Portland Public Schools

IT Department - Strategic Framework

2015-2016 to 2019-2020

Produced by:
Portland Public Schools | Information Technology

Our Vision - A Sustainable Operating Model

PPS IT Mission Statement - *Information Technology (IT) supports academic and operational excellence by empowering people and processes with transformative technology that ensures student success regardless of race, class, or identity.*

The Information Technology Department at Portland Public Schools is in a transformational moment as it emerges from an economic cycle of deep cutbacks and significantly reduced investment in operations. At the same time the platforms and services we provide have become essential to delivering a modern education to students and effectively operating an organization of our size and complexity.

Conditions which have historically led to inequitable student achievement are compounded as the learning experience increasingly relies on access to technology tools, high-speed internet, and digital citizenship starting at a very early age. When investing in this new education paradigm we must structure services in a way that addresses these inequities, and is sustainable beyond the immediate fiscal cycles. Access to these services and tools has become a foundational component of the District's mission.

Within the District a majority of supply chain, logistics, data management, and other operational processes have become technology dependent. IT has already transitioned from a cost-center "keeping the lights on" to a key driver of daily District and Classroom operations. The model by which we operate and fund IT and related projects across all Departments demands transparency, accountability, and sustainable long term planning to ensure taxpayer dollars are used as efficiently and effectively as possible.

As a result of these demands, in addition to ongoing alignment with District and Board priorities, the sole strategic focus of the Department is to establish and sustain a modern operating model focused on mature stewardship of our service, asset, project, and financial portfolio.

This model should be constantly addressing **two primary questions**:
- *Are we focused on the right work for the District?*
- *How do we sustain our mission as a healthy component of the District's operational life-cycle?*

We answer these questions by focusing on how we incept, plan, and deliver services in a way that is continuously aligned with operational and educational priorities. To do so we must make our core competencies, defining what IT brings to the District that *only* we can deliver with meaning and value, the heart of our culture.

Critical to the second question, we must be caretakers of a modern and intentionally designed financial portfolio. This means aggressively and consistently resourcing project work and operational

activities using a sustainable long-term series of financial instruments, service contracts, and IT-as-a-business models.

This approach drastically shifts how the Department interacts with the District's periodic funding strategies such as capital borrowing, bonds, levies, and single-year budget uplifts. While these strategies have an appropriate place in initiating capital investments and empowering the District to grow and change, the Department simply cannot operate its portfolio of services without sustaining corresponding operational commitments. It is our responsibility to design these realities into our operating model and embed this approach in District strategy.

The framework we are establishing is designed to govern tactical and strategic technology work of the District through its inception, planning, execution, and operation over time. It lays a broad foundation intended to provide guidance to a process that is agile but consistent. Fully adopted within the Department's culture, this framework will persist over economic, political, leadership, and technology changes within the District for a substantial period of time.

