# Education Specifications

Reviewing existing educational specifications for school construction projects and determining whether the existing specifications are appropriate for the needs of 21st century schools

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| Prototype Design - **Create incentives for the use of Prototype Design** | Based on feedback from various counties, prototype designs have been effectively used in many districts. In Frederick County, prototypes have been used at the ES, MS and HS levels. Modification of prototype designs must be allowed at each iteration for site considerations and efficiencies. An efficient prototype design may reduce overall design costs and increase efficiency of plan preparations and reviews. Prototype designs also become familiar to the local contracting community (bidders), reducing potential risk on their part through the bid process and thus potentially reducing costs. State incentives to encourage use of prototype design could increase the Maryland’s ability to meet school construction needs. |
| Flexibility in Design – **Maintain local design flexibility** | Local school systems must be able to design their individual schools based on local educational specifications and the local academic or support programs needed to meet their individual student population. This is particularly true at the HS level where each district provides different options for students based on the needs and resources of each community. A rigid Statewide model floor plan, especially at the MS and HS levels, would not reflect local BOE policies, programs, or educational specifications. |
| Safety Needs – **Base the State’ contribution to school safety on a percentage of school safety costs, rather than a set amount per-square-foot** | The State should contribute a differentiated yet proportional share toward the design and construction of school safety measures. The needs for school safety programs and school safety design modifications are best addressed through local best practices, developed and shared by and with local safety experts. LEAs learn from the experiences of other jurisdictions and national literature about what safety needs are best suited for different locations. What is judged to be appropriate for one LEA may not be affordable/necessary across the State. Jurisdictions with more extensive safety needs should not be “penalized” by having to use a larger proportional share of their funding for school safety. For example, in Frederick County it is standard practice to have all doors locked with a vestibule separating the school’s entrance from the outside. This may not be standard practice in every school district, yet all LEAs receive the same cost per-square-foot in State funding. LEAs do their best to stay ahead of trends and anticipate safety needs, however the State funding allocation for construction does not keep pace with the demand for safety infrastructure, especially as technology has advanced in the industry. |
| Programmatic Needs – **Support continued MSDE research studies, and maintain local option of incorporating research findings** | The LEAs have benefitted from some of the research studies conducted by MSDE in the past for such topics as for elementary PE, health suites, media centers, etc. The outcome of this research has been incorporated into many school designs. However, the applicability of the MSDE research must be evaluated locally. Building design needs to remain an extension of local education policy, not State mandates. |
| Space Needs – **Update State funding formulas to reflect mandates that increase school size** | Funding formulas need to be updated to reflect the reality of increased school sizes, resulting primarily from State mandates. It is undeniable that schools have grown in size in response to educational program needs and State mandates, most critically at the ES level. For example, at the ES level, these State mandates include full-day K, expanded pre-school, increased PE space needs, increased health suite sizes, etc. Staffing has also increased to address a variety of challenges our students face and the need to provide academic support for varying student populations in the era of high stakes testing. When considered separately, one mandate may not dramatically impact the size of schools. However when considered together, the mandates required since the State funding formula was established in 2004 have resulted in a substantial increase in the overall size of schools. |
| Classrooms of the Future-  **Require MSDE to develop best practices for incorporating pedagogy into building design while maintain local control over building design** | Classroom instructional pedagogy has already changed in response to new online and other technological advances. MSDE could play a useful role for LEAs in developing best practices that incorporate the latest research for building design on this topic. Again, however, its application in design should be a local decision made by LEAs. |

# Construction Efficiencies

Identifying best practices from the construction industry to determine whether there are efficiencies that can be made in the construction of public schools and public charter schools

