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MEMORANDUM

Date: November 24, 2025

To: Director, Office of Policy Analysis

From: Areeb Uzzaman, Internal Analyst

Subject: Proposal for Integrating Dynamic Scoring into Fiscal Notes for Generational Investments

Executive Summary

Maryland's budget management now faces a critical juncture: the tools used to evaluate public projects spanning decades must be updated. This report recommends that the Department of Legislative Services (DLS) embed a 15-year dynamic scoring model in every Fiscal and Policy Note accompanying far-reaching bills, beginning with the Blueprint for Maryland's Future. The present method, which projects merely five years ahead and ignores how the broader economy responds, cannot measure policies intended to bring economic benefits. Suppose Maryland continues to use this limited analytical horizon. In that case, it will obscure more than \$1 billion in long-run costs and benefits - an amount close to the yearly upkeep budget of the Maryland State Highway Administration (Department of Legislative Services, 2024; Maryland Comptroller, 2025).

Data show that full, faithful rollout of the Blueprint would alter how the state builds human capital and would yield fiscal returns. In-house projections point to an even 6 percent yearly return - the \$3.8 billion spent each year would result in a net budgetary surplus of about \$228 million by 2034 (DLS, 2025). To record those gains, the model must model economic feedback loops: higher lifetime wages raise tax receipts, lower crime reduces public safety spending, and diminishes Medicaid expenditures. Dynamic models - like the one the Congressional Budget Office applied to the 2017 Tax Cuts and Jobs Act - show that key economic feedback peaks between the twelfth and fifteenth year, far beyond the current five-year window (Congressional Budget Office, 2018).

The report outlines a practical, step-by-step approach to dynamic scoring. A “two-yes rule” would demand evidence of both durable growth potential and sizable revenue or employment effects before the fuller model is used. The state should also collaborate with academic centers, such as Salisbury University's BEACON Institute and the University of Maryland, to develop the necessary tools. A bipartisan board, separate from operational staff activities, would review every modeling assumption to ensure DLS maintains its nonpartisan reputation. With those steps, Maryland would protect fairness across generations - spending today would be a calculated investment in the state's future.

I. The Institutional Framework and the Limitations of Static Analysis

The Department of Legislative Services (DLS) serves as the nonpartisan support system for the Maryland General Assembly, providing the neutral analysis lawmakers need to govern effectively. The Fiscal and Policy Note, which accompanies every introduced bill, is central to this mandate. Those notes give legislators the primary mechanism to judge whether a new law is workable, affordable, and likely to succeed. The Office of Policy Analysis (OPA) inside DLS must examine every bill for its fiscal, economic, and policy effects. The credibility of this review is crucial - the widely accepted analysis of the 2022 Tax Reform shows the DLS's reputation for neutrality, plus it lets both parties trust its numbers (DLS, 2025). As bills grow more intricate and span decades, the analytical tools must advance to ensure credibility endures.

The present method rests on “static scoring.” It measures the direct fiscal impact - say, the price of hiring extra teachers or the revenue forgone because of a tax credit - while it treats the size of the economy (Gross Domestic Product, employment, investment rates) as fixed. The method is simple and keeps the list of assumptions short, but it omits the “multiplier” effects that major policy shifts set off. For ordinary bills, static scoring is both suitable and quick. Comprehensive laws like the Blueprint are methodologically insufficient. A further flaw in the current framework is the “budgetary window,” normally five years (the year of implementation plus four more). That span is misaligned with policies intended to redirect the state's economy for the long term. In education reform, for example, costs are incurred immediately and accumulate in the early years (higher salaries, new buildings, expanded pre-K). The fiscal return on investment - extra income tax revenue from more productive workers, lower prison expenses - appears only after 10 - 20 years (Commission on Innovation or Excellence in Education, 2020).

Static scoring extrapolates long-term outcomes solely from initial implementation costs, inherently biasing analysis against policies that materialize later. It lists the Blueprint mainly as a bill totaling billions, and it offers no way to record the asset on the other side of the ledger. A side-by-side review shows that it provides a concise, transparent figure that works for minor, step-by-step laws, yet it obscures the fiscal reality of large, long-term outlays. A static analysis of the Blueprint would report a shortfall of about \$500 million in Year 5 - accounting solely for expenditures. A dynamic model that tracks shifts in Gross State Product, the labor force, and the population aged 15 to 20 over 15 to 20 years can show a surplus by Year 15, driven by a broader tax base and lower social costs (CBO, 2018; DLS, 2025).

