Interim Progress Assessment:
Investing COVID Relief Funds in Information Technology

In the spring of 2021, President Biden and Congress approved an unprecedented infusion of federal funds into our public education system to safely reopen schools, address pre- and post-pandemic unfinished learning, and build lasting, equitable systems of teaching and learning. While these resources were badly needed, it was clear that the new funding would test the ability of school systems to properly manage and allocate the money in ways that most effectively address student needs.

To provide guidance and support in this endeavor, the Council of the Great City Schools assembled a high-level task force of urban district leaders to develop and release a toolkit entitled Investing American Rescue Plan Funds Strategically and Effectively. School districts are now one year into their federally funded relief and recovery efforts. As we reach the anniversary of the release of the Council's initial investment guidance, district leaders should take the opportunity to step back and assess their investment planning and implementation.

Purpose and Audience

This document aims to provide a framework for this assessment process, specifically aimed at investments in information technology (IT), infrastructure, and digital resources. IT leaders and teams can use this document in the ongoing process of investment planning, implementation, and oversight to ensure that federal relief funds are allocated strategically and effectively.

- The document first sums up the guiding principles and considerations provided last year.

- We then provide a series of questions to help districts assess their IT work and investments to date. This is not meant to be an exhaustive list. Rather, these questions are designed to prompt discussions about current initiatives and to suggest potential next steps.

- The next section poses questions about how the district is tracking and measuring the effectiveness of its IT investments and communicating successes. These will be critical considerations in the coming months and years, as districts are called on by their communities, lawmakers, and the general public to provide evidence that federal funding has led to improved student outcomes.

- The document ends by identifying a set of "warning indicators"—problematic approaches or developments based on guidance last year on what to avoid. If the district's technology investments meet any of these criteria it should signal to district leaders the need to rethink or refine their investment strategy.

Guiding Principles for Technology Investments

IT departments have a critical role to play in COVID relief and recovery efforts. The Council's investment guidance from June 2021 underscored the point that technology is no longer an optional or "bonus" feature of classroom instruction, but an integral part of how students will learn—and how teachers will teach. Going forward, districts are likely to offer in-person, remote, and hybrid instructional models for students. This means that IT departments will need to work across several departments, including Curriculum and Instruction and Procurement, to ensure the strategic investment of funds in high-quality digital tools and resources; a strong and secure technology infrastructure; and internet access and connectivity for all teachers, students, and schools throughout the district.

Technology also drives non-instructional processes and operations in a district, and IT departments should be intentional in their investments in automation, data collection and reporting, cybersecurity, and coordination between various data systems, or "interoperability."

Interim Progress Assessment Questions for Information Technology Leaders

1. **How have technology investments advanced the district's instructional priorities, decision making processes, and business operations?**

   ☐ Invested in educational technology that provided schools ways to customize and personalize learning options.

   ☐ Expanded access to online professional learning that meets the individualized needs of teachers across the district, both synchronously and asynchronously.

   ☐ Replaced or modernized aging technology infrastructure, yielding long-term cost savings.

   ☐ Adopted interoperability frameworks and standards to improve coordination between systems.

   ☐ Improved data collection, reporting, and quality. This has included—

      ☐ Providing easy-share access to data through tools like Operational Data Store (ODS) and Data Warehouse.

      ☐ Investing in enhanced data analytics and visualization platforms and tools that make data accessible.

   ☐ Reduced manual, paper-driven processes, consolidated operating systems, and automated workflows, improving efficiency.

   ☐ Other: _____

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2. **How has the district advanced equitable home access to technology and the Internet?**

   ☐ Allocated connectivity and devices that meet the needs of families and students and are differentiated by grade-level and household size.

☐ Developed a multipronged plan for providing home internet access, considering such factors as devices, home Internet Service Providers (ISP), home networks, content filtering, and ed-tech applications. In particular, this plan articulates how the district will handle support, maintenance, training, servicing, and storage of the increasing number of school-owned devices, systems, applications, and Internet tools.

☐ Purchased Internet access tools, such as hotspots, with unlimited data and speeds appropriate for participating in online learning activities.