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| Cost Drivers – **Increase State capital improvement funding to account for the costs of State school construction laws and regulations** | In recent years, increased costs are primarily a consequence of State regulations that have added to the overall size of buildings and created a need for more complex designs. In addition, there has been increases in labor costs, increases in the cost of some building materials, and a reduction of qualified contractors following the recession of 2008-14. Some concrete examples of mandates that have resulted in higher costs include the High Performance Building standards and prevailing wage legislation. |
| New Technology Options – **Explore new building technologies and sunset LEED as its provisions are incorporated into code** | Building technology should be moving toward assembling more of the building and building systems off site to reduce time on the job site and save money. The State should identify and establish acceptable alternatives to LEED Silver that would accomplish the same goals but not require the certification. A sunset provision should be added, so that once high performance building standards are incorporated into the building codes, LEED Silver certification is no longer required. |
| Timing of Inclusion Parties- **Delegate State review to districts with robust internal review processes and continue State review support for smaller districts** | The DGS review can lengthen the amount of time for a project, which impacts cost. Some LEAs are large enough to have their own staff capable of conducting a thorough review or they have pre-qualified contractors. These LEAs should be afforded the opportunity to skip the DGS review if they go through some sort of certification by the State to complete the review. This would allow counties to use the DGS review when it is helpful to them, and other pre-qualified counties could skip the review and expedite their projects, saving time and money. |
| Construction Schedule –  **Require PSCP to research construction methodologies and offer incentives to LEAs experimenting with new methodologies** | The State PSCP could play a role in researching and testing construction methodologies to save the LEAs time and money, or the State could implement a pilot program and offer incentives to LEAs willing to research new methodologies. Construction schedules are problematic for LEAs since there is only one acceptable time a project must be completed – for the first day of school! Construction methodologies that reduce the time of delivery should be explored at the State level to determine their applicability for school construction projects. |
| Renovate Options – **Increase reliability of Aging Schools funding** | Renovations are often not an option since schools that are need of renovation are not up to modern code standards. The need to upgrade schools to meet current HVAC, plumbing and electrical codes usually eliminate the option of renovating schools when a replacement school is feasible. It is often cheaper to build a new school than to renovate an old school. In some cases, Aging Schools money makes renovation more feasible, but that money is not consistently available to LEAs. |
| Pre-fabrication Options – **Support pilot program for pre-fabrication options.** | Pre fabrication is one construction methodology that should be explored along with others. The State PSCP could provide a valuable service by aggressively exploring the pros and cons of this methodology and establish a pilot program, perhaps partnering with an LEA, to determine if cost savings can be realized. |
| Information Submission/Process/Certify –**Evaluate the State’s role and eliminate unneeded steps** | The State’s responsibilities in reviewing and approving project plans and other documents should be comprehensively evaluated. Many construction-related documents, such as contracts and change orders, should either be eliminated or delegated to the LEAs in order to reduce processing time. |
| Procurement Practices –**Maintain flexible procurement options for LEAs** | Procurement practices need to be flexible in order to give the LEAs as many options as possible. No one option fits every project procurement need. Frederick County Public Schools use CMA, GC, Job Order Contracting (JOC) and others to meet contract needs. The current regulations now in place provide options that should not be limited. |

**\*\*\* Additional Recommendation –** Provide incentives to local school systems to complete a value-engineering analysis for new school construction projects. Any savings derived through value-engineering after the State has approved the project but before the project bids are accepted, would be retained by the LEA or the County and applied to a future project.

# Enrollment

Identifying a long-term plan for jurisdictions with growing enrollment, as well as maintaining facilities in jurisdictions with flat and declining enrollment

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| Growing Enrollment – **Continue comprehensive Statewide planning for enrollment increases based on local Educational Facilities Master Plans** | Each LEA is required to produce an Educational Facilities Master Plan. This Plan lays out the line-up of major projects that will be needed over the next 10 years. The need for additional space is guided to a large extent by enrollment projections developed by the LEA and the State Department of Planning and incorporated in this Plan. These Plans, along with each LEAs State CIP submission, should provide guidance to the State regarding how much funding is needed for new seats and renovations. |
| Declining Enrollment – **Create incentives for consolidation of schools.** | LEAs with declining enrollments should be encouraged to consolidate whenever possible to reduce the number of schools operating with very low enrollments. |

# Innovative Financing

Identifying areas where innovative financing mechanisms including public-private partnerships, as well as alternatives to traditional general obligation debt can be used for construction and ongoing maintenance

