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PUBLIC POLICY RESEARCH

POLICY BRIEF

Driving Reform: Real Solutions to Our Transportation Challenges

by Charles Chieppo and James Stergios

Introduction

Reform is hard work. A massive injection of new money into Massachusetts' troubled transportation system is no substitute for a serious plan that delineates clear and achievable goals, accountability for results, and provides the money to move forward.

In thinking through the right way forward on transportation, legislators would do well to look back to the commonwealth's most significant policy success of the past quarter century. Twenty years ago, a multifaceted law was signed after long deliberations that laid a strong foundation for years of reform in our public schools. The 1993 Massachusetts Education Reform Act has succeeded because it defined clear goals, included mechanisms to track implementation and results, and provided the resources to pay for the work.

Legislators understood that later reforms would build on the foundation laid in 1993. Governance changes were enacted in 1996; in 1997 came a doubling in the number of charter schools allowed. From 1997 to 2003, implementation focused on crafting the nation's most rigorous learning goals and accountability mechanisms, such as teacher and student assessments, and a school district audit system. All this has allowed Massachusetts students, in all subgroups, to improve faster than in most every other state. Today our student performance is good enough to make us among the few states to be internationally competitive.

Similarly, the Transportation Finance Commission helped create a baseline understanding of what it would take to modernize Massachusetts' transportation network. Building on its work, the Legislature passed and Governor Patrick signed significant transportation reform legislation in 2009.

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Center for Better Government

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The governor deserves credit for sharing one vision for Massachusetts' transportation future. Unfortunately, it is eerily reminiscent of the one that got the commonwealth into the situation we face today. The plan unwisely combines fixing our current transportation problems with a series of proposed expansions that would ensure a decades-long transportation finance crisis. It overstates the economic benefits of proposed expansions, does not consider the negative multiplier effects of new taxes, understates construction costs, does not include maintenance and operating costs for new projects, and pays too little attention to ensuring that the vision laid out in 2009 becomes a reality. Moreover, it suggests a "magic wand" approach wherein every transportation issue can be resolved by one piece of legislation.

Massachusetts needs a different approach—one with a proven track record. We believe it wiser to begin making much-needed new investments in our transportation system and to build on the framework set forth in the 2009 transportation reform legislation. Additional funding will be needed, but it should be appropriated based on the Massachusetts Department of Transportation's (MassDOT's) performance on a series of publicly available metrics.

Much like we saw with 2009 federal stimulus legislation, MassDOT currently lacks the capacity to get the more than $10 billion in new money Governor Patrick proposes to spend over the next decade out the door in a responsible way. Let us instead begin to make needed new investments and make each subsequent investment more efficient by learning from our successes and failures as we have done in virtually every other policy area.

Transportation touches the lives of more citizens more often than any other government service. It is critical to the commonwealth's economic future and therefore far more important to get it right than do it fast.

Goals:
Make it work

Parties on all sides of the transportation funding debate seem to agree that the goal is a 21st century system that facilitates economic growth. But massive spending on expansion that doesn't account for operating and maintenance costs is not the recipe for a 21st century system. Instead, it is a return to the ill-advised path that created the massive transportation funding shortfalls that were unmistakable by the end of the 20th century, and that the 2009 transportation reform was passed to address.

For example, over more than two decades, the MBTA has expanded faster than any other major American transit system. Yet unlike the country as a whole, employment and population growth in Massachusetts was largely stagnant. Rapid expansion came at the expense of running a professional, modern transportation system—one in which regular, sufficient investments in maintenance yield reliable, comfortable vehicles that run on time.

> *Our goal must be to make sure that the expansions undertaken in the past two decades finally yield benefits for transportation customers by bringing the assets up to a level that will grow ridership and use, and that we position our transportation agencies for future success.*

The critical elements in achieving that goal are to make sure funds that were unwisely diverted to unsustainable expansion are now invested in correcting existing shortcomings, ensuring that state agencies undertake the full slate of reforms described in 2009 and developing mechanisms to ensure that we do not get sidetracked from the core mission.

On this last point, it is important that no major transportation expansion projects are undertaken beyond those already required by law until highways, bridges and transit maintenance backlogs have been eliminated.[1] New gas tax revenue should be dedicated only to capital maintenance and improvement, not current operations. It should be the commonwealth's policy that its roadway and transit networks should, at a minimum, be in a state of good repair. This should drive all capital prioritization and operational spending.