The Blueprint's path through the legislature highlights the clash between near-term budgetary pressure and a longer-term horizon. After the Kirwan Commission released its report in 2019, lawmakers passed House Bill 1300 in 2020; Governor Hogan vetoed it, citing pandemic-driven economic uncertainty and the fiscal cost (General Assembly of Maryland, 2020). The General Assembly overrode the veto in 2021 and codified the education overhaul into law. Later bills -

HB 1372 and HB 1450 - created the Accountability and Implementation Board (AIB) to ensure adherence to implementation benchmarks (Accountability and Implementation Board, 2025). This legislative oscillation shows how hard it is to keep political support for a generational project when the only available metric measures current costs. A dynamic score would have strengthened the case, putting a number on the GDP lost if the state did nothing.

II. The Analytical Challenge of Generational Investments: The Blueprint for Maryland's Future

The Blueprint for Maryland's Future is not just a plan to spend more on schools - it is a comprehensive strategy to grow the economy, embedded within an education law. It replicates the “9 Building Blocks of a World-Class State Education System” outlined by the National Center on Education and the Economy (NCEE). It aims to raise Maryland to the level of top-performing countries like Singapore and Finland. To see why the state must use dynamic scoring, one must trace the precise economic links that run through the Blueprint's five pillars.

Pillar one, Early Childhood Education, expands the labor supply. The requirement to offer free full-day pre-kindergarten to low-income three- and four-year-olds functions as a large, short-term childcare subsidy, removing the main obstacle that keeps parents, primarily mothers, out of the workforce. Once childcare is covered, those parents return to jobs or add hours - household income plus state income tax collections rise at once (DLS, 2025). Years later, the children who attended high-quality programs also yield returns - Nobel laureate James Heckman shows that every dollar spent on early education returns about thirteen cents annually because the children gain mental and social skills that cut later remedial costs and raise lifetime earnings (Heckman, 2012).

Pillar two, High-Quality but also Diverse Teachers, fundamentally restructures the teacher labor market. It sets a minimum starting salary of \$60,000 by 1 July 2026 and establishes a performance-based career ladder. A static ledger treats the higher salaries as a significant new liability that increases pension costs - a dynamic ledger treats the raise as an efficiency wage. Higher pay lowers turnover, which now incurs millions of dollars each year in recruitment and training costs, and attracts stronger applicants. Data show that better teachers raise their students' lifetime earnings, which widens the future tax base (Hanushek & Woessmann, 2012).

Pillar three, College or Career Readiness, accelerates the transition from school to work. It sets a readiness standard that students must reach by the end of tenth grade. Students who meet the standard may take dual enrollment courses or technical credential programs at no charge. The policy addresses the “skills gap” that Maryland employers describe. By reducing time-to-degree and increasing the number of certified technicians, the state boosts supply in fast-growing fields like biotechnology and cybersecurity (AIB, 2025).

The fourth pillar, More Resources for Student Success, aims to cut harmful side effects by giving “Concentration of Poverty” grants. Those grants fund community schools and support services, including health care, food programs, and social work. In fiscal year 2025, schools where at least 55 percent of students live in poverty obtained about 369 million state dollars (Maryland Association of Boards of Education, n.d.). By tackling the social causes that shape health and learning, the state lowers its future costs for emergency health care, social safety nets, and the criminal justice system.

The fifth pillar, Governance and Accountability, creates the Accountability and Implementation Board (AIB). The AIB may withhold 25 percent of any funding increase if Local Education Agencies miss their implementation targets. This power mitigates the “implementation risk” that large government programs usually carry. In a dynamic model, the AIB's presence permits planners to use more optimistic take-up rates for projected benefits, because the board forces funding toward interventions that evidence supports (AIB, 2025).

The Blueprint's fiscal size is large - yearly public school spending is set to grow by about 3.8 billion dollars during the implementation window (DLS, 2025). For perspective, a one-billion-dollar shift in state spending equals the whole yearly maintenance budget of the Maryland State Highway Administration (DLS, 2024). Forecasts now show structural deficits in the outer years, partly because of those required funding increases. Static scoring treats the Blueprint solely as a fiscal burden. A dynamic analysis, however, would treat this spending as both a stimulus shock to the education labor market and as capital investment in the future workforce.

