

Themes	Recommendations
Capital Planning and Implementation Subcommittee	
1 Capital projects are viewed as the preferred solution.	We recommend that the City and Schools jointly develop and implement a Capability Delivery Model to assist City Council and the School Board to determine how best to deliver services to the residents of Alexandria.
2 The CIP process provides a limited view of holistic capital needs.	We recommend that the City and Schools develop a joint facilities master plan.
3 The CIP process lacks joint collaboration and vision.	We recommend that a Joint Capital Management Council be formed to oversee the operation of the Capability Delivery Model.
4 Adequate structured deliberation and decision-making is needed in advance of the CIP process.	(a) We recommend that the City and Schools consider revising the budget calendar to decouple the annual operating budgeting and annual capital budgeting cycles. (b) We recommend that City Council consider changing the way it authorizes and appropriates the CIP.
5 “ ”	
6 Project management processes are not standardized across City and Schools, impacting the quality of project delivery and expectation management of stakeholders.	We recommend that the City and ACPS employ “best in class” project, program, and portfolio management practices.
Alternative Delivery Methods Subcommittee	
7 ‘Silos’ exist and are significant within our city.	We recommend that any future facility planning efforts should align with a larger, more cohesive vision for Alexandria. Alexandria – meaning both City and Schools - must define its ‘targeted new reality,’ a defined vision for the future which celebrates Alexandria’s history and its unique ‘DNA.’
8 Traditional practices and a ‘business as usual’ culture have stifled innovative decision-making, resulted in low-impact solutions, and exacerbated deferred maintenance challenges.	We recommend that leadership proactively challenge traditional methods and practices for capital project and service delivery.
9 Engagement with the public is not a substitute for strong leadership by elected representatives.	We recommend that leadership reconsider current civic engagement policies and practices and resist the substitution of engagement alone for leadership.
Maintenance and Operations Subcommittee	
10 There is a disparity in the level of existing capital asset data between entities and the systems used to maintain the data over time.	We recommend City and Schools identify a common set of objectives and requirements for asset data for use in facilities planning, maintenance, and operations.
11 Existing systems are limited and lack integration and access to enhanced capabilities.	We recommend City and Schools identify and implement ways to integrate and enhance existing systems and establish common performance requirements across the entities.
12 Existing staffing levels and other resources are strained and rely on vendors to inform and complete the majority of preventive maintenance work.	We recommend City and Schools identify optimal staffing and resource levels and structure for maintenance and operation needs with strategies for how best to provide.
13 There is inconsistency in the level of standards and specifications that inform project design and construction and this in turn impacts maintenance and operations.	We recommend City and Schools develop, implement, and regularly update design guidelines and specifications and standard operating procedures that meet lifecycle goals and objectives.
14 Procurement manages a broad and diverse workload and therefore there are challenges in focusing time and efforts on maintenance and operations and capital project actions.	We recommend City and Schools identify and implement ways to increase procurement resources and efficiencies, including shared service agreement opportunities and new approaches for executing and coordinating procurements.

Ad Hoc Joint City-Schools Facility Investment Task Force

EXECUTIVE SUMMARY OF RECOMMENDATIONS

Following our work over the past seven months, the Task Force has observed the realities that we face as a city: we are a community of growing needs operating in aging and overprescribed facilities; we are one community despite organizational structures, neighborhoods, or interests; and we need to collectively look to new ways of doing business and collaborating.

The City of Alexandria and Alexandria City Public Schools (collectively “the city”, “Alexandria”) is a growing community with increasing demands for additional capacity and services. There is a significant pipeline of projected capital needs with limited funding and scarce land options available. Further, the city has a large portfolio of existing facilities it must maintain, with increasing deferred maintenance. To address all of these needs, the city must challenge existing planning norms and rethink project delivery strategies to ensure that Alexandria successfully serves its residents now and in the future. We must be smart about accommodating growth while delivering key services amid public resource constraints.

For these reasons, the Task Force recommends a comprehensive culture shift implemented through a series of structural and behavioral changes. This shift is required across all entities: elected bodies, leadership, staff, and community members. In order to keep pace with our growing needs, Alexandria must urgently adapt. Doing nothing is not an option.

The following are key principles to enacting change and vital to understanding the recommendations that follow.

- Any future facility planning efforts should align with a larger, more cohesive vision for Alexandria. Alexandria – meaning both City and Schools - must define its ‘targeted new reality,’ a defined vision for the future which celebrates Alexandria’s history and its unique ‘DNA.’
- Leadership must proactively challenge traditional methods and practices for capital project and service delivery and seek opportunities for joint planning.
- Leadership must reconsider current citizen engagement policies and resist the substitution of leadership with engagement.
- Resources for maintenance and operations need to be fully understood and rightsized to the extent possible as underinvesting is irresponsible and defers costs to more expensive capital projects.
- Groundwork and regular improvements must occur to ensure Alexandria is a strong asset manager and owner as well as an attractive business partner and employer so that both operating and capital projects can be successfully implemented.

The following recommendations are presented by the Joint Task Force:

Capital Planning & Implementation Subcommittee

1. **We recommend** that the City and Schools jointly develop and implement a Capability Delivery Model to assist City Council and the School Board to determine how best to deliver services to the residents of Alexandria.
2. **We recommend** that the City and Schools develop a joint facilities master plan.
3. **We recommend** that a Joint Capital Management Council be formed to oversee the operation of the Capability Delivery Model.
- 4.a **We recommend** that the City and Schools consider revising the budget calendar to decouple the annual operating budgeting and annual capital budgeting cycles.
- 4.b **We recommend** that City Council consider changing the way it authorizes and appropriates the CIP.
5. **We recommend** that the City and ACPS employ “best in class” project, program, and portfolio management practices.

Alternative Delivery Methods Subcommittee

6. **We recommend** that any future facility planning efforts should align with a larger, more cohesive vision for Alexandria. Alexandria – meaning both City and Schools - must define its ‘targeted new reality,’ a defined vision for the future which celebrates Alexandria’s history and its unique ‘DNA.’
7. **We recommend** that leadership proactively challenge traditional methods and practices for capital project and service delivery.
8. **We recommend** that leadership reconsider current civic engagement policies and practices and resist the substitution of engagement alone for leadership.

Maintenance and Operations Subcommittee

9. **We recommend** City and Schools identify a common set of objectives and requirements for asset data for use in facilities planning, maintenance, and operations.
10. **We recommend** City and Schools identify and implement ways to integrate and enhance existing systems and establish common performance requirements across the entities.
11. **We recommend** City and Schools identify optimal staffing and resource levels and structure for maintenance and operation needs with strategies for how best to provide.
12. **We recommend** City and Schools develop, implement, and regularly update design guidelines and specifications and standard operating procedures that meet lifecycle goals and objectives.
13. **We recommend** City and Schools identify and implement ways to increase procurement resources and efficiencies, including shared service agreement opportunities and new approaches for executing and coordinating procurements.

CHAPTER 1:

CAPITAL PLANNING & IMPLEMENTATION

BACKGROUND

The Task Force’s Capital Planning and Implementation Subcommittee (“CPI Subcommittee”) was charged with development of recommendations for alternative project delivery methods and project management structures; and reviewing and recommending changes in the governance of capital planning and project delivery.

Subcommittee members included Elliott Branch, Chair, Marshall Cook, Member, and Eric Wagner, Member. The Subcommittee began meeting in August 2017 and met a total of six (6) times (a meeting list is provided in the exhibits). The meetings were held in parallel with plenary Task Force meetings. While the plenary task force meetings were primarily concerned with the development of the Joint City-Schools Capital Improvement Plan (“FCIP”), the work done by the Task Force as a whole provided the Subcommittee with an experiential opportunity from which many of the findings and recommendations discussed below resulted.

The iterative review of findings and discussion of key themes resulted in a set of broad and actionable recommendations that are provided herein.

The balance of this chapter is organized as follows:

- 1) Current State
- 2) Themes and Major Discussion Points
- 3) Actionable Recommendations

CURRENT STATE

The adoption of the CIP by the City Council is an indication of its support of both the capital projects that the City intends to pursue, and a plan for the anticipated levels of financing needed to fund these capital projects over the 10- year period.