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| Debt and Bonding Authority –**Explore options for increased local bonding capacity and create a revolving loan fund to assist smaller counties with bonding school construction and renovation projects** | Large counties with AAA bond ratings may borrow funds for capital projects at very low rates. Every county has bond limits that are evaluated annually. Increasing school construction costs reduce the number of projects that can be initiated while keeping within local bond limits. The need of larger counties to forward fund projects to start them on time puts additional stress on available local bonding capacity. Bonding can be a considerable challenge for smaller LEAs. These LEAs may benefit from a Statewide revolving loan fund, similar to what exists in the State for environmental projects. This fund would help smaller jurisdictions secure funding for school construction, or school consolidation projects in areas with decreasing enrollments. |
| Leverage of State Funds – **Expand the definition of eligible costs to reflect 21st Century education program needs** | Maximum square footage allocations for new school construction projects need to be increased to reflect larger school sizes and higher costs. As school size has increased and regulations have become more complicated, the actual State share of school construction projects has decreased. For example, by formula Frederick County qualifies for about 60% of the construction cost of a school project, but the actual share is considerably less after subtracting non-eligible components. Formulas that govern allocation of funding have not been changed in many years or updated to reflect a 21st Century educational program. |
| Public-private Partnership – **Maintain and expand options to explore creative financing at the local level** | This is a broad category that has not been well-defined. In general, the possibility of public-private partnerships reducing school construction costs is dependent on a very unique set of circumstances that are not present in most school construction projects. This is particularly true when financing costs are factored into the project costs. In most cases, public financing will cost less than private financing. Nevertheless, the LEAs should remain open to the potential for a public private partnership if the right unique factors are present. |
| Financial Incentives for LEAs – **Establish financial incentives for LEAs to experiment with non-traditional approaches to school construction** | At the present time the PSCP has one standard program for funding school construction projects. In general, this has resulted in a standardization of most designs across the State as well as utilization of standard construction methodologies. If the State is interested in considering non-traditional approaches to school construction, then the State should consider providing a financial incentive to the LEAs to experiment & try new options. Nontraditional construction methodologies, such as pre-engineered buildings, require a partnership and shared risk between the LEA and State. A LEA willing to explore new options or methodologies will provide useful data and information for other LEAs, potentially reducing costs for the State and every LEA in the future. A financial incentive program would encourage LEAs to undertake this research without assuming all of the risk alone. |

# Cost-saving Measures

Determining areas for efficiencies and cost-saving measures for construction and maintenance

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| Legislation/Mandates – **Evaluate legislative and regulatory requirements for cost-effectiveness** | The State should evaluate options for revising regulatory requirements to reduce costs. For example, LEAs should be provided options for compliance with LEED Silver Certification incorporated in the State’s High Performance Building Act. Other regulations that should be examined are Prevailing Wage penalties and paperwork that reduce the number of bidders or any other regulations that require unnecessary State review of project plans. |
| Maintenance – **Reduce frequency of reviews for LEAs that consistently receive high maintenance review scores. Provide predictable maintenance funding** | Maintenance of buildings post construction is a high priority for both the State and LEAs. LEAs that score consistently high on annual maintenance inspections should be scheduled for less frequent reviews to allow State inspectors to focus on LEAs with more problematic scores. In addition, LEAs with consistently good maintenance scores should be provided a higher State percentage of construction funding, recognizing the investment and commitment made at the local level. All LEAs should have a predictable and accountable State-level commitment for school facility maintenance funding. |
| Construction Materials – **Preserve local flexibility in choice of construction materials** | Construction materials are a function of the design process. The materials used for construction is a local decision, based on local preferences and availability. Construction methodologies may sometimes drive decisions about materials. This is discussed below. |
| Construction Methods – **Support pilot programs and financial incentives for exploration of new construction methods** | Most schools designed and built in Maryland use traditional methodologies that include steel frames, brick veneer exterior walls, built up roofs and mechanical systems that are assembled on site by a large workforce of skilled tradesman. Other approaches, such as pre-engineered buildings or tilt up construction, represent opportunities that may reduce costs. These need to be explored at the State level. Partnerships between the State and LEA could be developed through a State pilot program developed for this purpose. A financial incentive for participation in such a program would help. |
| Competitive Bid vs. Low Bid – **Maintain current school construction procurement options** | All LEAs should seek the lowest bid possible from responsible bidders. Responsible bidders are those who are qualified to perform the work and have the financial capability to meet the project requirements. Current procurement options provide adequate flexibility to address these issues. |