III. The Economic Case: Theoretical Underpinnings of Dynamic Scoring

Maryland must anchor its move to dynamic scoring in solid economic theory. The claim is that state spending on education is not solely consumption - it is investment that changes how the state economy produces goods and services. Research by Hanushek and Woessmann (2012) shows a robust correlation between a state's stock of “knowledge capital” (measured by cognitive skills) and its long-run growth rate. They estimate that a one-standard-deviation increase in test scores raises the average annual growth rate of GDP per capita by two percentage points. Endogenous-growth theory, therefore, holds that policy can raise the long-run growth rate, whereas the Solow model used in static scoring treats technical progress as exogenous. This is represented by the fundamental Solow equation:

$$Y(t) = K(t)^\alpha (A(t)L(t))^{1-\alpha}$$

Where:

- $Y(t)$ is total production (GDP)
- $K(t)$ is capital
- $L(t)$ is labor
- $A(t)$ is total factor productivity (technical progress), which is exogenous in this model.

By ignoring the feedback loop between better schooling and higher Gross State Product, the state understates its leading competitive edge

The “Heckman Equation” supplies the micro-level case for early childhood programs. It shows that the return on human capital spending depends on timing - money spent in the first years of life yields the highest payoff because early skills catalyze the acquisition of advanced skills (Heckman, 2012). One dollar spent on pre-K yields dynamic returns through two routes. Direct returns appear as lower remedial education expenditures and higher adult wages. Indirect returns appear as tax paid immediately by the parent who works while the child attends class. Static scoring records the cost of the pre-K seat (one dollar) but omits both the child's future added earnings (seven to thirteen dollars) and the immediate tax revenue from the working parent.

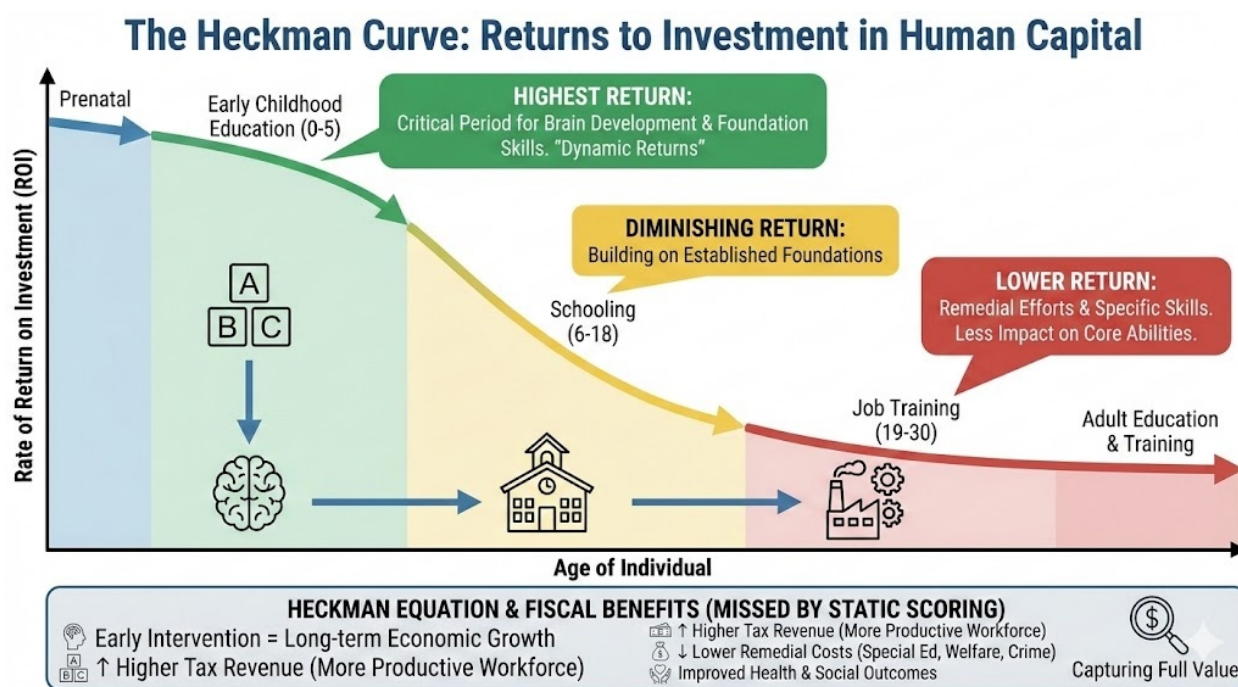


Figure 1: Illustration of the Heckman Curve Showing Returns on Investment in Human Capital

Federal experience supports the same logic. The Congressional Budget Office has applied dynamic scoring to major bills, including the 2017 Tax Cuts and Jobs Act. Its report showed that macroeconomic feedback offset roughly 20-30% of the projected increase in the deficit over 10 years (CBO, 2018). The most significant GDP gains appeared in years six through ten, after investment incentives had time to take effect. This result underscores the need to extend Maryland's scoring window beyond five years. A five-year horizon for the Blueprint records the salary increases but misses the growth that follows higher graduation rates, just as a five-year

horizon for the TCJA would have missed the growth driven by higher investment.