☐ Pursued options for more permanent Wi-Fi provision, given that hotspots are not always able to meet necessary requirements.

☐ Explored or pursued private LTE (including CBRS mesh networks), intergovernmental partnerships and municipal broadband installations, and private/public partnership mesh networks (e.g., densely populated housing and public housing authorities, community-based organizations, community centers, parks and fields for wireless installments, partnerships with internal cable plants for apartments, extending Wi-Fi to outside areas, satellite provision, drones, and cellular hotspots).

☐ Other: _____

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3. **What steps have been taken to enhance safe and secure learning environments and protect against cyberattacks, such as phishing, Distributed Denial-of-Service (DDoS), and ransomware?**

☐ Created an IT security office under the CIO and developed and coordinated planning to prevent escalating cyber threats.

☐ Established an annual comprehensive Infrastructure Vulnerability Assessment (network and systems) and developed mitigation plans that include indicators of progress.

☐ Reviewed and enhanced the district's Cyber Security Plan to ensure it includes security policies, procedures, and countermeasures.

☐ Developed and practiced specific Incident Response Plans to cybersecurity threats.

☐ Adopted a Security Framework (such as the National Institute of Standards and Technology or ISO/IEC 27001/27002.)

☐ Modernized security systems through vehicles such as Next Generation Firewalls, Next Generation Antivirus, and Wi-Fi Policy Enforcement Firewalls.

☐ Upgraded mobile device management tools to lower costs, maintain security and compliance, manage inventory, and better support staff, students, and families.

☐ Ensured all devices at school and at home have content filtering according to privacy and security policies.

☐ Reviewed contracts with vendors to ensure they include language about interoperability, privacy, security, and availability of data for monitoring, troubleshooting, and support.

☐ Established multiple, independent internet service paths to minimize the effects of cyberattacks.

☐ Adopted user identity and role management functions across all systems, including student authentication to access instructional resources.

☐ Adopted multi-factor authentication for all staff who have access to critical systems like email, enterprise resource planning (ERP), student information system (SIS), etc.

☐ Adopted multi-factor authentication for secondary students, when feasible.

☐ Adopted IoT (Internet of Things) standards to ensure the secure configuration and installation of appliances and equipment at schools, such as freezers, refrigerators, and air conditioning units.

☐ Charged the business and academic leadership teams with developing Continuity Plans for when technology is not available.

☐ Reviewed district insurance programs to ensure adequate coverage for cybersecurity events.

☐ Other: _____

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4. **How has the district improved IT operations and management to better support students and staff?**

☐ Assessed the IT department and the programs it supports to ensure they are right-sized for the future.

☐ Addressed the differentiated technical requirements and specifications of devices provided to teachers and students throughout the district.

☐ Reviewed current IT job descriptions and requirements to assess whether they are consistent with district needs, and if additional training or professional development is needed.

☐ Increased support desk staff, helplines, services, and operating hours to assist students and families as part of the district's support IT model.

☐ Established regional support desks to handle staff and student IT support needs, including supporting non-English speaking families.

☐ Ensured IT support is available outside of school hours.

☐ Tracked the support provided to students, faculty, and staff with data from a service management system (i.e., resolution rates, ticket volume, time to resolution, time per agent, user satisfaction rates). Used this data to adjust staffing according to needs.

☐ Reevaluated the district network (i.e., LAN, WAN, wireless, firewalls, and filters) design and architecture to identify any necessary upgrades to accommodate increased numbers of devices, capacity, and coverage.

☐ Increased monitoring and management of the network environment, uptime, "throughput," and security.

☐ Increased the district's internet service capacity to accommodate increased usage.

☐ Ensured that access to devices and purchases in instructional materials are equitably distributed to students and families most impacted by the pandemic.

☐ Provided digital literacy lessons and guidelines for for students, families, and staff throughout the district.

☐ Increased access to devices for students with diverse learning needs, including:

   ☐ Language-acquisition apps, software, and other targeted resources for English learners;

   ☐ Assistive technology devices, apps, and software for students with disabilities; and

   ☐ Adaptive assessments systems.