Once a state of good repair is achieved, the commonwealth must ensure that the maintenance and operating investments that are the single most important variable when it comes to getting people and goods where they're going in a timely manner are not shortchanged once again. To ensure that they are not, the following policies should be implemented:

- Base all transportation infrastructure funding decisions on the asset's lifecycle costs, which include operation and maintenance expenses, not just construction price
- All projects with projected construction, operating and maintenance costs of $1 billion or more should require legislative approval. This would ensure broad consensus for large investments.

No agency illustrates the importance of restraint in the selection of new projects and the need to make expansion decisions based on lifecycle costs more than the MBTA. The $160 million budget shortfall the agency faced last year would have been dramatically reduced or even eliminated entirely were it not for 14 projects mandated as mitigation for the environmental impact of the Big Dig, which came with no funding source. Those projects, which are the driving force behind the T being the nation's fastest-growing major transit agency, even though it serves on of the slowest-growing metropolitan areas, also account for much of the agency's staggering debt load ($5.3 billion in principal and $3.6 billion in interest) and a maintenance backlog of more than $3 billion. If not for recent fare increases, the MBTA would be paying more in debt service than it collects in fares.

Accountability:
Building a Customer-Focused System

How long does it take to get to work? How would investment in one project impact that time as compared to investment in another? The answer to these questions should guide transportation spending decisions. Investments that improve safety, reduce commuting time and promote economic development should take priority over noise barriers, bike paths or other ancillary options.

Massachusetts' 2009 transportation reform law promised a more customer-focused system, the development and tracking of system performance metrics, streamlined project planning and delivery, and administrative efficiencies. And while MassDOT has made progress in the first years since its creation under reform, it must redouble its efforts to deliver on the 2009 law's promises.

First and foremost, that means developing a set of clear, customer-focused metrics, understandable by the average commuter, to be published and regularly updated on a public website. This is even more important because all-important federal funding decisions are increasingly tied to performance metrics.[2] Decisions about future gas tax and MBTA fare increases should also be based on performance. Key metrics for which data are already collected include:[3]

Highways & Bridges

- Reduction in the number of structurally deficient bridges to no more than 7 percent of all bridges
- Reduced congestion attributable to disrepair
- Improvements in urban and rural primary pavement condition to agreed-upon standards
- Improvements in urban interstate condition
- Improvements in rural interstate condition
- Lowering the administration disbursements per mile
- Increasing the maintenance disbursements per mile to the level necessary to achieve and maintain a state of good repair

Transit

- Movement toward a state of good repair
    - o Urban transit bus fleet age
    - o Asset conditions by asset type for bus
    - o Urban transit rail fleet age and average estimated condition

- o Other vehicle age, by type
- o Condition of track
- o Condition of signalization

- Operational Performance Metrics in FTA Annual Report:
    - o (Speed) Average transit passenger carrying speed, on-time performance, passenger-mile weighted average operating speed by mode, including commuter rail;
    - o (Vehicle Use) Unadjusted Vehicle Occupancy: Passengers per transit vehicle, percentage of seats occupied; and also revenue miles per active vehicle;
    - o (Frequency/Reliability) Distribution of passengers by wait time, passenger wait time, average distance between failures;
    - o A Passenger Comfort Index based on variables like working heat and air conditioning, availability of WiFi
- Safety: Annual transit fatalities, annual incidents and injuries, etc.
- Finance: Farebox recovery ratio (the percentage of operating costs covered by fare revenue) approaching national norms, reduction in debt service and maintenance backlog
- Budget- and schedule-related project delivery metrics

The Virginia Department of Transportation's dashboard[4] might provide a useful template for MassDOT. In addition to customer service, the dashboard provides project performance data that creates an incentive for contractors and DOT personnel to act in a timely fashion and facilitates the weeding out of poorly performing contractors.

A prototype for a publicly accountable performance measurement system was developed by Pioneer Institute in 2010.[5] It also includes several environmental measures.