The adoption of the 10- year CIP is neither a firm commitment to a particular project nor a limitation to a particular cost. As a basic tool for prioritizing and scheduling anticipated capital projects and capital financing, the CIP is a key element in planning and managing future debt service requirements. Only the first year of the CIP (FY 2018) represents a funding commitment for the project to proceed to the next stage, or to be implemented depending on the level of funding provided.

Currently a new 10-year CIP is developed each year through a process that brings both City and School capital projects to the table for funding decisions. Below describes the process currently used by each entity.

City

The Department of General Services (“DGS”) manages the planning, design, and construction of all city facilities. DGS develops the CIP budgets and project descriptions for inclusion and discussion in the CIP process outlined below:

Summer

- CIP Budget Kick-Off: Department heads develop and submit initial project requests
- Full project submissions are then developed and submitted by departments

Fall

- Office of Management and Budget (“OMB”) reviews project submissions
- Peer Technical Review Committee¹ and CIP Steering Committee² begin meeting to craft a balanced CIP recommendation for the City Manager and to outline major policy issues facing the CIP

Winter

- CIP Steering Committee develops and presents recommendation to City Manager

¹ The Peer Technical Review Committee consists of subject matter experts from the more capital project intensive departments in the City, and is chaired by the Director of the Department of Project Implementation. The committee discussed submitted projects, including cost estimates, implementation scheduling, and cross departmental coordination. The members of the Peer Technical Review Committee reported back insights and recommendations to the CIP Steering Committee.

² The CIP Steering Committee is the second body, and recommends the project composition and funding levels of the Proposed CIP to the City Manager. This committee consists of members of the City Manager’s Office and the department heads of the most capital project intensive departments in the City. For the FY 2018 – 2027 CIP Development process, the committee included department heads from the Department of General Services; Recreation, Parks & Cultural Activities; the Department of Transportation & Environmental Services; the Department of Information Technology Services; and the Office of Planning & Zoning.

- City Manager finalizes decisions on proposed CIP and presents CIP to City Council

Spring

- City Council and City staff hold budget work sessions
- BFAAC³ and the Planning Commission provide recommendations and guidance
- City Council conducts add/delete process and adopts operating budget simultaneously

Quarterly

City staff compile a Capital Projects Status Report each quarter to provide an update to City Council on active CIP projects

Staff – anything else you want to highlight about process and implementation for context setting?

ACPS

ACPS manages the planning, design, and construction of all school facilities. ACPS develops the CIP budgets and project descriptions for inclusion and discussion in the CIP process outlined below:

Summer

- CIP Budget Kick-Off: Facilities staff begins initial project list using assessments and knowledge of facility needs and consideration for the previously approved 10-year CIP
- Projects are reviewed by additional staff and the Superintendent
- School Board holds a Public Hearing on the CIP
- School Board holds a series of work sessions and passes Budget Process Resolution, Budget Rules of Engagement, and School Board CIP Budget Priorities

Fall

- Superintendent's proposed CIP is finalized and presented to the School Board. Staff holds a Public Forum to receive additional community input
- School Board has a series of work sessions to discuss the CIP

³ The Budget and Fiscal Affairs Advisory Committee (BFAAC) advises and supports the City Council by examining the City's budget procedures and processes; and recommends ways of improving that process, including participation by the public. The Committee typically meets on the third Tuesday of the month at 7 p.m. You can find the Committee's recent reports, resources provided to the committee by staff, as well as meeting agendas, schedules and minutes at the link below.

Winter

- School Board conducts add/delete process, holds a public hearing on the CIP, and adopts a final 10-year CIP
- City Manager finalizes decisions on proposed CIP and presents CIP to City Council

Spring

- City Council and City staff hold budget work sessions
- City Council conducts add/delete process – adopts CIP budget, School Board goes through a series of add/deletes to accommodate the City Manager’s approved budget. (Note: City Council approves a 10-year CIP and appropriates for the first year of the 10-year CIP.)
- The School Board ultimately decides which projects to fund with appropriated funds each year and may adopt a final 10-year CIP that does not align with the approved budget in the second to tenth year of the City Council approved CIP)

Quarterly

ACPS staff compile a Quarterly CIP Report to provide an update to School Board on active CIP projects.

As Needed

For the most significant construction projects, ACPS staff will often provide either standing or as requested updates at School Board meetings.

Staff – anything else you want to highlight about process and implementation for context setting?

CAPITAL PLANNING & IMPLEMENTATION SUBCOMMITTEE THEMES AND MAJOR DISCUSSION POINTS

The Capital Planning & Implementation Subcommittee deliberated and challenged existing practices for capital improvement planning and delivery. The following details themes and major discussion points and provides a platform from which recommendations were formed.

Theme 1: Capital projects are viewed as the preferred solution.

Capital projects are not ends in themselves; they are part of the means that provide a capability through which the City and Schools deliver resident services or conduct the general function of government. A capability is the set of operational concepts, organizational structure, personnel, training, processes, and facilities required to deliver resident services or conduct the operations of general government.

For example, with respect to parking control and enforcement, the ability to regulate the amount of time a given vehicle can park at a given location in the city is a capability. Parking ordinances, parking meters, signage, and parking enforcement personnel are a means to deliver that capability.

The existing planning process for capital projects does not align itself with this thinking and the subcommittee feels that the City and ACPS must reorient the capital budgeting and planning process from projects to capabilities.

A shift from looking at the capital budgeting process as a means of providing capabilities rather than as an end in themselves opens the possibility of innovative service delivery models such as outsourcing, privatization, private-public partnerships, and joint ventures between the City and ACPS.

Theme 2: The CIP process provides a limited view of holistic capital needs.

During development of the FCIP, the Task Force was limited to considering a specific subset of projects as well as a limited set of funding, including the funding Council plans to add as resources to the existing FCIP. The Task Force questioned if this facilities list truly encompasses the full universe of facility needs. Additionally, the Task Force expressed concern that framing the prioritization exercise for only facilities was extremely limiting and that all capital projects should be part of the prioritization conversation. This lack of “wholeness” presents issues to prioritization and making funding decisions.

The Task Force concluded that all of the projects it reviewed represented valid requirements for capabilities, which are needed for the operation of general government or to provide services to community members. The Task Force declined to recommend funding for some projects due to funding constraints given for the exercise, but the list of unfunded projects should not be considered as not being needed in some manner. The Task Force could not conclude whether these

unfunded projects were more or less worthy than projects in the FCIP not considered by the Task Force.

The Task Force concludes that Council, assisted by the City Manager, and the School Board will have to continue to set priorities on an ad hoc basis until the City and ACPS develop a joint prioritization and governance process that results in a unified, balanced proposed FCIP that represents the combined needs of the City and the Schools. The process must begin when both political bodies identify the need to deliver capabilities and provide services until those capabilities are delivered through a capital project or other means.

For context, the following represent the unfunded list from the FCIP:

- Gadsby’s Tavern
- Fire Station 207
- Chinquapin Aquatics Center (50-meter pool)
- Indoor Firing Range
- New Pre-K Center
- New Elementary School
- The Task Force also recommended a reduced level of funding for the Health Department CFMP.

Theme 3: The CIP process lacks joint collaboration and vision.

During conversations with City and School staff to better understand the existing state of budget planning, it became clear that the existing CIP process brings together two entirely independent capital budgets to compete for limited funding. Council does not have the ability to consider a truly integrated set of priorities and common vision for future capital spending across all capital needs.

The Subcommittee believes this lack of “jointness” leads to a suboptimal allocation of capital resources on behalf of the residents of Alexandria. Projects are often developed in silos and come to the CIP negotiating table without much room for collaboration on alternative solutions for providing the project while meeting the timeline of the current CIP process. The timing of the CIP process also limits this cross collaboration. In effect, it becomes a zero-sum game with winners and losers.

Theme 4: Adequate structured deliberation and decision-making is needed in advance of the CIP process.