☐ Other: _____

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5. **What structures or processes have been established to ensure that technology investments are meeting the needs of the district and are sustainable?**

☐ Established a cross-functional team to identify current and future needs for instruction and business operations and enhance the alignment of business systems.

☐ Identified ways in which a more systemic, corporate technology strategy can streamline operations and processes across departments.

☐ Established an asset management system that tracks device assignments, collections, refresh, and replacements for students and staff.

☐ Established policies to address device loss or damage by students and staff.

☐ Developed a formal process for communication and collaboration between the IT and Curriculum and Instruction departments. This coordination allows better alignment in the following areas—

   ☐ **Digital standards and protocols** (e.g., content, rostering, single sign-on) to ease content sharing, use, review, and procurement.

   ☐ **Data portals for students, parents, teachers, and administrators** to integrate systems, data quality, data governance, Operational Data Stores (ODS), and data warehouses to facilitate more data-driven instruction.

   ☐ **The integration of applications appropriate to pre-K to grade 3** to enhance early childhood content, assessments, and reading instruction.

   ☐ **The infrastructure, device, help desk, and network** to support different instructional modalities. This includes having network access and devices appropriately allocated for in-person, hybrid, and remote learning models.

   ☐ **The coordination and assessment of digital content and its availability** across grade levels and among schools.

   ☐ **The development and provision of integrated professional development** for teachers and other instructional staff, provided synchronously and asynchronously.

- ☐ Developed a digital library of purchased ed-tech products, monitored their usage and effectiveness, and assured appropriate licensing, privacy, updating, and security.

- ☐ Worked with Procurement and Curriculum and Instruction departments to adopt and enforce technology standards and create processes for the selection, evaluation, and purchase of online instructional resources.

- ☐ Ensured district-adopted interoperability and privacy standards, licensing and hosting terms, and other district requirements are included in vendor contracts.

- ☐ Considered Total Cost of Ownership (TCO) of technology investments, including both one-time and ongoing costs. These considerations include appropriate staffing, professional development, technology maintenance and upgrades, and software licenses and hosting costs.

- ☐ Other: _____

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Measuring and Communicating Success

How are you monitoring the impact of investments in information technology?

☐ Developed targeted outcome measures and goals for investments.

☐ Identified the data needed to measure effectiveness, including a subset of relevant Key Performance Indicators, and the process by which data will be collected, analyzed, and shared.

☐ Tracked the use of programs and resources to ensure the most vulnerable populations are benefitting from these investments.

☐ Engaged with the research department to design a plan for assessing and reporting on outcomes.

How are you communicating the impact of investments in information technology?

☐ Collected evidence and examples of how investments are positively impacting schools, students, and families across the district.

☐ Identified key stakeholders and the best avenues for sharing successes with each group (e.g., blogs, newsletters, board updates, town halls, radio spots, and television appearances).

☐ Collaborated with the district communications team on a coordinated outreach plan.

STOP

WARNING INDICATORS

- Both take-home and classroom instructional devices were largely shelved when schools reopened. The district is pursuing a whole-scale return to paper-based, non-technology infused instructional modalities in an effort to return to the way things were prior to the pandemic.

- Investments in technology products and solutions are not vetted to ensure that they are compatible with the district's technical architecture and meet adopted technical requirements, such as privacy and interoperability standards.

- Investments in applications, online learning materials, and devices are made without consideration of the longer-term costs of licensing, repair, and maintenance.

- Investments in online learning resources are made without input from district instructional leaders and are not aligned to the district's curriculum and standards.

- Investment planning and decision-making is left to individual departments, without agreed-upon procedures and criteria.

- Vulnerability Assessments and Penetration Tests have been delayed or put on hold while the district improves its processes.

- Student hotspot service providers are selected without evaluating the adequate availability of service in various neighborhoods.

- Student hotspot assignments are made without considering the number of students using internet service in each household.

- Students and staff are assigned used, defective, or outdated devices.

- Contracts with external service providers require personal information that could discourage immigrant families from signing up.

- Family outreach about access to devices and Internet access is provided only in English.

If any of these statements describe your district's technology initiatives
or investments, you should rethink your strategy.