Financing:
Paying for Performance

Massachusetts needs additional resources to support a transportation system that provides motorists and transit riders with a high-quality level of service and accommodates economic growth. Of the new money not captured through reform, Pioneer Institute believes user fees, or their equivalent, should be the largest source of new revenue. Pioneer Institute believes that $450 to $500 million annually in new resources is needed to facilitate the next phase of reform. The key elements of our funding plan are:

1. Delivery on the promises of 2009 reform
2. A commitment to use all new funds for transportation, and therefore a preference for user-based tax and fee options
3. A balanced approach to providing the resources needed to achieve the goals set out in the accountability section of this report. We propose roughly a 50-50 split between new tax, fee and fare revenue, and additional resources freed up through reform.
4. According to our calculations, the tax, fee and fare increases would total $1.3 billion over six years. Savings from reform and recapturing revenue from existing transportation taxes and fees that is currently being redirected would produce a similar amount
5. An accountability mechanism that links new revenue to gradual improvements in the transportation customer experience.

Delivering on the promises of 2009

When the 2009 transportation reform was enacted, state leaders promised it would save $6.5 billion over 20 years. But the initial evidence is that actual savings are dramatically less. While some savings have been realized by MBTA pension reforms, the bulk of the savings have come from refinancing debt. Very little has materialized in the way of promised operational efficiencies. If MassDOT is to receive an influx of new money, it must refocus on delivering promised efficiencies.

A recent report from the Massachusetts Taxpayers Foundation and Massachusetts Business Roundtable noted a number of the 2009 reforms that have been implemented as well as others that have not. A thorough reading of the 2009 law and earlier legislation clearly shows additional promised reforms that have not been implemented. They include:[6]

- Developing objective project selection criteria (Ch. 6C, sec. 3, clauses 7, 8 and 9)
- Development of a performance management system (Ch.6C, sec. 6)
- Strategic planning for technology (Ch. 6C, sec. 5 and 6)
- An integrated asset management system (Ch. 6C, sec. 5, 6 and 12)
- Lifecycle modeling (previous citations, also Ch. 6C, sec. 34)
- Ending the practice of paying operating employees from the capital budget (sec. 181A of Ch. 25 of the acts of 2009, enacted via sec. 59 of Ch. 26 of the acts of 2009)

The rate of progress on important reforms like moving employee salaries from the capital budget has been painfully slow despite the injection of new revenue via the increase in the sales tax from 5 to 6.25 percent. About 1,900 MassDOT employees are currently paid out of bond proceeds rather than agency operating budgets. Thanks to interest expenses, the total cost of an employee paid out of the capital budget who earns $75,000 is approximately $150,000 over 20 years. It's the equivalent of taking out a mortgage to pay for your weekly groceries. Since passage of the commonwealth's 2009 transportation reform, the number of MassDOT employees paid out of the capital budget has decreased by about 250.[7] The department should develop a five-year plan to reduce the number of employees currently paid from capital funds by 75 percent. Further, MassDOT should make an immediate down payment toward the goal by reducing the number of employees paid from capital by 285 in year one.

Hard decisions will be required for such a reform to be implemented, potentially including determinations to eliminate certain programs and to shift resources to make room in the operating budget for individuals currently paid out of capital. Though difficult, such decisions have to be placed into context. Between 2004 and 2012, the commonwealth's workforce, excluding quasi-governmental agencies, has increased by almost 12 percent, or 8,300 additional employees.[8] In 2012, the state workforce totaled 84,462 employees. When quasi-government agency employees are included, the U.S. Bureau of Labor Statistics suggests an increase of 15,600 positions.[9]

Overall, implementation of these reforms would save well over $100 million annually, which should be redirected to maintenance and repair.

New transportation revenue should be spent on transportation

Given our checkered history with transportation funding and lingering doubts about the scale of reforms undertaken, as well as the commonwealth's considerable carried debt, any new plan must devote 100 percent of new transportation revenue to repairing and improving existing assets until they are brought into state of good repair and maintenance backlogs are eliminated.

The Massachusetts Constitution limits the use of transportation funds to transportation purposes. The gas tax is a good source of new revenue because it is derived from those who use and benefit from the system and cannot be spent for other purposes.