The Subcommittee concluded that while the City and ACPS have relatively well-defined processes for developing their capital budget, most of the discussions of needed capabilities and project strategies is relatively unstructured and ad hoc. Those discussions need the time, space, and structure to occur.

The quantity of projects and complexity of needs has grown over time, making those discussions even more critical. The CIP process itself has a limited window of time to include an in-depth discussion of capabilities and broader needs, let alone an in-depth discussion of 10 years of capital projects and their underlying assumptions.

Project plans are developed based on a set of assumptions. Only once some level of seed money has been allocated can a project be studied and explored in more detail and assumptions tested. Thus there are highly speculative projects reflected within the later years of the CIP. To the outside observer, the numbers may be taken as reliable cost estimates and can lead to incorrect expectations despite qualifying statements within the body the CIP document.

Theme 5: Project management processes are not standardized across City and Schools, impacting the quality of project delivery and expectation management of stakeholders.

The Subcommittee observed that capital projects have grown in complexity and scope in recent years and concluded that the process and quality of project delivery does not currently align across the City and ACPS. As a relatively small city, Alexandria could benefit from standardizing project management processes and introducing economies into the execution of projects. In addition, standardization would allow for stakeholders to better engage within the process.

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ACTIONABLE CAPITAL PLANNING & IMPLEMENTATION RECOMMENDATIONS

Our Subcommittee process resulted in the following five (5) actionable recommendations. We envision that these recommendations will help alleviate the concerns in lack of ‘jointness’ and ‘wholeness’ – looking to infuse new structures and processes that will in turn impact behaviors and culture associated with planning and implementing projects.

Recommendation 1: Develop and implement a Capability Delivery Model.

The City and ACPS should jointly develop and implement a Capability Delivery Model to assist City Council and the School Board with determining how best to deliver services to the residents of Alexandria. If the City and Schools determine a capital project is required, the Model should be used to determine the project strategy, oversee project planning, and monitor and control project execution.

A Capability Delivery Model is a framework that assists decision-makers with deciding how best to deliver a capability that supports service delivery to a consumer or user. The framework consists of five (5) stages in which information is gathered that will assist leaders in deciding on the next course of action. The five stages are:

- Capability Need Validation
- Demand Management
- Project Strategy
- Project Planning
- Project Execution

‘*Capability Need Validation*’ helps decision-makers answer the question, “In order to sustain general government and deliver resident services, what capabilities must I have?” For example, do I need to plan for snow removal? The answer will be very different for a community in Florida versus one in Maine. Capability Need Validation drives decision-makers to state explicitly what they need to provide to make government work.

‘*Demand Management*’ answers the question, “How do I define and express the solution that will provide a capability.” For example, Uber, the ridesharing service, Dash, and Red Top cab all provide the same capability, but they do it in different ways. Demand management drives the decision-maker to conduct an analysis of alternative means to meet the need. The link of the capability to the organization’s strategic plan is a powerful consideration during this stage because it is where constraints and necessary conditions arise. This stage is usually the beginning of stakeholder engagement. Funding for feasibility studies and further solution definition is usually required.

During the ‘*Project Strategy*’ stage, the “who, what when, where, and how” of the project are being defined. Questions include whether the project is a traditional capital project, an intergovernmental collaboration, or a private public venture; where is the project sited; when will

the project be undertaken; and who will operate it. This stage involves heavy stakeholder engagement. It is at this stage that the first significant amount of funding in the CIP is authorized.

During the ‘*Project Planning*’ stage, outputs of the Project Strategy stage are integrated into a comprehensive project plan. The project gains increased definition in terms of cost, schedule, scope and quality. The Project Planning stage typically ends with a contract award.

The final stage is ‘Project Execution.’ The project work scope is monitored and controlled and collateral work such as enabling projects are undertaken to deploy the desired capability

Capital projects fall roughly into three categories:

- Life extension of existing assets
- Modernization of existing assets
- New construction

Because of the varying scope and complexity of these three categories, not all projects must start at Capability Needs Validation. The appropriate stage of entry is project dependent. For example:

- Replacing a roof on an asset is considered a life extension of an existing asset and would likely begin at the Project Strategy stage of the Model. The scale of the investment may not be large enough to warrant a pause to examine if the capabilities being provided within the building are being done optimally. Therefore, we would begin the project by defining how best to replace the roof: who should be involved, what should the scope entail and strive to achieve, when should this work occur, etc.
- Renovating or replacing an existing asset is a large investment and does warrant a pause to better understand the capabilities being provided. These projects would start with Capability Need Validation and *Demand Management* to validate that the continued investment in that asset and its life extension is a valid pursuit. Alternatives for providing and/or housing those services would be explored before it is assumed that the asset is in fact needed in some new physical state.
- A new construction project typical begins at the first stage, Capability Needs Validation, as the means to deliver a capability would be studied for any new or expanded capability.

Development and deployment of a Capability Delivery Model that is consistent with the scope and complexity of the city’s capability needs will provide information at each stage of the model to help decision-makers determine whether a project is required, what the nature of that project should be, and the project’s timing and location. Further, the rigor imposed by the Model should ensure that those projects which proceed through all the stages will be executed with a high degree of confidence that the project will be delivered at cost, on schedule, with the required scope.

The establishment and use of such a process would allow the City and Schools to select the right projects, undertake them at the right time and deliver them at the right cost. This would allow the larger government deliver value to all the residents of Alexandria.

Recommendation 2: Develop a joint facilities master plan.

City and Schools should develop a joint facilities master plan that:

- Determines a facilities baseline for the City and ACPS;
- Reviews existing assumptions about the need for capital projects to support service delivery now and in the future;
- Develops a strategic vision for facilities development for the City and Schools; and
- Synthesizes the facilities baseline, assumptions, and the strategic vision into a roadmap that addresses the City and Schools’ highest needs and biggest risks first, optimizes the use of swing space, and formulates a smart strategy for land acquisition and use.

A joint facilities master plan would identify opportunities for collaborative projects between the City and ACPS. It would allow both entities the ability to engage in smart project design and project planning. It would permit both entities to take advantage of opportunities to bundle projects for efficiency in execution, which was the rationale for the Task Force recommendation for the Witter / Wheeler campus.

A joint facilities master plan would provide ongoing context and guidance to the CIP. Typically a master plan’s duration is longer (e.g. 20 to 30 years) than a funding plan to allow for the full universe of needs to be identified and addressed. It would allow for a better understanding of opportunity costs of prioritizing and sequencing projects ahead of others when balancing for known funding levels.

Finally, and perhaps most importantly, it would allow both the City and ACPS to maximize the use of one of Alexandria’s scarcest resources: real estate.

Recommendation 3: Create a Joint Capital Management Council (“JCMC”)

City and Schools should create a Joint Capital Management Council (“JCMC”) to oversee the operation of the Capability Delivery Model by:

- Elevating the membership of the City’s Capital Improvement Program Steering Committee to the Deputy Manager/City Manager level.
- Expanding its membership to include equivalent levels of ACPS leadership.
- Giving the JCMC the authority to determine what projects are recommended to the City Council and School Board for inclusion in the CIP.

The Capability Delivery Model is most effective when the decision-makers are credible and empowered to make decisions. The JCMC would work on a consensus basis under the overall leadership of the City Manager and the ACPS Superintendent. It is assumed that the JCMS would be co-chaired and meet on a regular basis.

The JCMC would be responsible for determining which projects should not be pursued based on the information available at each stage of the Capability Delivery Model, which projects need further development before proceeding, and which projects should proceed to the next stage. Their

work would constitute a recommendation to City and ACPS on which projects held the most promise in providing capabilities for delivery services to the residents of Alexandria and which projects have a high probability of delivering at cost, on schedule, and with the planned scope.

Recommendation 4(a): The City and Schools should consider revising the budget calendar to decouple the annual operating budgeting and annual capital budgeting cycles

Governments by their nature work three budgets simultaneously – the current budget, next year’s budget, and the budget after next. When the budget is split into an operating and a capital budget, six separate budgets are in various stages of execution, consideration, and development. This level of budget activity places a strain on staff resources, who must support all six. It also forces City Council and the School Board to consider matters of great consequence within a highly compressed timeframe.

