concerns of equity and the redistributive effect these proposals have between the relative wealthy and relatively poor residents of Massachusetts. On this point, UCLA professor Brian Taylor argues “the level of public resources being spent to attract new transit riders is both economically inefficient and socially inequitable.”

Furthermore, while low-income residents generally benefit from the public transit subsidy... the benefits of subsidies disproportionately accrue to those least in need of public assistance.”³⁹ Despite the best intentions of the Patrick-Murray administration, the cost and ridership projections of the proposed rail projects will not meet its expectations. Overall, “The Way Forward” is a costly, inefficient and unfair way to spur economic growth in Massachusetts.

³⁴ Gerald Carlino and Robert P. Inman, “Local Deficits and Local Jobs: Can U.S. States Stabilize Their Own Economies,” NBER *Working Paper* 18930, March 2013.

³⁵ Massachusetts Department of Transportation, Office of Transportation Planning, <http://www.southcoastrail.com/>

³⁶ Eric Moskowitz, “There’s a lot riding on ridership projections for South Coast Rail,” *Boston Globe*, (June 20, 2010), http://www.boston.com/news/local/massachusetts/articles/2010/06/20/theres_a_lot_riding_on_ridership_projections_for_south_coast_rail/

³⁷ Office of Transportation Planning, <http://www.southcoastrail.com/>.

³⁸ O’Toole, 256.

³⁹ *Ibid*, 263.

Economic Effects of the Patrick Tax Proposal

To estimate the economic effects of tax policy changes such as increasing or decreasing the sales tax, the Beacon Hill Institute at Suffolk University (BHI) has developed a “computable general equilibrium” model. The purpose of the BHI model, called STAMP (State Tax Analysis Modeling Program), is to identify these economic effects and understand how they operate through a state’s economy.⁴⁰ STAMP simulates the economic effects of changes in taxes, costs (general and sector specific) and other “exogenous” changes. As such, it provides a mathematical description of the economic relationships among producers, households, governments and the rest of the world (ROTW).

The BHI simulated the increase in the state personal income tax rate, the elimination of 45 personal tax deductions and doubling personal exemptions. Also, we simulated a fall in the sales taxes from 6.25 percent to 4.5 percent and eliminate some corporate income tax deductions and designations. Table 1 displays the results against a baseline of no tax policy change.

Table 1: Fiscal Effects of Governor Patrick’s Tax Reform

State and Local Taxes (\$ millions)	2014
Corporate Income Tax	189
Personal Income Tax	2,895
Sales Tax	-1,104
Other Revenue	-25
Local Tax Revenue	-79`
Total	1,876

In 2014, the state would gain \$2.895 billion in tax revenue due to the income tax increase and \$189 million due to the corporate income tax changes. However, these gains would be offset

⁴⁰ For a description about the model see

http://www.beaconhill.org/STAMP_Web_Brochure/STAMP_EconofSTAMP.html.

by a lower sales tax rate of 4.5 percent, or \$1.105 billion in lost revenue and other tax revenues would fall by \$25 million. Local governments would lose \$79 million as the higher state take leaves less economic activity that drains local tax coffers.

The tax reform proposal would remove \$1.876 billion from the private economy of Massachusetts. The plan would provide powerful disincentives for Massachusetts households and businesses save and invest, spurring reductions in employment and incomes. Table 2 displays the economic results.

Table 2: Economic Effects of Governor’s Tax Plan

Year	Employment (Jobs)	Investment (\$ millions)	Real	Real
			Disposable Income (\$ billions)	Disposable Income Per Household \$
2014	-17,800	-120	1.2	480

In general, the adoption of the Governor’s package leads to deterioration in the state economy. The change would reduce employment by 17,800 jobs and investment by \$120 million in 2014. Real disposable income would drop by \$1.2 billion, or an extra \$170, on average for each of Massachusetts households.

The Economic Effects of the Legislature’s Proposal

The Massachusetts legislature proposed a more modest mix of tax increases to help solve the immediate and long-term deficits at the MBTA and the state Department of Transportation. The legislature’s plan would increases include a 3 cent hike in the gas tax and indexing the tax to inflation starting in 2015, raising \$110 million. Also, the plan would raise taxes on tobacco products including cigarettes, cigars and smokeless tobacco products by \$165 million per year. Finally, computer services would be taxed under the sales tax, raising \$161 million and utilities would see taxes increase by \$83 million. Table 5 displays the STAMP estimates for tax revenues.

Table 3: Fiscal Effects of MA Legislature's Tax Plan

State and Local Taxes (\$ millions)	2014
Corporate Income Tax	78
Motor Fuels Tax	86
Sales Tax	157
Tobacco Taxes	164
Other Revenue	-19
Total State and Local	466

However, once households and firms adjust their behavior under the tax changes, we find that the plan would only raise only \$466 million in new state revenue. The utilities tax would only raise \$78 million and the motor fuels would only raise \$86 million prior to indexing. The sales tax would raise \$157 million and tobacco taxes would yield \$164 million. However, other taxes would drop by \$19 million.

Table 4: Economic Effects of MA Legislature's Tax Plan

Year	Employment (Jobs)	Investment (\$ millions)	Real	Real
			Disposable Income (\$ millions)	Disposable Income Per Household \$
2014	-2,460	-2	643	250

In general, the adoption of the legislative package produces less negative economic impact than the governor's proposal. The changes would reduce employment by 2,460 jobs and investment by \$2 million in 2014. Real disposable income would drop by \$643 million, or an extra \$265, on average for each of Massachusetts households.