When the commonwealth borrowed to fund accelerated bridge repair, a $2.9 billion effort to repair 550 structurally deficient bridges, the bonds received an Aaa rating, a notch higher than Massachusetts' general obligation bonds. Strong ratings translate into significantly lower interest costs. Among the reasons given by Moody's, a rating agency, for the high rating, was "sufficient insulation… from the competing claims of the commonwealth's general obligation bondholders."[10]

Much of the revenue from Governor Patrick's plan to spend an additional $1 billion on transportation annually would come from an income tax hike. Revenue from the income tax could easily be moved to address skyrocketing health care or other non-transportation needs.

Paying for reform and improved service

We believe that a $282 to $398 million (in year three and beyond) revenue increase from the following transportation-based user-based taxes and fees should be used exclusively for transportation needs:

- $96 million from an immediate three-cent increase in the state gas tax, followed by an additional three-cent hike in year three if sufficient progress is made on key metrics. The total six-cent increase (to 27 cents a gallon), a measured increase that does not put Massachusetts fueling stations at a disadvantage, would raise a total of $192 million in new revenue annually.
- $61 million from modest scheduled MBTA fare increases targeted to raise the T's fare recovery ratio to that of comparable systems
- $30-50 million by directing the savings from moving to an automated (cashless) toll collection system to fund capital projects
- $40 million from gas tax revenue meant to support underground storage tank clean-up that is being diverted to other uses
- $35 million from changes to the so-called Pacheco law and reinstitution of management rights at both MassDOT and the MBTA
- $20 million annually for five years from moving employee salaries from the capital to the operating budget
- $10 million through some mix of new tolling mechanisms (HOT lanes, having motorists who drive during rush hour pay more, electronic tolling)

As relates to the first bullet, with the year one increase in the gas tax of three cents, we believe that MassDOT must take four specific actions:

- Develop a five-year plan to cut the number of individuals paid from bonded capital accounts to 25 percent of the current level. That will require stopping other programs and making hard decisions.
- Reduce the number of individuals paid out of bond cap by at least 285 within a year
- Re-establish management rights at the MBTA and within the overarching MassDOT system.
- Develop a set of clear, customer-focused metrics that form the basis for decisions about future transportation needs. The metrics should be understandable by the average commuter and be published on a public website.

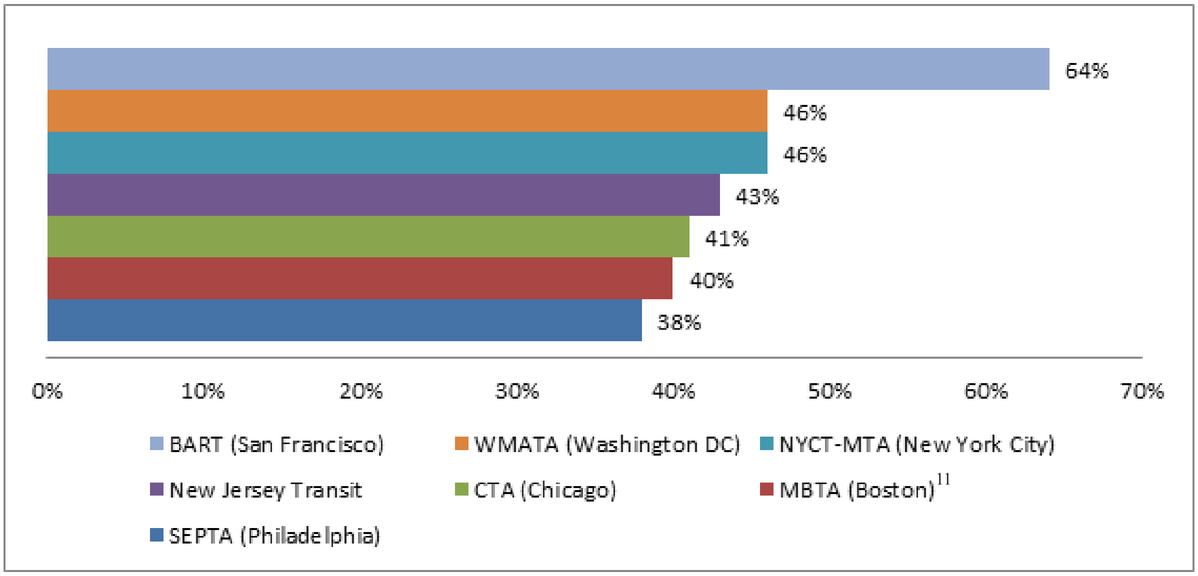
Modest, regular fare increases to boost MBTA farebox recovery

MBTA fares currently cover just 40 percent of the agency's operating costs. Boosting that number to 45 percent would reduce the T's annual deficit by about $61 million. As seen below, 45 percent revenue recovery remains a modest goal that would still be lower than ratios for systems in San Francisco, New York and Washington, DC.