Given the growing complexity of the CIP, the Task Force recommends that consideration of the CIP be decoupled from the annual operating budget. Given the long-term nature of the CIP and the recommendations to institute a Capability Delivery Model and a governance structure, the CIP could be effectively decoupled from the operating budget, giving Council and School Board more time to deliberate over long-term priorities. This process can be enabled by Recommendation Five.

Recommendation 4(b): City Council should consider changing the way it authorizes and appropriates the CIP.

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The Task Force understands and appreciates the need for the City and Schools to make a ten-year policy statement with respect to its capital priorities. In practice, the most concrete priorities exist in the first three years of the CIP, where project needs are reasonably well identified, there is a reasonable forecast of economic conditions, absent an unexpected and highly impactful event, and the necessary conditions for project execution are set. Years four through six are less certain; years seven through ten are highly speculative.

The Task Force recommends that the City and ACPS provide less specificity for capital project definition in years four through six and only an aggregate target for years seven through ten. As the Capability Delivery Model identifies those projects that are increasingly ready to proceed and whose cost and schedule estimates become firmer, City Council and the School Board can allocate the undistributed CIP to specific projects.

Recommendation 5: The City and ACPS must employ “best in class” project, program, and portfolio management practices.

The City and Schools CIP has grown in scope and complexity over the past several years. To successfully manage the CIP effectively and optimize resources, the City and Schools must employ “best in class” project, program, and portfolio management practices. This should start with

identifying current capabilities and a means to close any gaps and align resources. This includes the way projects are directly managed and levels of oversight.

Immediate tasks that can be conducted include interviewing staff and plotting current implementation practices. There may be areas of collaboration or shared resources between DGS and ACPS implementation staff.

An example industry standard that could be followed is the Project Management Institute’s Organizational Project Management Maturity Model (“OPM3”):

... is a globally recognized best-practice standard for assessing and developing capabilities in executing strategy through projects via Portfolio Management, Program Management, and Project Management. It is published by the Project Management Institute (PMI). OPM3 provides a method for organizations to understand their Organizational Project Management processes and practices, and to make these processes capable of performing successfully, consistently, and predictably. *OPM3* helps organizations develop a roadmap that the company will follow to improve performance. The Second Edition (2008) was recognized by the American National Standards Institute (ANSI) as an American National Standard (ANSI/PMI 08-004-2008). The Third Edition was published in 2013.⁴

The OPM3 represents the industry standard for organizations for which project management must be a strategic competency. The OPM3 will assist the City and Schools in determining whether they have the organizational structure, people, processes and technology to effectively manage an FCIP of this scope and complexity, and if not it will assist City and Schools in developing a roadmap to building a highly professional project management competency.

⁴ Wikipedia, OPM3, <https://en.wikipedia.org/wiki/OPM3>, accessed December 10, 2017

CHAPTER 2:

ALTERNATIVE DELIVERY METHODS

BACKGROUND

The Alternative Project Delivery Methods Subcommittee (the “Subcommittee”) was charged to determine opportunities for joint facility/site/colocation and recommend alternative capital project delivery methods and project management structures.

Subcommittee members included Dwight Dunton and David Millard. Mignon Anthony served as Chair of the Subcommittee until she accepted the position as Chief Operating Officer of Alexandria City Public Schools (ACPS) in late November 2017. The Subcommittee met a total of seven (7) times (a meeting list is provided in the exhibits).

Each Subcommittee meeting introduced themes and concepts, industry best practices, and examples of successful joint facility/site/colocation efforts applicable to Alexandria’s needs and existing conditions. B&D facilitated meetings and provided technical support as needed in addition to staff and other related stakeholders, such as Alexandria Economic Development Partnership.

The balance of this chapter is organized as follows:

- 1) Current Statutory Environment
- 2) Themes and Major Discussion Points
- 3) Actionable Recommendations

CURRENT STATUTORY ENVIRONMENT

Alexandria is an independent city in the Commonwealth of Virginia and receives its governing authority from the Code of Virginia. Similar to other local governments in Virginia, Alexandria has limited powers – powers that are specifically conferred on them by the Virginia General Assembly and that are essential to the purposes of government.

In 2006, the Design Build / Construction Management Review Board certified Alexandria to deliver construction projects utilizing both construction manager at risk and design-build methods. Construction of the DASH Operations and Maintenance Facility utilized a design-build delivery method. Fire Station 210 at Eisenhower Avenue and Patrick Henry Elementary School were delivered utilizing construction manager at risk. Charles Houston Recreation Center was delivered utilizing the traditional design-bid-build method.

Virginia’s Public-Private Education Facilities and Infrastructure Act of 2002, Amended in 2008 further defined ‘qualifying projects’ for public entities to engage in public-private partnerships and stipulated that “While substantial private sector involvement is encouraged, qualifying facilities must be devoted primarily to public use, typically involving facilities critical to public health, safety and welfare.”

Accordingly, we believe Alexandria has the ability to and legal authority to implement the recommendations that are outlined below.

ALTERNATIVE DELIVERY METHODS THEMES AND MAJOR DISCUSSION POINTS

The Alternative Delivery Methods Subcommittee explored and evaluated best practices and considerations for alternative delivery of projects and services.

The following major themes emerged during Subcommittee discussions with the City and ACPS:

Theme 1: ‘Silos’ exist and are significant within our city.

- The City and ACPS lack a unified vision for capital planning and service delivery. As a community, we should be united in a common strategic vision for the future of Alexandria.
- Current city-wide facility planning efforts are tailored to individual agency needs in effect causing silos where individuals within the city focus insularly on a specific mission.
- While silos are necessary for government operations to some degree, there must be mechanisms in place and a process to transcend them so that individuals – elected officials, leaders, staff, and community members – can work to accomplish broader goals for the benefit of the entire city.
- As a result, many opportunities for collaboration are lost. Thus, it is not enough that one department or agency performs its mission extremely well. We must work together as one Alexandria to pursue a unified vision.

Theme 2: Traditional practices and a ‘business as usual’ culture have stifled innovative decision-making, resulted in low-impact solutions, and exacerbated deferred maintenance challenges.

- It is often said, “Perfect is the enemy of good.” The City and ACPS often attempt to find the perfect solution rather than accept an optimal solution.
- Risk-taking should be rewarded and not stymied. We must take risks in order to reap the benefits. Innovating processes and procedures would greatly improve efficiency and outcomes.
- In this regard the Task Force observed that the City and ACPS often attempt to find the perfect solution or settle for short-term solutions to long-term problems due to: financial constraints (capital and operating), timing constraints, staff/resource constraints, community pressures, and lack of political will to upset the status quo.
 - Example: The Subcommittee and broader Joint Task Force had numerous discussions about swing space and the siting of schools. It became apparent that the temporary use of City-owned fields and green space for swing or construction staging was avoided early on in project planning analysis due to short-term concerns about displacing the users of those spaces. However, there may be benefits realized in using that space temporarily, such as avoiding

- capital costs for elongated construction schedules from phasing work on a smaller footprint or transporting students to a swing space. A full analysis should be completed to examine the full range of costs and benefits.
- A systematic shift in thinking that challenges traditional methods and practices while seeking optimal solutions is needed. For example:
 - We believe the city should reevaluate and actively take on any ‘sacred cows’ – processes, programs, and/or policies that no longer meet our needs.
 - We believe the private sector should be leveraged more in developing public facilities and providing public goods.
 - Since Alexandria is land constrained, we must maximize development opportunities using higher density and vertical structures. Additionally, we believe the land surrounding Metro stations in Alexandria is underutilized. The City and ACPS should centralize functions at available sites near Metro stations.
 - We believe the short-term and temporary uses of space needs to be evaluated against the long-term goals.
 - We believe traditional regulatory tools such as zoning and permitting should be reconsidered as we strive to create a more urban environment.
 - We believe that staff is not emboldened to lift up creative ideas for both capital projects as well as ongoing repair and maintenance. Thinking outside of the box should be encouraged.