The graphic below describes how we identify, prioritize, and execute work using this framework with continuously improving levels of maturity.
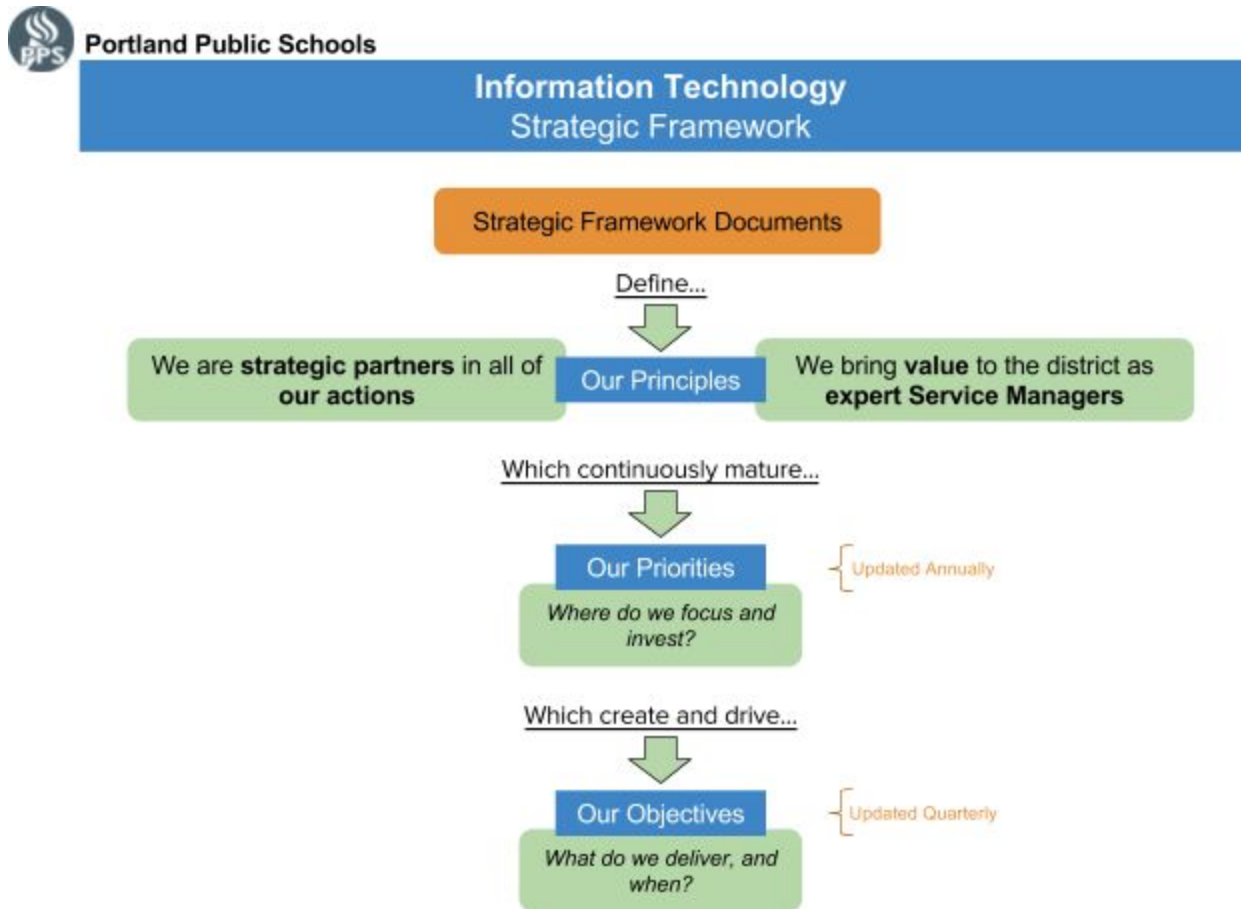
Two high-level strategic principles govern this evolving work:

We are <u>strategic partners</u> with other business units or programs in the District in <u>all of our actions.</u>

This principle requires we initiate and sustain deep integration across district initiatives. Our partnership extends beyond operations and infrastructure into the curriculum and instructional space, where today's classrooms require modern services, devices, real-time support, and collaborative professional-learning communities.

With nearly every project requiring some form of technology or data system, the success of the District requires us to be continuously integrated with other business units for the inception, execution, and long-term management of assets and project investments. This approach rests on a firm Departmental foundation of project management and governance. We must continuously practice as a center of excellence for other departments in an evolving teaching, learning, and business ecosystem. The traditional designations of process ownership, outcomes, and funding models are shifted to a holistic long-term partnership built on clear processes, project artifacts, and roles and responsibilities.

We must also constantly reexamine our planning, execution, and operational decisions based on evolving business paradigms. To this end we will continuously ensure the following:

- Our staffing and organizational design aligns with our core activities: project management, business analysis, and proactive service and platform selection and delivery.

- We identify and maintain strong partnership and governance at a variety of touch-points in District processes, including: curriculum adoption, board prioritization, budgeting, staffing, Bond development, enrollment balancing, business intelligence, and facilities and modernization operations.

- Project and operational resources are continuously balanced and allocated in alignment with this principle. In all activities staff should be exceedingly clear about their customer, outcomes, value, and how the work is governed.

- Work unaligned to this principle is not sponsored without significant justification and recognition.

- ERP and other enterprise systems will be surrounded with strong governance and fully engaged support services. These systems will be analyzed and where they are not currently, will be placed on a roadmap to transition towards a software as a service vendor. This transition and future requests or planning for enterprise systems will focus on a partnership approach between business units, IT, and service providers. This will often require business process redesign and consultation towards delivered functionality rather than expenditures on customization.

■ An Information Security Program, supported by recurring audits and industry standards, envelopes all systems and decision processes while taking into account the District's unique risks, needs, and contractual and legal compliance posture. This program must bring value by thoroughly and frequently training staff at all levels to maintain a strong culture of protecting personally identifiable information and confidential data systems.