As part of the strategy to achieve the 45 percent farebox recovery goal, the MBTA should institute modest fare increases every other year until the goal is reached. One-time fares should account for a proportionally greater part of the increase to reduce the impact on regular commuters and encourage consistent ridership. Any increases designed to reach the 45 percent goal should not be subject to environmental and/or legislative review, though any increases that would take the ratio beyond 45 percent should be subject to all the reviews fare hike proposals currently require.

Since the T is an engine of the state and regional economy, but those farther from Boston benefit from it less directly, it is important to distribute the cost of operating it equitably between riders, those in the MBTA service area and indirect beneficiaries. In addition to our recommended increase in the portion of the burden borne by riders to 45 percent, the T is also funded by the revenue from one penny of the 6.25 percent sales tax and assessments on municipalities that benefit from its service. We believe that

Transit Agency Fare Box Recovery Ratio



Source: NTD Database: Transit Profile: Top 50 Agencies for the 2011 Report Year. Farebox recovery ratios as reported in these national profiles do not include non-fare revenue.
http://www.ntdprogram.gov/ntdprogram/pubs/top_profiles/2011/2011_Complete_set_Top%2050%20Agencies.pdf

asking riders to pay for 45 percent of the cost of their trips is a fair split between direct and indirect MBTA beneficiaries.

Reinstitution of Management Rights

Fare hikes should not be the only strategy for achieving the 45 percent farebox recovery goal. The MBTA and MassDOT generally should implement the kind of management rights the T was given in 1981 legislation. Among the rights granted to MBTA managers were more control over employee assignments, the right to use part-time employees and the right to contract privately for services traditionally performed by T employees.

But those rights have been chipped away at over the years. Today, the right to use part-time workers is all that remains. In a 1994 analysis, Harvard Kennedy School Professor José Gomez-Ibañez found that management rights were the driving force between const control efforts that were saving an estimated $49.5 million annually by 1990.[12]

The dismantling of management rights began in 1993 with enactment of the so-called Pacheco law, which makes outsourcing of any service currently delivered by state employees extremely difficult. Two decades later, technological advances could result in even greater savings.

Information technology is an example of a place where management rights might pay dividends in the form of improved customer service metrics and enhanced transparency. IT is an area in which the private sector is generally ahead of government, so MassDOT might outsource its IT function and use the savings to hire more engineers at the Massachusetts Highway Department (MHD), which now has far fewer engineers than in the past.

The salaries MHD pays to engineers are less than those professionals can command for their services in the private sector in Massachusetts and in both public and private settings in other parts of the country. One way to address the problem would be a UMass co-op plan that would give student engineers experience working at MHD and then a level of loan forgiveness for working at MHD for a specified period after graduation. This would also address the fact that the average age of MHD engineers has increased over the years due to attrition and better-paid opportunities elsewhere.

Conclusion

With this policy brief, Pioneer Institute attempts to identify goals and objectives, funding sources, and a financial and legislative framework to begin reinvesting in the commonwealth's transportation network. The goal of new investment should be to improve the safety of the network and the mobility of its customers.

We believe several policies are critical to the achieving that goal. First, new revenue should come from transportation sources and be invested solely for transportation purposes. Second, new money must be invested solely in maintenance until the commonwealth's transportation network achieves a state of good repair. Third, new money should be invested in ways that increase efficiency and demonstrably improve the transportation customer experience. Finally, MassDOT's performance on a series of metrics should be publicly available online in a form that is easily understandable by the average commuter.