Theme 3: Engagement with the public is not a substitute for strong leadership by elected representatives.

- Civic engagement is important to having informed leadership. Decisions must be made within the context of all relevant information and focus on delivering the greatest good for the greatest number of Alexandria residents.
- In our discussions about projects in the FCIP, we observed that options for projects are sometimes removed based solely on community feedback or political leadership rather than thoroughly analyzed in the ways in which they deliver the strategic vision.
- Community members sometimes use engagement meetings to discuss their individual concerns, even if the matter falls outside of the meeting topic. This hinders useful feedback for staff analysis and decision-making.
- Community engagement practices heavily influence policies and decisions, often prioritizing political motivations over longer-term sustainable solutions.
- Leaders must be careful to represent the greater community interest rather than let strong-minded individuals or tenacious groups drive decision-making. Leaders should carefully weigh the short- and long-term tradeoffs a project provides and understand the impact and cost of each option.

- Proactive, not reactive, leadership by elected officials will produce better long-term results.
- Staff is overextended by the number of working meetings and community meetings in addition to their day-to-day responsibilities.

ACTIONABLE ALTERNATIVE DELIVERY METHODS RECOMMENDATIONS

The Alternative Project Delivery Methods Subcommittee's initial meetings focused on discrete projects and how to advise the City and ACPS to pursue those projects via alternative methods. However, the Subcommittee observed that pursuing any capital project via an alternative method requires that the City, ACPS, civic leaders, elected officials, and the community embrace and embody a new mindset that values risk-taking and innovative solutions. Rather than providing recommendations for individual projects in the short-term, our recommendations take a holistic approach to set the stage for success in the long-term.

In order to streamline and improve the City of Alexandria and ACPS's stewardship of resources, services and facilities, the Subcommittee concluded that the City and ACPS must take bold and significant steps to create a collaborative, solutions-oriented process that emphasizes efficient and transparent decision-making, specifically as it relates to alternative capital project delivery methods and project management structures. As such, the Subcommittee puts forth the following actionable recommendations:

Recommendation 1: In order to break down silos within our city, future facility planning efforts should align with a shared City and Schools vision for Alexandria.

- Alexandria – encompassing both City and Schools – must define its ‘targeted new reality’ through ongoing strategic visioning sessions. The targeted new reality is aspirational and represents the vision for a future, evolved Alexandria while celebrating its rich history and DNA.
 - The sessions are not intended to modify the existing strategic plans, but instead provide a distilled and focused vision.
 - A third party should facilitate the sessions and both entities should be active participants.
 - The visioning sessions should include a comprehensive understanding of the existing conditions and confirmation of the city's aspirational capabilities and services.
 - The strategic visioning effort should be performed in concert with the Task Force's recommended city-wide Facilities Master Plan in a transparent and comprehensive consensus-building process, which includes input from residents, elected officials, City and ACPS leaders, and interested stakeholders.
 - The strategic vision should embody the concepts of the Capability Development and Delivery Framework recommended by the Capital Planning and Implementation Subcommittee and answer questions such as:

- What are the current / existing conditions in Alexandria?
- What do we want the future Alexandria to be?
- How do we position the city to move forward to that future?
- The synthesis of the strategic visioning session will identify gaps in existing conditions with the targeted new reality, and it will be used to create criteria and guidelines for decision-making when considering how best to deliver capabilities and services.
- We recommend identifying a shared mandate with a timeline for making improvements and associated milestones for seeking this joint new vision.
- We believe that staff should be encouraged to think “outside the box” to lift up ideas that would promote collaborative facility efforts both with capital projects as well as ongoing repair and maintenance.
 - For Example: The City and ACPS should consider awards (annual if appropriate) to staff who exhibit creativity in approach to eliminating silos or identifying alternative delivery methods.

Recommendation 2: Leadership must proactively challenge traditional methods and practices for delivering services and capital projects.

- We recommend that the city, through enabling legislation, create a formal, decision-making body and policy framework that will implement a transparent, collaborative process for exploring alternatives to traditional planning and delivery of projects.
 - The legislation should establish clear expectations and initiatives for the decision-making body.
 - The established process should align with the broader capabilities framework outlined by the Capital Planning and Implementation Subcommittee.
 - Identify and empower an impartial champion with decision-making authority to lead this effort. The individual should have credibility among elected bodies as well as provide executive oversight and implement the strategic visioning.
 - Identify and provide resources to support the decision-making body, including a budget for implementation, staff from City and School agencies, and staff capacity.
 - Alternatives include delivery method, project options, and new processes.
- The decision-making body should develop specific criteria for determining whether an opportunity exists for alternative delivery of each service or capital project.
 - The criteria should provide a transparent framework for decision-making, with key performance indicators that hold the City and ACPS accountable.
 - Planning and project decision rights and information flow should be transparent and clear to all stakeholders.

- The criteria should align with the Capability Development and Delivery Framework, outlined by the Capital Planning and Implementation Subcommittee.
- To support transparency and accountability, this official body should develop an organizational structure and process for alternative delivery procurement that:
 - Clearly defines projects, utilizes a formal request process such as Request for Qualifications or Request for Proposals, and supports negotiations and engagement with partners for services and/or capabilities.
- The decision-making body should refine and review existing standardized written agreements, develop new templates that support project strategy development and negotiations, and monitor compliance and adherence to those standards, which include:
 - Facility design standards
 - Physical parameters and guidelines for capabilities and services
 - Colocation guidelines and agreements
 - Financing strategies
- The decision-making body should identify the means and methods for regularly and consistently collaborating with other partners and existing resources, including:
 - Alexandria Economic Development Partnership (AEDP)
 - Alexandria Chamber of Commerce
 - Alexandria Budget and Fiscal Affairs Advisory Committee (BFAAC)
 - Industrial Development Authority of Alexandria (IDA)
 - Peer and neighboring municipalities
 - Legal counsel and other external experts
- Through a defined process for engagement with the private sector and standardized written agreements, the city can make timely, vision-aligned decisions regarding capital needs without the risk of projects getting stymied by political forces. All project planning decisions should be transparent and clearly aligned with the city's targeted new reality.

Recommendation 3: Leadership must reconsider current civic engagement policies and resist the substitution of engagement alone for leadership.

- Community engagement is critical in determining the future for Alexandria. However, it is important to distinguish that engagement should be used to inform policy decisions, but not to manipulate them.
 - We recommend community engagement meetings have defined parameters for what will be discussed and the type of feedback that is desired. Expectations for success should be set along with other goals.
 - We recommend Leadership weigh the feedback provided during engagement and to support and empower staff to facilitate and provide expertise rather than appease stakeholders in decision-making.

- Alexandria must ensure that its communication strategy is aligned with a comprehensive focus on the city’s targeted new reality.
 - This effort should educate all stakeholders about the need for a paradigm shift to be solutions-minded – ‘business as usual’ will no longer suffice.
 - The champion identified for the decision-making body should lead and implement this comprehensive community-wide communication and engagement effort.
- City and ACPS leaders must consider current civic engagement policies to balance strong leadership with community engagement. Evaluate the existing engagement plan and policies and consider the appropriate balance and rigor of community engagement, staff expertise, leadership, and elected bodies.
 - Ongoing efforts may need to be rightsized and the engagement plan updated. Meetings, councils, and work groups across the City and Schools should be streamlined and their purpose clearly stated in order to be more efficient with staff time and effective with community engagement.
 - Engagement should promote transparency through active outreach and manage expectations by informing community members of the levels and timing of participation.

Efforts and tasks supporting this paradigm shift should support innovation in the delivery of projects that strive for delivering the best value to Alexandria residents.