We bring value to the district as expert Service Managers.

This principle requires us to develop a clear, well maintained, and agile service organization. This includes identifying and communicating simple and effective ways for staff and students to access or procure services such as technical support, productivity and collaboration tools, equipment and devices, and data systems.

Wherever possible these services should require minimal user intervention. A staff member should expect equipment and tools be available on-demand and configured for their role and location. School leadership should see IT as a partner in managing assets, systems access, physical security, and technology tools.

Platforms for collaboration, access to data, and services such as wireless connectivity are a core competency of the Department and should be ubiquitous and well integrated both technically, and into the processes of the District. Decisions regarding these platforms should be well communicated, and any recommendations for use should be clear, specific, and well supported.

This principle requires a focus on the core competencies we bring that are unique to PPS and require internal expertise. Going forward the Department will:

■ Operate a strong service management organization integrating end user support to the classroom and professional learning communities with daily operations, problem resolution, strategic partnerships, and a well governed project life-cycle.

■ Identify, communicate, and support a published portfolio of thoroughly vetted enterprise systems and services. Management of this portfolio of productivity applications, enterprise systems, and data tools should be proactive as well as reactive.

■ Manage a series of sustainable equipment refresh cycles for school, central office, staff, student, and IT hardware and devices. Embed leasing asset life-cycles into the funding, procurement, and operating models for all equipment. As part of these programs, we will continuously maintain and enforce a strong asset managment program and culture of ownership, protection, and maintenance across the district.

■ Maintain limited data center operations only directly supporting collaboration or infrastructure platforms such as authentication, single sign-on, data exchange, network, telephony, and identity management. Growth in infrastructure will focus on continuous expansion of our

Internet bandwidth services, wireless network, and continuity of operations supports.

■ Automate integration of data, identity, and access control as key programs and decision points for selection of new platforms and systems. Support a culture of data driven decision making with well maintained and industry-aligned operational data stores and analytical tools. Leverage existing and emerging data and interoperability standards to accelerate and simplify the adoption of technology platforms and tools.

■ Transition away from custom-developed applications, both in the approval of new projects and the rapid divestiture of the existing and legacy application portfolio within IT and other business units. Ongoing requests for such projects involving data and business processes will 1) be directed to a supported enterprise platform, 2) a software-as-a-service vendor will be recommended, or 3) a selection and procurement process will be initiated. When custom application development is necessary the solution will optimally be developed in coordination with an open-source community to help ensure availability of support.

Organizational Maturity Model

The maturity model below defines a roadmap for comparing the outcomes of our priorities and objectives to these guiding principles. As of the initiation of this strategic plan, much of the department lay between the Reactive and Responsive maturity levels.

	Defensive	Reactive (2016)	Responsive (2016)	Strategic (2020)
Costs	IT expenditures are periodic or budgeted as a share of revenue.	Service level agreements and bill-back models are employed.	Capacity, cost, and demand are quantified and managed actively as part of a portfolio.	Sustainability, 5-year total cost of ownership, and capacity/cost of whole initiatives are calculated before initiating work. Ongoing refresh of equipment is planned, scheduled, and predictable.
Quality	Systems availability is the exclusive metric.	Time to respond, systems availability, ticket counts, etc. are primary metrics.	Service level agreements are negotiated. Key metrics are capacity, time to deliver, and mean time to recover.	Availability and reliability are no longer an issue. Focus is instead on lean-in supports at the classroom, department, and platform level. Service, support, and training are ubiquitous and easy to access.
Agility	Delivery schedules are	Resource allocation	Methods are	Broad focus is on time to

	constrained by resources and internal/external priorities. Requests are prioritized by individual staff or department leadership.	is driven by organizational politics with delivery schedules constrained by resources and internal/external priorities.	applied to reduce development or project delivery time cycles. Time to deliver is a key metric.	deliver and value delivered to a well defined customer. Focus is specific to a portfolio of data and service platforms.
Innovation	Creative budgeting is used to fill in gaps. Compromises are made to maintain system availability and costs are deferred or transferred to increased technical debt and staff labor.	Technology and contracts are used to reduce IT costs.	Role of technology in District strategy is beginning to be considered.	Technology is embedded in the organization's value proposition and mission. The governance of the District has technology and sustainable growth at the core of its change and improvement initiatives.