IV. Sector-Specific Analysis: Education as Economic Development

Maryland's economy gains a special advantage as its workforce becomes better educated, thanks to many industries centered on science, technology, engineering, and math. A model designed to project the future must include the additional economic activity generated by each sector - yet current models omit those sector-specific multipliers. One clear example is biotechnology: Maryland hosts a worldwide cluster of those firms, and every one of them depends on workers who already hold advanced skills. In Frederick County, Ellume, Kite Pharma, and Forecyte Bio have all expanded their local operations - their own statements show that the supply of trained labor, not demand for their products, now sets the constraint on how fast they can grow (Frederick County Office of Economic Development, 2021; Forecyte Bio, 2025).

The work of manufacturing cell therapies and viral vectors requires technicians who have moved past a high school diploma but do not always need a four-year degree. The Blueprint's Pillar 3 and its Career or Technical Education reforms specifically target this group. When more seniors leave high school with industry-recognized credentials and meet the "College and Career Ready" standard, the labor pool for those biotech positions expands. A dynamic model would treat each added cohort of STEM graduates as increasing the likelihood that a biotech firm will remain in Maryland and expand its facilities. The state then collects corporate income tax, property tax on new buildings, and payroll tax - revenue that static models never count. Beyond biotech, Maryland hosts more than 158,000 federal civilian jobs that paid \$26.9 billion in wages last year (Comptroller of Maryland, 2025). Those positions now require more advanced degrees than before. By strengthening university pipelines, the Blueprint helps Maryland residents qualify for stable, high-paying positions and protects the state's income tax revenue from competition with Virginia.

V. Cost Avoidance and Social Externalities: The Unaccounted Externalities

Dynamic scoring treats the entire budget as a single system. Static scoring compartmentalizes departmental budgets - extra appropriations for schools appear to have no link to lower costs for police or prisons. Lochner and Moretti show that each additional year of schooling clearly reduces the likelihood of arrest or imprisonment. Baron et al. (2022) and Lochner & Moretti (2004) report that students in better-funded schools are about 15 percent less likely to be arrested by age 30. Maryland pays a substantial fiscal cost to keep one person in prison - even a marginal reduction in crime yields tangible savings. A dynamic model, therefore, counts the fall in prison population as savings for the Department of Public Safety or Correctional Services and treats those savings as a partial payment for the rise in the Department of Education budget.

Education level also drives health costs. Maryland shares a Total Cost of Care agreement with

the federal government if total hospital expenditures escalate. People who finish high school rely less on public health programs and show lower rates of chronic illness. AIB (2025) estimates that equity-focused school reforms already save taxpayers about \$50 million per year in social costs. Because the TCOC model pools all hospital spending, it results in a healthier population and reduces state Medicaid expenditures. Dynamic scoring, therefore, records the Blueprint as a health program and assigns the avoided medical costs to the education budget.

VI. Fiscal Risks and the Transportation Context

Switching to dynamic scoring does not mean that fiscal risks are ignored - it simply allows for a more detailed evaluation of those risks. The Blueprint must compete for funding with other urgent state priorities, especially transportation. The Maryland Department of Transportation (MDOT) recently confronted a crisis that forced it to significantly reduce its six-year Consolidated Transportation Program (CTP) by roughly \$3.3 billion at one point (Maryland Department of Transportation, 2025). Those reductions adversely affected the State Highway Administration's capital budget and its maintenance work. Static scoring treats the education and transportation budgets as if they were separate account books - yet both carry linked structural shortfalls. Because the Blueprint draws heavily on general funds, the state has less capacity to subsidize or replenish the Transportation Trust Fund (TTF).

If transportation infrastructure decays because funds shift toward education, logistics costs rise, and the state becomes less appealing to firms, economic growth suffers. A sound dynamic model must include this crowding-out effect. Suppose the Blueprint yields a 6 percent return on investment but triggers a GDP decline through worsening infrastructure - the net gain must then be revised downward. In addition, although recent budget plans have been achieved through revenue adjustments, dynamic scoring must test how sensitive the Blueprint's revenue sources are to an economic downturn. If a recession stalls expected growth, the state risks a fiscal shortfall. Static models overlook this timing problem, whereas dynamic models replicate it through stress testing.