Current Opportunities

We believe the recommendations above set the stage for holistic change to how our city approaches capital projects. In conjunction with the Capital Planning and Implementation Subcommittee, it is our desire that these observations and recommendations lead to long-term improvements and progress. However, recognizing that our Subcommittee’s recommendations focus on high-level visioning for the City and ACPS, we have compiled comments on projects that present near-term opportunities. These projects were discussed at length by both the Subcommittee and the broader Joint Task Force. We recommend the City and Schools explore alternative delivery of the following capital projects:

<Information to be drafted based on document from Dwight and Dave >

- Tools presented in meetings
- Examples of creative solutions to problems that ignite ideas about current projects
 - Rosslyn West: school, fire station, residential, office
 - Others presented in meetings
- Swing Space
- Alternative Sites for School Use
- Alternative Sites for City Use
 - Victory Center
 - Power plant

- Potomac Yards
- City-Owned Assets for Alternative Use
 - Torpedo Factory
 - Gadsby’s Tavern
 - City Hall
 - Beauregard School
 - Buddy Ford Nature Center
 - Durant Center
 - Braddock Road Field
- Alternative Delivery Opportunities
 - Firing Range
 - Impound Lot
 - Witter-Wheeler Campus
- Regulatory Framework
 - Students per classroom
 - City controls on zoning, permits, stormwater
- Opportunities with AEDP
 - Industrial Development Authority
- Other
 - Concern that so few of city offices are on metro?
 - Process and personality considerations for leadership?
 - City, ACPS, zoning collaborate more on needs identification and fulfillment

Exhibits:

AEDP Memo of October 31, 2017

Meeting List:

- September 1, 2017 – Overview of alternative project delivery methods
- September 14, 2017 – Alternative project delivery indicators
- October 5, 2017 – Capabilities service model and alternative delivery (part 1)
- October 19, 2017 – Capabilities service model and alternative delivery (part 2)
- November 2, 2017 – Synthesize draft recommendations
- November 16, 2017 – Formalize recommendation and review memo outline
- November 30, 2017 – Review and refine memo

CHAPTER 3:

MAINTENANCE & OPERATIONS

BACKGROUND

The Facility Maintenance and Operations (“M&O”) Subcommittee was primarily charged to review and recommend improved policies and practices related to asset management (i.e. facility maintenance).

Subcommittee members included Amy Liu, Chair, Micheline Castan-Smith, Member, and Lynn Hampton, Member. The Subcommittee began meeting in September 2017 and met a total of five times (a meeting list is provided in the exhibits).

The subcommittee benefited from the continued facilitation and support of B&D as well as the services of A2 Services (“A2”), a sub-consultant that is expert on the subject of maintenance and operations (“M&O”). A2 provided maintenance and operations best practices, examples, research, and analysis to inform subcommittee discussions surrounding facility maintenance practices and standards that led to recommendations on process improvements.

A2 also performed an extensive review of existing City, Fire, and Schools maintenance work order processes and preventive maintenance activities. Work Orders are often reactive maintenance and repair activities and Preventive Maintenance are proactively scheduled activities. This ‘discovery phase’ was unique to this Subcommittee.

The iterative review of findings and discussion of key themes resulted in a set of broad and actionable recommendations that are provided herein.

The balance of this chapter is organized as follows:

- 1) Executive Summary
- 2) Discovery Phase:
 - a. Overview
 - b. Goals of the Subcommittee
 - c. Work Plan
- 3) Themes and Major Discussion Points
- 4) Recommendations for Action
- 5) Exhibits: (*in development*)
 - a. Discovery Review Summaries:
 - i. Department of General Services
 - ii. Alexandria Fire Department Review
 - iii. Alexandria City Schools Review
 - b. Facility Surveys

DISCOVERY PHASE

Overview

A2 Services provided additional support to this Subcommittee by performing a Discovery Phase that included a review of existing maintenance and operations practices across several city entities. This included reviews of practices related to work order management, preventive maintenance, and turnover activities following a capital project.

In this role, A2 engaged with maintenance and facilities staff and reviewed related materials with three entities: City of Alexandria Department of General Services (“DGS”), Alexandria Fire Department (“AFD”), and Alexandria City Public Schools (“ACPS”). AFD was included since AFD maintains and operates the fire stations (DGS maintains and operates the other AFD facilities (non-stations)).

Goals of the subcommittee

At the outset, our subcommittee determined it would focus on recommendations that advance the following four (4) goals:

- 1) Extend the lifecycle of new, modernized facilities, such as those proposed in the CIP, by adopting new practices and technologies to manage the new portfolio
- 2) Enhance the performance of existing buildings so that maintenance needs are not backlogged, reactive, or neglected and move away from a reactive culture
- 3) Address cost-efficiencies and fiduciary responsibility for maintaining investments across city entities and in all processes, to maximize capital investments
- 4) Create an aligned process in which anticipated needs from all entities inform future plans and budget cycles

Overall, these goals recognize that underinvesting in maintenance and operations is irresponsible. Instead, the city needs an urgent cultural and structural shift towards proactive planning and rightsizing of resources.

Work Plan

The Discovery Phase work plan was organized into three phases:

- 1) Staff interviews
- 2) Facility surveys
- 3) Additional data and document review and analysis (as available)

During the interviews, staff described their current maintenance policies and procedures, opportunities and constraints they face, and how they manage and perform maintenance including resources such as staff, vendors, and software tools.

Each entity selected a building(s) to be assessed (“facility survey”) as part the effort to collect facility data in support of the anecdotal evidence provided in discovery interviews with staff. The

facility survey intended to be representative of the broader maintenance and operational issues facing each entity and not as a formal Facility Condition Assessment (“FCA”).

The following building(s) were selected for operational and maintenance reviews:

- City Hall (City, DGS)
- City Public Safety Center (City, DGS)
- Fire Station #8 (City, AFD)
- Cora Kelly Elementary School (Schools, ACPS)

Findings from the facility survey highlight the accomplishments of preventive maintenance as well as areas where greater levels of support is needed (a report for each facility is located in Attachments 1 – 4).

In addition to the facility surveys and interviews, staff provided four (4) pieces of data and documentation for review by A2:

- Profiles of selected facilities
- A listing of mechanical, electrical, and plumbing equipment within selected facilities;
- A facility condition assessment (“FCA”) report
- Ongoing preventive maintenance

A2 performed an additional analysis called a Work Breakdown Structure (“WBS”) analysis on AFD’s fire stations due to the relative scale of data and equipment information that was manageable in the efforts timeframe. The WBS organizes preventive maintenance work into a hierarchical structure by equipment and task. This allows for the projection of man hours required to support the manufacturer-recommended preventive maintenance on an ongoing basis for comparison to budgeted resources, either for an internal and/or outsourced workforce.

The following sections summarize key themes from introductory and deep-dive interviews with staff, review and analysis of the data and documentation provided by staff, and the facility surveys conducted by A2. A more detailed summary of observations from each entity is provided in the exhibits.

The review performed by A2 was not conducted as a formal audit. As such, some findings are anecdotal in nature and should be further explored during any implementation. The observations and recommendations were developed collaboratively with staff and Task Force members.

MAINTENANCE & OPERATIONS: THEMES AND MAJOR DISCUSSION POINTS

Alexandria is challenged with two distinct owners of property and assets (City and Schools) and three distinct maintenance providers (City, ACPS, and AFD). The following provides themes and the Subcommittee's major discussion points from each of these entities and provides a platform from which recommendations were formed.

Theme 1: There is a disparity in the level of existing capital asset data between entities and the systems used to maintain the data over time.

Capital asset data tells you what assets you have, what condition they are in, and what investments need to be made to maintain them and extend their lifespans.

This data is important for two reasons:

- The data helps predict the remaining life and associated costs for replacing aging systems to inform capital funding and timing decisions.
- The data provides an objective means to compare a facility's condition to another by calculating an index of costs to repair to costs to replace.

In the first phase of work developing the CIP, the Joint Task Force observed a lack of comparable facility or maintenance data for projects under consideration such as a standard Facility Condition Index between DGS and ACPS. For example, DGS maintains asset data in a database and is able to run reports that provide an FCI score for each building as well as building system. ACPS did not have the ability to provide this information in a form to allow a comparison. This impeded our ability to make prioritization decisions for a recommended FCIP.