Adapted from:
- *"BEST PRACTICES FOR INFORMATION TECHNOLOGY GOVERNANCE" A report from the city auditor September 2005 - Office of the City Auditor, Portland, Or.*
- *"Information Technology Investment Management, GAO-04-394G" United States General Accountability Office, March 2004*

Strategic Priorities (Not in direct order of priority)

At a high level, these principles are decomposed into a set of six primary strategic priorities under which several objectives are organized. As district and board priorities evolve, and technology adapts, it is underneath these priorities that the strategic plan is adjusted as a mature project portfolio on an annual basis.

Physical Security - Fire, Life, Safety
- *Outcome*: Modern and ubiquitous fire/life/safety monitoring and alerting platform using "one-wire" network philosophy while ensuring interoperability and redundancy across the district. Ongoing modernization and capital investments catalyze the need for smart building infrastructure and integrated approaches to building management.

Agile +
- *Outcome*: Striking the cultural balance between collaboration, adaptability, planning, and living documentation that brings value to the service organization. Achieve levels of organizational maturity where projects are well-managed, adaptable to change, and

resources/constraints are well-governed while adding value to the process rather than overhead. Wherever possible, checks and balances in managing risk are tools-based and as lightweight as possible. Staff are cross-trained and invested in project work as well as reducing technical debt and can pivot easily between the two. The whole of the organization identifies, commits to work, and delivers with a predictable cadence.

World Class Service
- *Outcome*: Provide world-class customer service with an emphasis on the warm hand-off of issues and appropriate and timely customer contact. Further, we deliver solutions so that functional knowledge and processes are maintained, developed, and enhanced within the business unit itself. Ongoing support for appropriate system access, utilization, and professional development with wrap-around and in-building communities of support are developed and enculturated; leading to deep and ongoing integrations with district professional development programs across a wide variety of technology empowered collaboration channels.

Mature Stewardship of Resources
- *Outcome*: Ensure sustainability in terms of ongoing funding and district support for the full life-cycle of all IT services and systems. Where possible, move acquisition of materials from an owned-asset model to lease or debt-service ensuring a consistent and predictable obligated spend on the part of the district. Develop software-as-a-service and infrastructure-as-a-service partnerships which allow the district to monetize impacts of initiatives and ongoing total cost-of-ownership while divesting in platforms that require periodic unplanned budgetary commitments. Continuously improve the process by which we track, manage, and maintain district assets as a culture within IT and at every site. Implement a district-wide IT project management governance model based on United States General Accountability Office (GAO), and Project Management Institute (PMI) best practices to ensure consistent prioritization and investment. Establish an ongoing cadence of seasonal intake, monitoring, and closure windows for work related to the seasonality of the district's school year and fiscal calendars. Continuously demonstrate value of predictable, measurable, and reportable total cost-of-ownership and governance of initiatives to the School Board, resulting in planful and intentional budgeting cycles, curriculum adoptions, and capital investments.

Future-Ready Learning Environment
- *Outcome:* Deliver equitable access and opportunities for the utilization of technology devices and systems across the district at a level to support all students in fundamental classroom, CTE, STEM/STEAM, and digital citizenship instruction. Sustain an infrastructure modernization and refresh cycle for student and staff devices, classroom display and interactivity, and platforming for 1-10Gbps to the device connection upgrades across the wireless network.

Information as a Service

- *Outcome:* Business Intelligence and data-as-a-service are delivered using industry standard open-source data-management and analysis frameworks. Facilitate rapid deployment of integrations of student, staff, and identity data while supporting a culture of data-driven decision-making within all levels of instruction and with minimal analyst/developer dependency required. Technical experts and development staff instead focus on the quality and availability of data, services, and platforms to empower end users, software-as-a-service integrations, and public data access.

This document defines the high-level principles and strategic priorities for the IT department. It is the intent of the department to manage individual strategic objectives as they evolve to meet these priorities in individual action plans comprising Appendix B to this document. These objectives will be scheduled, measurable, and actively managed to key performance indicators. IT department leadership will meet quarterly to update and manage these action plans, and annually to manage our priorities.

Revision History:

Version	Date Modified	Author
Initial Draft	June 21st, 2016	Ryan Whitman-Morales
Strategic planning retreat.	June 21st - July 13th, 2016	S.Jung, R.Whitman-Morales, J.Klein
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Final Draft 1.0	August 28th, 2016	Ryan Whitman-Morales