Conclusion

The merits of Governor Patrick's budget proposal have been based on the rationale that "in the same way that it pays off for society to invest in paved roads rather than 'adequate' gravel roads, high quality early education and care is a good investment."⁴¹ Infrastructure and education spending are important but beyond a certain level both initiatives meet head on with the law of diminishing returns. The extra spending does not bring about the momentous growth promised. Empirical evidence shows that increased government spending on transportation and education is not only inefficient, but is also susceptible to politically vested interests, mismanagement, and cost overruns. Any forecasted outcome of increased investment in state projects that disregards the individual incentives of legislators will be dubious at best.

⁴¹ MacEwan, "Economic Gains from Early Education & Care."

References

- Buchanan, James M. "The Economics of Earmarked Taxes." *Journal of Political Economy* 71, no. 5 (1963): 457-469.
- Baumol, William. 1990. "Entrepreneurship: Productive, Unproductive, and Destructive." *Journal of Political Economy* 98(5): 893-921.
- Carlino, Gerald and Robert P. Inman. 2013. "Local Deficits and Local Jobs: Can U.S. States Stabilize Their Own Economies" NBER *Working Paper* 18930. (March).
- Chieppo Charles and James Stergios. 2013. *Driving Reform: Real Solutions to Our Transportation Challenges*. Pioneer Institute for Public Policy Research. (March):2.
- Cox, Wendell and Joseph Vranich. 2008. "The California High Speed Rail Project: A Due Diligence Report." *Policy Study* 370. Reason Foundation. (September):6, <http://reason.org/files/1b544eba6f1d5f9e8012a8c36676ea7e.pdf>.
- Crowley, George R. and Adam J. Hoffer. 2012. "Dedicating Tax Revenues: Constraining Government or Masking Its Growth." Working Paper, Mercatus Center at George Mason University)
- _____. 2012. "The Effects of Dedicating Tax Revenues." *Mercatus on Policy* 109 (June).
- Crowley, George R. and Russell S. Sobel. 2010. "Do Intergovernmental Grants Create Ratchets In State and Local Taxes?" (Working Paper, Mercatus Center at George Mason University).
- Friedman, Milton. *Capitalism and Freedom*. Chicago: University of Chicago Press, 1962.
- Hall, Robert E. and Alvin Rabushka. 1995. *The Flat Tax, 2nd Ed*. Stanford: Hoover Institution Press.
- Haughton, Jonathan, David G. Tuerck, Paul Bachman and Alfonso Sanchez-Penalver. 2011. "Why Massachusetts Should Spend Less on Education." The Beacon Hill Institute at Suffolk University. (June).

<http://www.beaconhill.org/BHISTudies/EdStudy2011/EducationReport2011-0606.pdf>.

Heckman James J., Seong Hyeok Moon, Rodrigo Pinto, Peter A. Savelyev and Adam Yavitz. 2010. "The rate of return to the High Scope Perry Preschool Program," *Journal of Public Economics* 94(February): 114-128.

Higgs, Robert. *Crisis and Leviathan*. 1987. New York: Oxford University Press.

Kirzner, Israel. *Competition and Entrepreneurship*. 1973. Chicago: University of Chicago Press.

MacEwan, Arthur. 2013. "Economic Gains from Early Education & Care," Massachusetts Budget and Policy Center.

Massachusetts Department of Transportation. 2012 Revenue and Expense Report Fiscal Year Ended June 30, 2012, FY2012. (October 31). Legislative Report Chapter 6, Section 28.

http://www.massdot.state.ma.us/portals/0/docs/InfoCenter/financials/FY_2012.pdf.

Massachusetts Bay Transportation Authority, Ridership and Service Statistics Thirteenth Edition. (2010).

<http://www.mbta.com/uploadedfiles/documents/Bluebook%202010.pdf>.

McBride, William. 2012. "What Is the Evidence on Taxes and Growth?" The Tax Foundation. (December)

<http://taxfoundation.org/sites/taxfoundation.org/files/docs/sr207.pdf>.

Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny. 1991. "The Allocation of Talent: Implications for Growth." *The Quarterly Journal of Economics* 106(2) (May): 503-530.

Murphy, Ryan. 2013. "Fiscally Illiberal: State and Local Projects Cannot Create Jobs Responsibly," The Beacon Hill Institute at Suffolk University. (January 2):11.

<http://www.beaconhill.org/OnTheIssue/Papers/StatesAreFiscallyIlliberal2013-0102RM.pdf>

North Shore Transportation Management Association. 2013. "The Way Forward: A 21st – Century Transportation Plan Making Smart Investments to Grow our Economy." (February). <http://www.northshoretma.org/pdf/2013-finance-roundtable-way-forward.pdf>.

Olsen, Darcy Ann. 1999. "Universal Preschool Is No Golden Ticket: Why Government Should Not Enter the Preschool Business," Cato Institute Policy Analysis 333 (February 9, 1999): 18.

O'Toole, Randal. *The Best Laid Plans: How Government Planning Harms Your Quality of Life, Your Pocketbook, and Your Future*. Washington D.C.: Cato Institute, 2007.

Powell, Benjamin, ed. *Making Poor Nations Rich: Entrepreneurship and the Process of Economic Development*. Stanford: Stanford University Press, 2008.

About the Authors

Rosolino Candela is a Charles G. Koch Fellow and an Institute for Humane Studies Fellow. He holds a Master of Arts in Economics from Fordham University.

Frank Conte is director of communication and information systems at the Beacon Hill Institute. He holds a Master of Science in Public Affairs from the University of Massachusetts-Boston.

Paul Bachman is director of research at BHI. He manages the institute's research projects, including the development and deployment of the STAMP model. Mr. Bachman has authored research papers on state and national tax policy and on state labor policy and produces the institute's state revenue forecasts for the Massachusetts legislature. He holds a Master Science in International Economics from Suffolk University.