Current state of asset data and systems:

- DGS (including all AFD facilities):
 - Facility Condition Assessments data is collected by a third party on a rolling basis for all assets
 - The data stored and managed within a software systems called VFA, which allows reports to be readily run by building and building system.
 - As capital project work is completed (i.e. a major renovation), updated asset data is collected from the design and construction team to upload into VFA.
 - The VFA database does not integrate with the system used to manage maintenance work thus manual updates are needed when major system level work is completed that extends its lifespan.
- ACPS
 - Facility Condition Assessments were conducted by a vendor in 2014 but this information is not currently stored in a database.
 - Additional system specific assessments have occurred and are also provided within singular reports.

- Thus the school asset data available exists in different forms and has not been updated to provide a system wide outlook of asset lifespans in one comprehensive location.

Furthermore, city and school entities need resources to ensure a quality assurance and quality control process for collected data as well as maintain the data and database system. For example, reviews of FCA report drafts by staff can be time consuming but are necessary to validate findings.

Theme 2: Existing systems are limited and lack integration and access to enhanced capabilities.

Computerized maintenance management systems (“CMMS”) are used to schedule and record operational and preventive maintenance activities associated with facilities and their equipment. The three entities use systems with varying capabilities. All three entities have the baseline capability of managing and tracking reactive work orders as they arise.

The capabilities vary when it comes to preventive maintenance. Preventive maintenance should be planned and scheduled according to manufacture or industry recommendations for individual systems and equipment.

DGS utilizes Cityworks to manage and track both work orders and preventive maintenance activities for all City facilities and AFD facilities that are not fire stations. This work order based CMMS package does not readily plan and schedule the activities based upon asset data. That information must be manually entered and informed from other sources such as facility condition assessments. There is no integration between work order systems and asset database.

ACPS and AFD (for fire stations) utilize two work order requests systems, SchoolDude and Alloy, to track work orders requested by site stakeholders and completed by employees. Preventive maintenance is identified, scheduled, and completed by outside vendors. These vendors are usually trade specific.

For example in the case of ACPS’s HVAC preventive maintenance contractor, an assessment is conducted annually to determine the schedule for the year and coordination meetings are held monthly to deal with any issues and update on preventive maintenance activity.

Thus in this case of AFD and ACPS, understanding the comprehensive needs for preventive maintenance relies heavily on a series of contractors and their assessments. While this information is credible and comprehensive, without a database of asset data to compare to, there is some risk in preventive maintenance or other needs not being captured as well as challenges in integrating activities.

Theme 3: Existing staffing levels and other resources are strained and rely on vendors to inform and complete the majority of preventive maintenance work.

As buildings and their associated equipment age and become outdated, and in the case of schools also more heavily used with increased enrollment, preventive maintenance and work order management can become more challenging to monitor and complete. In some cases capital interventions such as replacement are the preferred solution but are often not funded – either due to the constraint of the capital budget or anticipation of a larger capital project slated for the coming years.

Another challenge is the demands on existing staff. School building engineer staff, for instance, are often requested to support operations (e.g., moving furniture) so their focus diverts from building maintenance.

For context, current staffing related to building maintenance is as follows:

- DGS utilizes a combination of in-house staff and contractors to perform preventive maintenance activities and work orders. Reports regularly run from CityWorks indicate most but not all planned or requested activities each month are completed. These reports allow DGS to monitor deferred maintenance.
- AFD facilities maintenance staff is limited and the Department is dependent upon individual station staff to handle minor and simple repairs. Fire station preventive maintenance and work order work is performed by contractors.
- Not all ACPS buildings have dedicated building engineers and the building engineers report to the principals, not centralized facilities staff. This strains resources for completing and overseeing work.

Theme 4: There is inconsistency in the level of standards and specifications that inform project design and construction and this in turn impacts maintenance and operations.

There are opportunities for improvement for the coordination between design and construction coordination and maintenance and operations. This relates to the standards and specifications that inform project teams' work as well as the transition from completed capital project to maintenance and operations staff.

Design guidelines and specifications provide a clear, comprehensive document articulating the level of design quality and performance expected by design and engineering professionals, stakeholders, and others. They can be developed for different scales, including specific to a project or overarching for an asset type or entire neighborhood. Developing them in advance ensures that there is consensus in what they intend for future operations and longevity of a building and its systems. They can also inform budgeting exercises as they provide a set of assumptions to plan to.

Regular updates to these guidelines and specifications ensure the asset owner maintains control of the outcomes of construction projects as well as future repairs, upgrades, or renovations. It also

ensures that new technologies and lessons learned can be incorporated in a timely manner. Updates and tracking of detail can also support an integration with maintenance and operation systems and preventive maintenance.

These standards and specifications should also touch upon the needs of the project close-out process to ensure a seamless transition to operations and maintenance. Contract close-out formally ends the construction phase of a capital development project. During this final phase of construction, DGS and ACPS can request capital project documentation in specific formats to provide building-level information in a useable format. A standardized capital project close-out process will improve the efficiency and effectiveness of each entity in future maintenance and operations activities.

Results of the discussions found:

- DGS has standard procedures and design specifications that inform design, construction, and project close out. These documents help link capital projects to maintenance and operation needs.
- DGS is in the process of adjusting their project closeout specifications so that at project close out, an electronic listing of mechanical, electrical, and plumbing (MEP) equipment with product details (i.e. model #; serial #; voltage; etc.) is provided in a format that would allow it to be readily uploaded into the VFA software.
- ACPS does not have design standards or specifications for all buildings to guide the design and construction team and their associated contracts with the exception of Educational Specifications and are an area of improvement.
- ACPS does have a contract closeout form to ensure warranty information, system lists, etc. have been collected per the contract and a closeout signoff by school administrators at the completion of work to ensure satisfaction. Per ACPS, this requirement does not currently include ‘as-built’ drawings and should.
- Interviews with DGS staff indicated a need for third party commissioning services for existing buildings, not related to just major renovation or new construction activities as currently occur as part of LEED certification but to serve as an ongoing asset management practice.

The Building Commissioning Association (BCA) defines Existing Building Commissioning (EBCx) as: “...a systematic process for investigating, analyzing, and optimizing the performance of building systems through the identification and implementation of low/no cost and capital intensive Facility Improvement Measures and ensuring their continued performance. The goal of EBCx is to make building systems perform interactively to meet the Current Facility Requirements and provide the tools to support the continuous improvement of system performance over time. The term EBCx is intended to be a comprehensive term defining a process that encompasses the more narrowly focused process variations such as retro-commissioning, re-commissioning and ongoing commissioning that are commonly used in the industry.”¹

¹ <https://www.bcxa.org/wp-content/pdf/BCA-Best-Practices-Commissioning-Existing-Construction.pdf>

Theme 5: Procurement manages a broad and diverse workload and therefore there are challenges in focusing time and efforts on maintenance and operations and capital project actions.

An aspirational goal for procurement departments are expertise in both the required contracting practices of a public entity as well as the best practices and strategies related specifically to asset management and design and construction projects. Much of what happens to an asset over its lifespan is not self-performed by a public entity but by outside vendors. Thus the contracting vehicles that purchase these services need to have well informed and well written requirements included that adequately address the nuances and complexities of Alexandria diverse portfolio of buildings and services.

Areas of improvement for the procurement of contractors for both preventive maintenance as well as other needs such as capital projects are related to a few factors, including the volume of procurements and contracts, communication and coordination with program staff, and data availability to inform scopes of work.

The procurement departments for both City and Schools experience large, varied volumes of procurement activities. Technical program guidance is provided by the respective facility and construction departments to procurement staff. Both sets of staff have limitations on their time and this can strain the transfer of knowledge and timely development and completion of procurement actions.

Overall, this appears to result in procurement strategies that lean towards the fastest and/or simplest approach than the most optimal one.

For example:

- DGS makes use of several regional contract vehicle riders, for example Fairfax County who is known for the quality and quantity of their procurements. This allows DGS to be responsive to needs but in some cases, can provide some limitations since the scopes were not directly developed for DGS facilities.
- ACPS currently has shared services agreements with the City in the form of Memorandums of Understanding (MOU).
- DGS and ACPS have also jointly procured construction insurance. In some instances ACPS is the lead in posting and in others the City is the lead. This has worked well for both parties in sharing in the selection process and the resulting contract.