Role for State Agencies

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| Evaluate the Appropriate Role for Each Listed | Approval Process | Level of Involvement | Funding Process | Planning Process |
| Maryland Department of Planning | **Advise IAC and PSCP Staff** | **Evaluate project eligibility (Planning Approval). Review local EFMPs** | **Advise PSCP staff.** | **Advise LEAs regarding site selection and project planning approvals.** |
| Department of General Services | **Advise to IAC and PSCP Staff** | **None.** | **Advise PSCP Staff.** | **Review projects as requested by LEAs. Delegate review authority to LEAs where possible.** |
| Maryland State Department of Education | **Advise to IAC and PSCP Staff.** | **Evaluate feasibility studies, Ed Specs and Design Schematics.** | **None.** | **Advise LEAs regarding feasibility studies, Ed Specs and design schematics.** |
| Board of Public Works | **Approve Annual State Budget Allocation.** | **None.** | **Approve Final Capital Funding for each project.** | **None.** |
| Interagency Committee for Public School Construction | **Approve final project plans for which State funds have been requested.** | **Review and approve projects as submitted by LEAs and reviewed by PSCP staff.** | **Recommend funding to the BPW.** | **Conduct final review. Approve sites and new construction project plans.** |
| The Appropriate Statutory Structure for the Interagency Committee for Public School Construction | **While the IAC process has generally accomplished its mission over the years, it is difficult to pinpoint an ideal structure for the body. The Commission’s review of comparable structures was broad-based and did not provide enough information to determine alternative options.** | | | |

# Intergovernmental Relationship

Reviewing the relationship between State agencies and local governments on school construction projects

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| LEA Autonomy – **Limit the State’s responsibility during the design process, while maintaining the State’s compliance role** | LEAs should have final authority to prepare educational specifications, design schools, and oversee school construction. The State’s role should be focused evaluating funding eligibility, and compliance of the project with the scope of work approved at the time of State funding approval. During the preparation of the educational specifications and the design phase, the State can play an advisory role. |
| Funding Distribution/Concerns –**Focus on consistent, reliable funding for the Capital Improvement Program** | From year-to-year, State Capital Improvement Program funding for school construction seems to be roughly distributed based on the LEA’s percent of State student population. In some years, however, a few LEAs have been provided with special additional allocations through other specific funding programs. Other LEAs have not benefitted by such allocations. |
| State/Local Cost Share – **Update formulas to include more costs as eligible for state funding** | The State should include a larger percentage of school construction costs in its cost-share formula, increasing the types of costs considered eligible. The State’s share of a project cost has been repeatedly reduced over the years, even as construction costs have increased. At the same time, the State’s design and procurement regulations have become more complicated. |
| Eligible Costs – **Adjust the State’s square foot allocations to reflect current school sizes.** | Reduced State participation is directly related to eliminating eligible project costs, such as A&E fees, local permit and plan review fees and furniture and equipment. A more productive use of time would be to re-examine the formulas used to determine maximum square foot allocations for new school construction and renovations. These have not been adjusted in many years and need to be adjusted to reflect current school sizes. |
| Timeline Timing with LEA Budget Process – **Exempt LEAs from compliance with laws and regulations that take effect in the midst of the construction process** | A major concern is the impact of new state mandates adopted at a time when a project is out to bid or scheduled to bid in the current year. Special consideration needs to be given to preventing new regulations from taking effect while a new project is in the final phases of design and bidding. A grandfathering provision needs to be included, exempting LEAs from meeting new regulations/legislation for a fixed period of time. The Frederick County School Construction Task Force recommended a 3-year waiting period, since high school projects have a lengthy design and construction. Three years should provide enough time to adjust to new regulations without adversely impacting project cost. |
| Length of Timeline for Each Step – **Eliminate costly delays caused by duplicative processes** | In general, time is money regarding school construction. Anything that adds to the timeline to complete a project will cause costs to rise. The best strategy is to eliminate delays, minimize duplicative design and plan reviews, minimize change orders, etc. |

# Review of Kopp Commission

Reviewing the Kopp Commission findings and progress toward implementation

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| Complete Another Kopp Survey - **Completing an entire new survey should only be considered if another less complicated and less time consuming approach cannot be used** | The Statewide school construction budget figures should be updated based on inflation and legislative changes since 2004, so that a reasonable Statewide budget for school construction can be established based on the realities of 2016. Then the budget should be expanded over time to carry us into the future. The Kopp Commission Survey required an enormous amount of effort and energy at the local and State level. Completing an entire new survey should only be considered if another less complicated and less time consuming approach cannot be used. The goals outlined in the Kopp Report should be evaluated for progress. |
| Comprehensively Assess Each Building – **An assessment of this size would be an unnecessary expense** | This would be an overwhelming process that would require unnecessary expense and effort if the overall purpose is to establish a target goal for a Statewide budget allocations. |