Related Research

Beyond the Gas Tax: Defining Transportation Needs, Emphasizing Economic Growth, and Maintaining Our Assets, http://pioneerinstitute.org/download/beyond-the-gas-tax-defining-transportation-needs-emphasizing-economic-growth-and-maintaining-our-assets/

Our Legacy of Neglect: The Longfellow Bridge and the Cost of Deferred Maintenance, http://pioneerinstitute.org/download/our-legacy-of-neglect-the-longfellow-bridge-and-the-cost-of-deferred-maintenance/

Driving Questions, http://pioneerinstitute.org/download/driving-questions/

Getting There: Transportation Reform in 2009, http://pioneerinstitute.org/download/getting-there-transportation-reform-in-2009/

Introduction to the Massachusetts Transportation Dashboard, http://pioneerinstitute.org/download/introduction-to-the-massachusetts-transportation-dashboard/

Lessons Learned: An Assessment of Select Public-Private Partnerships in Massachusetts, http://pioneerinstitute.org/download/lessons-learned/

Life Cycle Delivery of Public Infrastructure, http://pioneerinstitute.org/better_government/life-cycle-delivery-of-public-infrastructure/

Endnotes

1. Extending the MBTA's Green Line to Medford is the main transit expansion project that remains uncompleted from a series of expansion projects that were mandated as mitigation for the environmental impact of the Central Artery/Tunnel Project (Big Dig).

2. "Delivering on the Promise: Improving the Performance of Massachusetts Transportation Agencies," produced by the Massachusetts Taxpayers Foundation in collaboration with the Massachusetts Business Roundtable. March 2013, p. 4.

3. These are drawn from Pioneer Institute White paper #14: *State Government Effectiveness Index* (2000) http://pioneerinstitute.org/download/government-effectiveness-index-a-cross-state-survey/; Reason Foundation 19th Annual Report on the Performance of State Highway Systems (1984-2008) http://reason.org/files/19th_annual_highway_report.pdf; U.S. Department of Transportation's 2010 Annual Report to Congress Status of the Nation's Highways, Bridges, and Transit: Conditions & Performance http://www.fta.dot.gov/documents/2010_CP_Report_FINAL.pdf.

4. http://dashboard.virginiadot.org/

5. Pioneer Institute Transportation Dashboard (2010) http://pioneerinstitute.org/blog/transportation-dashboard/

6. Other yet-to-be implemented reforms include Creation of an internal special audit unit (Ch. 6C, sec. 9), comprehensive investment plans for all modes (Ch. 6C, sec. 10, 11 30, also sec. 3, clause 7), a public-private partnership oversight commission (Ch. 6C, sec. 73), development of a project information system (Ch. 6C, sec. 6, also sec. 23 of Ch. 86 of the acts of 2008), expanded use of design/build (sec. 15 and 16 of Ch. 86 of the acts of 2008) and worker re-training (sec. 151 of Ch. 25 of the acts of 2009).

7. "Delivering on the Promise," p. 15.

8. Comprehensive Annual Financial Reports, Office of the State Comptroller, Commonwealth of Massachusetts p. 166-167, 2012. http://www.mass.gov/osc/docs/reports-audits/cafr/cafr-2012.pdf. These numbers are consistently from the same year-end pay period and do not include part-time higher education contractors. Therefore, the numbers should be comparable and any seasonal variations should be eliminated.

9. The Bureau of Labor Statistics provides numbers that are comprehensive and include all state authorities and agencies. By BLS statistics, Massachusetts state government has grown by 15,600 positions, from 112,100 in December 2004 to 127,700 in December 2012. Employment differences calculated using a 2004-2012 data table (data series ID: SMU25000009092000001) from the Bureau of Labor Statistics website, http://data.bls.gov/timeseries/SMU25000009092000001. The data is month to month to avoid building in seasonal variations. Month-to-month, the increases range from 12,300 more state employees (January 2004 to January 2012) up to 16,500 (October 2004 to October 2012).

10. "Moody's Assigns Aaa Rating to $419.3 Million of Massachusetts Commonwealth Transportation Fund Revenue Bonds," Moody's Investors Service, May 1, 2012.

11. Conversation with MBTA Director of Communications Joe Pesaturo, March 19,2013.

12. Jose A. Gomez-Ibanez "Big City Transit Ridership, Deficits and Politics: Avoiding Reality in Boston," Taubman Center for State and Local Government, Kennedy School of Government, Harvard University, 1994, Table 5: Components of the MBTA's Deficit Increase, 1970-1990.

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