Procurements also can be limited by the funding value they are trying to meet:

- In many instances, contracts are negotiated in comparison to available budget versus projected need.
- Independent government estimates (“IGE”) act as a benchmark for budgeting funds and informing procurements. For building maintenance needs, there are challenges in

estimating needs due to the level of data available. Stronger asset data and supporting systems can help with this.

- Some expressed a preference for best value approach to contract award over low-cost bidding to help ensure more responses as some vendors may be dissuaded from low-cost procurements. Due to the volume of procurements, best value can be challenging to coordinate while meeting schedule needs.
- ACPS often uses a best value approach issuing an RFP for almost everything to include quality and performance information as part of review, especially for operation and maintenance contracts.

MAINTENANCE & OPERATIONS: RECOMMENDATIONS FOR ACTION

In order to accomplish a comprehensive paradigm shift to advance Alexandria, the broader Task Force came to the conclusion that the following key principles are critical to enacting change:

- **Resources for maintenance and operations need to be fully understood and rightsized to the extent possible as underinvesting is irresponsible and defers costs to more expensive capital projects.**
- **Groundwork and regular improvements must occur to ensure Alexandria is a strong asset manager and owner as well as an attractive business partner and employer so that both operating and capital projects can be successfully implemented.**

Our Subcommittee process resulted in the following five (5) actionable recommendations. It is envisioned that these recommendations will help inform future operating and capital budget planning decisions using asset data that considers the lifetime cost of ownership.

Recommendation 1: Identify a common set of objectives and requirements for asset data for use in facilities planning, maintenance, and operations.

As the process for developing a Joint City-Schools CIP is further defined, we recommend asset data collected and curated for use in a capital planning software and look for means to integrate with a CMMS. This data can then be utilized in evaluating and prioritizing projects in the CIP.

The following standardizations could be made for linking data to a capital improvement program:

- Establish and track regular cycles for asset data updates and protocols for updating the data when work is completed (e.g. DGS's rolling cycle of facility condition assessments).
- Establish and maintain metrics for use of the data in facilities master planning that align with strategic objectives (e.g. Facility Condition Index, net present value analysis, etc.).
- Establish database reporting requirements so that no matter the software system used, the same level of reports can be created.

To support this recommendation, the resource needs will need to be identified such as staff to support quality assurance measures and coordination.

Recommendation 2: Identify and implement ways to integrate and enhance existing systems and establish common performance requirements across the entities.

DGS, AFD, and ACPS have made great strides over the past few years in expanding the systems they use for maintenance and operations management. All recognize that there are opportunities for increasing the capabilities of what they currently use.

Performance requirements of these systems should be identified so that each entity can procure the appropriate new systems or added modules to existing to provide these capabilities. Coupled with stronger asset data (as mentioned in recommendation 1), these systems could greatly improve capital planning and maintenance and operations decisions.

For example:

- Ability to prioritize maintenance tasks to inform schedules for staff to support calls and to perform periodic or planned equipment maintenance.
- Track information provided at completion of work such as the date of work performed, supply and inventory, and man-hours expended, can be added to the database for tracking and to support future planning, budgeting, and operating.
- Integration with asset data so that work can be planned according to life cycle information as well as life cycle information can be updated once work is complete to reflect a real time view of the asset.
- Ability to run reports that align with Key Performance Indicators
- Ability to run reports that show deferred maintenance and capital renewals.
- Ability to project man hours needed to maintain assets.

Any preventive maintenance module implementation most likely will require additional staffing. This pertains to implementing and maintaining the CMMS as well as training end users to ensure high quality data inputted. This may mean a quality assurance position and a regular training program.

Recommendation 3: Identify optimal staffing and resource levels and structure for maintenance and operation needs with strategies for how best to provide.

There are two typical ways to check if resources are adequate: by forecasting Work Breakdown Structure² (“WBS”) analysis or by comparing costs per square foot and to benchmarks. Both

² A Work Breakdown Structure (“WBS”) organizes preventive maintenance work into a hierarchical structure by equipment and task. This allows for the projection of man hours required to support the manufacture’s recommended

require data to be tracked and collected in a manner that supports the analysis. This analysis can help inform projected budgets and ‘rightsize’ them to more adequate levels.

WBS analysis requires a dataset of building and related system and equipment information. The square foot analysis would require costs be accounted for by building and by activity. This detailed resource analysis was not within the scope of the discovery effort thus not performed in detail with the exception of a WBS analysis for AFD due to the smaller scale of the dataset and the ability to conduct the analysis within the timeframe of the Task Force.

The preliminary results of the AFD Work Breakdown Structure analysis reflects that the required full time equivalents do not align with the current contract value for preventive maintenance. Work may still be being completed but the analysis can help understand the potential strain on resources that may in turn lead to issues in quality, timeliness, staff retention, or other issues.

Other related recommendations:

- Review and identify oversight needs for contractors and work performed
- Review and identify tools needed to help inform decisions and work plans (i.e. expanded capabilities of current CMMS packages and asset data)
- Review structure and organization of staff to ensure reporting structures meet maintenance needs

Recommendation 4: Develop, implement, and regularly update design guidelines and specifications and standard operating procedures that meet lifecycle goals and objectives.

An inventory and review of existing standards and specifications should occur across the entities and asset types to understand the current state and what gaps need to be filled in relation to these recommendations.

We recommended the following be considered when developing design guidelines and specifications:

- Establish clear goals and objectives for asset lifecycle costs and performance. For example, specifications and standards to achieve LEED certification or other metrics such as Energy Star.
- Standardize (to the extent possible understanding that it cannot require a brand) mechanical, electrical, and plumbing equipment types so that preventive maintenance tasks are streamlined.
- Establish a common work breakdown structure, as found appropriate, that defines frequency and annual scheduling for maintenance of equipment.

preventive maintenance on an ongoing basis for comparison to budgeted resources, either for an internal and/or outsourced workforce.

- Other design standardizations should consider finishes, windows, roofs, and other major systems.
- Explore opportunities to share design standards and specifications to help with the resources needed to develop and maintain them (i.e. between city and schools, with other regional entities performing similar work).

We recommend the following be developed in support of an improved capital project close-out process:

- Require the mechanical, electrical, and plumbing equipment lists in an appropriate format that can be easily uploaded into a CMMS along with the preventative maintenance requirements at substantial completion.
- Perform post-occupancy reviews of newly constructed or renovated buildings at regular intervals. Findings from these reviews should be used to:
 - Inform updates to design specifications and standards
 - Ensure maintenance and operations activities are occurring as intended.

Recommendation 5: Identify and implement ways to increase procurement resources and efficiencies, including shared service agreement opportunities and new approaches for executing and coordinating procurements.

To align with the culture shift towards planning and looking at things from a non-traditional way, the current strains between procurement and project staff in capturing the latest and greatest lessons learned and innovative practices must be combatted.

Improved standards and specifications will support, as they serve as contract attachments as well as deliberate work sessions to capture and transfer technical expertise and lessons learned.

New approaches for executing and coordinating procurements should also be explored that improve timelines and volume such as:

- Identify opportunities for pre-qualifying vendors and establishing IDIQ (indefinite duration, indefinite quantity) contract vehicles.
- Build upon existing efforts to develop annual procurements plan and scan for opportunities for improved coordination between procurement and program staff.

Another opportunity is to expand upon shared service agreements to eliminate redundancy among agencies, reduce risk to purchasers, and leverage buying power to deliver administrative services while creating a more effective government. Procurement departments play a critical role in delivering shared savings across the government.

We recommend the following considerations when exploring new opportunities for shared service agreements and innovative procurement practices:

- Increase collaboration between ACPS and DGS procurement departments through sharing of best practices and exploration of new procurement methods.
- Consider past performance of contracts to determine if awarding to the best value is an optimal approach. The best value contract procurement process is used to choose the bid that is most advantageous to a department or agency.
- Improve Statement of Work (SOW) requirements to ensure that work is being performed according to specifications and expectations.
- Improve Independent Government Estimate (IGE) process to serve as objective basis for budgeting and reserving funds for future needs.

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