VII. Housing and Migration: The Critical Variable

An apparent gap in present budget planning is the link between education policy and the housing market. The Comptroller's 2025 "State of the Economy" report states that the state lacks 100,000 homes and that residents are increasingly relocating to lower-cost states (Comptroller of Maryland, 2025). Models that track change over time depend on assumptions regarding demographic shifts. One notable instance: Maryland spends billions to educate one student, and that student becomes a high earner but leaves for a state with lower housing costs. Maryland pays the full cost of the education - yet the future tax revenue from that graduate's earnings accrues to the new state.

Any sound time-based model for the Blueprint must add a single number called "migration elasticity." The number shows that, unless the state also reforms housing policy to raise supply and cut prices, the Blueprint's return will decline significantly because trained workers depart. Only a model that moves year by year reveals this point - it tells lawmakers that housing reform is a required partner to education reform.

VIII. A Pragmatic Path Forward: Recommendations for Implementation

Moving to dynamic scoring requires a careful, step-by-step plan that first builds both technical skills and political confidence to do so. It should not be used for every bill; it should be limited to those that could significantly change the economy.

Recommendation 1: Initiate a Pilot Phase (FY 2026-2027)

The OPA should establish a small pilot team to build a first version of a dynamic scoring model, using the Blueprint for Maryland's Future update as a trial. The team would write a "Shadow Note" for the next big Blueprint revision and release it alongside the standard static note - the purpose is to show how far the two sets of projections differ, while leaving the official budget numbers unchanged for now. The test of the model is whether it matches the actual revenue figures from the first years of implementation (DLS, 2025).

Recommendation 2: Codify the "Dual-Criteria Threshold" and Thresholds

To prevent the misuse of dynamic scoring for minor bills, which could lead to administrative inefficiency, the General Assembly should establish a clear statutory threshold. A bill should only trigger dynamic analysis if it meets the "Dual-Criteria Threshold":

1. **Yes**, the legislation can foster long-term economic growth through capital accumulation, expanded labor supply, or productivity gains.
2. **Yes**, the bill is projected to cause substantial alterations to state revenue streams or employment exceeding a set threshold, such as 0.25% of State GDP (approximately \$1.1 billion) (Congressional Research Service, 2023; DLS, 2025).

Recommendation 3: Establish a University Partnership Mechanism

The DLS lacks the in-house staff to run complex general equilibrium models for every major bill. The state should partner with the University of Maryland and the BEACON Institute at Salisbury University. BEACON has conducted numerous studies on how capital spent in one part of a region flows through the broader economy. One example is the 2025 report for the Maryland Economic Development Association, which shows that every dollar spent on economic development returns \$8.81. The team offers the same statistical tools to the DLS and submits every model to outside experts for review before use.

Recommendation 4: Adopt Interval-Based Reporting (Scenario Bands)

Dynamic scoring is inherently uncertain. Instead of providing a single false precision figure, DLS should report a range based on conservative, baseline, and optimistic scenarios. Using "scenario band charts" in the Fiscal Note would visually depict the widening cone of uncertainty over time, helping legislators understand the investment's risk profile.

Recommendation 5: Create a Bipartisan Oversight Board

To protect the DLS from accusations of politicizing the numbers, a bipartisan oversight board should be created. This board would review the assumptions of the dynamic model—such as labor supply elasticity and migration rates—rather than the specific results of individual bills. This ensures the methodological parameters are agreed upon before the legislative session begins.

IX. Conclusion

The *Blueprint for Maryland's Future* is more than a spending bill; it is a 15-year portfolio management strategy for the state's human capital. Evaluating it through the limited scope of a 5-year static score is akin to assessing a capital investment solely on the initial outlay, while disregarding the accrual of long-term assets. It creates a systemic inability to account for the assets being built. Static scoring is conventionally risk-averse, but it cannot handle the complexity of modern government. If Maryland adopts dynamic scoring through a careful, open, and test-based approach, its fiscal analysis will align with its legislative goals. Such a change will show that although the Blueprint demands large sums at the start, the returns - citizens who are safer, healthier, and more productive - create a realistic route to long-term fiscal balance. The cost of inaction—measured in lost productivity, stagnant wages, and higher social expenditures—is likely far higher than the static score suggests. It is time for Maryland's fiscal ledger to reflect the comprehensive fiscal outlook of its economy.

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